

JULY 2018

DEALER SERVICE TOOLS CATALOG

Includes Hand Tools & Shop Supplies

CAT

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Cat® Dealer Service Tools

Having the right tools makes any job easier and you can find the tooling you need in the Cat® Dealer Service Tools catalog, from the smallest three-cylinder engines to the largest mining machines, we have the tools, diagnostic equipment, and service equipment you need for your shop.

Caterpillar® is widely seen as a premium brand and customers choose Cat because they know Cat machines and engines deliver the lowest owning and operating costs. Cat dealers are the key to this. Cat dealer technicians need a properly outfitted shop to perform the best repair, but knowing which tools are the right tools can be difficult. The Cat Dealer Service Tools team is here to help.

This catalog has the tooling you need to outfit your shop with the core tools and equipment for maintaining, repairing, and rebuilding Cat machines and engines. We are the best source for tooling solutions because only we have connections between all the groups involved to give us an inside track on the information needed for tool development.

We work with:

- **Product groups** that develop the machines, engines, and components, so we can design tooling alongside the new product introduction (NPI) and the continuous product improvement (CPI) processes.
- **Dealer shops around the world** as they work to make repairs, which gives us the experience of how these tools perform in a diverse array of environments and conditions.
- **Tooling designers** — including both Cat engineers and major tooling suppliers, whose expertise is leveraged to help with the introduction of new tooling and, once in the field, assist with support and troubleshooting.
- **Standard repair and salvage process groups** to ensure that the tooling called out in recommended repair procedures is available.
- **Caterpillar's marketing organizations** that help dealerships in their districts.
- **Caterpillar's logistics** group and the global distribution network to get tooling to you.
- **Regulatory and certification organizations** to help you comply with the regulations and standards in your region.

There are many places where you can buy your tools, but even the biggest names in tooling cannot match the reach of the Dealer Service Tool team. We start our work when a machine is in its planning stages and carry along through that machine's life all the way to when it is being rebuilt for its second life and beyond. The Dealer Service Tools catalog has the tooling solutions you need for the work you do.

Making Tooling Decisions Easy

The Dealer Service Tool catalog is your resource for the tooling solutions that support the work you do.

Safer, More Efficient Technicians

Enabling Cat dealer technicians to complete quicker, easier, safer repairs is the primary concern of the Cat Dealer Services Tools team. We carry the diagnostic equipment needed to measure the situation and the tooling needed for the most efficient repair.

- Work-tested tools for safe, effective technicians
- Tool lists for specific machines and engines
- Tool operating manuals describing the best, safest method of tool operation
- Fabrication plans for dealer buildable tools
- Expertise built from years of visiting dealerships all over the world collecting and sharing best practices, developing troubleshooting techniques, and training technicians

Supporting Your Dealership

Developing tooling solutions for the situations Cat dealers face is the goal of the Cat Dealer Service Tools team. Within our catalog you can find individual tools and entire tooling solutions that help you get more done with the resources you have. We also have the equipment you need to build up operations that help you compete in your local marketplace and win new business.

- Tooling solutions that deliver the highest quality repair in the shortest time
- The right tools for the job and the only source for Cat-designed essential tools
- Technician tested tools used in dealerships in every part of the world
- All your core tooling needs—focusing on the needs of your shop, from work bays and field trucks, to Component Rebuild Centers (CRCs) and salvage and reuse work
- Tooling created to satisfy specific dealer needs

Aligned With Dealer Processes

Ensuring that tooling is available when and where you need it, the Dealer Service Tools team connects with all facets of the tool development cycle. We are able to develop tooling solutions that fit into your processes because no one else has our level of access within Caterpillar and the tooling industry.

- Complete tooling solutions developed by connecting dealers, product groups, repair process and salvage groups, marketing organizations, major tooling suppliers, environmental, health, and safety (EHS), etc.
- New tooling developed as part of the NPI process so that it is available along with new machines and engines as they become available
- Tooling tested to deliver the promised features and benefits with global certifications
- The tooling used during the development of Caterpillar recommended repair procedures and time studies
- Utilizing Cat part numbers and leveraging the Caterpillar distribution network

General Information

The Dealer Service Tool Catalog offers Cat® dealers and customers a wide selection of general purpose tools, shop equipment, and specialty tools. All orders placed from the Caterpillar Miscellaneous Material Order System for this publication will automatically place you on a subscription list. The subscription will provide you with electronic updates until the next version of the catalog is published. If you do not wish to be added to the subscription list when you order, you must place a verbal order with your order analyst and tell the order analyst at that time not to add your name to the subscription mailing list. However, doing this will prevent you from receiving information on new part numbers that are introduced.

Tool Warranty

The tool warranty is described in form SELF5389-01 Warranty Statement. Caterpillar Inc. warrants all products sold, against defects in workmanship or materials under normal use, for six months after date of purchase, unless otherwise stated. Certain other products are warranted against defects in workmanship or materials under normal use for either one year from date of purchase, lifetime, or manufacturer's warranty. Please refer to the Dealer Service Tools website for further information: https://dealer.cat.com/dealer-service-tools.

Ordering Procedure

The majority of the products listed in this publication is stocked at Caterpillar parts facilities and is available from the Parts Distribution System using normal stock or emergency ordering routines. These include hand tools, pneumatic tools, torque and electronic tools, reconditioning tools, welding products, certain chemicals, preventative maintenance tools, etc.

PRICES AND RETURNED GOODS

Prices

Prices are subject to change without notice. Standard dealer payment terms apply for any product ordered from this guide with a Cat® part number (whether it is stocked or not). Regular dealer net and consumer list prices can be found in the Caterpillar Dealer Parts Pricing Medium or in the Parts Distribution DTS Inquiry system.

Returned Goods

All products listed in this publication are returnable except:

- Direct ship and Made as Ordered (MAO) items
- Chemicals and hazardous materials
- Electrical test/diagnostic tools and associated accessories

Dealers should refer to the Cat® Dealer Numerical Parts Record (NPR) to determine if a questionable item is returnable or not.

Global Dealer Solution Network

Phone: +1 (877) 228-2420 (North America)
+1 (309) 266-4421 (International)

Dealer Service Tools Website

https://dealer.cat.com/dealer-service-tools

DEALER SUPPORT COVERAGE

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- USA Western Region
- Canada, Europe
- Africa
- Middle East
- C.I.S
- Russia

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- USA Eastern Region
- Latin America
- Caribbean
- Australia
- New Zealand
- Asia Pacific
- China
- India

R-12 or R-134a Air Conditioning Recovery/Recycling Units

Warranty: Manufacturer's Two Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- European Union compliant, CE marked Simplest, easiest to use air conditioning service units on the market today
- Operation is quick and efficient (lowers air conditioning service costs)
- Easy-to-operate (just connect quick connect couplings to vehicle and push Recovery Recycle switch — unit completes recovery and recycle process)
- Built with quality components, such as 1/2 HP, oil-less compressor, new advanced shock resistant scale, dual protected solenoids
- Vacuum timer allows technician to set time and two-stage vacuum pump automatically pulls a deep vacuum
- Easy to set LCD display (simply scroll to correct charge and push charge switch — system quickly receives refrigerant)
- Large 75 mm (3.5 in) gauges allow technician to easily monitor air conditioning system
- 1-touch air purge eliminates non-condensables in system
- 1-touch oil drain, after every service, tells us how much oil is needed to keep compressor fully lubricated
- Automatic tank full and high pressure shut-offs
- Shock resistant scales for accurate charging
- Single-pass filtering system
- Built-in manifold gauge set
- Moisture indicator
- Tank refill adapter
- Modular design for easy repair
- Large pneumatic tires
- Premium hoses approved to SAE2197
- Fully factory tested
- Built-in accessory and tool storage box

Specifications

- Recovery Tank: 22.7 kg (50 lb)
- Overall Size: 63 x 68 x 134 cm (25 x 27 x 53 in)
- Weight: 54 kg (120)
- Vacuum Pump: 2-stage 6 cfm
- Hose Length: 4.5 m (15 ft)
- 208-1385: 1/2 in ACME female x 13 mm male adapter

Part Number	Description	Voltage
285-7352	Air Conditioning Recovery/Recycling Unit (R-134a)	110 V, 60 Hz
285-7353	Air Conditioning Recovery/Recycling Unit (R-134a)	220 V, 50 Hz

Service / Repair Parts

Part Number	Description	Size	285-7352	285-7353	Warranty
208-1317	Refrigerant Filter	—	X	X	Six Months
208-1318	Refrigerant Prefilter	—	X	X	Six Months
208-1322	R-12 Hose Assembly, Red	6.35 mm (1/4 in)	—	X	One Year
208-1325	R-12 Hose Assembly, Blue	6.35 mm (1/4 in)	—	X	One Year
208-1335	R-134a Hose Assembly, Blue	6.35 mm (1/4 in)	X	—	One Year
208-1336	R-134a Hose Assembly, Red	6.35 mm (1/4 in)	X	—	One Year
208-1339	Coupler, R-134a, Low Side	—	X	—	One Year
208-1340	Coupler, R-134a, High Side	—	X	—	One Year
208-1385	R-134a Refill Adapter	—	X	X	One Year
208-1387	R-12 Flex Hose, Blue	6.35 mm (1/4 in)	—	X	One Year
208-1388	R-12 Flex Hose, Red	6.35 mm (1/4 in)	—	X	One Year
208-1386	Compressor Rebuild Kit	—	X	X	Six Months

RECOVERY, RECYCLING, RECHARGING SYSTEMS

AC Recovery Kit

Model Usage: All Machines

Warranty: Manufacturer's



- Used to recover the air conditioning system
- Includes recovery unit, 30 lb DOT tank, 60" yellow hose, 72" blue and red conversion hoses, UL approved high and low side R134a manual couplers, and oil purge bottle
- Meets SAE J2810 and works with all refrigerants
- Used to recover and remove oil from refrigerant
- Smooth and quiet performance
- ½ HP oil less compressor with high volume cooling fan
- Compressor has automatic low pressure cut-off switch
- Stainless steel ball valve design manifold
- Gauges display in PSI, BAR, and MPA

Specifications

- Dimensions: 432 x 254 x 305 mm (17 x 10 x 12 in.)

Part Number	Description
445-9425	115 Volts AC — 60 Hz
445-9426	220 Volts AC — 50/60 Hz

Air Conditioning Service Machine

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to perform a fully automatic air conditioning service
- Equipped with control functions designed to provide intuitive and rapid interaction with service technician
- Easily removable one piece composite cover allows gaining unobstructed access to all interior components for service and maintenance
- Key features include, high and low pressure gauges, power switch, control panel and LCD display, oil drain bottle and O-ring, removable cover, low and high side service hoses and couplers, fill cylinder hose, new refrigerant storage shelf, refrigerant identifier (optional), USB port, printer, TechALERT, rotating turret and storage compartments

Specifications

- Dimensions: 50 x 22 x 35 in
- Weight: 116 kg

Part Number	Description
372-5255	Air Conditioning Service Machine Consumables

Gas Analyzer Group

Model Usage: None

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to quickly, easily and accurately determine refrigerant purity in refrigerant storage cylinders or directly in vehicle air conditioning systems
- Utilizes non-dispersive infrared (NDIR) technology to determine weight concentration of refrigerant types R12, R13a, R22, hydrocarbons and air
- Includes R12 and R134a sample hoses, R134a fitting adapter, 12 V DC power cord, quick connect hose port, 25 pin printer port, all required plumbing and portable storage case
- Large graphic display with on-screen instructions
- Ultra fast 60 second test time
- Blend-ID software to identify the presence of popular SNAP Approved Blend Refrigerants
- Internal, rechargeable battery option for cordless operation in any location
- Hard shell carry/storage case

Reference

NEHS0867, Service Manual

Specifications

- Dimensions: 140 x 200 x 60 mm (5.4 x 8 x 2.5 in)
- Voltage: 11.5 — 16 V DC, 1.5 Amp

Part Number	Description
372-7501	Gas Analyzer Group

CHARGING SCALES AND MANIFOLD GAUGES

Recharge Oil Pump

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- Used to replace oil in air conditioning system or compressor after oil has been removed
- Easily works with system pressure up to 2070 kPa (300 PSI)
- Includes bottle with calibration marks, hose, and low side R-134a coupler
- Can be used for R-12 systems (use a regular charging hose with 1/4 inch flare fittings)
- Volume per stroke: 0.04 L (1.5 oz)
- System pressure: up to 2070 kPa (300 PSI)

Part Number	Description
208-1355	Recharge Oil Pump

Refrigerant Filter and Prefilter

Warranty: Manufacturer's Six Months



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- Service parts for:
  285-7352 Air Conditioning Recovery/Recycling Unit (R-134a, 110 Volt)
  285-7353 Air Conditioning Recovery/Recycling Unit (R-134a, 220 Volt)

Specifications

208-1317 Refrigerant Filter:

- Capacity: 41 in^3
- Color: Blue
- Overall Size (diameter x length): 29.2 x 24.4 cm (11.5 x 10.0 in)

208-1318 Refrigerant Prefilter:

- Function: Removes moisture and oil breakdown particles
- Connections: 1/4 in male flare x 1/4 in female flare
- Overall Size (diameter x length): 76.2 x 88.9 mm (3.0 x 3.5 in)

Part Number	Description
208-1317	Refrigerant Filter
208-1318	Refrigerant Prefilter

Automatic Refrigerant Charging Scales

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

European Union compliant, CE marked (168-1961)

- Compatible with all refrigerants
- Program refrigerant amount and scale automatically shuts off when charging is complete
- Corner balancing for accurate charging
- Tare function zeros display for easy charging
- All connections located within case to protect against damage
- Pounds to kilogram switch

Specifications

- Weight Limit: 50 kg (110 lb) bulk tank
- Weight Resolution: 0.01 kg (0.02 lb)
- Display: 16-digit alpha numeric LCD
- Operating Temperature: 10° to 49°C (50° to 120°F)
- Dimensions (W x L x H): 34 x 28 x 10 cm (13.5 x 11 x 4 in)
- Weight: 4 kg (8 lb)

Part Number	Description
168-1961	Automatic Refrigerant Charging Scale (220 - 240 V, 50/60 Hz)

CHARGING SCALES AND MANIFOLD GAUGES

Manual Refrigerant Charging Scale

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

- Battery-powered for probability — sleep mode extends battery life (batteries included)
- Compatible with all refrigerants
- Displays refrigerant weight while charging from tank
- Corner balancing for accurate charging
- Tare function zeros display for easy charging
- Pounds-to-kilograms switch

Specifications

- Power: Six 1U-9533 AA Batteries
- Weight Limit: 50 kg (110 lb) bulk tank maximum
- Weight Resolution: 0.01 kg (0.02 lb)
- Display: 16-digit alpha numeric LCD
- Operating Temperature: 10° to 49°C (50° to 120°F)
- Dimensions: 34 x 28 x 10 cm (13.5 x 11 x 4 in)
- Weight: 4 kg (8 lb)

Part Number	Description
168-1958	Manual Refrigerant Charging Scale (Battery Powered)

Manifold Gauges for R-12 and R-134a

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1341 replaces 174-8185
- Use to check pressure in R-134a and R-12 cooling systems
- Bold, easy to read gauges (large bold numbers and colored scales are easy to read)
- Removable Lexan crystals resist breakage
- Gauge cases are color-coded red and blue
- Pressure tested for reliability
- Forged brass body with metal valve handles for durability
- Surge protector and silicone dampened movement helps minimize needle pulsation for easier, more accurate readings
- Sliding double O-ring pistons with non-rotating design reduce wear and extend service life
- Fast acting valve (only 1 1/2 turns for full flow)

Part Number	Description	Warranty
208-1321	Manifold Assembly (R-12)	—
208-1341	Manifold Assembly (R-134a)	—
	Service/Repair Parts	
208-1376	Piston	Six Months
208-1377	Handle Group	Six Months

Liquid-Filled Manifold Gauges for R-12 and R-134a

Warranty: Caterpillar® Six Months



- Liquid-filled gauges have large 79.4 mm (3 1/8 in) diameter for easy reading
- Dials are color-coded
- Liquid-filled gauges dampen pulsation
- Designed with recalibrator screw

Specifications

- Accuracy: 1.6%
- Diameter: 79.4 mm (3.125 in)

Part Number	Description
208-1344	Liquid-Filled Manifold Gauge, Red, R-134a
208-1345	Liquid-Filled Manifold Gauge, Blue, R-134a

Standard Manifold Gauges for R-12 and R-134a

Warranty: Caterpillar® Six Months



- 208-1348 replaces discontinued 4C-4620; 208-1349 replaces discontinued 4C-4619
- Bold, high-visibility dials have colored temperature scales for easy reading
- Flutterless technology and surge protection minimize needle pulsation

Specifications

- Accuracy: 3-2-3%
- Diameter: 63.5 mm (2.5 in)
- Connections: 1/8 in NPT

Part Number	Description	Pressure
208-1342	Manifold Gauge, Red, R-134a	0 - 3447 kPa (0 - 500 PSI)
208-1343	Manifold Gauge, Blue, R-134a	206 - 0 - 827 kPa (30 - 0 - 120 PSI)
208-1348	Manifold Gauge, Red, R-12	0 - 3447 kPa (0 - 500 PSI)
208-1349	Manifold Gauge, Blue, R-12	206 - 0 - 827 kPa (30 - 0 - 120 PSI)

R-134a Refrigerant Tanks

Warranty: Manufacturer's One Year



- For R-134a refrigerant
- Refillable refrigerant tanks are DOT-approved for safety
- Come with the valving necessary for recovery and recycling
- Distinctive blue exterior clearly identifies these tanks as R-134a equipment

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013
https://repairtrack.bosch-automotive.com

Part Number	Description	Size	Float Switch
4C-2977	Tank	13.6 kg (30 lb)	Yes
9U-6496	Tank	13.6 kg (30 lb)	No
9U-6506	Tank	23 kg (50 lb)	No

R-12 Refrigerant Tanks

Warranty: Manufacturer's One Year



- For R-12 refrigerant
- Complete selection of refillable refrigerant tanks for use with recovery/recycling and charging stations
- All tanks are DOT-approved and feature special valving systems to accommodate continuous loop recycling
- Extra tanks are necessary for multi-refrigerant service and are handy for rotation between recycling and recharging

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013
https://repairtrack.bosch-automotive.com

Part Number	Description	Size	Float Switch
4C-4577	DOT Tank	13.6 kg (30 lb)	No

A/C TANKS AND HOSES

Refrigerant Recovery Tanks

Warranty: Manufacturer's One Year



- Used to store recovered refrigerants
- 300-3547 and 300-3528 are equipped with 3-pin Brad Harrison connector
- Gray and Yellow color-coding
- Y-valve allows liquid/vapor collection
- Cylinders equipped with a protective collar and handle
- Float Switch Plug: 19.05 mm (3/4 in)
- Pressure rating: 2400 kPa (350 PSI)

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description	Size
300-3526	Cylinder with Y-Valve (no float)	22.68 kg (50 lb)
300-3527	Cylinder with Y-Valve (no float)	13.61 kg (30 lb)
300-3528	Cylinder with Float	22.68 kg (50 lb)
300-3547	Cylinder with Float	13.61 kg (30 lb)

Heater Blanket (220-240V, 50/60 Hz)

Warranty: Manufacturer's One Year



European Union compliant, CE marked

- Assures a complete transfer of refrigerant
- Wraps around a 13.6 or 23 kg (30 or 50 lb) refrigerant drum, maintaining an even temperature for a constant positive pressure that speeds the transfer of refrigerant to give you a complete charge every time
- Maximum temperature 55°C (125°F) with thermocouple protection
- 4C-5583 comes with no plug

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013
https://repairtrack.bosch-automotive.com

Part Number	Description	Size
4C-5583	Heater Blanket	220-240V, 50/60 Hz

Wrap-Around Heater (115V)

Warranty: Manufacturer's One Year



- Maintains an even temperature for constant positive pressure that speeds transfer of refrigerant for a complete charge every time
- Expandable (wraps around 13.6, 22.7, and 56.7 kg [30, 50, and 125 lb] refrigerant tanks)
- Thermostat controlled

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description	Size
208-1352	Wrap-Around Heater	115V

R-12 Air Conditioning Charging Hoses

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1328 replaces discontinued 4C-8574; 208-1329 replaces discontinued 4C-8576; 208-1330 replaces discontinued 4C-8575
- Proven performance
- Double barrier protection for R-12 and R-134a
- Nylon permeation barrier meets U.L. requirements for R-12, R-134a, R-22, and R-503 refrigerants
- Moisture barrier provides improved resistance to moisture (contaminates expensive refrigerant)
- SealRight fittings immediately trap refrigerant in hose when disconnected
- 45° end allows easier connection in tight areas
- Gaskets resist deterioration from R-12 and R-134a refrigerants and oils

Part Number	Description	Length
208-1322	R-12 Hose Assembly, Red	457
208-1325	R-12 Hose Assembly, Blue	457
208-1327	R-12 Charging Hose, Yellow	457
208-1328	R-12 Charging Hose, Yellow	244
208-1329	R-12 Charging Hose, Blue (high)	244
208-1330	R-12 Charging Hose, Red (low)	244

R-134a Air Conditioning Charging Hoses

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1333 replaces discontinued 9U-6516; 208-1332 replaces discontinued 9U-6512
- 1/4 inch hoses for R-134a refrigerant
- 1/2 inch Acme fitting meets SAE requirements
- Double barrier protection
- Threads: 1/2 inch ACME female 14 mm ACME male

Part Number	Description	Length	Connections
208-1332	R-134a Charging Hose, Blue	244 cm (8 ft)	1/2 in ACME female x 14 mm ACME male
208-1333	R-134a Charging Hose, Red	244 cm (8 ft)	1/2 in ACME female x 14 mm ACME male
208-1335	R-134a Hose Assembly, Blue	457 cm (15 ft)	1/2 in ACME female x 14 mm ACME male
208-1336	R-134a Hose Assembly, Red	457 cm (15 ft)	1/2 in ACME female x 14 mm ACME male
272-3090	R-134a Charging Hose, Yellow	244 cm (8 ft)	1/2 in ACME Seal Right female x 1/2 in ACME female
272-3091	R-134a Charging Hose, Yellow	457 cm (15 ft)	1/2 in ACME Seal Right female x 1/2 in ACME female

Service Couplers

Warranty: Manufacturer's One Year



- 208-1339 replaces discontinued 4C-2984; 208-1340 replaces discontinued 4C-2985
- Couplers interface with R-134a service ports
- Quick, easy connect/disconnect
- Control valve allows access to system even at working pressures
- Integral safety sleeve holds coupler securely to service port
- High-flow characteristics

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
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Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description	Size
208-1339	Coupler, R-134a, Low Side	14 mm (0.55 in)
208-1340	Coupler, R-134a, High Side	14 mm (0.55 in)

VACUUM PUMPS AND ACCESSORIES

Vacuum Pumps, 115 and 220 Volt 1.5 CFM

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1381 replaces discontinued 9U-6464
- 208-1382 replaces discontinued 9U-6490
- Rated as "free air displacement" pump
- Rugged metal construction
- Oil reservoir port has a wide-mouth for easier, neater filling; doubles as a pump exhaust; threaded to attach garden type hose for exhausting to remote location
- Large oil reservoir helps reduce operating temperature and dilute corrosive contaminants
- Large sight glass for easier monitoring
- Large oil drain valve for quicker draining
- Longer heat dissipation fins for a cooler running unit
- Low operating temperature improves efficiency and vacuum
- Low profile on/off switch to avoid breakage
- Vacuum indicator gauge at pump intake shows evacuation progress (electronic gauge then provides more precise readings)
- Gas ballast speeds evacuation and keeps oil cleaner
- Tethered caps stay with the unit

Specifications

- Pump Rating: 1.5 cfm
- Field Rating: 15 microns
- Intake: 1/4 flare and 1/2 in ACME thread
- Motor: 1/6 HP at 1725 RPM
- Internal Capacitor Thermal Overload: Temperature rise 40°C (104°F)
- Voltage (1-phase): 115 V, 60 Hz or 220 V, 50 Hz
- Oil Capacity: 0.47 liter (16 oz)
- Overall Dimensions: 26.67 x 12.95 x 23.37 cm (10.5 x 5.1 x 9.2 in)

Part Number	Description	Size
208-1381	Vacuum Pump	115 V, 60 Hz
208-1382	Vacuum Pump	220 V, 50 Hz

Vacuum Pumps, 115 and 230 Volt 4.0 CFM

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1356 replaces discontinued 9U-6465; 208-1357 replaces discontinued 9U-6491
- Rated as "free air displacement" pump
- Rugged metal construction with no plastic to crack or fall off
- Oil reservoir port has a wide-mouth for easier filling; doubles as pump exhaust; threaded to attach garden type hose for exhausting to remote location
- Large oil reservoir helps reduce operating temperature and dilute corrosive contaminants
- Large sight glass for easier monitoring
- Large oil drain valve for quicker draining
- Longer heat dissipation fins for a cooler running unit
- Low operating temperature improves efficiency and vacuum
- Low profile on/off switch to avoid breakage
- Vacuum indicator gauge at pump intake fitting shows evacuation progress (electronic gauge then provides more precise readings)
- Gas ballast speeds evacuation and keeps oil cleaner
- Tethered caps stay with the unit

Specifications

- Pump Rating: 4 cfm
- Field Rating: 15 microns
- Intake: 1/4 and 1/2 in ACME thread
- Motor: 1/3 HP at 1725 RPM
- Internal Capacitor Thermal Overload: Temperature rise 40°C (104°F)
- Voltage (1-phase): 115 V, 60 Hz or 230 V, 50 Hz
- Oil Capacity: 0.7 liter (24 oz)
- Overall Dimensions: 38.7 x 17.1 x 30.5 cm (15.25 x 6.75 x 12.00 in)
- Weight: 13.4 kg (29.5 lb)

Part Number	Description	Voltage
208-1356	Vacuum Pump	115 V, 60 Hz
208-1357	Vacuum Pump	230 V, 50/60 Hz

R-134a 3-in-1 Valve for Vacuum/Charge/Recovery Core Tool

Warranty: Manufacturer's One Year



- Used as a vacuum monitoring valve (6.35 mm [1/4 in] side port to attach electronic micron vacuum gauge for greater accuracy)
- Core remover (allows evacuation and charge through an unrestricted line for increased speed and higher vacuum)
- Core replacement tool
- Recovery valve (core removal allows recovery unit to work at maximum efficiency, speeding recovery process)

Part Number	Description
444-0527	Core Remover Tool Group

LCD Vacuum Gauge, Sensor

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

208-1353 LCD Vacuum Gauge

- 208-1353 replaces discontinued 9U-6061
- Vacuum gauge combines thermocoupler sensor technology with advanced IC electronics for precise readings and repeatability not found with thermistor sensors or analog meters
- Precision circuitry to control sensor and then translate sensor input into micron readings
- Provides accurate readings on job after job from 1999 to 1 micron without calibration
- Large, high-contrast digital display for easy reading
- Female-to-female coupler to connect sensor into system
- Powered from 1 D-cell battery
- Compact design with storage case for sensor, cable, and hose
- Rugged molded case protects electronic circuitry and sensor

208-1354 Thermocouple Sensor

- No adjustments or warmup
- Stays calibrated after on/off switching and long evacuations
- Automatic ambient temperature compensation
- Automatic battery compensation
- Replaceable thermocouple sensor with 6.35 mm (1/4 in) flare (no calibration required)
- Comes with 182 cm (6 ft) long sensor cable

Part Number	Description
208-1353	LCD Vacuum Gauge
208-1354	Sensor

Vacuum/Charge Valve (R-12)

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- Replaces discontinued 1U-9686
- Used as a vacuum monitoring valve (6.35 mm [1/4 in] side port to attach electronic micron vacuum gauge for greater accuracy)
- Core remover (allows evacuation and charge through an unrestricted line for increased speed and higher vacuum
- Core replacement tool
- Recovery valve (core removal allows recovery unit to work at maximum efficiency, speeding recovery process)

Part Number	Description
208-1365	Vacuum/Charge Valve (R-12)

VACUUM PUMPS AND ACCESSORIES

Vacuum Manifolds

Warranty: Manufacturer's One Year



- Pump, manifold and thermistor vacuum gauge all hook up to this valve assembly, providing a convenient central valve control
- Vacuum valve assemblies speed up servicing by eliminating the need to switch hoses, and work with any standard manifold
- Comes with 13 mm (1/2 in) FFL coupler and large internal porting for full flow

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013
https://repairtrack.bosch-automotive.com

Part Number	Description
9U-7942	Vacuum Manifold (R-134a)

Refrigerant Analyzer

Model Usage: All

Warranty: Manufacturer's



Approvals: CE, UL, SAE

Certified to the SAE J2912 Refrigerant Analyzer Standard

- Standards require the verification of the refrigerant purity before recovery of refrigerant from an air conditioning system.
- Determines air conditioning refrigerant purity
- Displays % purity of R134a, R22 and hydrocarbons
- Displays % air
- Uses replaceable filters
- Accuracy: +/- 1.0%
- Refrigerant % displayed: R134a, R22, HC, Air
- Operating Temperature (ambient): 50 to 120F
- Power: 110/220 50/60 Hz, battery pack (internal)
- Communication Protocol: USB 2.0
- Replaces 262-4934

Part No.	Description	Dimensions	Weight
500-2093	Refrigerant Analyzer	140 x 200 x 60 mm (5.4 x 8 x 2.5 in)	3.63 kg (8 lb)

Air Conditioning Component Flusher (Solvent Recycler)

Warranty: Manufacturer's One Year



- Used to flush air conditioning components (lines, evaporators, and condensers) and recycle solvent in one complete unit
- Uses shop air to atomize flushing solvent
- Built-in pulsator "scrubs" residue and other contaminants from components and lines
- Activated charcoal filter limits emissions and odors during flushing
- Self-contained cart makes flushing easy
- 2 gallons of 153-8538 solvent required for each flush procedure
- Solvent can be recycled and reused
- Requires discontinued 153-9033 Adapter Kit

Part Number	Description	Size (H x W x D)	Weight	Powered By
153-8537	Air Conditioning Component Flusher (Solvent Recycler)	116 x 56 x 66 cm (46 x 22 x 26 in)	34 kg (75 lb)	Compressed Air

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

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A/C Refrigerant Flushing Solvent

Warranty: Caterpillar® Six Months



- Flushes lubricant contaminants and solids from A/C system lines
- Compatible with CFC, HCFC, and HFC refrigerants
- Compatible with mineral, ester and PAG oil lubricants
- Use in 153-8537 Air Conditioning Component Flusher (solvent recycler)
- See flushing unit operators manual for instructions on use

Part Number	Description	Size
153-8538	A/C Refrigerant Flushing Solvent	3.8 L (1 gal)

A/C TOOLS

Adapter Kit (Air Conditioning Flushing)

Warranty: Caterpillar® Six Months

- Provides necessary adapters to flush Cat® air conditioning system components
- Used with 153-8537 Air Conditioning Flusher
- Isolates components for closed loop flushing
- Flushes without removing component from vehicle
- Adapter fittings: 7/16-20 flare
- Air conditioning hose: 6.35 mm (1/4 in), standard

Part Number	Description
153-9033	Adapter Kit (Air Conditioning Flushing)
Service/Repair Parts	
159-6134	Adapter
4C-3723	Box (Yellow Plastic for Fittings)

Air Conditioning Adapter Fitting

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to flush and purge condenser, evaporator and refrigerant lines on air conditioning systems
- 3/4" male air conditioning block "C" plate flush & purge adapter fitting

Specifications

- Dimensions: 121.9 x 177.8 x 25.4 mm (4.8 x 7 x 1 in.)
- Weight: .12 kg (.27 lb)

Part Number	Description
372-5232	Air Conditioning Adapter Fitting

Air Conditioning Adapter Fitting

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to flush and purge the condenser, evaporator and refrigerant lines on air conditioning systems
- 3/4" female air conditioning block "C" plate flush & purge adapter fitting

Specifications

- Dimensions: 12.7 x 226.1 x 43.2 mm (0.5 x 8.9 x 1.7 in.)
- Weight: .20 kg (.43 lb)

Part Number	Description
372-5233	Air Conditioning Adapter Fitting

Air Conditioning Adapter Fitting

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Use to flush and purge the condenser, evaporator and refrigerant lines on air conditioning systems
- 1/2" female air conditioning block "C" plate flush & purge adapter fitting

Specifications

- Dimensions: 165.1 x 109.2 x 25.4 mm (6.5 x 4.3 x 1.0 in)
- Weight: .17 kg (.38 lb)

Part Number	Description
372-5235	Air Conditioning Adapter Fitting

Air Conditioning Adapter Fitting

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to flush and purge condenser, evaporator and refrigerant lines on air conditioning systems
- 1/2" male air conditioning block "C" plate flush & purge adapter fitting

Specifications

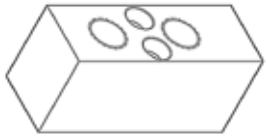
- Dimensions: 177.8 x 127.0 x 25.4 mm (7 x 5 x 1 in.)
- Weight: .12 kg (.27 lb)

Part Number	Description
372-5234	Air Conditioning Adapter Fitting

Evaporator Flush & Purge Adapter

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Allows one to safely flush and purge the evaporator while it is mounted in the vehicle.

Specifications

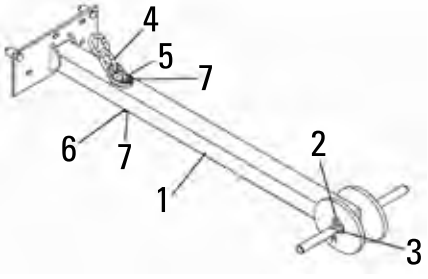
- Dimensions: 94.0 x 61.0 x 58.4 mm (3.7 x 2.4 x 2.3 in)
- Weight: .68 kg (1.5 lb)

Part Number	Description
372-5236	Evaporator Flush & Purge Adapter

Handling Assembly

Model Usage: 16M Motor Grader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install air conditioning condenser on 16M Motor Graders
- Used with appropriate lifting device
- Requires three 8T-4136 bolts and three 7X-7729 washers (dealer supplied) to attach tooling to condenser
- Counterweights keep condenser in horizontal position during component removal and installation
- Counterweights are easily removed while tooling is attached to or removed from condenser and for handling and storage

Reference

- KENR6017-01, 16M Motor Grader Engine Supplement
- NEHS1021, Tool Operating Manual, 312-8796 Handling Assembly Tool Operating Manual

Specifications

- Working load limit: 75 kg (165 lb)
- Total weight: 50 kg (110 lb)
- Counterweight (each): 10 kg (22 lb)
- Approximate length (overall): 2066 mm (81.3 in)
- Maximum width (at crossbar): 610 mm (24.0 in)
- Maximum height (laying flat): 254 mm (10.0 in)

Item	Part Number	Description	Size	Quantity
1	312-8796	Handling Assembly	—	1
2	5P-0372	Lock Pin	—	2
3	2J-3506	Nut	3/4 - 10	1
4	439-3939	Link Bracket	3/4 in	3
5	4E-9311	Bolt	3/4 - 10 x 101.6 mm (4.00 in) long	1
6	5P-8250	Hard Washer	25.4 mm (1.00 in) ID	2
7	5P-8248	Hard Washer	19.0 mm (0.750 in) ID	2

A/C TOOLS

Refrigerant Leak Detector Kit

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

- 208-1374 replaces discontinued 4C-2964
- Used to quickly locate leaks of any common refrigerant
- Unique heated triode dispersive electron technology and 3-position sensitivity switch provide correct and reliable detection of R-12, R-22, R-134a , and R-410a
- Manual or automatic background compensation helps prevent false alarms
- Airflow system provides quick response (less than a second)
- Fast recovery from full alarm
- 4 easy-to-read LEDs quantity leak size for accurate measurement of small, medium, large, or gross leaks
- Audible and visual alarms
- Lightweight
- Battery operated; battery status LED shows charge condition; changes from green to yellow to red

Specifications

- Probe lengths: 20 or 30 cm (8 or 12 in)
- R-134a sensitivity detection level: 15 ml (0.50 oz) per year or greater leak rate
- R-12 sensitivity detection level: 3 ml (0.10 oz) per year or greater leak rate
- Repeatability: SAE standard J1627
- Ambient operating temperature: 0° to 40°C (32° to 104°F)
- Batteries: Quick-recharge, 7.2 VDC (2)
- Power consumption: 4 hour continuous operations; up to 8 hours normal on/off mode
- Case: Polypropylene durable plastic

Part Number	Description
208-1374	Refrigerant Leak Detector Kit

Air Conditioning Charging and Testing Tool Group (R-12)

Warranty: Manufacturer's One Year

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

- Group includes all items in figure plus: form NEEG2387 and decal NEEG2378

Included Items:

- Thermometer: (One Year Warranty)
- NEEG2387: Form
- NEEG2378: Decal

Part Number	Description	Warranty	Qty.
1U-9690	Air Conditioning Charging and Testing Tool	One Year	—
	Service/Repair Parts		
1U-9684	Gage Hold Block	Six Months	—
1U-9685	Tray Block	Six Months	—
1U-9688	Grommet Kit	Six Months	2
1U-9689	Valve Core Depressor Kit	Six Months	2
1U-9691	Straight Adapter	One Year	—
1U-9692	90 Degree Adapter	One Year	—
1U-9886	Coupler	One Year	—
208-1328	R-12 Charging Hose, Yellow	One Year	—
208-1329	R-12 Charging Hose, Blue (high)	One Year	—
208-1330	R-12 Charging Hose, Red (low)	One Year	—
208-1341	Manifold Assembly (R-134a)	—	—
208-1363	Adapter — A/C	One Year	—
208-1365	Vacuum/Charge Valve (R-12)	One Year	2
233-8583	Vented Safety Goggles	Six Months	—
5P-7277	Voltage Tester	One Year	—
5P-8567	Hose Adapter	One Year	2
5P-8568	Valve Core Depressor Kit	Six Months	2
5P-8569	Hose Adapter	One Year	—
5P-8571	Grommet Kit	Six Months	2
6V-7145	Case	One Year	—
8T-0500	Light — Continuity Testing	One Year	—
9U-7932	Leak Detector	Six Months	—

Oil Injector (R-134a)

Warranty: Manufacturer's One Year



- For R-134a refrigerant
- Installed in-line on the low side of the manifold, it pulls oil into the system while it's in a vacuum (watch calibrations on the bottle and close the valve when enough oil has been added)

REPAIR INFORMATION

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Owatonna, MN 55060
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Phone: 800-344-4013

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Part Number	Description
9U-6494	Oil Injector (R-134a)

Recover/Recycling Filter-Dryers

Warranty: Manufacturer's One Year

- Specially blended for maximum acid, moisture and condensable removal
- Keep extra filters on hand, especially during the busy air conditioning season

REPAIR INFORMATION

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755 Eisenhower Drive
Owatonna, MN 55060
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Part Number	Description
4C-4588	Filter Dryer Core
9U-6080	Inlet Filter Dryer
9U-6505	Filter Dryer

Orifice Tube Remover Kit

Warranty: Manufacturer's One Year



- 208-1375 replaces discontinued 1U-9890
- Designed to remove all necessary parts of complete or damaged orifice tube
- Kit includes all items in figure

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description
208-1375	Orifice Tube Remover Kit

Belt Installation and Removal Tool

Model Usage: CB44B, CD44B, CD54B

Warranty: Caterpillar® Six Months



- Easily installs and removes stretchy belts for AC applications on C3.4 engines
- Includes belt fitting tool, removal tool, carrying case and instruction manual

Specifications

- Dimensions: 120 x 30 x 25 mm (4.72 x 1.18 x 0.98 in)

Part Number	Description
385-9415	Belt Installation and Removal Tool

A/C TOOLS

Adapters and Coupler

Warranty: Manufacturer's One Year



- 208-1379 replaces discontinued 1U-9340; 208-1363 replaces discontinued 1U-9687
- Adapt female quick connect to male thread
- Knurled fittings for easy connection

Item	Part No.	Description	Size
Adapters and Couplers			
1	208-1390	Coupler	1/4 female hex to 1/2 male ACME
2	208-1363	A/C Adapter	R-12, 3/16 female QD to 1/4 male flare
3	267-7537	Adapter	12.7 mm (1/2") ACME "Sealright" female x 12.7 mm (1/2") ACME male
4	208-1379	Adapter	—

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370 , www.yellowjacket.com

Adapter

Warranty: Manufacturer's One Year



- Used for system evacuation

Part Number	Description	Size	Warranty
1U-9691	Straight Brass Adapter	1/4 MFL x 3/16 FFL	One Year
1U-9692	Adapter, 90° Brass	1/4 MFL x 3/16 FFL	One Year
1U-9886	Straight Brass Adapter	1/4 MFL x 1/4 FFL	One Year
5P-8567	Adapter, 90° Brass	1/4 MFL x 1/4 FFL	One Year
5P-8569	Straight Brass Adapter	1/4 MFL x 1/4 FFL	One Year
Service/Repair Parts			
1U-9688	Grommet Kit	5 mm (3/16 in)	Six Months
1U-9689	Valve Core Depressor	5 mm (3/16 in)	Six Months
5P-8568	Valve Core Depressor	6.4 mm (1/4 in)	Six Months
5P-8571	Grommet Kit	6.4 mm (1/4 in)	Six Months

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive, Owatonna, MN 55060
Attn: Repair Department, Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:

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R-12 Service Adapter

Warranty: Manufacturer's One Year



- Used to service air conditioning systems on 1991 and later GM vehicles

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South,
Bloomington, MN 55438-2623
Phone: (800) 769-8370 , www.yellowjacket.com

Part Number	Description
208-1364	Air Conditioning Adapter

Fitting Kit (Flexible Adapters)

Warranty: Manufacturer's One Year



- "Fits-all" adapter kits designed for accessing A/C systems for service procedures

Includes one each of:

- 1/4 in MFL x 1/8 in FFL hose
- 1/4 in MFL x 3/16 in FFL hose
- 1/4 in MFL x 1/4 in FFL hose
- 1/4 in MFL x 3/16 in FFL adapter
- 1/4 in MFL x 1/4 in FFL adapter
- Flexible adapters have brass fittings and durable 15.24 cm (6 in) neoprene-coated hose
- Solid brass 90° fittings ideal for tight spots or locations where making connections is difficult

REPAIR INFORMATION

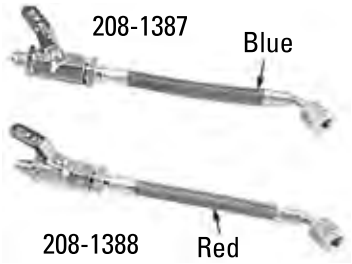
Bosch Service Solutions, 755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department, Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

Part Number	Description
9U-7941	Fitting Kit (Flexible Adapters)

Flex Hoses

Warranty: Manufacturer's One Year



- 208-1387 used on low-pressure side of R-12 air conditioning recovery systems; 208-1388 used on high-pressure side
- Easy retrofit of existing hoses to provide ball valve capability
- Flexible hose between valve and fitting makes hook-up in tight areas much easier

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description	Size
208-1387	R-12 Flex Hose, Blue	6.35 mm (1/4 in)
208-1388	R-12 Flex Hose, Red	6.35 mm (1/4 in)

Belt Tension Gauges

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to check tension of belts driving components such as air compressor, air conditioning compressor, alternator, water pump, or other belt-driven attachments
- Increased accuracy is provided by a belt thickness compensating feature
- Has a permanent dial decal
- Eliminates belt slippage144-0235 Belt Tension Gauge works on "A" section belts with top width of 9.0 to 13.0 mm (0.37 to 0.50 in) and "K" section poly-v, 4-, 5-, and 6-rib belts
- 240-8220 Belt Tension Gauge works on section belts with top width of 9.7 to 31.8 mm (0.38 to 1.25 in) and "K" section poly-v, and 8-rib belts

Part No.	Description	Overall Size	Length	Weight	Accuracy	Range
144-0235	Belt Tension Gauge	102 x 203 mm (4 x 8 in)	82.6 mm (3.25 in)	400 g (14 oz)	± 10%	130 - 800 N (30 - 180 lb)
240-8220	Belt Tension Gauge	102 x 103 mm (4 x 8 in)	—	0.57 kg (1.25 lb)	± 5%	445 - 890 N (100 - 200 lb)

A/C TOOLS

Belt Tension Meter

Model Usage: All 3500 Engines with Adjustable Belts

Warranty: Manufacturer's



- Quartz crystal based solid-state circuitry
- No gain adjustment, filters or alternate sensor heads required
- Direct rather than indirect measurement of vibration frequency
- Senses movement of the belt, not the disturbances of the air adjacent to the belt
- Little, if any, calibration required
- Unaffected by ambient noise level or air currents
- Meter range matches real-life belt installation parameters

Part No.	Description	Dimensions	Weight
491-2178	Belt Tension Meter	266.7 x 215.9 x 76.2 mm (10.5 x 8.5 x 3 in)	1.361 kg (3 lb)

Belt Tensioner Gauge for Asphalt Pavers

Model Usage: All Belted Pavers

Warranty: Manufacturer's



- Tension Meter measures belt tension by analyzing the harmonic characteristics of a vibrating belt
- Quick and easy measurement system ensures the proper tension of the belt for long service life.
- Strumming the belt creates a frequency that is measured by the tension meter and converted to a measurement of the belt's tension.

Part No.	Description	Dimensions	Weight
502-1423	Belt Tensioner Gauge for Asphalt Pavers	330.2 x 162.56 x 106.68 mm (13 x 6.4 x 4.2 in)	0.430 kg (0.947 lb)

Fin Comb

Warranty: Manufacturer's One Year



- 208-1350 replaces discontinued 8T-9275
- Multi-head tools straightens 8, 9, 10, 12, 14, and 15 fins per inch
- Works on radiator evaporator coils and aluminum finned heat exchangers
- Breaks down easily for tool box storage
- Compact 10 cm (4 in) length

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com

Part Number	Description
208-1350	Radiator Fin Comb

Dust Cover

Warranty: Manufacturer's One Year



- Fits all cart-style units, Smart Cart and manual charging stations
- Protects your recovery/recycling equipment
- Made of top quality heavy-duty vinyl
- Seams are corded for extra durability
- Medium gray color

REPAIR INFORMATION

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Part Number	Description
9U-6063	Dust Cover

Analog Thermometer

Warranty: Caterpillar® One Year



- For most any temperature measuring application
- All have pocket clips

Specifications

- Accuracy: ± 2%
- Range: -40° to 160°F

Part Number	Description
9U-5325	Analog Thermometer

Alignment Pin

Model Usage: 793F, 795F, 797F

Warranty: Caterpillar® Six Months



- Used to ensure proper align air conditioning pulleys to prevent air conditioning belt damage
- Black Oxide coated for corrosion resistance

Reference

- REHS4747, Special Instruction Realignment of The Air Compressor Pulley on 793F, 795F and 797F Off-Highway Trucks

Part Number	Dimensions	Weight
395-0092	74 mm (2.91 in); 10 mm (.39 in) Hex size; M12 x 1.75 external thread; 13 mm (.51 in) clearance hole	.066 kg (.15 lb)
417-6865	74 mm (2.91 in); 10 mm (.39 in) Hex size; M12x 1.75 external thread; 14 mm (.55 in) clearance hole	.066 kg (.15 lb)

A/C TOOLS

Air Conditioning Service Machine Consumables

Model Usage: CT660 and others

Warranty: Manufacturer's

- Used in servicing the CT660 air conditioning system with the 372-5255 Air Conditioning Service Machine



Part Number	Description	Dimensions
372-5255	Air Conditioning Service Machine Consumables	—
	Specifications	
415-2837	Combo Replacement Filter	101.6 x 101.6 x 254 mm (4 x 4 x 10 in)
415-2839	Inline Hose Filter	76.2 x 127 mm (3 x 5 in)
415-2841	PAG Oil Cartridge	101.6 x 101.6 x 254 mm (4 x 4 x 10 in)
415-2842	Ester Oil Cartridge	101.6 x 101.6 x 254 mm (4 x 4 x 10 in)
415-2843	Universal/POE Dye	101.6 x 101.6 x 254 mm (4 x 4 x 10 in)
415-2844	Replacement Printer Paper	101.6 x 101.6 x 254 mm (4 x 4 x 10 in)

Seal and Gasket Kit

Warranty: Manufacturer's Six Months

- Used to provide O-rings and gaskets for Plus II refrigerant hoses with SealRight fittings

REPAIR INFORMATION

Ritchie Engineering Co. Inc.
10950 Hampshire Avenue South
Bloomington, MN 55438-2623
Phone: (800) 769-8370
Web site: www.yellowjacket.com



Part Number	Description	Quantity
208-1366	Seal and Gasket Kit	—
208-1367	3/8 in gasket	10
208-1368	1/4 in gasket	10
208-1369	1/8 in gasket	5
208-1370	O-ring 14 mm male fitting	10
208-1371	O-ring	10
208-1372	Plug Assembly	4
208-1373	Nut and Clip	4

Cleaning Tray

Warranty: Caterpillar® Six Months



- Made to hold specific parts of the unit injectors in groups while the parts are cleaned in the ultrasonic cleaner tank
- Fits in tank of either ultrasonic cleaner group
- Keeps plungers, bushings, tips, and needles in sequence so that parts which fit together and must be kept together can be cleaned but not mixed

Part Number	Description
6V-6188	Cleaning Tray

Parts Washer Kit

Warranty: Caterpillar® One Year



REPAIR AND SOLVENT INFORMATION

Clayton Associates
575 Prospect Street, Lakewood, NJ 08701-5040
Phone: (732) 363-2100
Web site: www.jclayton.com
E-mail: sales@jclayton.com

European Union compliant, CE marked

- For use with water or water-based cleaners
- Lightweight, portable parts washer designed with features not found in other products
- Operates on compressed air
- Includes lid that can be secured to reduce contamination
- Lid will not prevent spillage
- Primary filter blanket is 25 micron rating
- For cold weather conditions RV antifreeze can be used with an aqueous cleaning solvent
- Two filters help extend solvent life
- Flo-thru brush and triggered sprayer aids in cleaning of parts and small components
- Remove solvent before transporting

Reference

- NEHS0849, Tool Operating Manual

Specifications

- Capacity: 13 L (5 gal)
- Air pressure requirements: 147 kPa (21 PSI)
- Overall size: 640 x 460 x 200 mm (2.25 x 18.1 x 7.9 in)

Part Number	Description
212-1503	Parts Washer Kit
212-1504	Oil Absorbent Sock
212-1505	25 mu Primary Filter Blanket
212-1506	Air Pump
212-1508	Flo-Thru Brush

Cover Group

Model Usage: 793F CMD, 797F CMD

Warranty: Caterpillar® Six Months



- A new cover for the LIDAR on 793/797 autonomous trucks has been developed to replace the canvas wash cover that is currently used.
- Made from Aluminum
- More robust cover holds up to the high pressure from the water cannons while cleaning the trucks.

Part No.	Description	Dimensions	Weight
518-9700	Cover Group	534 x 349 x 560 mm (21 x 14 x 22 in)	9 kg (20 lb)

WADU™ Soluble Media Injector

Warranty: Manufacturer's 90 days for machine; Six Months for chemicals



REPAIR INFORMATION

International Surface Preparation Abrasive Systems
8770 Valley Forge Lane N
Maple Grove, MN 55369
Fax: (770) 502-3766

- Injects water-soluble media (Blast Media) into high-pressure water stream — increases cleaning capabilities of pressure washers
- Used with pressure washers capable of 2,500 PSI or greater
- Great for removing grease, oil, flaking paint, and soil
- Inexpensive means of converting a pressure washer to use Blast Media with very little capital investment
- Blast Media is water soluble and environmentally safe

163-3947 Flow Formula XL

- Specifically engineered to resist moisture and high humidity, resulting in less clumping and flow problems
- Good for cleaning and paint stripping
- Safe for all substrates and is an excellent multi-purpose media

163-3948 Hydroflex Formula XL

- Engineered to be injected with high-pressure water
- Superior for cleaning greases and oils (grease and oils will not be redeposited on surrounding substrates during cleaning)

163-3950 Profile Formula XL with SupraKleen

- Used on heavy corrosion, stains, and mill scale
- Contains 10% hard abrasive (most aggressive)
- Not to be used on delicate substrates, bearings, seals, hydraulic cylinders, or rotating elements

Part No.	Description	Alkalinity	Softness	Crystal Size
163-3945	WADU Soluble Media Injector	—	—	—
163-3947	Blast Media Flow Formula XL	8.2 pH	2.5 Mohs	275-micron
163-3948	Blast Media Hydroflex Formula XL	8.2 pH	2.5 Mohs	275-micron
163-3950	Blast Media Profile Formula XL with SupraKleen	8.2 pH	2.5 Mohs	275-micron

Blast Cabinets

Warranty: Manufacturer's Five Years against defects in materials and workmanship





- Designed for cleaning and finishing jobs
- Removes corrosion, chemicals, and old paint (will produce a metallurgically clean surface ready for painting or other finishing process)
- Cleans dies, molds, stampings, and manufactured parts
- Removes burrs from parts after a machining or grinding operation
- Increases cutting tool life by blending surface imperfections
- Enhances lubrication by imparting a microscopically controlled dimpled surface
- Increases surface strength and relieves stress through peening
- Removes heat-treat scale
- Cleans valves, pistons, and cylinders in engines with no dimensional change
- Cleans odd shapes and hard to reach areas

Standard Features

- 100 CFM dust collector
- Regulator and gauge
- Fluorescent lighting
- 14- and 11-gauge welded steel cabinet
- Steel screen work table
- Cloth-lined work gloves
- Hopper door for easy media changes
- Foot-operated blast gun — 25 CFM
- Tungsten carbide nozzle
- Tungsten carbide air jet
- Easy-to-change window
- Door safety switch
- Spring assist on flip top for 9U-5238 and 9U-6827

REPAIR INFORMATION

Econoline Abrasive Products
401 N. Griffin Street, Grand Haven, MI 49417
Phone: 616-846-4150
Email: info@sandblasting.com
Web site: www.sandblasting.com

Part No.	Description	Type	Approx. Shipping Weight	Overall (W x D x H)	Working (W x D x H)	Top Opening	Side Opening	Window (w x H)
9U-5237	Blast Cabinet	110V 60 Hz, single-phase	147 kg (325 lb)	99 x 63.5 x 165 cm (39 x 25 x 65 in)	91 x 61 x 58 cm (36 x 24 x 23 in)	91 x 33 cm (36 x 13 in)	43 x 28 cm (17 x 11 in)	61 x 30 cm (24 x 12 in)
9U-5238	Blast Cabinet	110V 60 Hz, single-phase	181 kg (400 lb)	114 x 137 x 165 cm (45 x 54 x 65 in)	107 x 61 x 58 cm (42 x 24 x 23 in)	107 x 61 cm (42 x 24 in)	43 x 28 cm (17 x 11 in)	61 x 30 cm (24 x 12 in)
9U-6827	Blast Cabinet	220V 50/60 Hz, single-phase	181 kg (400 lb)	114 x 137 x 165 cm (45 x 54 x 65 in)	107 x 61 x 58 cm (42 x 24 x 23 in)	107 x 61 cm (42 x 24 in)	43 x 28 cm (17 x 11 in)	61 x 30 cm (24 x 12 in)
Service/Repair Parts								
9U-5244	Gun Assembly	25 CFM	—	—	—	—	—	—
9U-5246	Air Jet As.	25 CFM (For 9U-6829 only)	—	—	—	—	—	—
9U-5247	Nozzle	25 CFM (Tungsten Carbide) (For 9U-6829 only)	—	—	—	—	—	—
9U-5255	Cloth Lined Gloves	61 cm long, 15 cm diameter (24 in long, 6 in diameter)	—	—	—	—	—	—
9U-5257	Window Underlayment	60.96 x 304.8 cm (24 x 120 in) roll	—	—	—	—	—	—
Consumables								
9U-5271	Glass Beads (Sold in 50 lb increments)	R medium (Mesh 140)	—	—	—	—	—	—

Blast Cabinets



REPAIR INFORMATION

Econoline Abrasive Products
401 N. Griffin Street
Grand Haven, MI 49417
Phone: 616-846-4150
Fax: 616-846-6341
Email: info@sandblasting.com,
Web site: www.sandblasting.com

- Designed for cleaning and finishing jobs
- Removes corrosion, chemicals, and old paint (will produce a metallurgically clean surface ready for painting or other finishing process)
- Cleans dies, molds, stampings, and manufactured parts
- Removes burrs from parts after a machining or grinding operation
- Increases cutting tool life by blending surface imperfections
- Enhances lubrication by imparting a microscopically controlled dimpled surface
- Increases surface strength and relieve stress through peening
- Removes heat-treat scale
- Cleans valves, pistons, and cylinders in engines with no dimensional change
- Cleans odd shapes and hard to reach areas

Standard Features

- 100 CFM dust collector
- Regulator and gauge
- Fluorescent lighting
- 14- and 11-gauge welded steel cabinet
- Steel screen work table
- Cloth-lined work gloves
- Hopper door for easy media changes
- Foot-operated blast gun — 25 CFM
- Tungsten carbide nozzle
- Tungsten carbide air jet
- Easy-to-change window
- Door safety switch
- Counter balanced lid

Part No.	Description	Type	Approx. Shipping Weight	Overall (W x D x H)	Working Length (W x D x H)	Top Opening	Side Opening	Window (W x H)
9U-6829	Blast Cabinet	220V 50/60 Hz, single-phase	386 kg (850 lb)	130 x 241 x 213 cm (51 x 95 x 84 in)	122 x 122 x 102 cm (48 x 48 x 40 in)	122 x 102 cm (48 x 40 in)	51 x 76 cm (20 x 30 in)	61 x 30 cm (24 x 12 in)
Service/Repair Parts								
4C-5529	Gloves	78.74 cm (31 in) long						
9U-5246	Air Jet As.	25 CFM (For 9U-6829 only)	—	—	—	—	—	—
9U-5247	Nozzle	25 CFM (Tungsten Carbide) (For 9U-6829 only)	—	—	—	—	—	—
9U-5249	Gun Assembly	25 CFM	—	—	—	—	—	—
9U-5257	Window Underlayment	60.96 x 304.8 cm (24 x 120 in) roll	—	—	—	—	—	—
Optional Parts								
9U-5248	Gun Assembly	45 CFM	—	—	—	—	—	—
9U-5251	Air Jet Assembly	45 CFM	—	—	—	—	—	—
9U-5253	Nozzle	45 CFM (Tungsten Carbide)	—	—	—	—	—	—
Consumables (22.7 kg [50 lb] Plastic Pail) (Sold Separately)								
9U-5271	Glass Beads (Sold in 50 lb increments)	R medium (Mesh 140)	—	—	—	—	—	—

Blast Cabinets





REPAIR INFORMATION

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Email: info@sandblasting.com
Web site: www.sandblasting.com

- Designed for cleaning and finishing jobs
- Removes corrosion, chemicals, and old paint (will produce a metallurgically clean surface ready for painting or other finishing process)
- Cleans dies, molds, stampings, and manufactured parts
- Removes burrs from parts after a machining or grinding operation
- Increases cutting tool life by blending surface imperfections
- Enhances lubrication by imparting a microscopically controlled dimpled surface
- Increases surface strength and relieve stress through peening
- Removes heat-treat scale
- Cleans valves, pistons, and cylinders in engines with no dimensional change
- Cleans odd shapes and hard to reach areas

Standard Features for 9U-6830

- 400 CFM dust collector
- Regulator and gauge
- Fluorescent lighting
- 14- and 11-gauge welded steel cabinet
- Steel screen work table
- Cloth-lined work gloves
- Hopper door for easy media changes
- Foot-operated blast gun — 25 CFM
- Tungsten carbide nozzle
- Tungsten carbide air jet
- Easy-to-change window
- Door safety switch
- Counter balanced lid

Standard Features for 9U-6831

- 100 CFM dust collector
- Regulator and gauge
- Fluorescent lighting
- 14- and 11-gauge welded steel cabinet
- Cloth-lined work gloves
- Foot-operated blast gun — 25 CFM
- Tungsten carbide nozzle
- Tungsten carbide air jet
- Door safety switch

Part No.	Description	Type	Approx. Shipping Weight	Overall Size (W x D x H)	Working Size (W x D x H)	Top Opening	Side Opening	Window (W x H)
9U-6830	Blast Cabinet	220V 60 Hz, single-phase	499 kg (1,100 lb)	160 x 241 x 213 cm (63 x 95 x 84 in)	152 x 122 x 102 cm (60 x 48 x 40 in)	122 x 152 cm (48 x 60 in)	51 x 76 cm (20 x 30 in)	61 x 30 cm (24 x 12 in)
9U-6831	Blast Cabinet	220V 50/60 Hz, single-phase	386 kg (850 lb)	130 x 91 x 206 cm (51 x 36 x 81 in)	122 x 91 x 102 cm (48 x 36 x 40 in)	—	69 x 86 cm (27 x 34 in)	61 x 30 cm (24 x 12 in)
Service/Repair Parts								
4C-5529	Gloves	78.74 cm (31 in) long	—	—	—	—	—	—
9U-5246	Air Jet As.	25 CFM (For 9U-6829 only)	—	—	—	—	—	—
9U-5247	Nozzle	25 CFM (Tungsten Carbide) (For 9U-6829 only)	—	—	—	—	—	—
9U-5249	Gun Assembly	25 CFM	—	—	—	—	—	—
9U-5257	Window Underlayment	60.96 x 304.8 cm (24 x 120 in) roll	—	—	—	—	—	—
9U-6899	Assembly (not serviced)	Motor and Turbine for 9U-6830 and 9U-6831	—	—	—	—	—	—
Optional Parts								
9U-5248	Gun Assembly	45 CFM	—	—	—	—	—	—
9U-5251	Air Jet Assembly	45 CFM	—	—	—	—	—	—
9U-5253	Nozzle	45 CFM (Tungsten Carbide)	—	—	—	—	—	—
Consumables (50 lb Plastic Pail)								
9U-5271	Glass Beads (Sold in 50 lb increments)	R medium (Mesh 140)	—	—	—	—	—	—

Aluminium Oxide Abrasive

Model Usage: All Blast Cabinets

Warranty: Manufacturer's

- Used to remove rust, scale, paint, or other tough contaminants (produces a metallurgically clean surface ready for painting or other finishing processes)
- Used with all cabinets
- Aluminium oxide is an extremely hard, sharp, and durable abrasive
- Produce a matte surface finish
- Some metal removal from abrasively blasted part is typical
- Abrasive is generally reusable many times because of its hardness and durability
- Size: 16 grit
- Bulk packaged in 23 kg (50 lb) bags

Part Number	Description
346-4375	Aluminium Oxide Abrasive

Filters and Chemicals

Warranty: Caterpillar® Six Months

Waste water reclamation system filters and chemicals are available from your dealer

Filters and Media for RGF, DMSL, DMSL-W

RGF Bag Filter (4 or 6 required)

Part Number	Description	Type	Ref. No.	Specifications
157-0642	Poly Filter Bag	25-Micron [a] [b]	FL009	17.8 x 81.3 cm (7 x 32 in)
157-0643	Poly Filter Bag	100-Micron [b]	FL010	17.8 x 81.3 cm (7 x 32 in)
RGF Series II				
157-0648	Polish Filter Cartridge [c]	—	FL046	7 each required

a. Pressure suggested.

b. Gravity suggested

c. The 157-0648 Filter is a triple length washable filter. If one section is damaged, the entire cartridge must be replaced. The filter also has depth plugs and cannot be continuously washed and reused like the single length pleated washable filters.

Filters and Media for LSL, DLSL, LSL-W

RGF Miscellaneous Filter Parts

Part Number	Description	Ref. No.
157-0651	Harmsco Rim Gasket	FL007

Filter Bag

Warranty: None

- Used to collect ashes when cleaning diesel particulate filter element
- Designed with open top and built-in drawstring with a flat bottom
- Material: 5-micron polypropylene felt

Part Number	Description	Inside Diameter	Length
229-0766	Filter Bag	338 mm (13.3 in)	610 mm (24.0 in)

Stand-Mounted Parts Cleaners

Warranty: Manufacturer's One Year



Solvent Stand with 3-Stage Filtration



Unfiltered Stand

- 300 gph pump
- 73°C (165°F) fusible linked fire cover
- Rectangular 113.6 L (30 gal) base tank
- Flow regulating valve
- Recirculating solvent flexhose
- Deluxe work lamp
- Drain assembly
- Cat® black units are made of 14-gauge steel

Reference

- NEHS0952 Base Mounted Recirculating Parts Washers

Solvent Stands with 3-Stage Filtration

- Include 3-stage filtration (polypropylene sock, canister fuel and an oil absorbent unit).
- Ensures fresh, clean solvent.
- Standard 2 micron fuel filter (15 micron available)

REPAIR INFORMATION

Build-All Corporation, 5203 West Clinton Avenue
Milwaukee, WI 53223
Phone: (414) 716-0023 or (800) 558-2148

Part No.	Description	Type	Size	Volt / Hz
191-4964	Tub with Fire Cover	—	81.28 x 55.88 x 25.40 cm (32 x 22 x 10 in)	220 / 50
191-4965	Tub with Fire Cover	—	121.92 x 55.88 x 25.40 cm (48 x 22 x 10 in)	220 / 50
191-4968	Tub with Fire Cover	—	121.92 x 71.12 x 35.56 cm (48 x 28 x 14 in)	220 / 50
194-3989	Tub with Fire Cover	—	121.92 x 55.88 x 25.4 cm (48 x 22 x 10 in)	115/60
4C-3874	Tub with Fire Cover	—	81.28 x 55.88 x 25.40 cm (32 x 22 x 10 in)	115 / 60
4C-3875	Tub with Fire Cover	—	121.92 x 55.88 x 25.40 cm (48 x 22 x 10 in)	115 / 60
4C-3876	Tub with Fire Cover	—	121.92 x 71.12 x 35.56 cm (48 x 28 x 14 in)	115 / 60
Service/Repair Parts				
184-2319	Filter Bag	25-Micron (Standard)	—	—
189-5637	Sink Filter Sock Kit	Diatomaceous Earth	—	—
1R-0749	External Filter	2-Micron (Standard)	—	—
1R-1712	External Filter	15-Micron (Optional)	—	—
280-0995	Filter Bag	10-Micron (Optional)	—	—
4C-3905	Plastic Liner	—	—	
4C-8077	Fusible Link	—	—	

Drum-Mounted Parts Cleaners (110 Volt Electric Powered)

Warranty: Manufacturer's One Year



- 73°C (165°F) fusible linked fire cover
- Rugged 14-gauge steel construction on DM 32
- Baggie liners
- Heavy duty flex nozzle, plumbed in through bottom of tub
- Formed down corners

REPAIR INFORMATION

Build-All Corporation
5203 West Clinton Avenue, Milwaukee, WI 53223
Phone: (414) 716-0023 or (800) 558-2148

Part No.	Description	Detail	Size	Capacity	Pump
4C-3872	Tub with Fire Cover	—	66.04 x 43.18 x 17.78 cm (26 x 17 x 7 in)	7.25 kg (16 gal) drum	644 lph (170 gph)
4C-3873	Tub with Fire Cover	—	81.28 x 55.88 x 25.40 cm (32 x 22 x 10 in)	13.6 kg (30 gal) drum	1136 lph (300 gph)
Service/Repair Parts					
4C-3903	Plastic Liner	Used in 4C-3873	—	—	—
4C-8077	Fusible Link	—	—	—	—

Worklamp Assembly

Warranty: Manufacturer's



- Heavy-duty flexible worklamp assembly with shatter-guard
- Deluxe for 4C-3873 Drum Mounted Parts Cleaner

Part Number	Description
4C-3883	Worklamp Assembly

Flow Regulating Valves

Warranty: Manufacturer's

- Controls solvent flow through flexible nozzle

Part Number	Used for
4C-3886	4C-3873, 4C-3872

Dual Flex Nozzle Conversion Kits

Warranty: Manufacturer's

- Includes second flexhose, second valve, and necessary fittings

Part Number	Used for
4C-3887	4C-3873, 4C-3874
4C-3888	4C-3875

Hand Held Spray Gun Assemblies

Warranty: Manufacturer's



- Pistol grip nozzle with adjustable spray
- Includes hose and necessary fittings

Part Number	Used for
4C-3890	4C-3872
4C-3891	4C-3873 and 4C-3874
4C-3892	4C-3875 and 4C-3876

Flow-Thru Cleaning Brush Assemblies

Warranty: Manufacturer's



- Includes nylon cleaning brush, hose, and necessary fittings

Part Number	Used for
4C-3893	4C-3872
4C-3894	4C-3873 and 4C-3874
4C-3895	4C-3875 and 4C-3876

Caster Base

Warranty: Manufacturer's



- Includes base with four 76.2 mm (3 in) heavy-duty casters

Part Number	Used for
4C-3896	4C-3872
4C-3897	4C-3873 and 4C-3875

Caster Set

Warranty: Manufacturer's

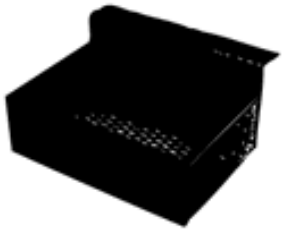


- Includes four 76.2 mm (3 in) heavy-duty casters
- For 4C-3874, 4C-3875, and 4C-3876

Part Number	Description
4C-3898	Caster Set

Small Parts Basket

Warranty: Manufacturer's

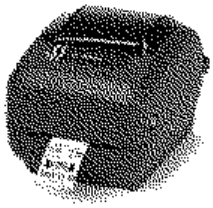


Part Number	Used for	Size (W x L x D)
4C-3899	Fits all	203 x 305 x 102 mm (8 x 12 x 4 in)

Printer Group

Model Usage: All Machines with Tier 4 Engines

Warranty: Manufacturer's



- Used to create long lasting labels to conform with Swiss requirements for Swiss construction equipment (35Kw or higher) for engines built in 2009 or later
- Provides mandatory label that meets Swiss requirements for emission hardware identification

Part Number	Description	Dimensions
379-9003	Printer	254 x 193 x 191 mm (10 x 7.6 x 7.5 in)
379-9004	Printer Roll	127 x 88.9 mm (6.0 x 3.5 in)
379-9005	Printer Ribbon	109 x 38 mm (4.3 x 1.5 in)
380-1741	Printer Group	

EGR Module Flushing Tool

Model Usage: CT660 with CT11 and CT13

Warranty: Manufacturer's



- Used to flush out the Exhaust Gas Recirculation (EGR) module
- Uses an EGR cleaning solution (417-7678) and simple shop air to clean the EGR module

Specifications

- Dimensions: 609.6 x 609.6 x 1219.2 mm (2 x 2 x 4 ft)

Part Number	Description
440-2011	EGR Module Flushing Tool

Coolant-Flushing Adapter Group

Model Usage: CT660

Warranty: Manufacturer's



- Allows the existing 440-2011 Cleaning Management System to adapt to the engine's cooling system to quickly and effectively flush oil and other contaminants from the cooling system

Specifications

- Dimensions: 457.2 x 609.6 x 203.2 mm (18 x 24 x 8")
- Weight: 6.8 kg

Part Number	Description
459-0235	Coolant-Flushing Adapter Group

Adapter Group (Charge Air Cooler)

Model Usage: CT660s with Charge Air Coolers

Warranty: Manufacturer's



- The adapter group allows the 440-2011 EGR Cleaning System to clean the Charge Air Coolers that have been contaminated with oil
- Uses 417-7678 EGR Cleaning Solution
- Includes case and foam recesses for the 372-5273 Charge Air Cooler Pressure Test Kit so tooling for the Charge Air Cooler can be stored in one single case
- Restores lost power
- Charge Air Cooler does not need to be removed from the vehicle

Specifications

- Dimensions: 355.6 x 508.0 x 152.4 mm (14 x 20 x 6 in)
- Weight: 4.5 kg (10.0 lb)

Part Number	Description
454-7171	Adapter Group (Charge Air Cooler)

ELECTRICAL TOOLS

Multi-Tool Group, Phase 3

Model Usage: All

Warranty: Warranty: Caterpillar® One Year

Step 1. Order the basic multi-tool group

European Union compliant, CE marked

- Replaces 9 separate diagnostic tools in 1 multi-function unit
- Reduces dealer cost by combining 9 tools into one; also provides greater convenience for technician
- Used as a blowby/airflow indicator, signal generator and counter, electronic position indicator, engine timing indicator, multi-tachometer, thermometer, fuel monitor, pressure gage, and flow computer
- Provides technician with a hand-held unit with multiple diagnostic tools using a menu-driven display

FOR REPAIR INFORMATION, CONTACT:

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060 USA
Phone: 800-344-4013

- Ergonomic design has large, dual control buttons for ease of use even with gloved hands
- Large, color display is easily readable even in bright sunlight conditions
- Diagnostic Interface Module (DIM) plugs into multi-tool to adapt existing diagnostic sensors and cables
- Multi-tool uses many of the same cables and adapters used by existing tools (for this reason, purchase of new cables and adapters may not be required)
- Once a Diagnostic Interface Module (DIM) is used with a multi-tool, it should remain in use with only that multi-tool (interchanging DIM units and multi-tool units is not recommended without sending both units to the factory for calibration)
- For identification purposes, corresponding serial numbers are printed on the back of each DIM
- Modular design allows additional functions to be added as new software becomes available
- All applications are activated and ready to use
- An internal battery, universal AC power supply, and DC cable for vehicle battery power provides 3 options for supplying power
- 4 AC power cords are included for worldwide use

368-9910 Multi-Tool Group, Phase 3 Includes:

- Carrying Case
- NEHS1111 Tool Operating Manual

368-9910 Multi-Tool Group, Phase 3

Part Number	Description
285-0896	5 Pin DIN Adapter (gender changer)
285-0903	Cable Assembly with Ground Clip (used with 285-0900 Small Blowby Tool Group)
285-0904	Battery DC Power Cable Assembly (9-32 VDC)
285-0905	Battery Pack (NiMH, 9.6 VDC)
285-0906	Universal AC/DC Power Supply with 4 International Power Cords (90 - 240 VAC)
285-0907	Diagnostic Interface Module (DIM)
285-0908	Multi-Tool
368-9910	Multi-tool Group

ELECTRICAL TOOLS

Memory Card with Software

Model Usage: 368-9910 Multi-Tool



In an effort to reduce the cost of the software applications for the Cat Multi-Tool, we are discontinuing the individual software cards and moving to a single part number (386-5908) that includes all of the software applications. The price of this new combined software card is less expensive than the combined price of two of the older individual cards.

As a result of this, the following software license will be discontinued after current inventory has been depleted.

Compact Flash Memory Card includes:

- NETG5044 – Large & Small Blow-by/ Airflow Indicator
- NETG5045 – Signal Generator/Counter
- NETG5046 – Electronic Position Indicator
- NETG5047 – Engine Timing Indicator
- NETG5049 – MultiTach II NETG5041 – Digital Thermometer
- NETG5053 – Fuel Flow Monitor

- The price of this new combined software card is less expensive than the combined price of two of the older individual cards.
- www.repairtrack.bosch-automotive.com
- Phase II Multi-Tool Group – 348-5430
- This tool will be fully activated with all current applications.
- The suggested method of adding applications to the Cat Phase I (285-0910) and Phase II (348-5430) Multi-Tool Group is to order the (CF) Flash Memory Card, 386-5908, which will provide activation of these part numbers with the same application capability as the 368-9910 Phase III Multi-Tool Group
- Phase I Multi-Tool Group – 285-0910
- All new applications will be active with the exception of the Digital Thermometer. In order to activate the Digital Thermometer Application in the Phase I Multi-Tool Group, you will need to send it to your supplier at the following address. Please contact supplier to obtain shipping information, pricing, and turnaround time.

Part Number	Description	Dimensions	Weight
386-5908	Memory Card with Software	36 x 43 x 3 mm (1.4 x 1.7 x .12 in)	.01 kg (.022 lb)

Step 2. Order the sensors for the desired tool functionalities

Blowby/Airflow Indicator

- Allows technician to measure volume of blowby gases released through crankcase breather or air velocity through a component, such as a radiator core
- Blowby measurements provide helpful information when planning engine repairs
- Airflow measurements identify plugged or partially restricted areas
- Large blowby group checks blowby on 3500 Series and 3600 Series Engines, including ACERT™ models as well as on larger 300 Series Engines
- Small blowby group works on engines smaller than 3500 Series Engines and smaller 300 Series Engines
- Displays blowby and airflow, strip charts, and maximum and minimum values with differences
- Sample rate is adjustable
- Select SAE or metric units
- Print screen capability
- Six language support: English, French, German, Italian, Portuguese, Spanish

Signal Generator Group with Counter

- Used to simulate signal from a magnetic speed pickup (use 441-7090 cable with current speed sensors) for troubleshooting electronic controls for transmissions, as a frequency counter for pulsating AC or DC input, and for calibration of a number of electronic diagnostic tools
- Allows technician to make frequency and amplitude adjustments simply by pushing a button
- 285-0896 Five-Pin DIN Adapter, part of basic group, must be used to connect generator group cables to diagnostic interface module
- Print screen capability
- Six language support: English, French, German, Italian, Portuguese, Spanish

Engine Timing Indicator

- Allows technician to measure an engines fuel injection timing
- During timing test, multi-tool will chart engine RPMs vs degrees on built-in display
- For diesel engines, multi-tool must be used with existing 8T-5301 Engine Timing Diesel Group and 285-0897 Engine Timing Pickup Group
- Checks engine timing on natural gas engines using 285-0897 Engine Timing Pickup Group
- Also checks automatic timing advance unit on engines so equipped
- Print screen capability
- Six language support: English, French, German, Italian, Portuguese, Spanish

Electronic Position Indicator (Upgraded)

- Replaces mechanical dial indicators in applications where they cannot be used, such as rack measurements on an operating engine or any other rapidly changing dynamic reading
- Simultaneously displays displacement, a strip chart, and maximum and minimum values with differences
- Select SAE or metric units
- Sample rate is adjustable
- Print screen capability
- Six language support: English, French, German, Italian, Portuguese, Spanish
- 4 Channels
- Record and Playback

Multitach II

- Simultaneously displays 4 channels, strip charts, minimum and maximum values at once
- Analog gauge or digital display graphic
- Set point indicator measurement
- Print screen capability
- Create channel labels
- Six language support: English, French, German, Italian, Portuguese, Spanish

Digital Thermometer

- Simultaneously displays 4 channels, strip charts, minimum and maximum values at once
- Analog gauge or digital display graphic
- Two differential measurements
- Bias out small differences between channels
- Print screen capability
- Create channel labels
- Select SAE or metric units
- Six language support: English, French, German, Italian, Portuguese, Spanish

Fuel Flow Monitor

- Simultaneously displays 2 engines (4 flow meters), burn rate, supply flow, return flow, total, grand total, time, average, windowed average, burn rate, and strip chart
- Sample rate is adjustable: slow, medium, normal
- Print screen capability
- Create channel labels
- Select SAE or metric units
- Run time, elapsed time mode
- Works with new 308-7271 Dual Turbine Flow Meter Group
- Six language support: English, French, German, Italian, Portuguese, Spanish

Burn Rate Computer

- Print Screen
- Create channel label
- SAE or metric
- Six languages

Pressure

- 3 pressure pickups with couplers 500; 6,000; 10,000 PSI
- Analog/Digital Display
- Two differential measurements
- Print screen
- Create channel labels
- Select SAE or metric
- Six languages

ELECTRICAL TOOLS

Sensor and Cable Groups Used with Multi-Tool

Part Number	Description
285-0897 Engine Timing Pickup Group	
5P-7362	Cable Assembly — Signal TDC
6V-2197	Transducer — Magnetic TDC Pickup 114 mm (4.5 in) long
6V-2199	Adapter — Transducer, 1/8 in NPTF
6V-3093	Adapter — Transducer, 1/4 in NPTF
8T-5184	Optional: Transducer — Magnetic TDC Pickup 8.9 cm (3.5 in) long (not included)
8T-5185	Optional: Transducer — Magnetic 17.8 cm (7.0 in) long (not included)
8T-5301 Diesel Engine Timing Adapter Group [b]	
5P-7435	Adapter Group — Tee
5P-7436	Adapter
5P-7437	Adapter
6V-2198	Extension Cable
6V-3016	Washer
285-0898 Electronic Position Indicator Group	
6V-2198	Extension Cable
6V-6042	Point Group — Contact
8T-1002	Position Probe
285-0899 Signal Generator Cable Group (also part of discontinued 8T-5200 Signal Generator/Counter Group)	
6V-2198	Extension Cable
8T-5112	Signal Input Cable
8T-5197	Calibrator Cable and Adapters
8T-5198	Transmission Adapter Cable
Optional	
441-7090	Current Speed Sensor Cable
448-7983	"Y" Cable
285-0900 Blowby Tool Group (Small Engine)	
285-0903	Cable Assembly with Ground Clip (used with 285-0900 Small Blowby Tool Group)
8T-2685	Pickup — Blowby (1,000 CFH)
285-0901 Blowby Tool Group (Large Engine) [d]	
9M-0164	Clamps — Nose
368-9911 Burn Rate Group	
154-8099	Lid Foam Insert
179-0705	Hose Group
179-0706	Foam Insert
362-9907	Optional 12 to 24 VDC Invertor
362-9913	Meter Cable
4C-9660	Carry Case

Part Number	Description
368-9914 Pressure Group	
376-4170	500 PSI
376-4171	6,000 PSI
376-4172	10,000 PSI
6V-2198	Extension Cable
308-7265 Multitach 2 Photo Group	
1U-6605	Retro-Reflective Tape, 12.5 mm (0.5 in) x 1.5 m (5.0 ft) long
6V-2198	Extension Cable
6V-3137	Magnetic Mounting Base for 9U-5140
6V-3138	Extension Rod for 6V-3137
9U-5140	Pickup — LED Photo
308-7264 Multitach 2 Group	
1P-7446	Rack Cable
1U-6605	Retro-Reflective Tape, 12.5 mm (0.5 in) x 1.5 m (5.0 ft) long
5P-1759	Tachometer Drive Group (additional parts in accessory case)
5P-7360	Tach Generator (20-tooth internal gear)
6V-2198	Extension Cable
6V-3137	Magnetic Mounting Base for 9U-5140
6V-3138	Extension Rod for 6V-3137
8T-5111	Cable As. — Rack Adapter
9U-5140	Pickup — LED Photo
9U-7506	Magnetic Adapter Cable (required for TDC Sensors)
308-7267 Digital Thermometer Group	
4C-4545	Adapter Group, 3/4 in O-ring
4C-4547	Adapter Group, 1/2 in O-ring
4C-6264	Probe — RTD 25.4 mm (1 in) long, 3.2 mm (0.125 in) diameter
4C-6265	Probe — RTD 38.1 mm (1.5 in) long, 3.2 mm (0.125 in) diameter
4C-6266	Probe — RTD 63.5 mm (2.5 in) long, 3.2 mm (0.125 in) diameter
4C-6268	Exhaust Probe RTD
5P-2720	Adapter Group — Probe, 1/8 in NPT
5P-2725	Adapter Group — Probe, 1/4 in NPT
5P-3591	Adapter Group — Probe, 9/16 in O-ring
6V-2198	Extension Cable
308-7275 Hose Group (optional)	
285-0902	Accessory Case (for cables and sensors [not included])
202-8643 Accessory Case	
202-8643	Case (not included)

a. Includes: Fiber Optic Receiver (not serviced), Fiber Optic Transmitter (not serviced), Fiber Optic Cable (not serviced)

b. Includes: Injection Timing Transducer Assembly(not serviced)

c. Includes: Bushing and Hose Group

d. Includes: Blowby Probe (4,000 Cf/h maximum) and Blowby Hose (large engine)

Step 3. Order the Accessory Case



285-0902
Accessory Case

- 285-0902 Accessory Case holds and protects all cables and sensors that are required for all blowby/airflow indicator, signal generator group, engine timing indicator, and electronic position indicator only
- 202-8643 plastic water-tight container (will not rust or scratch like metal boxes)

References

- NEHS0605, Tool Operating Manual
- SEHS8579, Special Instruction, Use of 8T-5200 Signal Generator/Counter Group

Memory Card Usage

Instructions for returning the multi-tool for re-calibration to the supplier:

1. Wrap the Multi-Tool and DIM in a cushion-type packaging material, such as Bubble Wrap®.
2. Include the following information with the Multi-tool and DIM:

- Company Name
- Contact Name
- Return Address
- Service Description (Calibrate for Digital Thermometer Application)
- E-mail Address
- Telephone Number
- Dealer Name

3. Properly package the Multi-Tool, DIM, and information and send to:

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060 USA
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

Upon receipt, Recalibration Service will contact you for credit card payment information. Caterpillar® will pay for the calibration. The dealer is responsible for shipping and handling fees. Allow about three weeks for calibration service and shipping. For status requests, contact Teleperformance at USA 1-800-344-4013.

This program will end June 1, 2010.

Fuel Flow Group



Part Number	Description
308-7271	Fuel Flow Group
308-7273	Dual Turbine Mtr (2 meters)
308-7274	Cable din to Mtr (2 cables)
6V-3073	Case — Plastic

The 308-7271 Fuel Flow Meter should have the calibration checked annually. ATS (Advanced Technology Service) can provide this service. If recalibration is required, the fuel flow meters should be returned to Flow Dynamics, the supplier. Recalibration is required if the flow meter has been physically damaged. Improper storage and contamination in the fuel can lead to physical damage to the flow meter.

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013
Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

ELECTRICAL TOOLS

Battery Analyzer

Model Usage: Caterpillar Product Line



484-4859



480-4131

CE Compliant

- Enables any technician to test batteries without deep knowledge of battery types
- Helps determine battery conditions quickly and accurately
- Preloaded with Cat® battery part number information—entering Cat part number automatically sets up battery test
- Stores tested battery results and downloads via USB memory stick
- Tests Cat and non-Cat batteries
- Tests 6- and 12-volt batteries
- Displays English and Spanish (more coming)
- Firmware upgradable via PC internet

Specifications

- Battery sizes: 100 - 1600 CCA
- Battery ratings: CCA, EN, AH, CA, MCA
- Battery type options:
  - Starting Standard (Lead Acid)
  - Starting AGM
  - Deep Cycle AGM
  - Deep Cycle Standard (Lead Acid)

Part Number	Description
484-4859	Tool Group (Analyzer)
480-4131	Analyzer Battery
480-4132	Cable Red (Service Part)
480-4134	Cable Black (Service Part)
480-4136	Adapter Side Post RoHs-Compliant
480-4147	Carrying Case
484-9688	Mini B USB Cable

Clamp-On Ammeter

Model Usage: All

Warranty: Manufacturer's One Year



European Union compliant, CE marked

- Used to measure AC or DC current
- Compact size and low cost make this unit indispensible
- Clamp-on probe replaces standard test leads (allows current measurements without breaking circuit)
- Measures current in cables up to 23 mm (0.9 in) diameter
- User selectable 400 amp and 1200 amp scales for both AC and DC
- Powered by two 1U-9533 AA Alkaline Batteries
- Designed with a built-in display, push button zero control for DC operation, "display hold" to freeze display, "max/min recording" to display highest and lowest readings, auto power-off (unit turns off automatically after 30 minutes), and low battery indicator
- Shipped with batteries, carrying case, and users guide

Specifications

- Weight: 190 g (6.7 oz)
- Overall size: 183 x 61 x 36 mm (7.2 x 2.5 x 1.4 in)
- Resolution: 1 A

REPAIR INFORMATION

Extech Instruments
9 Townsend West
Nashua, NH 03061
Phone: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com

Part Number	Description
225-8266	Clamp On Ammeter (400, 1200 A ranges)
	Service/Repair Parts
1U-9533	AA Alkaline Battery, non-rechargeable, package qty 96 (5 required to power Indicator III)
6V-6014	Cable

Voltage Detector

Model Usage: All

Warranty: Manufacturer's Two Year



European Union compliant, CE marked

- Used to quickly test for energized circuits (just touch tip to a terminal strip, outlet, or supply cord)
- Senses steady state electrostatic field produced by AC Voltage even through wire insulation (does not require contact with bare conductor)
- Tip will glow red if voltage is detected (high intensity red LED)
- Optional beeping noise also indicates presence of voltage (can be switched OFF)
- Safety rating of CAT IV, 1000 V for added protection
- Requires two AAA batteries (included)
- Press "Battery Check Button" to determine if batteries are good (tip glows if good)

Each unit is supplied with a manufacturers operating instruction sheet

Specifications

- Operating range: 90 V AC to 1000 V AC
- Operating temp: -10 to 50°C (14 to 122°F)
- Operating altitude: 3000 M (9850 ft)
- Voltage sensing range: 90 to 1000 V AC; 45 to 405 Hz

Part Number	Description
349-4205	Voltage Detector

AC/DC Probe (1000 Amp)

Warranty: Manufacturer's One Year



European Union compliant, CE marked

- Used to measure AC or DC current
- Used with standard digital multimeter, recorders, digital or analog meters, data loggers/DAS, oscilloscopes, or other test and measurement instruments
- Converts high-current to a low level millivolt signal for input directly into a test instrument
- On/Off switch with red LED is illuminated when in On position
- Low battery voltage indicated by flashing LED
- Zero adjustment knob (adjust output voltage to zero by pressing thumbwheel and rotating)
- Current range selection switch for 200A or 1000A
- Includes case, attached leads, users manual

Specifications

- Maximum conductor size: 31 mm (1.2 in)
- Lead length: 1.5 m (59 in)
- Meter input impedance: 10 k Ohms minimum and 100 pF maximum
- Current ranges: 200A, 1000A DC and AC peak
- Overall accuracy: ±1% of reading ± 0.5A
- Operating temp: 0 to 50°C (32 to 122°F)
- Power: 9v battery, NEDA 1604, JIS 006P, IEC 6F22
- Battery life: 50 hours (alkaline)
- Weight: 295 g (10 oz)
- Size: 55 x 220 x 30 mm (2.2 x 8.6 x 1.2 in)

Part Number	Description
349-4199	AC/DC Probe (1000 Amp)

ELECTRICAL TOOLS

Analyzer Group, 24-Volt

Model Usage: All

Warranty: Manufacturer's



REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

The unit is warrantied by the manufacturer for 3 years from the date of receipt. Cables are warrantied for 90 days from the date of receipt. If the unit needs servicing, contact the manufacturer's repair facility.

European Union compliant, CE marked

- Used to perform battery, electrical system, and diode tests
- Used with 225-8266 Amp Probe and 271-8585 Printer
- Used on 12 and 24 volt electrical systems (digital circuitry accurately controls testing — requires minimal interaction)
- Hand-held
- Large, backlit display requires less scrolling, provides more information
- Long 4.6 m (15.0 ft) cables allow operator to perform tests from cab of machine
- Step-by-step instructions quickly and easily guide technician through tests
- Tests flooded lead acid and absorbed glass mat (AGM) batteries with 50 to 4000 Cold Cranking Amp (CCA), Cranking Amp (CA), Amp Hours (A-HR), Japanese Industrial Standard (JIS), or German-Deutsche Industry Norm (DIN) capacity ratings
- Tests battery pack configurations, through algorithm design:
  - single battery, 6- or 12-volt
  - 2 batteries in series, 24-volt
  - 2, 3, or 4 batteries in parallel, 12-volt
  - 2 banks in parallel, each bank with batteries in series, 24-volt
- Internal resistance loads are applied for all configurations
- Amp clamp connections allow use of optional amp clamp cables for current drain and starting/charging tests
- Features infrared communications compatibility for optional wireless printer with user defined header and footer for custom printouts
- PC interface port allows unit updates as new software is released — download software for new battery types, system updates, and features
- Ergonomically designed over-molded surround with soft-touch keys for easy operation while wearing gloves during cold weather
- Security cable connection tethers tool in order to prevent drops or for security purposes
- Includes 24-volt analyzer, test cables, battery terminal adapters, manual, and case with foam insert

Reference

- NEHS0973, Tool Operating Manual, 271-8590 Analyzer Group (24 Volt)

Specifications

- Battery tests: Flooded lead acid (FLA) absorbed glass mat (AGM)
- Cold cranking amp range: 50 – 4000 CCA / 24 V
- Battery voltage: Single, series, or parallel to 24 V
- Electrical system tests: 12 and 24 V, starting/charging/diode test
- Scales: CCA, CA, AHR, MCA, JIS, DIN
- PC interface: For field software updates
- IR compatible: For optional infrared wireless printer
- Amp clamp ports: For optional amp clamp connections
- Display: Backlit 4 x 20 character display

Part Number	Description
271-8590	24-Volt Analyzer Group
Replacement Parts	
271-8587	Test cables, 4.6 m (15 ft)
271-8589	Analyzer Only
281-1947	Rechargeable Battery
Optional Accessories	
184-7679	Paper — Roll
225-8266	Clamp On Ammeter (400, 1200 A ranges)
271-8585	Optional Printer Group

Digital Battery Analyzer

Model Usage: All

Warranty: One Year



- Replaces 127-8078 Battery Analyzer
- Used to quickly and accurately test condition of 6 and 12 volt batteries (even discharged to as low as 4 volt)
- Check for full state charge, condition of battery, and battery voltage in 20 seconds
- Test batteries in machine or vehicle without disconnecting battery cables
- Battery does not have to be fully charged at time of testing
- Saves time and money by allowing dealers to test condition of a battery while customer is present (works great for warranty claims)
- Eliminates need to charge and discharge a battery to test its condition
- Compensates for cold temperatures when testing batteries in extreme conditions
- Power-down feature prolongs battery life in analyzer
- Analyzer has reverse polarity and is protected to 17 volts maximum

Reference

- NEHS0764, Tool Operating Manual, Using the 177-2330 Battery Analyzer

Battery rating range

- Cold cranking amps (CCA): 50 – 4000
- Cranking amps (CA): 65 – 5000
- Ampere hours (A h): 6 – 500
- DC voltmeter range: 1.0 – 14 V

Specifications

- Voltmeter accuracy: ±0.1 V
- Power source: 9 V battery or test battery
- Test time: 20 seconds
- Analyzer cable length: 815 mm (32 in)
- Overall size: 210 x 140 x 38 mm (8.25 x 5.5 x 1.5 in)
- Weight: 0.68 kg (1.5 lb)
- Operating temperature range: 0° to 50°C (32° to 120°F)
- Storage temperature range: -20° to 70°C (0° to 160°F)
- Over voltage protection: Up to 18 V

Part Number	Description
177-2330	Digital Battery Analyzer

Battery Load Tester

Model Usage: All Models

Warranty: One Year



- Used to test 6, 8 and 12 volt heavy equipment and automotive batteries
- Built-in LCD digital voltmeter and ammeter
- Load adjustment knob for current drawn from battery to be adjusted up to maximum of 1000 amperes
- Cooled by internal fan automatically activated when load applied to prevent carbon pile overheating
- Large, 15 mm (0.59 in) high display digits are easier to read

Reference

- SEHS9249, Special Instruction

Specifications

- Load test: 6, 8 and 12 V batteries
- Load current: 0 – 1000 A (carbon pile)
- Duty cycle: Continuous, limited only by cable and clamp heating
- Operating temperature: 0° – 50°C (32° – 122°F)
- Voltmeter accuracy: 0.1% of full scale ± 1 digit
- Ammeter accuracy: ±3% of reading ± 1 digit
- Size: 33 x 33 x 30 cm (13 x 13 x 12 in)
- Weight: 12.428 kg (27.375 lb)

Part Number	Description
4C-4911	Battery Load Tester

ELECTRICAL TOOLS

Battery Tester with Expansion Capabilities

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to test batteries in multi-battery vehicles
- Test up to 6 batteries in parallel without disconnecting
- Test 6 and 12V batteries, group 31 and commercial batteries, AGM and Gel, test 12V starting and charging systems
- Cable-drop test simultaneously calculates voltage drop across positive and negative sides of any circuit and total circuit drop without running engine
- Digital multi-meter capabilities with scope and infrared temperature readings
- Displays voltage, measured CCA, battery, starting and charging system condition, SD memory card capable for record keeping, data transfer, and software upgrades.
- Recall last test or print to optional printer

Specifications

- Dimensions: 9.5 x 4 x 2.5 in
- Weight: 0.43 kg

Part Number	Description
372-5253	Battery Tester with Expansion Capabilities

Continuity Testing Light

Model Usage: All Models

Warranty: One Year



- Used to test non-energized circuits; lamp comes on brightly when connected across low resistance circuit; no light appears if resistance of circuit exceeds 10 ohms
- Designed for rugged field use
- Comes with light bulb and 2 "N" size batteries (1.5 volts) and instruction decals

Reference

- NEHS0543, Special Instruction, Checking Diodes

Part Number	Description
8T-0500	Light — Continuity Testing
Service/Repair Parts	
4C-8363	Battery, Size N, 1.5 V
6V-3061	Bulb

Voltage Tester

Model Usage: 215, 428, 621E, 627E, 768C, 769C, 793 All models

Warranty: One Year



- Quick checks for presence of voltage
- Indispensable for checking out circuits, relays, bulbs, wires, and switches
- Bulb lights brightly when connected to 36 volts and gets progressively dimmer with lower voltages
- Designed for voltage range from 12 to 36 volts
- Encased in rugged, high-impact plastic housing which is grease and chemical resistant
- Standard 8D-1429 Bulb required for replacement

Part Number	Description
5P-7277	Voltage Tester

Lock Removal Tool, Connector Removal Tool

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to service Cat® fuse blocks using mini-fuses (GM style)
- 197-7875 removes fuse block terminal locks
- 197-7876 used to remove wire and terminal from RTA, if replacement is necessary

Instructions for use of 197-7875:

- From rear side of RTA, insert tool fingers into slots on outboard side of wires.
- With tool handle parallel to wires, press down on locking tabs of terminal locks.
- Pull out terminal locks by hand or with a small, flat blade screw driver.

Instructions for use of 197-7876:

- Remove fuse from top of RTA.
- Locate wire terminal on outboard sides of RTA
- Place long square fingers into square holes above and below slot for fuse blade.
- Press removal tool fingers completely into connector to compress terminal locking tabs.
- Remove wire and terminal.

Part Number	Description
197-7875	Lock Removal Tool
197-7876	Connector Removal Tool

Terminal Kit

Model Usage: All Cat Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 1P-2305 Terminal Kit
- Hand crimping tool has built-in dies for crimping insulated and non-insulated terminals, cutting edges for cutting wire, notches for stripping 10 to 22 gauge wire, shears for cutting up to 4.7 mm (0.18 in) diameter bolts, 2-thread chasers for screws with 24 and 32 threads-per-inch screws, and a scale for measuring screw length
- Splice connectors have hot-melt adhesive and shrink ends that when heated will provide an environmental seal around wire
- Used to repair wiring harness terminal ends which have become damaged or unserviceable

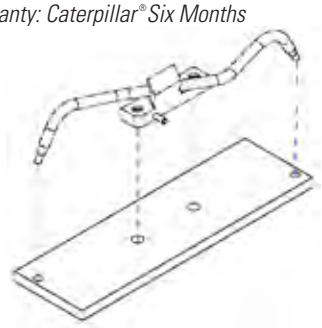
Qty. Shipped	Part No.	Description	Replacement Qty.
1	140-9944	Terminal Kit	1
		Terminal and Wire Splice Service/Repair Parts	
1	9S-9150	Terminal Crimp Tool	1
10	2L-8058	Terminal (8 Gauge 1/4 in Stud)	10
10	2L-8066	Terminal (12 - 10 Gauge No. 10 Stud)	10
10	2L-8067	Terminal (12 - 10 Gauge 1/4 in Stud)	10
10	2L-8069	Terminal (12 - 10 Gauge 3/8 in Stud)	10
10	2L-8071	Terminal (12 - 10 Gauge 1/2 in Stud)	10
10	4S-1988	Terminal (Blade, Crimp Type)	50
15	136-4876	Wire Splice (12 - 10 Gauge)	1
15	136-4877	Wire Splice (16 - 14 Gauge)	1
15	136-4878	Wire Splice (22 - 18 Gauge)	1
15	2L-8077	Terminal (16 - 14 Gauge 1/4 in Stud)	15
15	2L-8079	Terminal (16 - 14 Gauge 3/8 in Stud)	15
20	2L-8075	Terminal (16 - 14 Gauge No. 8 Stud)	20
20	2L-8076	Terminal (16 - 14 Gauge No. 10 Stud)	20
30	5P-4571	Terminal (16 - 14 Gauge)	20

ELECTRICAL TOOLS

Piston Cooling Jet Alignment Tool

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Used to check proper piston cooling jet alignment
- Prevents engine overheating due to misaligned cooling jet nozzles
- Enables reuse of piston cooling jets that pass a nozzle alignment check

Part No.	Description	Dimensions	Weight
483-8572	Piston Cooling Jet Alignment Tool	13 x 100 x 340 mm (0.5 x 4 x 13.4 in)	0.5 kg (1.1 lb)

Wing Repair Kit

Model Usage: C4.4 and C6.6 Engines



- Contains sufficient componentry to repair pins, wires, connector seals and connector bodies etc.(DUETSCH)
- Pull out terminal locks by hand or with a small, fx

Part Number	Description
274-5816	Wing Repair Kit

Part Number	Description	Qty
3E-3365	WEDGE-RCPT LOCK	10
3E-3371	WEDGE-RECP LOCK	10
3E-3377	WEDGE-RECP LOCK	5
3E-3383	WEDGE-RECP LOCK	5
3E-3389	WEDGE-RECP LOCK	5
3E-5180	WEDGE-RECP LOCK	5
8T-8737	PLUG-SEAL	30
9X-3401	PIN-CONNECTOR	30
9X-3402	SOCKET-CONNECTOR	30
102-8801	KIT-RECEPTACLE	3
102-8802	RECEPTACLE KIT	10
102-8803	RECEPTACLE KIT	5
102-8804	RECEPTACLE KIT	5
102-8805	RECEPTACLE KIT	3
102-8806	RECEPTACLE KIT	3
126-1767	PIN-CONNECTOR	30
126-1768	SOCKET-CONNECTOR	30
147-6456	REMOVAL TOOL-WED	1
151-6320	TOOL-REMOVAL	6
155-2255	PLUG KIT-CONN	3
155-2258	WEDGE-PLUG LOCK	5
155-2259	WEDGE-PLUG LOCK	5
155-2260	PLUG KIT-CONN	5
155-2261	WEDGE-PLUG LOCK	10
155-2262	WEDGE-PLUG LOCK	5
155-2263	WEDGE-PLUG LOCK	5
155-2265	PLUG KIT-CONN	3
155-2270	PLUG KIT-CONN	10
155-2271	PLUG KIT-CONN	5
155-2274	PLUG KIT-CONN	3
155-2276	WEDGE-PLUG LOCK	10
209-0629	SEAL GP-2 PIN	1
209-0631	SEAL GP-3 PIN	1
209-0632	SEAL GP-4 PIN	1
209-0633	SEAL GP-6 PIN	1
209-0634	SEAL GP-8 PIN	1
209-0635	SEAL GP-12 PIN	1

CE/VE Connector Tool Group

Model Usage: All Models with CE/VE Connectors

Warranty: Caterpillar® Six Months



- Used to service all CE/VE Connectors
- Contacts can be removed, installed or rearranged within connector

Reference

- SEHS8038, Special Instruction

Item	Tool Part No.	Description	Color	Wire Gauge
—	8T-5319	Connector Tool Group	—	—
		Connectors		
1	4C-4074	Removal Tool, 16 - 18 Gauge	Black	16, 18
2	4C-4073	Removal Tool, 12 - 14 Gauge	Yellow	12, 14
3	4C-4072	Removal Tool, 8 - 10 Gauge	Green	8, 10
4	4C-4071	Removal Tool, 4 - 6 Gauge	Grey	4, 6

Electrical Connector Repair Kit

Model Usage: Some models with electronic controls

Warranty: Caterpillar® Six Months



- Used to repair electrical connectors made by Amp Special Industries that are used in electrical controls and harnesses

Part Number	Description
9G-5859 Includes:	301741 Terminal (8)
	384841 Contact (18)
	384843 Plug (12)
	309491 Housing (16)
	309492 Housing (16)
	301782 Housing (10)
	301531 Housing (4)
	344953 Housing (4)
	301739 Socket (8)
	301740 Housing (10)
	301781 Housing (10)
9G-6790 Includes:	399860 Contact (22)
	368748 Connector
	368747 Connector
	389688 Connector (2)

Part Number	Description
6V-4148	Electrical Connector Repair Kit
6V-3001	Sure Seal Crimping Tool
6V-4145	Extraction Tool
6V-4146	Extraction Tool — 301530 Terminal (8)
7N-6545	Terminal (32)
7N-6546	Terminal (32)
9G-5859	Pin (8)
9G-6789	Connector (2), 387062 Connector (2)
9G-6790	Socket (37)
9G-6791	Pin (32)
9G-6793	Terminal (9), 384842 Connector (6)

ELECTRICAL TOOLS

Insulation Tester Group

Model Usage: General and Generator Sets

Warranty: Manufacturer's One Year



European Union compliant, CE marked

- Replaces discontinued 243-3134 1KV Insulation Tester
- Used to test insulation on generator sets, cables, motors, insulators, and wiring installations
- Test voltages of 50, 100, 250, 500, and 1000 volts
- Automatic calculation of Dielectric Absorption Ratio (DAR) and Polarization Index (PI)
- Repetitive or hard-to-reach testing is made easier with 300-9489 Remote Test Probe
- Make repetitive tests simple and easy with Compare (Pass/Fail) function
- Live circuit detection prevents insulation test if voltage of 30 volts or greater is detected
- Auto-discharge of capacitive voltage for added user protection
- Auto power off extends battery life
- CAT IV 600 volt overvoltage
- Read measurements easily with large, backlit display
- 4 AA alkaline batteries provide at least 1000 insulation tests

Part Number	Description
300-8648	Insulation Tester Group
Service/Repair Parts	
300-8649	Test Leads
300-8650	Test Probes
300-9487	Alligator Clips
300-9488	Case
300-9489	Remote Test Probe

AC/DC Voltage Measurement

Specifications

- Accuracy: 50 Hz to 400 Hz ± (% of reading + digits): ± (2% of reading + 3 digits)
- Range: 0.1 V to 600.0 V
- Resolution: 0.1 V
- Input impedance: 3 MΩ (nominal), <100 pF
- Common mode rejection ratio (1 kΩ unbalanced): >60 dB at DC, 50 or 60 Hz
- Overload protection: 600 V RMS or DC

Earth Bond Resistance Measurement Specifications

- Range/Resolution:
  - 20.00 Ω / 0.01 Ω
  - 200.00 Ω / 0.1 Ω
  - 2000 Ω / 1.0 Ω
  - 20.00 kΩ / 0.01 kΩ
- Accuracy: ± (1.5% of reading + 3 digits)
- Overload protection: 2 V RMS or DC
- Open circuit test voltage: >4.0 V, <8 V
- Short circuit current: >200.0 mA

Insulation Specifications

- Measurement range: 0.01 MΩ to 10 GΩ
- Test voltages: 50 V, 100 V, 250 V, 500 V, and 1000 V
- Test voltage accuracy: + 20%, – 0 %
- Short-circuit current: 1 mA nominal
- Auto discharge: Discharge time <0.5 second for C = 1 µF or less
- Live circuit indicator: Inhibit test if terminal voltage >30 V prior to initialization of test
- Maximum capacitive load: Operable with up to 1 µF load
- Measure accuracy:
  - 50 V: ± (3% + 5)
  - 100 V: ± (3% + 5)
  - 250 V: ± (1.5% + 5)
  - 500 V: ± (1.5% + 5)
  - 1000 V: ± (1.5% + 5) to 2000 MΩ, ± (10% + 3) above 2000 MΩ

Environmental Specifications

- Maximum voltage applied to any terminal: 600 VAC RMS or DC
- Storage temperature: -40° to 60°C (-40° to 140°F)
- Operating temperature: -20° to 55°C (-4° to 131°F)
- Temperature coefficient: 0.05 x (specified accuracy) per °C for temperatures <18 or >28°C (<64 or >82°F)
- Relative humidity:
  - 0% to 95% at 10° to 30°C (50° to 86°F)
  - 0% to 75% at 30° to 40°C (86° to 104°F)
  - 0% to 40% at 40° to 55°C (104° to 131°F)
- Vibration: Random, 2 g, 5 – 500 Hz per MIL-PRF-28800F, Class 2 instrument
- Shock: 1 meter drop per IEC 61010-1 2nd Edition (1 meter drop test, 6 sides, oak floor)
- Electromagnetic accuracy (EN 61326-1:1997) compatibility: In an RF field of 3 V/M, accuracy = specified

Compliance to Standards

- Complies with: ANSI/ISA 82.02.01 (61010-1) 2004, CAN/CSA-C22.2 NO. 61010-1-04, and IEC/EN 61010-1 2nd Edition for measurement category IV 600 V (CAT IV)
- Certifications: CSA per standard CSA/CAN C22.2 No. 61010.1-04; TUV per standard IEC/EN 61010-1 2nd Edition

Power Specifications

- Batteries: 4 AA batteries (NEDA 15A or IEC LR6)

Battery Life

- Insulation test use:
  - Tester can perform at least 1000 insulation tests with fresh alkaline batteries at room temperature.
  - These are standard tests of 1000 V into 1 MΩ with a duty cycle of 5 seconds on and 25 seconds off.
- Resistance measurements:
  - Tester can perform at least 2500 earth bond resistance measurements with fresh alkaline batteries at room temperature.
  - These are standard tests of 1Ω with a duty cycle of 5 seconds on and 25 seconds off.

General Specifications

- Size (H x W x L): 5.0 x 10.0 x 20.3 cm (1.97 x 3.94 x 8.0 in)
- Weight: 550 g (1.2 lb)
- IP Rating: IP40
- Operating altitude: 2000 m CAT IV 600 V, 3000 m CAT III 600 V
- Non-operating (storage altitude): 12,000 m
- Over-range capability: 110% of range

Tester Group, 5KV Insulation

Model Usage: General and Generator Sets

Warranty: Manufacturer's Three Years



- Used to test insulation on generator sets, cables, motors, insulators, and wiring installations
- Test voltages of 50, 100, 250, 500, 1000, and 5000 volts
- Automatic calculation of Dielectric Absorption (DAR) and Polarization Index (PI)
- Selectable test Voltages in 50 V steps from 250 to 1000 V and 100 V steps above
- Measurements can be stored in up to 99 memory locations with each location assigned a unique user-defined label for easy recall
- Resistance measurements up to 1TΩ (ohm)
- Long battery life gives the user over 750 tests between charges
- CE, CSA, and TUV Compliant

Specifications

- Dimensions: 170 x 242 x 330 mm (6.7 x 9.5 x 13 in)
- Weight: 3.6 kg (7.94 lbs)
- Safety: CAT III 1000 V, CAT IV 600V
- Display: 75 x 105 mm (3.0 x 4.1 in)
- Power, Battery: 12 V lead-acid rechargeable Yuasa NP 2.8 – 12
- Charger Input (AC): 85 V to 250 V 50/60 HZ 20 VA
- Temperature (operating): -20°C to 50°C (-4°F to 122°F)
- Temperature (storage): -20°C to 65°C (-4°F to 149°F)
- Electromagnetic Compatibility: EN 61326
- Humidity: 80% to 31°C decreasing linearly to 50% at 50°C

Part Number	Description
349-4206	5KV Insulation Tester Group

ELECTRICAL TOOLS

Fluke Ti32 Thermal Camera

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to ensure proper connections are made in high voltage and current wiring installations
- Used to identify potential insulation problems
- Use to view slowly changing temperatures on electrical switchgear, wiring and generator sets
- Compact and portable
- Includes IR-Fusion and SmartView analyzing and reporting software
- 320 x 240 resolution infrared thermal imager
- Optional wide-angle and telephoto lenses available

Temperature

- Temperature measurement range (not calibrated below -10°C): -20°C to + 600°C (-4°F to + 1112°F)
- Temperature measurement accuracy: ± 2°C or 2% (at 25°C nominal, whichever is greater)
- On-screen emissivity correction: Yes
- On-screen reflected background temperature compensation: Yes
- On-screen transmission correction: Yes

Imaging Performance

- Image capture frequency: 9 Hz refresh rate
- Detector type: Focal Plane Array, uncooled microbolometer, 320 x 240 pixels
- Thermal sensitivity (NETD): ≤0.05°C at 30°C target temp. (50 mK)
- Infrared spectral band: 7.5 µm to 14 µm (long wave)
- Visual (visible light) camera: Industrial performance 2.0 megapixel
- Minimum focus distance: 46 cm (approx. 18 in)
- Standard infrared lens type:
  - Field of view: 23° x 17°
  - Spatial resolution (IFOV): 1.25 mRad
  - Minimum focus distance: 15 cm (approx. 6 in)
- Focus mechanism: Manual, one-handed Smart Focus capability

Part Number	Description
417-5122	Fluke Ti32 Thermal Camera

Ti32 Thermal Camera Image Specifications

Image Presentation

- Palettes:
  - Standard: Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
  - Ultra Contrast™: Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra
- Level and span: Smooth auto-scaling and manual scaling of level and span
- Fast auto toggle between manual and auto modes: Yes
- Fast auto-rescale in manual mode: Yes

IR-Fusion® Information

- Picture-In-Picture (PIP): Three levels of on-screen IR blending displayed in center of LCD
- Full screen infrared: Three levels of on-screen IR blending displayed in center of LCD
- Color alarms (temperature alarms): High-temperature color alarm (user-selectable)
- Voice annotation: 60 seconds maximum recording time per image; reviewable playback on imager

Image capture and data storage

- Image capture, review, save mechanism: The Ti32 allows user to adjust palette, blending, level, span, IR-Fusion® mode, emissivity, and reflected background temperature compensation, and transmission correction on a captured image before it is stored. One-handed image capture, review, and save capability.
- Storage medium: SD memory card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR and linked visual images each with 60 seconds voice annotations, or 3000 basic bitmap (.bmp) images, or 3000 jpeg (.jpeg) images; transferable to PC via included multi-format USB card reader
- File formats:
  - Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2)
  - No analysis software required for non-radiometric (.bmp and .jpg) files
- Export file formats w/SmartView® software: BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF
- Memory review: Thumbnail view navigation and review selection

Ti32 Thermal Camera General Specifications

General specifications

- Operating temperature: -10°C to + 50°C (14°F to 122°F)
- Storage temperature: -20°C to + 50°C (-4°F to 122°F) without batteries
- Relative humidity: 10% to 95% non-condensing
- Display: 9.1 cm (3.7 in) diagonal landscape color VGA (640 x 480) LCD with backlight and clear protective cover
- Controls and adjustments:
  - User selectable temperature scale (°C/°F)
  - Language selection
  - Time/Date set
  - Emissivity selection
  - Reflected background temperature compensation
  - Transmission correction
  - User selectable hot spot and cold spot, and center point on the image (other custom markers and shapes in SmartView® software)
  - High temperature color alarm
  - User selectable backlight: Full Bright or Auto
  - Information display preference
- Software: SmartView® full analysis and reporting software included
- Batteries: Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level
- Battery life: Four+ hours continuous use per battery pack (assumes 50% brightness of LCD)
- Battery charge time: 2.5 hours to full charge
- AC battery charging: Two-bay ac battery charger (110V ac to 220V ac, 50/60 Hz) (included), or in-imager charging. AC mains adapters included.
- AC operation: AC operation with included power supply (110V ac to 220V ac, 50/60 Hz). AC mains adapters included.
- Power saving: Sleep mode activated after five minutes of inactivity, automatic power off after 30 minutes of activity
- Safety standards: CSA (US and CAN): C22.2 No. 61010-1-04, UL: UL STD 61010-1 (2nd Edition), ISA: 82.02.01
- Electromagnetic compatibility: Meets all applicable requirements in EN61326 – 1:2006
- C Tick: IEC/EN 61326-1
- US FCC: CFR 47, Part 15 Class B
- Vibration: 0.03 G2/Hz (3.8 grms), IEC 68-2-6
- Shock: 25 g, IEC 68-2-29
- Drop: 2 m (6.5 ft) with standard lens
- Dimensions (H x W x L): 27.7 cm x 12.2 cm x 17.0 cm (10.9 in x 4.8 in x 6.7 in)
- Weight (battery included): 1.05 kg (2.3 lb)
- Enclosure rating: IP54 (protected against dust, limited ingress; protection against water spray from all directions)
- Warranty: Two year manufacturer
- Recommended calibration cycle: Two year (assumes normal operation and normal aging)
- Supported languages: Czech, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish

ELECTRICAL TOOLS

Fluke Ti27 Thermal Camera

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to ensure proper connections are made in high voltage and current wiring installations
- Used to identify potential problems to prevent costly repairs
- View slowly changing temperatures on electrical switchgear, wiring, generator sets
- Compact and portable
- Equipped with integrated lens cover, protected display and 2 meter drop test
- 240 x 180 infrared resolution, spatial resolution and high definition display

Temperature

- Temperature measurement range (not calibrated below -10°C): -20°C to + 600°C (-4°F to + 1112°F)
- Temperature measurement accuracy: ± 2°C or 2% (at 25°C nominal, whichever is greater)
- On-screen emissivity correction: Yes
- On-screen transmission correction: Yes
- On-screen reflected background temperature compensation: Yes

Imaging Performance

- Image capture frequency: 9 Hz refresh rate
- Detector type: Focal Plane Array, uncooled microbolometer, 240x180 pixels
- Total pixels: 43,200
- Thermal sensitivity (NETD): ≤ 0.05°C at 30°C target temp. (50 mK)
- Infrared spectral band: 7.5 µm-14 µm (long wave)
- Visual (visible light) camera: Industrial performance 2.0 megapixel
- Min. focus distance: 46 cm (approx. 18 in)
- Standard infrared lens type:
  - Field of view: 23° x 17°
  - Spatial resolution (IFOV): 1.67 mRad
  - Min. focus distance: 15 cm (approx. 6 in)
- Focus mechanism: Manual, one-handed Smart Focus capability

Part Number	Description
417-5126	Fluke Ti27 Thermal Camera

Thermal Imager, Fluke Ti-300 9Hz

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- Detect and communicate issues faster with patented Fluke IR-Fusion® technology with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- One-handed, easy-to-use user interface
- Ruggedized high resolution 640 x 480 capacitive touch screen for quick menu navigation
- Capture additional digital images to show location or additional site details with IR-PhotoNotes™ Annotation System
- Standard and radiometric video recording
- Streaming video (USB and HDMI)
- Text and voice recording and annotation gets additional details saved with the image file
- Optional interchangeable lenses for greater flexibility in additional applications
- High-temperature measurement (1202F) 650C
- Included SmartView® and SmartView Mobile App Analysis and Reporting Software
- This tool replaces 417-5126 Ti-27

Included with the Ti300:

- Thermal imager with standard infrared lens
- AC power supply and battery pack charger (including mains adapters)
- Two, rugged lithium ion smart battery packs
- Micro SD memory card with SD adapter
- 3m USB cable
- 3m HDMI video cable
- SmartView® software with free software upgrades for life
- Rugged, hard carrying case
- Soft transport bag
- Adjustable hand strap
- Printed user's manual (five languages)
- CD user's manual
- Warranty registration card

Part No.	Description	Dimensions	Weight
555-0430	Fluke Ti-300 9Hz Thermal Imager	27.7 x 12.2 x 16.7 cm (10.9 x 4.8 x 6.5 in)	1.04 Kg (2.3 lb)

ELECTRICAL TOOLS

Digital Multimeter Group (RS-232)

Model Usage: All Models

Warranty: Manufacturer's Three Year



Figure 1

REPAIR INFORMATION

Extech Instruments
9 Townsend West
Nashua, NH 03061
Ph: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com

European Union compliant, CE marked

- Used to measure duty cycle, frequency, resistance, AC/DC voltages, AC/DC currents, temperature, continuity, diode test and total harmonic distortion in percentage of line voltage or current at 50/60 Hz or as a percent of fundamental frequency
- Features RS-232 output which can be used to connect meter to 131-5050 DataView using a 146-8488 Cable Assembly
- Measures true RMS on AC voltage and current ranges
- Has auto/manual ranging features
- Can be programmed to compare measurements to a desired reference value without an external reference source
- Has safety shutter to protect meter in the event of incorrect connections to current terminals
- 600 V fuse protected on both 10 amp and 400 milliamp range
- Ohm meter protected to 600 volts
- Automatic reading hold
- Digital display backlighting can be turned ON or OFF
- Small enough to be hand held and is protected by a rubber boot
- Battery powered
- Group includes items in Figure 2

References

- NEHS0678, Tool Operating Manual; Specifications, Testing, and Maintenance

Part Number	Description
146-4080	RS-232 Digital Multimeter

Ti27 Thermal Camera Image Specifications

Image Presentation

- Palettes:
  - Standard: Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
  - Ultra Contrast™: Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra
- Level and span: Smooth auto-scaling and manual scaling of level and span
- Fast auto toggle between manual and auto modes: Yes
- Fast auto-rescale in manual mode: Yes

IR-Fusion® Information

- Picture-In-Picture (PIP): Three levels of on-screen IR blending displayed in center of LCD
- Full screen infrared: Three levels of on-screen IR blending displayed in center of LCD
- Color alarms (temperature alarms): High-temperature color alarm (user-selectable)

Image capture and data storage

- Image capture, review, save mechanism: The Ti27 allows user to adjust palette, blending, level, span, IR-Fusion® mode, emissivity, and reflected background temperature compensation, and transmission correction on a captured image before it is stored.
- Voice annotation: 60 seconds maximum recording time per image; reviewable playback on imager
- File formats: SD memory card (2 GB memory card will store at least 1200 fully radiometric (.is2) IR and linked visual images each with 60 seconds voice annotations, or 3000 basic bitmap (.bmp) images, or 3000 jpeg (.jpeg) images; transferrable to PC via included multi-format USB card reader
- Export file formats w/SmartView® software:
  - Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2)
  - No analysis software required for non-radiometric (.bmp and .jpg) files

Ti27 Thermal Camera General Specifications

General specifications

- Operating temperature: -10°C to + 50°C (14°F to 122°F)
- Storage temperature: -20°C to + 50°C (-4°F to 122°F) without batteries
- Relative humidity: 10% to 95% non-condensing
- Display: 9.1 cm (3.7 in) diagonal landscape color VGA (640 x 480) LCD with backlight and clear protective cover
- Controls and adjustments:
  - User selectable temperature scale (°C/°F)
  - Language selection
  - Time/Date set
  - Emissivity selection
  - Reflected background temperature compensation
  - Transmission correction
  - User selectable hot spot and cold spot, and center point on the image (other custom markers and shapes in SmartView® software)
  - High temperature color alarm
  - User selectable backlight: Full Bright or Auto
  - Information display preference
- Software: SmartView® full analysis and reporting software included
- Batteries: Two lithium ion rechargeable smart battery packs with five-segment LED display to show charge level
- Battery life: Four+ hours continuous use per battery pack (assumes 50% brightness of LCD)
- Battery charge time: 2.5 hours to full charge
- AC battery charging: Two-bay ac battery charger (110V ac to 220V ac, 50/60 Hz) (included), or in-imager charging. AC mains adapters included.
- AC operation: AC operation with included power supply (110V ac to 220V ac, 50/60 Hz). AC mains adapters included.
- Power saving: Sleep mode activated after five minutes of inactivity, automatic power off after 30 minutes of activity
- Safety standards: CSA (US and CAN): C22.2 No. 61010-1-04, UL: UL STD 61010-1 (2nd Edition), ISA: 82.02.01
- Electromagnetic compatibility: Meets all applicable requirements in EN61326 – 1:2006
- C Tick: IEC/EN 61326-1
- US FCC: CFR 47, Part 15 Class B
- Vibration: 0.03 G2/Hz (3.8 grms), IEC 68-2-6
- Shock: 25 g, IEC 68-2-29
- Drop: 2 m (6.5 ft) with standard lens
- Dimensions (H x W x L): 27.7 cm x 12.2 cm x 17.0 cm (10.9 in x 4.8 in x 6.7 in)
- Weight (battery included): 1.05 kg (2.3 lb)
- Enclosure rating: IP54 (protected against dust, limited ingress; protection against water spray from all directions)
- Warranty: Two year manufacturer
- Recommended calibration cycle: Two year (assumes normal operation and normal aging)
- Supported languages: Czech, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish

ELECTRICAL TOOLS

Fluke IR Window

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to safely inspect indoor switchgear and reduce cost of predictive maintenance
- Enables thermographer to see potential problems in visual light and thermographic mode
- Allows visual inspection of switchgear with cover closed
- Complete with security access key, installation instructions and self-adhesive drilling template
- Used with the 417-5122 and 417-5126 Thermal Cameras

IR Windows are not 100% transmissive to infrared radiation, so not all of the energy emitted goes through the window, nor is picked up by the camera. In the Ti32 and Ti27 there is a way to compensate for this effect via a parameter under Settings called Transmission. Normally this is set at 100%, however it can be adjusted to match an IR Window. Generally the 3" windows are in the 60-65% range.

Specifications

- Crystal Insert Diameter: 75 mm (2.96 in)
- Viewing Aperture Diameter: 68 mm (2.7 in)
- Viewing Aperture Area: 3632 sq mm (5.63 sq in)
- Thickness: 2 mm (.08 in)
- Maximum Temperature:
  - Gaskets 250°C (482°F)
  - Body 659°C (1219°F):
  - Optic 1400°C (2552°F):
- Viewing Pane: 150°C (302°F)
- Pull-out Strength: Up to 630 kg (1388 lb)

Part Number	Description
417-7905	Fluke IR Window

Automatic Lubrication System Diagnostic Kit

Model Usage: 725, 730, 735 and 740 Articulated Trucks

Warranty: Caterpillar® One Year



- Used to diagnose the automatic lubrication system
- Connection cables and adapter for connecting a laptop to the pump
- Twin/Gina diagnostic software
- Assembly instructions and parts information supplied in manual and digital form
- Kit Contents: Interface Box, USB Cable, Diagnostic Cable, Twin 2 Cable, Twin 3 Cable, Software CD, Installation Manual, Validation Code

Part Number	Description
345-1783	Automatic Lubrication System Diagnostic Kit

Electrical Specifications

Function	Range	Resolution	Accuracy	Maximum Input
DC V	400 mV	0.1 mV	0.3% + 2 d	1000 V
	4 V	1 mV	0.3% + 2 d	
	40 V	10 mV	0.3% + 2 d	
	400 V	0.1 V	0.3% + 2 d	
	1000 V	1 V	0.75% + 3 d	
DC A	400 µA	0.1µA	0.5% + 1d	µA – 400 mA / 600 V
	4000 µA	1µA	0.5% + 1d	µA – 400 mA / 600 V
	40 mA	0.01mA	0.5% + 1d	mA – 400 mA / 600 V
	400 mA	0.1mA	0.5% + 1d	mA – 400 mA / 600 V
	4 A	0.001A	1.0% + 5d	A – 10 A / 600 V
	10 A	0.01A	1.0% + 5d	A – 10 A / 600 V
AC V	4 V	1mV	0.75% + 3d	750 V
	40 V	10mV	0.75% + 3d	
	400 V	0.1V	0.75% + 3d	
	750 V	1V	0.75% + 5d	
AC A	400 µA	0.1µA	1.0% + 5d (45Hz to 1KHz)	µA – 400 mA / 600 V
	4000 µA	1µA		µA – 400 mA / 600 V
	40 mA	0.01mA		mA – 400 mA / 600 V
	400 mA	0.1mA		mA – 400 mA / 600 V
	4 A	0.001A		A – 10 A / 600 V
	10 A	0.01A		A – 10 A / 600 V
ohms	400Ω	0.1Ω	0.5% + 10d	600V
	4 KΩ	1Ω	0.5% + 3d	
	40 KΩ	10Ω	0.5% + 3d	
	400 KΩ	0.1KΩ	0.5% + 3d	
	4 MΩ	1KΩ	0.5% + 3d	
	40 MΩ	10KΩ	1.01% + 10d	
Hz (1.5Hz to 200kHz)	200 Hz	0.01 Hz	0.05% +2 digits (20,000 Counts)	
	2 kHz	0.1 Hz		
	20 kHz	1 Hz		
	200 kHz	10 Hz		
	7200 kHz	100 Hz		

Temperature Specifications

Range	Resolution	Accuracy	Maximum Input
-40° to 0°C (-40° to 32°F)	0.1°C (0.°F)	±3.0°C + 1 digit (±5.4°F + 1 digit)	60 VDC or 24 VAC RMS
0° to 400°C (32° to 752°F)	0.1°C (0.1°F)	±1% + 1°C (±1% + 1.8°F)	60 VDC or 24 VAC RMS
401° to 1,370°C (753° to 2,498°F)	1°C (1°F)	±3.0% of reading	60 VDC or 24 VAC RMS

ELECTRICAL TOOLS

General Specifications, Fuses and Units

General Specifications

Function	Description
Continuity	Open circuit test voltage: 1.2 V
Diode check	Open circuit test voltage: 3 V MAXIMUM TEST CURRENT: 25 mA
Duty cycle (1.5 Hz – 20 kHz)	0.0 - 99.9% Accuracy: within ± (0.2% per KHz + 0.1%)
THD Measurement (50/60 Hz) (Total harmonic distortion)	Voltage ± (2% + 2 digits)
	Current ± (2% + 2 digits)
DC V	Normal Mode Rejection Ratio: >20 dB at 50 Hz or 60 Hz
	Common Mode Rejection Ratio: >100 dB at DC, 50 Hz or 60 Hz
AC V	Common Mode Rejection Ratio: 85 dB at dc to 60 Hz
Crest factor	1:1 through 3:1. For non-sinusoidal waveforms (45 Hz to 1 KHz), add ±(2% of reading) to the accuracy
Fuse protection	µA or mA: 1 A / 600 V FAST fuse A: 15 A / 600 V FAST fuse with >10,000 A interrupt rating
3N-5612 Fuse	
Voltage rating	600 V
Current rating	1 A
Size (diameter)	10.3 x 34.9 mm (13/32 x 1 3/8 in)
Load carrying capacity	110% load indefinitely, opens at 135% load within 1 hour
9U-6398 Fuse	
Voltage rating	600 V
Current rating	15 A
Size (diameter)	10.3 x 38.1 mm (13/32 x 1 1/2 in)
Load carrying capacity	110% load 4 hours, opens at 135% load within 1 hour

Units

Exponents	Description
%	Percentage Annunciation in the Percentage (%) mode, the THD @ 50/60 Hz mode, and Duty Cycle mode
mV	Millivolts (1 x 10^{-3} V)
A	Amperes (amps)
mA	Milliamperes (1 x 10^{-3} A)
µA	Microamperes (1 x 10^{-6} A)
Ω	Ohms
KΩ	Kilohm (1 x 10^{3} ohms)
MΩ	Megohm (1 x 10^{6} ohms)
Hz	Hertz (1 cycle/sec)
KHz	Kilohertz (1 x 10^{3} cycles/sec)

Needle Tip Group for 6V-7070 Digital Multimeter

Warranty: Caterpillar® One Year

- Tips slip over standard or deluxe test lead tips to provide long, smaller diameter tip for inserting into connectors and other tight areas
- Required when using multimeters with Cat® Electrical Training Aids 8T-9170, 8T-9171 and 8T-9172 (no longer available as form numbers SEKV1700, SEKV1500, and SEKV2100, respectively)
- Insulated with teflon sleeving which may be cut back to expose more metal or to shorten metal tip

Part Number	Description
8T-3224	Needle Tip Group

Digital Multimeter Equipment

Item	Description
1	Thermocouple Adapter and Thermocouple
2	Test Leads
3	Clip Adapter
4	NEHS0678-01 Operation Manual

Item	Part Number	Description
5	146-4080	RS-232 Digital Multimeter
6	8T-0458	Wire — Thermocouple
Not Shown	6V-7072	Lead Kit — Test
Not shown	212-2158	Replacement Lead Set

Optional Equipment



Item	Description
8	NEHS0682-01 Specification, Testing, and Maintenance Manual

Item	Part Number	Description
7	146-8488	Cable Group (9-pin, RS-232 Cable)

Deluxe Lead Kit

Part Number	Description	Warranty
6V-7072	Lead Kit — Test	One Year

Multimeter with Infrared Thermometer

Model Usage: All Models

Warranty: Manufacturer's One Year



- Replaces discontinued 6V-7070 Multimeter
- Used to measure AC/DC voltage and current, resistance, capacitance, frequency, duty cycle, and temperature
- Designed with a built-in infrared thermometer and laser pointer
- Large, backlit LCD display makes viewing easier
- 4000-count digital multimeter
- Provides a low-cost alternative to some other multimeters

Part Number	Description
237-5130	Multimeter with Infrared Thermometer
Service/Repair Parts	
1U-9534	Battery — 9V Size (not shown)
212-2158	Replacement Lead Set
237-5125	20 A Fuse
8Q-6668	0.5 A/250 V Fuse

REPAIR INFORMATION

Extech Instruments
9 Townsend West
Nashua, NH 03061
Phone: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com

ELECTRICAL TOOLS

Specifications

- Temperature sensor: Requires type K thermocouple (included)
- IR spectral response: 6 – 16µm
- IR emissivity: 0.95 fixed
- IR distance ratio: 8:1
- Input impedance: >7.5M ohm (VDC and VAC)
- AC response: True RMS
- ACV bandwidth: 50 Hz to 1 kHz
- Display: 4000-count backlit liquid crystal
- Overrange indication: "OL" is displayed
- Auto power off: 15 minutes (approximately)
- Operating temperature: 0° to 50°C (32° to 122°F)
- Storage temperature: -20° to 60°C (-4° to 140°F)
- Weight: 342 g (0.753 lb) (includes holster)
- Size: 187 x 81 x 50 mm (7.36 x 3.2 x 2.0 in) (includes holster)

Function	Range	Resolution	Accuracy
DC Voltage	400 mV	0.1 mV	±(0.3% reading + 2 digits)
	4 V	0.001 V	±(0.5% reading + 2 digits)
	40 V	0.01 V	±(0.5% reading + 2 digits)
	400 V	0.1 V	±(0.5% reading + 2 digits)
	600 V	1 V	±(0.8% reading + 3 digits)
AC Voltage	400 mV	0.1 mV	50 - 400 Hz, 400 Hz – 1 kHz ±(1.5% reading + 15 digits), ± (2.5% reading + 15 digits)
	4 V	0.001 V	±(1.5% reading + 6 digits), ± (2.5% reading + 8 digits)
	40 V	0.01 V	±(1.5% reading + 6 digits), ± (2.5% reading + 8 digits)
	400 V	0.1 V	±(1.5% reading + 6 digits), ± (2.5% reading + 8 digits)
	600 V	1 V	±(1.8% reading + 6 digits), ± (3% reading + 8 digits)
DC Current	400 µA	0.1 µA	±(1.5% reading + 3 digits)
	4000 µA	1 µA	±(1.5% reading + 3 digits)
	40 mA	0.01 mA	±(1.5% reading + 3 digits)
	400 mA	0.1 mA	± (1.5% reading + 3 digits)
	4 A	0.001 A	±(2.5% reading + 5 digits)
	20 A	0.01 A	±(2.5% reading + 5 digits)
AC Current	400 µA	0.1 µA	50 to 400 Hz, 400 Hz to 1 kHz ±(1.8% reading +8 digits), ±(3.0% reading +7 digits)
	4000 µA	1 µA	±(1.8% reading +8 digits), ±(3.0% reading +7 digits)
	40 mA	0.01 mA	±(1.8% reading +8 digits), ±(3.0% reading +7 digits)
	400 mA	0.1 mA	±(1.8% reading +8 digits), ±(3.0% reading +7 digits)
	4 A	0.001 A	±(3.0% reading +8 digits), ±(3.5% reading +10 digits)
	20 A	0.01 A	±(3.0% reading +8 digits), ±(3.5% reading +10 digits)
Resistance	400Ω	0.1Ω	±(0.8% reading + 4 digits)
	4 kΩ	0.001 kΩ	±(0.8% reading + 2 digits)
	40 kΩ	0.01 kΩ	±(1.0% reading + 2 digits)
	400 kΩ	0.1 kΩ	±(1.0% reading + 2 digits)
	4 MΩ	0.001 MΩ	±(1.0% reading + 2 digits)
	40 MΩ	0.01 MΩ	±(3.0% reading + 5 digits)
Capacitance	40 nF	0.01 nF	±(5.0% reading + 7 digits)
	400 nF	0.1 nF	±(3.0% reading + 5 digits)
	4 µF	0.001 µF	±(3.5% reading + 5 digits)
	40 µF	0.01 µF	±(3.5% reading + 5 digits)
	100 µF	0.1 µF	±(5.0% reading + 5 digits)
Frequency	5.000 Hz	0.001 µF	±(1.5% reading + 5 digits)
	50.00 Hz	0.01 Hz	±(1.5% reading + 5 digits)
	500.0 Hz	0.1 Hz	±(1.2% reading + 2 digits)
	5.000 kHz	0.001 kHz	±(1.2% reading + 2 digits)
	50.00 kHz	0.01 kHz	±(1.2% reading + 2 digits)
	500.0 kHz	0.1 kHz	±(1.2% reading + 2 digits)
	5.000 MHz	0.001 MHz	±(1.5% reading + 4 digits)
	10.00 MHz	0.01 MHz	±(1.5% reading + 4 digits)
Sensitivity: 0.8 V RMS min. @ 20% to 80% duty cycle and <100 kHz; 5 V RMS min @ 20% to 80% duty cycle and >100 kHz			
Duty Cycle	0.1 to 99.9% Pulse width: 100 µs – 100 ms Frequency: 5 Hz to 150 kHz	0.1%	±(1.2% reading + 2 digits)
Temp (type-K)	-20° to 750°C	1°C	±(3.0% reading + 3 digits) (probe accuracy not included)
	-4° to 1382°F	1°F	
Temp (IR)	-20° to 270°C	1°C	±2.0% reading or ±2°C, ± 4°F
	-4° to 518°F	1°F	

NOTE: Accuracy is stated at 18° to 28°C (65° to 83°F) and less than 75% RH. Accuracy specifications consist of 2 elements: (% reading) — This is the accuracy of the measurement circuit. (+ digits) — This is the accuracy of the analog to digital converter.

Electrical Test Group

Model Usage: All

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Extech Instrument
9 Townssend West
Nashua, NH 03061
Phone: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com

European Union compliant, CE marked

Three versatile electrical diagnostic tools complete with case, leads, and instructions

- 237-5130 Infrared Multimeter
- Used to measure AC/DC voltage and current, resistance, capacitance, frequency, duty cycle, and temperature
- Infrared thermometer and laser pointer
- Large, backlit LCD display 4000-count digital multimeter
- Refer to 237-5130 Multimeter with Infrared Thermometer listed in this Dealer Service Tools Catalog for complete information
- CE Compliant

225-8266 Clamp On Ammeter

- Used to measure AC or DC current
- Clamp-on probe replaces standard test leads and allows current measurements without breaking circuit
- Measures current in cables up to 23 mm (0.9 in) diameter
- User-selectable 400 and 1200 ampere scales for both AC and DC
- Powered by two 1U-9533 AA Alkaline Batteries
- Refer to 225-8266 Clamp On Ammeter listed in this Dealer Service Tools Catalog for complete information
- CE Compliant

Current Detector

- Used to detect AC current in a circuit
- Also used to detect presence of PWM signal to electronically controlled fuel injector or solenoid
- Non-contact AC current range from 200 milliamperes to 1000 amperes
- Locates current flow even where voltage detectors cannot work
- Adjustable sensitivity
- Audible and visible indication of current presence
- CE Compliant

Part Number	Description
260-5800	Electrical Test Group

ELECTRICAL TOOLS

Fluke 87V Multimeter

Warranty: Manufacturer's Limited Lifetime



European Union compliant, CE marked

- Replaces discontinued 9U-7330 Fluke 87-3 Multimeter
- Used to test and adjust electronic circuits
- Improved measurement functions, troubleshooting features, resolution, and accuracy to solve more problems on motor drives or electro-mechanical equipment
- Built-in thermometer allows temperature readings without using additional equipment (Type K Thermocouple)
- Selectable filter for accurate voltage and frequency measurements on motor drives
- Large-digit display with bright two-level backlight makes it significantly easier to read than older models
- Min/Max and average recording to capture variations automatically
- Removable holster with built-in test lead and probe storage
- Optional magnetic hanger for easy setup and viewing freeing your hands for other tasks
- Improved sleep mode for long battery life
- Inputs are protected to Category III, 1000V, and Category IV 600V to withstand impulses in excess of 8000V and reduce risks related to surges and spikes
- Includes basic test leads, alligator clips, and bead-type thermocouple probe
- Complete with 9V battery, Getting Started Manual, and CD with detailed instruction manual

Specifications

- Size: 201 x 98 x 52 mm (7.9 x 3.9 x 2.1 in) with holster
- Weight: 624 g (22 oz) with holster
- Battery life: 400 hours typical using 1U-9534 Alkaline 9V

Part Number	Description
257-9140	Fluke 87V Multimeter

Replacement Fuses

European Union compliant, CE marked

Replacement Fuses [a]	
3N-5612	
Voltage rating	600 V
Current rating	1 A
Size (diameter)	10.3 x 34.9 mm (13/32 x 1 3/8 in)
Load carrying capacity	110% load indefinitely, opens at 135% load within 1 hour
171-5207 Fuse (11A)	
Voltage rating	1000 V
Current rating	11 A
Size	10.3 mm diameter x 38.1 mm (13/32 in diameter x 1 1/2 in)
Load carrying capacity	110% load 4 hours, opens at 135% load within 1 hour
171-5209 Fuse (440 mA)	
Voltage rating	1000 V
Current rating	15 A
Size	10.3 mm diameter x 34.9 mm (13/32 in diameter x 1 3/8 in)
Load carrying capacity	110% load 4 hours, opens at 135% load within 1 hour
Short circuit interruption	100,000 A at 600 VAC

a. Also fits discontinued 9U-7330 Fluke 87 Multimeter and others

Fluke 355 True-RMS 2000

Model Usage: EPG Installations

Warranty: Manufacturer's Limited Lifetime



- Auto-ranging and auto-zeroing ohms, continuity and frequency measurements
- Category IV 600V and Category III 1000V

Specifications

- Dimensions: 300x98x52 mm (12 x 3.75 x 2 in)
- Frequency Range: DC and 10 Hz to 1 kHz
- Current Range: 0 to 2000 A AC or DC
- Voltage Range: 0 to 1000 VDC or 0 to 600 VAC
- Resistance Range: 0 to 400 K ohms

Part Number	Description
329-9303	Fluke 355 True - RMS 2000

Extech Milliohm Meter

Model Usage: Generators

Warranty: Manufacturer's



European Union Compliant, CE marked

- Measure winding resistances on generators
- Four terminal Kelvin measurements
- Over-temperature and over-voltage protection
- 5 ranges with 100µ Ohm max resolution
- Large 2000 count LCD display
- Auto-hold and auto power off
- Invalid test indicators prevent inaccurate measurements
- Built-in water-resistant case, shoulder strap
- Complete with 8 AA batteries, and 2 sets of test leads (4 wire with 4 alligator clips and 4 wire with 2 Kelvin alligator clips)

NOTE: Please consult with appropriate EPG Service Engineering resources for tooling recommendations for switchgear testing.

Specifications

- Dimensions: 250 x 190 x 110 mm (9.8 x 7.5 x 4.3 in)
- Resistance:

Range	Resolution	Current	Accuracy
200.0 m	0.1 m	100mA	± (0.5%rdg +2 digits)
2000 m	1 m	100mA	± (0.5%rdg +2 digits)
20.00	0.01	10mA	± (0.5%rdg +2 digits)
200.0	0.1	10mA	± (0.5%rdg +2 digits)
2000	1	1mA	± (0.5%rdg +2 digits)

- Power: 8 AA batteries
- Weight: 1.5 kg (3.3 lb)

Part Number	Description
430-8927	Extech Milliohm Meter
Serviceable Parts	
430-8928	Test Leads w/Kelvin Clips
1U-9533	AA Alkaline Batteries (in parts system)

DT Connector Service Kit, Wedge Removal Tool

Model Usage: All Models with Electronic Controls

Warranty: Caterpillar® One Year



- Maintain/repair Deutsch style connectors on electronic engine control harnesses
- 175-3700 DT Connector Service Kit — connector/contact assortment for owners of discontinued 4C-3406 Connector Service Kits which have 1U-5804 Crimp Tool
- 147-6456 Wedge Removal Tool included in kits — also available separately

Reference

- SEHS9615, Special Instruction — A black plug and connector body has been released to improve sealing. Refer to SEHS9615 for a more details on interchangeability.

NOTE: 1U-5804 Crimp Tool is not included but can be ordered separately.

Item	Part Number	Description
1	175-3700	Connector Service Kit (less crimp tool)
2	147-6456	Wedge Removal Tool (included in kit)
3	152-7997	Utility Box

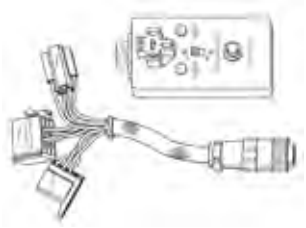
ELECTRICAL TOOLS

Relay Tester

Essential Tool

Model Usage: Any Cat® equipment with relays listed

Warranty: Manufacturer's One Year



- Used to diagnose faulty 12V and 24V relays (checks one at a time)
- Designed to test square "ice cube" style relays such as 3E-6477, 3E-9362, 265-8025, 146-9439, 248-2841, 140-9378, 158-5089, 3E-5239, and 115-1615
- Test relays with various terminal arrangements using one of four different connectors
- Checks normally OPEN and normally CLOSED relays, with and without resister or diode
- Powered by two 1U-9534 Batteries, 9 Volt
- Controls include voltage slide switch, relay energize test button, and position No. 1 and No. 2 circuit test lamps
- Portable design is great for field use

Part Number	Description
317-9760	Relay Tester

Corrosion Cable Group

Model Usage: Marine Engines

Warranty: Caterpillar® One Year



- Used to determine if metal parts exposed to sea water, within an engine, are subject to corrosion
- Used with 257-9140 Multimeter
- Checks low level voltage by clipping black cable to metal part and placing silver probe into sea water inside the component
- Determines if zinc levels are low, good, or too high — proper levels of zinc extend service life of all parts exposed to sea water

Specifications

- Probe (Red): 6 m (20 ft) long
- Alligator Probe (Black): 3 m (10 ft) long

Part Number	Description
244-1536	Corrosion Cable Group

Cylinder Position Sensor Test Box

Model Usage: Models using hydraulic cylinder position sensors

Warranty: Caterpillar® One Year



- Used to troubleshoot cylinder position sensors
- Used with digital multimeter to read duty cycle, frequency, and voltage
- Compact, plastic design for use in the field
- Internal 1U-9534 9V battery powers position sensor

References

- REHS2553, Guideline for Reusable Parts and Salvage Operation
- NEHS0993, Tool Operating Manual

Specifications

- Size: 76.2 x 50.8 x 38.1 mm (3 x 2 x 1 in)
- Cable length: 1.83 m (6 ft)

Part Number	Description
276-7273	Cylinder Position Sensor Test Box

Induction Meter

Model Usage: D7E Electric Drive

Warranty: Manufacturer's



- This meter measures resistance in the stator from phase to phase, searching for internal issues.
- Used with the optional 212-2158 four-foot leads

Specifications

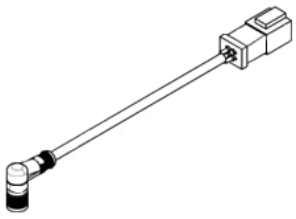
- Dimensions: 184 x 87 x 41 mm (7.24 x 3.43 x 1.61 in)
- Weight: 0.34 kg

Part No.	Description
478-9228	Induction Meter

Cylinder Position Sensor Adapter Cable

Model Usage: Tier 4F MWL, MG, TTT, WTS and LMT

Warranty: Caterpillar® One Year



- Used with 276-7273 Cylinder Position Sensor Test Box to connect to M12 connector on cylinder position sensors
- Tier 4F MWL, MG, TTT, WTS and LMT moving to sensor that uses M12 connector

Part Number	Description
433-9168	Cylinder Position Sensor Adapter Cable
Serviceable Parts	
102-8804	Receptacle Kit
9X-3401	Gold Pin Connection
8T-8737	Seal Plug
3E-3377	Receptacle Lock Wedge

Voltmeter Leads

Model Usage: All Models

Warranty: Six Months



- Push-button generates a load in an electrical circuit so a load test (voltage drop test) can be made with component removed
- Use up 28.5 volts (DC or AC) only
- Maximum 5 to 8 seconds per test
- Not for computer (ECM) INPUT circuits
- Not designed for high voltage circuits
- Do not use positive probe in negative side of circuit
- Use only with a digital voltmeter
- Will not function with ammeter or ohmmeter

Reference

- NEHS1270 Tool Operating Manaual

Part Number	Description
275-9936	Voltmeter Leads

Multimeter MiniTec

Model Usage: All Models

Warranty: Caterpillar® One Year

WARRANTY INFO

Call 877-439-8324



European Union Compliant, CE marked

- 4000 counts on large LCD with full function indication
- Measures AC/DC voltage and current, resistance, capacitance, frequency and temperature
- Temperature measurements to 1400°F (760°C)
- Duty cycle, continuity and diode test
- Autoranging with manual range override
- 10A fuse protection
- Overload protection and indication
- Auto power-off saves battery life.
- Includes protective rubber holster
- General purpose bead wire
- Type K temperature probe (model MN26T)
- Two 1.5V AAA batteries and test leads

Part No.	Description	Dimensions	Weight
505-3152	Multimeter MiniTec Group	122 x 61 x 40 mm (4.8 x 2.4 x 1.6 in)	260 g (9.17 oz)

Part No.	Description
212-2158	Lead Group
212-2159	Fuse 10 Amp
1U-9535	Battery 1.5 Volt AAA
8Q-6668	Fuse 500m Amp
8T-0458	Thermocouple

ELECTRICAL TOOLS

Fluke 123B Scopemeter, 20 MHz Dual Channel

Model Usage: All Models

Warranty: Manufacturer's



European Union Compliant, CE marked

- This tool replaces 152-7213.
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Resistance, continuity, diode and capacitance meter measurements
- Save or recall data and instrument setups
- Li-Ion rechargeable battery with seven-hours operation (four-hour charge time)
- Optional wifi adapter connected to internal USB port wirelessly transfers information to PC, laptop or Fluke Connect® mobile app. (WiFi USB radio available from Fluke, WiFi not permitted in all countries)
- Rugged design to withstand 3g vibration, 30g shock, and rated IP51 according to EN/IEC60529
- Highest safety rating in the industry: safety rated for CAT IV 600 V

Part No.	Description	Dimensions	Weight
506-8279	Fluke 123B Scopemeter, 20 MHz Dual Channel	259 x 132 x 55 mm (10.2 x 5.2 x 2.15 in)	1.4 kg (3.2 lb) including battery pack

Item	Item	Included
1	Fluke Test Tool	-
2	Rechargeable Li-ion Battery Pack	yes
3	Switch Model Power Supply, Adapter/Battery Charger	yes
4	Shielded Test Leads with Black Ground Leads	yes
5	Test Lead Black (For Grounding)	yes
6	Hook Clips (red, blue)	yes
7	Banana-to-BNC Adapters (black)	yes
8	Safety Information and CD-ROM with User Manuals	yes

Power Cords Included:

Country / Region	Plug Style	Manufacturer's Part No.
North America	NEMA 5-15P	YL-1212
Continental Europe	Schuko CEE7	YL-1212
United Kingdom	UK BSI 363	YL-6012
Australia/New Zealand	Australia AS/NZS3112	YL-4612
Switzerland	Switzerland SEV1011	YL-4612
Italy	Italy CEI 23-16	YL-4512
Brazil	Brazil NBR14136	YP-04/YC-12

Fluke 741B Calibrator Battery Replacement

Model Usage: 3600 Generator Sets, Marine

Warranty: Manufacturer's



- NiMH 7.2 v, 3500 mAh
- 150 x 56 x 22 mm (5.9 x 2.2 x 0.9 in)

Part Number	Description
163-0097	Fluke 741B Calibrator Battery Replacement

Fluke 753 Calibrator

Model Usage: 3600 Generator Sets, Marine

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to source/simulate volts, mA, thermocouples, RTDs, frequency, ohms, and pressure calibrate transmitters
- Automatically records and documents calibration results
- Measure and source simultaneously with one compact, rugged, reliable tool
- Stores up to 8000 readings
- Operates in English, French, German, Italian and Spanish
- Comes with three-year warranty
- Includes Battery Charger & Li-ion Battery Pack
- Calibrates 3600 Protection Systems, Marine Monitoring Systems, 3600 Engine Management Systems, 3600 Electronic Unit Injector Systems, 3600 Custom PLC Systems

Specifications

- Dimensions: 245 x 134 x 63 mm (9.6 x 5.3 x 2.5 in)
- Weight: 1.2 kg (2.7 lb)
- Batteries : 7.2 V, 4400 mAh, 30 Wh, Internal battery pack Li-ion
- Operating Temp.: -10 to 50°C (14 to 122°F)
- Storage Temp.: -20 to 60°C (-4 to 140°F)

Part Number	Description
396-4789	Fluke 753 Calibrator
Service/Repair Parts	
396-4790	Battery Charger: 146 x 76 x 64 mm (2.8 x 3 x 2.5 in)
396-4791	Li-ion Battery Pack: 152 x 7 x 25 mm (6 x 2.8 x 1 in)

ELECTRICAL TOOLS

Technical Data

Specifications

- Data Log Functions:
  - Measure functions: Voltage, current, resistance, frequency, temperature, pressure
  - Reading rate: 1, 2, 5, 10, 20, 30, or 60 readings/minute
  - Maximum record length: 8000 readings (7980 for 30 or 60 readings/minute)
- Ramp Functions:
  - Source functions: Voltage, current, resistance, frequency, temperature
  - Rate: 4 steps/second
  - Trip detect: Continuity or voltage (continuity detection not available when sourcing current)
- Loop Power Function:
  - Voltage: Selectable, 26 V
  - Accuracy: 10%, 18 V minimum at 22 mA
  - Maximum current: 25 mA, short circuit protected
  - Maximum input voltage: 50 V DC
- Step Functions:
  - Source functions: Voltage, current, resistance, frequency, temperature
  - Manual Step: Selectable step, change with arrow buttons
  - Autostep: Fully programmable for function, start delay, step value, time per step, repeat
- Safety Specifications:
  - Agency Approvals: CAN/CSA C22.2 No 1010.1-92, ASNI/ISA S82.01-1994, UL3111, and EN610-1:1993

Measurement Accuracy

Voltage DC		1 Year	2 Years	
	100.000 mV	0.02% + 0.005 mV	0.03% + 0.005 mV	
	3.00000 V	0.02% + 0.00005 V	0.03% + 0.00005 V	
	30.0000 V	0.02% + 0.0005 V	0.03% + 0.0005 V	
	300.00 V	0.05% + 0.05 V	0.07% + 0.05 V	
Voltage AC	Range			
	40 to 500 Hz	Resolution	1 Year	2 Years
	3.000 V	0.001 V	0.5% + 0.002 V	1.0% + 0.004 V
	30.00 V	0.01 V	0.5% + 0.02 V	1.0% + 0.04 V
	300.0 V	0.1 V	0.5% + 0.2 V	1.0% + 0.2 V
Current DC		1 Year	2 Years	
	30.000 mA	0.01% + 5 uA	0.015% + 7 uA	
	110.00 mA	0.01% + 20 uA	0.015% + 30 uA	
Resistance		1 Year	2 Years	
	10.000 Ω	0.05% + 50 mΩ	0.07% + 70 mΩ	
	100.00 Ω	0.05% + 50 mΩ	0.07% + 70 mΩ	
	1.0000 kΩ	0.05% + 500 mΩ	0.07% + 0.5 Ω	
	10.000 kΩ	0.1% + 10 Ω	0.15% + 15 Ω	
Frequency		Resolution Accuracy	(2 Years)	
	1.00 to 110.00 Hz	0.01 Hz	0.05 Hz	
	110.1 to 1100.0 Hz	0.1 Hz	0.05 Hz	
	1.101 to 11.000 kHz	0.001 kHz	0.005 kHz	
	11.01 to 50.00 kHz	0.01 kHz	0.05 kHz	

Source Accuracy

Voltage DC		1 Year	2 Years
	100.000 mV	0.01% + 0.005 mV	0.015% + 0.005 mV
	1.00000 V	0.01% + 0.00005 V	0.015% + 0.0005 V
	15.0000 V	0.01% + 0.0005 V	0.015% + 0.0005 V
Current DC		1 Year	2 Years
	22.000 mA (Source)	0.01% + 0.003 mA	0.02% + 0.003 mA
	Current Sink (Simulate)	0.02% + 0.007 mA	0.04% + 0.007 mA
Resistance		1 Year	2 Years
	10.000 Ω	0.01% + 10 mΩ	0.015% + 15 mΩ
	100.00 Ω	0.01% + 20 mΩ	0.015% + 30 mΩ
	1.0000 kΩ	0.02% + 0.2 Ω	0.023 + 0.3 Ω
	10.000 kΩ	0.02% + 3 Ω	0.03% + 5 Ω
Frequency	2 Years		
	0.1 to 10.99 Hz	0.01 Hz	
	0.01 to 10.99 Hz	0.01 Hz	
	11.00 to 109.99 Hz	0.1 Hz	
	110.00 to 1099.9 Hz	0.1 Hz	
	1.100 to 21.999 kHz	0.002 kHz	
	22.000 to 50.000 kHz	0.005 kHz	

RTDs and Thermocouples

Device	Measure Accuracy	Source Accuracy
10 Cu (427)	3°C	1°C
100 Pt (3916)	0.3°C	0.1°C
100 Pt (3926)	0.3°C	0.1°C
100 Pt (385)	0.3°C	0.1°C
200 Pt (385)	0.3°C	0.1°C
500 Pt (385)	0.3°C	0.1°C
1000 Pt (385)	0.3°C	0.1°C
120 Ni (672)	0.3°C	0.1°C
E	0.3°C	0.2°C
N	0.5°C	0.3°C
J	0.3°C	0.2°C
L	0.3°C	0.2°C
K	0.3°C	0.3°C
T	0.3°C	0.3°C
U	0.3°C	0.3°C
B	0.9°C	0.8°C
R	1.0°C	0.9°C
S	0.9°C	0.9°C
C	0.6°C	0.6°C

Resolution: 0.1°C, except 1°C for 10 Cu. Best case, mid-range accuracies. Sensor inaccuracies not included. For 2-wire and 3-wire RTD measurements, add 0.4°C. Thermocouple accuracies with external cold junction. For internal add 0.2°C.

Electrical Specifications

Measure Range (full scale)	Measure Accuracy (% of reading + % of full scale)	Source Range (full scale)	Source Accuracy (% of reading + % of full scale)
110.000 mV DC	0.025% + 0.015%	110.000 mV	0.01% + 0.005%
1.10000 VDC	0.025% + 0.005%	1.10000 V	0.01% + 0.005%
11.0000 VDC	0.025% + 0.005%	15.0000 V	0.01% + 0.005%
110.000 VDC	0.05% + 0.005%		
300.00 VDC	0.05% + 0.005%		
VAC, 20 – 40 Hz	2% + 10 Counts		
VAC, 40 – 500 Hz	0.5% + 5		
VAC, 500 – 1 KHz	2% + 10		
VAC, 1 kHz – 5 kHz	10% + 20		
30.000 mA DC	0.01% + 0.015%	Source 22.000 mA	0.01% + 0.015%
110.00 mA DC	0.01% +0.15%	Simulate 22.000 mA	0.02% + 0.03%
11.000 Ω	0.05% + 50	11.000	0.01% + 20 m
110.00 Ω	0.05% + 50	110.00	0.01% + 40 m
1.1000 kΩ	0.05% +0.5	1.1000 k	0.02% + 0.5
11.000 kΩ	0.1% +10	11.000 k	0.03% + 5
1.00 – 109.99 Hz	0.05 Hz	0.00 – 10.99 Hz	0.01 Hz
110.0 – 1099.9 Hz	0.5 Hz	11.00 – 109.99 Hz	0.1 Hz
1.100 – 10.999 kHz	5 Hz	110.0 – 1099.9 Hz	0.1 Hz
11.00 – 50.00 kHz	50 Hz	1.100 – 21.999 kHz; 22.000 – 50.000 kHz	2 Hz; 5 Hz

ELECTRICAL TOOLS

Insulated Tip Test Lead Set

Model Usage: All Models

Warranty: Caterpillar® One Year



- Spring loaded insulators over metal probe tips to prevent tips from making accidental electrical contact with wires and terminals during testing; accidental electrical contact can be a problem when reaching into electrical circuitry with normal test leads which have as much as 19 mm (0.75 in) of bare probe exposed; on 1U-8115 Test Lead probes, only very tip of probe normally exposed
- However, since insulating sleeves are spring loaded, they can be pushed back at any time to expose more of metal tip; allows metal probe tip to enter small diameter holes when testing connectors; insulators can be pushed back and locked in position to uncover approximately 6.3 mm (0.25 in) of bare probe
- Optional accessory lead set for multimeters which have 9.5 mm (0.375 in) diameter input connectors; older meters have larger diameter connectors

Specifications

- Lead length: 1378 mm (54 in)
- Connectors: 9.5 mm (0.375 in) diameter shielded banana plug
- Maximum voltage rating: 700 VAC or VDC
- Color: 1 red and 1 black lead
- Probe tip diameter: 1.77 mm (0.070 in)
- Probe tip length: 15 mm (0.6 in) maximum

Part Number	Description
1U-8115	Insulated Tip Test Lead Set

Cable Assembly (GSC Data Cable)

Model Usage: Generator Sets

Warranty: Caterpillar® One Year



- Used to flash-program EMCP2+ Generator Status Control (GSC) module
- Used with universal communications adapter cable (139-4166)
- Requires Cat® ET and communication adapter
- Flash-programming only used for field updates

Part Number	Description
152-7143	Cable Assembly (GSC Data Cable)

USB Adapter Cable, Serial (RS232) Adapter Cable

Model Usage: Forestry Products — Feller Bunchers

Warranty: Manufacturer's One Year



309-9888



309-9891

- Adapter cables used to service, troubleshoot, and reprogram IQAN Parker electronic control modules from a personal computer (PC)

309-9888 USB Adapter Cable

- Used to troubleshoot and reprogram electronic control modules
- Used with "IQANrun" software programs
- PC software available from Media Logistics — NETG5038

309-9891 Serial Adapter Cable

- Used to service electronic control modules
- Used with "IQANdevelop" software program
- PC software available from Media Logistics — NETG5037

Part Number	Description
309-9888	USB Adapter Cable
309-9891	Serial (RS232) Adapter Cable

Trimmer Adjustment Tool

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Allows easier adjustment of small screwdriver adjustments found on VR3 and VR4 Voltage Regulators and 2301 Woodward Regulator Controls
- Constructed of glass-filled, nylon body with stainless steel blades; one end has recessed blade to provide captive screwdriver for adjustments that are difficult to see; other end has exposed blade to reach adjustments that are behind panels and have small access holes
- Gain and level controls on VR3 Voltage Regulator are inside regulator case and difficult to adjust when generator set is in operation; inability to see the control and vibration of regulator make fine adjustments very difficult
- Prevents broken controls on Woodward 2301 Controls caused by improper tool usage and excessive force required for adjustment when wrong tool is used

Part Number	Description
4C-4029	Trimmer Adjustment Tool

Analog Gauge Tester Group

Model Usage: All Models

Warranty: Caterpillar® One Year



- Used to test and troubleshoot analog temperature, pressure, fuel or articulation gauges
- Easy-to-use, hand-held unit
- Tool Operating Manual includes charts for specific gauges
- Decrease troubleshooting time and reduce cost by eliminating replacement of good parts
- Diagnose temperature, fuel or pressure gauge problems to determine if gauge, wiring or sender is faulty
- 0 to 50, 500, 1500 and 34,000 ohm dials

used in combination to simulate senders output

- Fuse protected from electrical overload
- Not for use with the Cat® Quad Gauge Module
- Resistance tolerance: ±10% at full scale
- Linearity tolerance: ±5% independent
- Group includes all items in figure

Reference

- NEHS0786, Tool Operating Manual

Part Number	Description
189-1720	Analog Gauge Tester Group

Electronic Tool Kit

Model Usage: Forestry Products

Warranty: Manufacturer's One Year



- Used to repair IQAN receptacles and plugs used on Parker electronic control modules
- Tool kit includes crimp tools, extraction tools, and all terminals necessary for repairing connector assemblies
- 309-9895 Terminal Kit (part of 309-9893 Tool Kit) is also available as a serviceable part

Reference

- NEHS1023, Crimp Tool Operating Manual

Items

- Red Crimp Tool: Crimping JPT (Junior Power Timer), with seal
- Yellow Crimp Tool: Crimping JPT (Junior Power Timer), no seal
- Blue Crimp Tool: Crimping Microtimer (with seal/no seal)
- Red Extraction Tool: Extracts single-locking tab Junior Power Timer pins
- Yellow Extraction Tool: Extracts double-locking tab Junior Power Timer pins
- Blue Extraction Tool: Extracts double-locking tab Microtimer pins
- Terminal Kit: (See other chart for included items)

Part Number	Description
309-9893	Tool Kit

ELECTRICAL TOOLS

Tool Group

Model Usage: CT660

Warranty: Manufacturer's



Used to properly install replacement terminal ends in electronic engine control, engine management systems and many of the cab wiring harnesses and connectors.

Allows replacement of only damaged connector without replacing complete harness

Specifications

- Dimensions: 487.68 x 477.52 x 137.16 (19.2 x 18.8 x 5.4 in)

Part Number	Description
440-4999	Tool Group

Terminal Kit

Item	Specification	Qty.
Microtimer (no seal)	18-20 AWG (0.75 mm²)	100
Microtimer (with seal)	18-20 AWG (0.75 mm²)	100
Microtimer Cavity Plug	—	100
Microtimer Seal	—	100
JPT (no seal)	18-20 AWG (0.75 mm²)	50
JPT (no seal)	14-16 AWG (1.5 mm²)	25
JPT (with seal)	14-16 AWG (1.5 mm²)	25
JPT (with seal)	18-20 AWG (0.75 mm²)	50
JPT (with seal)	18-20 AWG (0.75 mm²)	25
JPT Cavity Plug	—	25
JPT Seal	18-20 AWG (0.75 mm²)	50
JPT Seal	14-16 AWG (1.5 mm²)	25

Part Number	Description
309-9895	Terminal Kit

Ampseal Connector Perimeter Seal Kit

Model Usage: Electronic Engines

Warranty: Caterpillar® One Year



Tool Description:

- Replacement seals for all AMPSEAL connectors
- A damaged perimeter seal can allow moisture and dirt to affect mated connections
- Replacement perimeter seals are made of colored silicone rubber

Part Number	Description	Color/Size	Quantity
264-7029	2-pin connector seal	Red	25
264-7030	3-pin connector seal	Yellow	25
264-7031	4-pin connector seal	Yellow	25
264-7032	6-pin connector seal	Red	25
264-7033	8-pin connector seal	Yellow	25
264-7034	12-pin connector seal	Yellow	25
369-4181	Ampseal Connector Seal Kit	—	1
4C-4787	Utility Box (9 compartment, plastic)	7 x 3.75 x 1.24 in (178 x 95 x 31 mm)	1

Extension Lead Group

Warranty: Manufacturer's

- Used to extend leads to provide a longer reach from multimeter.
- Used with 257-9140 Fluke 87V Multimeter and 157-7213 Fluke 123 Scopemeter
- Includes one pair of color-coded (red/black) silicone insulated leads 1.5m (5.0 ft) long
- Two color-coded female couplers (included) allow two sets of 360-3122 Extension Leads to be connected together
- 600V CAT IV, 1000 V CAT III, 10A rating
- UL Listed

Part Number	Description
360-3122	Extension Lead Group

Electrical Diagnostic Tools

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Manufacturer's



331-6561 High Voltage Meter
(North America Only)

- Used to measure Voltage
- Digital Voltmeter with removable handles has 10.2 mm (.4 in) LCD backlit display
- Voltmeter features timed auto shut-off to extend battery life
- Unit will shut off or not operate if battery is low
- A 9 Volt battery powered voltmeter proof tester with 500V output is included
- Unit comes with two 20 cm (8 in) fixed length fiberglass hotsticks
- Includes 9 Volt Alkaline batteries, carry case with foam insert, and calibration instruction manual

Item	Description	Qty
1	Carrying Case with Foam Insert	1
2	Handles	2
3	5000 Volt Voltmeter	1
4	Proof Tester	1

Part Number	Description
331-6561	High Voltage Meter (North America Only)
331-6563	Discharge Resistor Tool
359-9241	High Voltage Meter (Europe)

⚠ WARNING

Before using any of these instruments, make sure to test and inspect the equipment to ensure that it is working properly and is in safe working condition. Failure to do so can cause serious injury or death and may result in erroneous test measurements

ELECTRICAL TOOLS

Discharge Resistor Tool



- 1m (3 ft) cable between discharge sticks
- Includes carry case with foam insert
- Used to discharge Voltage (up to 3kV) from capacitor

Part Number	Description
331-6563	Discharge Resistor Tool

Fluke Connect

Model Usage: All Models

Warranty: Manufacturer's

1



2



3



4



5



6



FLK-3000FC Connect

- Work safely near electrical panels while wearing less PPE
- Fluke Connect wireless test tools put tools, not your body, near live electrical panels
- Reduce the risk of arc flash by separating yourself from hazardous measurement situations
- Fluke 3000 FC Series Wireless Multimeter can send measurement data to a smartphone
- Take measurements up to 20 meters away
- USB adapter collects logged data from remote modules
- Custom build a group using 467-0979 Foam and 4C-9658 Case
- Includes one pair TL175, one pair AC175, 3 AA batteries (installed), information pack

FLK-V 3000FC AC Voltage Module

- One pair TL224
- One pair AC285
- Two AA batteries (installed)
- One magnet strap
- Information pack

FLK-A 3001FC AC Current iFlex

- One iFlex 10" coil and module
- Two AA batteries (installed)
- One magnet strap
- Information pack

FLK-PC 300FC PC Adapter

- USB PC Adapter
- SW3000 Windows Utility Software CD

Foam Insert for Pelican Case 4C-9658

- Hard case holds up to 8 modules, USB radios,
- Multimeters, sensors and cables

Item	Part Number	Description
1	467-1968	FLK-3000FC Connect
2	467-1969	FLK-V 3000FC AC Voltage Module
3	467-1971	FLK-A 3001FC AC Current iFlex
4	467-1973	FLK-PC 300FC PC Adapter
5	467-1974	C3003 Three-Compartment Soft Case
6	467-0979	Foam Insert for 4C-9658
-	4C-9658	Pelican Case

High Voltage Meter (Europe)



- Used with 257-9140 Fluke 87V Multimeter (not included)
- Resistive attenuator (0-30kV) mounted on 38 cm (15 in) probe
- Ground lead mounted on 38 cm (15 in) handle with 1 m (3 ft) long cable to attenuator
- 1000 VDC verifier
- Holder for Fluke 87V Multimeter
- 20 cm (8 in) cable connects attenuator to multimeter
- Includes carry case and instruction manual
- NIST traceable certification

Item	Description
359-9241	High Voltage Meter (Europe)
1	Carrying Case
2	Holder for 257-9140 Fluke Multimeter
3	0-30 KV Probe with 1m (3 ft) Insulated Cable
4	Ground Lead Handle
5	Probe Extensions

Harness Braiding Cutter

Model Usage: All Models

Warranty: Caterpillar® One Year



- Allows operator to easily cut braiding when repairing harnesses
- Braiding Cutter includes a safety ball and a safety cap

Part Number	Description	Dimensions
377-6198	Harness Braiding Cutter	5 1/8 in Long

Phase Meter Assembly

Model Usage: Generator Sets

Warranty: Manufacturer's Three Year

European Union compliant, CE marked

- Used to test three functions including open phase, phase sequence, and motor rotation
- One half of unit measures phase sequence of a 3-wire system using power from system under test (lamp indicators will indicate 3-phase sequence or an open phase situation)
- Other half of unit measures 3-phase motor rotation on a powered or unpowered motor (indicates whether motor shaft has clockwise or counter-clockwise rotation)
- Supplied with three CAT III rated color-coded, large alligator clips and test leads
- Rated for CAT III 600V on both testing phase sequence and motor rotation
- Conforms to EN61010-1:2001; CAT III 600V, Pollution Degree 2, Class 2; CSA 22.2-1010.1; and EN61557-7
- Zippered carrying case for portability
- Includes test leads (red, green, and blue) with alligator clips, soft vinyl case, Users Manual, and 9 V battery

Specifications

- Battery Life: Approximately 200 hours
- Battery: Standard 9 V
- Size: 153 x 72 x 35 mm (6.02 x 2.83 x 1.37 in)
- Weight: 218 g (7 oz) including battery
- Operating temperature: 0 – 40°C (32 – 104°F)
- Phase Sequence:
  - Input Voltage: 3 phase to phase inputs 100 V AC to 600 V AC maximum
  - Frequency range: 45 to 70 Hz
  - Operating time: 10 minutes ON maximum at 600 V AC; 10 minutes OFF minimum at 600 V AC
  - 3-phase: Approximately 7 mA per phase of AC power source
- Motor Rotation:
  - Operating time: 10 minutes ON maximum; 10 minutes OFF minimum
  - Tester field: 14 mA of 9 battery

Part Number	Description
349-4198	Phase Meter Assembly

TOOLS FOR ELECTRONIC ENGINES

Deutsch HD Style Connector Field Repair Kit

Model Usage: Electronic Engines

Warranty: Caterpillar® Six Months



- Redesigned from the discontinued 4C-3406 HD Style Field Repair Kit (1U-5804 Crimp Tool in discontinued 4C-3406 has been removed from 190-8900 to avoid duplicate tool expenses at reorder)
- Each connector in its own sealed plastic bag for cleanliness
- Quantities adjusted to better reflect most commonly used connectors
- Convenient new carrying case allows connectors to be found easily
- Easy-to-use chart for parts reordering

NOTE: 1U-5804 Crimp Tool is not included with group. Order separately.

Part No.	Description	Qty.
126-1767	Pin #14	30
126-1768	Socket #14	30
151-6320	Removal Tool #14	6
152-7997	Utility Box	1
190-8900	Deutsch HD Style Connector Field Repair Kit	1
7X-6195	Receptacle, 9-Pin	2
8T-8731	Plug, 3-Socket	10
8T-8732	Receptacle, 3-Pin	10
8T-8733	Plug, 5-Socket	5
8T-8734	Receptacle, 5-Pin	5
8T-8735	Plug — Connector	8
8T-8736	Receptacle, 9-Pin	8
8T-8737	Seal Plug	30
9W-0847	Plug, 9-Socket	2
9X-3401	Pin #16/18	30
9X-3402	Socket #16/18	30

Blowby Group

Model Usage: All

Warranty: Caterpillar® One Year

European Union compliant, CE marked

- Used to trend volume of blowby gases released through engine crankcase breather (measures inches of water on orifice tube)
- Input uses convenient quick-disconnect fitting
- Large LCD display with backlighting
- Eleven units of measure (user selectable by front panel push button)
- Max/Min/Avg recording
- Zero function for offset correction or measurement
- Advanced features include DATA HOLD, MIN-MAX-AVG RECORD mode, ZERO/OFFSET, AUTO POWER OFF
- Built-in USB serial interface
- Tool operating manual includes charts to convert readings from inches of water to cubic feet/minute
- Uses a 9V battery for power
- To conserve battery life, an automatic power off feature turns unit OFF after 20 minutes
- Includes large and small orifices, two 1/8 – 27 NPT hose barb fittings, a two foot long 1/8 ID x 1/4 inch OD clear tubing, 6V-3073 Carrying Case, 6V-4094 Foam Inserts, 368-8645 Lid Decal

Unit of Measure Display	Icon
Pounds per square inch	PSI
Inches of mercury	in Hg
Milli-bar	mbar
Millimeters of mercury	mm Hg
Kilo-Pascals	kPa
Kilograms per centimeter squared	Kg cm^2
Inches of water	in H2O
Feet of water	ft H2O
Centimeters of water	cm H2O
Bars	bar
Ounces per square inch	oz in^2

Part Number	Description
368-8645	Blowby Group

NOTE: Pressure inputs of 0.689 Bar (10 PSI) or higher will damage the instrument. Do not apply pressure higher than the maximum pressure listed in the specification chart.

⚠ WARNING

Pressure inputs of 0.689 Bar (10 psi) or higher will damage the instrument. Do not apply pressure higher than the maximum pressure listed in the specification chart.

TOOLS FOR ELECTRONIC ENGINES

Blowby Group (Continued)

REPAIR INFORMATION

Extech Instruments Corporation
9 Townsend West
Nashua, NH 03061

Email: repair@extech.com For repair or calibration, call 781-890-7440, ext: 220 for a Return Authorization Number and shipping instructions

For repair or calibration, call 781-890-7440, ext: 220 for a Return Authorization Number and shipping instructions

Reference

- NEHS1110, Tool Operating Manual
- User Guide: Heavy-Duty Differential Pressure Manometer, Model HD700 (OEM manufacturer supplied)

Specifications

- Display: Four-digit LCD with function indicators
- Units of Measure: bar, mbar, PSI, kg/cm², mm Hg, inches Hg, kPa, feet H2O, inches H2O, cm H2O, and oz in²
- Accuracy: ± 0.3% FS [@ 25°C (77°F)]
- Repeatability: ± 0.2% to 0.5% FS
- Linearity / hysteresis: ± 0.3% FS
- Combined accuracy: ± 1.1% FS
- Maximum pressure: 0.689 bar (10 PSI)
- Response time: 0.5s typical
- Input circuit: Differential inputs (P1 and P2)
- Input ports: Two metal 4.8 mm (.189 in), barbed for 3.17 mm (.125 in) ID tubing
- Data hold: Freezes displayed reading
- Sensor: Built-in piezoelectric sensors
- Zero / offset function: Pushbutton activation
- Sample rate: 0.5 sec. (approx.)
- Compatibility: Air or non-corrosive and non-ionized gas (not intended for use with liquids)
- Auto power OFF: Meter turns off after approx. 20 minutes to conserve energy (can be deactivated)
- PC interface: Built-in USB serial interface
- Storage conditions: 0 to 60°C (14 to 140°F); <80% RH
- Operating conditions: 0 to 50°C (32 to 122°F); <80% RH
- Battery power: 9V alkaline battery (BAT low battery indicator)
- Battery life: 125 hours typical
- Size: 30 x 23 x 10 cm (12 x 9 x 4 in)
- Weight: 4.5 kg (9 lb, .9 oz)

Specifications

Specifications	Range	Resolution
kPa / mbar / PSI	13.78 / 137.8 / 2	0.01 / 0.1 / 0.001
mm Hg / in Hg	103.4 / 4.072	0.1 / 0.001
oz in²	32	0.01
cm H2O / in H2O / ft H2O	140 / 55.40 / 4.616	0.1 / 0.01 / 0.001
kg cm²	0.140	0.001
bar	0.137	0.001

Ampseal Style Connector Field Repair Kit

Model Usage: All

Warranty: Six Months



- Used to maintain and repair Ampseal style connectors on electronic engine control harnesses
- Connectors individually sealed in plastic bag for cleanliness
- Connectors available in quantities most commonly used

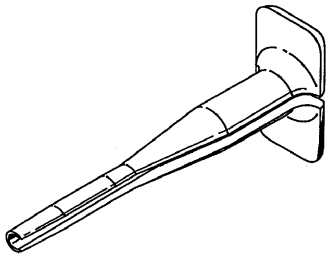
NOTE: 1U-5804 crimp tool is not included. Please order separately.

Part Number	Description
362-3555	Ampseal Style Connector Field Repair Kit

Wire Removal Tool

Model Usage: 121-9588 - 3116/3126 Engines with HEUI (Hydraulic Electronic Unit Injection), 151-6320 – All Models With Electronic Controls, 195-7970 – All Models with Electronic Engines

Warranty: Caterpillar® Six Months



195-7970/151-6320/121-9588

- Handle size: 12.7 x 25.4 mm (0.5 x 1.0 in)
- Material: plastic

121-9588 Removal Tool, 16 gauge TXL

- Used to remove wires from 40-pin connectors used on ADEM II (Advanced Diesel Engine Management) controls
- Tool slips over OD of wire and compresses wire retaining spring inside connector allowing wire to be removed
- If used improperly tool will break away before causing damage to connectors pin or socket

151-6320 Removal Tool, 14, 16, 18 gauge SXL/GXL

- Replaces discontinued 121-9587 Removal Tool (16 gauge GXL)
- Used to remove pins and sockets from Deutsch and AMP style connectors
- Versatile new design allows removal of 14, 16, and 18 gauge pins and sockets from connectors
- Made from a more durable material than former tool (reduces breakage)

195-7970 Deutsch DFN Style Connector Service Tool

- Used to remove the wire/socket assembly from Deutsch DFN style connector plugs
- Tool slips over OD of wire and compresses socket retaining mechanism inside connector allowing wire/socket assembly to be removed

Part Number	Overall Length
121-9588	56.6 mm (2.23 in)
151-6320	57.5 mm (2.26 in)
195-7970	57.0 mm (2.24 in)

Terminal Extraction Tool

Model Usage: 554, 574 Forwarder; 550, 570, 580 Harvester

Warranty: Caterpillar® One Year



Typical AMP connector



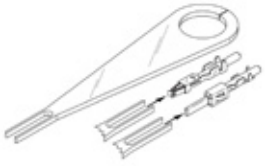
- Used to remove stamped and formed terminals from AMP electrical connector bodies
- Due to various wire sizes, both tools are required

Part Number	Description
195-1179	Extraction Tool

Terminal Extraction Tool (JPT)

Model Usage: All models with JPT terminals

Warranty: Caterpillar® One Year



- Replaces 195-1178 Extraction Tool
- Used to extract Junior Power Timer (JPT) terminals on switch connectors inside vehicle cab and other locations
- Improved design allows for easier extraction of terminals (insert tool prongs to release terminal from connector)
- Durable spring steel construction
- Overall length: 82.5 mm (3.25 in)

Part Number	Description
290-9703	Extraction Tool

TOOLS FOR ELECTRONIC ENGINES

Removal Tool

Essential Tool

Warranty: Caterpillar® One Year



- Used to remove wire and socket assembly from 64-pin 100 watt delphi connector
- Wires are removed by inserting pin completely into hole beside socket (unlatches socket)

Part Number	Description
266-1683	Removal Tool

Removal Tool

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to remove pins and sockets from Deutsch and AMP style connectors
- Tool slips over OD of wire and compresses wire, retaining spring inside connector to allow wire to be removed
- Material: Plastic
- Wire gauge: 20, 22
- Contact Size: 20

Part Number	Description
355-2848	Removal Tool

Deutsch Terminal Tool Set (7 Pieces)

Model Usage: All

Warranty: Caterpillar® Six Months



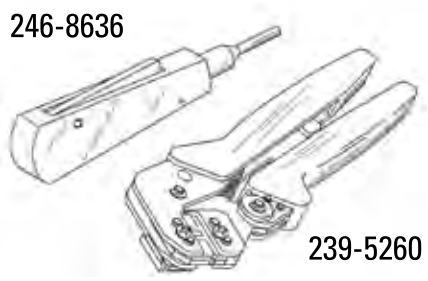
- Used to remove pins and sockets on Deutsch style electrical connectors.
- Provides coverage for wire gauges between 4 to 20
- Stainless steel shaft construction and fitted anodized aluminum handles with knurled surface for improved grip and control

Part Number	Description
509-6474	Deutsch Terminal Tool Set (7 Pieces)

Crimping Tool, Extraction Tool

Essential Tool

Warranty: Caterpillar® One Year



- Crimp tool is used to crimp pins onto electronic wires for installation, repair, and maintenance applications
- Extraction tool removes AMP Mate-N-Lock and AMP Mate-N-Lock II pins and socket contacts from connectors
- Extraction tool enters contact cavity from front of connector, releasing the pin or socket contact
- Works with wire sizes ranging from 20 to 14 AWG

Part Number	Description	Use	Used On
239-5260	Crimping Tool	Used to crimp pins	Electronic wires
246-8636	Extraction Tool	Used to remove pins and socket contacts	Connectors
Optional Die Set (Sold Separately)			
329-5658	AMP Terminal Die Crimp Set (Use with 239-5260 Crimping Tool)	Used to crimp AMP terminals 770854-1 and 770854-3	Woodard F-series Actuator on 3500 Gensets

TOOLS FOR ELECTRONIC ENGINES

Crimping and Extraction Tools

Model Usage: Various

Warranty: Caterpillar® Six Months

- Used to crimp and extract terminals used with the B5M5 ECM connector
- Provides crimp and extraction tools for JPT and MQS terminals

Part No.	Description	Dimensions	Weight
290-9703	JPT Extraction Tool	75 x 25 x 25 mm (3 x 1 x 1 in)	0.1 kg (0.22 lb)
509-3830	Crimp Handle without Dies	25 x 250 x 100 mm (1 x 10 x 4 in)	1 kg (2.2 lb)
509-3831	JPT Die Set (use with 509-3930)	25 x 25 x 25 mm (1 x 1 x 1 in)	0.1 kg (0.22 lb)
509-3832	MQS Die Set (use with 509-3930)	25 x 25 x 25 mm (1 x 1 x 1 in)	0.1 kg (0.22 lb)
509-3833	MQS Extraction Tool	75 x 25 x 25 mm (3 x 1 x 1 in)	0.1 kg (0.22 lb)

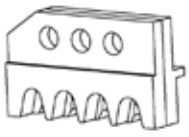


290-9703

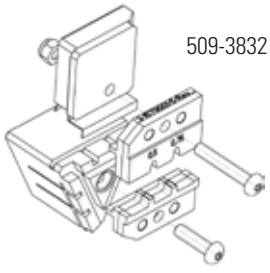


509-3830

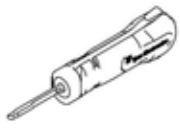
509-3831







509-3832



509-3833

Hand Crimp Tool

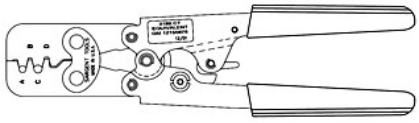
Model Usage: All Machines using GT Series Connectors

Warranty: Manufacturer's

- Used to crimp pins onto wires for installation, repair and maintenance applications
- Used with wire sizes 20 to 14 AWG
- Provides production style crimp on Delphi GT150 and GT280 series terminals

Specifications

- Dimensions: 265 x 95 x 40 mm (10.4 x 3.7 x 1.6 in)
- Weight: 0.4 kg (0.9 lb)



Part Number	Description
449-9627	Hand Crimp Tool

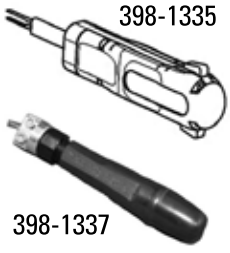
Extraction Tool, Bosch Extraction Tool

Model Usage: All models that use C3.4B Powertrain

Warranty: Caterpillar® Six Months

- Used to extract Tyco and Bosch electrical connections for servicing without damage
- Made of plastic and steel

Part No.	Connectors	Dimensions
398-1335	Tyco	107 x 20 mm (4.21 x 0.79 in)
398-1337	Bosch	110 x 20 mm (4.33 x 0.79 in)



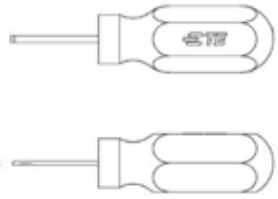
398-1335

398-1337

Connector Pin Extraction Tool

Model Usage: All Models

Warranty: Manufacturer's



- Allows the removal of pins or sockets from TE clean body series connectors used on next generation info displays.

Specifications

- Dimensions: 75 x 19 x 1.9 mm (2.952 x 0.748 x 0.074 in)
- Weight: 0.227 kg (0.5 lb)

Part No.	Description
490-3634	Connector Pin Extraction Tool

Crimping Tool, Extraction Tool

Model Usage: All

Warranty: Manufacturer's

- Used to properly remove and install APEX 2.8 mm terminals
- Extraction tool removes terminals from connector by inserting the tip into the service port of the connector and pulling the wire and terminal from the connector
- Crimping tools accurately and easily crimps terminals to wire with minimal force
- Use 399-1594 for 14 and 16 gage wires
- Use 399-1595 for 18 and 20 gage wires

Part No.	Description	Dimensions
399-1594	Crimping Tool	220 x 75 x 40 mm (8.66 x 2.95 x 1.57 in)
399-1595	Crimping Tool	220 x 75 x 40 mm (8.66 x 2.95 x 1.57 in)
399-5778	Extraction Tool	120 x 13 mm (4.72 x 0.51 in)

NEXG4508 Service Program Module, 3406 B/C Truck Engine

Model Usage: 3406 PEEC Truck Engine

Warranty: Caterpillar® One Year

- Software [in EPROM chip]
- Installed in 7X-6400 DDT by customer to provide all service functions for 3406 B/C Truck Engine
- Version number printed on module and can be displayed on DDT screen under Mode 00 (present version number compatible with all versions of 3406 B/C Truck Engine control personality modules)

References

- SEHS8743, Special Instruction
- NEEG2501, Diagnostic Code Card
- NEEG2502, Driver's Card

NEXG4509 Service Program Module, 3176/3406E Truck Engine

Model Usage: 3176/3406 Truck Engine

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chip]
- Installed in 7X-6400 or 7X-1055 DDT by customer to provide all service functions for 3176 and 3406 Truck Engines
- Version number printed on module and can be displayed on DDT screen under Mode 00 (present version number compatible with all versions of 3176 and 3406E Truck Engines control personality modules

References

- SEHS8808, Special Instruction
- NEEG2501, Pocket Card
- NEEG2502, Pocket Card

TOOLS FOR ELECTRONIC ENGINES

Software Module, Challenger 65/75/85

Model Usage: Challenger 65/75/85

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chip]
- Installed in 7X-6400 or 7X-1690 DDT by customer to provide all service functions for 3176 Engine in Challenger 65/75/85
- Version number printed on module and can be displayed on DDT screen under Mode 00

Reference

- SEHS9203, Special Instruction

Service Technician Workbench (STW)

Essential Tool

Model Usage: All Models

Service Technician Workbench (STW) is an umbrella application tying Caterpillar® software based service tools together with a common look and feel, installation, support, training, and delivery. STW is a platform that provides a framework to enable the technician to troubleshoot, repair, and report on the repair process. The applications under the STW umbrella are: Component Based Troubleshooting (CBT), Cat® Electronic Technician (ET), Challenger Technician, M300 Technician, Flash File Search (FFS), Technical Analysis (TA), Dataview and Data Technician, Upload Utility and Standalone Service Report. All tests and reports generated from these applications can be compiled into one STW Service Report.

STW is available on CD; order NETG5030 through Caterpillar Media Logistics.

Direct Benefits to Dealer's Service Business

- Reduces time to access necessary information relevant to diagnostic and repair process
- Reduces time to correctly troubleshoot problems and identify best repair process
- Reduces purchase of printed service literature
- Reduces time to prepare complete and accurate service reports
- Reduces processing time for complete and accurate work order information necessary for prompt and accurate invoicing
- Reduces processing time for complete and accurate warranty claims

Computer Recommendations

Desktop Computer

The following configuration is recommended to run STW on a desktop computer.

- 2.4 GHz Pentium-compatible processor
- 512 MB RAM minimum (1 GB recommended)
- 40 GB hard disk drive with at least 1.5 GB hard drive space available
- File transfer device (such as a 3.5 inch disk drive or USB port and compatible jump drive)
- Third generation DVD drive
- 17 inch VGA (1024 x 768, 256 colors) adapter and monitor
- 16-bit sound card (for use with Computer Based Training and Multimedia)
- Hewlett Packard Laserjet V or compatible printer
- Pointing device (built in or external) such as Microsoft Ballpoint Mouse
- Microsoft Windows 2000 or XP
- Microsoft Internet Explorer version 5.5 or 6.0; browser must support Java Script and HTML, version 2
- TCP/IP Dialup Adapter (needed only for communicating between SIS and Service Advisor or DBS through Parts Integrator). Also need TCP/IP Dial-up Adapter to send and receive feedback in STW
- RS232 port with 16550AF UART or PCMCIA card to RS232 adapter or USB to RS232 adapter (Cat® part number 370-8059)
- Ethernet or USB port (needed only for users with Dataview II)

Laptop Computer

The following configuration is recommended to run STW on a laptop computer.

- 1.4 Ghz Pentium-compatible processor
- 512 MB RAM minimum (1 GB recommended)
- 20 GB hard disk drive with at least 1.5 GB hard drive space available
- File transfer device (such as a 3.5 inch disk drive or USB port and compatible jump drive)
- Third generation DVD drive
- 11 inch or larger active matrix color screen
- Hewlett Packard Laserjet V or compatible printer
- Pointing device (built in or external)
- Emulation or LAN adapter and software suitable for the dealer host computer
- Microsoft Windows 98, NT 6.0, 2000 or XP
- Microsoft Internet Explorer version 5.5 or 6.0; browser must support Java Script and HTML, version 2
- TCP/IP Dialup Adapter (needed only for communicating between SIS and Service Advisor or DBS through Parts Integrator); also need TCP/IP Dial-up Adapter to send and receive feedback in STW
- RS232 port with 16550AF UART or PCMCIA card to RS232 adapter or USB to RS232 adapter (Cat® part number 370-8059)
- Ethernet or USB port (needed only for users with Dataview II)

Electronic Engine (ET) JERD2129

Model Usage: All models with electronic controls

Cat® Electronic Technician (ET) is a service tool designed to run on a personal computer under Microsoft Windows. With ET you can display the status of a group of parameters (temperatures, pressures, etc.) simultaneously, view and clear active and logged diagnostics, or display the current configuration of an Electronic Control Module (ECM). ET can perform these as well as many other tasks, such as:

- View events where irregularities occurred and were logged by the ECM
- View and change configuration of the ECM
- Perform diagnostic tests
- Perform calibrations
- View trip information through Trip Summary, Histograms, and Custom reports
- Print reports and diagnostic results

ET is designed to communicate with the ECMs through the communication data link.

ET allows the technician to obtain data, analyze it, and then diagnose existing and potential problems.

Software Features and Requirements

- Each license is a license for 1 computer
- Software subscription includes Caterpillar® Flash Memory Software

Diagnostic Capabilities

- ET has separate pull-down menus for selecting different function screens and includes a HELP Function Screen which is very easy to use
- Diagnostic software helps technicians make accurate repairs, in a short time frame, on products that are increasingly complex
- Views events where irregularities occurred and were logged by the ECM
- Views and changes configuration of the ECM
- Retrieves engine totals for fuel used, miles traveled, and more
- An ECM summary screen allows viewing of the ECM version
- Other screens allow diagnostic tests and calibrations to be performed
- Output data can be viewed in either English or metric units

The minimum PC Configurations should not be used as a standard when buying new personal computers to run ET.

But if you have existing equipment that meets these minimum requirements, it will run ET.

Recommended PC Configuration

- IBM PC compatible with Pentium IV 2.4 GHz processor or higher
- 512 MB of RAM
- 1 GB available on hard disk drive
- File transfer device
- 14.1 inch XGA screen (800 x 600)
- Microsoft Windows 2000, ME, XP
- RS232 port with 16550AF UART or compatible
- Built-in pointing device or mouse
- Microsoft Internet Explorer 5.5 or higher

If your Microsoft Internet Explorer screen size is 640 x 480, press the maximize button to fill the screen.

Ordering Information

Cat® ET software is included on the STW installation CD and can be ordered through the Media Logistics System:

- NEXG5030 STW software (includes ET software)

Licensing Information

An ET license is required to activate the ET program after installation. Licensing the program at https://on-linelicensing.cat.com automatically generates an order in the Media Logistics System for a Dealer ET subscription to JERD2129.

Harness, Bypass Messenger

Essential Tool

Model Usage: Marine, Industrial, and On-Highway Truck Engines

Warranty: Caterpillar® One Year



- Used to flash Messenger when communication through service connector is not possible
- Used with ET/Winflash
- Power is provided by service connector

Part Number	Description
239-9967	Bypass Messenger Harness

TOOLS FOR ELECTRONIC ENGINES

NEXG4514 ECAP Executive/Utility Service Program Module

Model Usage: All Electronic Controlled Engines Tested by ECAP

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chip]
- Included in discontinued 8T-8697 ECAP; does not have to be ordered separately except for very early ECAP's with V1.0 installed
- NEXG4514 runs the ECAP; selects Metric or English display units; handles interface with SPM's in ECAP and interface with adapters connected to port 3; provides basic communication abilities with ports 1 and 2
- Current SPM may be marked NEXG4514 V1.1, 7X-1350 V1.1, or 8C-5363 V1.1; all 3 are same current software and will do same job; version number printed on SPM; also displayed on ECAP screen during power up self test and can be displayed on screen under SPM Version Number screen

Reference

- SEHS8741, Special Instruction

NEXG4522 Truck Service Program Module, All Highway Truck Engines

Model Usage: All Highway Truck Engines

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chips] and subscription for updates
- Installed in discontinued 8T-8697 ECAP by customer to provide all service functions for all Highway Truck Engines
- Version number printed on module and can be displayed on ECAP screen under SPM Version Number screen compatible with all versions of all Highway Truck Engine control personality modules

References

- SEHS9349, Special Instruction
- NEEG2501, Diagnostic Code Card
- NEEG2502, Driver's Card

NEXG4516 Service Program Module, Marine/Industrial Engines

Model Usage: 3408, 3412 Marine/Industrial Engines

Warranty: Caterpillar® One Year

- All Electronically Controlled Marine and Industrial Engines
- Software [in Erasable Programmable Read Only Memory (EPROM) chips] and subscription for updates
- Installed in discontinued 8T-8697 ECAP by customer to provide all service functions for all Highway Truck Engines
- Version number printed on module and can be displayed on ECAP screen under SPM Version Number screen compatible with all versions of all Highway Truck Engine control personality modules

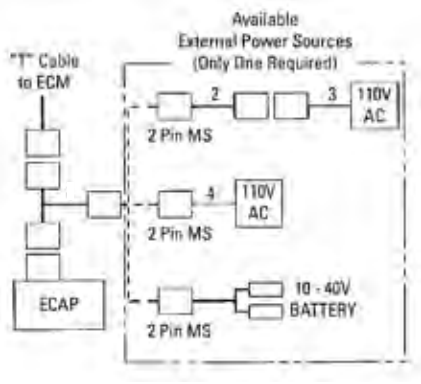
References

- SEHS9199, Special Instruction, Using the ECAP NEXG4516
- Marine/Industrial SPM (included with SPM)
- NEEG2490, Pocket Card

Cable

Model Usage: All Electronic Controlled Engines Tested by ECAP

Warranty: Caterpillar® One Year



- Used to provide power to ECAP through external power source — ECAP retains power during engine cranking
- Used with discontinued 8T-8697 ECAP
- Cable assemblies can be connected to AC power adapter or battery — T-harness allows cable leading to electronic control module (ECM) to remain connected
- T-harness connects between ECAP and T-cable to ECM
- 3 connections for external power sources are available — 5P-7366 Cable Assembly (for connection to battery), 8T-9276 AC Power Supply, and Converter

Item	Part Number	Description
2	7X-1856	Cable Assembly — Adapter
4	8T-9276	Converter As — 12V DC 1A
5	5P-7366	Cable Assembly — Power

NEXG4518 Service Program Module, Challenger 75

Model Usage: Challenger 75

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chip]
- Installed in discontinued 8T-8697 ECAP by customer to provide all service functions for 3176 Engine in Challenger 65/75/85 Tractor
- Version number printed on module and can be displayed on ECAP screen under SPM Version Number screen

References

- SEHS9202, Special Instruction
- NEEG2456, Diagnostic Code Card

NEXG4512 Configuration Aid Service Program Module

Model Usage: 3406B PEEC, 3176 Engines

Warranty: Caterpillar® One Year

- Software [in Erasable Programmable Read Only Memory (EPROM) chip], installed in discontinued 8T-8697 ECAP by customer and subscription for update
- User friendly, menu driven interface to help determine values for Customer Specified Parameters; user defines configuration of truck by selecting values from lists of such items as: engine rating, axle ratio, transmission, tire size and type; custom values not in the lists can be entered by user
- Once configuration defined, program steps user through each Customer Specified Parameter; does all necessary calculations and checks values entered for validity and conflict with other parameters; also displays and defaults to typical values for each parameter
- Customer Specified Parameters, including all truck configuration information, can be saved in discontinued 8T-8697 ECAP internal memory for later use, even if power removed from ECAP; can be reviewed and changed, if necessary; program steps user through any parameters affected by change and provides same checking as when values were first entered
- List of configuration and parameter values can be printed using compatible serial interface printer; Split Chart can also be plotted; chart shows shift points for each transmission gear, along with engine RPM and vehicle speed limits
- When using NEXG4512 program, discontinued 8T-8697 ECAP can be powered by a 12-Volt Converter or from electronic engine control using 8T-5275 T-Harness; the converter allows use of program with discontinued 8T-8697 ECAP in office or shop area; parameter values defined can then be printed or saved to discontinued 8T-8697 ECAP memory; 8T-5275 Cable allows program to read and write Customer Specified Parameters directly to and from electronic engine control
- Version number printed on module and can be displayed on ECAP screen under SPM Version Number screen (present version number V1.1)

Reference

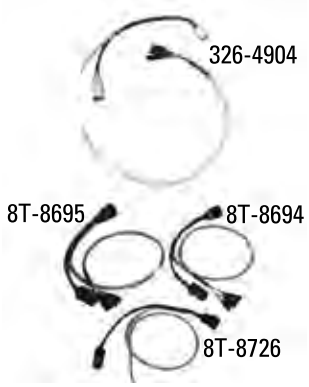
- SEHS88342, Special Instruction

TOOLS FOR ELECTRONIC ENGINES

Adapter Cable Assembly

Model Usage: 3406 PEEC, 3176 Engines

Warranty: Caterpillar® One Year



- Help service 3406 PEEC and 3176 engines
- Provide test points for individual wires in wiring harness to facilitate troubleshooting of engine control system
- "T" cables with individual tip jacks on pigtail portion of cables; can be inserted into system wiring harness at connector locations; individual tip jacks on pigtails labeled same as wire to which they are connected in harness; standard probe tips, like those on multimeter leads, can be inserted into tip jacks

Part Number	Description
326-4904	Adapter Cable Assembly, 3-Pin DT Breakout
8T-8694	Adapter Cable Assembly, 5-Pin Breakout
8T-8695	Adapter Cable Assembly, 9-Pin Breakout
8T-8726	Adapter Cable Assembly, 3-Pin Breakout

Adapter Cable Assembly, 40-Pin Breakout

Model Usage: 3176 Engines

Warranty: Caterpillar® One Year



- Used in servicing 3176 Engine
- Provide test points for individual wires in wiring harness to facilitate troubleshooting of electronic engine control system
- "T" cable with individual tip jacks on pigtail portion of cable; may be inserted into electronic engine control system wiring harness at connector locations; on 9X-1160 Adapter Cable Assembly 2 small probes with tip jacks can be inserted into appropriate connector socket to look at signal on any wire or between any 2 wires; standard probe tips, like those on multimeter leads, can be inserted into tip jacks

Part Number	Description
9X-1160	Adapter Cable Assembly, 40-Pin Breakout

Breakout Harness for 308-5087 Air Fuel Ratio Control

Model Usage: G3408C and G3412C Natural Gas Engines with Air Fuel Ratio Control

Warranty: Caterpillar® One Year



- PC-USB Connection used to flash the air fuel ratio control
- Software provided
- Connects air fuel ratio control to main engine wiring harness
- Breakout harness is required to update certain G3400C Air Fuel Ratio Control systems referenced in special instruction noted below

Reference

- REHS7861, Special Instructions

Specifications

- Dimensions: 145 x 150 x 90 mm (5.7 x 5.9 x 3.5 in)

Part Number	Description
423-0691	Breakout Harness

Cable Assembly, Small, 40 Pin Breakout

Model Usage: 3406E and 3176B Electronic Engines

Warranty: Caterpillar® One Year



- Used to provide test points for individual wires in wiring harness
- Troubleshooting of electronic engine control systems faster, easier, and more convenient
- 2 probes attached to pigtail portion of harness — 9X-1314 Wire Assembly, Red and 9X-1315 Wire Assembly, Black
- Probe tips on leads of standard multimeter can be inserted into tip jacks of pigtail — allows serviceman to check signal on any wire or between any 2 wires
- Connectors are A/B keyed

Item	Part Number	Description
1	9X-1314	Red — Wire Assembly
2	9X-1315	Black — Wire Assembly
All items	7X-1715	Adapter Cable Assembly

Harness Assembly

Model Usage: All models with ADEM III and A4:E4 ECMs

Warranty: Caterpillar® One Year



- Contains additional ECM protection circuitry
- Used to provide communication link between Cat® ET and ADEM III or A4:E4 ECMs
- Used with 217-0113 Main Harness Assembly
- Attaches to engine harness ECM connection
- Requires auxiliary battery power (such as service truck battery)
- Improves service tools ability to maintain communications during engine cranking
- Replace blown (open) fuse with 8K-4644 Fuse (1 Amp)
- Do not use this harness on Cat® Implement and Transmission ECMs

Part Number	Description
328-2292	Engine ECM Bypass Harness

Harness Assembly (ADEM IV E2 ECM)

Model Usage: ADEM IV:E2 ECM

Warranty: Caterpillar® One Year



- Used to provide communication link with ADEM IV:E2 ECM
- Used with 217-0113 Main Harness Assembly

Part Number	Description
277-4734	ECM Application

Harness Assembly (ADEM IV E1 ECM)

Model Usage: A4:E1 ECM

Warranty: Caterpillar® One Year



- Used to provide communication link with ADEM IV:E1 ECM
- Used with 217-0113 Main Harness Assembly

Part Number	Description
224-4899	ECM Application

TOOLS FOR ELECTRONIC ENGINES

Harness Assembly

Essential Tool

Model Usage: 217-0113 — ADEM II, ADEM III, and ADEM IV, 328-2292 — ADEM III and A4:E4 Electronic Control Modules

Warranty: Caterpillar® One Year

- 328-2292 has additional protections to eliminate risk of damaging non-engine ECMs
- IMPORTANT! This protection only prevents damage to Cat® non-engine ECMs and will not allow 328-2292 to work on these ECMs (see note below)
- Harness change will be implemented and available around the end of the second quarter of 2008
- This harness replaced discontinued 167-9225 Service Bypass Harness

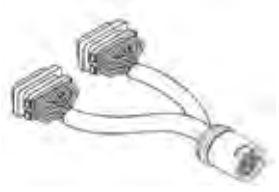
NOTE: Discontinued 167-9225 change level 00 and 01 tool kit bypass harness may damage the internal circuitry of non-engine ECMs when the tools are connected to a 12 or 24VDC power supply. This harness should ONLY be used to service Cat® engine ECMs. Inappropriate use of these tools could result in a service claim rejection. For questions, please contact the Dealer Service Tools Hotline at 1-800-542-8665 (US) or 1-309-675-6277 (worldwide).

Item	Part Number	Description	ECM Application
Bypass harnesses available for these other ECM applications (all are used in conjunction with 217-0113 Harness)			
1	217-0113	Main Harness	—
3	328-2292	Engine ECM Bypass Harness	—
4	444-9738	ECM Application	VIMS Main, VIMS Application
Bypass harnesses available for these other ECM applications (all are used in conjunction with 217-0113 Harness)			
—	224-4899	ECM Application	ADEM IV E1
—	277-4734	ECM Application	ADEM IV E2
—	317-2652	ECM Application	CAT Implement and Transmission ECMs (not available until May 2008)

Harness Assembly

Model Usage: A4:M1 and A4:M5 ECM

Warranty: Caterpillar® One Year



- Used to test implement and transmission control modules
- Used with 217-0113 Main Harness Assembly
- Used to provide communication link between Cat® ET and transmission or implement ECMs
- 9-pin plug connects to 217-0113 Main Harness Assembly
- 70-pin plugs connect to transmission or implement ECM

Part Number	Description
317-2652	ECM Application

Adapter Cable Assembly, 40-pin T-harness Large Engine

Model Usage: 3500 and 3600 Engines

Warranty: Caterpillar® One Year



- Used to adapt 7X-1715 Cable Assembly to 3500 and 3600 Engines
- Length: 30 cm (12 in)
- Adapts a square 40-pin AB-keyed connector on 7X-1715 Cable Assembly (40-pin Breakout Small Engine) to a square 40-pin CD-keyed connector on 3500 and 3600 Engines

Part Number	Description
134-5195	Adapter Cable Assembly, 40-pin T-harness Large Engine

Breakout "T"

Essential Tool

Model Usage: 3176B, C-10, C-12, 3406E, 3600 Natural Gas Engines and other 70-pin ECM's

Warranty: Caterpillar® One Year



- Used to provide test point for all individual wires in engine wiring harness of 70-pin connector ECM
- Connects between ECM and main wiring harness
- Allows testing access to all 70 wires

Part Number	Description
208-0059	Breakout "T"

Breakout "T" Harness

Essential Tool

Model Usage: All engines with ADEM IV ECM

Warranty: Caterpillar® One Year



- Used to test engine wiring harness with 120-pin ECM connectors
- Connects ECM and main wiring harness
- Provides testing access to all 120 individual wires
- Approximate length: 61 cm (24 in)

Part Number	Description
257-8718	Breakout "T" Harness

Breakout "T" Harness Assembly

Model Usage: All Engines with B4:M1 ECM and other 54 pin ECMs

Warranty: Caterpillar® One Year



- Used to test engine wiring harness with 54 pin ECM connectors
- Used with 9X-1314 Red Multimeter Test Probes and 9X-1315 Black Multimeter Test Probes
- Connects ECM and main wiring harness
- Provides testing access to all 54 wires during operation
- Approximate length: 800 mm (31.5 in)
- Made with 18 AWG wire

Part Number	Description
316-5376	Breakout "T" Harness Assembly

Breakout "T" Harness Assembly

Model Usage: All Engines with E5 ECMs and other 128 Pin ECMs

Warranty: Caterpillar® One Year



- Used to test engine wiring harness with 128 Pin ECM connectors
- Used with 9X-1314 Red Multimeter Probes and 9X-1315 Black Multimeter Probes
- Connects ECM and main wiring harness
- Provides testing access to all 128 wires during operation
- Approximate length: 800 mm (31.5 in)
- Made with 18 AWG wire

Part No.	Description
375-5959	Breakout "T" Harness Assembly

TOOLS FOR ELECTRONIC ENGINES

Breakout Harness (EGRV)

Model Usage: CT660

Warranty: Manufacturer's



European Union Compliant, CE marked

- Now also used on the 2015 13L
- The EGR valve electrical connector is the same as the I6.

Reference

- NEHGE2015-136

Part No.	Description	Dimensions	Weight
485-8926	Breakout Harness (EGRV)	76.2 x 381 mm (3 x 15 in)	0.227 kg (0.5 lb)

Cable Assembly, Adapter HEUI Injector Test

Model Usage: 3116 and 3126 HEUI Engines

Warranty: Caterpillar® One Year



- Used to test injector and/or injector harness
- Allows wiring to an individual injector to be bypassed (helps to isolate problem between injector or harness)
- overall length: 1.52 m (5 ft)

Part Number	Description
127-6359	Cable Assembly, Adapter HEUI Injector Test

Probe Group

Model Usage: All Models

Warranty: Caterpillar® One Year



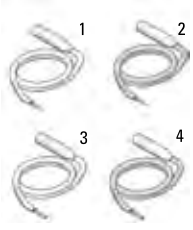
- Used with discontinued 6V-7070 Digital Multimeter to measure voltages in wiring harnesses without disconnecting them
- Multimeter leads plug into probe cable jacks; probes then slide along appropriate wires into rear of connector until they contact pin or socket of interest
- Eliminates need for new breakout "T" cable for each new connector
- Wire: 18-gauge
- Length: 18 inches

Part Number	Description
7X-1708	Probe, Red
7X-1709	Probe, Black
7X-1710	Probe Group

Pin and Socket Probes

Model Usage: All models

Warranty: Caterpillar® One Year



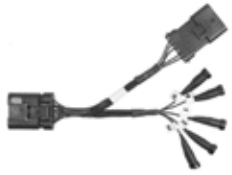
- Used to probe Deutsch pins and/or sockets during testing
- Used with multimeter test leads
- Can also be used to measure voltage signals when using a breakout "T" harness
- Multimeter leads plug into probe cable jacks and probes are inserted into Deutsch
- Length: 46 mm (18 in) terminals Creates a "hands-free" method for connecting multimeter to Deutsch terminals
- Red and black color-coded for easy connection to multimeter test leads
- Wire: 18 gauge

Item	Part Number	Description
1	9X-1314	Red — Wire Assembly
2	9X-1315	Black — Wire Assembly
3	309-6081	Socket Probe, Red
4	309-6082	Socket Probe, Black

Cable-Breakout Tee (Engine Throttle)

Model Usage: CT660

Warranty: Manufacturer's



- Tests the 2015 13L engine throttle valve
- Eliminates the need to probe wires, reducing potential damage

Reference

- NEHGE2015-136

Part No.	Description	Dimensions	Weight
485-8922	Cable-Breakout Tee	76.2 x 203.2 mm (3 x 8 in)	0.227 kg (0.5 lb)

Meter Pressure Tester (Coolant Cap)

Model Usage: CT660

Warranty: Manufacturer's



- Used for testing the coolant cap for proper pop off pressure

Reference

- NEHGE2015-136

Part No.	Description	Dimensions	Weight
485-8923	Meter Pressure Tester	101.6 x 203.2 x 254 mm (4 x 8 x 10 in)	2.268 kg (5 lb)

Leak Detection Tool

Model Usage: 3500 Marine Applications and Various Other Engines Sizes

Warranty: Caterpillar® Six Months



- This diagnostic tool is used to smoke test engines in the field to look for hard-to-find intake system leaks, boost leaks and exhaust leaks in the engine exhaust systems.
- Various sized bladders can be used for wide variety of engine sizes.
- Can also be used for operator cab leak detection
- Cab is pressurized with HVAC system, and the wand is moved around the cab to look for air leaks.
- Inspection light allows the vapor to be more visible when looking for leaks.
- Special adapters for CT660
- Tool Group Includes: storage case, two 3.9" intake bladders, block off coupler, exhaust stack retention hoop, smoke wand, tip adapter, halogen inspection light, temperature sensor port adapter, and pressure sensor adapter.
- 110-250 V AC or 12v DC
- Additional bladder sizes and adapters available

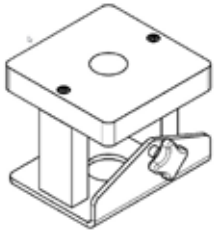
S.No	Part No.	Description	CE Complaint	Weight
1	533-1177	Detector-Leak (Hd Unit)	Yes	8.12 kg (17.9 lb)
Optional Parts:				
2	541-9345	Tool-Bladder (2.9 in Intake)	Yes	0.9 kg (2 lb)
3	541-9346	Adapter-Fixed (CT660)	Yes	0.3 kg (0.7 lb)
4	541-9347	Adapter-Coolant (CT660)	Yes	0.5 kg (1.1 lb)
5	541-9348	Tool-Bladder (1.5 in Intake)	Yes	1.4 kg (3 lb)
6	541-9349	Tool-Bladder(1.9 in Intake)	Yes	1.4 kg (3 lb)
7	541-9350	Tool-Bladder (5.9 in Intake)	Yes	3.2 kg (7 lb)
8	541-9362	Tool-Bladder (3.9 in Replacement)	Yes	1.4 kg (3 lb)
9	541-9363	Light-Halogen (Inspection)	Yes	0.9 kg (2 lb)

TOOLS FOR ELECTRONIC ENGINES

Press Plate Assembly

Model Usage: MT4400, CST45, CST65

Warranty: Caterpillar® Six Months



- Second plate assembly may be purchased to allow use of two cylinders for pulling using 515-4614 modular H-bar.
- Used when not feasible to use a single cylinder in center of H-bar such as when pulling bearing race from MT4400 wheel hub
- Made as ordered

Part No.	Description	Diameter (L x W x H)	Weight	WLL
517-0934	Press Plate Assembly	165 x 165 x 147 mm (6.5 x 6.5 x 5.8 in)	10 kg (22 lb)	50 Metric Ton (100,000 lb)

Pressure Test Fitting

Model Usage: CT660

Warranty: Manufacturer's



- Used for engine oil pressure test on the 2013 13L engine
- The engine has a new thread pitch and location for testing the oil pressure

Reference

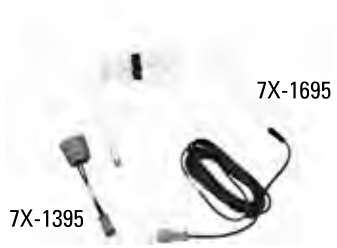
- NEHGE2015-136

Part No.	Description	Dimensions	Weight
485-8924	Pressure Test Fitting	25.4 x 50.8 mm (1 x 2 in)	0.113 kg (0.249 lb)

Cable, TDC; Adapter, SI TDC

Model Usage: All Engines with Electronic Controls

Warranty: Caterpillar® One Year



7X-1695 Top Dead Center (TDC) Cable

- Used on captive engine applications
- Allows magnetic sensor to be connected to engine to input timing information to ECM (Electronic Control Module)
- Used with ECAP/DDT
- 7X-1395 Adapter allows 7X-1695 Cable to be used on industrial and spark ignited (SI) engines

Part Number	Description
7X-1395	Adapter, SI TDC
7X-1695	Timing Probe Cable

ECAP and DDT Connectors

Model Usage: All 3176 and 3406 Electronic Engines

Warranty: Caterpillar® One Year



- Connect 8T-5275 T-Harness cable on ECAP or DDT to connector on dash of truck cabs
- Allow ECAP or DDT to be connected to electronic engine control from inside cab, instead of having to open engine compartment

7X-1873 Connector

- Used to replace present six-pin Deutsch connector on older 7X-1686 Adapter Cables (present 7X-1686 Adapter Cable manufactured with 7X-1873 Connector)
- Use 1U-5805 Removal Tool (green) and 1U-5804 Crimp Tool
- Locks onto highway truck in-cab diagnostic connector

7X-1686 Adapter Cable

- Service Part: 3E-5226 Socket

Part Number	Description
3E-5226	Socket — Connector
7X-1403	Harness As — Adapter
7X-1686	Harness As — Adapter
7X-1873	Plug As — Connector

Engine Adapter Cable, 3116

Model Usage: Electronically Controlled 3116 Engines

Warranty: Caterpillar® One Year



- Used to setup and test electronic engine controls on 3116 Engines in General Motors on-highway trucks
- Connects between under dash Packard connector and 8T-5275, 139-4166, and 275-5122 T-Harness cable on ECAP or DDT

Part Number	Description
7X-1714	Engine Adapter Cable, 3116

Adapter Cable Assembly (SAE to CAT® CAN/ATA)

Essential Tool

Model Usage: On-Highway Trucks

Warranty: Caterpillar® One Year



- Used to connect 139-4166 Diagnostic Cable to J1939 Under-Dash Diagnostic Connector

Part Number	Description
157-4829	Adapter Cable Assembly (SAE to CAT® CAN/ATA)

Adapter Cable Assembly

Model Usage: Marine engines

Warranty: Caterpillar® One Year



- Used to join 2 Cat® electronic marine engines together to record data
- Used with Cat® electronic technician sea trial state and transient data recorder
- Allows simultaneous data recording from both engines using 1 laptop
- Reduces ET recording time by 50%
- Provides easier data reduction by having both engines' data on same time scale

Part Number	Description
211-4988	Adapter Cable Assembly

Truck Adapter Cable

Model Usage: On-Highway Trucks

Warranty: Caterpillar® One Year



European Union Compliant, CE marked

- Used to connect between communication adapter cable and on-highway trucks J1939 diagnostic port
- SAE to CAT CAN/ATA - 500K Baud
- Works with all on-highway truck models with round 9-pin connectors, including those with 500K baud communication
- Replaces discontinued-157-4829

Part No.	Description	Dimensions	Weight
507-1011	Truck Adapter Cable	50 x 50 x 200 mm (2 x 2 x 8 in)	0.5 kg (1 lb)

TOOLS FOR ELECTRONIC ENGINES

Extension Cable Assembly (Monitor)

Model Usage: All B-Series Excavators (Except 307)

Warranty: Caterpillar® One Year



- Used to extend monitors viewing position to outside of operators compartment
- Overall length: 6.1 m (20 ft)
- Can be used in training of technicians by allowing monitor to be viewed by more than 1 person at a time

Part Number	Description
102-7965	Female Terminal
111-4815	Plug Connector
121-1173	Male Terminal
125-4838	Plug Lock Wedge (7)
128-8951	Receptacle Connector (Not serviced)
136-7205	Extension Cable Assembly (Monitor)

Three-Pin Packard Break-Out Cable

Model Usage: 3116 HEUI Engines in General Motors On-Highway Trucks

Warranty: Caterpillar® One Year



- Used to provide test points, for individual wires in wiring harness, to help troubleshoot electronic engine control system
- Sold separately and as part of 125-2580 HEUI Tool Group
- Standard multimeter probe tips can be inserted into the break out cable tip jacks allowing service technician to check voltage on any 1 wire or between 2 wires of a circuit

Part Number	Description
124-5643	Three-Pin Packard Break-Out Cable

Breakout Harness Assembly

Model Usage: 3126E and C-9 Engines

Warranty: Caterpillar® One Year



- Used to check actual current to engine-mounted hydraulic pump
- Used with a digital multimeter that has current measuring capability
- Connects digital multimeter into machine harness
- Cable has red and black banana plugs for multimeter connection
- Connects to any component with 2-pin, Deutsch connectors (designed with both plug and receptacle connectors)
- Overall length: 30.5 cm (12 in)

Part Number	Description
224-9282	Breakout Harness Assembly

Breakout Cable

Essential Tool

Model Usage: 320C Excavator

Warranty: Caterpillar® One Year



- Checks governor for proper voltage supply

Part Number	Description
248-4754	Breakout Cable

Sensor Bypass Cable

Model Usage: 3116 and 3126 HEUI Engines

Warranty: Caterpillar® One Year



- Isolates sensors when testing for faults
- Also used to test for bad sensor wiring in wiring harness

Part Number	Description
125-3662	Sensor Bypass Cable

Ampseal Cable Assemblies

Model Usage: All Ampseal connector applications

Warranty: Caterpillar® Six Months



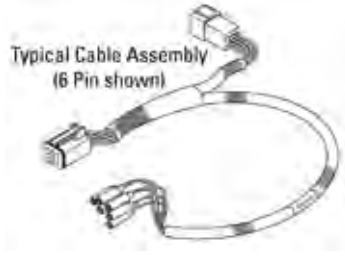
- Used to troubleshoot sensors, solenoids, or controllers that use ampseal connectors
- Allows circuit to be monitored while in operation using a multimeter or scopemeter
- 2, 3, 4, 6, 8, and 12 pin configurations available
- Universal key allows use on Key 1 (Red), Key 2 (Grey), and Key 3 (Yellow) ampseal connectors
- Color coded and labeled for easy identification
- Each cable has a 300 mm (11.8 in) cable length, a 900 mm (35.4 in) breakout length, and is made from 18 AWG wire

Part Number	Pin Configuration
305-0603	2-position
305-0604	3-position
305-0605	4-position
305-0606	6-position
305-0607	8-position
305-0608	12-position

Cable Assemblies

Model Usage: All Deutsch connector applications

Warranty: Caterpillar® One Year



- Used to troubleshoot sensors, solenoids, or controllers that use Deutsch connectors
- Used with a multimeter or scopemeter
- Allows circuit to be monitored while in operation
- 2, 3, 4, 6, 8, 12, and 18 pin configurations
- Cables are color coded and labeled for easy identification
- Key 1 type Deutsch connectors used on many applications

Part Number	Pin Configuration
326-4903	2-Pin Connector
326-4904	3-Pin Connector
326-4905	4-Pin Connector
326-4906	8-Pin Connector
326-4907	12-Pin Connector
326-4908	18-Pin Connector
330-4424	6-Pin Connector

Cable, M300 to PC RS-232

Model Usage: M300 Excavators

Warranty: Caterpillar® One Year



- Used to setup and test electronic hydraulic controls using a personal computer
- Connects to hydraulic controls and RS-232 computer port

Part Number	Description
126-7877	M300 to PC RS-232 Cable

TOOLS FOR ELECTRONIC ENGINES

Test Cable Group

Model Usage: Various engine models with three-wire, active analog sensor circuits

Warranty: Caterpillar® One Year



- Used to test three-wire, active analog circuits
- Used with Cat® Electronic Technician (ET)
- One test cable assembly and two adapter cable assemblies allow testing of sensor circuits on various Caterpillar engines
- Process of elimination helps to diagnose bad wiring quickly

Item 1

- Light emitting diode (LED) in test cable assembly indicates sensor is receiving power
- Test cable generates a Voltage signal that can be read by Cat® ET

Items 2 and 3

- Adapter cable assemblies connect 3-pin Deutsch or 3-pin Amp connectors to test cable assembly

Item	Description
1	Test Cable Assembly with LED Indicator and Connector
2	Two-Connector Adapter Cable Assembly
3	Three-Connector Adapter Cable Assembly

Part Number	Description
288-4325	Test Cable Group

Repair Tools for 9-Pin Amp Connector

Model Usage: 3176, 3406B

Warranty: Caterpillar® One Year

- Makes simple repairs possible on 9-pin Amp circular connector on 8T-5275 Adapter Cable Assembly and on port #1 of discontinued 8T-8697 (ECAP)
- 4C-4704 used to insert and remove contacts from connectors when they are being replaced

Part Number	Description
4C-4704	Insertion/Removal Tool
7T-4577	Pin
8C-4145	T-Harness Connector
8C-4146	ECAP/DDT Connector
8C-4147	Endbell
8C-4148	Strain Relief
8C-4797	Socket

Top Dead Center Tool

Model Usage: C2.4 T4 Final Engines used in the 304E2, 305E2, 305.5E2 Mini Hex

Warranty: Caterpillar® Six Months



- Locks the crankshaft into the TDC position for various service procedures
- Installs in place of crankshaft position sensor

Part Number	Diameter	Weight	Description
483-5054	21 x 107 mm (0.83 x 4.21")	0.15 kg	Top Dead Center Tool

Communication Adapter 3 Group

Essential Tool

Model Usage: All Cat® models with electronic controls

Warranty: Caterpillar® One Year



Figure 1

European Union compliant, CE marked

- Used to monitor communication, between engine and PC, using service tool programs such as Cat® Electronic Technician on J1939/11 high-speed data link, Cat® DataLink, or J1708 (ATA) vehicle networks, or Dual DataLink
- Comes complete with cables, software CD, manual (included on CD), and carrying case
- Lightweight and portable
- RP1210A compliant
- Group includes all items in Figure 1
- Machine data cable works with 9- and 14-pin diagnostic connectors.

Software

- Works with Microsoft Windows
- Ready to use, just install software program onto PC using provided CD

Communication

- Allows communication between service tools and engine controls using various data links such as J1939/11, Cat® DataLink, and J1708 (ATA) vehicle networks, or Dual DataLink
- Flash program allows adapter firmware upgrades as additional features become available
- Uses J1939/11, high-speed data link (part of ADEM III controls), substantially reducing flash times
- Automatically selects J1939/11 when flashing the engine (reduces the flash time approximately 80%, from 14 minutes to 3 minutes)

Reference

- NEHS1032, Tool Operating Manual

Specifications

- Data Links: J1708 American Trucking Association (ATA), Cat® Data Link (CDL), and J1939-11 high-speed data link
- PC Connection: USB 1.1 Full Speed
- Operating Voltage: 9-32 VDC
- Operating Temperature: -18° to 65°C (0° to 149°F)
- Size: 470 x 396 x 127 mm (18.5 x 15.6 x 5 in)
- Weight: 2.53 kg (5.59 lb)

Item	Part Number	Description
—	538-5051	Communication Adapter 3 Group
1	6V-7145	Storage Case with 317-7513 Protective Foam Pad
2	370-4617	PC USB Cable
3	457-6114	Data Link Cable, 51 cm (20 in) — use with ATA, CDL, and J1939-11
4	478-0235	Electronic Control Group
5	—	NETG5057, CD ROM (not available separately)
Optional Cables (Sold Separately)		
—	157-4829	In-Cab Adapter Cable; ATA, CDL, and J1939-11 (9-pin to 9-pin applications typically found in Freightliner)
—	7X-1686	In-Cab Adapter Cable (ATA only)
—	385-8492	Cat® 5 Ethernet Cable (used on machines with 14-pin diagnostic connector)

Cable, Software Flash

Model Usage: AP300D Asphalt Pavers

Warranty: Manufacturer's One Year



- Allows the existing 436-3873 cable assembly and 436-3874 software to be flashed to the machine ECU that is installed on certain AP300D pavers

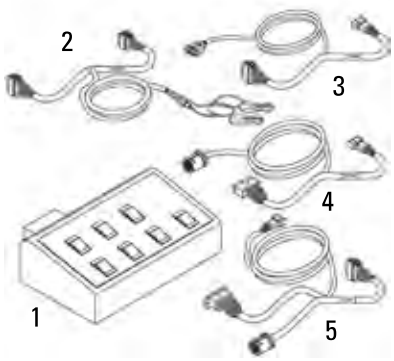
Part No.	Description	Dimensions	Weight
509-7110	Software Flash Cable	101.6 x 203.2 x 50.8 mm (4 x 8 x 2 in)	0.226 kg (0.5 lb)

TOOLS FOR ELECTRONIC ENGINES

Product Link Diagnostic Tool Group

Model Usage: All Cat models with Product Link Attachment

Warranty: Caterpillar® One Year



- Used to setup, test, and troubleshoot Product Link system
- Used with external 12 VDC or 24 VDC battery power source
- 312-5641 Switch Box used with various harness assemblies to perform specific diagnostic tests on unit being serviced
- Comes complete with switch box, main (power supply) harness, three stub harnesses, and case with foam insert
- 312-5608 Main Harness connects to 312-5641 Switch Box and 312-5609, 312-5610, or 312-5611 Stub Harnesses connect main harness to Product Link component being tested

Reference

- NEHS1016, 312-5642 Product Link Diagnostic Tool Group

Item	Part Number	Description
1	312-5641	Switch Box Assembly
2	312-5608	Main Harness Assembly
3	312-5609	121 Stub Harness Assembly
4	312-5610	151/201 Stub Harness Assembly
5	312-5611	300/321 Stub Harness Assembly
—	312-5642	Product Link Diagnostic Tool Group
Not Shown		
1	6V-7145	Case
—	317-9430	Foam Insert for 6V-7145 Case

Cable Assembly

Model Usage: All Models with Electronic Controls

Warranty: Caterpillar® One Year



- Connects laptop computers without serial ports to Communication Adapter II (see note)
- Uses computers parallel port
- 25 pin, male-to-male, 7.6 m (25 ft) long

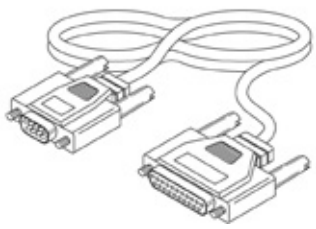
NOTE: Because of its length, this cable will work with Communication Adapter II only with newer PC's without a serial port. Older laptops will operate only with a shorter parallel cable, 2 m (6 ft) long maximum.

Part Number	Description
225-5985	Cable Assembly

Serial Cable

Model Usage: All models with electronic controls

Warranty: Caterpillar® One Year



- Used to extend and adapt DB25 (25-pin) connector to DB9 (9-pin) connector
- Used with 275-5120 Communications Adapter II Group
- Larger individual wires and more robust cable provides longer service life
- Overall length: 7.6 m (25 ft)

Part Number	Description
321-4331	Serial Cable

Data Link Cable Assembly

Model Usage: All Models Using Electronic Controls

Warranty: Caterpillar® One Year



- Used to connect Communication Adaptor 3 to the machine diagnostic interface
- Works with 9- and 14-pin connectors
- Provides Ethernet connector for machines with 14 pin diagnostic connector
- Works on ATA, CAT, J1939-11 and ethernet data links

Specifications

- Weight: 1.5 kg (3.3 lb)
- Length: 650 mm (25.6 in)

Part Number	Description
457-6114	Data Link Cable Assembly

Wireless Communication

Model Usage: All

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Used with 317-7485, Communication Adapter 3 to wirelessly monitor communication between engine and PC
- Includes cables, software CD, manual on CD
- Completely sealed connectors and enclosure
- Uses service tool programs, Cat Electronics Technician on J1939/11 high-speed data link, CAT DataLink, or J1708 (ATA) vehicle networks, or Dual DataLink
- USB device connectivity options

Part Number	Description
317-7492	Wireless Communication

Datalink Cable Assembly

Essential Tool

Warranty: Caterpillar® One Year



- Used to connect engine control module (ECM)
- Overall length: 1900 mm (75.0 in)
- Allows communication between service tools and engine controls using various data links such as J1939/11, Cat® DataLink, and J1708 (ATA) vehicle networks

Part Number	Description
259-3183	Datalink Cable Assembly

TOOLS FOR ELECTRONIC ENGINES

Comm Adapter II Cable

Model Usage: All Models With Electronic Controls

Warranty: Caterpillar® One Year



- Replaces discontinued 7X-1412 (ATA) and 7X-1570 (CAT) Adapter Cable Assemblies
- Overall length: 3 m (18 ft)
- Connects either ATA data-link or the Cat® data-link to disc. 7X-1700 Communication Adapter

Part Number	Description
139-4166	(CAT/ATA) Universal Cable

Adapter Cable Assembly (ATA/CAT Breakout T)

Model Usage: Engines without a diagnostic service connector

Warranty: Caterpillar® One Year



- Used on machines whose engines are without a diagnostic service connector
- Use to connect communication adaptor cable to machine datalink

Part Number	Description
140-9442	Adapter Cable Assembly (ATA/CAT Breakout T)

USB Serial Adapter

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to provide a RS232 communication link for personal computers (PC's) equipped only with USB ports
- Can be used with 275-5120 Communication Adapters
- Can be used to flash DataView designed to work with 2000, Microsoft Windows XP, Vista Windows and Windows 7
- Includes software CD

Part Number	Description
370-8059	USB Serial Adapter

Power Cable Assembly

Model Usage: 3406E, 3176B, 3116HEUI, 3126HEUI, C-10, and C-12 Engines

Warranty: Caterpillar® One Year



- Used to gain access to ADEM II ECM data, in event that service tool will not communicate at OEM connector
- Also provides means of powering service tool while cranking engine
- Replacement fuses available (8M-8948 Fuse, 15 amp)
- Allows service tool to be connected directly to ECM to verify ECM operation — can also isolate a communication problem due to OEM wiring harness
- Cable assembly has fuse protected power clips to allow direct hook up to battery

Part Number	Description
399-7427	Power Cable Assembly

Cable, RS-232

Model Usage: All models with electronic controls

Warranty: Caterpillar® One Year



- Replaces discontinued 7X-1688 Cable Group
- 4C-6805 Adapter (9 to 25 pin), part of discontinued group, is sold separately for use with older computers
- Used to connect a discontinued 7X-1701 Communication Adapter I to RS-232 computer port (discontinued 7X-1701 Communication Adapter I can now be purchased separately)

Part Number	Description
7X-1425	RS-232 Cable

Connector

Model Usage: 3406 and 3176 Engines

Warranty: Caterpillar® One Year

- Used to replace ECAP's plastic Port 1 socket and mating connector with steel parts to eliminate breakage
- 3E-3423 Connector is installed into ECAP
- Rework can be done by dealer or sent to the Dealer Service Tools Division

Instructions for Reworking ECAP at Dealership

- Enlarge diameter of connector mounting holes by 0.41 mm (0.016 in)
- Hole enlargement can be easily completed with a file
- Move wires from plastic 8C-4146 Connector to steel 3E-3423 Connector 1 wire at a time
- Move wires on connector
- The other end of the wire is attached to the following locations — With Pre-Regulator

Board or (Without)

Pin No. (8C-4146)	To Pin On (3E-3423)
1	A
2	B
3	K
4	H
5	(no connection)
6	G
7	J
8	C
9	F
No connection	D and E

Pin No. (8C-4146)	To
1	Input Pre-Reg (B+)
2	Gnd Pre-Reg (B-)
3	Gnd Pre-Reg (Gnd)
4	DL- (DL-)
5	(no connection)
6	RXL (RXL)
7	DL+ (DL+)
8	Tx (Tx)
9	Prog (Prog)

Part Number	Description
3E-3423	Connector

Cable, EIS Loopback

Model Usage: All Engines with EIS (Electronic Ignition System)

Warranty: Caterpillar® One Year



- Used to allow EIS (Electronic Ignition System) control to test itself

Part Number	Description
7X-1713	EIS Loopback Cable
Service/Repair Parts	
7X-6222	Plug
8T-8729	Connector Pin
8T-8730	Socket
8T-8735	Plug — Connector
8T-8737	Seal Plug
9W-0844	Socket

TOOLS FOR ELECTRONIC ENGINES

ADT Payload Flash Cable

Model Usage: Articulated Dump Truck 725C, 730C, 735C, 745C

Warranty: Caterpillar® One Year



- Used to connect a USB jump drive to the ADT payload system
- Allows payload system to be reprogrammed

Part Number	Description	Overall Length
449-4613	Cable Assembly, ADT Payload Flash	300 mm (11.85 in)

Communication Cable Assembly

Essential Tool

Model Usage: Most Paving Products

Warranty: Caterpillar® One Year



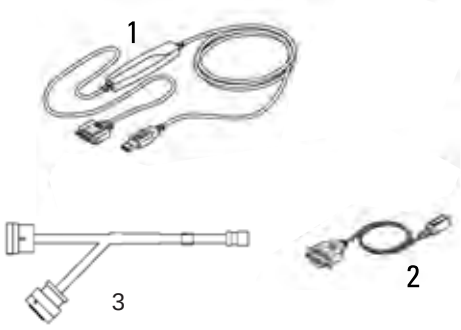
- Used for flash, upload, download, parameter adjustment, status communication with Sauer Danfoss Controller (electric screed heat)
- Used with a laptop computer and WebGPI software

Part Number	Description
245-4121	Communication Cable Assembly

Communication Adapter Cables

Model Usage: CS-563E, CS-573E, CS-583E, CS-663E, CS-683E, CS56, CS64, CS74, CS76, CS76XT Soil Compactors

Warranty: Caterpillar® One Year



- Used to service various electronic components and sensors on soil compactors

Item 1

- CAN (DB9) to USB adapter
- Used on all models that contain a Sauer Danfoss Plus 1 ECM
- Used with Sauer Danfoss Plus+1 Guide Service Tool software
- Software available on our site
- Replaces 300-7924

Item 2

- DB9 PC serial port to 3-pin receptacle Deutsch adapter
- Used with 300-7924 to connect PC service tool to machine (DB9 connects to 300-7924 Communication Cable)
- 3-pin Deutsch plug connects to CAN port or COM port on machine (CAN/COM ports sometimes located behind fuse panel)

Item 3

- Used to service various electronic components and sensors on soil compactors
- Replaces 309-5667
- Used with 480-5264 and 300-7925 for machines with the 9- or 14-pin service port connector instead of the 3-pin can port connectorCombination 9- and 14-pin service port to 3-pin plug Deutsch adapter

Reference

- REHS3302 Service Manual

Item	Part No.	Description	Dimensions	Weight
1	480-5264	Communication Adapter Cable	-	-
2	300-7925	Communication Adapter Cable	-	-
3	484-9472	Communication Adapter Cable	200 x 200 x 100 mm (8 x 8 x 4 in)	2 kg (4.4 lb)

USB Cable

Model Usage: 735, 740, 740 Ejector

Warranty: Caterpillar® One Year



- A-Male to A-Male USB cable supports Multi-Purpose Display (CMPD) ECMs used on Articulated Trucks
- The new method of flashing will transfer the flash file over a USB connection using Microsoft Active Sync
- CMPD's USB cable must be plugged into a USB port on the PC

Specifications

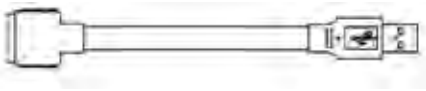
- USB A-Male to A-Male iteniary
- Length: 3 meter (10 ft)
- Type: USB 2.0

Part Number	Description
371-3480	USB Cable

Cable, Touchscreen Interface Communication

Model Usage: Machines and Engines Equipped with Touchscreen Information Display

Warranty: Caterpillar® One Year



- Used to connect PC to Touchscreen Information Displays
- Used in conjunction with CAT ET to upload new software
- Uses USB connection
- Overall Length: 5 m (15 ft)

Part No.	Description	Application
318-8840	USB to Deutsch DT	CIODS and older displays with DT connector
381-5782	USB to AmpSeal	Displays with AmpSeal connector

Attenuator

Model Usage: All with DPF

Warranty: Caterpillar® One Year



- Used to perform the "DPF Soot Loading Sensor Functional Test"
- 20+/-0.5 dB fixed resistive attenuation from 1 MHz to 2 GHz
- 50 Ohms impedance
- 1 W power handling capability
- Temperature range -40 to 75°C (-40 to 167°F)
- TNC jack (female) on both ends
- Length: 0.75 m (29.5 in)
- Attenuator used for testing diesel particulate filter (DPF) for cracks, leaks, and recovery from engine oil contamination

Part Number	Description
366-7782	Attenuator

Vacuum/Pressure Gauge



- Complete with 0.6 m (2 ft) of high quality hose, plus (3) fittings
- Hook-on gauge enables technician to hang gauge and hose assembly to free his hands
- 88.9 mm (3 1/2 in) compound gauge has a multicolor dual scale dial with ranges from 0 to 68.9 kPa (0 to 10 PSI), 0 to 0.7 kg/cm² (0 to 9.94 PSI) pressure and 0 to 70 cm (0 to 28 in) Hg vacuum

Part Number	Description
5P-6582	Vacuum/Pressure Gauge

Vacuum/Pressure Gauge



- Complete with 0.6 m (2 ft) of high quality hose, plus (3) fittings
- Hook-on gauge enables technician to hang gauge and hose assembly to free his hands
- 88.9 mm (3 1/2 in) compound gauge has a multicolor dual scale dial with ranges from 0 to 68.9 kPa (0 to 10 PSI), 0 to 0.7 kg/cm² (0 to 9.94 PSI) pressure and 0 to 70 cm (0 to 28 in) Hg vacuum

Part Number	Description
5P-6582	Vacuum/Pressure Gauge

Diagnostic Plug

Model Usage: 3126 HEUI Engines

Warranty: Caterpillar® Six Months



- Used to troubleshoot HEUI pumps
- Used with 9X-1484 Seal Kit

Reference

- REHS1281, Service Manual

Part Number	Description
219-2368	Diagnostic Plug

HEUI Engine Tool Group

Model Usage: 3116 HEUI and 3126 HEUI Engines

Warranty: Caterpillar® One Year

- HEUI diagnostic tooling — includes all necessary cables, harnesses, and electrical pin removal tools to troubleshoot the electrical system, conveniently packaged in a separate plastic box within the group
- Hydraulic diagnostic tooling — includes all necessary fittings, pressure gauge and hose, and a special breakout tee to troubleshoot the hydraulic system — including the injection actuation pressure sensor and control valve/ pump combination
- Injector and IAPC valve removal and installation tools
- Modified injector clamp to aid in proper assembly and tightening of the jumper tube
- Necessary bit drivers and socket to work on hard-to-reach components
- Double-ended offset feeler gauge for setting valves

Group Includes:

- Plug, Clamp Assembly

Part Number	Description
125-2580	HEUI Engine Tool Group
	Parts List
123-4941	Valve Setting Gauge
125-2584	Hex Ball Driver
125-2588	Hex Wrench, 7/64 in
125-2589	Diagnostic Fitting
125-5902	Foam Insert GP
1U-5757	Hose Assembly
1U-7587	Pry Bar, 6 in long
3B-6768	Adapter — STR (NPTF)
3J-7352	Connector
3J-7354	Seal — O-ring — STOR for 8C-3446 (not pictured)
5P-0144	Fuel Line Socket
5P-0333	Crowfoot Wrench
5P-5008	Reducer 37° Flared
6V-7145	Case
6V-8397	O-ring Seal
6V-9508	Plug — ORFS
7J-0204	O-ring Seal
8C-7310	Adapter
8S-7169	Coupling — Pipe Hexagon
8T-0852	Gauge Group — Pressure
9S-8007	O-ring Plug

a. Warranty: Lifetime

Pressure Gauge



Item	Part Number	Description
—	8T-0840	Pressure Gauge
1	8T-0848	Gauge GP — Pressure (3)
2	1U-5554	Panel Assembly

Engine Pressure Group

Model Usage: All Models

Warranty: Caterpillar® One Year

- Used to check performance of turbocharged diesel and natural gas engines and, with optional 1U-5554 Panel and 8T-0840 Pressure Gauge, to make operating adjustments to naturally aspirated gas engines
- Replaces discontinued 6V-3150 Engine Pressure Groups and 4S-6553 Engine Evaluation Test Group; contents of 6V-3150 still serviced, but contents of 4S-6553 no longer serviced; 6V-3150 can be upgraded to essentially same functional specifications of 1U-5470 by installing optional 1U-5554 Panel with either 0-200 kPa [0-60 inch mercury (Hg)] 1U-5469 Pressure Gauge (0-60 inch Hg) or 100-0-100 kPa (30-0-30 inch Hg) 8T-0840 Pressure Gauge
- Equipped with 4 different pressure gauges that indicate pressure relative to ambient atmospheric pressure; require no measurement corrections due to atmospheric pressure changes
- 8T-0848 Pressure Gauges used to measure fuel pressure, intake manifold pressure on turbocharged diesel engines, cooling system pressure and to power balance diesel engines in multiple engine applications (0-58 PSI)
- 8T-0846 Pressure Gauge used to measure oil pressure and air compressor cut-in and cut-out pressures (0-145 PSI)
- Chart in case lid used to convert kPa or PSI to inches of mercury as shown in Fuel Setting and Related Information microfiche
- 6V-6045 Accessories Case contains fittings that can be installed in all 1/8 inch NPT ports on Cat® Engines for setting up pressure taps for 1U-5470; 8T-0821 Tubing is easily connected to and disconnected from 1U-5470 panel and engine port fittings; internal O-ring seals tubing outer diameter and internal collet mechanism locks tubing into fitting
- Optional 8T-0840 Pressure Gauge used to measure intake manifold pressure on natural gas and gasoline engines and to power balance natural gas engines in multiple engine applications; mounts on optional 1U-5554 Panel Assembly which can be permanently installed in 1U-5470 Engine Pressure Group; 6V-4045 cannot be stored in 1U-5470 with optional gauge installed
- Optional slack tube 8T-0452 Water Manometer available for use with 1U-5470; measures static, vacuum, or differential pressure over range of 500 mm to 500 mm H2O for total range of 1000 mm H2O; stored in optional 8T-3153 Foam Block placed in lid of 8T-0841

Specifications

- 8T-0848 Pressure Gauge range: 400 kPa (58 PSI)
- 8T-0846 Pressure Gauge range: 1000 kPa (145 PSI)
- 1U-5469 Pressure Gauge range of engine boost or positive intake manifold pressure: 0 – 200 kPa (0 – 60 inches Hg)
- 8T-0839 Differential Pressure Gauge range: Up to 12 kPa [50 inches water (H2O)], as well as either 12 kPa (1.74 PSI) pressure or vacuum
- All other gauges in group read directly in: kPa and PSI
- 8T-0840 Pressure Gauge range: 0 – 100 kPa (0 – 30 inches Hg)
- Vacuum range: 0 – -100 kPa (0 – -30 inches Hg)
- Operating temperature range: -1° to 60°C (30° to 140°F) for differential pressure gauges. -18° to 71°C (0° to 160°F) for all other gauges
- Gauge accuracy: ±2 percent of full scale for differential pressure gauge. SAE Grade A (±1.5 to 1 percent of full scale for all other gauges)
- Operating position: Position has no effect on differential pressure gauge, if gauge has been mechanically adjusted to ZERO in the test position (on all other gauges, position has no effect on accuracy)
- Pressure media: Differential pressure gauge — clean air and gases only (no liquids). All other gauges — air, gases and liquids (oil, water, antifreeze, fuel, etc.)
- Size: 390 x 310 x 190 mm (15.4 x 12.2 x 7.5 in)
- Weight: 6.8 kg (15 lb)

NOTE: DO NOT use any acids or other highly corrosive liquids in the gauges.

ENGINE TOOLS

Engine Pressure Group (Continued)



Item	Description
Not shown	Form SEES5677 Conversion Chart
Not shown	Form NEEG2187 Title Decal

Part Number	Description	Use	Used with
102-6496	Adapter, 1/8 -27 NPTF to 1/8 -28 BSPTM	Allows 1U-5470 Engine Pressure Group to be connected to the oil pressure switch port on the listed engines. Adapter requires the removal of the oil pressure switch on these engines in order for oil pressure readings to be taken.	C0.5, C0.7, C1.1, C1.5, C1.7, C2.2, C3.4

DO NOT use any acids or other highly corrosive liquids in the gauges.

Item	Part Number	Description
—	1U-5470	Engine Pressure Group
Optional 8T-0840 Pressure Gauge		
Parts List		
1	8T-0841	Case
2	8T-0839	Differential Pressure Gauge
3	8T-0846	Pressure Gauge
4	1U-5469	Pressure Gauge
5	8T-0848	Gauge GP — Pressure (3)
6	4C-3974	Fitting — Union Bulkhead (8)
7	8T-0821	Tubing, 16 m (52.5 ft)
8	4C-3973	Fitting — Connector (male) (6)
9	4C-3972	Fitting — Male Elbow (Swivel) (6)
10	4C-3971	Union (2)
11	6V-6132	Cable Tie (4)
12	6V-6045	Case — Plastic Form SEES5575 Accessories Label
13	6V-6115	Packing Set Base

Water Manometer



Item	Part Number	Description
1	8T-0452	Water Manometer
2	8T-3153	Foam Block

Digital Pressure Indicator Cable

Model Usage: All

Warranty: Caterpillar® One Year



- Increases distance between pressure pickup and hand-held, digital pressure indicator
- Used with 198-4240 Digital Pressure Indicator
- Allows technician greater freedom to move around during testing, especially when working on large equipment
- Overall length: 12 m (40 ft)

Reference

- NEHS0818, Using the 198-4240 Digital Pressure Indicator Group

Part Number	Description
198-4229	Cable — DPI 40 ft (12 m)

Digital Pressure Indicator Group

Model Usage: All

Warranty: Manufacturers One Year

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

- Used to measure vacuum, pressure, differential pressure, and temperature
- Self-contained, microprocessor digital meter
- Uses sensors and cables to remotely measure systems under pressure
- Indicator has four input connectors:
  - Connector 1 measures pressure or vacuum
  - Connectors 1 and 2 measure differential pressure
  - Connectors 2, 3, and 4 measure pressure
- Includes Type-K thermocouple for measuring temperature

Specifications

- Operating temp: 0° to 38°C (32° to 100°F)
- Storage temp: -40° to 66°C (-40° to 150°F)
- Battery: 1U-9534 Alkaline Battery, 9 Volt
- Battery life (approx.):
  - 1 transducer 108 hours
  - 2 transducers 77 hours
  - 3 transducers 51 hours
  - 4 transducers 43 hours
- Group weight: 2.36 kg (5.2 lb)
- Carrying case: 394 x 311 x 102 mm (15.5 x 12.3 x 4.0 in)
- Pressure pickup sensors:
  - 3,500, 35,000, 41,368 and 70,000 kPa (500, 5,000, 6,000 10,000 PSI)
  - (198-4240 Group does not include 5,000 PSI pressure pickup)

NOTE: The Digital Pressure Indicator Group pressure sensors cannot be used with Data View at the present time.

Part Number	Description	Range	Accuracy/Specification
198-4237	Pressure Pickup Sensor, 500 PSI, blue connector	±0 — 30 inches Hg, ±0 — 100 PSI, ±0- 500 PSI, ±0 — 35 bar, ±0 — 3,500 kPa	0.5% ±0.33 inches Hg, 0.5% ±1 PSI, 0.5% ±5 PSI, 0.5% ±0.35 bar, 0.5% ±34 kPa
198-4238	Pressure Pickup Sensor, 5,000 PSI, red connector	±0 — 5,000 PSI, ±0 — 350 bar, ±0 — 35,000 kPa	0.5% ±50 PSI, 0.5% ±3.5 bar, 0.5% ±340 kPa
198-4239	Pressure Pickup Sensor, 6,000 PSI, orange connector	±0 — 6,000 PSI, ±0 — 413 bar, ±0 — 41,368 kPa	0.5% ±60 PSI, 0.5% ±4.1 bar, 0.5% ±413 kPa
251-9600	Pressure Pickup Sensor, 10,000 PSI, orange connector	±0 — 10,000 PSI, ±0 — 700 bar, ±0 — 70,000 kPa	0.5% ±100 PSI, 0.5% ±7 bar, 0.5% ±700 kPa
8T-0458	K-Type Thermocouple Sensor	-40° to 2500°F, -40° to 1350°C	0.5% ±2 of reading, 0.5% ±2 of reading

ENGINE TOOLS

Digital Pressure Indicator Group Parts



- Used to measure vacuum, pressure, differential pressure, and temperature
- Self-contained, microprocessor based digital meter
- Uses sensors and cables to remotely measure systems under pressure
- Indicator has four input connectors:
  - Connectors 1 and 2 measure differential pressure
  - Connectors 2, 3, and 4 measure pressure
  - Includes Type-K thermocouple for measuring temperature

Reference

- Not Shown: NEHS0818 Tool Operating Manual

Item	Part Number	Description
—	198-4240	Digital Pressure Indicator Group
1	198-4234	Indicator (face decal NEEG2932)
2	198-4236	Extension Cable, 20 ft (6 m) (2)
3	198-4229	Cable — Digital Pressure Indicator 40 ft (12 m)
4	198-4237	Pressure Pickup, 500 PSI (3,500 kPa), blue connector
4	198-4238	Pressure Pickup, 5,000 PSI (35,000 kPa), red connector (optional)
4	198-4239	Pressure Pickup, 6,000 PSI (41,368 kPa), orange connector
4	251-9600	Pressure Pickup, 10,000 PSI (70,000 kPa), orange connector
Not shown		
—	198-4235	Foam Insert
—	6V-3072	Case — Plastic (case decal NEEG2931)
—	8T-0458	Wire — Thermocouple
Optional Items (Sold Separately)		
—	6V-0852	Cap — Dust
—	6V-3965	Valved External Nipple, 9/16 in SAE
—	6V-3966	Valved External Nipple, 1/4 in NPT
—	6V-4144	Valved Replacement Coupler, 1/4 in NPT, internal thread
—	8T-3613	Valved External Nipple, 1/8 in NPT

Diesel Injection Detector

Model Usage: 3046, 3064, 3066 Engines

Warranty: Manufacturer's



European Union compliant, CE marked

- Used to detect fuel injection pulse on diesel engine fuel line
- Used with 9U-5358 Digital Timing Light or other analyzer/tester with an inductive pickup
- Pickup clamp fits around fuel line from injection pump
- 6 mm diameter pickup clamp is included with 6.5 mm and 1/4 inch diameter pickup clamps optional
- When a fuel injection pulse is detected it causes indicator lamp to flash and sends a current pulse through inductive loop (cable) on unit
- Inductive loop (cable) allows use of virtually any test equipment with an inductive pickup
- Faster and more accurate than drip timing an engine

Reference

- NEHS1012, Tool Operating Manual, 310-4780 Diesel Injection Detector for 3046, 3064, and 3066 Engines

Specifications

- Operating temperature: -18 to 50°C (-4 to 122°F)
- Storage temperature: -40 to 80°C (-40 to 176°F)
- Lead length: 1.7 m (67 in)
- Power requirements: 1U-9534 9 Volt Battery
- Dimensions (H x L x W): 120 x 60 x 25 mm (4.7 x 2.4 x 1.0 in)

Item	Part Number	Description
1	310-4780	Diesel Injection Detector
2	310-4777	Pickup Clamp, 6 mm diameter
—	1U-9534	Battery — 9V Size (not shown)
	Optional	
3	310-4776	Pickup Clamp, 1/4 in diameter
4	310-4778	Pickup Clamp, 6.5 mm diameter

Engine Harness Repair Kit

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Kit allows system checks to be made on running engine for real time diagnostics as well as quality
- Includes 125 components
- Contains all connectors and terminal pigtails to make computer-safe repairs on engine electrical harness

Serviceable Parts

- Connectors: 398-1270, 398-1272, 398-1273, 398-1274, 398-1275, 398-1276, 398-1277, 398-1278, 398-1279, 398-1280, 398-1281, 398-1283, 398-1284, 398-1285, 398-1286, 398-1287, 398-1288, 398-1289, 398-1291, 398-1293, 398-1294, 398-1295, 398-1296
- Clip-TPA: 398-1271
- Wire: 398-1297, 398-1298, 398-1299, 398-1300, 398-1301, 398-1305, 398-1306, 398-1307, 398-1308, 398-1309, 398-1311, 398-1312, 398-1313, 398-1314, 398-1315
- Terminals: 398-1316, 398-1317, 398-1318, 398-1319, 398-1320, 398-1321, 398-1322, 398-1323, 398-1324
- Backshells: 398-1325, 398-1326, 398-1332, 398-1333
- Splice-Butts: 398-1327, 398-1328, 398-1329
- Tube-Heat Shrink: 398-1331

Part Number	Description	Dimensions	Weight
372-5274	Engine Harness Repair Kit	17 x 13 x 13 in	5 kg

ENGINE TOOLS

Engine Harness Repair Extension Kit

Model Usage: CT660

Warranty: Manufacturer's



- Two-drawer add-on kit for the existing 372-5274 harness repair kit for CT660s
- Includes the parts necessary to repair the SCR harnesses

Specifications

- Dimensions: 102 X 305 X 458 mm (4 X 12 X 18 in)
- Weight: 1.4 kg (3 lb)

Part Number	Description
467-6314	Engine Harness Repair Extension Kit
Service/Repair Parts	
467-6315	Wire Terminal - SCR Harness Repair
467-6316	Wire Terminal - SCR Harness Repair
467-6317	Wire Terminal - SCR Harness Repair
467-6318	Wire Terminal - SCR Harness Repair
467-6319	Wire Terminal - SCR Harness Repair
467-6320	Wire Terminal - SCR Harness Repair
467-6321	Wire Terminal - SCR Harness Repair
467-6322	Wire Terminal - SCR Harness Repair
467-6323	Wire Terminal - SCR Harness Repair
467-6324	Wire Terminal - SCR Harness Repair
467-6325	Wire Terminal - SCR Harness Repair
467-6326	Wire Terminal - SCR Harness Repair
467-6327	Wire Terminal - SCR Harness Repair
467-6328	Wire Terminal - SCR Harness Repair
467-6329	12 Way Connector (Tyco)
467-6330	DEF Doser Connector (SCR Harness Repair)
467-6331	Hydrocarbon Injector F Connector
467-6332	Air Shutoff Valve Connector
467-6333	Hydrocarbon Injector F Connector
467-6334	DEF Connector
467-6335	NOx Connector
467-6336	AFT Fuel Shutoff Connector
467-6337	Fuel Pressure Connector
467-6338	Female DEF Tank Level Connector
467-6339	DEF Tank Heater Valve Connector
467-6340	20 Way Connector
467-6341	12 Way Connector
467-6342	DEF Connector - Female
467-6343	DEF Tank Level Connector - Male
467-6344	DEF Return and Suction Connector
467-6345	12 Way Connector
467-6346	Screwdriver -SCR Harness Repair
467-6347	20 Way Connector
467-6348	12 Way Connector
467-6349	DEF Connector - Male
467-6350	8 Way DPF Connector
467-6351	Lubricant Tube - SCR Harness Repair

Magnetic Transducers

Model Usage: 3208

Warranty: Caterpillar® Six Months.

8T-5184 Transducer

- 89 mm (3.5") long steel shank which is 12.7 mm (0.5") shorter than existing 6V-2197
- Can be used in applications where 6V-2197 Transducer is too long, such as on some 3208 Engines where access to top center hole in front cover is limited by fan belts/guards

8T-5185 Transducer

- Has 178 mm (7.0 in) long steel shank which is 63.5 mm (2.5 in) longer than 6V-2197 Transducer
- Can be used in applications where 6V-2197 Transducer is too short, such as on D7G SA Tractor

Part Number	Size
8T-5184	88.9 mm (3.5 in) long
8T-5185	17.8 cm (7.0 in) long

Governor Test Unit Group

Model Usage: 3600 Family Engines with Heinzmann Governors

Warranty: Caterpillar® One Year



- Used to test and adjust Heinzmann Electronic Governors without running engine
- Simplifies installation and service of governor
- Measures governor frequency when engine is running and feedback voltage when engine is stopped
- Simulates engine for following tests:
  - Check governor frequency at different fuel levels
  - Adjust and check minimum and maximum governor frequency levels
  - Adjust speed droop during droop operation
  - Check effect of gain, stability and derivative value settings on operation

References

- SEHS9222, Special Instruction
- SENR4661, Heinzmann Governor Service Manual

Specifications

- Frequency range: 100 — 10,000 Hz (± 5 Hz)
- Voltage range: 1 — 6 Volts (± 50 mV)
- Simulator frequency: 150 — 8,000 Hz
- Output voltage: 8V peak-peak maximum
- Current consumption: 8 mA maximum
- Battery: 1U-9534 Battery, 9 Volt
- Temperature range: 0° to 45°C (32° to 104°F)

Part Number	Description
4C-6710	Governor Test Unit Group

Interface Module, Breakout Harness Assembly

Model Usage: C1.5, C2.2

Warranty: Manufacturer's



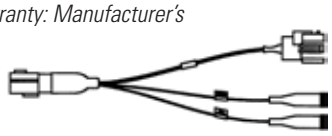
- Allows technician's laptop to communicate with the electronically controlled governors of the C1.5 and C2.2 engines

Part No.	Dimensions
446-9409	127 x 76.2 mm (5.0 x 3.0 in)
446-9410	50.8 x 254 mm (2.0 x 10.0 in)

Temperature Sensor Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to measure voltage and resistance on circuits that go to the IAT sensor

Part Number	Description
373-4837	Temperature Sensor Breakout Harness

ENGINE TOOLS

Breakout Harness

Model Usage: 11L and 13L Engines

Warranty: Manufacturer's



- Used to properly diagnose and service 11 & 13 L engines

Specifications

- Dimensions: 304.8 x 304.8 x 304.8 (12 x 12 x 12 in)
- Weight: 2.95 kg (6.5 lb)

Part Number	Description
372-5251	Breakout Harness

Breakout Box

Model Usage: CT660 Truck, CT11, CT13, CT15

Warranty: Manufacturer's



- A multi-cable device used to test electronic equipment
- Used where sufficient space or access to connections are not easily accessible
- Allows testing of the electronic control system components without disturbing connections

Specifications

- Dimensions: 381 x 304 x 76.2 mm (15 x 12 x 3 in)
- Weight: 4 kg (8.8 lb)

Part Number	Description
372-5252	Breakout Box

Overlays for Breakout Box

Model Usage: CT660

Warranty: None



- Part of the 180-pin 372-5252 Breakout Box

Part No.	Description
469-0232	Chassis Overlay
469-0233	Engine Overlay

Coolant Mixer Valve Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine coolant valve #1, (mixing valve)

Specifications

- Dimensions: 152.4 x 101.6 x 6.4 mm (6 x 4 x 0.25 in)
- Weight: 0.04 kg (0.08 lb)

Part No.	Description
373-4782	Coolant Mixer Valve Breakout Harness

Breakout Tee Kit

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Lead and probe test kit
- Kit contains connectors necessary when testing in tight locations
- Includes 2 tight spot test leads, over 40 spade and round terminal probes in 4 sizes, screw banana plugs and breakout adapters

Specifications

- Dimensions: 279.4 x 190.5 x 44.45 mm (11 x 7.5 x 1.75 in)
- Weight: .68 kg (1.5 lb)

Part Number	Part Name	Description
372-5260	—	Breakout Tee Kit
398-4980	Female Probe	Small Gray Round Female .06 D (3 pack)
398-4981	Male Probe	Extra Large Green Male Round .11 D (2 pack)
398-4983	Female Probe	Extra Large Green Female Round .11 D (2 pack)
398-4985	Male Probe	Medium Yellow Male Spade .12 (3 pack)
398-4987	Female Probe	Medium Yellow Female Spade .12 (3 pack)
398-4988	Male Probe	Extra Small Blue Male Spade .02 x .09 (3 pack)
398-4989	Female Probe	Small Blue Female Spade .02 x .09 (3 pack)
398-4990	Female Probe	Medium Orange Female Round .075 DIA (3 pack)
398-5021	Male Probe	Medium Orange Male Round .075 DIA (3 pack)
398-5052	Female Probe	Small Purple Female Spade 1.5 x 8 mm (3 pack)
398-5056	Male Probe	Extra Small Purple Male Spade 1.5 x 8 mm (3 pack)
398-5057	Male Probe	Large White Male Spade .25 x .032 (2 pack)
398-5058	Female Probe	Large White Female Spade .25 x .03 (2 pack)
398-5059	Male Probe	Small Gray Male Round .06 DIA T.P. (3 pack)
398-5060	Male Probe	Male Terminal Square .025 Black (3 pack)
398-5061	Female Probe	Female Terminal Square .025 Black (3 pack)
398-5062	Female Probe	Female, Delphi, Terminal Spade .025 x .059 Red (3 pack)
398-5063	Male Probe	Male Terminal Spade .025 x .039 Red (3 pack)
398-5064	Male Probe	Male Terminal Round 0.03 Blue (3 pack)
398-5065	Female Probe	Female Terminal Round 0.03 Blue (3 pack)
398-5066	Male Probe	Male Terminal Round 0.039 Green (3 pack)
398-5067	Female Probe	Female Terminal Round 0.039 Green (3 pack)
398-5072	Tee Adapter	Dual Banana Plug Tee Adapter (each)
398-5080	Test Lead	Tight spot Black Test Lead (each)
398-5081	Test Lead	Tight spot Red Test Lead (each)
398-5082	Clip	Screw on Alligator clip (1 each red and black)
398-5083	Plug	Screw on Banana plug (1 each red and black)

EFP Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine fuel low pressure sensor

Specifications

- Dimensions: 167.6 x 101.6 x 19.0 mm (6.06 x 4.0 x 0.75 in)
- Weight: 0.04 kg (0.08 lb)

Part No.	Description
373-4784	EFP Breakout Harness

ENGINE TOOLS

Coolant Flow Valve Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine coolant valve #2, (flow valve)

Specifications

- Dimensions: 167.6 x 101.6 x 19.0 mm (606 x 4.0 x 0.75 in)
- Weight: 0.04 kg (0.08 lb)

Part No.	Description
373-4783	Coolant Flow Valve Breakout Harness

EOP Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine oil pressure sensor

Specifications

- Dimensions: 167.6 x 101.6 x 19.0 mm (6.06 x 4.0 x 0.75 in)
- Weight: 0.04 kg (0.08 lb)

Part No.	Description
373-4785	EOP Breakout Harness

MAT Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine charge air, (manifold air) temp sensor

Specifications

- Dimensions: 167.6 x 101.6 x 19.0 mm (6.06 x 4.0 x 0.75 in)
- Weight: 0.04 kg (0.08 lb)

Part No.	Description
373-4786	MAT Breakout Harness

Exhaust Lambda Sensor & V8 EGR Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for exhaust Lambda sensor diagnostics

Specifications

- Dimensions: 279.4 x 40.6 x 25.4 mm (11.0 x 1.6 x 1.0 in)
- Weight: 0.06 kg (0.14 lb)

Part No.	Description
373-4787	Exhaust Lambda Sensor & V8 EGR Breakout Harness

After-treatment 2 Pin Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for after-treatment temperature sensors and circuits
- Additional diagnostics include fuel shutoff, fuel dump and doser circuit (for urea injection)

Specifications

- Dimensions: 271.8 x 20.3 x 25.4 mm (10.7 x 0.8 x 1.0 in)
- Weight: 0.05 kg (0.11 lb)

Part No.	Description
373-4788	After-treatment 2 Pin Breakout Harness

EGDP Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for the exhaust gas delta pressure sensor

Specifications

- Dimensions: 279.4 x 25.4 x 20.3 mm (11.0 x 1.0 x 0.8 in)
- Weight: 0.04 kg (0.1 lb)

Part No.	Description
373-4789	EGDP Breakout Harness

APS/IVS Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used on all throttle and sensor circuit diagnostics

Specifications

- Dimensions: 355.6 x 31.7 x 25.4 mm (14.0 x 1.2 x 1.0 in)
- Weight: 0.07 kg (0.16 lb)

Part No.	Description
373-4791	APS/IVS Breakout Harness

Cold Weather Start Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to measure voltage and resistance on circuits connected to Cold Start Relay (CSR)

Specifications

- Dimensions: 203.2 x 177.8 x 50.8 mm (8 x 7 x 2 in)
- Weight: 0.3 kg (0.6 lb)

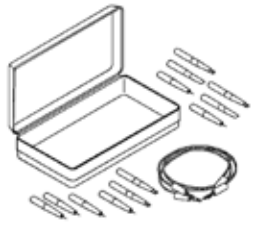
Part Number	Description
373-4744	Cold Weather Start Breakout Harness

ENGINE TOOLS

Big Bore Terminal Test Probe Kit

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to access circuits in the connector harness and allows for use of Digital Multi-Meter without damaging the harness connectors

Specifications

- Dimensions: 111.8 x 210.8 x 43.2 mm (4.4 x 8.3 x 1.7 in)
- Weight: 0.4 kg (0.9 lb)

Part Number	Description
373-4745	Big Bore Terminal Test Probe Kit

EIM Power Relay Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to measure voltage and resistance on circuits to the EIM relay

Specifications

- Dimensions: 254 x 203.2 x 25.4 mm (10 x 8 x 1 in)
- Weight: 0.07 kg (0.15 lb)

Part Number	Description
373-4747	EIM Power Relay Breakout Harness

ECT, EOT and EGR Control Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine coolant temps 1 and 2, engine oil temperature sensor and EGR control diagnostics.

Part Number	Description
373-4749	ECT, EOT and EGR Control Breakout Harness

CMP, CKP and FPCV Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for the engine camshaft and crankshaft sensor diagnostics and for high pressure fuel control module (MPROP).

Part Number	Description
373-4750	CMP, CKP and FPCV Breakout Harness

FRP Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's

- Diagnostic harness used for the engine high pressure fuel rail sensor



Part Number	Description
373-4751	FRP Breakout Harness

MAP/IAT2 Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's

- Diagnostic harness used for the engine boost pressure and temperature (MAP/IAT2) sensor



Part Number	Description
373-4752	MAP/IAT2 Breakout Harness

BCS Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's

- Diagnostic harness used for the engine boost pressure control actuator



Part Number	Description
373-4754	BCS Breakout Harness

EGR Position and Intake Throttle Control Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's

- Diagnostic harness used for EGR position and intake throttle control circuit diagnostics



Part Number	Description
373-4778	EGR Position and Intake Throttle Control Breakout Harness

ENGINE TOOLS

Retarder Control Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine retarder valve control

Part Number	Description
373-4779	Retarder Control Breakout Harness

Engine Fan Control Actuator Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine electronic fan control

Part Number	Description
373-4780	Engine Fan Control Actuator Breakout Harness

After-treatment Fuel Pressure Sensor

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for engine after-treatment fuel pressure sensor

Specifications

- Dimensions: 25.4 x 25.4 x 25.4 mm (1 x 1 x 1 in)
- Weight: 0.06 kg (0.14 lb)

Part Number	Description
373-4781	After-treatment Fuel Pressure Sensor

Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Allows the technician to verify electrical voltage/signals/resistance to the ACM without probing or damaging the electrical connectors or the wires of the harness

Specifications

- Dimensions: 127 X 76.2 X 304.8 mm (5 X 3 X 12 in)
- Weight: 0.23 kg (.5 lb)

Part Number	Description
455-6776	Breakout Harness

Cylinder Performance Analyzer Tool

Model Usage: CT660

Warranty: Manufacturer's



- Specialized tool capable of detecting cylinder performance concerns during hot idle, cold idle, and a road test
- Detects performance concerns under any running conditions, including intermittent issues

NOTE: This tool is only compatible with ServiceMaxx software on EZ-Tech computers.

Part No.	Description	Dimensions	Weight
507-8436	Cylinder Performance Analyzer Tool	254 x 457.2 x 152.4 mm (10 x 18 x 6 in)	4.536 kg (10 lb)

ENGINE TOOLS

Test Harness

Essential Tool

Model Usage: CT660

Warranty: Caterpillar® Six Months



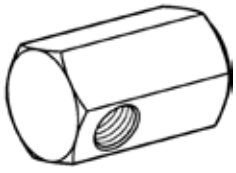
- Used for a variety of testing applications
- These are used within a test in service max to change the readings of the DPFDP sensor which checks quality on the DPF truck.
- Used in conjunction with specific breakout harnesses
- This sensor simulation test tool receives the truck's existing voltage reference (VREF) signal and varies it within an allowable window to simulate operating conditions.

Part No.	Description	Dimensions	Weight
493-2016	Test Harness	102 x 153 x 51 mm (4 x 6 x 2 in)	0.23 kg (0.5 lb)

Cold Start Solenoid Test Adapter

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to properly diagnose the cold start solenoid

Part Number	Description
373-4826	Cold Start Solenoid Test Adapter

Diesel Timing Adapter Group

Model Usage: 300, 1100, 3200, 3300 and 3400 Series Engines

Warranty: Caterpillar® One Year



- Used to check timing on diesel engines
- Group includes all items in figure

Part Number	Item	Description
8T-5301	—	Diesel Engine Timing Adapter Group
	Parts List	
6V-2198	1	Extension Cable
5P-7436	3	Adapter
5P-7437	4	Adapter
5P-7435	5	Adapter Group — Tee
6V-3016	6	Washer

Harness, 500 OHM Resistor Jumper

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used for operational diagnostics of sensor circuits

Specifications

- Dimensions: 127.0 x 19.0 x 19.0 mm (5.0 x 0.75 x 0.75 in)
- Weight: 0.04 kg (0.1 lb)

Part Number	Description
373-4841	500 OHM Resistor Jumper Harness

Harness, 3 Banana Plug

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used for operational diagnostics of sensor circuits

Specifications

- Dimensions: 149.9 x 129.5 x 10.2 mm (5.9 x 5.1 x 0.4 in)
- Weight: 0.06 kg (0.12 lb)

Part Number	Description
373-4842	3 Banana Plug Harness

CMP Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used for Cam position diagnostics on engine

Specifications

- Dimensions: 157.5 x 94.0 x 17.8 mm (6.2 x 3.7 x 0.7 in)
- Weight: 0.04 kg (0.08 lb)

Part Number	Description
374-6405	CMP Breakout Harness

MAT Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used on the intake manifold temperature sensor of engine

Specifications

- Dimensions: 157.5 x 109.2 x 22.9 mm (6.2 x 4.3 x 0.9 in)
- Weight: 0.04 kg (0.08 lb)

Part Number	Description
374-6406	MAT Breakout Harness

WIF Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Two wire diagnostic breakout harness used on engine

Specifications

- Dimensions: 320.0 x 20.3 x 20.3 mm (12.6 x 0.8 x 0.8 in)
- Weight: 0.03 kg (0.07 lb)

Part Number	Description
374-6407	WIF Breakout Harness

ENGINE TOOLS

Air System Controller Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Ten wire diagnostic breakout harness used on engine

Specifications

- Dimensions: 203.2 x 165.1 x 38.1 mm (8.0 x 6.5 x 1.5 in)
- Weight: 0.1 kg (0.2 lb)

Part Number	Description
374-6408	Air System Controller Breakout Harness

Compression Brake Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Four pin diagnostic breakout harness used on engine

Specifications

- Dimensions: 152.4 x 114.3 x 25.4 mm (6.0 x 4.5 x 1.0 in)
- Weight: 0.06 kg (0.1 lb)

Part Number	Description
374-6409	Compression Brake Breakout Harness

ITR AND EGR Valve Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic harness used on engine throttle valve (ETV) and exhaust gas recirculation (EGR)

Specifications

- Dimensions: 180.3 x 114.3 x 20.3 mm (7.1 x 4.5 x 0.8 in)
- Weight: 0.08 kg (0.2 lb)

Part Number	Description
374-6410	ITR AND EGR Valve Breakout Harness

AFS Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic breakout harness used on engine fuel system

Specifications

- Dimensions: 165.1 x 109.2 x 17.8 mm (6.5 x 4.3 x 0.7 in)
- Weight: 0.04 kg (0.08 lb)

Part Number	Description
374-6411	AFS Breakout Harness

AFT Downstream Fuel Pressure Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic breakout harness used on engine

Specifications

- Dimensions: 157.5 x 116.8 x 15.2 mm (6.2 x 4.6 x 0.6 in)
- Weight: 0.05 kg (0.10 lb)

Part Number	Description
374-6412	AFT Downstream Fuel Pressure Breakout Harness

High Pressure Fuel System Breakout Harness

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Diagnostic breakout harness used for performing diagnostics on high pressure fuel system

Specifications

- Dimensions: 381.0 x 304.8 x 19.0 mm (15.0 x 12.0 x 0.7 in)
- Weight: 0.10 kg (0.2 lb)

Part Number	Description
374-6415	High Pressure Fuel System Breakout Harness

SCR Breakout Harness Assemblies and DEF Test Kits

Model Usage: CT660 Trucks

Warranty: Manufacturer's

- Used to provide an access point to test resistance and voltage readings while using a DVOM (Digital Volt-Ohmmeter) during diagnostic of the supply module.
- Eliminates use of tee pins which could cause damage to terminals and/or wires

Part Number	Description	Dimensions
443-4075	Supply Module Breakout Harness	457.2 mm (18 in)
443-4076	Tank Quality, Temp, and Level Breakout Harness	457.2 mm (18 in)
443-4077	Temp and Ammonia Sensor Breakout Harness	457.2 mm (18 in)
443-4078	Controller and Sensor Breakout Harness	457.2 mm (18 in)
443-4079	Backflow Line Heater Breakout Harness	457.2 mm (18 in)
443-4080	Pressure Line Heater Breakout Harness	457.2 mm (18 in)
443-4081	Suction Line Heater Breakout Harness	457.2 mm (18 in)
443-4082	DPF Jumper Breakout Harness	457.2 mm (18 in)
443-4083	Controller & Sensor Breakout Harness	457.2 mm (18 in)
443-7048	Ammonia Sensor Breakout Harness	457.2 mm (18 in)
443-7049	NH3 Breakout Harness	457.2 mm (18 in)
443-7050	Delta Press & GA Sensor Breakout Harness	457.2 mm (18 in)
443-7051	SCR Exhaust Breakout Harness	457.2 mm (18 in)
443-7052	DEF Interconnect Breakout Harness	457.2 mm (18 in)
443-7053 [a]	Aftermarket Injector Test Group [b]	304.8 x 304.8 x 152.4 mm (12 x 12 x 6 in)
443-7054 [a]	Def Doser Cleaning Group [c]	304.8 x 304.8 x 101.6 mm (12 x 12 x 4 in)
443-7055 [a]	Def Dosing Injector Spray Test Group [d]	304.8 x 304.8 x 101.6 mm (12 x 12 x 4 in)
443-7056	Pressure Gauge Adapter	50.8 mm (2 in)

a. Serviced only as a complete package.

b. Used for testing aftertreatment fuel injector located on the turbo housing for proper operation.

c. Used to protect electrical connector and diesel exhaust fluid ports during off-chassis cleaning on the outside of the diesel exhaust fluid dosing module.

d. Includes a harness extension and hose extension to allow DEF injector to be moved to a more convenient location for testing. Also includes 2 coolant plugs

ENGINE TOOLS

Harness Assembly

Model Usage: All Machines with A5E6 Deutsch Connector ECM

Warranty: Caterpillar® Six Months



- Used to eliminate use of spoons used for troubleshooting ECM issues
- Eliminates damage to wire seals caused by spoons.

Part Number	Description
416-1027	Harness Assembly

Detonation Sensor Harness

Model Usage: 3400, 3500, and 3600 Gas Engines

Warranty: Caterpillar® One Year



- Used to determine condition of detonation sensor on 3400, 3500 and 3600 gas engines

Reference

- Page 13, May 1999, Engine News, Testing Detonation Sensor for Proper Use

Part Number	Description
163-5443	Detonation Sensor Harness

Timing Cables

Model Usage: G3408C and G3412C Gas Engines (EIS, Electronic Ignition System)

Warranty: Caterpillar® One Year



- Used to check ignition timing using a timing light and flywheel markings
- Used to determine if a primary signal is going to each transformer
- Cable installs between ignition wiring harness and valve cover connector
- Makes timing less difficult because ignition wiring is encased in ridge/flexible conduit or in a braided wire bundle

Part Number	Use
143-4508	G3408C
143-4509	G3412C

Block Heater Power Cables

Model Usage: D9R, D10R, D11R Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to supply power to the block heater on large track-type tractor
- Length: 15.25 m (50 ft)
- Provides watertight seal
- Used with Marinco Engine Block Heater connectors
- Requires customer-supplied NEMA standard locking receptacle 125 or 250 volt outlet for 30 amp electrical circuit

Part Number	Description
218-7221	125 VAC, 30 A
218-7223	250 VAC, 30 A

Spark Test Group

Model Usage: All Tier 4 Engines that require a higher spark capable tool

Warranty: Manufacturer's



- In-line tool used to test for spark at diesel particulate filter (DPF) igniter spark plugs
- Designed for use with higher current levels than 9U-6695 Electronic Spark Plug Firing Indicator
- Connect the tool in-line, between spark plug and plug wire when the engine is stopped, tool flashes a mirror image of ignition spark when engine is running
- For best access, tool is double-ended to offer a straight boot and 90° boot on one tool
- Spark plug wire adapter has straight spark plug boot on one end and insulator and test clip on other end [length: 27 cm (10.5 in)] for testing ignition coil

Part Number	Description
368-6232	Spark Tester for ARD heads on C7.1 Engines (with 370-6633 grounding lead)
370-6633	Spark Plug Wire Adapter (Grounding Lead for 368-6232 spark tester)
373-4609	Spark Test Group

Electronic Spark Plug Firing Indicator



- Greatly improved tool providing reliable way to diagnose ignition problems
- Adjustable sensitivity — user can set firing indicator to flash when placed near primary wire on exposed coils of 15.88 cm (6.25 in) bore engines
- Flashing LED on top of indicator easily seen in daylight
- Indicator can be carried easily in shirt pocket
- Once user sets sensitivity, instrument is activated when spring clip is depressed
- Rugged plastic housing and electronic circuit board combine durability features for a dependable, durable instrument

Specifications

- Diameter: 15.0 mm (0.57 in)
- Length: 133.4 mm (5.25 in)
- Indicator: bright red LED
- Battery: 3 required

Part Number	Description
9U-6695	Electronic Spark Plug Firing Indicator

ENGINE TOOLS

Digital Timing Light



- Replaces canceled 5P-6584 Timing Light
- Inductive clamp provides fast and easy hookups
- Super bright Xenon flash tube for easier reading of timing marks
- Built with dependable, solid-state circuitry for years of trouble-free service
- Detachable lead set
- Works on all 12 volt systems
- 2 or 4 cycle operation
- Light-weight and easy to handle (1.1 kg [2.4 lb])

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

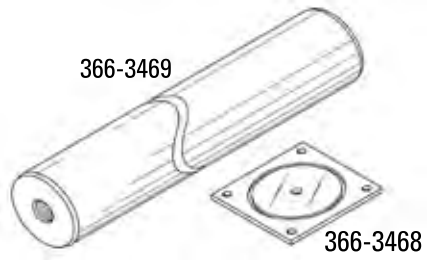
Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

Part Number	Description
9U-5358	Digital Timing Light

Heat Exchanger Pressure Test Tooling

Model Usage: 3516C Marine Engine

Warranty: Caterpillar® Six Months



- Used to pressure test 300-5622 Heat Exchanger
- Used with four bolts, O-ring, and 1/4 inch NPT fitting
- Made from stainless steel to eliminate corrosion

Reference

- KENR6055 3500C Marine Engines Disassembly and Assembly

366-3468 Cover

- Overall size: 69.3 mm (2.73 in) square
- Thickness: 6.35 mm (.25 in)
- Weight: 0.9 kg (2 lb)

366-3469 Mounting Bar

- Diameter: 50 mm (1.97 in)
- Length: 371.8 mm (14.64 in)
- Weight: 5.6 kg (12.3 lb)

Part Number	Description
366-3468	Cover
366-3469	Mounting Bar

Engine Burn Rate Meter Systems with Hand Held Display or No Display

Model Usage: 3116, 3126, 3176, 3208, 3304, 3406, and 3408 Engines

Warranty: Caterpillar® One Year

Burn Rate Meter



- Used to evaluate engine performance
- Provides extremely accurate (±1% of reading) measurement of burn rate

Burn Rate Meter

- Uses a positive-displacement, rotary piston burn rate meter to measure burn rate and a built-in heat exchanger to cool return fuel
- Air bubbles in return flow do not affect burn rate readings

Emission Analyzer with or without Bluetooth

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used for compliance testing and troubleshooting the combustion process
- Measures combustion efficiency and monitors emissions
- Provides a multitude of field configurations for easier set up and performance
- Offers exclusive sensor design, patented gas paths, active sample conditioning and advance data logging and reporting
- Equipped to handle low thresholds and still deliver high accuracy
- Emission Analyzer can also be used for boiler and burner testing and industrial processes testing

Emission Analyzer Overview

The 391-8170 and 393-0673 Emission Analyzers provide the following:

- Sample Gas Conditioning
- Fresh Air Valve
- Dilution System
- Data BUS capability with re-catalyst and post catalyst testing screens
- Differential pressure sensor
- Type K or S temperature probe input
- Rechargeable battery
- Integrated combustion air sensor
- Trigger input
- Data memory
- DC Power Input (11-40VDC), DC Power Cable with battery clips optional 393-0675
- Carrying strap
- Bluetooth module upgrade which enables communication between the handheld controller to the analyzer box and also for the analyzer box to the computer. Some countries may have Bluetooth licensing issues. For those countries, the 393-0673 should be used.
- Power cord (shipped to match the country)
- 6 foot data connection cable
- IR printer
- Thermal printer paper — 6 rolls (10 year legibility)
- Particle filters — pack of 30 (20 tubular filters for analyzer and 10 flat analyzer gas prep filters)
- Pelican (or equal) Transport Case with wheels
- Calibration certificate (type of certificate country specific)
- Easy Emission software with USB cord (mini USB to standard USB)

Measurement Range and Accuracy

- O^2 Oxygen sensor (0-21%) 0.1 resolution: System accuracy +/- 0.8% of full scale value
- CO module (0-10,000 ppm, 1 ppm resolution, H^2 compensated): System accuracy +/- 5% of reading (200 – 2000 ppm); +/- 10% (2001 to 10,000 ppm)
- NO module (0-3,000 ppm, 1 ppm resolution): System accuracy +/- 5% of reading (200 – 2000 ppm); +/- 10% (2001 to 4,000 ppm)
- NO^2 module (0 –500 ppm, 0.1 ppm resolution): System accuracy +/- 5% of reading (100 – 500 ppm); +/- 5 ppm (0 – 99.9 ppm)
- Gas engine probe 13, 2000°F, 7 foot Teflon-lined hose (8mm diameter)
- Diesel engine probe 13, 2000°F, sintered filter, 7 foot Teflon-lined hose (14mm diameter)

Part Number	Description
391-8170	Emission Analyzer with Bluetooth
393-0673	Emission Analyzer without Bluetooth

Emission Analyzer with Bluetooth, Emission Analyzer without Bluetooth (Continued)

Control Unit Technical Data

Specifications

- Operating Temperature: 20°F to 115°F
- Storage Temperature: -4°F to 122°F
- Battery Type: Li-ion
- Battery Life: 5 Hours (without wireless connection)
- Memory: 2MB (250,000 measurement value)
- Weight: 0.97 lbs
- Dimensions: 10 x 4.5 x 2.3 in
- Protection Class: IP 40

Specifications

Specifications

- Dimensions: 330.2 x 127 x 436.9 mm (13 x 5 x 17.2 in)
- Weight: 4.79 kg (10.58 lbs)
- Storage Temperature: -20° to 50°C (-4° to 122°F)
- Operating Temperature: -5.5° to 45°C (22° to 113°F)
- Housing Material: ABS
- Memory: 250,000 Measurement Values
- AC Power Supply : 90 to 260 V (47 to 65 Hz)
- DC Voltage Supply: 11 to 40 V
- Maximum Dust Load: 20 g/m³dust in flue gas
- Dewpoint Calculation: 0° to 100°C (32 to 212°F)
- Maximum Positive Pressure Flue Gas: 20 H2O
- Maximum Negative Pressure: -120 H2O
- Pump Flow Rate: 1 l/min. with flow rate monitoring
- Hose Length : Maximum 53 ft (corresp. to 5 probe hose extensions)
- Maximum Humidity Load: +158°F at gas input of analyzer box
- Trigger Input Voltage: 5 to 12 Volt (rising or falling flank)
- Impulse Width >1 sec
- Load: 5 V/maximum. 5 mA, 12 V/maximum, 40 mA
- Protection Class: IP40
- Battery Life: Maximum Load Approx. 2.5 h

Serviceable Parts

Part Number	Description
391-8171	Engine Probe Thermocouple Upgrade
391-8175	Easy Emission Software with USB Cord
391-8176	O² Replacement Sensor
391-8177	CO Replacement Sensor
391-8178	NO Replacement Sensor
391-8179	NO² Replacement Sensor
391-8180	Replacement Filter for NO Sensor
391-8181	Particle Filter
393-0675	DC Power Cable with Battery Clamps
393-0676	Battery for Base Unit
393-0677	Gas Engine Probe 8 mm
393-0678	Diesel Engine Probe 14 mm
393-0679	6 Foot Data Cable
393-0681	Thermal Paper 6 Roll

NOTE: Additional options are available from the manufacturer

Countries Licensed for Bluetooth:

Contact Information
USA and International:
http://www.testo350.com/contact.html

Europe including all EU member states

- Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and Turkey

European countries (EFTA)

- Iceland, Liechtenstein, Norway and Switzerland

Non-European countries

- Canada, USA, Japan, Ukraine, Australia, Colombia, El Salvador, Venezuela

MEASURING TOOLS

Extended Collet

Model Usage: 3500 Family Engines

Warranty: Caterpillar® Six Months (Not repairable)



- Improves accuracy of fuel setting measurement and adjustment on the 3500 Engine
- Used with 8T-1002 Electronic Position Indicator Probe or dial indicator
- Prevents side loading of probe shaft by fuel stop lever in governor; side loading can cause setting errors and breakage of contact point on indicator
- Attaches to indicator probe or dial indicator; is correct length for 5P-7263 Contact Point specified in 3500 fuel testing and adjusting instructions
- Has been added to 6V-7880 Timing and Fuel Setting Tool Group
- Fits all dial indicators with 9.5 mm (0.375 in) mounting boss
- 82.6 mm long; 3/8-16 thread for mounting on engine
- Allows 25.4 mm (1.0 in) probe travel when used with 76.2 mm (3 in) shaft extension

Reference

- SEHS9278, Special Instruction

Part Number	Description
4C-8753	Extended Collet

Dial Indicator Test Group

Warranty: Caterpillar® Six Months



- Provides tooling used in taking many different service measurements such as gear backlash, end clearance, side clearance, valve movement or rack position
- Contains all components of the 7H-1949 Dial Indicator Group, along with an 8S-2329 Base and 8S-2327 Post
- Magnetic base provides easier and quicker mounting of the dial indicator; the former 7H-1949 Dial Indicator Test Group can be updated by adding the 8S-2329 Base and the 8S-2327 Post

Item	Part Number	Description
—	8T-5096	Dial Indicator Test
1	2P-8311	Block
1	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid
2	7H-1946	Arm
4	7H-1942	Indicator
5	8S-2329	Base
6	7H-1940	Universal Attachment
7	7H-1947	Holder
8	8S-2327	Post
9	7H-1945	Holding Rod
10	7H-1645	Holding Rod
12	7H-1943	Clamp
13	7H-1948	Snug

Dial Indicator Group

Warranty: Caterpillar® Six Months



- Used primarily for measuring off-engine timing dimensions when setting fuel pump lifters
- Measurements made with a 25.4 mm (1.0 in) travel indicator and 5 contact points
- Can also be used in other applications for accurate depth measurements up to 127 mm (5 in)

Item	Part Number	Description
—	6V-7926	Indicator Group
1	6V-3073	Case — Plastic
1	6V-7029	Block — Top
1	6V-7924	Holder Block
2	8S-3158	Indicator
3	3P-1565	Collet Clamp
4	5P-4156	Base
5	5P-4163	Point — Indicator Contact, 120.65 mm (4.75 in) long
6	5P-4162	Contact Point
7	5P-4161	Point — Indicator Contact, 69.85 mm (2.75 in) long
8	3S-3270	Point — Indicator Contact, 44.45 mm (1.75 in) long
9	5P-4160	Point — Indicator Contact, 19.05 mm (0.75 in) long
10	5P-4159	Gauge Stand
11	5P-4158	Gauge, Fuel Inj 50.8 mm (2 in)
12	5P-4157	Gauge, Fuel Inj 101.6 mm (4 in)

MEASURING TOOLS

Indicator Base

Essential Tool

Model Usage: All Models Containing Duo-Cone Seals

Warranty: Caterpillar® Six Months



- Used to measure installation height of Duo-Cone seals
- Used with 6V-3075 Dial Indicator, 6V-6167 Contact Point, and 3P-1565 Indicator Collet
- Made of plastic to prevent damage to sealing surface of seal ring
- Extra long base provides stability when measuring installation height

Specifications

- Overall length: 127 mm (5.0 in)
- Length from centerline of indicator to outer edge: 122 mm (4.8 in)
- Width: 15 mm (0.6 in)
- Threaded hole: 3/8 — 32 thd
- Material: Plastic

Item	Part Number	Description
1	165-8958	Indicator Base
Additional tooling required		
2	6V-3075	Indicator — Dial
3	3P-1565	Collet Clamp
Not Shown	6V-6167	Contact Point

Soft Tool Case

Model Usage: All Models

Warranty: Caterpillar® One Year



- Low-cost protection for discontinued 1U-9800 Ultrasonic Wear Indicator
- Resistant to oil, fuel, and coolant
- Adjustable neck strap for hands-free operation
- Encased keyboard and display
- Quick-close top uses Velcro to permit quick removal of instrument

Specifications

- Dimensions: 195 x 195 x 40 mm (7.25 x 7.25 x 1.75 in)
- Weight: 227 g (0.5 lb)

Part Number	Description
9U-6175	Soft Protective Case

Custom Track Service (CTS) Tool Group (423-0478)



No.	Part Number	Description
—	415-4055	Ultrasonic Indicator IV Group
1	8H-8580	Scraper
2	5P-3920	12" Steel Ruler
3	4S-9405	12" Caliper
4	5P-3277	12" Tape Measure
5	423-0483	Depth Gauge
6	505-8671	Ultrasonic Couplant x 2

Ultrasonic Probe

Model Usage: 6015, 6015B, 6018, 6020B, 6030, 6030B, 6040, 6050, 6060 6090, 7295, 7495

Warranty: Caterpillar® One Year



- 12.7 mm (1/2 in) diameter dual element probe is ideal for measuring thickness in larger undercarriage components
- Used with 415-4051 Ultrasonic Wear Indicator IV

Specifications

- Dimensions: 19 x 31.5 x 1270 mm (0.75 x 1.25 x 50 in)
- Weight: 0.1 kg (0.22 lb)
- Frequency: 5 MHZ

Part Number	Description
461-0303	Ultrasonic Probe

Ultrasonic Wear Indicator IV Group, Dakota Ultrasonics

Model Usage: Dozers, Excavators, Trucks (beds), Track Loaders

Warranty: Caterpillar® One Year



European Union Compliant, CE marked

- Used to quickly and accurately measure track-type machine undercarriage wear
- Also can be used to accurately measure steel part thickness without changing any settings
- Easy battery access — (unscrew calibration disk at top of Indicator IV)
- Uses 3 Alkaline or rechargeable AA batteries (no battery pack)
- Larger graphical backlit liquid crystal display
- Power level monitor indicates remaining battery power
- Built-in multiple language capability (English, French, German, Portuguese, and Spanish) — no program modules or reflashing needed to switch language
- 415-4055 includes updated probe with thinner housing for easier access in tight spaces
- Used with Custom Track Service (CTS) inspections, which can be downloaded directly to a computer for viewing or printing
- Recalls and shows last machine or location display screen used when turned on
- Stores measurements from 100 machines
- Measurement accuracy 0.1 mm (.01 in)
- Reduced part cleaning and measurement storage saves time
- Readings stored in memory are transferable to computer for printing
- Use with 545-8721 VersaSonic High-Temperature, High-Viscosity Ultrasonic Couplant

Reference

- NEHS1164, Tool Operating Manual

Specifications

- Operating Temperature: -10° to 60°C (-14° to 140°F)

Storage Temperature

- Without Batteries Installed: -40° to 60°C (-40° to 140°F)
- With Alkaline batteries less than 6 months: -40° to 50°C (-40° to 125°F)
- With NiCad batteries less than 6 months: -20° to 45°C (-4° to 113°F)

Weights

- 415-4055: 3 kg (6.75 lb)
- 415-4051: .4 kg (0.84 lb)
- 415-4052: .113 kg (.25 lb)

Ultrasonic Wear Indicator IV Group (415-4055)

Repair Information: Must Call for RMA# before sending. Dakota Ultrasonics, 1500 Green Hills Rd. #107, Scotts Valley, CA 95066,
Ph: 831 431 9722, Fax: 831 431 9723

To request an RMA#:
Lela Virgallito – lela@dakotainst.com
Kris Stevens – kris@dakotainst.com
Andrea McCarrick – andrea@dakotainst.com
Technical Support:
Rich Engel - rich@dakotainst.com
Will Holt – will@dakotainst.com

Item	Part Number	Description
1	415-4051	Ultrasonic Indicator IV
2	415-4052	Ultrasonic Probe
3	415-4053	Soft Case
4	415-4054	Foam
5	425-6888 (Part of 415-4051 Group)	Lemo to Serial Cable
6	267-6532	Towel x 18
7	6V-7145	Case
8	NEHS1164	Tool Operating Manual

Ultrasonic Wear Indicator IV (415-4051)

Part Number	Description
Also includes:	
—	USB to Serial Adapter
—	Rubber Lemo plugs x 4
NEHS1164	Tool Operating Manual
425-4688	Lemo to Serial Cable

MEASURING TOOLS

Service Repair and Optional Parts for Ultrasonic Wear Indicator IV

Part Number	Description
1U-7445	Nicad Battery, rechargeable, package qty 1 (5 required to power Indicator III)
1U-9533	AA Alkaline Battery, non-rechargeable, package qty 96 (5 required to power Indicator III)
4C-5490	Couplant Holder
4C-5488	Cable Assembly RS232 — to transfer thickness values to the CTS program in a PC AT version
4C-5489	Cable Assembly RS232 — to transfer thickness values to the CTS program in a PC XT version
4C-5897	Modem Cable
9U-6175	Soft Protective Case

Ultrasonic Couplant, Cat®

Warranty: Caterpillar® Six Months



- Required for use with Cat Ultrasonic Wear Indicator IV and the Intrinsically Safe Ultrasonic Thickness Gauges
- High viscosity, no-drip formula
- Operating ranges 10 to 220 degrees F (-12 to 104 degrees celcius)
- 94 ml (3.2 fl-oz)

Part Number	Description
505-8671	Cat® Ultrasonic Couplant

Ultrasonic Couplant, VersaSonic High-Temperature, High-Viscosity

Warranty: Manufacturer's 5-Year Shelf Life and Performance. Contact 360-671-9121 or sales@echoultrasonics.com.



- An ultrasonic couplant for harsh conditions including rain, snow, mud and all temps
- 4 oz, biodegradable
- Operating Range: -10 to 750°F /-23 to 398°C
- Superior, long-term corrosion inhibition
- Compatible with plastics
- For use with Cat® Ultrasonic Wear Indicator IV and Intrinsically Safe Ultrasonic Thickness Gauges

Part No.	Description	Weight
545-8721	VersaSonic High-Temperature, High-Viscosity Ultrasonic Couplant	0.23 kg (0.5 lb)

Bolt Tension Test Group

Model Usage: G3600, 3600, and C280 Engines equipped with Ultrasonic Connecting Rod Bolts

Warranty: Caterpillar® One Year



European Union Compliant, CE marked

- Includes 438-3353 bolt torque controller and 438-3355 bolt torque sensor
- Replaces Intellifast Load Probe (LP) 3000
- Used to measure the tension applied to connecting rod bolts that utilize integrated ultrasonic sensors
- Ensures correct tension has been achieved during the torque process
- Battery powered and portable
- Includes (reader head, signal processor, battery charger, temperature sensor, Ethernet cable, case, instructions and software CD
- Requires a PC (laptop) for complete function
- Connects to PC via Ethernet cable or WIFI
- Contains a rechargeable Lithium Polymer battery

Specifications

- Dimensions: 410 x 170 x 330 mm (16.14 x 6.69 x 12.99 in)
- Power: 100-240 Volt 50/60 Hz

Part Number	Description
438-3338	Bolt Tension Test Group
456-6619	Inspection Head Lens with Instructions
456-6620	Inspection Head Bolt Sleeve
456-6621	Inspection Head with Cables
456-6622	Control Module with Battery
456-6623	Temperature Probe with Cable

Differential Pressure Gauge, Carrying Case Group

Essential Tool

Warranty: Caterpillar® Six Months



- Used to measure low air pressure and/or non-corrosive gas pressure
- Frictionless magnahelic movement
- Positive, negative, and differential readings
- No manometer fluid to evaporate or freeze
- Does not have to be level
- Used with 199-9817 Carrying Case Group which includes carrying case, mounting bracket, and 3 m (9 ft) of 4.76 mm (3/16 in) ID rubber tubing

Cab Pressurization Testing

- Used to measure cab pressurization standards
- Minimizes dust and noise in cab by making sure a positive pressure of 5.08 to 15.24 mm (0.2 to 0.6 in) of water is maintained
- Helps air conditioning system to operate at maximum efficiency

Tips for Obtaining Accurate Pressurization Readings

- Route gauge pickup tube under door seal into cab
- Do not crush pickup tube between door seal and cab frame
- Make sure pickup tube is completely sealed (if door seal collapses it can cause air leaks)
- If complete seal cannot be achieved, replace door seal
- Insert pickup tube in approximate area of operators head and chest

199-6268 Differential Pressure Gauge

- Vacuum: 0 — 25.4 mm (0 — 1 in) of water
- High and low-pressure connections: 1/8 NPT
- Accuracy: ±2% of full scale

Part Number	Description
199-6268	Differential Pressure Gauge
199-9817	Carrying Case

Multiple Anvil Micrometer, Adapter

Warranty: Caterpillar® Six Months



- Micrometer used for measuring top flange thickness on cylinder liners, and also with the 6V-2034 Adapter to measure Cat® engine valve lip thickness
- Furnished with 2 anvils — 1 anvil is for measuring parts which can not be measured with a standard micrometer; the other to be used as a general purpose 0 to 25 mm (0 to 0.98 in) measuring instrument
- When measuring engine valve lips with the 6V-2034 Adapter, refer to the valve dimensions given in the Guideline for Reusable Parts, Form SEBF8034

Part Number	Description
6V-2034	Adapter
6V-7059	Multiple Anvil Micrometer

MEASURING TOOLS

Ring Gage Assembly

Model Usage: 3500-Series Engines

Warranty: Caterpillar® Six Months



- Used to accurately measure valve lip thickness on 70 degree angle 3500-series valves
- Can be used with an indicator and base, depth micrometer, feeler gage or precision gage blocks
- Eliminates measuring errors by locating the measuring surface on the factory-established gage point
- Comes with removeable centering bushings to measure valves with 9.4 mm or 11.0 mm stems

Reference

- M0088789 Tool Operating Manual 550-9152 Ring Gage Assembly
- SEBF8155 Reuse and Salvage Guidelines (Specifications for Cylinder Head Assemblies for 3500-Series Engines)

Part No.	Description	Dimensions	Weight
550-9152	Ring Gage Assembly	76 Dia x 38 mm (3 Dia x 1.5 in)	0.5 kg (1 lb)

Gauge Group, Micrometer Depth (in), Gauge Group, Micrometer Depth (mm)

Warranty: Caterpillar® Six Months



- Contains a complete set of measuring rods from 0 to 228.6 mm (0 to 9 in) which are all stored in the wooden case
- Base: 76.2 mm (3.00 in) wide; uses 3.96 mm (5/32 in) rods

Item	Part Number	Description
1	—	Case (Not available)
2	6V-0088	Rod, 177.8 — 203.2 mm (7 — 8 in)
3	6V-0091	Rod, 203.2 — 228.6 mm (8 — 9 in)
Not Shown	316-1188	Rod, 228.6 — 254 mm (9 — 10 in) sold separately
—	6V-2012	Gauge Group
—	6V-7030	Gauge Group

Micrometer

Warranty: Manufacturer's



- Measures small thicknesses or diameters
- Balanced frame for comfort and accuracy
- IP67 protection against coolants, water, chips, dust and dirt
- No-glare satin chrome finish
- Hard and stable one piece fiction thimble permits one-hand operation and uniform contact pressure
- Spindle lock
- Ability to zero tool at any position and retain and return to true zero reading of the micrometer
- Micro-lapped carbide measuring faces
- Two 3-volt batteries included
- Automatic OFF
- Measurement HOLD button
- Inch/millimeter metric conversion provides simple, universal, standardized unit of measurement at any position
- Resolution .00005 in (0.001 mm)
- Accuracies (±.0001 in (±.002 mm)
- Measuring Capacities 1 in (25 mm)

* Does not have RS232 digital output

Specifications

26.9 x 57.9 x 148 mm (1.1 x 2.3 x 5.8 in)

Part Number	Description
431-4150	Micrometer

Inside Micrometers

Warranty: Manufacturer's

473-8688 and 473-8689



474-3709 and 474-3710



- Light, easy to use: great for inside diameters of cylinders and rings and parallel surfaces
- Insulated rods marked with length
- Measuring rods are solid and assembled on one side of the micrometer head
- Hardened and ground anvils on rods, adjustable for length.
- Quick-reading figures – every thousandth number on inch reading tools

Specifications

- Micrometer Type Inside Micrometer Set
- Range – See Chart
- Graduations (in) .001"
- Measuring Rods – See Chart
- Spacing Collars – See Chart
- Case Type – See Chart
- Accuracy (in) Lead accuracy +/-.0001" per inch

Part Number	Range	Screw Movement	Measuring Rods	Spacing Collars	Case
473-8688	2-12 in	0.5 in	10	0.5 in (qty 1)	Padded
473-8689	50-300 mm	13 mm	10	12 mm (qty 1)	Padded
474-3709	8-32 in	1.0 in	4	1.0 in (qty 1) 2.0 in (qty 2)	Wood
474-3710	200-800 mm	25 mm	4	25 mm (qty1) 50 mm (qty2)	Wood

Tool Pressure Monitor, Tool Initiator

Model Usage: Off-Highway Trucks equipped with Tire Monitoring Kits

Warranty: Caterpillar® One Year



389-7004 **389-7005**

European Union Compliant

- Used to allow maintenance personnel to wirelessly 'ping' a tire to measure its real-time tire pressure
- Improves inflation accuracy and reduces diagnostic time

389-7004

- Handheld 125 kHz LF Generator, RS-232 Diagnostic Interface Port, Receiver Bandwidth 400 kHz

389-7005

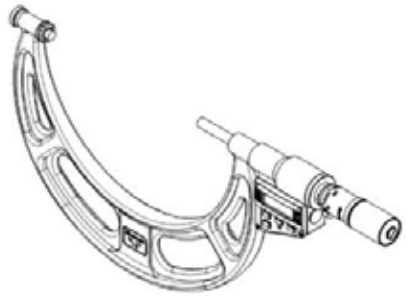
- Handheld device designed to provoke data transmissions from tire sensors
- The tool can be used to assist installer during new installations, sensor replacement, and installation verification
- Tools are shipped with supplier tool operating manuals
- Shipped with uninstalled batteries

Part No.	Dimensions	Weight
389-7004	230 x110 x 20 mm (9 x 4.5 x 0.8 in)	1.5 kg (3.15 lb)
389-7005	190 x120 x 20 mm (7.5 x 4.7 x 0.8 in)	0.227 kg (.6125 lb)

MEASURING TOOLS

Outside Micrometers

Warranty: Manufacturer's



- Balanced frame and thimble design ensure easy handling and better readability
- Compatible with Wireless Data Collection Systems
- Advanced sleeve design with staggered lines and distinct figures for precise and easy readability
- Conventional inch or millimeter graduations standard
- Quick and easy adjustment
- Large, easy-to-read, high-contrast LCD digital readout
- No-glare satin chrome finish on thimble and sleeve minimizes annoying surface glare under bright lights indoors or filters out UV light
- No-glare black wrinkle finish on frame
- Hard and stable one-piece friction thimble permits one-hand operation of micrometer and uniform contact pressure
- Rigid and stable special cast iron frame with appropriate perforations for lightness and ribbed for strength and stability
- Ability to zero tool at any position as well as retain and return to the true zero reading of the micrometer
- Ring-type knurled lock nut for quick and sure locking

Specifications

- Micrometer Type Electronic Interchangeable Anvil Outside Micrometer
- Range – See Chart
- Resolution – See Chart
- Anvil/Spindle Material Steel
- Anvil Type Flat
- Spindle Type Flat
- Lock Nut Type Knurled Ring Type
- Thimble Type Friction
- SPC Output SPC Output
- Case Type: Wood

Part Number	Range (in)	Range (mm)	Resolution (in)	Resolution (mm)
473-8690	0-4	0-101	0.00005	0.001
473-8691	2-6	51-152	0.0001	0.001
473-8692	6-12	152-305	0.0001	0.001

Telescoping Gauge

Warranty: Manufacturer's



- Precision Ground Radius on each gauge provides two-point contact for maximum accuracy
- Soft Case included
- Handles can be individually ordered and/or ordered in larger sizes such as 8", 12" or longer
- Features a handle, one rigid contact arm and one spring-tensioned telescoping contact arm
- Ends of both contacts are hardened and ground to a radius to allow proper clearance on the smallest hole the gage will enter

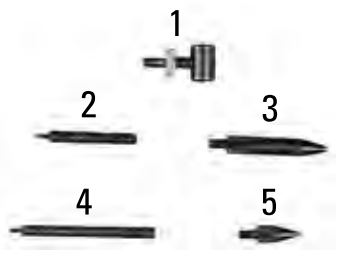
Specifications

- Range (in) 1/2 – 6"
- Range (mm) 13-150 mm
- Handle Length (in) 2-3/8 – 3-1/4"
- Handle Length (mm) 60-82 mm

Part Number	Description
473-8687	Telescoping Gauge

Point Group

Warranty: Caterpillar® Six Months



- Has more contact points for the dial indicators
- Has straight contact points from 2.18 to 120.5 mm (0.09 to 4.74 in) long, 3 flat points, and a 12.7 mm (0.50 in) extension
- Has a plastic box with a divided tool holder and space to cut more slots for storage of special points (part numbers and sizes are shown on a chart inside the lid of the box
- These contact points will fit all dial indicators with 4 to 48 threads but will not fit the 1P-2103 Dial Indicator
- Comes with 6V-2030 Indicator Extension

Contact Points (Included in 6V-6042)

Part Number	Size
3S-3268	6.4 mm (0.250 in)
3S-3269	25.4 mm (1.00 in)
3S-3270	44.5 mm (1.75 in)
5P-2393	38.1 mm (1.50 in)
5P-4160	19.1 mm (0.75 in)
5P-4161	69.9 mm (2.75 in)
5P-4162	95.3 mm (3.75 in)
5P-4163	120.5 mm (4.75 in)
5P-4809	50.8 mm (2.00 in)
5P-6531	57.2 mm (2.25 in)
5P-7261	31.8 mm (1.25 in)
5P-7262	63.5 mm (2.50 in)
5P-7263	76.2 mm (3.00 in)
5S-8086	2.4 mm (0.094 in) a
6V-2057	3.2 mm (0.125 in) b
8S-3675	3.1 mm (0.122 in)
9S-0229	9.7 mm (0.38 in)
9S-8883	12.7 mm (0.50 in)
9S-8903	2.4 mm (0.094 in) a

Additional Contact Points Available (Sold Separately)		
1	5P-2057	Contact Point
2	1P-5512	Contact Point
3	6V-6167	Contact Point
4	1P-5513	Contact Point
5	5P-2056	Contact Point
Service/Repair Parts (Sold Separately)		
Not Shown	6V-6043	Block Holder
Not Shown	6V-6045	Case — Plastic, NEEG2061 Accessories Case Decal

a. 6.4 mm (0.25 in) diameter flat face
b. 9.52 mm (0.375 in) diameter flat face
c. 12.7 mm (0.5 in) diameter flat face with a bevel to 9.7 mm (0.38 in) diameter

Dial Bore Gauge Group

Warranty: Caterpillar® Six Months



- Gauge and related masters provide accuracy to 0.0025 mm (0.0001 in) for measuring all bores in the size range 19.05 — 38.10 mm (0.750 — 1.500 in)
- Particularly useful for measuring the relief valve spool bores in pressure control bodies on 631, 633, 637, 641, 650, 651, 657, 660, and 666 Tractors with eight speed transmissions

Item	Part Number	Description
1	5P-2170	Dial Bore Gauge Group
Master Gauges (available separately)		
2	5P-2043	Gauge, 19.050 mm (0.7500 in)
2	5P-2059	Gauge, 22.225 mm (0.8750 in)
2	5P-2171	Gauge, 27.051 mm (1.0625 in)
2	5P-2172	Gauge, 28.575 mm (1.1250 in)
2	5P-2174	Gauge, 38.100 mm (1.5000 in)

MEASURING TOOLS

Dial Bore Gauge Group for Inch Measurements

Warranty: Caterpillar® Six Months



- Specifically, they should be used when reconditioning the cylinder bores on 1100 and 3100 Series Engines and when refinishing connecting rods in 137.16 mm (5.4 in) bore V8 and V12 Engines
- Useful for making any critical bore measurement from 50.8 to 203.2 mm (2.0 to 8.0 in)

Reference

- GMGO0981, Special Instruction

Item	Part Number	Description
—	1P-3537	Dial Bore Gauge, Inch Measurements
1	9U-6615	Size Setting Fixture Group
2	1P-3535	Dial Bore Gauge

Battery and Coolant Refractometer

Model Usage: All

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Used to measures freezing point of coolants plus battery charge condition
- Refractometer uses a prism and lens with simple focus adjustment to provide accurate and repeatable measurements on easy to read
- Automatic temperature compensation (ATC)
- Requires only 2 or 3 drops of solution
- Carrying case and calibration screwdriver
- Reads degrees Centigrade and Fahrenheit

Specifications

- Range: Resolution
- -60° to 32°F propylene glycol freeze point: 10°F
- -50° to 0°C ethylene glycol freeze point: 5°C
- 1.15 to 1.3 specific gravity of battery acid: .01

Part Number	Description
245-5829	Coolant Test Kit

Fractional Digital Caliper, 6 Inch

Model Usage: All machines/models

Warranty: Caterpillar® One Year



European Union Compliant, CE Marked

- For inside, outside depth and step measurements
- Tri-mode digital display; Inches, Millimeters, and Fractions
- Auto off
- Replacement Battery; LR44
- Construction: Carbon Fiber

Specifications

- Range: 0 – 6 in (0 – 150 mm)
- Resolution: 0.0005 in (0.01 m or 1/64 in)
- Accuracy: 0.001 in (± 0.02 mm)
- Length: 38 mm (1.5 in)
- Width: 114 mm (4.5 in)
- Depth: 292 mm (11.5 in)
- Weight: 289.4 gram (0.638 lb)

Part Number	Description
367-9109	6" Fractional Digital Caliper

Dial Bore Gauges

Warranty: Caterpillar® Six Months



6V-7898



6V-7899

- Used for precision metric measurements
- Measure all internal diameters from 50 to 200 mm (1.97 to 7.87 in) and depths from 13 to 300 mm (0.51 to 11.81 in) in increments of 0.002 mm (0.00008 in)
- Increased accuracy is needed for applications such as connecting rods where the tolerances are very small
- Use of the gauge is simplified because all current specifications are given in metric dimensions
- 6V-7897 Dial Indicator is available to convert the current 1P-3535 Dial Bore Gauge to the 6V-7898 Dial Bore Gauge (all 1P-3535 Gauges can be converted except earlier gauges marked "MADE IN ENGLAND")

References

- SMHS8253, Special Instruction, instructions for use of the 6V-7898 Dial Bore Gauge and also information for converting the 1P-3535 Gauge to the 6V-7898 Gauge
- SMHS8254, Special Instruction, instructions for use of the 6V-7899 Size Setting Fixture

Part Number	Description
1P-3535	Dial Bore Gauge
6V-7897	Dial Indicator for Converting 1P-3535 Dial Bore Gauge to Metric
6V-7898	Dial Bore Gauge, Metric
6V-7899	Size Setting Fixture, Metric

Dial Bore Gauge and Master Rings

Model Usage: 3600 Engines, Gas and Diesel

Warranty: Caterpillar® Six Months



Typical Dial Bore Gauge Calibration Rings



147-8862

147-8860 Master Ring (diesel 280.025 mm [11.0246 in])

- Used to calibrate dial bore gauge to 280.025 mm (11.0246 in)
- Calibrates gauge for use on diesel engines

147-8861 Master Ring (gas 300.00 mm [11.811 in])

- Used to calibrate dial bore gauge to 300.000 mm (11.811 in)
- Calibrates gauge for use on gas engines

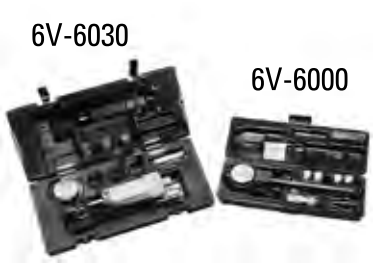
147-8862 Dial Bore Gauge

- Used to measure 3600 Engine cylinder liners
- Dial graduated to 0.002 mm
- Tool can reach up to 457 mm (18.0 in)

Part Number	Description
147-8860	Master Ring (diesel 280.025 mm [11.0246 in])
147-8861	Master Ring (gas 300.00 mm [11.811 in])
147-8862	Dial Bore Gauge

Dial Bore Gauge for Metric Measurements, Size Setting Fixture

Warranty: Caterpillar® Six Months



6V-6030

- Precision measuring instrument with a diameter range of 30.0 to 50.8 mm (1.2 to 2 in) graduated in 0.002 mm (0.00008 in) increments
- Depth range: 8.5 to 150 mm (0.335 to 5.91 in)
- Gauge is especially useful for measuring piston pin bores for 3300 Series Engines
- Will set or check the dial bore gauge in 0.002 mm (0.00008 in) increments within its range of 0 to 50 mm (0 to 1.97 in)
- Fixture has a magnifying glass for easier reading

References

- SMHS8037, Special Instruction for 6V-6000
- SMHS8036, Special Instruction for 6V-6030

Part Number	Description
6V-6000	Dial Bore Gauge for Metric Measurements
6V-6030	Size Setting Fixture

MEASURING TOOLS

Vernier Caliper (Gear Tooth Measurement)

Model Usage: 7495

Warranty: Manufacturer's



- Used to measure the swing gear assembly tooth wear in three locations on the swing gear tooth
- Specialized vernier caliper equipped with a dual slide caliper to measure tooth thickness

Specifications

- Dimensions: 107.95 x 97.23 mm (4.25 x 3.82 in)

Part Number	Description
447-2460	Vernier Caliper (Gear Tooth Measurement)

Surface Plate

Warranty: Caterpillar® Six Months



- Use for checking small shafts and bars for straightness; checking flat surfaces for warp; and trimming rings, bearing caps, etc., using fine emery cloth
- Plate measurements: 304.8 x 330.2 x 38.1 mm (12.0 x 13.0 x 1.5 in)

NOTE: As this plate is meant for general shop use, its surface is ground but not spot-scraped.

Part Number	Description
7B-0337	Surface Plate

Profilometer

Model Usage: All

Warranty: Manufacturer's



- Used to measure the surface finish of machined parts, including hydraulic cylinder rods, liners, cylinder bores, machined gear bushings, and crankshaft journals
- Includes base unit, drive unit, built-in battery, roughness standard integrated into casing, height adjustment accessory, pick-up protection, charger/mains adapter, operating instructions, carrying case, and USB cable
- 448-3697 is equipped with Bluetooth feature and includes a hand held evaluation unit
- 448-3698 is only the drive unit and does not have Bluetooth feature
- Optional accessory right angle adapter 507-2251 used with 448-3698 to measure crackshaft journals axially

Part Number	Dimensions	Weight
448-3697	190 x 140 x 75 mm (7.48 x 5.51 x 2.95 in)	1 kg (2.20 lb)
448-3698	140 x 50 x 70 mm (5.51 x 1.97 x 2.76 in)	0.4 kg (0.88 lb)

Surface Roughness Standard

Model Usage: All

Warranty: Manufacturer's



- Used to verify the accuracy of the 448-3697 and 448-3698 profilometers
- Roughness Average in Microinch and Micrometer - (121 +/- 2 ; 3.07 +/- 0.05
- Plastic construction
- 3.0 x 3.0 in (76.2 x 76.2 mm)

Part Number	Description
453-5376	Surface Roughness Standard

Cable Assembly, Software

Model Usage: AP255E, AP300D

Warranty: Caterpillar® One Year



- Used to provide a convenient and user-friendly method of executing service functions for Bodas controllers from Rexroth used on small pavers

Specifications

- Overall Length: 3.0 m (10.0 ft)
- Weight: 0.3 kg (0.7 lb)

Part Number	Description
436-3873	Cable Assemlby
436-3874	Software

Electrical Displacement Control Test Box

Model Usage: AP-800 (1BF), AP-1200 (2JD) Asphalt Pavers; RR-250 (6ED) Road Reclaimers; SS-250 (6DD) Soil Stabilizers

Warranty: None



- Tests electrical displacement control (EDC) in Sundstrand hydraulic systems (ground drive pump)
- Will move machine if electrical system failure other than EDC
- Minimum-maximum resistance: 0 – 250 ohms

For asphalt paving machines only, if an electrical failure causes the brakes to be engaged, use a jumper wire to supply electrical power directly to the brake solenoid. If the brake solenoid has failed, use a portable hydraulic power supply to release the brakes when the machine is to be moved

Mark the 0 to 250 ohm potentiometer to show the minimum and maximum resistance positions (0 ohms and 250 ohms respectively). The potentiometer should be at the maximum resistance (250 ohms) when the test box is connected to the machine.

Operating Instructions

Before making the following checks, ensure that the machine is on flat ground with adequate room for movement forward and reverse. With the brake off, manually move the pump control valve at the EDC (see the service manual).

If the machine moves, the problem is electrical. Proceed with the following checks. If the machine does not move, the problem is in the hydraulic system and further electrical checks are not necessary

1. Ensure proper polarity when connecting large battery clips (7, 8) to the battery.
2. Turn the potentiometer (1) to the maximum resistance position (250 ohms).
3. Connect the mini-clips (9) to the EDC wiring harness.
4. Slowly turn the potentiometer (1) toward the minimum resistance position (0 ohms) until the machine starts to move. To reverse the direction of travel reverse the switch (2).
5. If the machine does not move and/or increase in speed as the potentiometer (1) is turned toward the minimum resistance position (0 ohms) replace the EDC.
6. If the machine moves and increases speed, as the potentiometer (1) is turned toward the minimum resistance position, the EDC is working correctly. Check for an electrical problem other than the EDC.

Item	Description	Radio Shack Part No.
4	14-gauge wire, 4.8 m (15.75 ft) long (4)	—
5	16-gauge wire, length as required	—
6	Terminal strip	274-658
7	Battery clip (+red)	270-344
8	Battery clip (-black)	270-344
9	Clip, mini (2)	270-378
10	Box, 133.4 x 76.2 x 54.1 mm (5.25 x 3 x 2.13 in)	270-238

Item	Part Number	Description
1	8C-7647	Potentiometer, 0 – 250 ohms
2	8C-8023	Micro Switch
3	081-7580	Resistor, 40 ohms (2)

POWER TRAIN TOOLS

Transmission Analyzer III Group

Model Usage: Machines with electrical transmission or pump controls

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Replaces discontinued 9U-7500 Transmission Analyzer II Group
- Used to electronically test components on transmission or pump
- Used with dealer supplied computer
- Used on Powershift planetary, Powershift countershaft, Individual Clutch Modulation (ICM), Challenger, H-Series Motor Grader, and Electronic Clutch Pressure Control (ECPC) transmissions
- Used to test and adjust proportional valves which control transmission (connects directly to solenoids with dealer supplied adapters)
- Operates and checks solenoid operation, electronic shift lever operation, and transmission shifts
- Performs automatic or manual testing for shorted or open solenoid coils (can also alert technician to intermittent problems with solenoids)
- Analyzer can activate solenoids in a timeline sequence
- Modulates current to 1 or all activated solenoids at any point in time
- Analyzer outputs pulse width modulated (PWM) current (required for Challenger and ECPC transmissions)
- Determines if shift lever is functioning correctly on transmissions not controlled by autoshift electronic control feature
- Capable of testing electronically actuated pumps installed on a hydraulic test bench by energizing the solenoids inside the pump
- Uses PC based software to control transmissions allowing easy updates to support new transmissions, as they are released
- Software updated annually to accommodate New Production Introduction Software Subscription NETG5048
- PC software with easy to use graphic interface provides step-by-step instruction for analyzer operation
- Allows use of mouse, rollerball, touchpad, and keyboard controls
- USB communications cable (included) allows for quick easy connection between analyzer and dealer supplied PC
- Designed and built for harsh shop environment

References

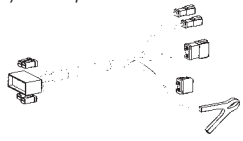
- NEHS0996 Tool Operating Manual
- NETG5048 Annual Software Subscription, Bench Testing Hydraulic Components

Part Number	Description
277-2362	Transmission Analyzer III Group
286-0755	USB Communications Cable
—	Hinged Hard Shell Carry Case
	Optional Tools
1U-9479	Gear Shift Test Adapter Cable
1U-9480	Gear Shift Test Adapter Cable
1U-9482	Test Cable (ICM)
1U-9483	Test Cable (Challenger)
256-7623	Dozer Speed Sensor Cable
300-4993	Adapter Cable (17-pin to 14-pin) some R and T Series Track-Type Tractors
307-3542	Transmission Analyzer Adapter Cable
9U-7496	Test Cable
9U-7497	Test Cable
9U-7498	Extension Cable

Stub Harness

Model Usage: 120k, 140k, 160k Series-2 Motor Graders

Warranty: Caterpillar® One Year



- Used to adapt TA3 Transmission Analyzer to transmission for testing

Reference

- NEHS0996

Part No.	Description	Dimensions	Weight
514-9913	Stub Harness	75 x 300 x 300 (3 x 12 x 12 in)	2 kg (4.4 lb)

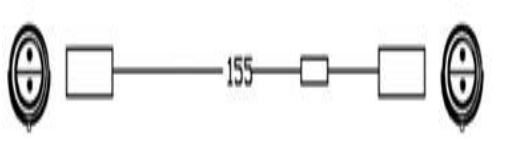
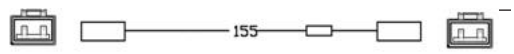
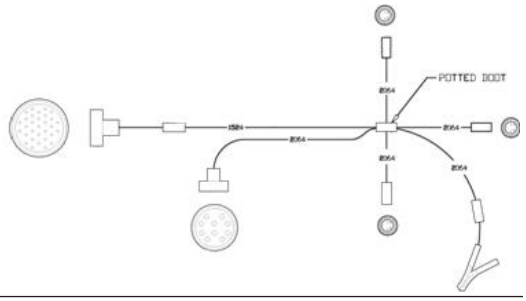
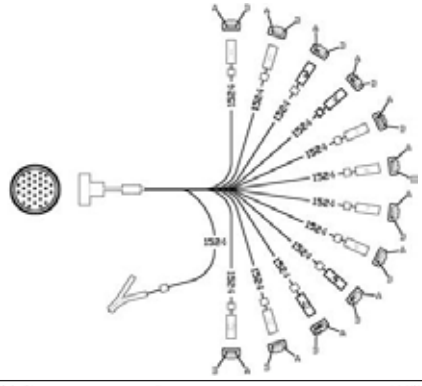
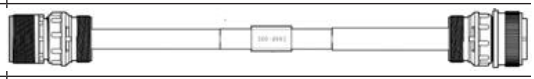
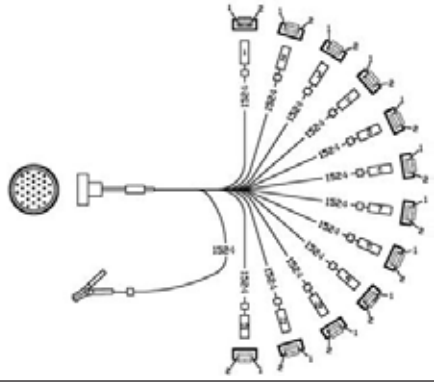
Specifications

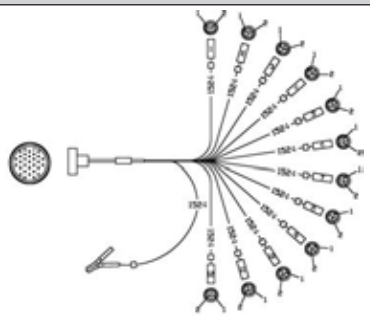
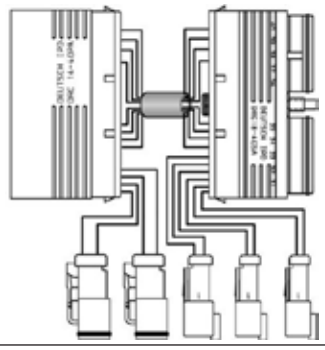
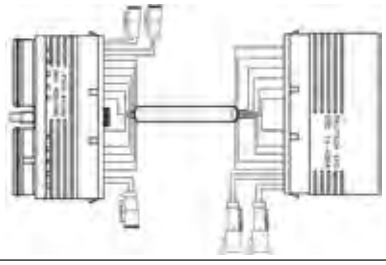
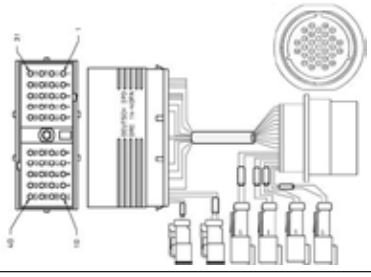
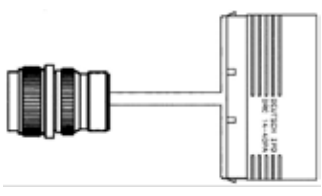
- AC power: 110 — 240 VAC
- Minimum current required: 10 amps
- Power cord: 231 cm (91 in) long
- 286-0755 USB Cable: 203 cm (80 in) long
- Operating temperature range: -18 to 60°C (0 to 140°F) ambient air
- Storage temperature range: -40 to 60°C (-40 to 140°F) ambient air
- Overcurrent protection: Current limiting electronic circuit
- Short protection: 30 amp quick-trip circuit breaker
- PC software: Upgradable
- Operating system: Windows 2000 or XP
- Required RAM: 1 MB
- Minimum software required:
  - Intel Pentium II 333 MHz processor or higher
  - 128 MB RAM or higher
  - 4.3 GB hard disk or higher
  - CD drive or third generation DVD drive
  - 15 in or larger Super VGA adapter and monitor
- Suggested pointing device: Mouse, trackball, or touchpad
- Case: 52 x 45 x 22 cm (20.5 x 17.5 x 8.5 in)
- Tester: 36 x 32 x 15 cm (14.25 x 12.5 x 6 in)
- Group weight: 6 kg (13.8 lb)
- Tester weight: 4 kg (8.9 lb)

Applicable Models

- Articulated Trucks: D250E, D250E III, D300E, D300E III,D350E, D350E III D400E, D400E III, 725, 730, 735, 740
- Backhoe Loaders: 416, 426, 428, 436, 438, 446, 446B-001, 446B-2500
- Challenger Tractors: 35, 45, 55 MT 700 Series, MT 800 Series
- Compactors: 815F, 816F, 825G, 826G, 836G
- Dozers: D5M, D6M, D6R, D7R, D8R, D10R, D11N, D11R
- H-Series Motor Graders: 12H, 14H, 24H, 120H, 135H, 140H, 143H, 160H, 163H
- Integrated Tool Carriers: IT12, IT12B, IT12F, IT14, IT14B, IT14F, IT18F, IT24F, IT24G, IT28F, IT28G, IT38F, IT38G, IT62G
- Scrapers: 621E, 621F, 623E, 623F, 627B, 627E, 627F, 631E, 631F, 633E, 633F, 637D, 637E, 637F, 639D, 639F, 651E, 657B, 657E
- Off-Highway Trucks: 725, 730, 768C, 769C, 772B, 773B, 773D, 776, 776B, 777, 777B, 777D, 785, 789, 793,
- Wheel Loaders: 910, 910E, 910F, 918F, 924F, 924G, 924GII, 928F, 928G, 928GII, 936, 936F, 938F, 938G, 938GII, 950F, 950G, 960F, 962G, 966F, 966G, 970F, 972G, 980F, 980G, 988F, 988G, 988GII, 990, 992D, 992G, 994D, 994G
- Wheel Skidders: 515, 520D, 522D, 525, 525B, 545
- Wheel Tractors: 814F, 824G, 834G, 836G, 844, 854

POWER TRAIN TOOLS

Optional Tools		
Part Number	**Description**	**Line Art**
1U-9479	Gear Shift Test Adapter Cable	
1U-9480	Gear Shift Test Adapter Cable	
1U-9482	Test Cable (ICM) (Used with 9U-7498 Extension Cable)	
1U-9483	Test Cable (Challenger) (Used with 9U-7498 Extension Cable)	
300-4993	Adapter Cable (17-pin to 14-pin) some R and T Series Track-Type Tractors	
9U-7496	Test Cable: 12 2-pin Deutsch (Used with 9U-7498 Extension Cable)	

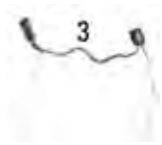
Optional Tools		
9U-7497	Test Cable: 12 2-pin Sure-seal (Used with 9U-7498 Extension Cable)	
9U-7498	Extension Cable	
453-6035	Stub harness for 730C transmissions (Requires 306-0397 Extension Harness)	
459-4086	Stub harness for 772G transmissions (Requires 306-0397 Extension Harness)	
460-4069	Stub harness for 525, 535, 545, and 555 D series transmissions (Requires 306-0397 Extension Harness)	
525-6655	Stub Harness Used with Transmission Analyzer 3 (Requires 306-0397 extension harness) 400 x 400 x 200 mm (16 x 16 x 8 in), 3 kg (6.6 lb) Model Usage: 966M XE, Warranty: One Year	
518-7986	TA3 Stub Harness for K-Series Scrapers, 100 x 200 x 50 mm (4 x 8 x 2 in), 1 kg (2.2 lb) Used with transmission analyzer 3 and 966M XE	

POWER TRAIN TOOLS

Test Harnesses

Model Usage: E(L)200B, E(L)240B, and E(L)300B Excavators

Warranty: Caterpillar® One Year



Allows access to electrical control signals to be checked for correct operation and measurement of voltages, current, resistance and continuity

References

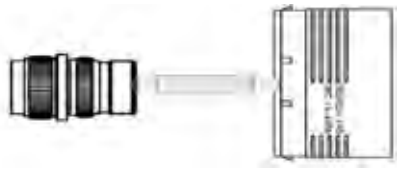
- SENR4527, Testing and Adjusting Module for E(L)200B
- SENR4843, Electronic Power Unit Module for E(L)240B
- SENR4871, Electronic Power Unit Module for E(L)300B
- NEHS0546, Tool Operating Manual, Adjustment to Electronic Power Unit Control System

Item	Part Number	Description	Use
3	099-0050	Test Harness	To check the Proportional Reducing Valve (PRV) on E(L)200B Excavator

Adapter Harness

Model Usage: D6T, D8T, D10T2

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor signals during a bench test
- Used with the 277-2362 Transmission Analyzer III Group
- 40 Pin connector plugs into 306-0397 extension cable

Specifications

- 75 x 30 x 300 mm (2.95 x 1.18 x 11.81 in)
- Weight: 1 kg (2.2 lb)

Part Number	Description
453-4703	Adapter Harness

Adapter Cable

Model Usage: All OEM transmissions using A4:M1 ECM

Warranty: Caterpillar® One Year



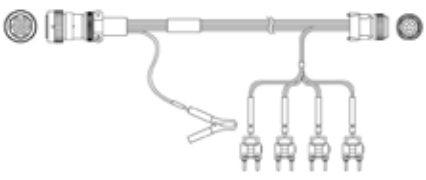
- Used to shift transmission and measure speed sensor output signals during bench test
- Used with 277-2362 Transm Analyzer III Group
- 40-pin connector plugs into 306-0397 Extension Cable
- 70-pin connector plugs into machine harness J1 connector
- 8-speed sensor breakout plugs
- Can be back-probed with multimeter to check speed sensor voltage and frequency signals
- Speed sensor plugs can also be connected into the Transmission Analyzer III using the 2-pin Deutsch receptacles
- Ground clamp connects to ground point on transmission
- Main harness approximately 300 mm (11.81 in) long
- Speed sensor breakouts approximately 600 mm (23.6 in) long

Part Number	Description
311-4929	Adapter Cable

Dozer Speed Sensor Cable

Model Usage: D6M, D6R, and D6T Track-Type Tractors

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor signals during a bench test
- Used with discontinued 9U-7500 Transmission Analyzer II Group
- One end plugs directly into transmission control connector
- Speed sensor connectors plug directly into multimeter

Part Number	Description
256-7623	Dozer Speed Sensor Cable

Extension Adapter Cable

Model Usage: All models with electronic controls

Warranty: Caterpillar® One Year



- Used with 277-2362 Transmission Analyzer III Group and individual machine test adapter cables that have speed sensor capability
- Provides longer connection between machine test adapter cable/Transmission Analyzer III
- Speed sensor breakout cable allows sensor readouts with Transmission Analyzer III software

Part Number	Description
306-0397	Extension Adapter Cable

Adapter Cable

Model Usage: 777F Off-Highway Truck

Warranty: Caterpillar® One Year



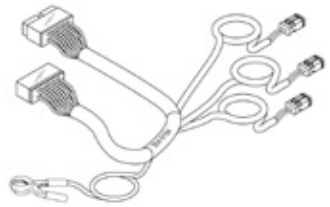
- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects 306-0397 Extension Cable to the transmission bulkhead connector
- Speed sensor breakouts allow multimeter readouts
- Enables technician to monitor output speed sensors via Transmission Analyzer III
- Ground clamp connects to ground point on transmission
- Main harness length: 30 cm (11.8 in)
- Speed sensor breakout harness length: 60 cm (23.6 in)

Part Number	Description
305-7401	Adapter Cable

Adapter Cable

Model Usage: 773-775F Off-Highway Truck

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects 306-0397 Extension Cable to the transmission bulkhead connector
- Speed sensor breakouts allow multimeter readouts
- Enables technician to monitor output speed sensors with Transmission Analyzer III
- Ground clamp connects to ground point on transmission
- Main harness length: 30 cm (11.8 in)
- Speed sensor breakout harness length: 60 cm (23.6 in)

Part Number	Description
304-9164	Adapter Cable

Adapter Cable Assembly

Model Usage: TH48FT-E70 Oil-Field Transmission

Warranty: Caterpillar® One Year



- Used to shift transmission during bench test
- Used with 277-2362 Transmission Analyzer III Group and 9U-7498 Extension Cable
- Connects to 31-pin 9U-7498 Extension Cable, 17-pin transmission bulkhead connector, and 2-pin lock-up clutch solenoid receptacle
- Ground clamp connects to ground point on transmission
- Overall length: 30 cm (11.8 in)
- Material: 18 gauge wire

Part Number	Description
304-9169	Adapter Cable Assembly

POWER TRAIN TOOLS

Adapter Cable Assembly

Model Usage: M-Series Motor Graders

Warranty: Caterpillar® One Year



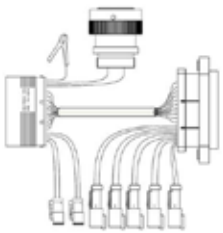
- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects 306-0397 Extension Cable to the parking brake solenoid, shift solenoid, and speed sensor connectors on transmission
- Ground clamp connects to ground point on transmission
- Speed sensor breakouts allow for multimeter readouts
- Enables technician to monitor output speed sensors using Transmission Analyzer III
- Main harness length: 30 cm (11.8 in)
- Speed sensor breakout harness length: 60 cm (23.6 in)

Part Number	Description
306-6388	Adapter Cable Assembly

Adapter Harness

Model Usage: 140M2

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects306-0397 Extension Cable to the shift solenoids, and speed sensors on the intermediate transmission harness
- Ground clamp connects to ground point on transmission
- Speed sensor breakouts allow for multimeter readouts
- Enables technician to monitor output speed sensors using Transmission Analyzer III

Specifications

- Dimensions: 107.6 x 60.24 x 300 mm (4.24 x 2.37 x 11.81 in)
- Weight: 1.5 kg (3.3 lb)

Part Number	Description
460-2395	Adapter Harness

Transmission Test Harness

Model Usage: 950 through 982 L and M series Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects 306-0397 Extension Cable to the intermediate transmission harness
- Speed sensor breakouts for multimeter usage
- Enables technician to monitor output speed sensors with Transmission Analyzer III
- Ground clamp connects to ground point on transmission
- Main harness length: 30 cm (11.8 in)

Part No.	Models
442-2465	950L, 950M, 962L, 962M
442-2466	966L, 966M, 972L, 972M, 980L, 980M, 982L, 982M

Adapter Cable

Model Usage: 793F

Warrantv: One Year



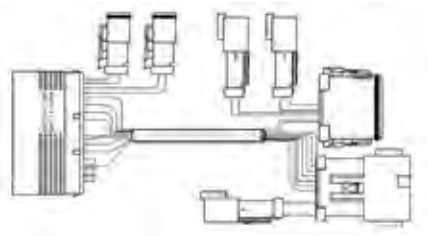
- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable Adapter
- Connects 333-6413 extension cable to the transmission bulkhead
- Speed sensor breakouts allow multimeter readouts
- Capability to monitor output speed sensors with Transmission Analyzer III
- Ground clamp connects to ground point on transmission

Part Number	Description
333-6413	Adapter Cable

Transmission Adapter Harness

Model Usage: 824K, 825K, 826K, 988K

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor signals during a bench test
- Used with the 277-2362 Transmission Analyzer III Group
- 40 Pin connector plugs into 306-0397 extension cable
- 12 Pin connectors plug into transmission intermediate harness
- 2 Pin connectors allow speed sensors to be tested with a multimeter or to be displayed in the TA3 software

Specifications

- Dimensions: 75 x 30 x 300 mm (2.9 x 1.2 x 11.8 in)
- Weight: 1.5 kg (3.3 lb)

Part Number	Description
458-4141	Transmission Adapter Harness

Transmission Analyzer Adapter Cable

Model Usage: D11R Track-Type Tractors Serial Number Prefix 7PZ, 9TR, 9XR, and AAF

Warranty: Caterpillar® One Year



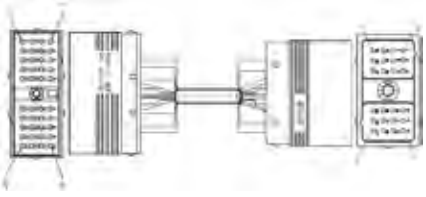
- Used to adapt 256-7623 Speed Sensor Cable to transmissions listed above
- Allows transmission to be tested with Transmission Analyzer II and III
- Adapts 17-Pin connector on speed sensor cable to 14-Pin connector on transmission
- Cable length: 30 cm (11.8 in)

Part Number	Description
307-3542	Transmission Analyzer Adapter Cable

Harness Assembly

Model Usage: 986H LRC Transmission

Warranty: Caterpillar® One Year



- Used to shift transmission and measure speed sensor outputs during bench test
- Used with 277-2362 Transmission Analyzer III Group and 306-0397 Extension Cable
- Adapter connects 306-0397 Extension Cable to the intermediate transmission harness
- Enables technician to monitor output speed sensors with Transmission Analyzer III
- Main harness length: 30 cm (11.8 in)

Part Number	Description
451-6667	Harness Assembly

POWER TRAIN TOOLS

Transmission Adapter Harness (Wheel Loaders)

Model Usage: ECPC and ELRT Transmissions Commonly Used in Wheel Loader Applications

Warranty: Caterpillar® One Year



- Shifts transmissions during a bench test
- Used with either the discontinued 9U-7500 Transmission Analyzer II Group or the 277-2362 Transmission Analyzer III Group
- One end plugs into transmission 18 pin connector, the other into the Analyzer's 31 pin connector
- May be used with the 9U-7498 Extension
- Adds support for some newer Wheel Loader transmission such as the 994H

Specifications

- Dimensions: 44 diameter x 1,600 mm (1.75 diameter x 63 in)
- Weight: 1 kg (2.2 lb)

Part Number	Description
459-4084	Transmission Adapter Harness (Wheel Loaders)

Adapter Cable (Challenger to PC)

Model Usage: Challenger 35, 45, and 55

Warranty: Caterpillar® One Year



- Used to connect a personal computer into the Challengers on-board electronic system
- Used with personal computer
- Cable connects RS232 port on computer to Diagnostic and Maintenance (D.A.M.) connector on Challenger
- Allows Electronic Technician (ET) software to read fault codes, delete fault codes (where allowed), and change vehicle parameters
- Cable comes complete with communication adapter which allows computer to communicate with Challenger's electronic system
- Cable length: 2.1 m (7.0 ft)
- Computer connection: 9-pin serial

Part Number	Description
1U-9100	Adapter Cable (Challenger to PC)

Extension Cable Assembly (ARC/EPTC II)

Model Usage: See List Below

Warranty: Caterpillar® One Year



- Extension cable for Automatic Retarder Control (ARC) used on 769D, 771D, 773D, 775D, 776D, 777D, 785B, 789B, 793B, and 793C Off-Highway Trucks; and Electronically Programmable Transmission Control (EPTC II) used on 769D, 771D, 773D, 775D, 776D, 777D, 785B, 789B, 793B, and 793C Off-Highway Trucks; D250E, D300E, D350E, and D400E Articulated Trucks; and 621F, 623F, 627F, 631E, 633E, 637E, and 657E Wheel Tractor Scrapers
- Connects to 10-pin sure seal connector on ARC or EPTC II
- Two additional connectors allow 4C-8195 Control Service Tool and discontinued 7X-1700 Communication Adapter to be connected
- Allows serviceman to position ARC and EPTC II in cab while troubleshooting
- Overall length: 4.3 m (14 ft)

Part Number	Description
139-5210	Extension Cable Assembly (ARC/EPTC II)
198-1758	Calibration Group

Calibration Group

Essential Tool

SMCS Code: 5084-524

Model Usage: 621G, 623G, 627G, 631G, and 637G Scraper

Warranty: Caterpillar® Six Months

- Used to calibrate electro-hydraulic implement control system
- Used with Cat® Electronic Technician (ET) software
- Ensures efficient operation of implement system
- Overall length: 650 mm (25.6 in)

Reference

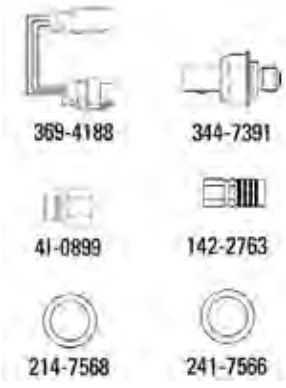
RENR1528, RENR1534, and RENR1593 Service Manual Modules 198-6593 Calibration Instructions

Part Number	Description
142-2763	Coupler Assembly
202-8022	Switch Assembly
276-8158	Harness Assembly
3J-7354	Seal — O-ring — STOR for 8C-3446 (not pictured)
3K-0360	Seal — O-ring — STOR (SAE 3/4 — 16)
8C-7325	Adapter

Calibration Group

Model Usage: 621H, 623H, 627H, 631H

Warranty: Caterpillar® Six Months



- Used to calibrate electro-hydraulic implement control valve for 620H Series Wheel Tractor Scrapers
- Not for G models. G models use the 198-1758 Calibration Group.

Part Number	Description
142-2763	Coupler Assembly
214-7566	O-ring STOR Seal 8.92 mm (7/16 in)
214-7568	O-ring STOR Seal 11.89 mm (9/16 in)
344-7391	Pressure Sensor Group
369-4188	Calibration Cable Assembly 75 cm (30 in)
4I-0899	STOR Boss/STOR Port Fitting

Adapter Cable

Model Usage: Machines with military-type connectors

Warranty: Caterpillar® One Year



- Used to adapt military-type connector, previously used on majority of Cat® machines, to Sure Seal connector
- Standard harness with military-type connectors can now be used with the serviceable replacements that use Sure Seal connectors without any modification of wiring harness
- Testing and analysis equipment can be used on hardware with new Sure Seal connectors

Part Number	Description
4C-5974	Adapter Cable

POWER TRAIN TOOLS

Cable Adapter

Essential Tool

Model Usage: 740 Articulated Truck

Warranty: Caterpillar® One Year



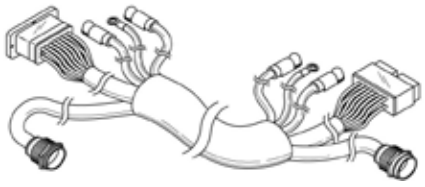
- Used to connect transmission ICM solenoid to harness from discontinued 9U-7500 Transmission Analyzer II
- Adapts two-pin, military-type connector to two-pin Deutsch DT connector
- Allows discontinued 9U-7500 Transmission Analyzer II to be used on newer articulated truck transmissions
- Overall length: 300.0 mm (11.8 in)

Part Number	Description
232-1065	Cable Adapter

Adapter Harness

Model Usage: D6K Track Type Tractor

Warranty: Caterpillar® Six Months



- Used to electrically connect cab to machine while cab is removed
- Used with Cat® ET to perform remote hystat stall test
- Includes jumpers for 31-pin and 40-pin cab connectors, battery, alternator, and ground connections
- Uses machine speed sensor inputs to maintain machines' safety features
- Prevents machine parking brake from being disengaged
- Ring terminals for battery, alternator, and ground connections provide safe, reliable, high-current connections (additional bolts required to connect ring terminals)
- Overall length: 6.1 m (20 ft)
- Approximate weight: 13.5 kg (30 lb)

Part Number	Description
308-2506	Adapter Harness

Multitach II Group, Multitach II, Multitach II Photo Group

Model Usage: All Cat® Products

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Measures RPM, frequency, and engine set point — combines 3 instruments into one
- Captures and displays set point RPM
- Hz frequency meter measures gen set or other signal frequency
- Easy to use photo pickup for fast RPM measurement
- 2 digital displays show Input 1 and Input 2 values simultaneously — eliminates switching screens
- Displays minimum, maximum, and difference values of inputs
- Displays difference between Input 1 and Input 2
- Backlit display for operation in low light
- Optional RS232 output available for sending data directly to printer
- Adjustable pulses per revolution
- Operated by rechargeable battery — designed with low battery indicator and internal battery voltmeter
- Accepts many different types of pickups (including most pickups used with former Multitach II)
- Program each input separately with different PPR (Pulses Per Revolution) values for each — different pickups can be used simultaneously
- Stays pre-programmed to values last used — displays values when turned on

Reference

- NEHS0605, Operating Manual

Specifications

- RPM measurement range: 1 — 9999 RPM
- Measurement accuracy: ±1 RPM
- Pulses per revolution: 0.1 — 256 PPR (selectable)
- Frequency measurement range: 0-9999 Hz
- Frequency measurement accuracy:
  - 0 — 999.9 Hz: ±0.5 Hz
  - 1000 — 9999 Hz: ±1.0 Hz
  - Set point measurement: Set point — 20 RPM = full load RPM
  - Overrun indicator: 0 — 10% rack contact
  - Set point RPM: 11% rack contact (RPM held on display)
  - Overrun and lug off: 11 — 74% rack contact
  - Lug indicator: 75 — 100% rack contact

Tachometer Drive Adapter Group

Model Usage: 910, 931, D3, 3204

Warranty: Caterpillar® One Year



Used with Tachometer Drive Group for checking engine speed on 3204 Engine in D3 Tractors, 910 Wheel Loaders, and 931 Track Loaders (discontinued 7M-6006 Group must be modified by removing plate and machining housing to dimension shown)

Item	Part Number	Description
3	7M-6006	Drive Group
—	5P-0935	Tachometer Drive Adapter Group

Adapter Assembly

Model Usage: 943, 953, 3204

Warranty: Caterpillar® Six Months

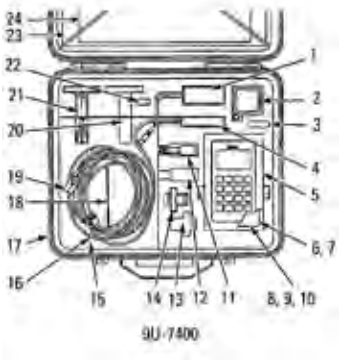


- Used for measuring engine speed on 3204 Engines, 10X1-2935, in 943 and 953 Loaders
- 90° drive adapter assembly installed on engine timing gear cover
- Used with 5P-7360 Tachometer Generator; 4M-8303 Seal and two 9S-3032 Clamps also required for installation of adapter assembly

Part Number	Description
8N-5945	Adapter Assembly

SPEED-MEASURING TOOLS

Multitach II Group



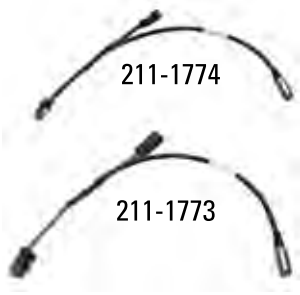
Item	Part No.	Description
3	—-	Storage for 3 spare AA size batteries
12	—-	Storage for additional Tachometer Generator
13	—-	Storage for additional Tachometer Drive Group
20	—-	Storage for additional photo pickup magnetic base
22	—-	Storage for 2 spare AA size batteries
23	—-	NEEG2593 Inside Lid Decal
24	—-	NEHS0605 Operating Instructions

Item	Part No.	Description
2	4C-3024	Battery Charger
4	9U-5140	LED Photo Pickup
6	6V-6045	Case — Plastic NEEG2061 Accessories Case Decal
7	1U-6605	Retro-Reflective Tape, 12 mm x 1.5 m (0.5 in x 5.0 ft) roll
8	6V-3138	Extension Rod for Magnetic Base
9	9U-7506	Magnetic Adapter Cable
10	8T-5111	Rack Adapter Cable
11	5P-7360	Tachometer Generator
14	5P-1759	Tachometer Drive Group (additional parts in accessory case)
15	9U-7508	Foam Insert
16	6V-2198	Cable Assembly, 5.5 m (18.0 ft)
17	6V-7145	Case, NEEG2573 Group Label on lid
18	6V-7072	Lead Kit — Test (for use with high voltage adapter)
19	1P-7446	Rack Cable, 5.5 m (18.0 ft)
21	6V-3137	Magnetic Base for Photo Pickup

Drive Motor Speed Pickup Breakout-T, Engine Speed Sensor Breakout-T

Model Usage: D3G, D4G, D5G Track-Type Tractor

Warranty: Caterpillar® One Year



- Used to monitor drive motor speed pickup and engine speed sensor
- Used with DataView
- 211-1773 connects between machine harness and engine speed sensor (magnetic pickup)
- 211-1774 connects between machine harness and drive motor speed pickup (Hall-effect sensor)

Part Number	Description
211-1773	Drive Motor Speed Pickup Breakout-T
211-1774	Engine Speed Sensor Breakout-T

Tachometer Drive Adapter

Model Usage: 943, 953, 215, 3204

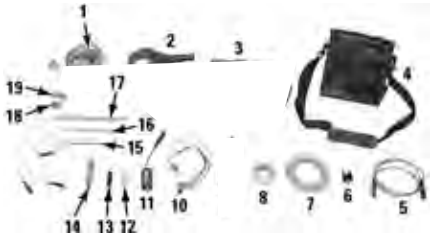
Warranty: Caterpillar® Six Months



- Used for measuring engine speed on later 3204 Engines, 0X-2396-Up, in 943 and 953 Loaders and 215 Excavators (different adapter needed for later engines because of change to camshaft)
- Also required for adapter installation: 4M-8303 Seal, 5P-1758 Shaft Assembly, two 9S-3032 Clamps, two 0S-1617 Bolts and two 9M-1974 Washers

Part Number	Description
6N-1345	Tachometer Drive Adapter

Optional Accessories (Sold Separately)



Item	Part No.	Description
4	9U-5215	Tool Case, Soft (not as shown)
5	8T-5297	Extension Cable 0.9 m (3.0 ft)
6	9U-5265	Adapter (connects 2 banana plugs to 9U-7506 magnetic adapter cable)
7	6V-0093	Retro Reflective Tape, 12.0 mm (0.5 in) wide x 15.0 m (50 ft) long roll
8	4C-6919	Retro Reflective Tape, 25 mm (1 in) wide x 2.5 m (100 in) long roll, with honeycomb pattern design
11	6V-4950	Injection Line Speed Pickup Group (for Multitach only) include item 10
12	1U-7445	5 NiCad (Nickel Cadmium) Rechargeable AA Batteries required
13	1U-9533	Alkaline Non-Rechargeable Battery, AA (package of 96)
14	8L-4171	Magnetic Pickup (general purpose)
15	8T-5184	Magnetic Pickup, 88.9 mm (3.5 in) long x 6.35 mm (0.25 in)
16	6V-2197	Magnetic Pickup, 114.3 mm (4.5 in) long x 6.35 mm (0.25 in)
17	8T-5185	Magnetic Pickup, 177.8 mm (7.0 in) long x 6.35 mm (0.25 in)
18	6V-2199	Pickup Adapter, 6.35 mm (0.25 in) diameter x 1/8 in NPT
19	6V-3093	Pickup Adapter, 6.35 mm (0.25 in) diameter x 1/4 in NPT
		Not Shown
—	1U-6605	12.2 mm (0.5 in) Retro Reflective Tape (1), 1524 mm (5 ft) long roll

Battery Recharger

Model Usage: Older Diagnostic Tools

Warranty: Caterpillar® Three Months



European Union Compliant, CE marked

- Replaces 4C-3024
- Operate diagnostic tools from AC line power.
- Charge diagnostic tool rechargable batteries from AC line power.
- 90-264 Vac input (47-63 Hz)
- Plugs: AU, EU, UK, US

Part No.	Description	Dimensions	Weight
538-9640	Battery Recharger	170 x 90 x 45 mm (6.7 x 3.5 x 1.7 in)	0.12 kg (0.26 lb)

Tachometer Drive Group

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used on engines with ENM Service Meters including Sleeve Metering Fuel Systems
- To use 5P-1759 Drive Group, service meter is removed and drive group installed
- On 5.4 inch bore engines not equipped with tachometer drive group, 5P-1758 Shaft Assembly must be used

Item	Part Number	Description	Use
—	5P-1759	Tachometer Drive Group (additional parts in accessory case)	—
1	1W-2316	Adapter Assembly	For all engines with ENM Service Meters
1	4M-8308	Seal (outside)	—
2	5P-1758	Shaft Assembly	With 1W-2316 for 5.4 in bore V-engines
3	4N-0538	Coupling	With 1W-2316 and 5P-0537 for engines with Sleeve Metering Fuel Systems
4	5P-0537	Hard Washer	4N-0538 (5P-0537 Washer, discontinued, is not needed with later 1W-2316 Adapter Assembly)
5	9S-3032	Clamp (2)	—
6	9S-0211	Clamp (2)	—

SPEED-MEASURING TOOLS

Cable Connector

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used to connect tachometer drive cable to 9S-3047 Tachometer Generator (included in 1P-5500 Phototach Group) on engine applications where access to tachometer drive is difficult; disconnect tachometer drive cable at tachometer and use this fitting

Part Number	Description
7N-8929	Cable Connector

Tachometer Group

Model Usage: All Models

Warranty: Manufacturer's



European Union compliant, CE marked

- Used to measure RPM by directing class 2 laser light source onto reflective tape
- Reflective tape can be affixed to any rotating component
- Operates up to 8 meters (25 ft) from reflective target
- Lightweight, compact design allows direct line of sight of both target and display at the same time
- 32 function tachometer/ratemeter, totalizer/counter and timer (stopwatch)
- Programmable in both Metric and English units
- Auto ranging and fixed decimal readouts (user selectable)
- On-target and low battery indicators
- Ergonomic non-slip rubber surface for one hand operation
- Features tripod mounting bushing and "Power On" lock for hands free operation
- Kit includes pocket laser tach, carry case with foam insert, reflective tape, two AA alkaline batteries, operating manual (English, French, Spanish), and N.I.S.T. traceable certificate of calibration

Specifications

- Display: 5 digits, 5 alpha-numeric LCD
- Optical Range: 5 to 200,000 RPM
- Contact Range: 0.5 to 20,000 RPM
- Optical Accuracy: ±0.01% of reading (subject to intensity of ambient light)
- Contact Accuracy: ±0.05% of reading in rpm (also reads in units per second, units per hour)
- Totalizer: 1- 999,990 (events or length)
- Timer: 99:59.9 (minutes, seconds, tenths)
- Resolution: .001 to 10 RPM (range dependent)
- Operating Range: 5 to 762 cm (2.0 inches to 25.0 feet) ±70° from perpendicular (subject to intensity of ambient light)
- Memory: maximum, minimum, last reading
- Power: Two 1U-9533 AA 1.5 VDC batteries (30 continuous hours)
- Temperature Range: 5° to 40°C (0° to 100°F)
- Humidity Range: 80% relative humidity up to 31°C (88°F)
- Dimensions: 17.6h x 6.1w x 4.0d cm (6.92 x 2.4 x 1.6 in)
- Weight: 210 g (7.4 oz)
- Classification: class 2 laser product — 1 mW max @ 850 nm classified to IEC 60825-1: 2001

Part Number	Description
351-8635	Tachometer Group
	Service/Repair Parts
1U-6605	Retro-Reflective Tape, 12.5 mm (0.5 in) x 1.5 m (5.0 ft) long
1U-9533	AA Alkaline Battery, non-rechargeable, package qty 96 (5 req. to power Indicator III)

Universal Fuel Line Pickup

Model Usage: All non-unit-injected Cat® diesel engines

Warranty: Caterpillar® One Year



- Used with discontinued 6V-2100 Multitach (as accessory part for 6V-4950 Pickup Group) to measure diesel engine speed
- Works on fuel lines with remote unit pump group, on all pre-combustion chamber fuel systems and on some smaller direct injection fuel systems
- Not appl. to unit injected 3500/3600 engines
- Adaptable to different fuel line sizes from 5.5 mm (0.22 in) to 7.0 mm (0.28 in) size range

References

- SEHS8029, Special Instruction
- SEHS7807-03, Special Instruction

Item	Part Number	Description
1	1U-9139	Universal Fuel Line Pickup
2	6V-6113	Amplifier

Infrared and Contact Thermometer (30:1 Ratio)

Model Usage: All

Warranty: Manufacturer's Two Year



European Union compliant, CE marked

- Used to determine surface temperature using non-contact temperature measurement with a distance-to-spot ratio of 30:1
- Thermometer also supports contact-temperature measurement using a K-type thermocouple
- Measures temperatures from -40 to 650°C (-40 to 1202°F)
- Audible and visual alarms instantly alert user to measurements outside of set limits
- Confidently troubleshoot equipment with 1% measurement accuracy
- Versatile interface with six languages from which to choose
- Easily access advanced features with the soft-key buttons
- Temperatures are easily readable on a dot-matrix display
- Capture multiple points of data (up to 20) for downloading and recalling later
- Easily trend and analyze data with included FlukeView® Forms software
- Battery life if used continuously: with laser and backlight On, 12 hours; with laser and backlight Off, 100 hours
- Includes thermocouple K bead probe, durable hard case, two AA batteries, Getting Started guide in six languages, Users Manual on CD in six languages (English, Spanish, French, German, Portuguese, and Simplified Chinese)

Specifications

- Temperature Range: -4°C to 650°C (-40°F to 1200°F)
- Accuracy:
  - <0°C: ± (1.0°C + 0.1°/1°C)
  - >0°C ± 1% or ± 1.0°C, whichever is greater
  - (<32°F ± 2°F ± 0.1°/1°F)
  - >32°F: ± 1% or ± 2°F, whichever is greater
- Display Resolution: 0.1°C/0.1°F
- Spectral Response: 8 to 14 µm
- Response Time (95%): <500 ms
- Emissivity: Digitally adjustable from 0.10 to 1.00 by 0.01 or via built-in table of common materials
- Relative Humidity: 10% to 90% RH non-condensing up to 30°C (86°F)
- Storage Temperature: -20°C to 60°C (-4°F to 140°F)
- Weight: 0.322 kg (0.7099 lb)
- Dimensions: 17.69 cm (6.695 in) H x 16.36 cm (6.441 in) L x 5.18 cm (2.039 in) W
- Power: 2 AA/LR6 Batteries

Part Number	Description
349-4203	Infrared and Contact Thermometer (30:1 Ratio)

TEMPERATURE-MEASURING TOOLS

Infrared and Contact Thermometer (50:1 Ratio)

Model Usage: All

Warranty: Manufacturer's Two Year



European Union compliant, CE marked

- Used to determine surface temperature using non-contact temperature measurement with a distance-to-spot ratio of 50:1
- Thermometer also supports contact-temperature measurement using a K-type thermocouple
- Measures temperatures from -40 to 800°C (-40 to 1472°F)
- Versatile interface with six languages from which to choose
- Easily access advanced features with the soft-key buttons
- Temperatures are easily readable on a dot-matrix display
- Capture multiple points of data (up to 99) for downloading and recalling later
- Quickly download stored data with USB
- Easily trend and analyze data with included FlukeView® Forms software
- Battery life if used continuously: with laser and backlight On, 12 hours; with laser and backlight Off, 100 hours
- Includes thermocouple K bead probe, durable hard case, two AA batteries, Getting Started guide in six languages, USB 2.0 cable, FlukeView® Forms software on CD, Users Manual on CD in six languages (English, Spanish, French, German, Portuguese, and Simplified Chinese)

Specifications

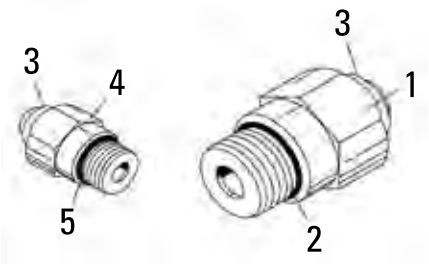
- Temp Range: -40°C to 800°C (-40°F to 1470°F)
- Accuracy:
  - <0°C: ± (1.0°C + 0.1°/1°C)
  - >0°C ± 1% or ± 1.0°C, whichever is greater
  - (<32°F ± 2°F ± 0.1°/1°F)
  - >32°F: ± 1% or ± 2°F), whichever is greater
- Display Resolution: 0.1°C/0.1°F
- Spectral Response: 8 to 14 µm
- Response Time (95%): <500 ms
- Emissivity: Digitally adjustable from .10 to 1.00 by .01 or via built-in table of common materials
- Relative Humidity: 10% to 90% RH non-condensing up to 30°C (86°F)
- Storage Temp: -20°C to 60°C (-4°F to 140°F)
- Weight: 0.322 kg (0.7099 lb)
- Dimensions: 17.69 cm (6.695 in) H x 16.36 cm (6.441 in) L x 5.18 cm (2.039 in) W
- Power: 2 AA/LR6 Batteries or USB connection when used with a PC

Part Number	Description
349-4200	Infrared and Contact Thermometer (50:1 Ratio)

Self-Sealing Probe Adapter Groups

Model Usage: 1.1 Liter Engine

Warranty: Caterpillar® One Year



- Used with 6V-9130 Temperature Adapter Group and 131-5050 Data View Temperature Sensors

Specifications

- Maximum oil temperature: 132°C (270°F) at 3100 kPa (450 PSI)
- Maximum fuel/coolant temperature: 120°C (250°F) at 690 kPa (100 PSI)

Item	Part Number	Description
1	4C-4545	Adapter Group #8 (3/4 in X 16 thd)
2	3K-0360	Seal-O-Ring-STOR (SAE 3/4-16)
3	9F-2247	Plug – Pipe (Hex Counter Sunk)
4	4C-4547	Adapter Group #5 (1/2 in X 20 thd)
5	1J-9671	Seal-O-Ring-STOR (SAE 1/2 -20)

⚠ WARNING

Using the probe seal at pressures and temperatures higher than those indicated can result in injury to personnel or damage to the machine.

Infrared Thermometer

Model Usage: All Models

Warranty: Manufacturers One Year



REPAIR INFORMATION

Raytek
See Tool Repair Section for repair locations

European Union compliant, CE marked

- Used to measure surface temperatures without surface contact
- Single point laser shows user where target area temperature is being measured
- Economically priced for general temperature measurement
- Applications include testing engine cooling systems, checking brakes and bearings, inspecting undercarriage components, verifying heating and air conditioning systems and inspecting defroster grids

Temperature

- Measurement range: -20° to 260°C (0° to 500°F)
- Accuracy:
  – 1 percent or 1°C (2°F) whichever is greater at 18° to 28°C (64° to 82°F) ambient temperature
- Response time: 500 milliseconds
- Spectral response: 7 – 18 microns nominal
- Displace resolution: 1°C to 1°F
- Ambient operating range: 0° to 50°C (32° to 120°F)
- Relative humidity: 10 – 95 percent non-condensing at up to 30°C (86°F)
- Storage temperature: -25° to 70°C (-13° to 158°F)
- Battery: 1U-9534 Battery, 9 V alkaline
- Dimensions: 190 x 45 x 45 mm (7.5 x 1.75 x 1.75 in)
- Weight: 160 g (5.6 oz)

Part Number	Description
213-4310	Infrared Thermometer

Infrared Thermometer

Model Usage: All Models

Warranty: Caterpillar® One Year



REPAIR INFORMATION

Extech Instruments Corporation
9 Townsend West
Nashua, NH 03061
Phone: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com
Web site: www.extech.com
Call for authorization number

European Union compliant, CE marked

- Used to obtain non-contact (infrared) temperature measurements
- Built-in laser pointer for target accuracy
- Backlit LCD and handy push-buttons combine for convenient, ergonomic operation
- Single point laser shows user where target area temperature is being measured
- Applications include testing engine cooling systems, checking brakes and bearings, inspecting undercarriage components, verifying heating and air conditioning systems, and inspecting defroster grids
- Wide temperature range meets most application needs
- Narrow 50:1 distance-to-target ratio measure smaller surface areas at greater distances
- Auto "data hold" when trigger is released
- Automatically shuts OFF after 6 seconds
- Shipped with 9 volt battery

Specifications

- Range/resolution: -50° to 1000°C (-58° to 1832°F) / 0.1°C/F to 200°, 1° over 200
- Accuracy: a
  – -50° to -20°C (-58° to -4°F) ±5°C (±9°F)
  – -20° to 538°C (-4° to 1000°F) ±2% reading
  – 539° to 1000°C (1001° to 1832°F) ±3% reading
- Emissivity: 0.95 fixed value
- Field of view: D/S = Approx. 50:1 ratio (D=distance, S=spot)
- Laser power: Less than 1 mW
- Spectral response: 6 – 14µ(wavelength)
- Over range indication: LCD will display "1"
- Display: 3 1/2 digit backlit LCD display with function indicators
- Display rate: 1 second approximately
- Operating temperature: 0° to 50°C (32° to 122°F)
- Operating humidity: Maximum 80% relative humidity
- Power supply: 1U-9534 Battery, 9V
- Automatic power off: Meter shuts off automatically after 6 seconds
- Weight: 290g (10.2 oz)
- Overall size: 100 x 56 x 230 mm (3.9 x 2.2 x 9.0 in)

a. Accuracy is specified for the following ambient temperature range: 18° to 28°C (64° to 82°F)

Part Number	Description
251-0030	Infrared Thermometer

TEMPERATURE-MEASURING TOOLS

Infrared and Contact Thermometer (12:1 Ratio)

Model Usage: All

Warranty: Manufacturer's Two Year



European Union compliant, CE marked

- Used to determine surface temperature using non-contact temperature measurement with a distance-to-spot ratio of 12:1
- Thermometer also supports contact-temperature measurement (compatible with all standard mini-connector type K thermocouples)
- Measures -40 to 550°C (-40 to 1022°F)
- Single-point laser sighting
- Easy emissivity adjustment (Lo, Med, Hi) for measuring pipes and other shiny materials more accurately
- Lightweight [just 340 g (12 oz)] and portable
- MIN, MAX, and DIF functions help quickly identify problems
- Battery life of 13 hours (laser and backlight used 50%)
- Includes K-Type thermocouple Velcro® pipe probe, durable hard case, two AA batteries, Getting Started guide in six languages, and Users Manual on CD in six languages (English, Spanish, French, German, Portuguese, and Simplified Chinese)

Specifications

- Temperature Range: -40°C to 550°C (-40°F to 1022°F)
- Accuracy: ± 1% or ± 1°C (2°F); <0°C (32°F), ± 1°C (2°F) ± 0.1°/1° (Assumes ambient operating temperature of 23 to 25°C (73 to 77°F)
- Display Resolution: 0.1°C / 0.1°F
- Spectral Response: 8 to 14 µm
- Response Time (95%): 500 ms
- Emissivity: Three settings: low (0.3), medium (0.7), high (0.95)
- Power: Class 2 (II) operations; Output <1 mW, wavelength 630 to 670 nm

Part Number	Description
349-4202	Infrared and Contact Thermometer (12:1 Ratio)

Infrared Thermometer

Model Usage: All

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- Used to determine surface temperature using non-contact temperature measurement with a distance-to-spot ratio of 50:1
- Audible and visual alarms instantly alert user to measurements outside of set limits
- Troubleshoot equipment with 3% measurement accuracy includes durable hard case, two AA batteries, Users Manual in six languages (English, Spanish, French, German, Dutch and Italian)

Specifications

- Temperature Range: -50 to 1,000°C (-58 to 1,832°F)
- Accuracy:
  - <-1°C (30°F) ± [4.0°C (9°F) + 2% of reading]
  - -1°C to 426°C (30°F to 800°F) ± [2% of reading + 2.0°C (4°F)]
  - 426°C to 537°C (800°F to 1,000°F) ± [2.5% of reading + 3°C (6°F)]
  - > 537°C (1,000°F) ± [3% of reading + 4°C (9°F)]
- Display Resolution: .1°C / .1°F
- Spectral Response: 8 to 14 µm
- Emissivity: Digitally adjustable from .1 to 1 by .01
- Operating Temperature: 0°C to 50°C (32°F to 122°F)
- Weight: .29 kg (.64 lb)
- Dimensions: 10 cm (3.9 in) x 5.6 cm (2.2 in) x 23 cm (9 in)
- Power: 2 AA / LR6 Batteries

Part Number	Description
457-5269	Infrared Thermometer

Mini TC-K Jack

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used with 7X-7481 Cable to make extension cables
- Industry standard, miniature yellow type K thermocouple jack

References

- NEHS0537-02, Operating Manual
- NEHS0544, Installation Instructions

Specifications

- Temperature rating: 204°C (400°F)
- Connector dimensions: 27 x 16 x 8 mm (1.06 x 0.624 x 0.312 in)
- Thermocouple connections: "-" red wire, "+" yellow wire

Item	Part Number	Description
1	4C-9030	Mini TC-K Jack
2	7X-7481	Cable

Exhaust Thermocouple

Models: All Models

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Durex Industries
190 Detroit Street
Gary, IL 60013
Phone: (847) 639-5600

- Used to measure exhaust temperature
- Used with 237-5130, 146-4080, or 9U-7330 Digital Multimeters; can also be used with discontinued 6V-3030 or discontinued 6V-7070 Multimeters with a 6V-9130 Temperature Adapter Group. 9U-7330, discontinued 6V-3030, and 6V-7070 Multimeters require optional 6V-9129 Temperature Adapter
- Probe is attached to exhaust housing with an adjustable threaded ferrule

Specifations

- Thermocouple Probe: Type K
- Temperature range: 0° to 850°C (1560°F)
- Probe length: 127 mm (5 in)
- Probe diameter: 6.4 mm (0.25 in)
- Probe threads (male): 1/4 in NPT with adjustable ferrule
- Probe cord length: 182 cm (72.0 in)

Part Number	Description
238-5636	Exhaust Thermocouple

TEMPERATURE-MEASURING TOOLS

Temperature Adapter Group

Model Usage: 0785

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Used with any Cat® high impedance digital multimeter to measure oil, coolant or air temperatures from -50° to 900°C (-58° to 1652°F)
- 6V-9129 Temperature Adapter converts input from a K-type thermocouple to 1 mV/°C or 1 mV/°F output, for use with Cat® discontinued 6V-3030 or discontinued 6V-7070; if adapter (with the 6V-9131 K-type Thermocouple attached) is plugged into VOLT and COMMON inputs of a multimeter, temperature will be displayed on multimeter
- 8T-0458 Thermocouple Wire can be used to take temperature measurements in areas where probe is not necessary. Because thermocouple wire has less mass, response time is faster than with 6V-9131 Thermocouple Probe
- 6V-3073 Carrying Case, SEES5666 Decal, 8T-0485 Foam Block, and 6V-4094 Foam Top available to store 6V-9129 Temperature Adapter, 6V-9131 Thermocouple Probe, 8T-0458 Thermocouple Wire, and discontinued 6V-3030, discontinued 6V-7070 or 6V-7800 Digital Multimeter and Probes
- 6V-9129 Power source: 1U-9534 Battery, 9v

Reference

- SEHS8382, Special Instruction

Note:

Use with 5P-2720, 5P-2725, 5P-3591, 4C-4545 and 4C-4547 Self-Sealing Probe Adapter Groups (Diagnostic Tools Section of Tool Guide, Speed Measuring Tools)

Item	Part Number	Description
1	6V-9129	Temperature Adapter
2	6V-9131	Thermocouple Probe, Type K
—	6V-9130	Temperature Adapter Group

Probes (Sold Separately)

Part Number [a]	Length	Diameter	Application
6V-9055	152.4 mm (6.0 in)	6.35 mm (0.25 in)	Exhaust (bent)
6V-9131	152.4 mm (6.0 in)	3.175 mm (0.125 in)	Hand held
8T-0933	25.4 mm (1.0 in)	3.175 mm (0.125 in)	Probe seals
8T-0934	38.1 mm (1.5 in)	3.175 mm (0.125 in)	Probe seals
8T-0935	63.5 mm (2.5 in)	3.175 mm (0.125 in)	Probe seals
8T-0936	88.9 mm (3.5 in)	3.175 mm (0.125 in)	Probe seals
8T-5334	Surface	—	Hand held

a. For 6V-9055 Probe replaceable fitting

Self-Sealing Probe Adapter Groups

Model Usage: All Models

Warranty: Caterpillar® One Year



- For checking pressure or temperature in fluid-filled compartments without cooling down machine and draining fluid
- Can be installed in any prime product
- Seal permits probe insertion through center and seals automatically when the probe is removed
- All temperature probes included with thermistor thermometer and 164-2192 Pressure Probe can be used 9F-2247 Plug (1/8 in) installed in adapter groups to serve as protective cover when tests are concluded
- Oil can be checked at temperatures less than 132°C (270°F) and pressures less than 3100 kPa (450 PSI).
- Coolant and fuel can be checked at temperatures less than 121°C (250°F) and pressures less than 690 kPa (100 PSI)

Item	Part Number	Description
1	5P-2720	Adapter Group – Probe, 1/8 in pipe thread
2	5P-2725	Adapter Group – Probe, 1/4 in pipe thread
3	5P-3591	Adapter Group – Probe, 9/16 in std thread
4	9F-2247	Plug – Pipe (Part of 5P-2720, 5P-2725 and 5P-3591)

Temperature Recorder Group

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used for checking operating temperatures of the cooling system, engine oil system, hydraulic system and brake system
- Quick, easy, inexpensive method to determine components surface temperature
- 6 silver-colored temperature sensitive indicator windows on each recorder; each window turns permanently black when temperature for that window is reached or exceeded
- 5 different temperature recorders for 5 different ranges
- Adhesive back – attach to any clean dry surface; remove and keep as permanent record
- Withstands repeated temperature changes, solvents, and water
- Consist: 3 each of temperature recorders listed in chart
- Response time: approximately 1 sec.

Temperature Recorder (Range)

Part No.	Temperatures					
8T-2820	60°C (140°F)	66°C (150°F)	71°C (160°F)	77°C (170°F)	82°C (180°F)	88°C (190°F)
8T-2821	82°C (180°F)	88°C (190°F)	93°C (200°F)	99°C (210°F)	104°C (220°F)	110°C (230°F)
8T-2822	104°C (220°F)	110°C (230°F)	116°C (240°F)	121°C (250°F)	127°C (260°F)	132°C (270°F)
8T-2823	127°C (260°F)	132°C (270°F)	138°C (280°F)	143°C (290°F)	149°C (300°F)	154°C (310°F)
8T-2824	149°C (300°F)	154°C (310°F)	160°C (320°F)	166°C (330°F)	171°C (340°F)	177°C (350°F)

Part Number	Description
8T-2844	Temperature Recorder Group

Thermometers

Warranty: Caterpillar® One Year



- Used to check:
  - General temperature measuring applications
  - Coolant temperature
  - Heat indicator accuracy
- 396-4051 is stainless steel with a plastic case and can be calibrated

Item	Part Number	Temperature	Length	Type	Readout	Accuracy
2	396-4051	10° to 288°C (50° to 550°F)	13 cm (5 in) stem	Analog	Dial	—
3	304-9375	-50° to 150°C (-58° to 302°F)	166 mm (6.54 in)	Digital	Digital	±1°C (±2°F)

GENERAL DIAGNOSTIC TOOLS

Control Service Tool, CMS II

Model Usage: All Models with CMS Panels

Warranty: Caterpillar® One Year



- Replaces discontinued 9U-6665 CMS Service Tool
- Used to access diagnostic modes on CMS panels (allows service technician to easily enter diagnostic modes)
- Used with available adapter cables to diagnose Wheel Loader transmission controls; also used on countershaft transmission controls
- Allows technician to scroll through active and logged faults
- Allows logged faults to be cleared
- 138-7795 replaces discontinued 134-2576 Countershaft Transmission Cable Assembly

References

- NEHS0669, Tool Operating Manual
- NEEG2741, Switch Positions for H-Series Motor Grader

Specifications

- Size: 190 x 120 x 40 mm (7.5 x 4.7 x 1.5 in)
- Weight: 0.2 kg (0.44 lb)
- Cable length: 2.4 m (8 ft)

Item	Part Number	Description
0	4C-8195	Control Service Tool, CMS II
1	4C-8196	Cable, CMS II
2	4C-8197	Wheel Loader Transmission Control Cable
3	138-7795	Countershaft Transmission Control Cable (for H-Series Motor Grader)

Interface Kit (Standard 520), Interface Kit (Premium 550)

Model Usage: 3054 and 3056 Marine Generator Sets

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Used to access configuration stored within control module on 3054 and 3056 Marine Generator Sets: CHN1-UP, TCN1-UP, SNX1-UP
- Allows user to view diagnostic display from control module
- Kit contains one 25 to 9 pin Adapter Cable, one FCC-68 Interconnecting Cable, and one Windows-based CD

PC Requirements

- Processor: 486, 66 Mhz minimum
- Windows 95, 98, 2000 or NT
- Ram: 16 MB
- Display resolution: 640 x 480
- Fixed disk: 10 MB free, 80 MB minimum
- Disk drive: CD-ROM
- Communication port: RS-232

Operating Environment

- Temperature: -15° to 55°C (5° to 131°F)

Power Requirements

- Power: DC (powered from control module)

Part Number	Description
217-7202	Interface Kit (Standard 520)

Marine Genset Electronic Panel Service Tool Group

Model Usage: C4.4/C6.6/C9 MARINE GENSET

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to service the 366-0023 Electronic Panel Group and 366-0025 Electronic Panel Group used in marine applications
- Includes 416-9097 and 416-9098

NOTE: Software and Instructions are located on the Dealer Service Tool web site under Technical Information: https://dealer.cat.com/dealer-service-tools

Part Number	Description	Dimensions
416-9097	USB Cable	914.4 mm (36 in)
416-9098	Null Modem Cable	1828.8 mm (72 in)
417-6067	Marine Genset Electronic Panel Service Tool Group	—

Tool Harnesses

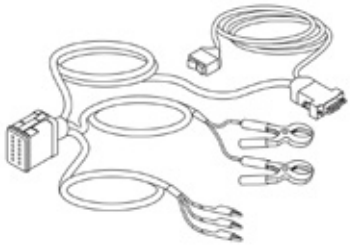
Model Usage: See below

Warranty: Caterpillar® Six Months

- Used to connect PC or laptop to electronic governor

Part Number	Description
262-8391	Tool Harness
262-8392	Tool Harness

Tool Harness



- 3054/3056 Marine Generator Sets
- Used for LCS electronic governors
- Requires NETG5040, 262-8391 Service Tool Software LCS

NETG5040 Software System Requirements

- Computer: Pentium 133 Mhz PC
- RAM memory: 32Mb RAM
- Operating system: Windows 95, 98, NT4.0, and 2000 or greater

Part Number	Description
262-8391	Tool Harness

Tool Harness



- 3054/3056 Marine Generator Sets, C4.4 Marine Generator Sets
- Used for L-series electronic governors
- Requires NETG5041, 262-8392 Service Tool Software L-Series

NETG5040 Software System Requirements

- Computer: Pentium 133 Mhz PC
- RAM memory: 32Mb RAM

Operating system: Windows 95, 98, ME, NT4.0, 2000, and XP or greater

Part Number	Description
262-8392	Tool Harness

Interface Group

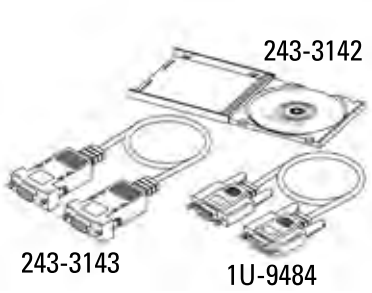
Model Usage: 3054 and 3056 Marine Generator Sets

Warranty: Caterpillar® One Year

- Used to access configuration stored in 238-4635 Control Module
- Also allows user to view diagnostic display contained within control module

Reference

- NEXG5078: Configuration Software CD-ROM for Windows



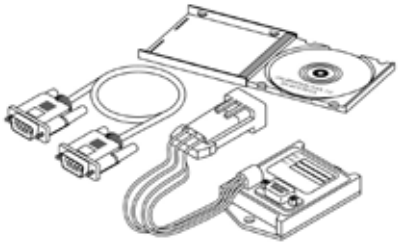
Part Number	Description	Length	Cable End
1U-9484	Communications Cable	3 m (10 ft)	DB9F to DB9M
243-3142	Interface Group	—	—
243-3143	Null Modem Cable	3 m (10 ft)	DB9F to DB9F

GENERAL DIAGNOSTIC TOOLS

Calibration Group

Model Usage: C2.2 Marine Generator Set

Warranty: Caterpillar® One Year



- Used to configure and adjust speed controller parameters
- Allows interactive, real-time display of engine speed using a personal computer
- Comes with 9-pin RS-232 cable, interface box, and NETG5038 CD-ROM software (Windows-based)

Hardware Requirements

- IBM compatible, personal computer equipped with a CD-ROM drive and a serial port with DB-9 connector, capable of 9600 baud communication
- Windows software: 95/98/ME/2000/XP
- 64 MB of available RAM memory and a hard disk with at least 2.0 MB of free disk space
- SGVA capable video card and monitor, capable of 256 colors and 800 x 600 display

Part Number	Description
237-9074	Calibration Group
Service/Repair Parts	
146-8488	Cable Group (9-pin, RS-232 Cable)

Data Transfer Cable

Model Usage: Power Module Models PM3512, PM3516, and PMG3516

Warranty: Caterpillar® One Year



- Used to connect a computer to touchscreen display for downloading configuration files
- Requires a RS-232 (DB-9) port

Part Number	Description
218-2944	Data Transfer Cable

RS-232 Cable

Model Usage: Power Module Models PS003, PS004, PS005, and PS010

Warranty: Caterpillar® One Year



- Used to connect a computer to power module protective relays for download of configuration files
- Used to connect 146-4080 Cat® Digital Multimeter to 131-5050 DataView
- Cable has 9-pin male on one end and 9-pin female on the opposite end
- Standard 9 pin DB9 RS232 cable and socket to pin adapter included

Specifications

- Length: 1.7526 m (69 in)

Part Number	Description
146-8488	Cable Assembly (RS-232)

PCS VIMSPC Breakout Harness Assembly

- Used to download PCS data to PC computer
- Used with 292-4495 Main Harness Assembly
- 6-pin Deutsch receptacle to DB 9-pin plug
- Overall length: 0.2 m (7.8 in)

Part Number	Description
315-4999	PCS VIMSPC Breakout Harness Assembly

Payload Control System (PCS) Service Harness Assemblies

Model Usage: All models with Payload Control System (PCS)

Warranty: Caterpillar® One Year

Reference

- SEBU8092, Service Manual, Payload Control System
- RENR6293, Service Manual

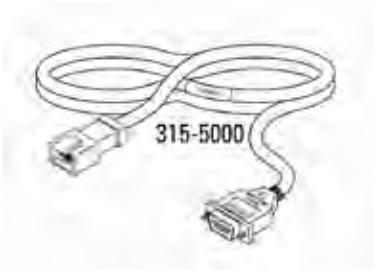
Main Harness Assembly



- Used to connect payload control system data port to a computer or printer6-pin Deutsch plug, 6-pin Deutsch receptacle
- Overall length: 1.8 m (70.8 in)
- Used with 315-4999 Harness Assembly to adapt to VIMSPC and used with 315-5000 Printer Harness Assembly to adapt to a 24 Volt printer

Part Number	Description
292-4495	Main Harness Assembly

PCS Printer Breakout Harness Assembly



- Used to print PCS data to a 24 Volt printer
- Used with 292-4495 Main Harness Assembly
- 6-pin Deutsch receptacle to DB 9-pin receptacle
- Overall length: 0.2 m (7.8 in)

Part Number	Description
292-4495	Main Harness Assembly
315-4999	PCS VIMSPC Breakout Harness Assembly
315-5000	PCS Printer Breakout Harness Assembly

Remote Entry Pro

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to test infrared (IR) & radio frequencies (RF) of keyless remote entry key fobs & remote control headsets
- Used to determine source of problem (eliminates guesswork)
- 3 LED power level indicators
- Auto off saves batteries
- Handheld & lightweight
- Works with RF frequencies 225, 332, 418, 433, 868 MHz (including AM & FM signals)
- Self-calibrating
- Test PPM and carrier based infrared (IR)
- Uses 2 AAA batteries (included)
- Tests amplitude modulation (AM), amplitude shift key (ASK) & frequency modulation (FM) radio waves

Specifications

- Dimensions: 6 x 3 x 3 in
- Weight: 2.5 lbs

Part Number	Description
372-5276	Remote Entry Pro

GENERAL DIAGNOSTIC TOOLS

PC Cart, 110-125 VAC, 60 Hz

Model Usage: All Models

Warranty: Manufacturer's



REPAIR INFORMATION

Spectrum Composites
P. O. Box 4656
Troy, MI 48099
Phone: 800-359-9855

Used to hold PC, monitor, printer and data view hardware in one portable workstation

General Features

- Durable corrosion resistant baked on powder coat finish on steel body
- Protective bumper wraps around top of PC cart
- Large 127 x 50.8 mm (5 x 2 in) casters which are customer installed
- 2 lower compartments for paper and supplies
- CD storage with self closing door holds up to 30 CDs
- Retractable cup holder
- 4 position communication and data port blank panel
- 5 cable hangers
- Care and use maintenance guide
- 1 year limited manufacturer's warranty

Protection Features

- Fan and filter system provides added protection for computer components
- Locking cabinet door protects computer components
- CPU securement system

Power Management Features

- Master on/off switch (lighted) that will turn on all components at one time
- 381 mm (15 ft) power cord
- NEMA power block with 2 outlets
- "Quick release" power cord wrap system

Printer and Monitor Features

- Accommodates most dot matrix or laser printers
- Universal printer securement strap (maximum printer weight 12.2 kg [27 lb])
- Universal monitor mounting system will hold diagonal screen size monitors up to 431 mm (17 in)

Specifications

- Overall dimensions (H x W x D): 1263.7 x 958.9 x 749.3 mm (49.75 x 37.75 x 29.50 in)
- Internal equipment area: 546.1 x 781 x 565.2 mm (21.5 x 30.7 x 22.25 in)
- Two internal storage compartments: 235 x 381 x 546.1 mm (9.25 x 15 x 21.5 in)
- Cart weight, empty: 84 kg (185 lb)
- Shipping weight: 104.4 kg (230 lb)
- Casters (4 swivel): 127 x 50.8 mm (5 x 2 in), 2 with brake
- Color: Base is dark grey; top platform is medium grey

Capacities and Other Dimensions

- Largest monitor screen (diagonal measure): 431 mm (17 in)
- Largest monitor base (W x D): 317.5 x 285.7 mm (12.5 x 11.25 in)
- Maximum monitor column width: 184.1 mm (7.25 in)
- Maximum printer dimensions (W x D): 438.2 x 400.1 mm (17.25 x 15.75 in)
- Maximum printer weight: 12.2 kg (27 lb)
- CD storage capacity (in door): 90 disks
- Largest keyboard (W x D): 609.6 x 216.9 mm (24.0 x 8.50 in)
- Mouse pad (largest recommended): (W x D): 279.4 x 215.9 mm (11.0 x 8.50 in)
- Power: 148-9610
- Rated voltage: 125 VAC
- Rated amperage: 15 amps
- Rated frequency: 60 Hz
- Power cord: 4572 mm (15 ft)

Power Strip

- Outlets: 4

Surge Suppressor

- Electrical rating: 125 VAC, 15 amps
- Maximum surge voltage: 6 KV
- Maximum surge dissipation: 75 Joules
- Maximum spike current: 4500 amps, at 25°C (77°F)
- Maximum clamping ratio: 1.2:1
- Clamping volts: 330 volts
- Clamping response time: <1 Nanosecond
- Temperature range: -40° to +80°C (-40° to +176°F)
- Outlets: 6

Part Number	Description
148-9610	PC Cart, 110-125 VAC, 60 Hz

Probe (17mm Side View Camera) — Borescope, Probe (5.5mm HD Camera) — Borescope, Tool Group (Video Borescope) — Wired, Tool Group (Video Borescope) — Wireless

Model Usage: All Models

Warranty: Manufacturer's



448-0722



448-0723



448-0724



448-0725

European Union Compliant, CE marked

- Video borescopes are used to make visual inspections of internal surfaces where normal viewing is not possible
- In most cases, inspection and analysis can be done without disassembling a product, significantly reducing inspection time
- Use a borescope as a first means of component inspection
- Video borescopes can be used to document inspections with pictures or videos stored on SD memory cards (not included with the tool)
- Borescopes can be used to inspect internal engine surfaces through fuel nozzle holes on engines using "pencil style" injectors
- Other applications include checking turbochargers for cracked or missing blades, checking valve bodies for internal damage or blockage, and checking cylinder walls for scratching or scouring

448-0722

(optional tool not included with either Video Borescope)

- Used to inspect elements perpendicular to the bore, such as walls without the need for a mirror attachment.
- Specifications:
  - IP67 waterproof camera
  - 640 x 480 pixel resolution
  - 0 LUX
  - 1 meter flexible length

448-0723

(optional tool not included with either Video Borescope)

- Used to inspect smaller bores, and record higher resolution pictures and videos.
- Specifications:
  - IP67 waterproof camera
  - 720 x 525 (NTSC) or 720 x 625 (PAL) pixel resolution
  - 0 LUX
  - 1 meter flexible length

448-0724

- Lower cost tool without wireless broadcasting capabilities for regions that restrict their use.
- Specifications:
  - Includes a 9mm, IP67 waterproof, 0 LUX camera that is 1 meter long with 640 x 480 pixel resolution.
  - Built in 2.7" (68.6 mm) color display with 960 x 240 pixel resolution
  - Powered by 4 AA batteries
  - 10°C to 50°C (14°F to 122°F) operating temperature
  - Also includes USB cable, AV Output Cable, Hook attachment, Magnet attachment, and Mirror attachment for side viewing.

448-0725

- Larger Wireless display allows user to position display for easy viewing while manipulating the camera.
- Specifications:
  - Includes a 9mm, IP67 waterproof, 0 LUX camera that is 1 meter long with 640 x 480 pixel resolution.
  - Wireless 3.5" (88.9mm) TFT-LCD color display with 320 x 240 pixel resolution
  - Camera powered by 4 AA batteries, Display uses rechargeable Li Battery
  - 0°C to 40°C (32°F to 104°F) operating temperature
  - Broadcasts at 2468Mhz
- Also includes USB cable, AV Output Cable, 100-240Vac 50/60 hz power adapter, Hook attachment, Magnet attachment, and Mirror attachment for side viewing.

Part No.	Description
448-0722	17 mm Side View Camera
448-0723	5.5 mm HD Camera
448-0724	Wired Video Borescope
448-0725	Wireless Video Borescope

GENERAL DIAGNOSTIC TOOLS

Borescopes

Model Usage: All Models

Warranty: Caterpillar® One Year

REPAIR INFORMATION

Lenox Instrument Company Inc.
265 Andrews Road
Scottsville Industrial Park
Trevose, PA 19053-3427
Phone: (215) 322-9990 or (800) 356-1104
Fax: (215) 322-6126

All borescope systems are warranted to be free from defects in material and workmanship for a period of 12 months from original purchase date from Caterpillar Inc. If repair is necessary, contact Lenox Instrument Company Inc., for information on obtaining required service. Borescopes less than 1 year old will be repaired under warranty (EXCEPT FOR ABUSE). Cost of out-of-warranty repairs will be charged to the owner.

- Cat® line of borescopes are used to make visual inspections of internal surfaces where normal viewing is not possible
- In most cases, inspection and analysis can be done without disassembling a product, significantly reducing inspection time
- Use a borescope as a first means of component inspection
- An adjustable focus under the eyepiece allows clear viewing of internal surfaces and objects
- Borescopes can be used to inspect internal engine surfaces through fuel nozzle holes on engines using "pencil style" injectors
- Other applications include checking turbochargers for cracked or missing blades, checking valve bodies for internal damage or blockage, and checking cylinder walls for scratching or scouring

Reference

- NEHS0838, Tool Operating Manual; Using the 8T-9290, 1U-5268, 146-1738, 186-0170 Inspection Borescopes

Rigid Tube Borescope

- 1U-5268 Borescope provides straight viewing of internal surfaces.
- 1U-5269 Mirror Tube Adapter slides over shaft of 1U-5268 Borescope for right angle viewing.
- Used with either a 1U-5266 and 190-8160 Light Source or a 1U-5265 Battery Light Source
- A 6V-9459 Fiber Optic Light Cable can be used with 1U-5268 Borescope.
- A 6V-9461 Right Angle (90 degree) Viewing Adapter allows operator to view into borescope from a 90 degree direction (use with 1U-5268 Borescope).

Part Number	Description	Probe Diameter	Working Length	Direction of View	Field of View	Focus Range	Total Adjustable View Coverage	Magnification	Resolution	Used with
1U-5268	Direct View Borescope	6.50 mm (0.256 in)	580 mm (23 in)	0 degrees	60 degrees	4.8 mm (0.19 in) to infinity	—	—	—	—
1U-5269	Mirror Tube, 90 degree direction of view)	7.24 mm (0.285 in)	580 (23 in)	90 degrees	60 degrees	4.8 mm (0.19 in) to infinity	—	—	—	1U-5268 Borescope

Basic Borescope Inspection System



Item	Part Number	Description
1	1U-5268	Direct View Borescope
2	1U-5269	Mirror Tube, (90 degree direction of view)
3	6V-9459	Fiber Optic Light Cable 1830 mm (72.0 in)
4	6V-9461	Right Angle (90 degree) Viewing Adapter
5	4C-9662	Instrument Case, 355 x 832 x 115 mm (14.0 x 32.8 x 4.5 in)
6	1U-5265	Battery Light Source
Not shown		
—	1U-6346	Foam Packing for use with 1U-6345
—	207-8837	Light Source Adapter
—	6V-9465	Replacement Rubber Eye Piece (1U-5268)
—	9U-5118	Lamp, 6 volt, for use with 1U-5265

Battery-Operated Borescopes



8T-9290 with Flexible Cord, Battery Pack Handle, and Case

- Provides a compact, battery-powered borescope
- 8T-9290 battery handle can be attached directly or using an extension cable.
- 146-1738 battery handle attaches directly to viewing tube.
- 146-1738 provides 90 degree viewing.

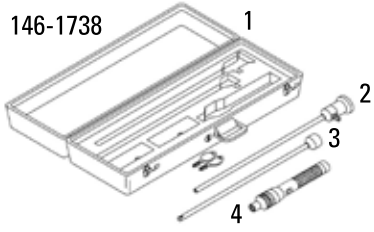
References

- See NEHS0504 for correct replacement bulb.

Description	Probe diameter	Length	Direction of view	Field of view	Focus range
Borescope Mirror Tube	8.0 mm (0.32 in)	305 mm (12.0 in)	1.0 (0.03 in) – infinity	90 degrees	40 degrees

Part Number	Description	Probe Diameter	Length	Direction of View	Field of View	Focus Range
146-1738	Borescopes Kit	6.4 mm (0.25 in)	305 mm (12.0 in)	0 degrees	40 degrees	10 – 317 mm (0.4 – 12.5 in)
8T-9290	Battery-Powered Borescopes	8.0 mm (0.31 in)	240 mm (9.5 in)	90 degrees	60 degrees	6.4 mm (0.25 in) – infinity
Service/Repair Parts (Sold Separately)						
4C-6493	Bulb	—	—	—	—	—

Borescope Kit



Item	Description
1	Borescope Case
2	Precision Borescope
3	90 Degree Viewing Adapter
4	Flashlight (light source)

Flexible Shaft Borescope



- Allows viewing in areas where rigid-shaft borescopes cannot reach
- Articulated tip can be steered around or through obstructions.
- Provides 0 degree and 90 degree directional view

Specifications

- Diameter: 6.00 mm (0.236 in)
- Length: 600 mm (24.0 in)
- Direction of view: 0 degrees
- Field of view: 50 degrees
- Focus range: 5.0 to 304.8 mm (0.20 to 12.0 in)
- Light cable: Built-in
- Mirror head (90 degree side view):
  - Direction of view: 90 degrees
  - Field of view: 50 degrees

Item	Part Number	Description
1	186-0185	Mirror Head (90 Degree Side View)
2	4C-9662	Instrument Case, 355 x 832 x 115 mm (14.0 x 32.8 x 4.5 in)
—	186-0170	Flexible Shaft Borescope
—	FT3152	Shaft Tester Plate

GENERAL DIAGNOSTIC TOOLS

Optional Parts/Equipment 110 VAC and 220 VAC Light Sources



European Union compliant, CE marked (190-8160)

- Compact, lightweight units provide illumination with a 150 watt bulb
- Can be used with 1U-5268 and 186-0170 Borescopes
- Light intensity is adjustable and is controlled by varying voltage output of solid state dimmer
- Light cable plugs into a 12.7 mm (0.25 in) receptacle
- A cooling fan keeps units from overheating
- Bulb circuit is protected with a 2 amp fuse or circuit breaker which is replaceable (resettable)

Part No.	Description	Voltage	Hz	Output	Replacement Lamp (21 V)	Unit Weight	Dimensions	Warranty
190-8160	Light Sources (220 VAC)	220 to 230 V	50 to 60 Hz	150 W	1U-5792	4 kg (8 lb)	222.3 x 120.7 x 158.8 mm (8.75 x 4.75 x 6.25")	Manufacturer's
1U-5266	Light Sources (110 VAC)	120 V	50 to 60 Hz	150 W	1U-5792	—	—	—

Olympus C Video Borescope

Model Usage: All

Warranty: Manfacturer's One Year

Olympus Service 1 800 225 8380, newton.service@olympus-ossa.com



European Union Compliant, CE marked

- Replaces 186-0170
- The Series C videoscope is designed to provide quick and easy inspections of difficult-to-reach areas.
- Olympus' entry-level videoscope provides exceptional articulation, durability and great optics to get the image you need.
- Built for use anywhere you need it and packed with features usually reserved for more expensive units. The Series C will save you time and money.

Features

- Touch Screen
- HDMI Video Out, HDMI Cable
- 4GB SDHC Memory
- Carrying Case
- AC Adapter/Charger
- USB Cable
- Protective Stainless Steel Tip
- Two Batteries
- 3x Digital Zoom
- 8-Step Brightness Control
- 6 mm Rigid Sleeve Set with Grip and 3 Sleeves
- CCD Camera

Specifications

- Insertion tube diameter 6.2 mm (.244 inch)
- Insertion tube length 2 meters (6.6 feet)
- Distal end rigid section length 14.6 mm (.574 inch)
- Field of view 90 degrees
- Angulation up, down, right, left each 120 degrees
- Depth of field 12-150 mm (.47 -5.9 inch)
- Monitor 76 mm (3 inch) 16:9 wide VGA
- Battery life 120 minutes
- Operating temperature insertion tube in air -25 to 80C (-13 to 176F)
- Operating temperature insertion tube in water 10 to 30C (50 to 86F)
- Operating temperature other parts battery powered -10 to 40C (14 to 104F)
- Operating temperature other parts AC Adapter powered 0 to 40C (32 to 104F)

Part No.	Description	Dimensions (W x H x D)	Weight
539-3590	Olympus C Video Borescope	98 x 209 x 89 mm (3.8 x 8.2 x 3.5 in) without insertion tube and cable	Approx. 735 g (25.9 oz) including battery

Battery Light Source



- Rechargeable from 110 VAC power source
- Used with 1U-5268 and 186-0170 Borescopes
- Requires 207-8837 Adapter

Part Number	Description
1U-5265	Battery Light Source

Light Source Adapter



- Used to connect 1U-5268 and 186-0170 Borescopes to 1U-5265 Battery Light Source
- Makes borescopes more portable
- Allows use in areas where a 110 VAC or 220 VAC power source is not available

Part Number	Description
207-8837	Light Source Adapter

Ocular Fiberscope System

Model Usage: DPF Crack Inspection

Warranty: Manufacturer's





European Union Compliant, CE marked

Fiberscope System

- Inspect DPF for cracks
- 1mm OD,1000 mm working length
- Flexible scope length (polyimide)
- 20 mm minimum bend radius on scope shaft
- 10,000 pixel image fiber/70 degree FOV
- 4 mm optical focal length
- Distal metal tip
- 32 mm DIN eye cup (non focusing)
- ACMI light post (light source LED handheld)
- Light intensity control
- Rechargeable Li-Ion battery
- Carrying case, cut foam insert and manual

Optional USB Camera

- USB camera and DIN coupler (1.3 MP color cmos 1280 x 1024)
- 55FPS (30 FPS on USB 2.0)
- Cables and software included
- Can be stored in included carrying case

Part No.	Description	Dimensions	Weight
557-5714	Fiberscope	508 x 305 x 152 mm (20 x 12 x 6 in)	3.2 kg (7 lb)
557-5715	USB Camera	254 x 178 x 76 mm (10 x 7 x 3 in)	0.9 kg (2 lb)

GENERAL DIAGNOSTIC TOOLS

DataView Group, DataView Portable TechStation Group

Model Usage: All Models

Warranty: Caterpillar® One Year



131-5050
(PC not included)

European Union compliant, CE marked

- PC-based diagnostic tool that accepts up to nine standard Cat® sensors for measurements on any engine or machine
- Data Logger using 2 MB PC Memory Card
- Measures pressure, temperature, blowby, position, rpm, Hz, duty cycle (PWM), hydraulic flow, and fuel flow
- Allows many current hand-held diagnostic tools to be replaced with a single unit
- Includes digital and analog measurements, bar graphs, charts, and histograms in real time or Data Logged data
- Can provide test/diagnostic data for test facilities such as dynamometer rooms, transmission test centers, or other application where diagnostic measurements are required
- Future versions of DataView software will interface with other programs such as SIS and ET via Service Technician Workbench (STW)
- 6 "Analog" inputs for measuring any combination of pressure, temperature, blowby, and position
- 3 "Frequency" inputs for measuring rpm, Hz, duty cycle, hydraulic flow, and fuel flow
- 2 "Engine Set Point" inputs
- Calculated channels for displaying sum, difference, and hydraulic horsepower
- Automatic sensor identification of Analog sensors for automatic set-up using Auto ID cables (optional)
- RS232 input connector for 146-4080 Digital Multimeter (DMM)
- Portable TechStation carrying case holds DataView and a portable PC
- Internal battery operates for up to 8 hours
- Operates and charges on 110/220 VAC, 11 to 40 VDC, or 12V Automotive Cigarette Lighter

Minimum PC Requirements

- Connection: Standard parallel (printer) port
- PC with 486, 33 Mhz SL or SXL processor
- RAM: 8 MB
- Available hard disc space: 10 MB
- Diskette drive (add-on): 3.5 in, 1.44 MB
- Monitor: VGA
- DOS version: 5.0 or greater
- Windows 3.1 or Windows 95, OS2 version 2.11, or Warp 3.0
- Printer port: Parallel

General Hardware Specifications

- Rechargeable internal nickel metal hydride battery (Varta C526F, 7.2 volt 2400 mAh)
- AC external power: 131-5052 AC Power Adapter, 90 to 264 VAC, 47 to 63 Hz
- External power connector: 11 — 40 VDC machine power or cigarette lighter adapter
- Power consumption: 2 amp max at 15 VDC
- Low battery indicator: Flashing ON light
- Battery life: 10 hours nominal
- Battery charge time: 6 hours
- Battery charge indicator: Light off — not charging, light on solid — fast charge, light flashing — trickle charge
- Operating temp: -17° to +60°C (0° to 140°F)
- Storage temp: -40° to +100°C (-40° to +212°F)
- Size: 297 x 229 x 45.7 mm (1.7 x 9.0 x 1.8 in)
- Weight: DataView hardware 1.8 kg (4 lb)

Data Logger Specifications

- Data can be logged from all nine channels
- Memory: 2 MB PC PCMCIA flash memory card
- Adjustable up to 1000 samples per second
- Recording time: Varies depending on sample rate and number of channels in use
- Maximum log size: At first release of software, logs will be limited to 8000 samples
- Pre-trigger: Allows logging of events which happen before the log trigger point
- Auto trigger: Logging can be triggered from an event or change in any channel
- Manual trigger: Logging can be manually started from the PC or from the hardware

Part Number	Description
131-5050	DataView Hardware
131-5051	DataView Portable TechStation Group

DataView Group

Analog Channel Specifications

- Connector type: 5-pin DIN connectors (female)
- Analog channel sensor types: Analog inputs are automatically reconfigured with relays to accept voltage, milliamp, RTD, or resistance-type output sensors
- Analog channel input ranges: 0 to 5 VDC; Milliamp: 4 to 20 mA; RTD: 100 ohm, PRTD; Resistance: 15K ohm nominal
- Sensor power supply ranges: 5, 8, 12, or 15 VDC available, firmware selectable
- Input impedance: 500K ohms minimum
- A/D resolution: 12 bit
- A/D Access time: 10 microseconds
- Channel scan rate: 50 microseconds per channel (10 channels scanned in 500 microseconds)
- Frequency response: DC to 300 Hz (2000 samples per second)
- A/D input voltage range: 0 – 5 VDC
- Max input voltage: Protected to 40V RMS or peak

Frequency Channel Input Specifications

- Frequency sensor types: Waveform or pulse inputs
- Input voltage range: 0.1 – 40 VAC or VDC peak
- Allowable signal offset: +0.040 VDC
- Input impedance: 50K ohms minimum
- Frequency response: 3 Hz to 15K Hz
- Frequency accuracy: ±1 Hz
- rpm measurement range: 1 – 9999 rpm
- rpm accuracy: ±1 rpm in selected rpm/PPR ranges
- Pulses per revolution: 0.1 – 256 pulses per revolution;
- Hz: fixed at 60 pulses per revolution
- Pulse width measurement: 1 – 100% duty cycle for 40 Hz to 15K Hz
- Cat® PWM sensor measurement: Special adapter cable required because of DC offset on output signal
- Pulse width accuracy: ±1% for signals above 1V peak
- Photo pickup: Power provided for 9U-5140 Photo Pickup
- Photo pickup range: 3 — 30 inches from retro-reflective tape target

Engine Set Point Specifications

- Set point inputs: 2 inputs provided for use with 2 frequency channels
- Rack contact voltage: 12 VDC
- Rack contact current: 5.5 mA
- Overrun indication: 0 – 10% rack contact closure
- Set point indication: 11% rack contact stores engine rpm
- Lug indication: 75 – 100% rack contact closure

Basic Cat® DataView Group



- Very basic group which includes only DataView hardware unit and accessories necessary to power it and connect it to the PC
- No sensor or adapter cables are included
- Memory card for data logging is not supplied but can be purchased separately

Item	Description
1	JERD2163 DataView Software
Not Shown	NEHS0662 Tool Operating Manual

Item	Part Number	Description
2	131-5050	DataView Hardware
4	137-0169	Cable As — DVFlash
5	131-5059	DataView Rear Flash Programming Cable
6	131-5053	DataView to PC Parallel port cable (short)
7	131-5052	AC Power Adapter, 90 to 264 VAC, 47 – 63 Hz
8	131-5047	Cable — Power, 110 VAC (USA Plug)
9	137-0171	Adapter — Plug AC

GENERAL DIAGNOSTIC TOOLS

DataView Portable TechStation Group



- Contains all accessories, excluding sensors, needed to operate DataView on a PC
- Includes carrying case which holds DataView unit and PC (not included)

Item	Description
1	JERD2163 DataView Software
15	NEHS0662 Hardware Operating Instructions
16	JEBD3004 Software Program Operating Instructions
Not Shown	NEEG2723 Group Label on lid of 131-5051 DataView Group

Item	Part Number	Description
2	133-6976	Memory Card for DataView (2 MB Capacity)
3	131-5050	DataView Hardware
4	137-0173	DataView Carrying Case
5	131-5058	Foam Insert for Universal PC
7 d	6V-2198	Extension Cable
8	8T-5111	Cable As. — Rack Adapter
9	1P-7446	Rack Cable
10	131-5054	Adapter Cable for Cat® Pressure Sensors
11	131-5055	Adapter Cable for Blowby/Airflow Pickups
12	9U-7506	Magnetic Adapter Cable (required for TDC Sensors)
13	131-5056	Adapter Cable for Cat® Hydraulic Flowmeters
14	131-5065	Auto ID Cable for 8T-1002 Position Sensor
18	6V-7072	Lead Kit — Test
19	131-5053	DataView to PC Parallel port cable (short)
20	137-0169	Cable As — DVFlash
21	131-5047	Cable — Power, 110 VAC (USA Plug)
22	131-5052	AC Power Adapter, 90 to 264 VAC, 47 – 63 Hz
23	137-0171	Adapter — Plug AC
24	131-5059	DataView Rear Flash Programming Cable

a. 4 Provided

Optional Equipment



Item	Part Number	Description
1	131-5058	Generic Foam Insert — Fits in 137-0173 Case and has locations for DataView and a square hole for almost any laptop PC, plus a location for Cat® communications adapter
2	137-0173	DataView Carrying Case — Has access door in front to allow DataView to be used without removing it from case. Foam inserts must be ordered separatetly, depending on configuration
4	137-0168	External Power Cable, 11 — 40 VDC, 5 m (18 ft) long
5	133-6975	European DataView Power Cable (220 VAC) — European-style connector to fit 131-5052 AC Power Adapter
6	137-0170	Cigarette Lighter Power Cable (12 VDC)
Not Shown		
—	229-9392	DataView Replacement Battery

Optional Cables and Sensors to Use with DataView

Analog Channel Sensors

Part Number	Description
Pressure Sensors for Analog Channels A 131-5054 Adapter Cable or Auto ID Cable is always required to use the following sensors:	
131-5060	Auto ID Cable (for 4C-6816 Sensor)
131-5061	Auto ID Cable (for 4C-6817 Sensor)
131-5062	Auto ID Cable (for 4C-6818 Sensor)
131-5063	Auto ID Cable (for 4C-6819 Sensor)
131-5064	Auto ID Cable (for 4C-6820 Sensor)
213-3274	DataView Auto ID Pressure Sensor, 689 kPa (100 PSI)
213-3275	DataView Auto ID Pressure Sensor, 6,890 kPa (1,000 PSI)
213-3276	DataView Auto ID Pressure Sensor, 51,675 kPa (7,500 PSI)
4C-6816	Pressure Sensor (0 – 60 PSI)
4C-6817	Pressure Sensor (0 – 100 PSI)
4C-6818	Pressure Sensor (0 – 500 PSI)
4C-6819	Pressure Sensor (0 – 1000 PSI)
4C-6820	Pressure Sensor (0 – 7500 PSI)
Probe Type RTD Temperature Sensors	
4C-6264	Probe — RTD 25.4 mm (1 in) long, 3. 2 mm (0.125 in) diameter
4C-6265	Probe — RTD 38.1 mm (1.5 in) long, 3.2 mm (0.125 in) diameter
4C-6266	Probe — RTD 63.5 mm (2.5 in) long, 3.2 mm (0.125 in) diameter
4C-6267	Probe — RTD 88.9 mm (3.5 in) long, 3.2 mm (0.125 in) diameter
Exhaust RTD Temperature Sensor	
4C-6268	Exhaust Probe RTD
Hand Held RTD Temperature Probes	
4C-6496	Immersion Hand Held RTD Temperature Probe, 3.18 mm (0.125 in) diameter
4C-6497	Surface Hand Held RTD Temperature Probe, 6.35 mm (0.25 in) diameter
Blowby Sensors for Analog Channels	
131-5066	Auto ID Cable for Small Blowby Pickup
131-5067	Auto ID Cable for Small Blowby Pickup
8T-2685	Pickup — Blowby (1,000 CFH)
Position Sensor for Analog Channels	
131-5065	Auto ID Cable for 8T-1002 Position Sensor
5P-4814	Collet As — Clamp
6V-6042	Point Group — Contact
8T-1002	Position Probe

GENERAL DIAGNOSTIC TOOLS

Frequency Channel Sensors

Part Number	Description
	Photo Pickup Speed Sensor
1U-6605	Retro-Reflective Tape, 12.5 mm (0.5 in) x 1.5 m (5.0 ft) long
4C-6919	Retro-Reflective Tape, 25 mm (1 in) x 2.5 m (100 in) long
6V-0093	Retro-Reflective Tape, 12.0 mm (0.5 in) x 47.5 m (50 ft) long
6V-3137	Magnetic Mounting Base for 9U-5140
6V-3138	Extension Rod for 6V-3137
9U-5140	Pickup — LED Photo
	Injection Line Speed Sensor
6V-4950	Injection Line Pickup Group (from Multitach group)
	Tach Generator Speed Sensor
5P-1759	Tachometer Drive Group (additional parts in accessory case)
5P-7360	Tach Generator (20-tooth internal gear)
9U-7506	Magnetic Adapter Cable (required for TDC Sensors)
	Flywheel TDC Magnetic Speed Sensors
6V-2197	Transducer — Magnetic TDC Pickup 114 mm (4.5 in) long
6V-2199	Adapter — Transducer, 1/8 in NPTF
6V-3093	Adapter — Transducer, 1/4 in NPTF
7X-1171	Sensor Mounting Adapter TDC Pickup 114 mm (4.5 in) long
8T-5184	Transducer — Magnetic TDC Pickup 8.9 cm (3.5 in) long
8T-5185	Transducer — Magnetic 17.8 cm (7.0 in) long
9U-7506	Magnetic Adapter Cable (required for TDC Sensors)
	Magnetic Pickup Speed Sensors
6V-4156	Adapter Cable (required for above sensors), Amphenol to Phono Jack
8L-4171	General Purpose Magnetic Speed Sensor, 91 mm (3.5 in) long, 5/8-18 thd
9G-6724	Magnetic Speed Sensor, 76 mm (3.0 in) long, 3/4 — 16 Thread
9U-7506	Magnetic Adapter Cable (required for TDC Sensors)
	Fuel Flowmeters and Fuel Flow Communicator
1U-5306	Hose Adapter Group, Large
	Hydraulic Flowmeters for Frequency Channels The 131-5056 Adapter Cable is required to use the following flowmeters:
4C-8686	Hydraulic Flowmeter, 60 – 700 lpm (15 – 180 gpm)
4C-8687	Hydraulic Flowmeter, 45 – 450 lpm (10 -100 gpm)
4C-9436	Hydraulic Flowmeter, 12 – 120 lpm (3 – 25 gpm)
4C-9911	Hydralic Flowmeter, 8 – 50 lpm (2 – 12 gpm))
4C-9912	Hydraulic Flowmeter, 20 – 220 lpm (5 – 50 gpm)
4C-9913	Hydraulic Flowmeter, 30 – 300 lpm (8 – 80 gpm)
4C-9914	Hydraulic Flowmeter, 50 – 550 lpm (12 – 150 gpm)
	Hydraulic Flowmeters with Load Valves for Frequency Channels
160-2513	Tester Flowmeter, 20 – 220 lpm (5 – 50 gpm)
160-2514	Tester Flowmeter, 15 – 473 lpm (4 – 125 gpm)
160-2515	Tester Flowmeter, 60 – 700 lpm (15 – 180 gpm)

DataView Auto ID Pressure Sensors

Warranty: Caterpillar® One Year



European Union compliant, CE marked

- Low cost pressure sensors
- Used with 131-5050 DataView
- Built-in auto ID
- Plugs directly into DataView Analog Channels
- Accuracy of ±1%
- Replaces discontinued 143-4062, 143-4065, and 143-4066 Pressure Sensors

Specifications

- Pressure ranges: 0 to 689 kPa (0 to 100 PSI)
  - 0 to 6890 kPa (0 to 1000 PSI)
  - 0 to 51675 kPa (0 to 7500 PSI)
- Accuracy: ±1% of full scale or ±1% of reading typical
- Proof pressure: 2 times rated range
- Burst pressure: 5 times rated range
- Connection: Male, 1/4 in NPT thread
- Connector: Male, 5-pin DIN
- Operating temperature range: -40° to 100°C (-40° to 212°F)
- Maximum diameter: 26.0 mm (1.02 in)
- Sensor length: 84 mm (3.3 in)
- Cable length: 305 mm (12 in)
- Weight: 0.13 kg (0.28 lb)
- DataView auto ID resistor: Built-in

Part Number	Description
213-3274	DataView Auto ID Pressure Sensor, 689 kPa (100 PSI)
213-3275	DataView Auto ID Pressure Sensor, 6,890 kPa (1,000 PSI)
213-3276	DataView Auto ID Pressure Sensor, 51,675 kPa (7,500 PSI)

Pressure Sensor (1000 Bar)

Model Usage: All

Warranty: Caterpillar® One Year



- Pressure Testing MP300 Series Multi-Processor Work Tools
- Sensor Data Sheet
- 9/16”-18 UNF -2A Thread

Specifications

- 609.6mm (24 inch) overall length
- .23kg (.5 lbs)

Part No.	Description
458-6580	1000 Bar Pressure Sensor

GENERAL DIAGNOSTIC TOOLS

Battery Pack Group, Battery Cable

Model Usage: All Models

Warranty: Caterpillar® One Year



Specifications

- Portable, rechargeable power supply for use with all Caterpillar® diagnostic tools that require 12-volt DC power
- Provides quick power for short diagnostic tests — no need to open vehicle battery compartment
- 4C-9031 Cable required to connect to diagnostic tools

Part Number	Description
4C-9024	Battery Pack Group (12 V)
4C-9031	Battery Cable

Battery Pack

Specifications

- Volts: 12 VDC
- Capacity: 6 amp hrs. at 20 hr. rating (25°C [77°F])
- Internal resistance: 25 milliohms
- Self discharge: 2 — 3% per month
- Size (L x W x H): 210 x 73 x 165 mm (8.25 x 2.875 x 6.5 in)
- Weight: 3.18 kg (7 lb)
- Charge/discharge cycles: Up to 500 typical
- Operating temperature: -60° to +60°C (-76° to +140°F)
- Charging temperature: -16° to +50°C (+4° to +122°F)
- Recharge time: 16-20 hrs.
- Typical operating times
- Current drain (amps): 0.25, 0.5, 1.0, 2
- Power drain (watts): 3, 6, 12, 24
- Operating time (hours): 20, 11, 5, 2

Battery Cable



Specifications

- Length: 182 cm (6 ft)
- Weight: 0.113 kg (0.25 lb)
- Connectors:
  - Plug: Standard cigarette lighter plug with integral 1 amp fuse
  - Receptable: Standard MS, 2-pin connector used on diagnostic tools

Methane Gas Test Kit for Field Testing

Model Usage: 785C LNG OHTs

Warranty: Manufacturer's



- Designed to accurately and quickly test Methane Sensors for reaction to elevated methane levels in the field
- CNG- and LNG- fueled engines must be tested regularly to maintain accuracy of both the visual and audible alarms
- The state of California mandates methane sensor testing 3 times/year, at equal intervals. Title X111, California Code of Regulations, (13 CCR) Section 935 (b)(2)
- Made as ordered

Kit Contains

- 2-34 L calibrated methane gas test cylinders
- .25 L/minute pressure regulator and gauge
- Testing Instruction on inside of case
- Xintex Methane Sensor testing adapter
- Connecting hose (regulator to test adapter)
- Rugged Polycarbonate storage case

Part No.	Description
478-9229	Methane Gas Test Kit for Field Testing

Field Soldering Iron Group, Field Soldering Iron

Model Usage: All Models

Warranty: Caterpillar® One Year



- Used to solder electrical connections in the field — light-weight and easy to use
- Used with 4C-9024 Battery Pack Group
- Tip is temperature regulated (provides better control for outdoor usage)
- In-line fuse prevents damage and/or overload
- Plugs into any 12V vehicle cigarette lighter plug
- Optional 4C-9024 Portable Battery Pack

Specifications

- Voltage requirement: 12 VDC
- Wattage: 42 Watts
- Tip temperature: 370°C (700°F)
- Length: 190 mm (7.5 in)
- Cord length: 3.5 m (11.50 ft)
- NEEG2588: Soldering Iron Label
- NEEG2587: Case Label

Item	Part Number	Description
2	9U-7562	Solder, 0.5 kg (1 lb) Spool
3	6V-3073	Case — Plastic
—	9U-7560	Field Soldering Iron Group
Service/Repair Parts (Sold Separately)		
—	2S-6024	Fuse or 333672 Fuse, 5 amp

Combustible Gas Detector

Model Usage: Natural Gas Engines

Warranty: Manufacturer's



European Union Compliant, CE marked

- Detects methane and propane gas
- Quickly identifies and pinpoints gas leaks
- Automatic calibration feature
- 5 level LED alarm: >40, >80, >160, >320 and >640 ppm
- Built-in earphone jack with mute function (earphone not included)
- Flexible probe to access difficult measurement areas
- Auto power off ten minutes after last key pressure
- Fast response and high methane sensitivity

Specifications

- Dimensions: 175x70x38 mm (6.89x2.75x1.5 in)
- Probe Length: 447 mm (17.6 in)
- Warm-up Time: <60 Seconds
- Response Time: <10 Seconds
- Operation Temp. Range: -5°C ~ 45°C / 23°F ~ 113°F
- Power Supply: 4 AA Batteries; 9V Power Adapter
- Battery Life: 14 Hours (continuous working)
- Indicator: Intermittent Beep (Acoustic)/LED (Visual)
- Range Methane: 40 – 640 ppm
- Range Propane: 35 – 580 ppm
- Sensitivity: 35 ppm (Propane)

Part Number	Description
450-3225	Combustible Gas Detector

GENERAL DIAGNOSTIC TOOLS

Diagnostic Tool Holder

Model Usage: All Models

Warranty: Caterpillar® One Year



- Frees serviceman's hands while performing critical diagnostic tests
- Magnetized, adjustable device holds multimeter, multitach, electronic position indicator or any diagnostic tool
- Especially helpful while checking or adjusting fuel systems

Part Number	Description
8T-9295	Diagnostic Tool Holder

Tool Case, Soft

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Universal soft case for most Cat® hand-held "green box" diagnostic tools
- Foam insert used to hold standard-size tool
- Resistant to coolant, diesel fuel, and oil
- Adjustable/removable strap
- Clear vinyl front for excellent instrument visibility; provides extra protection
- Opening in top for easy access to all connections of instrument

Part Number	Description
9U-5215	Tool Case, Soft (not as shown)

ProLink Printer (220 VAC/12 VDC)

Model Usage: On-Highway Trucks

Warranty: Manufacturers One Year



- Used to print active diagnostic codes, logged fault event codes, data lists, trip recorder, customer specified parameters, engine rating specifications, snap shot data, and maintenance data
- Provides printed copy for permanent history folder
- Helps troubleshoot intermittent engine problems (allows comparison between properly running engine and an engine with problems)

Reference

- STG00-15, Manual

Specifications

- Power source input: 220 VAC
- Power output to printer: 12 VDC

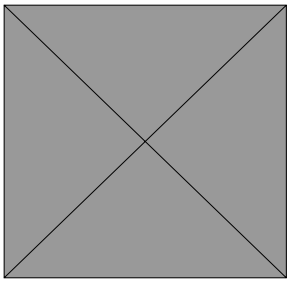
Part Number	Description
206-2933	ProLink Printer (220 VAC/12 VDC)

REPAIR INFORMATION

NEXIQ Technologies
6839 Caminito Sueno
Carlsbad, CA 92009
Phone: 800-639-6774
Fax: 810-731-3348

Oxygen Analyzer

Warranty: Manufacturers



REPAIR INFORMATION

Testo, Inc
See Tool Repair Section for tool repair and calibration locations

European Union compliant, CE marked

- Replaces canceled 348-4570 Oxygen Analyzer
- Measures oxygen content and temperature of exhaust gases on natural gas, diesel fuel, gas, and propane-powered engines
- Rugged, portable design with integrated protective boot
- Built-in magnetic back for hands free work
- Rechargeable Lithium-Ion battery rated for 5 hours of continuous use
- Universal power supply/battery charger with four interchangeable, universal adapter plugs
- Fast 30 second warm up time
- 4-line backlit display (user configurable)
- Sensor diagnostics and battery life indicator
- Oxygen probe hose assembly features a clear, inline filter canister and moisture trap
- Wireless IR link for optional printer

Specifications

- Oper. temp. range: -5° to 45°C (23° to 113°F)
- Storage range: -20° to 49°C (-4° to 120°F)
- Dimensions (L x W x H): 216 x 51 x 48 mm (8.5 x 2.7 x 1.9 in)
- Weight: 0.5 kg (1.1 lb)
- Power supply: Li-Ion rechargeable battery
- Oxygen sensor range: 0 – 21% at 0.1% res.
- Probe temperature range:
  - -40°C to +500°C at 0.17° resolution
  - (-40°F to +932°F at 0.1° resolution)
- Draft-resolution: ± 16 in H2O at 0.001 in H2O -resolution
- Battery Voltage: 3.4 – 4.2 VDC
- Battery Charger Input: 100 – 240 VAC, 50 – 60 Hz
- Battery Charger Output: 5 VDC, 2.0 amps
- Includes carrying case (not shown)

Item	Part Number	Description
1	462-5776	Oxygen analyzer
2		Clear particle filter and moisture trap canister
3		Probe with hose
4		Replacement particle filters
5		Filter removal tool
6		Universal power supply/battery charger with adapter plugs
Not shown		Carrying case

Oxygen Sensor	209-5555	462-5775	462-5775
Filter	209-5554	454-6323	454-6323

Monitor Extension Cable

Model Usage: 320C Excavator

Warranty: Caterpillar® One Year



- Used to connect in-cab system monitor to a remote monitor
- Provides ground-level system monitoring to instructors and training students

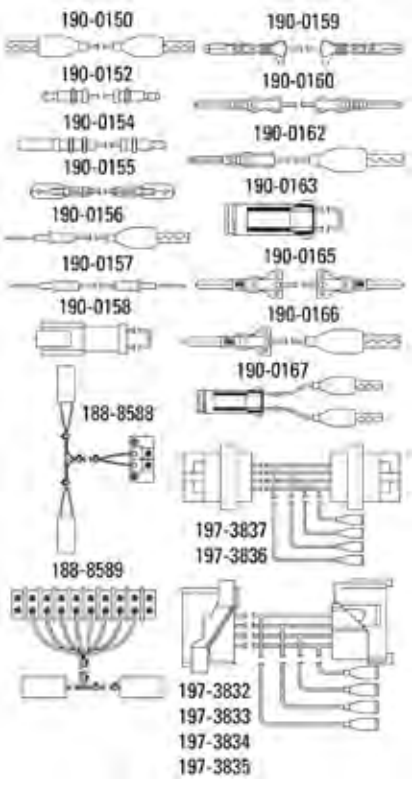
Part Number	Description
205-8335	Monitor Extension Cable

GENERAL DIAGNOSTIC TOOLS

Wiring Harnesses for 320 SCM Excavators

Model Usage: 320 B and C SCM Hydraulic Excavators

Warranty: Caterpillar® One Year



Used to check a variety of electrical connections including: continuity between terminals, terminals and ground, or terminals and battery; measuring voltage between terminals; and checking reducing valve, governor actuator, engine/pump controller signal, engine/pump controller, and engine/pump attachment

192-8733 Harness Group (320 C)

- Used to check continuity between terminals, or measure voltage between terminals, terminals and ground, or terminals and battery
- 190-0165 Harness Type 12 used on AMP female terminals
- 190-0166 Harness Type 13 used on AMP female and clip-type terminal
- 190-0167 Harness Type 14 used to connect Deutsch 2-pin type receptacle and clip-type

188-8588 Valve Test Harness (320 B and C)

- Measures a current signal (Sweep Test)

188-8589 Governor Test Harness (320 C)

- Measures a voltage signal across different connections (Sweep Test)

192-8734 Harness Group (320 C)

- Measures a voltage signal across different connections of controller

192-8735 Harness Group (320 C)

- Measures a voltage signal across different connections of controller

Part Number	Description
192-8733 Harness Group (320 C)	
190-0165	Harness Type 12
190-0166	Harness Type 13
190-0167	Harness Type 14
192-8733	Harness Group (320 C)
188-8588 Valve Test Harness (320 B and C)	
188-8588	Valve Test Harness (320 B and C)
188-8589 Governor Test Harness (320 C)	
188-8589	Governor Test Harness (320 C)
192-8734	Harness Group (320 C)
192-8735 Harness Group (320 C)	
192-8735	Harness Group (320 C)

Ultrasonic Leak Detection Tool

Model Usage: CT660



- Checks for pressure and vacuum leaks
- Extremely broad based
- Senses ultrasounds generated by a leak
- Can locate leaks in pressurized systems

Part No.	Description
372-5241	Ultrasonic Leak Tool

Ultrasonic Sound Transmitter for Leak Detection

Model Usage: All

Warranty: Manufacturer's



European Union Compliant

- Used with 372-5241 Ultrasonic Leak Detector to supply ultrasonic signal for locations where the gas/air leak does not have sufficient pressure to create an ultrasonic sound for detection of cracks and openings

Specifications

- Operating Temp: 32ºF to 100ºF (0ºC to 38ºC)
- Storage Temp: -40ºF to 150ºF (-40ºC to 66ºC)
- Frequency: 40kHz
- Power Consumption: 8.5mA at 9 Volts
- Approximate Battery Life: 60 Hours with 9 Volt Alkaline Batteries

CALIBRATION AND SERVICE

To return an Amprobe test tool for warranty or non-warranty repair, replacement or calibration please call 1-877-AMPROBE and select option 2 for RMA (Return Merchandise Authorization) instructions.

Part No.	Description	Dimensions	Weight (w/battery)
492-4953	Ultrasonic Leak Detector	165 x 63.5 X 25.4 mm (6.5 x 2.5 X 1 in)	0.176 kg (0.388 lb)

Harness

Model Usage: All Models

Warranty: Caterpillar® One Year



- Replaces discontinued 9W-6370 Harness
- Used with Signal Generator/Counter to test and adjust all engine electronic speed switches, whether 2, 3 or 4 element (9W-6370 checks only 2 and 3 element speed switches; 4C-6534 Harness provides higher voltage signal which will operate 4 element speed switches)
- Length: 1524 mm (60 in)

Reference

- SEHS8657, Special Instruction

Part Number	Description
4C-6534	Harness

Hook and Loop Fastener

*Warranty: Caterpillar® S*ix Months



- Fast — lets you secure and release cables quickly and easily with the combinations of Velcro strap and nylon tie
- Easy — mounts to cables permanently; installs in seconds
- Reuseable
- Tidy — keeps cables neat and safe
- A great way to coil them for storage — a better way to keep harnessed cables organized

Part Number	Description	Size (W x L)
9U-5061	Closed Loop	25.4 x 177.8 mm (1 x 7 in)
9U-5062	Open loop	25.4 x 177.8 mm (1 x 7 in)
9U-5063	Open loop	38.1 x 457 mm (1 1/2 x 18 in)

Pocket Microscope, 40X with Light

Warranty: Caterpillar® One Year



- Replaces canceled 6V-2196 Microscope and 6V-7894 Microlite
- 40X microscope is a general usage instrument, but is specifically recommended for checking crankshaft bearing surfaces after magnetic inspection
- Small, lightweight folding design with built-in inspection light and adjustable focus lens
- Scale reading in 0.05 mm increments for accurate measurement
- Light source uses a standard 222 bulb with a screw-type base (can also use 6V-3061 as replacement bulb)
- Requires two 1U-9535 Alkaline 1.5V "AAA" size batteries (not included)

Part Number	Description
262-8390	Pocket Microscope, 40X with Light

GENERAL DIAGNOSTIC TOOLS

Dual Scale Pressure Gauges in Brass Case

*Warranty: Caterpillar® S*ix Months

- Dual scale, liquid-filled pressure gaugeInside scale is kilopascals (kPa)
- Outside scale is pounds per square inch (PSI)

Specifications

- Gauge diameter: 63.5 mm (2.50 in)
- Accuracy: 1.6%
- Connector: 1/4-18 NPTF

Part Number	Connection Location	Range
8T-0846	Back	0 to 1,000 kPa (0 to 145) PSI
8T-0847	Back	-100 to 0 to 50 kPa (-15 to 0 to 72) PSI
8T-0848	Back	0 to 400 kPa (0 to 58) PSI [a]
8T-0849	Back	0 to 2,000 kPa (0 to 290) PSI [a]
8T-0850	Back	0 to 4,000 kPa (0 to 580) PSI [a]
8T-0851	Back	0 to 16,000 kPa (0 to 2,300) PSI [a]
8T-0852	Back	0 to 40,000 kPa (0 to 5,800) PSI [a]
8T-0853	Stem	0 to 400 kPa (0 to 58) PSI
8T-0854	Stem	0 to 1,000 kPa (0 to 145) PSI
8T-0855	Stem	0 to 4,000 kPa (0 to 580) PSI
8T-0856	Stem	0 to 6,000 kPa (0 to 870) PSI
8T-0857	Stem	0 to 10,000 kPa (0 to 1,450) PSI
8T-0858	Stem	0 to 16,000 kPa (0 to 2,300) PSI
8T-0859	Stem	0 to 25,000 kPa (0 to 3,600) PSI
8T-0860	Stem	0 to 40,000 kPa (0 to 5,800) PSI
8T-0861	Stem	0 to 60,000 kPa (0 to 8,700) PSI
8T-0862	Stem	-100 to 0 to 500 kPa (-15 to 0 to 72) PSI
8T-0863	Stem	0 to 250 (0 to 36) PSI

Standard and Certified Pressure Gauges in Brass Case

*Warranty: Caterpillar® S*ix Months



- Dual scale, liquid-filled pressure gauge
- Inside scale is kilopascals (kPa)
- Outside scale is pounds per square inch (PSI)
- Certified gauge has a serial number and certificate of accuracy from the manufacturer

Specifications

- Accuracy: 1.6%
- Connector: 1/4-18 NPTF
- Gauge diameter: 63.5 mm (2.50 in)
- Gauge diameter of 186-2613: 101.6 mm

Certified Part No.	Part Number	Range
Dual Scale Pressure Gauges (Back Connector) 2.50 in		
186-2592	8T-0846	0 to 1,000 kPa (0 to 145) PSI (a)
186-2593	8T-0847	-100 to 0 to 50 kPa (-15 to 0 to 72) PSI
186-2594	8T-0848	0 to 400 kPa (0 to 58) PSI (a)
186-2595	8T-0849	0 to 2,000 kPa (0 to 290) PSI (a)
186-2596	8T-0850	0 to 4,000 kPa (0 to 580) PSI (a)
186-2597	8T-0851	0 to 16,000 kPa (0 to 2,300) PSI
186-2598	8T-0852	0 to 40,000 kPa (0 to 5,800) PSI
Dual Scale Pressure Gauges (Stem Connector) 2.50 in		
—	212-7043	0 to 700 kPa (0 to 100) PSI
186-2601	8T-0853	0 to 400 kPa (0 to 58) PSI
186-2602	8T-0854	0 to 1,000 kPa (0 to 145) PSI
186-2604	8T-0855	0 to 4,000 kPa (0 to 580) PSI
186-2605	8T-0856	0 to 6,000 kPa (0 to 870) PSI
186-2606	8T-0857	0 to 10,000 kPa (0 to 1,450) PSI
186-2607	8T-0858	0 to 16,000 kPa (0 to 2,300) PSI
186-2608	8T-0859	0 to 25,000 kPa (0 to 3,600) PSI
186-2609	8T-0860	0 to 40,000 kPa (0 to 5,800) PSI
186-2610	8T-0861	0 to 60,000 kPa (0 to 8,700) PSI
186-2611	8T-0862	-100 to 0 to 500 kPa (-15 to 0 to 72) PSI
186-2612	8T-0863	0 to 250 (0 to 36) PSI
Dual Scale Pressure Gauges (Stem Connector) 4.00 in		
186-2613	8T-0820	0 to 70,000 kPa (0 to 10,000) PSI

a. Can be used in 1U-5481 Transmission Test Group

Standard Pressure Gauge, Certified Pressure Gauge

Warranty: Six Months



- Grade "A" liquid-filled dual scale (kPa range 0 to 70,000, PSI range 0 to 10,000), 101.6 mm (4.0 in) diameter with 1/4 inch NPT thread and stem mounted
- General purpose gauge; can be used with all Cat® electric hydraulic pumps
- Certified gauge has serial number and certificate of accuracy from the manufacturer

Part Number	Description
186-2613	Certified Pressure Gauge
8T-0820	Standard Pressure Gauge

Pressure Gauge

*Warranty: Caterpillar® S*ix Months

- Liquid-filled pressure gauges designed for use with the most popular series of hydraulic pullers and rams 8T-5343 Gauge is a bottom mount pressure gauge having 1/4 inch NPT threads
- 8T-5342 Gauge is a lower back-mounted pressure gauge
- Both gauges have a 101.6 mm (4.00 in) liquid filled housing
- Provide Grade A accuracy with a pressure range of 0 to 70,000 kPa (0 to 10,000 PSI)
- Tonnage scales are provided for 30, 50, 70, 100 and 150 ton cylinders (27T, 45T, 63.5T, 91T and 136T)

Part Number	Description
8T-5342	Pressure Gauge
8T-5343	Pressure Gauge

Digital Pressure Gauge (0 to 500 PSI)

*Warranty: Caterpillar® S*ix Months



- 2 3/4 inch gauge has 1% of full scale accuracy
- Gauge reads in PSI only
- Operates in 0-50°C (32-122°F)
- NIST certified
- 1/4 inch NPT stem style connection
- Requires a 9-volt alkaline battery
- Weight: 0.198 kg (7 oz)

Part Number	Description
210-6990	Digital Pressure Gauge (0 to 500 PSI)

Service Indicator

*Warranty: Caterpillar® S*ix Months



- Used to monitor filter condition
- Has 1/8 inch NPT port out on middle of back
- Has a 50.8 mm (2 in) diameter face with green background to 20 PSI, yellow background to 24 PSI, and red background to 60 PSI

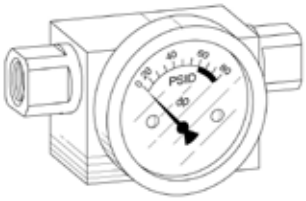
Part Number	Description
9U-6986	Service Indicator

GENERAL DIAGNOSTIC TOOLS

Differential Pressure Gauge

Model Usage: 201-8131 Heavy Duty Filter Cart (discontinued)

*Warranty: Caterpillar® S*ix Months



- Used to monitor pressure drop across filter element
- Used with discontinued 201-8131 Heavy-Duty Filter Cart
- Easily mounts anywhere (can be panel mounted)
- 1/4 inch NPT hose connections

Specifications

- Maximum temperature: 93°C (200°F)
- Maximum pressure: 400 bar (6000 PSI)
- Full range scale: 0 to 100 PSI
- Accuracy FSD: ± 2%
- Dial size: 63.5 mm (2.50 in)
- Hose connections: 1/4 FNTP
- Line connections: Back mount
- Lens: Plastic
- Body material: Aluminum
- Units of measure: Pounds per square inch (PSI)
- Seals: Viton
- Red zone: From 60 PSI and higher

Part Number	Description
218-8445	Differential Pressure Gauge

Grommet

*Warranty: Caterpillar® S*ix Months



- Provides protection to gauges during field operations
- Fits stem or back-mounted gauges with 63 mm (2 1/2 in) face diameters and thicknesses of 28 mm (1 1/8 in)

Part Number	Description
1U-5809	Grommet

Calibrating Group Pressure Gauge

Warranty: Manufacturer's One Year



- 3 gauges of 1/2% accuracy with pressure ranges of 1100 kPa (160 PSI), 4150 kPa (600 PSI), and 34,500 kPa (5000 PSI)
- 2 lower pressure gauges protected from excessive pressure by 2 sensor valves which shut off the pressure signal to the gauges at a preset value
- Separate source of pressure is required to actuate the calibrating group

Reference

- NEHS0977, Tool Operating Manual

REPAIR INFORMATION

Carrier-Oehler
16955 Vincennes Avenue (Shipping)
P.O. Box 40 (Mailing)
South Holland, IL 60473
Phone: (708) 339-8200
Fax: (708) 339-9830

Item	Part Number	Description
—	5P-8558	Calibrating Group Pressure Gauge
Components Used for Testing with the 5P-8558 Calibrating Group		
2	1P-2375	Coupler Assembly Quick Connective (Male)
3	1P-2376	Coupler Assembly Quick Connective (Female) (2)
4	8F-0024	Hose Assembly
5	1S-8937	Valve - Needle
6	5P-8998	Nipple - Pipe

Gauge Comparator

*Warranty: Caterpillar® S*ix Months



- Used to compare accuracy of analog and/or digital gauges (compares gauge in question to a precise master gauge)
- Used with 204-7394 7000 kPa Precision Gauge, 204-7395 35000 kPa Precision Gauge, and 198-9257 70000 kPa Precision Gauge (not part of 204-7393)
- Can also be used to check accuracy of 198-4240 Digital Pressure Indicator Group
- Quick-sealing, threaded gauge adapters allow quick and easy gauge changes
- Works in stationary or portable applications (can be bench mounted or mounted to a rolling cart)
- Hand wheel allows minute pressure changes to be made
- Large diameter master gauges for easy pressure reading
- Master gauges have dual scale pressure readings (inside [kPa] and outside [PSI])

Specifications

- Range: 0 – 68900 kPa (0 – 10000 PSI)
- Pressure medium: Water, animal/vegetable oil, or alcohol
- Mounting: 4 holes
- Dimensions (W x H x D): 275 x 200 x 270 mm (10.8 x 7.9 x 10.6 in)
- Weight: 5.9 kg (13 lb)
- Connections: 1/4-18 NPTF female
- Accuracy: ±0.25% of span

Part Number	Description
204-7393	Gauge Comparator

Calibrating Group Pressure Gauge



Item	Part Number	Description
1	5P-0946	Box
2	1P-2375	Coupler Assembly Quick Connective (Male)
3	8S-4600	Nipple (2) a
4	8S-4599	Coupling Assembly — Quick Disconnect

a. Other nipples available for gauge attachment are 2S-5244, 1/4 in NPT External Thread

GENERAL DIAGNOSTIC TOOLS

Pressure/Temperature Test Group

Model Usage: C18 Marine Gensets

Warranty: Manufacturer's



European Union Compliant

- Used to generate pressures and temperatures for testing sensors and switches
- Hand pump pressure generator with digital gauge
- AC powered thermal generator with digital display
- Test hose and adaptor fittings for common pressure sensors
- Thermal generator accepts multiple size temperature probes
- Common o-ring seals included for replacement when removing sensors from system
- Square key tool for isolation valves
- Phillips screwdriver for connector removal on some sensors
- Thermal generator and pressure generator have manufacturer's warranty
- Required tool for MCS alarm system witness test
- Weight, 12 kg
- Adaptor fittings for:
  - 12 mm JIC Male
  - 14 mm JIC Male
  - 9/16 JIC Male
  - 7/16 JIC Male and Female
  - 16 mm sample port
- Pressure Generator
  - Pressure to 40 bar (600 PSI)
  - Vacuum to -0.96 bar (-13.9 PSI)
  - Wetted materials: aluminum, silicon, neoprene, stainless steel, Buna-N
  - Display units: PSI, Bar, KAP

Temperature Generator

- Power: 115 VAC (±10%), 4.4 A or 230 VAC (±10%), 2.2 A, switchable 500 W
- Ambient Temperature: 5–50°C (41–122°F)
- Operating Range: 35–350°C (95–662°F)
- Resolution: 0.1°C or °F resolution
- Readout: Switchable °C or °F
- Accuracy: 0.5°C (±0.9°F), in holes greater than 1/4" (6.35 mm) accuracy is ±1°C (±1.8°F)
- Stability: 0.03°C at 50°C, 0.05°C at 350°C
- Uniformity: ±0.4°C typical, ±0.1°C with similarly sized wells
- Heater: 500W
- Heating Time: 12 minutes from ambient to 350°C
- Cooling Time: 15 minutes from 350°C to 100°C
- Cooling: 2 speed internal fan
- Stabilization Time: 7 minutes
- Fault Protection: Sensor burnout and short protection, over temperature thermal cut-out, electrical fuses
- Fuse Rating: 115 V: 6 A (fast acting), 250 V 230 V: 3.15 A (fast acting), 250 V

Item	Part Number	Description
–	453-3204	Pressure/Temperature Test Group
1	453-3208	Thermal Generator
2	453-3209	Pressure Generator group
3	9U-6795	Test hose
4	4C-9660	Case
5	Various	O-ring Seals
6	453-3207	Isolator valve key, square 7mm
7	–	Phillips screwdriver
8	–	Power cords
9	453-3210	Thermal generator probe insert (installed in generator)
10	–	Pressure sensor adaptor fittings
11	453-3205	Foam Insert only

Marine Sea Trial Adapter Group

Model Usage: All Cat® Marine Propulsion, Auxiliary and Generator Set Engines

Warranty: Caterpillar® One Year



464-1090 Group (with cables)



464-1090 Group (without cables)



464-1091 Adapter Group



464-1092 Switchbox



464-1092 Switchbox connected to Multi-Tool

- 20 digital channels to take temperature and pressure readings during marine sea trial
- Select 1-20 channels to display on multi-tool
- Uses 1/8" probe RTD temperature sensors
- Uses 500 psi sensors with quick couplers
- Extension cables keep technician away from engine
- Contains adapter fittings and o-rings
- Reduce setup time—everything required is in one place
- Adapters and fittings in labeled box make it easy to identify missing fittings and parts available in the Cat® Parts System
- Four marine sea trial groups can be connected to one multi-tool to display 80 channels

Specifications

- Dimensions: 590.6 x 527.1 x 228.6 mm (23.25 x 20.75 x 9 in)
- Weight: 21.2 kg (46.8 lbs)

Reference

- NEHS1111 MultiTool Group
- NEHS1207 Tool Operating Manual

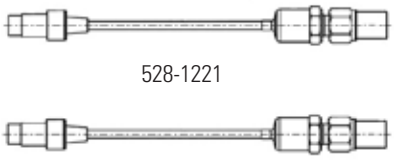
Part No.	Description	Quantity
464-1090	Marine Sea Trial Group (Multi-Tool Group 368-9910 not included)	-
464-1091	Adapter Group	1
464-1092	Switch Box	1
464-1093	Foam Insert	1
Also Included in Group:		
262-7732	Magnetic Feet	4
376-4170	500 psi Sensor	12
4C-6265	RTD Sensor 1.5" Probe	2
4C-6266	RTD Sensor 2.5" Probe	8
4C-6268	RTD Exhaust Sensor	2
4C-9660	Pelican Carrying Case	1
6V-2198	5-Pin Din Extension Cable	20
9U-5061	Velcro Cable Tie	20
NEHS1207	Tool Operating Manual	1
NEEG3163	Decal for Carrying Case	1

GENERAL DIAGNOSTIC TOOLS

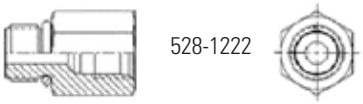
Diesel Exhaust Fluid Pressure Group

Model Usage: Marine Tier 4/IMOIII Engines

Warranty: Caterpillar® Six Months



528-1221



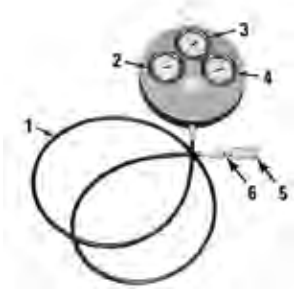
528-1222

- Used to measure pressure in systems where DEF is present
- Pressure sensors and adapters are stainless steel and are resistant to DEF.
- Adapter sized to fit DEF fitting

Part No.	Description	Dimensions	Weight	WLL
528-1221	Diesel Exhaust Fluid Pressure Group	7 x 4 x 2 in	1.6 lb	500 psi
528-1222	Adapter (replacement)	-	-	-

Tetragauge

Warranty: Caterpillar® Six Months



- Functions as a general purpose pressure measuring device
- Capable of measuring hydraulic or air pressure from -100 to 40 000 kPa (-14.5 to +5800 PSI)
- Background of the kPa scale is highlighted in yellow to indicate metric units
- 2 lower pressure gauges are protected from over-pressurization by 2 sensor valves which shift and prevent pressure from increasing past a pre-set value which is less than the full-scale range of the gauges; the highest pressure gauge is not protected by a shutoff valve

Item	Part Number	Description
1	1U-5757	Hose Assembly
2	8T-0862	Gauge, -100 to 500 kPa (-14.5 to 72.5 PSI)
3	8T-0860	Gauge, 0 to 40,000 kPa (0 to 5,800 PSI)
4	8T-0855	Gauge — Pressure
5	6V-4144	Coupler Assembly (For 42000 kPa)
6	4S-6399	Connector
-	8T-5324	Repair Kit
-	6V-7830	Tetragauge

Tool Group (Hydraulic System Test)

Model Usage: 6015, 6015B, 6018, 6020B, 6030, 6030B, 6040, 6050, 6060, 6090

Warranty: Manufacturer's



- Used to perform testing and troubleshooting on the HMS 60XX series machines

Specifications

- Dimensions: 400 x 300 x 330 mm (16 x 12 x 13 in)
- Weight: 13 kg (28.6 lb)

Part Number	Description
456-6429	Tool Group (Hydraulic System Test)

Cable Assembly

Model Usage: Off-Highway Trucks

Warranty: Caterpillar® One Year



- Used to download information from TPMS (Truck Payload Measurement System) to a users laptop computer
- Setup functions, diagnostics, and productivity reports are available using TPMS, this cable, and TPM software package (available separately)

Specifications

- Truck cab connector: 5 pin MS
- Computer connector: 9 pin serial port

Part Number	Description
9X-3075	Cable Assembly

Cable, TPMS, VIMS, WLP to PC

Model Usage: All Off-Highway Trucks

Warranty: Caterpillar® One Year



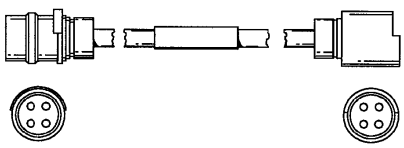
- Replaces discontinued 9X-3393 Cable Group
- Used to download data from off-highway trucks
- Used with Truck Payload Measurement System (TPMS) software package and IBM compatible personal computer
- Cable connects to 5-pin circular connector on TMPS and 9-pin "D" connector on computer
- New cable allows data to be downloaded from ground level (eliminates need to turn keyswitch inside cab)

Part Number	Description
127-9797	Cable, TPMS, VIMS, WLP to PC
Service/Repair Parts	
8C-4797	Socket
8C-6313	Connector

Extension Cable

Model Usage: 320, 330, and 325 Hydraulic Excavators

Warranty: One Year



- Used to extend reach of 7Y-5500 Control Group into cab — allows technician to adjust hydraulic system from inside cab
- Efficient and cost effective way to diagnose hydraulic system problems
- Length: 6 m (20 ft)

Part Number	Description
9U-6386	Extension Cable
Service/Repair Parts	
7N-7779	Socket Connector
7N-7780	Pin Connector
7N-8204	Socket Housing
7N-8205	Plug Housing

GENERAL DIAGNOSTIC TOOLS

Breakout T-Adapter

Model Usage: Lexion Combine

Warranty: Caterpillar® One Year



- Used to check voltage at solenoid while it is in use (verifies if solenoid is not working or there is no power to solenoid)
- Fits all standard DIN 43650 type connectors
- Connects between machine harness and solenoid

Part Number	Description
218-3363	Breakout T-Adapter

Training Harness

Model Usage: C-15 Engines

Warranty: Caterpillar® One Year



- Used to connect between C-15 Electronic Training Aid and 70 pin ECM connector
- Simulates 6-cylinder industrial engine

Part Number	Description
209-1969	Training Harness

Harness

Model Usage: 3500B EPG and Marine Engines

Warranty: Caterpillar® One Year



- Used to connect engines' ECM to front panel connectors on Electronic Control System Simulator (wire colors and wire codes match production machines)
- Engine wire harness colors are identical to the training aid wire harness colors
- Used with 114-0905 Electronic Engine Training Aid
- 189-2231 Harness used for 3500B EPG Engine applications

Part Number	Description
189-2231	Harness

Gauge Mounting Group

Warranty: Caterpillar® Six Months



- Used to mount fluid-filled, 63.5 mm (2.50 in) diameter gauges, both kPa and PSI back-mounted, in the discontinued 6V-4160 Transmission Test Case; some U-shaped mounting panels may need to be modified by brazing a piece of sheet metal to the U-shaped mounting panel to make it 4.8 mm (0.188 in) deeper
- Use for transmission test cases without a U-shaped mounting panel

Part Number	Description
8T-5135	Gauge Mounting Group

Vibration Analyzer

Model Usage: All

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- Genset linear vibration monitoring per Caterpillar Specification with report generation
- Genset linear vibration monitoring per ISO8528-9 Specification with report generation
- Genset linear vibration monitoring per Custom Specification with report generation
- Shock Pulse Measurement (SPM) Method (HDm/HDc) functionality (Used for evaluation of ball bearing and grease integrity with optional transducer)
- Programmable function keys
- One hand operation, right or left
- Accepts IEPE standard vibration transducers
- Carbon-fiber-reinforced enclosure, IP65
- RF transponder for contact free measuring point identification, read and write functions in connection with optional memory tags
- Drop test 1 meter according to IEC 60079-0
- Waterfall, phase and real time spectrum
- Simultaneous recording for up to 50 hours
- Stroboscope input/output for rpm measurement with optional sensor
- Download thousands of measuring points
- Stethoscope function, (Headset required)
- Automatic transducer line test
- Voice recording of comments (Headset required)
- Upgradable by manufacturer for advanced features

Supported Languages

- English
- Polish
- Czech
- Finnish
- German
- Netherlands-Dutch
- Russian
- Simplified Chinese
- Spanish
- Swedish
- Norwegian

Specifications

- Display: TFT color, 480 x272 pixels, 4.3 inch widescreen, adjustable backlight
- Dynamic range: up to 120dB, 24bit A/D converter
- Communication: USB 2.0
- Power supply: rechargeable Lithium-Ion battery pack 5200 mAh or power adapter Battery power: for min. 16 hours normal use (at 20 °C)
- Operating temperature: -20 to 50 °C (-4 to 122 °F) non condensing
- Vibration channels: 1 channel (Optional 3 simultaneous)
- Frequency range: 0 (DC) to 10 kHz (Optional 40Khz) …Cat Spec uses 2-300hz, ISO Spec uses 2-1000hz
- Resolution: max. 6400 (Optional 25,600 lines) …Cat and ISO Spec uses ½ order resolution
- Measuring techniques: Cat Spec, ISO8528-9, ISO 2372, (Optional - ISO 10816, EVAM vibration analysis, enveloping, orbit analysis, shaft centerline plot, balancing, run up/coast down, bump test, frequency response function)
- SPM Measuring techniques: SPM HDm/HDc Standard, (Optional , dBm/dBc, LR/HR and LR/HR HD)

Reference

NEHS1223, Tool Operating Manual

REPAIR INFORMATION

Manufacturer repaired, go to https://www.spminstrument.com/cat for repair center location.

469-1620 Group Contents

Item	Part Number	Description
1	469-1621	Vibration Analyzer
2	469-1630	Battery Charger
3	469-1626	Battery
4	469-1622	Vibration Transducer
5	474-9423	Magnet
6	469-1623	Transducer Cable
7	NEHS1223	Software and Manual, USB Stick
8		USB cable
9		Case with Foam

Optional Accessories

Part Number	Description
474-9421	Headset with Microphone (used for stethoscope and voice memo functions)
474-9419	Shock Pulse Probe
474-9422	Laser tach and non contact temperature probe

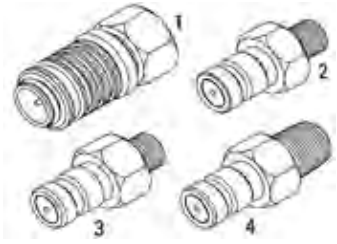
GENERAL DIAGNOSTIC TOOLS

Fluid Sampling Valves and Quick Connect Couplers

Warranty: Caterpillar® Six Months

- Used to quickly take oil test samples (S·O·S) or make diagnostic connections
- Used with 169-8373 Bottle Group (oil sampling)
- Easy connection between coupler and sampling valve for continuous oil flow
- Designed specifically for use with portable particle analyzer
- Specific groups designed to work together without leaks or damage to sampling valves or coupler

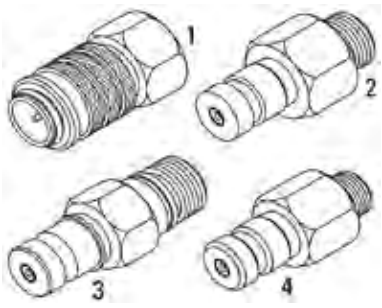
Single-Purpose Sampling Valves and Coupler



- Low-pressure, single-purpose sampling valves and coupler used to sample fluid only
- Do not use with 183-7264, 183-8652, and 229-5465 Sampling Valves or 210-5530 Quick Coupler
- Quick coupler has black oxide sleeve for easy identification

Item	Part No.	Thread Description	Operating Size	Burst Pressure	Max. Operating Pressure	Seal Temperature	Seal Material
Low-Pressure, Single-Purpose Quick Coupler and Sampling Valves							
1	243-3133	Quick Coupler	3/4 -18 NPTF	14,000 kPa (2,000 PSI)	3500 kPa (500 PSI)	107°C (225°F)	BunA-N
2	8C-3345	Sampling Valve	M10 x 1	14,000 kPa (2,000 PSI)	3500 kPa (500 PSI)	121°C (250°F)	Viton
3	8C-3446	Sampling Valve	7/16 — 20	14,000 kPa (2,000 PSI)	3500 kPa (500 PSI)	121°C (250°F)	Viton
4	7X-3387	Sampling Valve	1/4 — 18 NPTF	14,000 kPa (2,000 PSI)	3500 kPa (500 PSI)	121°C (250°F)	Viton

Dual-Purpose Sampling Valves and Coupler



- High-pressure, dual-purpose valves and coupler used to sample fluid and for diagnostic purposes
- Do not use with 8C-3345, 8C-3446, and 7X-3387 Sampling Valves or 243-3133 Quick Coupler
- Dual-purpose sampling valves are flow rated at 3 L (0.79 gal) a minute in diagnostic applications

NOTICE

Using discontinued 70-8505 Quick Coupler will cause damage to 183-7264, 183-8652, and 229-5465 Sampling Valves.

Item	Part Number	Description	Thread Size	Max. Pressure	Operating Pressure	Seal Temperature	Seal Material
High-Pressure, Dual-Purpose Quick Coupler and Sampling Valves							
1	210-5530	Quick Coupler	1/4 — 18 NPTF	41,350 kPa (6,000 PSI)	—	104°C (220°F)	BunA-N
2	183-7264	Sampling Valve	9/16 — 18-2A	41,350 kPa (6,000 PSI)	10,300 kPa (1,500 PSI)	—	Viton
3	183-8652	Sampling Valve	9/16 — 18	41,350 kPa (6,000 PSI)	10,300 kPa (1,500 PSI)	—	Viton
4	229-5465	Sampling Valve	7/16 — 20	41,350 kPa (6,000 PSI)	10,300 kPa (1,500 PSI)	—	Viton

Contamination Monitor

Model Usage: All

Warranty: Manufacturer's



European Union compliant, CE marked

- Portable service unit for the temporary measurement of particulate contamination, water saturation and fluid temperature in hydraulic systems
- Integrated pump for measurement in pressureless reservoirs
- Operation with 24 VDC adaptor included

Specifications

- Display: LED, 6/4/4 digits in 17 segment format
- Measuring Range: Saturation level 0 to 100% Temperature -25° to 100°C (-13° to +212°F)
- Accuracy: + /- 1/2 ISO class in the calibrated range / ≤± 2% full scale maximum
- Ambient Temperature Range: 0 to 45°C (32 to 113°F)
- Storage Temperature Range: -40 to 80°C (-40 to 176°F)
- IP Class: IP50 in operation IP67 closed
- Weight: 13 kg (29 lb)
- Pressure Maximum: 345 bar/5000 PSI
- Fluid Temperature Range: 0 to 70°C (32 to 158°F)
- Power Supply Voltage: 24 V DC ± 20%, residual ripple<10%
- Maximum Power Current Consumption: 100 Watt/4A
- Interface: Plug connection, 5-pole, male (M12 x 1)

Part Number	Description
383-4255	Contamination Monitor

GENERAL DIAGNOSTIC TOOLS

S40 Particle Analyzer Group

Warranty: Manufacturer's One Year



REPAIR INFORMATION

The unit is warranted by the manufacturer for 1 year from date of receipt. If the unit needs servicing, contact one of the following manufacturer's repair facilities:

Sintech Scientific (SEA) Pet Ltd.
No. 196 Pandan Loop # 02-18
Pantech Industrial Complex
Singapore 128384
Tel: 0 06 57 79 00 07
Fax: 0 06 58 72 23 92

PAMAS GmbH
Dieselstrabe 10
D-71277 Rutesheim
Postfach 162
Germany
Tel: + 49 7152 9 96 30
Fax: + 49 7152 5 48 62

PAMAS USA
1408 S Denver Ave.
Tulsa, OK. 74119
Tel: 918-743-6762
Fax: 918-743-6917

European Union compliant, CE marked

- Used to analyze particle contamination on pressurized and non-pressurized hydraulic systems
- Portable self-contained system uses red laser sensor technology to count and size particles in fluids (same sensor technology as particle analyzers used in S·O·S lab and other Caterpillar® factory applications)
- Performs fluid analysis in 90 seconds
- Internal battery pack capable of performing 60 tests per charge
- Self-contained digital display and printer shows test results
- Equipped with keypad and graphical, back-lit LCD (Liquid Crystal Display) with resistive touch screen

Reference

- NEHS0799, Tool Operating Manual

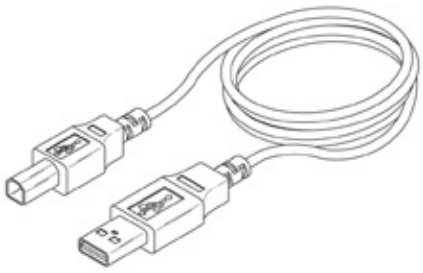
Specifications

- Operating voltages
  - Internal battery: 100 — 240 VAC 50/60 Hz
  - External battery: 12 — 24 VDC
  - Weight: 9 kg (20 lb)
  - Measurements: 300 x 140 x 300 mm (11.8 x 5.5 x 11.8 in)
  - Ambient temperature: 5° to 40°C (40° to 104°F)
  - Relative humidity: Maximum 70%
  - Size range: 4 — 30 mm (certified ISO-11171)
  - Maximum viscosity: 300 cSt

Part No.	Description
170-8500	S40 Particle Analyzer Group
Service/Repair Parts	
131-5047	Cable — Power, 110 VAC (USA Plug)
170-8506	Hose Assembly
184-7679	Paper — Roll
188-0639	Hose Assembly — Low-Pressure
6V-4144	Coupler Assembly (For 42000 kPa)
9U-6794	Adapter

USB A/B Cable

Warranty: Caterpillar® One Year



- Used to connect USB devices to a personal computer
- Nominal length: 1.8 m (70 in)
- USB 2.0 compliant cable

Part Number	Description
285-3850	USB A/B Cable

Zinc Air Energy

Model Usage: UPS System from Fluidic Energy

Warranty: Manufacturer's

European Union Compliant, CE marked

- Torque tool applies 22 inch pounds to cell connections.
- Torque tool attachments work with different style connections.
- Communication adapter is used to control the fluidic APU.
- USB to DB-9 Port
- Communication adapter has 500 volt optical isolation.

Part No.	Description	Dimensions	Weight
495-2562	Torque Tool Group	63.5 x 57.2 mm (knob 2.5 dia, 2.25 long in)	0.27 kg (9.4 oz)
495-2563	Communication Adapter	86.4 x 43.2 x 20.3 mm (3.4 x 1.7 x 0.8 in)	0.13 kg (4.5 oz)

GENERAL DIAGNOSTIC TOOLS

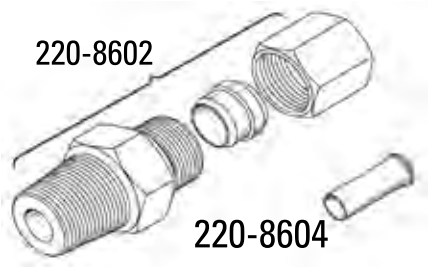
Fitting Groups

Warranty: Caterpillar® One Year



Part Number	Description
220-8607	Fitting Group
220-8608	Fitting Group

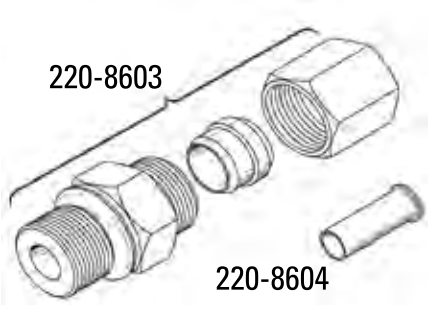
Fitting Group



- Used to connect a particle analyzer to a low pressure source, quick disconnect fitting, or 210-5530 S·O·S quick disconnect fitting
- Used with 6 mm plastic tubing
- 1/4 inch NPT threaded end
- Comes with 220-8604 Brass Tube Insert for plastic tubing

Part Number	Description
220-8602	Tube Fitting
220-8604	Brass Tube Fitting

Fitting Group



- Replaces high pressure input/low pressure output fittings on 170-8500 Particle Analyzer with low pressure fittings
- Used with 6 mm plastic tubing
- Used for pressures between 0 and 689 kPa (0 and 100 PSI)
- Eliminates flow restriction for SAE50 and SAE60 high viscosity fluids during low pressure sampling
- Connects low pressure tubing to 170-8500 Particle Analyzer for direct fluid flow into a catch can or bottle
- 1/4 inch BSPP threaded end
- Comes with 220-8604 Brass Tube Insert for plastic tubing

Part Number	Description
220-8603	Tube Fitting
220-8604	Brass Tube Fitting

Portable Contamination Instructional Kit

Warranty: Caterpillar® Six Months



- Used to estimate amount and type of solid contamination in hydraulic fluid or lubrication oil (cannot determine exact particle counts)
- Conduct on-the-spot visual field evaluations of system fluid contamination
- Can be used by trained technicians to compare actual patches (25 ml fluid volume) to examples shown in NEHS0729 to generally classify amount and type of contamination in a fluid sample

Reference

- NEHS0729, Portable Contamination Instructional Kit (The examples shown in this brochure are typical of the type of contamination found using the portable contamination instructional kit. The examples are shown for reference only. Instructions on obtaining, preparing and viewing samples are also provided in this brochure.)

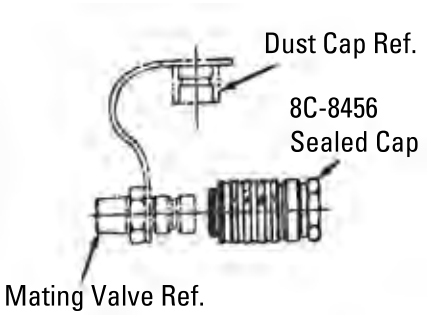
Item	Description
2	500 ml (16 oz) LDPE Wash Bottle with 28 mm (1.10 in) Cap
9	Grease Pencil
10	Spray Stem for Bottle
12	Microscope
13	Penlight (Included with microscope)

Item	Part Number	Description
1	202-2267	Dish Kit
3	6V-9449	Carrying Case [a]
4	202-2266	Funnel
5	1U-5718	Vacuum Pump
6	4C-6605	Tweezers
7	231-9405	Patch Group
8	169-7372	Bottle As (4)
11	1U-9533	AA Batteries for Light (2)
—	202-2301	Portable Contamination Instructional Kit
Not Shown		
—	1U-5719	Seal Kit for 1U-5718 Vacuum Pump

a. Replacement case wihtout foam

Sealed Cap

Warranty: Caterpillar® Six Months



- Used to seal the valved and non-valved nipples listed below (nipples are used on machines, tool groups, and dealer shop equipment.)
- Heavy-duty, pressure-tight cap that provides both positive sealing and added protection for the nipples

Specifications

- Operating pressure: 42,000 kPa (6,100 PSI)
- Minimum burst pressure: 168,000 kPa (24,000 PSI)
- Operating temperature: -34° to 107°C (-29° to 225°F)
- Seal material: High Temp. (BunA-N®)

Part No.	Description	Color
8C-8456	Sealed Cap	—
Adaptable to these Pressure Diagnostic Quick Disconnect Nipples		
6V-3965	Nipple — STR 9/16 in — 18 thd SAE external (for #6 Port) BunA-N® Seal	Zinc chromate
6V-3966	Nipple As 1/4 in-NPTF external thd BunA-N® Seal	Zinc chromate
6V-3989	Nipple — unvalved 1/4 in-NPTF internal thd non-valved	Zinc chromate
6V-4142	Nipple — unvalved 1/4 in-NPTF internal thd non-valved	Zinc chromate
6V-4433	Nipple As — valved 9/16 in-18 thd external (for #6 Port) Viton Seal	Green chromate
6V-7691	Nipple As — valved 1/4 in-NPTF external thd Ethylene Propylene Seal	Red chromate
8T-3613	Nipple As — valved 1/8 in-NPTF external thd BunA-N® Seal	Zinc chromate
8T-3614	Nipple As — valved 1/8 in — NPTF external thd. Ethylene Propylene Seal	Red chromate

GENERAL DIAGNOSTIC TOOLS

Fluid Sampling supplies

We offer a complete assortment of fluid extraction tools to service pressurized vehicle compartments such as engine, transmission, and hydraulic systems, as well as non-pressurized vehicle compartments such as final drives, differential, transfer case, and axle housings. Get extra protection and maximum performance by using Cat® fluids, filters, and regular oil analysis through scheduled oil sampling (S·O·S).

Fluid Sampling Extraction Tools for Pressurized Compartments

Warranty: Caterpillar® Six Months



- Valve locations provide oil sample confidence and continuity — comparative data of pressurized oil samples is more reliable because the sample is taken from a continuous flow of oil at a known location
- Probe is provided that allows the valve to be quickly flushed prior to taking the oil sample
- Sample bottle group is packaged, and sealed in a plastic bag to insure cleanliness
- Pressurized oil sampling is a fast, economical and clean method of obtaining oil samples from pressurized system.
- Better represents oil condition because the oil is continually mixed and circulated
- 10 to 20 times faster than sampling oil from non-pressurized systems
- Mailing container is available so the oil sample can be conveniently mailed to the testing laboratory

169-8373 Bottle Group (Package Qty. — 300)

This bottle group is sealed in a plastic bag with sampling instructions included. The bottle group is ready to use when it is removed from the bag after the valve has been purged and the sample is ready to be taken. The bottle included in this group (169-7372) has the capacity to provide a 114 g (4 oz) sample. The 169-7372 can also be ordered by itself, 200 per case. After the sample is obtained, the probe and tube are removed from the bottle cap and holder, and discarded, and the cap-cover seals the bottle. Labels for identifying the sample (obtained locally) can then be attached to the bottle for identification purposes. The 4C-4600 mail tube is available to send the oil sample to the laboratory. The laboratory also provides the mailing label.

177-9343 Probe and Cap Group (Package Qty. — 500)

The probe and cap group provides the same probe and cap that are used in the 169-8373 Bottle Group, however, without the bottle. This group is also sealed in a plastic bag with sampling instructions included. This group allows the dealer the flexibility to use other bottles such as the smaller 71 g (2 1/2 oz) 169-7373 bottle assembly (which must be ordered separately). (The cap requires that the bottles have a 38 M thread.)

169-7373 Bottle Assembly (Package Qty. — 200)

This smaller bottle assembly (169-7373) can be used with the 177-9343 Probe and Cap Group and reduces mailing expense by approximately one-half for dealers whose oil sample labs can provide effective full service analysis with 71 g (2 1/2 oz) or less of oil. These bottles can be used for engine samples since particle count is not used for engine samples. This bottle can also be used with the 1U-5718 Vacuum Pump used for non-pressurized oil sampling.

8T-9208 Probe Assembly (Package Qty. — 1)

The 8T-9208 Probe Assembly can be attached to a 6.35 mm (1/4 in) ID rubber hose (6K-0713 Hose — 228.6 mm (9 in) long or any desired length cut from bulk 5P-6442 Hose or equivalent 100R6 type high temperature — low pressure hose). The 8T-9208 Probe and hose connected to a locally obtained waste container provide a method to purge or flush the 8C-3446, 8C-3345, or 7X-3387 sample valves prior to obtaining the desired oil sample using either the 169-8373 Bottle Group or 177-9343 Probe and Cap Group with the desired bottle. Approximately 14.8 $cm^3$to 29.6 cm^3(1/2 to 1 ounce) of expelled fluid purges the valves.

Pressurized systems on many Cat® products are factory equipped with sampling valves to quickly extract oil samples with the above tools. Special Instruction SEHS9043 details retrofitting some earlier models with oil sampling valves, as well as pointing out the respective valve locations on models currently factory equipped with the oil sample valves

Fluid Sampling Extraction Tools for Pressurized Compartments (Continued)

Item	Part Number	Description
1	169-8373	Bottle Group, 300 per box
2	162-8873	Probe, Holder
3	177-9343	Probe and Cap Group, 500 per box
4	4C-4600	Mailer Container — reusable Tube — 30.5 m (100 ft) rolls
5	1U-8757	6.35 mm OD x 30.5 m rolls (1/4 in OD x 100 ft) 5 rolls per box
6	4C-4056	7.9 mm OD x 30.5 m rolls (5/16 in OD x 100 ft) 5 rolls per box, not pictured
7	169-7373	Clear Bottle, 71 g (2.5 oz), 200 per box
8	169-7372	Clear Bottle, 114 g (4 oz), 200 per box
9	1U-5718	Vacuum Pump
9	1U-5719	Seal Kit for 1U-5718 Pump (not pictured)
10	8T-9208	Purging Probe
11	1U-7648	Tube Cutter
11	1U-8589	Replacement Blades (not pictured)
12	8C-8456	Sealed Cap
13	3J-7354	Seal — O-ring — STOR for 8C-3446 (not pictured)
13	8C-3446	Oil Sampling Valve (7/16 in-20 — ext. thd)
14	7X-3387	S·O·S Sampling Valve
15	8C-3345	Oil Sampling Valve (M10 x 1 — ext thd)
15	8T-7876	O-ring Seal for 8C-3345 (not pictured)
16	6V-0852	Dust Cap (Blank) (not pictured)
16	8C-3445	Dust Cap (Engine)
16	8C-3447	Dust Cap (Transmission) (not pictured)
16	8C-3451	Dust Cap (not pictured)
Not Shown — Tube, 2.1 m (7 ft) pieces		
—	4C-4055	6.35 mm OD x 2.1 m (1/4 in OD x 7 ft), 250 pieces per box
—	4C-4057	7.9 mm OD x 2.1 m (5/16 in OD x 7 ft), 240 pieces per box

Sealed Cap

The 8C-8456 Sealed Cap can be applied to the valves with the valve dust cap retention ring left in place. This cap enables the user to quickly seal a leaking valve and prevents the need to immediately deadline (or stop) the machine or compartment. The leaking valve can then be repaired (flushed) or replaced during the scheduled maintenance period.

Some retrofit applications of the various valves may require the 8C-8456 Sealed Cap to provide maximum protection for both sealing and environmental contamination, such a brake and hydraulic system exposed to severe elements. This cap serves ONLY as a temporary solution to a leaking sampling valve.

GENERAL DIAGNOSTIC TOOLS

Fluid Sampling Valves, Fittings and Adapters

The following valves, fittings and adapters are required or are commonly used for retrofitting the sampling valves to pressurized systems:

Part Number [a]	Description
Oil Sampling Valves and O-ring Seals (Sold Separately)	
3J-7354	O-ring Seal for 8C-3446
7X-3387	Oil Sampling Valve (1/4 in-18 NPTF ext. thd)
8C-3345	Oil Sampling Valve (Mid X1 ext. thd)
8C-3446	Oil Sampling Valve (7/16 in-20 — ext. thd)
8T-7876	O-ring Seal Form 8C-3345
Protective Dust Caps for Oil Sampling Valves (These are rubber caps with embossed symbols to indicate system being sampled.) [a]	
6V-0852	Dust Cap (Blank)
8C-3445	Dust Cap (Engine)
8C-3447	Dust Cap (Transmission)
8C-3451	Dust Cap (Hydraulic)
8C-8456	Sealed Cap
Miscellaneous fittings and adapters commonly used for oil sampling valve retrofit installations (Sold Separately) [a]	
2S-4078	O-ring Seal for 9T-6865 Adapter Plug
3B-7722	Bushing-Pipe-Reducing 3/8 in-18 NPTF to 1/4 in-18 NPTF
3J-1907	O-ring Seal for 5P-9617 Adapter
3J-5390	Plug — NPTF (Ext Hex) 3/8 in-18 NPTF external to 1/8 in-27 NPTF internal
3L-6521	Adapter Tee, 1/4 in-18 NPT (2 internal and 1 external)
5P-3501	Adapter, 9/16 in-18 SAE external to 1/4 in-18 NPTF internal
5P-9617	Adapter Reducer, 9/16 in-18 SAE external to 7/16 in-20 SAE internal
6V-3966	Pressure Test Valve, 1/4 in-18 NPTF external
6V-7529	Adapter, 1/8 in-27 NPTF external to 7/16 in-20 SAE internal
7J-8611	Elbow-90°-Pipe 1/4 in-18 NPTF
7M-8489	Adapter Assembly, 90° elbow 9/16 in-18 SAE external to 1/4 in-18 internal
8C-6427	Adapter, 1/4 in-18 NPTF external to 7/16 in-20 SAE internal
9T-6865	Adapter Plug, 5/8 in-12 SAE external to 7/16 in-20 SAE internal

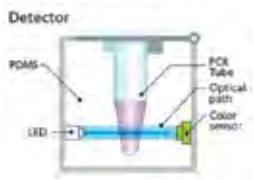
a. All part numbers in the table have a six month warranty

Tester Tool

Warranty: Manufacturer's One Year

Ushio Customer Service
Hours: 6:00 am – 5:00 pm (Pacific)
Tel: (800) 838-7446
Fax: (800) 776-3641
Email: customerservice @ushio.com





European Union Compliant, CE marked

- Performs SOS-Coolant Analysis to determine if cooling system is properly protected through Nitrite analysis.
- Affordable and Productive Solution for Nitrite Determination in Coolant
- Analyze as little as 30 µL in an unopened PCR tube
- Intuitive App Interface for Quick and Easy Results on Mobile Device (iOS / Android)
- Bluetooth-enabled to Use in Field or Laboratory Analysis
- Quick and easy results on your mobile device
- See measurements plotted along a standard curve
- Refer to https://www.sosserivces.cat.com for operational instructions.

Part No.	Description
558-4578	Tester Tool
Dimensions	70 x 150 x 30 mm
Weight	200g / 0.44lb
Power	4.5V DC (3 AAA Bateries)
* 5V DC (micro-USB connector)	
Communicaiton	Bluetooth Class 2 (Andriod and IOS)
Compatatible	Nexus 7, Nexus 8, IPhone, Ipad, Ipad Mini
Temperature	5-35 °C
Humidity	70% RH or less
Altitude	2000m or less
PRC Tube	WATSON 137-211C 0.2mL

Fluid Sampling Extraction Tools for Non-Pressurized Compartments

Warranty: Caterpillar® Six Months

Fluid sampling extraction tools are used to obtain fluid samples from non-pressurized vehicle compartments such as final drives, differential compartments, transfer cases, axle housings, etc.

The 1U-5718 Vacuum Pump is capable of pulling 7.62 mm (25 in) Mercury (vacuum). The pump is compact and accepts the 169-7372, 114 g (4 oz), and 169-7373 Bottle Assembly, 71 g (2.5 oz), bottles, or any 38 M threaded plastic bottle, and 6.35 mm (1/4 in) OD and/or 7.9 mm (5/16 in) OD plastic tube.

The 1U-5719 Kit provides replacement seals for the vacuum pump.

The 169-7372 Bottle has 114 g (4 oz) capacity. The bottle is marked showing fluid fill range at 3/4 capacity. The fill range provides a reminder to not overfill the bottle. Partially filling the bottle satisfies both mailing and lab requirements. Full bottles expand because of temperature changes that can possibly rupture within the mailing container. The partially filled bottle also allows the lab to shake the fluid sample prior to extracting fluid for testing. Labels identifying the fluid are obtained locally. The label is processed locally and attached to the sample bottle.

The 169-7373 Bottle is the same as the 169-7372 bottle except the capacity is 71 g (2.5 oz) rather than 114 g (4 oz). Both are clear high performance plastic rated at 91°C (195°F).

The 1U-8757 Tubing consists of five 30.5 m (100 ft) rolls of 6.35 mm (1/4 inch) OD plastic tubing. Random lengths of tubing can be easily dispensed from the tubing package. The tubing connects the vacuum pump to the fluid in the compartment. The tubing is discarded after each sample is extracted.

The 4C-4056 Tubing consists of five 30.5 m (100 ft) rolls of 7.9 mm (5/16 inch) OD plastic tubing. Again, random lengths of tubing can be easily dispensed from the tubing package. This tubing permits extraction of heavier oils when using the vacuum pump.

Both tubing sizes are also available in pre-cut 2.1 m (7 ft) lengths that are packaged 250 pieces per box. This eliminates cutting the tube for each sample.

The 4C-4055 Tubing contains 250 pieces of 6.35 mm (1/4 in) OD tubing each 2.1 m (7 ft) long.

The 1U-7648 Tube cutter is a convenient tool that easily cuts the desirable length of either 6.35 mm (1/4 in) or 7.9 mm (5/16 in) plastic tubing. The cutter can cut the tubing at 90° or at a bias. The 1U-8589 blades are available as replacement blades for the cutter.

The following summarizes various sampling tools available through the Caterpillar® Parts Distribution System:

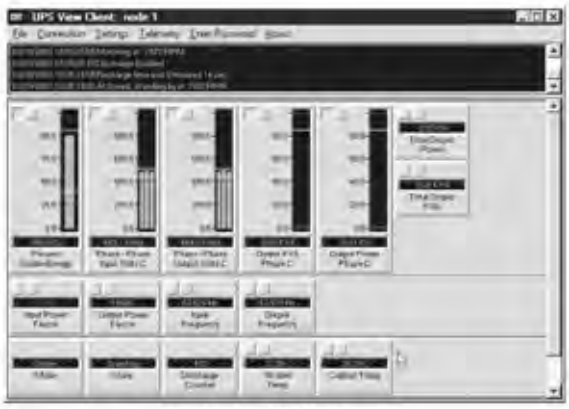
Part Number	Description
169-7372	Bottle, 114 g (4 oz)
169-7373	Bottle, 71 g (2 1/2 oz)
169-8373	Bottle Group
177-9343	Probe and Cap Group
1U-5718	Vacuum Pump
1U-5719	Seal Kit for 1U-5718 Vacuum Pump
1U-7648	Tube Cutter
1U-8589	Replacement Blades
1U-8757	Tube, 6.35 mm (1/4 in) OD by 30.5 m (100 ft) length (5 rolls per box)
3J-7354	O-ring Seal for 8C-3446 Valve
4C-4055	Tube, 6.35 mm (1/4 in) OD by 2.1 m (7 ft) length (250 per box)
4C-4056	Tube, 7.9 mm (5/16 in) OD by 30.5 m (100 ft) length (5 rolls per box)
4C-4057	Tube, 7.9 mm (5/16 in) OD by 2.1 m (7 ft) length (250 per box)
4C-4600	Mail Tube
6V-0852	Dust Cap (Blank)
7X-3387	Oil Sampling Valve
8C-3345	Oil Sampling Valve
8C-3445	Dust Cap (Engine)
8C-3446	Oil Sampling Valve
8C-3447	Dust Cap (Transmission)
8C-3451	Dust Cap (Hydraulic)
8C-8456	Sealed Cap
8T-7876	O-ring Seal for 8C-3345 Valve
8T-9208	Purging Probe, brass

GENERAL DIAGNOSTIC TOOLS

UPS View Software Group for UPS 250

Model Usage: Uninterruptible Power Supply (UPS) 250/500/750 and 300/600/900

Warranty: None



Typical Caterpillar UPS View Software Screen Shot

Cat® UPS View is a monitoring software designed to run on a personal computer under Microsoft Windows. With Cat® UPS View you can monitor the Uninterruptible Power Supply (UPS) 250/500/750 or 300/600/900 in real time and display these variables on the computer:

- Some of the data that is available in current, voltage, rotor speed, temperatures of components and event logs
- Telemetry data, such as voltage, current and temperature are compared to desired range
- Logged telemetry data can be saved to a disk
- Configure data to be displayed as numerals, bar graphs or scrolling history graphs
- Screen can be customized to rearrange, group or hide
- User can monitor UPS's operation remotely (must use analog phone lines and analog modem must be installed in PC)
- User can setup software with alarm(s) and have operator(s) paged if alarm occurs
- Connect to UPS using an analog modem, an RS-232 or RS-485 port or a network

Ordering Information

- Cat® UPS View software can be ordered through the Corporate Literature Distribution System.
- 203-3971 Cat® UPS View Software Group includes software on a floppy disk, a manual, and a DB9 Male/Female Communications cable 15 feet long.

Specifications/Technical Information — PC Requirements

- IBM PC compatible with 133 MHz Pentium Processor or a compatible processor
- 16 Mb of RAM
- 3.5 inch 1.44 Mb diskette drive
- Built-in pointing device or mouse
- TCP/IP Network Protocols and UDP/IP Network Protocols
- Analog modem for communicating over analog phone lines
- Network Interface Card (NIC) for remote monitoring over a network

Software

- Microsoft Windows 95, 98 or NT4.0

Reference

- SEBU7311, Uninterruptible Power Supply (UPS) 250 Manual

Part Number	Description
203-3971	Cat® UPS View Software Group for UPS 250
Other UPS Products	
190-8379	Insertion Tool Group
190-8380	Spare Shim Kit
190-8385	Removal Tool Group
190-8386	Rotor Shim Tool
191-5217	Pin Guide
216-7886	RPS Shim Kit

Diagnostic Tooling for Uninterruptible Power Supply (UPS) Systems

Essential Tool

Model Usage: UPSB130 (60 HZ), UPSB125 (50 HZ)

Warranty: Manufacturer's

- The tools assist in servicing the battery racks associated with double conversion UPS

Cellcorder (Alber CRT-400)



European Union compliant, CE marked

- 256 MB Flash drive
- BAS software
- Test lead assembly clips
- Two-wire cord with IEC-320 plug
- 5 VDC, 4 Amp desktop power supply
- Carry case
- Shoulder strap
- User guides provided

Part Number	Description
355-8573	Cellcorder (Alber CRT-400)

24-inch 45-degree Probe, CRT Handset

Model Usage: Used with 355-8573 "battery tester" known as Cellcorder

Warranty: Manufacturer's



- Used to safely reach inside battery cabinet
- Enhances Arc Flash protection by using longer probes and a connection cable
- Two probes are required for use with handle

Part No.	Descriptn	Dimensions	Weight
454-4967	24-inch 45-degree Probe	60.96 cm (24 in)	.45 kg (1 lb)
454-4968	CRT Handset	271.8 cm (107 in)	1.1 kg (2.42)

Component Tester (BK-815)



- Large high contrast LCD display
- Transistor leakage test
- Capacitance zero adjustment
- Diode and SCR test, LED test, and battery test mode
- 9 VDC battery power source

Part Number	Description
355-8574	Component Tester (BK-815)

GENERAL DIAGNOSTIC TOOLS

Component Carry Case (BK)



- Durable cordura nylon construction
- Protects instruments, 355-8574
- Room for test leads
- Dimensions: 102 x 64 x 203 mm (4 x 2.5 x 8 in)

Part Number	Description
356-2002	Component Carry Case (BK)

Power Quality Analyzer (Fluke 43B)



European Union compliant, CE marked

- TPI flat tipped slim-reach probes
- TP4 round slim-reach probes
- i400S AC current clamp
- Optically isolated USB interface adapter
- Rechargeable battery pack (installed)
- Line voltage adapter/battery charger
- Shielded banana-to-BNC adapter
- Software and users manual on CD-ROM
- Users manual/application guide
- Hard carry case

Part Number	Description
355-8575	Power Quality Analyzer (Fluke 43B)

Current Probe (Fluke i2000)

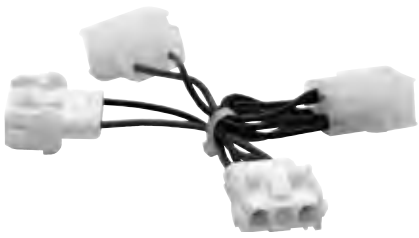


European Union compliant, CE marked

- Flex current probe
- Dual banana-to-BNC adapter
- Cable length: 2 m (6.6 ft)
- Molded 4 mm (0.16 in) safety plug output connection (not integrated)
- 178 mm (7 in) maximum conductor diameter
- Instruction manual

Part Number	Description
356-1999	Current Probe (Fluke i2000)

Fan Test Harness Adapter



- Four connector test harness
- X pattern harness
- Overall length: 150 mm (6 in)

Part Number	Description
355-8577	Fan Test Harness Adapter

GENERAL DIAGNOSTIC TOOLS

Fan Test Harness



- Test harness with connector
- Overall length: 2.5 m (8.2 ft)

Part Number	Description
355-8578	Fan Test Harness

Thermal Grease



- Thermal Grease in syringe type dispenser
- Promotes proper heat transfer from semiconductor components

Part Number	Description
355-8579	Thermal Grease

Test Kit (IGBT)



- Includes carry case

Part Number	Description
355-8580	Test Kit (IGBT)

Lead and Probe Accessory Kit (Fluke TLK225)



- Alligator clip set
- Hook clip set
- Pincer clip set
- Large alligator clip set
- Test probe set
- Silicone test lead set
- Six-pocket storage pouch

Part Number	Description
356-2003	Lead and Probe Accessory Kit (Fluke TLK225)

GENERAL DIAGNOSTIC TOOLS

Extended Length Test Probe (EZ Hook)



- Long handle test probe
- 60 inch lead length, 30 inch handle length
- 18 AWG PVC test lead with shrouded right-angle banana plug

Part Number	Description
356-5037	Extended Length Test Probe (EZ Hook)

Battery Technician Tool Kit



- Used to work on high voltage systems
- Complies with the IEC 900 standard and ASTM F1505-01 standard
- Help meet requirements of OSHA 1910.331-335, NFPA 70E 2004, and CSA-Z462
- Double-insulated tools for better protection
- Tested to 10,000 VAC and rated for 1,000 VAC when working on live parts
- Marked with international safety symbol

Kit includes:

- #2 Phillips Screwdriver
- 3/16 inch Cabinet Tip Screwdriver
- 1/4 inch Extra Long Nutdriver
- 5/16 inch Extra Long Nutdriver
- 7/16, 1/2, and 9/16 Open End Wrench
- 7/16, 1/2, 9/16, and 10 mm Geared Box End Wrench
- 3/8 inch Square Drive Lever Control Reversible Ratchet
- 3 and 6 inch Extension Bar with 3/8 inch Square Drive
- 7/16, 1/2, and 9/16 inch Socket with 3/8 inch Square Drive
- 7/16, 1/2, and 9/16 inch Deep Well Socket with 3/8 inch Square Drive
- 5/16 and 10 mm Standard 12 Point Socket with 3/8 inch Square Drive
- 30 to 200 in-lb Torque Wrench with 3/8 inch Square Drive

Part Number	Description
362-0195	Battery Technician Tool Kit

Double Conversion Battery UPS UPSB220 and UPSB505 Tools

Model Usage: UPSB220, UPSB505

Warranty: Manufacturer's

Part Number	Description
1U-9484	Serial Communication Cable
285-3850	USB A/B Communication Cable
372-3330	Modified Torx Bit
372-3331	IGBT Test Kit & Cable

372-3330 Modified Torx Bit



- Bit is extended with a narrow neck to allow access to the cooling fans

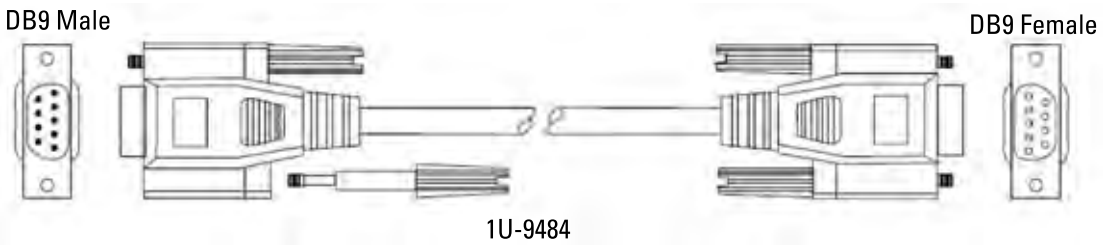
Double Conversion Battery UPS UPSB220 and UPSB505 Tools (Continued)

IGBT Test Kit & Cable



- Supply circuit boards for testing in manual mode

Serial Communication Cable



USB A/B Communication Cable

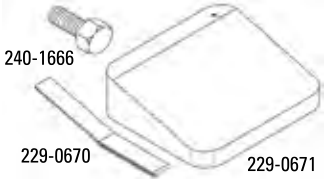


Drain Service Group

Essential Tool

Model Usage: UPS 300

Warranty: None



- Used to service charge drain load cells on Uninterruptible Power Supply (UPS) 300

Part Number	Description	Quantity
224-3145	Drain Service Group	—
	Service/Repair Parts	
229-0670	Contact Strip	4
229-0671	Test Wedge	1
240-1666	Bolt	1

Rotar Position Sensor Shim Kit

Model Usage: Uninterruptible Power Supply (UPS) 250/500/750 and 300/600/900

Warranty: Caterpillar® Six Months

- Used to set gap between Rotar Position Sensor and commutation wheel
- Includes ten 5 mil shims with 0.373 OD and 0.165 ID and ten 10 mil shims with 0.390 OD and 0.157 ID

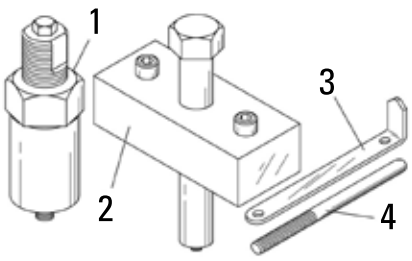
Part Number	Description
216-7886	RPS Shim Kit

GENERAL DIAGNOSTIC TOOLS

Uninterruptible Power Supply Tools

Model Usage: Uninterruptible Power Supply (UPS) 250

Warranty: None



190-8379 Insertion Tool Group

- Used to insert bearing cartridge onto flywheel assembly

190-8385 Removal Tool Group

- Used to remove bearing cartridge from flywheel assembly

190-8386 Rotor Shim Tool (4 required)

- Used to protect rotor assembly during installation and removal of bearing cartridge

190-8380 Spare Shim Kit

- Used to shim upper or lower bearing
- Shims included in kit: (shims are not sold separately)
- 190-8381 Brass Shim: 0.05 mm (.002 in), qty 8
- 190-8382 Brass Shim — 0.13 mm (0.005 in), qty 4
- 190-8383 Brass Shim — 0.25 mm (0.010 in), qty 2
- 190-8384 Brass Shim — 0.50 mm (0.020 in), qty 1

191-5217 Guide Pin (2 required)

- Used to retain proper alignment of bearing cartridge on flywheel assembly during installation or removal

References

- Other UPS Products: 203-3971 Caterpillar UPS View Software Group

Item	Part Number	Description
1	190-8379	Insertion Tool Group
2	190-8385	Removal Tool Group
3	190-8386	Rotor Shim Tool
4	191-5217	Pin Guide

Bearing Removal Tool Group

Model Usage: All current flywheel UPS systems, Sales models 250i, 300, 300E, 100 0iZ, 120 0Z, UPS 600G, UPS 500G, UPS 750, UPS 750-50HZ

Warranty: Manufacturer's



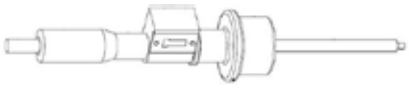
- Used to remove bearing cartridge from flywheel assembly
- Heavy duty tool specifically designed for UPS 750, but tool is compatible with all models listed

Part Number	Description
448-3674	Bearing Removal Tool Group

Micrometer

Model Usage: UPS 750

Warranty: Manufacturer's



- Allows measurement of gap between top of UPS 750 Flywheel and armature
- 3 inch extension allows measurement internal to the flywheel assembly
- Calibration certificate supplied with each tool
- Digital readout

Specifications

- Length (Overall): 226 mm (8.9 in)
- Weight: 0.7 kg (1.4 lb)

Part No.	Weight
466-6470	Micrometer

Photo Voltaic Module Connections Group

Model Usage: All Photovoltaic Microgrid UPS Systems

Warranty: Caterpillar® Six Months

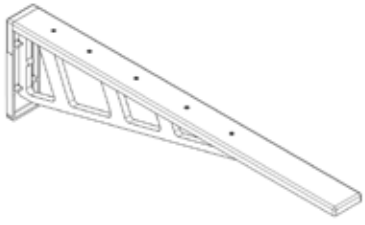


- Crimps pins and sockets
- Tightens and releases connectors
- Checks correct pin/socket depth
- Carrying case holds group with room for accessories
- Required for connector family

Part No.	Description	Dimensions	Weight
509-1069	Photo Voltaic Module Connections Group	333.3 x 228.6 x 58.7 mm (13 x 9 x 2.3 in)	1.55 kg (3.43 lb)
4C-4463	Case	333.3 x 228.6 x 58.7 mm (13 x 9 x 2.3 in)	0.45 kg (1 lb)
342-9516	Slotted Socket	17 mm (0.67 in)	0.12 kg (0.26 lb)

Photo Voltaic Installation Jig

Warranty: Caterpillar® Six Months



- Installation jig for photo voltaic modules
- Ensures correct spacing of modules
- Reduces installation time

Part No.	Description	Dimensions	Weight
528-5367	Photo Voltaic Installation Jig	914.4 x 76.2 x 237.2 mm (36 x 3 x 9.3 in)	1 kg (2.2 lb)

Magnetic Thermometer

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



- Used to measure the surface temperature of a component (Examples: dies, annealing ovens, welded materials, and generators)

Specifications

- Material: Aluminum Dial Cases
- Accuracy: ±2% of full scale
- Temperature: -100° to +160°F
- Grads: 2°F
- Holding Force of Magnets: 1.3 lb

Part Number	Description
384-1386	Magnetic Thermometer

Magnetic Field Probe

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



- Used to test sub-mini and smallest to largest solenoid valves and relays, including all automotive applications
- Capable of detecting down to 1 gauss
- All voltages AC & DC
- Includes hi/lo sensitivity ring and white magnetic shield
- Waterproof

Specifications

- Operating Frequency: DC to 400 HZ
- Temperature Range: - 40°C +60°C to -40 to 160°F
- Shipping Weight: 0.45 kg (1.0 lb)

Part Number	Description
384-1567	Magnetic Field Probe

Fluke 922 Air Flow Meter Group

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



European Union Compliant, CE marked

- Provides differential and static pressure, air velocity and flow readings
- Colored hoses aid in proper interpretation of pressure readings
- Backlit display for clear viewing
- User-defined duct shape and size for maximum airflow accuracy
- Min/Max/Average/Hold functions for data analysis
- Auto power off saves battery life

Specifications

- Operating Temperature: 0°C to +50°C (+32°F to +122°F)
- Storage Temperature: 40°C to +60°C (104°F to +140°F)
- Relative Humidity: 0% to 90%, non-condensing
- IP Rating: IP40
- Operating Altitude: 2000 m
- Storage Altitude: 12000 m
- EMI, RFI, EMC: Meets requirements for EN61326-1
- Vibration: MIL-PREF-28800F, Class 3
- Max Pressure at Each Port: 10 PSI
- Data storage capacity: 99 Readings
- Power, Battery Life: Four AA batteries, 280 hrs without backlight, 60 hrs with backlight

Part Number	Description
384-1748	Fluke 922 Air flow Meter Group

Fluke 80PK-22 Temperature Probe

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



European Union Compliant, CE marked

- Type-K thermocouple
- For use in liquids and gels
- Measurement range: -40 to 1090°C (-40°F to 1994°F)
- Probe can be used with any temperature-measuring instrument that is designed to accept type K thermocouples and has a miniature connector input

Part Number	Description
384-1755	Fluke 80PK-22 Temperature Probe

Fluke 80PK-3A Temperature Probe

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



European Union Compliant, CE marked

- Type-K thermocouple
- Used to measure temperature for flat or slightly convex (outward curved) surfaces such as plates and rollers
- Measurement range: 0 to 260°C (32°F to 500°F)
- Probe can be used with any temperature-measuring instrument that is designed to accept type K thermocouples and has a miniature connector input

Part Number	Description
384-1757	Fluke 80PK-3A Temperature Probe

Tektronix High Voltage Differential Probes

Product Family: Hydraulic Mining Shovels, Draglines

Model Usage: 6015-6090, 8000, 8200, 8750

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used with any oscilloscope to safely and easily make measurements of floating circuits with oscilloscope grounded
- Can be used with 386-2412 Oscilloscope
- P5200A Active Differential Probe converts floating signals to low-voltage ground-referenced signals
- P5200A requires an oscilloscope or other measurement instrument with grounded inputs
- Bandwidth Limits up to 100 MHz
- Up to 5,600 V Differential (DC + pk AC)
- Up to 2,300 V Common (RMS)

Part Number	Description
386-2411	Tektronix High Voltage Differential Probes

SPECIALTY MINING TOOLS

Fluke 200 Mhz 4 Channel Scopemeter

Product Family: Hydraulic Mining Shovels - Draglines

Model Usage: 6015-6090, 8000, 8200, 8750

Warranty: Manufacturer's



European Union compliant, CE marked

- Used to test, display and analyze electronic signals
- Combines power of high-performance oscilloscope, multimeter and paperless recorder in easy to use test tool
- 4-Channel portable hand-held oscilloscope designed for industrial plant maintenance
- Category IV 600 V and Category III 1000 V
- Works with 3-phase applications
- Provides real-time sampling rates up to 2.5GS/s and a 400ps resolution to capture noise and other disturbances
- Use with 386-2411 Differential Probe for safely and easily making measurements of floating circuits

Part Number	Description
386-2412	Fluke 200 Mhz 4 Channel Scopemeter

Specifications	
Dimensions	265 X 190 X 70 mm (10.5 X 7.5 X 2.8 in)
Weight	2.2 kg (4.8 lb) incl. battery
Operating Temperature	0 °C to +40 °C (+32 °F to +104 °F) incl. battery +40 °C to +50 °C (104 °F to +122 °F) excl. battery
Storage Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Humidity	+10 °C to +30 °C (50 °F to +86) 95% +30 °C to +40 °C (86 °F to +104 °F) 75% +40 °C to +50 °C (104 °F to +122 °F) 45% RH non-condensing
Maximum Operating Altitude	Up to 2,000 m (6666 ft) CAT IV 600 V, CAT III 1000 V; up to 3,000 m (10,000 ft) for CAT III 600 V, CAT II 1000 V
Maximum Storage Altitude	12 km (40,000 ft)
Electromagnetic Compatibility (EMC)	EN 61326-1 (2005-12) for emission and immunity
Power, Battery Life	B291 Li-ion battery, up to 7 hours (with backlight low)

Fluke 287 Logging Multimeter

Product Family: Rotary Blasthole Drills

Model Usage: Rotary Blasthole Drills

Warranty: Manufacturer's Limited Lifetime



- Documents design performance and graphically displays logged data session
- Identifies anomalies
- Zoom provides ability to view and analyze data up to 14 times
- Graphically view logged readings without a PC (software and interface cable optional)
- Log multiple sessions of log data continuously for more than 200 hours
- Min/Max/Average with time stamp to record signal fluctuations

Specifications

- Dimensions: 22.2 X 10.2 X 6 cm (8.75 X 4.03 X 2.38 in)
- Weight: 870.9 g (28 oz)
- Operating Temperature: -20°C to +55°C (-4°F to +131°F)
- Storage Temperature: -40°C to +60°C (-40°F to +140°F)
- Relative Humidity:
  - 0 to 90% (0°C to 37°C)
  - 0 to 65% (37°C to 45°C)
  - 0 to 45% (45°C to 55°C)
- Electromagnetic Compatibility: EMC EN61326-1
- Vibration: MIL-PRF-28800F, Class 2
- Data storage capacity: 10,000 Readings
- Battery Type/Battery Life: Six AA alkaline batteries, NEDA 15A IEC LR6, 100 hours minimum, 200 hours in logging mode

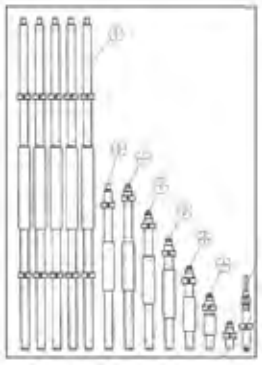
Part Number	Description
384-0398	Fluke 287 Logging Multimeter

Micrometer Set, Inside (6-150 Inches)

Product Family: Electric Rope Shovels, Draglines

Model Usage: 7495, 8000, 8200, 8750

Warranty: Manufacturer's







- Used for assembly and repairs on Draglines and Electric Rope Shovels
- All tools are enclosed in a wooden case
- Measuring Range: 6-150 in
- Graduations: 0.001 in

Part Number	Description
385-9422	Inside Micrometer Set (6-150 Inches)

Specifications

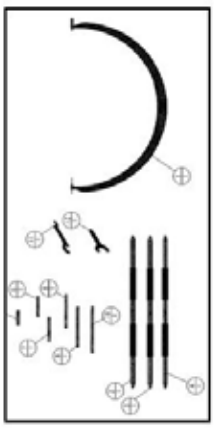
Item	Qty.	Description	Specification
1	1	Head	4-6 Inches
2	1	01_Rod	2 Inches
3	1	02_Rod	4 Inches
4	1	03_Rod	6 Inches
5	1	04_Rod	8 Inches
6	1	05_Rod	10 Inches
7	1	06_Rod	12 Inches
8	1	01_Extension	12 Inches
9	5	02_Extension	24 Inches
10	1	Wrench	Not shown
11	1	Wooden case	730.25 x 330.2 x 165 mm (28.75 x 13 x 6.5 in)

Micrometer Set (54-60 Inches)

Product Families: ERS, Draglines

Model Usage: 7495, 8000, 8200, 875

Warranty: Manufacturer's



- Used for assembly and repairs on Draglines and Electric Rope Shovels
- All tools are enclosed in a wooden case

Part Number	Description
385-4008	Micrometer Set (54-60 Inches)

Specifications		
1	Frame	60 Inches
2	Standard	55 Inches
3	Standard	57 Inches
4	Standard	59 Inches
5	Anvil	59-60 Inches
6	Anvil	58-59 Inches
7	Anvil	57-58 Inches
8	Anvil	56-57 Inches
9	Anvil	55-56 Inches
10	Anvil	54-55 Inches
11	Wrench	
12	Wrench	
13	Wooden case	1,816.1 x 979.5 x 88.9 Mm (71.5 x 38.56 x 3.5 In)

SPECIALTY MINING TOOLS

Swing Pinion Gear Tooth Gauge

Model Usage: 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months





Typical Application

- Fast, accurate measurement of tooth wear allows gear maintenance and repair to be scheduled.
- Service tool enables the technician to measure the swing pinion gear tooth in one location at a time.
- Material – Stainless Steel
- Only one required

Reference

- Special Instruction SEBF9321-02

Item	Part No.	Description	Dimensions	Weight
A	501-9691	Swing Pinion Gear Tooth Gauge	178 x 3 x 165 mm (7 x 0.1 x 6.5 in)	(0.4 kg (0.8 lb)

Swing Rack Gear Tooth Gauge

Model Usage: 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months





Typical Application

- Fast, accurate measurement of tooth wear allows gear maintenance and repair to be scheduled.
- Service tool enables the service technician to measure the swing rack gear teeth in three locations.
- Enables technician to weld (repair) a broken tooth as required
- Material – Stainless Steel
- Only one required

Reference

- Special Instruction SEBF9321-02

Item	Part No.	Description	Dimensions	Weight
A	501-9692	Swing Rack Gear Tooth Gauge	325 x 3 x 180 mm (13 x 0.1 x 8 in)	0.85 kg (1.9 lb)

Level (12 Inches)

Product Families: Electric Rope Shovels, Draglines

Model Usage: 7495, 8000, 8200, 8750

Warranty: Manufacturer's



- Used for assembly and product support repairs on Draglines and Electric Rope Shovels
- Does not come with a case

Specifications

- Dimensions: **304.8 x 38.1 x 66.675 mm (12 x 1.5 x 2.625 in)**

Part Number	Description
385-8484	Level (12 inches)

Board Control System Cable

Product Family: Hydraulic Mining Shovels

Model Usage: 6015-6090

Warranty: Manufacturer's



- Used with Board Control System (BCS) on large hydraulic front shovels connecting to PC
- Cable has DB9 pin female on one end and DB25 pin male on opposite end
- Null-modem with internal gender changer

Specifications

- Dimensions:
  - Length: 4.6 m (15 ft)
  - Coiled: 200 x 200 x 50 mm (7.9 x 7.9 x 1.9 in)

Part Number	Description
435-8670	Board Control System Cable

SPECIALTY MINING TOOLS

Board Control System Cable

Model Usage: 6015-6090 Machines

Warranty: Manufacturer's



- Used with Board Control System (BCS) on large hydraulic mining shovels connecting to a laptop computer
- Cable has 9-pin male on one end and 9-pin female on the opposite end
- Standard 9 pin DB9 RS232 cable and socket to pin adapter included

Specifications

- Length: 1.7526 m (69 in)

Part Number	Description
146-8488	Board Control System Cable (RS-232)

Hoist Open Gear Set Wear Measurement Tools

Model Usage: 7495

Warranty: Caterpillar® Six Months



503-1288



503-1289



503-1293



503-1294



Figure 6 - Feeler Gauge Measurement at Gear Tooth Flank Pitchline (Center of Tooth)

- Specialized template service tool required to measure:
  - Hoist pinion tooth wear
  - Hoist gear tooth wear
  - Backlash
- These service tools are constructed of 12-gage stainless steel that provides accuracy and durability.
- Template design provides a quick measurement reading vs. gear tooth vernier caliper.

Part No.	Description	Quantity Required	Length	Height	Depth	Weight
503-1288	Template for Pinion 506-3271	1	180 mm (7.1 in)	164.3 mm (6.5 in)	2.7 mm (0.11 in)	0.4 kg (0.9 lb)
503-1289	Template for Gear 506-3272	1	225 mm (8.9 in)	151.8 mm (6 in)	2.7 mm (0.11 in)	0.5 kg (1.1 lb)
503-1293	Template for Pinion 446-4159	1	180 mm (7.1 in)	157.7 mm (6.2 in)	2.7 mm (0.11 in)	0.4 kg (0.9 lb)
503-1294	Template for Gear 467-0673	1	225 mm (8.9 in)	154.1 mm (6.1 in)	2.7 mm (0.11 in)	0.5 kg (1.1 lb)

Wire-Crimping Tool Group

Model Usage: Electric Rope Shovels and Electric Drive Machines

Warranty: Manufacturer's

- Provides correct crimp to single cable terminals to ensure proper connection
- Service and fabricate wire assemblies on site
- Uses multiple dies for various terminal sizes
- Compact to fit in tight spaces



488-7880



488-7881

Part No.	Description	Dimensions	Weight
492-0759	Wire-Crimping Tool Group	-	-
488-7879	Hand-Crimp Tool, Ferrules #26-10, 4 Dies	265.7 x 25.4 x 94.2 mm (10.46 x 1 x 3.71 in)	0.82 kg (1.8 lb)
488-7880	7880 Hand-Crimp Tool, RA, RB, RC Insulated Terminals/Splices	549.9 x 380 x 359.9 mm (21.65 x 14.96 x 14.17 in)	1.1 kg (2.42 lb)
488-7881	14-Ton Battery-Powered Crimper with Battery and Charger	482.6 x 88.9 x 266.7 mm (19 x 3.5 x 10.5 in)	9.1 kg (20 lb) with battery
492-0758	Die Group + Indenter	-	-

Part No.	Accessories & Individual Dies
491-3833	Spare Battery
491-3834	Spare Battery Charger
490-6011	Indenter
490-6012	Die: 2/0 Copper, Blk/Gold 45 x
490-6013	Die: 350 kcmil, Copper Red 71 x
490-6014	Die: 4 AWG, Gray 29 x
490-6015	Die: 600 kcmil Copper, 400 kcmil AL/CU, Green 94 x
490-6016	Die: 6 AWG Copper, 8 AWG AL/CU, Blue 24 x
490-6017	Die: 1/0 Copper, 2 AWG AL/CU, Pink 42 x
490-6018	Die: 8 AWG Copper, 10 AWG AL/CU, Red 21 x
490-6019	Die: 2 AWG Copper, Brown 33 x
490-6020	Die: 3/0 Copper, Org/Tan 50 x
490-6021	Die: 4/0 Copper, Purple/Olv 54 x
490-6022	Die: 250 kcmil Copper, Yellow 62 x

Lockwire Tool

Essential Tool

Model Usage: 621G, 623G, 627G, 631G, 637G, 657G Motor Graders; D7E Tractor (electric drive)

Warranty: Manufacturer's



- Used to eliminate loose electrical connections by precisely twisting and tightening 5P-6029 Lockwire on 7D-1962 Connector
- Forged alloy steel with black oxide finish
- Allows very precise twisting and cutting of wires in order to attain tight and dependable electrical connection

Part Number	Description
314-8478	Lockwire Tool

Generator and Motor Assembly Tools

Essential Tool

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



- Used to install electrical rotors into generator and final drive motors during assembly
- Rotor installer assembly fits into generator/motor housing
- Installer rings are made from light-weight, durable plastic to prevent damage to components
- Guide strips are made from UHMV Static-Dissipative Polyethylene Film for smooth rotor insertion and to protect windings from damage
- 333-9726 UHMW Polyethylene Film [61.0 x 63.5 cm (24 x 25 in)] is available to make replacement guide strips (one sheet makes four strips)

Reference

- KENR5162, D7E Track-Type Tractor, Powertrain, Disassembly and Assembly
- KENR5166, D7E Track-Type Tractor, Machine System, Disassembly and Assembly

Procedure to make tooling guide strips

1. Cut the 333-9726 UHMW Film into four equal strips 7.62 x 63.5 cm (3 x 25 in).
2. Loosen eight retainer ring bolts using a 5/16 inch Allen wrench.
3. Remove and discard old guide strips.
4. Install new guide strips by bending and slipping end between two rings. Guide strips must be equally spaced around ring.
5. Adjust guide strip length (bottom of large ring to lower end of guide strip) to 54.6 cm (21.5 in) on 320-9895 and 51.0 cm (20.0 in) on 320-9896.
6. Tighten eight bolts to 14 ± 2 Nm (124 ± 18 in lb).

Item	Part No.	Description
1	320-9895	Prop Mod Tool Assembly
2	320-9896	Generator Tool Assembly
3	333-9726	UHMW Polyethylene Film, 61.0 x 63.5 cm (24 x 25 in)

Rotor Alignment Pin

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



- Used to prevent damage to electric drive generator rotor and stator when removing or installing
- Blunt end threads onto rotor shaft (use a 194-3553 Rolling Head Pry Bar or 292-9214 Spanner Wrench in 12.7 mm [0.5 in] cross-drilled hole to install or remove)
- Made of light-weight aluminum for easy handling and also corrosion resistance
- Weighs 11.8 kg (26.0 lbs)

Reference

- KENR5162, Power Train Disassembly and Assembly

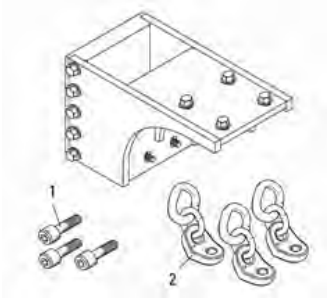
Part Number	Description
326-9426	Rotor Alignment Pin

Adapter Assembly

Essential Tool

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



Reference

- NEHS1086 Tool Operating Manual, 322-3968 Adapter Assembly, 322-3969 Adapter Assembly

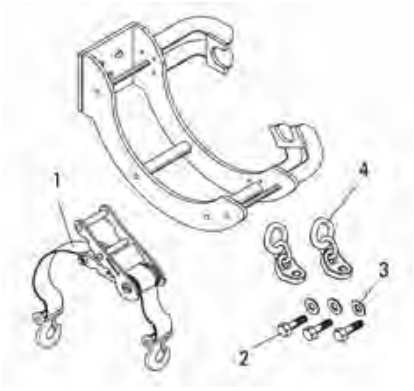
322-3968 Adapter Assembly

- Used to support electric drive propulsion Module (EDPM)
- Must be used with 1U-5750 Engine Stand
- Allows component to be positioned for disassembly, assembly, and maintenance
- Used with additional required hardware

Specifications

- Working load limit: 1134 kg (2500 lbs)
- Weight: 64 kg (141 lbs)

Item	Part No.	Description	Qty.
1	8L-6059	Socket Head Bolt, 1-8 x 63.5 mm (2.50 in) long	3
2	439-3939	Link Bracket	3
—	8T-9400	Bolt, 7/8 x 63.5 mm (2.50 in) long	3
—	5P-8249 (Used to attach 439-3939 Link Brackets to D7E EDPM)	Hard Washer	3



322-3969 Adapter Assembly

- Used to support generator
- Must be used with 1U-5750 Engine Stand
- Allows component to be positioned for disassembly, assembly, and maintenance
- Used with additional required hardware

Specifications

- Working load limit: 561 kg (1237 lbs)
- Weight: 38 kg (84 lbs)

Item	Part No.	Description	Qty.
1	333-3761	Ratchet Strap	1
2	1D-4635	Hex Head Bolt, 1-8 x 63.5 mm (2.50 in) long	3
3	8T-5361	Hard Washer	3
4	439-3939	Link Bracket	3
—	8T-9400	Bolt, 7/8 x 63.5 mm (2.50 in) long	3
—	5P-8249	Hard Washer	3

Rollover Bracket Assembly

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to assist in disassembly and assembly of electric retarder (grid assembly)
  - moves electric retarder from a vertical position to a horizontal position
- Used with a suitable forklift and overhead lifting device
- Fork pockets allow transport of electric retarder after rollover procedure
- Weight: 398.6 kg (884.9 lb)
- "Conduit" is stamped in flat mounting plate of tooling to indicate correct position of electric retarder on tooling
- Includes 309-2794 Hook Chain Assembly (not shown)

Reference

- KENR8727, 795F AC Off-Highway Truck, Machine Systems, Electric Retarder, Disassemble and Assemble

Part Number	Description
341-1462	Rollover Bracket Assembly

Well Stimulation Pump Threaded Adapter

Model Usage: Fluid End and Power End 2500, 2250 hp Well Stimulation Pumps

Warranty: Caterpillar® Six Months



- Threaded adapter for use with slide hammer
- 1-8 UNC to 1/2 - 13 UNC thread adapters
- Used for pulling out caps/plugs and pulling plungers

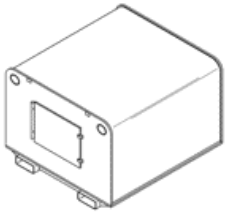
Part No.	Description	Dimensions	Weight
451-6478	Well Stimulation Pump Threaded Adapter	101.6L x 25.4W x 25.4H mm (4 x 1 x 1 in)	0.45 kg (1 lb)

Storage and Shipping Stand

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to ship and store the alternator and traction motor
- Covered container is designed to protect alternator or traction motor from dirt, debris and contamination
- Alternator or traction motor is bolted to brackets on base assembly
- Lifting points on cover are for removing or installing cover only (cover lift points are NOT to be used for lifting the entire stand assembly)
- Rectangular tubes provide easy lift and transport, using a suitable lift truck
- End panel door allows access for rotating alternator or traction motor per approved maintenance procedures, during long term storage
- Built-in desiccant pack for humidity control

Specifications

- Overall size (L x W x H): 2 x 1.8 x 1.5 m (79 x 71 x 61 in)
- Weight: 1164 kg (2585.6 lb)

Part Number	Description
329-5130	Storage and Shipping Stand

Traction Motor R&I Tool

Model Usage: 793F AC and 795F AC Off-Highway

Warranty: Caterpillar® Six Months



- Used to remove and install the electric motor of 793F AC and 795F AC Off-Highway Trucks
- Tool has fork tubes used during the remove and install procedure
- An adjustment screw allows for fine adjustment of motor in order to assure bolt hole alignment during assembly
- Tool is equipped with support tubes used during the transport of the traction motor to eliminate the possibility of damage to motor
- Tool is equipped with a tool box for storage of the support legs when not in use

Reference

- KENR8715, 795F Series AC Off-Highway/ Tractor Disassembly and Assembly

Specifications

- Length: 1776 mm (69.92 in)
- Width: 1372 mm (54.02 in)
- Height: 1460 mm (57.48 in)
- Weight: 1108.35 kg (2443.5 lbs)
- Working Load Limit: 4535.92 kg (10,000 lbs)

Part Number	Description
360-7460	Traction Motor R&I Tool

Brace Assembly Support

Model Usage: 793F AC

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to safely support 793F AC motors on the 360-7460 Traction Motor Removal Tool

Reference

- NEHS1075, Tool Operating Manual

Specifications

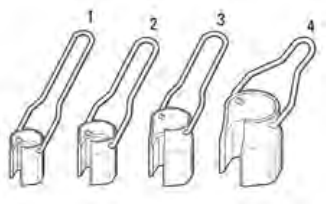
- Dimensions: 635 x 231 x 248 mm (25.0 x 9.1 x 9.8 in)
- Weight: 18 kg (41 lb)
- Material: Steel

Part Number	Description
443-3173	Brace Assembly Support (left)
443-3174	Brace Assembly Support (right)

Cord Grip Wrenches

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to remove cable gland nuts on electrical cabinet
- Split socket fits over cable bundle
- Swivel handle (bail) provides leverage to loosen and tighten gland nut
- Helps prevent damage to gland nut, cable, and electrical cabinet
- SW size marked on each socket for easy identification

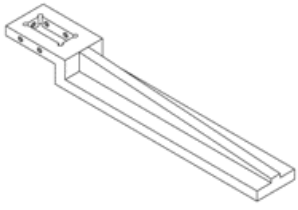
Item	Part No.	Description	ID Mark	Socket Hex Size	Socket Height	Height w/ Handle
1	345-2356	Cord Grip Wrench	SW-35	35 mm	60.5 mm	219 mm
2	349-7457	Cord Grip Wrench	SW-36	36 mm	60.5 mm	158.0 mm
3	345-2357	Cord Grip Wrench	SW-54	54 mm	98.8 mm	281.7 mm
4	349-7458	Cord Grip Wrench	SW-60	60 mm	98.8 mm	206.5 mm

Reaction Arm

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Removes and installs steering linkage nuts
- Used with Hydraulic Torque Wrench and 234-6041 Impact Socket (4-1/4 in)
- 5 set screws secure tool onto torque wrench
- Prevents rotation of torque wrench under load when loosing or tightening steering arm linkage nuts
- Welded steel construction for long service life

Reference

- KENR8727, 795F AC Off-Highway Truck, Machine Systems, Disassembly and Assembly, Steering Arm Remove and Install

Specifications

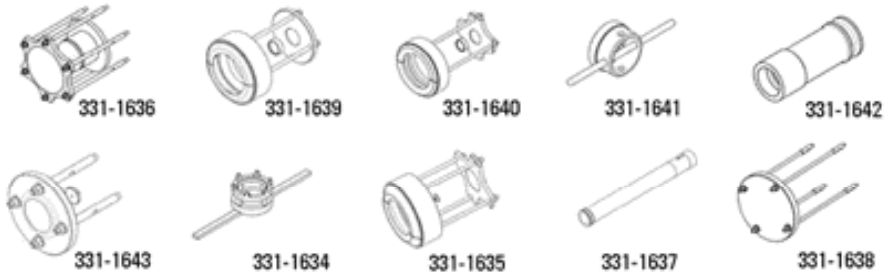
- Length: 686 mm (27.0 in)
- Width: 102 mm (4.0 in)
- Height: 76 mm (3.0 in)

Part Number	Description
010-2597	Hex Socket Setscrew, 3/8 -16 x 25.4 (1.0 in) long, qty. 5

Disassembly and Assembly Tools

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble the electric motor on the 795F Off-Highway Truck
- Consists of 2 spanner wrenches, 6 pullers and 2 tube assemblies
- Material: Steel
- Made as ordered (MAO)

Reference

- KENR8715, 795F Series AC Off-Highway Truck Power Train Disassembly and Assembly Manual

Part No.	Description	Function	Dimensions	Weight
331-1634	Spanner Wrench	Used to remove and nstall lock nut	190 x 752 x 142 mm (7.48 x 29.61 x 5.59 in)	8.55 kg (18.85 lb)
331-1635	Puller	used to remove seal, bearing retainer and bearing	336 x 470 mm (13.23 x 18.50 in)	44.10 kg (97.22 lb)
331-1636	Puller	used to remove end bracket	305 x 364 mm (12.01 x 14.33 in)	21.60 kg (47.62 lb)
331-1637	Tube Assembly	used to remove/install main rotor and end bracket out of housing	215 x 1530 mm (8.46 x 60.24 in)	140 kg (308.65 lb)
331-1638	Puller	used to remove seal ring	200 x 320 mm 7.87 x 12.60 in)	5.50 kg (12.13 lb)
331-1639	Puller	used to remove bearing	288 x 424 mm (11.34 x 16.69 in)	34.30 kg (75.62 lb)
331-1640	Puller	used to remove seal ring	308 x 488 mm (12.13 x 19.21 in)	34.30 kg (75.62 lb)
331-1641	Spanner Wrench	used to remove and install lock nut	152 x 450 x 90 mm (5.98 x 17.72 x 3.54 in)	4.00 kg (8.82 lb)
331-1642	Tube Assembly	used to remove/install main rotor and end bracket out of housing	133 x 350 mm (5.24 x 13.78 in)	18.10 kg (39.90 lb)
331-1643	Puller	used to remove seal ring	185 x 185 mm (7.28 x 7.28 in)	5.15 kg (11.35 lb)

Aftercooler Testing Plugs



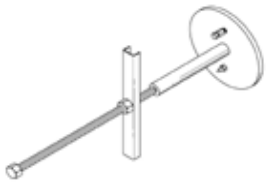
Part No.	Description
367-7435	Vented Plug - Rubber Diameter 49 mm
378-4525	Non-Vented Plug - Rubber Diameter 33.5 mm
378-4526	Non-Vented Plug - Rubber Diameter 49 mm

Pressurizer Assembly

Essential Tool

Model Usage: 793F, 795F, and 797F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to seal air induction system to test for air leaks temporarily — replaces primary and secondary air filters
- Used with shop air supply and dealer supplied 0 to 70 kPa (0 to 10 PSI) pressure gauge
- Requires one pressurizer tool for each air cleaner (797F Off-Highway Truck requires four)
- Each tool features a quick-disconnect air fitting and a preset pressure relief valve
- 9H-5548 O-ring Seal is serviced separately

Part Number	Description
321-6022	Pressurizer Assembly

Differential Pressure Gauge

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used to monitor aftercooler pressure drop in applications with crankcase fumes recirculation
- Minimize risk of engine reliability problems
- Helps eliminate premature plugging of aftercooler cores
- Increase service life of air cleaner
- Eliminates need for using two gauges
- Installs across air side of aftercooler core
- Measures differential pressure continuously, regardless of fluctuation in system pressure
- For maximum accuracy, calibrate gauge in position used
- Magnahelic gauge with high pressure option

Specifications

- Accuracy: ±2% of full scale
- Weight: .51 kg (18 oz)
- Range: 0 — 101 cm (0 — 40 in) of water
- Minor divisions: 1.0
- Temperature range: (-6° to 60°C) 20° to 140°F
- Maximum pressure: 551 kPa (80 PSI)

Part Number	Description
152-2067	Differential Pressure Gauge

Alignment Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Aligns bellows on the 797 Off-Highway Truck
- Used to aid in rework procedure

Reference

- REHS6084, Procedure to Retrofit Exhaust Group on 797F Off-Highway Truck

Specifications

- Dimensions: 545 x 327 mm (21.46 x 12.87 in)
- Weight: 14 kg (30.9 lb)

Part Number	Description
380-5368	Alignment Tool

AIR INDUCTION

Bellows Alignment Tool

Model Usage: 777B, 777D, 785D, 789D, 793F, 795F, 797B using the 306-0297 exhaust bellows

Warranty: Caterpillar® Six Months



- This tool allows the technician to properly align the exhaust piping before the installation of the 306-0297 bellows.

Part No.	Dimensions	Weight
471-0307	287 x 335 x 372 mm (11.3 x 13.2 x 15 in)	5 kg (11 lb)

Exhaust Saddle Clamp Alignment Fixture

Model Usage: 797 High-Altitude Mining Trucks

Warranty: Caterpillar® Six Months



- Aligns the saddle clamps for the exhaust system on 797 high-altitude mining trucks
- Reduces stress on technician
- Potential labor reduction of approximately one hour

Part No.	Description	Dimensions	Weight
470-1585	Exhaust Saddle Clamp Alignment Fixture	349 x 240 mm (13.8 x 9.5 in)	3.2 kg (7.05 lb)

Turbocharging Reconditioning Tools

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months

The tools needed to service a particular turbocharger can be determined from the following charts.

Reference

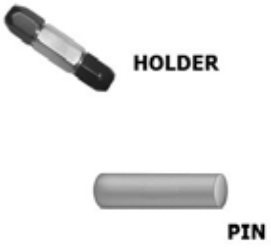
- SMHS6854, Special Instruction

Part No.	Description	3LK	4, 4A, 4C	4B, 4D	V4HD, V4MD	4MD, 4ME	4HD	F, E
9S-6343	Cartridge Fixture (replaces FT0622)	X	X	X	—	—	—	—
9S-6363	Fixture Group (replaces FT0621)	X	X	X	—	—	—	—

Turbine Shaft-Measuring Pins and Holder

Model Usage: Turbocharger Turbine Shaft Seal Groove

Warranty: Manufacturer's



- Various-sized gage pins and the universal holder allow proper and precise measurement of the shaft seal groove.
- Allows precise determination that the seal groove is worn past its limits

SL No.	Part No.	Description	Diameter	Weight
1	502-8946	Pin Holder	1.52 to 7.71 x 136.52 mm (0.061 to 0.2505 x 5-3/8 in)	0.018 kg (0.039 lb)
2	502-8948	Pin	3.302 x 50.8 mm (0.13 x 2 in)	0.003 kg (0.006 lb)
3	502-8949	Pin	2.591 x 50.8 mm (0.102 x 2 in)	0.002 kg (0.004 lb)
4	502-8950	Pin	1.765 x 50.8 mm (0.07 x 2 in)	0.001 kg (0.002 lb)
5	502-8951	Pin	1.740 x 50.8 mm (0.069 x 2 in)	0.001 kg (0.002 lb)
6	502-8952	Pin	1.689 x 50.8 mm (0.066 x 2 in)	0.001 kg (0.002 lb)
7	502-8953	Pin	1.676 x 50.8 mm (0.066 x 2 in)	0.001 kg (0.002 lb)
8	502-8954	Pin	1.659 x 50.8 mm (0.065 x 2 in)	0.001 kg (0.002 lb)
9	502-8956	Pin	1.651 x 50.8 mm (0.065 x 2 in)	0.001 Kg (0.002 Lb)

Manufacturer: AiResearch

Part No.	Description	T6	T12	T114	T18	T24	T3019	T04	TV81	TW81
9S-6363	Fixture Group	—	X	—	—	—	—	—	X	X
9S-6343	Cartridge Fixture	—	X	—	—	—	—	—	X	X

Fixture Assembly and Turbine Holders



- Disassembles turbocharger rotating assemblies by positioning turbine wheel in 9S-6343 assembly for shaft nut removal
- Contains sockets required to hold Schwitzer turbine wheels
- Set of 4 turbine holders available to hold AiResearch turbine wheels
- Frame of fixture retains holder in place

Item	Part Number	Description
1	9S-6343	Fixture Assembly (replaces FT0622)
2	—	Turbine Holders (not serviced)

C7.1 Turbocharger Alignment Tool

Model Usage: C7.1 Engines

Warranty: Caterpillar® Six Months



- Used to counterbalance the turbocharger for easier installation and alignment
- Used in assembly and removal of Turbocharger
- Material: Steel

Part Number	Description	Size	Weight
370-4653	C7.1 Turbocharger Alignment Tool	Counter balance: 80 mm dia. x 175 mm long	3.13 kg (6.9 lbs.)

Wrench Assembly

Model Usage: C7.1 Marine Engines

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Allows easy access to turbo mounting studs
- Special design of tool allows the studs to be properly torqued

Part No.	Description	Dimensions	Weight
507-8163	Wrench Assembly	147.8 x 65.8 x 16 mm (5.81 x 2.59 x 0.63 in)	0.142 kg (0.31 lb)

AIR INDUCTION

Turbocharger Fixture Group



- Used for disassembly and assembly of current and non-current turbochargers
- Mounting plate tilts 90° so turbochargers can be positioned vertically or horizontally
- In either position, mounting plate can be rotated to 8 fixed positions in 360°

Part Number	Description
9S-6363	Turbocharger Fixture Group

Snap Ring Pliers

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used to remove snap rings from deep bores in turbocharger housings and other components
- Plier tips slightly off center to improve visibility
- Pins made from 1.04 mm (0.041 in) diameter piano wire

Part Number	Description
1U-5429	Snap Ring Pliers

Feeler Gauge Assembly

Essential Tool

Model Usage: C175-16 Generator Set Engine

Warranty: Caterpillar® Six Months



- Used to ensure corrugations in exhaust manifold bellows are properly aligned
- Bellows corrugations must be checked when exhaust manifold is installed on engine and turbocharger
- Properly shaped and aligned corrugations will extend bellows service life
- Heavy-duty, spring-steel feeler gauge with steel handle is shaped to reach all sides of bellows
- Tool is black oxide coated to prevent corrosion

Reference

- RENR7466, C175-16 Generator Set Engine, Disassembly and Assembly

Part Number	Description
304-9576	Feeler Gauge Assembly

Bellows Tool Assembly

Essential Tool

C175-16 Generator Set Engine

Warranty: Caterpillar® Six Months



- Used to remove and install turbocharger exhaust bellows
- Fits over bellows to maintain proper shape and help prevent deforming of inlet and outlet
- Covers and protects bellows during disassembly and assembly
- Two-piece design with hinge and latch allow quick installation and removal
- 306-7948 Inner Ring Segments (four per tool) and 2N-2658 Socket Head Screw (16 per tool) are serviced separately
- Service/Repair Part: 306-7648 Ring

Reference

- RENR7466, Service Manual, C175-16 Generator Set Engine, Disassembly and Assembly

Part Number	Description
304-9575	Bellows Tool Assembly

Bellows Compression Tools

Model Usage: See Table

Warranty: Caterpillar® Six Months



463-4043



474-3692



421-4079



421-4080



440-0210



443-7540

- Used to safely compress bellows for removal and installation
- New and improved design with PTFE pads 474-3692, mechanically bolted to the bellows tool assembly for added strength and durability
- Used with 19 mm box end or ratcheting box end wrench for quick assembly
- Allows quick exchange of bellows assembly without removal of surrounding components
- Steel construction
- Replaces discontinued396-9127

Bellows Tool Part No.	Used to Service Bellows Part No.	Dimensions	Weight	Model Usage and Description
361-5661	324-9290	83 x 83 x 112 mm (3.3 x 3.3 x 4.4 in)	1.4 kg (9.7 lb)	C9.3, C13, C15, C18, C27 and C34 Tier 4 Interim & final machines Does not require rubber pads and does not clamp on the convolutions
421-4079	389-9659, 363-2086	220 x 200 x 177 mm (8.6 x 7.9 x 7.0 in)	4.1 kg (9.1 lb)	ALL C175 engines
421-4080	348-9252	157 x 148 x 138 mm (6.2 x 5.8 x 5.4 in)	3.0 kg (6.6 lb)	ALL C175 engines
423-4329	–	–	–	–
440-0210	315-7909	210 x 200 x 93 mm (8.3 x 7.9 x 3.7 in)	3.0 kg (6.7 lb)	ALL C175 engines
443-7540	354-3510	240 x 141 x 217 mm (9.4 x 5.5 x 8.5 in)	4.5 kg (9.8 lb)	C175 HAA 793F and 795F Turbine Outlet
443-7542	258-8016	270 x 104 x 234 mm (10.6 x 4.1 x 9.2 in)	4.4 kg (9.7 lb)	C175 HAA 793F Front Turbine Outlet
443-7543	344-0079	206 x 162 x 204 mm (8.1 x 6.4 x 8.0 in)	4.4 kg (9.6 lb)	C175 HAA 793F Exhaust Bypass and Rear Turbine Inlet
443-7544	365-6532	270 x 177 x 234 mm (10.6 x 7.0 x 9.2 in)	5.3 kg (11.7 lb)	C175 HAA 797F Rear Turbine Outlet
452-6804	443-5940	144 x 178 x 184 mm (5.7 x 7.0 x 7.2 in)	3.9 kg (8.5 lb)	C175 HAA 793F and 795F outboard turbine inlet
456-6428	449-7299	178 x 183 x 83	3.36 kg (7.41 lb)	C175 Engines
463-4043	291-5165	200 x 110 x 157mm	5.2 kg	All C175 Engines Bellows Tool Assembly

Replacment PTF Pads:

Replacement PTF Pad Part No	Used on Bellows Tool Part No.	Dimensions	Weight	Model Usage and Description
487-8644	421-4079	76 x 40 x 7 (3 x 1.5 x .25 in)	0.03 kg	C-175
487-8645	421-4080	76 x 40 x 7 (3 x 1.5 x .25 in)	0.03 kg	C-175
474-3692	463-4043	76 x 40 x 7 (3 x 1.5 x .25 in)	0.03 kg	C-175



487-8644 487-8645 524-9345 524-9346

473-7102	456-6428	76 x 40 x 7 (3 x 1.5 x .25 in)	.03 kg (.03 lb)	C-175
487-8644	421-4079	76 x 32.3 x 3.2 (3 x 1.3 x 0.13 in)		C-175
487-8645	421-4080	76 x 33 x 3.2 (3 x 1.3 x 0.13 in)		C-175
524-9345	440-0210	76 x 33 x 3.2 (3 x 1.3 x 0.1 in)		C-175
524-9346	443-7540	76 x 35 x 3.2 (3 x 1.4 x 0.1 in)		C-175

AIR INDUCTION

PTF Pads for Bellows tools

Model Usage: C175

Warranty: Caterpillar® Six Months



487-8644/487-8645/
474-3692/473-7102



421-4079/421-4080/
463-4043/456-6428

- More robust bellows tool frame and hardware on bellows, 421-4079, 421-4080
- Replaceable PTF pads on bellows tools

Pad Part No.	Used to Service Bellows Tool Part No.	Dimensions
487-8644	421-4079	76 x 40 x 7 mm (3 x 1.5 x 0.25 in)
487-8645	421-4080	
474-3692	463-4043	
473-7102	456-6428	
524-9360	452-6804	

Alignment Tool

Model Usage: G3500C, E, H Engines

Warranty: Caterpillar® Six Months



- This tool ensures the exhaust manifolds are aligned correctly for installation of the bellows.
- Prevents premature failure of the bellows due to misalignment

Part No.	Description	Dimensions	Weight
512-6300	Alignment Tool	203 x 109 x 132 mm (8 x 4.3 x 5.2 in)	3.2 kg (7.05 lb)
Serviceable Parts			
1L-8497	Retaining Ring	28 mm (1.1 in)	-

Wastegate Tool Kit

Model Usage: C-15 Engine

Warranty: Caterpillar® Six Months



- Used to test and adjust wastegate setting

Item	Description
3	Hose, 6.35 mm (0.25 in) inside diameter (not included)

Item	Part Number	Description
—	215-2592	Wastegate Tool Kit
Service/Repair Parts		
1	213-4269	Adapter
2	8C-3996	Setscrew-socket (3 required per collet set)
4	214-0788	Regulator
5	215-2648	Toggle Valve
6	215-2649	Connector
7	7B-0192	Cross Fitting
8	214-0787	Pressure Gauge

Turbine Shaft TPS57 Turbocharger Socket

Essential Tool

Model Usage: G3606 and G3612 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install turbocharger shaft bearings
- Socket threads onto shaft and pulls or pushes bearing
- Heat-treated for added durability
- Thread: M24 x 2
- Square drive: 1/2 inch

Reference

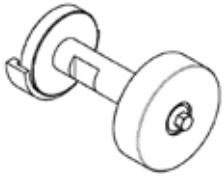
- REHS0556, Special Instruction, Disassembly and Assembly of the Water Cooled TPS57 Turbocharger

Part Number	Description
180-5286	Turbine Shaft TPS57 Turbocharger Socket

Turbocharger Counterbalance Tool

Model Usage: C7.1

Warranty: Caterpillar® Six Months



- Aids in re-assembly of C7.1 turbocharger
- Ensures the turbochargers are correctly positioned.

Specifications

- Dimensions: 175 x 80 x 80 mm (6.9 x 3.1 x 3.1 in)
- Weight: 3.14 kg (6.9 lb)

Part Number	Index Description
370-4653	Turbocharger Counterbalance Tool

Bendix Air Compressor Test Kit

Essential Tool

Model Usage: All Cat Truck Engines with Bendix Air Compressor

Warranty: None — Considered a Consumable



- Allows technician to accurately troubleshoot online air system on engine with Bendix Air Compressor

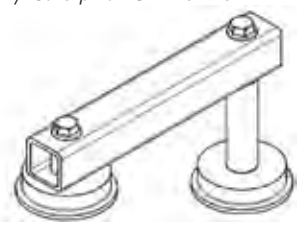
Part Number	Description
261-0940	Bendix Air Compressor Test Kit

AIR INDUCTION

Twin Turbocharger Alignment Tool

Model Usage: C4.4

Warranty: Caterpillar® Six Months



- Used to correctly align turbochargers for the bellows assembly

Part Number	Description	Dimensions	Weight
375-2606	Twin Turbocharger Alignment Tool	275 x 158 x 80 mm (10.8 x 6.2 x 3.1 in)	2.75 kg (6.1 lb)

Turbocharger Oil Alignment Tool

Model Usage: All C175 Engines

Warranty: Caterpillar® Six Months



- Provides a way to hold the Turbocharger Oil Line Fitting during tightening
- Eliminates misalignment
- Keeps components stationary during torquing process

Part No.	Description	Dimensions	Weight
491-3246	Turbocharger Oil Alignment Tool	2 x 34 x 51 mm (22 x 1.3 x 2 in)	1.2 kg (2.6 lb)

Turbo-Charger Balancing Machines

Model Usage: C4.4

Warranty: Manufacturer's, For repair parts, troubleshooting, or other service information contact CWT Industries, 4708 S. Old Peachtree Road, Building #300, Norcross, GA 30071 FAX: (770) 446-5727, PH 1-800-449-1849

- Real-time interface when there is a wifi or LAN connection which expedites remote diagnostics and troubleshooting services from our supplier
- Custom software program which assigns maximum unbalance position to determine where the unbalance is located and how much material should be removed from the rotors
  and wheels
- Designed to handle a range of turbos that can be serviced with one machine
- Touch screen ISO calculator to automatically determine balance tolerance based on cumulative weight
- Provides technician balance references without factory specifications
- Records and stores your data, including specific setup parameters and tolerances for specific Cat® part numbers
- Printable before-and-after reporting capabilities

The 473-7085 balancer suited for engines sized C4.4, up to and including the C175

- 1100 Lb. Mineral-filled weldment base
- Machine dimensions: 54" wide x 36" deep x 58" tall with door closed (68" door open), 1,400 lb total weight
- Counter-balanced safety enclosure with electronic intrusion lock-out
- CWT proprietary "Third Plane" software with single-owner lifetime licensing software upgrade
- Windows 8.1 operating system and ISO 1940/1 calculator software
- Permanent calibration and unlimited job set-up files storage with "One Touch" history recall
- Direct (CAT 5 or wi-fi) communication capabilities
- 22" touch screen control with manual back-up hardware
- Hard-bearing design for weights up to 20 lb
- Maximum work part diameter 8.00" , maximum length 20"
- Overhead drive arm with variable speed motor with auto shut-off and braking
- Spindle RPM range 100-3,500
- Machine resolution: 0.002 Gm-mm
- Non-contact position and speed sensor
- Standard shaft retention safety arm
- Overhang mounting hardware for overhung rotor designs
- Horizontal end-stop tooling to control lateral traversing
- Power requirement: 120 volt/60 Hz/single phase, 12 amps

473-7087 balancer suited for engines with larger turbochargers from C175 through the 3600 series engines

- 4,600 Lb. mineral-filled bBase with 7-gauge steel encapsulation
- Machine dimensions: 88" wide x 58" deep x 72.5" tall with door closed (80" door open,) 4,950 lb total weight
- Counter-balanced safety enclosure with electronic intrusion lock-out
- CWT proprietary "Third Plane" software with single-owner lifetime licensing software upgrade
- Windows 8.1 operating system and ISO 1940/1 calculator software
- Permanent calibration and unlimited job set-up files storage with "One Touch" history recall
- Direct (CAT 5 or wi-fi) communication capabilities
- 22" touch screen control with manual back-up hardware
- Hard-bearing design for weights up to 200 lb
- Maximum work part diameter 31," maximum length 60"
- Overhead drive arm with 3HP variable speed motor with auto shut-off and braking
- Spindle RPM range 100-4,000
- Machine resolution: 0.0008 oz-in
- Non-contact position and speed sensor
- Vertical height roller adjustments
- Standard shaft retention safety arms per stanchion
- Overhang mounting hardware for overhung rotor designs
- Horizontal end-stop tooling to control lateral traversing
- Internal lighting.
- Power requirement: 240 volt/60 Hz/single phase, 30 amps

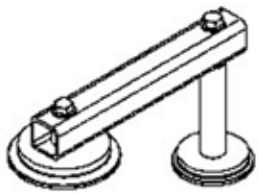
Part No.	473-7085	473-7087
Unbalance Resolution	0.1 g/mm	1.0 g/mm
Position Encoding Resolution	1.0 degree per revolution	
Weight Capacity	23 lb total	200 lb total
Motor	0.25 hp DC (1 hp optional)	2 hp DC (3 hp optional)
Electrical Requirements	115 v, 15 amps, 60 hz 230 v, 8 amps, 50/60 hz (optional)	
Machine Width	52"	84"
Machine Depth	34"	52"
Maximum Working Diameter	8.0"	32.0"
Machine Weight	1,400 lb	4,950 lb
Spindle RPM Range	100-3,500	100-4,000
Machine Resolution	0.002 gm-mm	0.0008 oz-in
Safety Enclosure	ISO 7475 Class C	

AIR INDUCTION

Twin Turbocharger Alignment Tool

Model Usage: C7.1

Warranty: Caterpillar® Six Months



- Used to correctly align turbochargers for bellows assembly

Specifications

- Dimensions: 300 x 177 x 90 mm (11.8 x 7.0 x 3.5 in)
- Weight: 3.27 kg (7.2 lb)

Part Number	Description
365-8434	Twin Turbocharger Alignment Tool

Alignment Tool (Air Lines)

Model Usage: C175-20

Warranty: Caterpillar® Six Months



- Air lines alignment tool bracket mounts to the front of the engine and allows quick and accurate alignment of the bellows for the aftercooler.
- Used during the assembly of the air inlet and exhaust module

Part No.	Description	Dimensions	Weight
513-0256	Air Lines Alignment Tool	928 x 643 x 326 mm (36.5 x 25.3 x 12.8 in)	11.3 kg (25 lb)

Exhaust Elbow Gasket Seal Installers

Model Usage: C32 Genset Air Lines Using the Metal 521-2848 Exhaust Gasket

Warranty: Caterpillar® Six Months



533-1138



533-1139

- Gasket installer is needed for C32 genset exhaust lines.
- Installs the 521-2848 metal seal quickly and easily on to exhaust elbows

S.No	Part No.	Description	Dimensions	Weight
1	533-1138	Pusher Tool (C32) (Exhaust Elbow Gasket)	dia 110 x 39 mm (dia 4.3 x 1.5 in)	0.1 kg (0.2 lb)
2	533-1139	Pilot Guide (C32) (Exhaust Elbow Gasket)	dia 101.7 x 30 mm (dia 4 x 1.2 in)	0.3 kg (0.5 lb)

Diesel Particulate Filter Cleaner Adapter Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



discontinued-319-2189

This adapter group services this discontinued fully automated computer-controlled cleaning process which utilizes pulsed air.

SERVICEABLE PARTS FOR DISCONTINUED-319-2189:

Part Number	Description
319-2190	DPF Cleaner Adapter Group
319-2190 DPF Cleaner Adapter Group Contains the following:	
319-1834	Cone, 27.94 cm (11 in)
319-1835	Cone, 33.02 cm (13 in)
319-1836	Cone, 38.10 cm (15 in)
319-1838	Adapter (Lower), Large
319-1839	Adapter (Lower), Small
Optional Accessories include NETG5056 DPF Cleaner Software and the following:	
319-2192	Mass Transit Bus Adapter (with 319-1835 Cone)
373-2992	CT660 DPF Adapter Ring
373-9826	Tier 4 DPF Adapter Ring (pin and slot design)

Exhaust Manifold Alignment Pins

Model Usage: C7.1, C6.6, C4.4

Warranty: Caterpillar® Six Months



- Used to align exhaust manifold and gaskets to cylinder head

Part Number	Dimensions	Weight
366-1819	63 x 11.8 mm (2.48 x 46 in)	.039 kg (0.086 lb)
366-1820	63 x 13.8 mm (2.48 x .54 in)	.051 kg (0.112 lb)

Differential Pressure Regulator Testing and Reconditioning Apparatus

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Required to test and calibrate differential pressure regulators
- Basic test apparatus required for fuel operated pressure ratio controls and exhaust bypass valves
- Additional parts required for pneumatic pressure ratio control

References

- FE035027, Special Instructions
- FE034610, Special Instructions

Item	Part Number	Description
1	—	Basic Apparatus
2	4L-9555	Cover
3	3B-7722	Bushing-Pipe-Reducing 3/8 in-18 NPTF to 1/4 in-18 NPTF
4	3B-7276	Nipple
5	5L-3252	Cover
6	—	Calibration Plate
7	—	Rod
9	3B-7263	Nipple — Pipe
10	3B-7719	Coupling

AIR INDUCTION

Oven for Baking Saturated DPFs

Model Usage: All

Warranty: Caterpillar® Six Months



CE Certified

- With the oven's smart technology, it will monitor the DPF during the regeneration process, making sure there is no uncontrolled regeneration to the filter.
- As the oven temperature increases, the DPF will start its own regeneration process.
- If the temperature gets too high from the regeneration of the DPF, the oven will pause until the DPF temperature drops and has stopped its own regeneration. This helps to control the temperature of the DPF to prevent overheating. The oven will then continue its cycle until finished.
- Ensures appropriate time and temperature are achieved in order to turn the soot to ash so it can be removed
- Six preheat, regeneration and control settings for different applications.
- Front-loading for easy positioning
- Programmable temperature controls
- Single-push button start

Specifications

- Internal Dimensions: 24 x 36 x 24 in

Reference

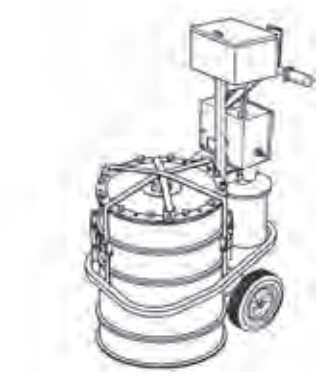
- REHS8180 DEF Maintenance and Cleaning
- REHS5045 DEF Maintenance and Cleaning

Part No.	Description
481-9987	Oven for Baking Saturated DPFs

Compact Diesel Particulate Filter (DPF) Cleaner

Model Usage: All 2007 and Newer Truck Engines and Tier 4 Engines with Diesel Particulate Filters

Warranty: Manufacturer's



For service or repair information please contact Cservice@klineind.com or call 616-396-3564 (prompt 1 for customer service)

European Union Compliant, CE marked

- Used to clean diesel particulate filters (DPF) from 15.3 cm (6.0 in) to 35.6 cm (14.0 in)
- Used with: 367-8959 Ring & Seal Kit, Small 371-3749 Ring & Seal Kit, Medium 364-6044 Ring & Seal Kit, Large 366-6780 Ash Disposal Kit 366-6781 HEPA Filter Kit 376-4807 HEPA Vaccum System (optional) 376-4808 HEPA Replacement Filter (optional)
- Cleans filters in approximately one hour or less
- Requires no expensive consumables or adapters
- Operates below 72.8 db (quiet)
- Operates on 24V DC or 110V AC (US) or 230 Volt AC (European)

NOTE: Dealers ordering the 364-5971 Compact DPF Cleaner have the option of ordering the 376-4807 Vacuum and 376-4808 HEPA filter (North America only).* Customer ordering this option will have the cleaner and vacuum/filter bundled in the same shipping container. To ensure the compliance with California Law, customer must use a HEPA filter that collects all of the particulates. Our 376-4807 Vacuum and 376-4808 HEPA filter meets this requirement.

Other jurisdiction may require the use of a HEPA filter or may otherwise apply additional requirement to the cleaner. Dealers and customers are responsible for obtaining their own legal advice regarding the operation of the cleaner in their respective jurisdiction and the proper disposal of ash.

* European users can use any HEPA Vacuum system that produces a minimum of 80 in H2O static pressure and 100 cfm volumetric flow rate

Specifications

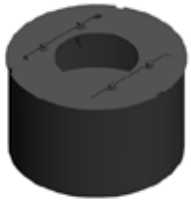
- Filter Diameter Range:
  - 35.6 cm (14.0 in)
  - 33.0 cm (13.0 in)
  - 30.5 cm (12.0 in)
  - 25.4 cm (10.0 in)
  - 15.3 cm (6.0 in)
- Operating Voltage Options:
  - 24V DC, 110V AC 60Hz (US)
  - 230V AC/50 Hz AC (European)
  - 120V AC/240V 60 Hz
- Air Pressure: 689 kPa (100 PSI)
- Minimum Air Flow: 0.5 SCFM (16.5 SCFM)
- Weight: 50 kg (110 lbs)
- Dimensions: 1219 mm (48 in) H x 559 mm (22 in) L x 838 mm (33 in) Deep

Part Number	Description
364-5971	Compact DPF Cleaner

Oval DPF Adapter

Model Usage: C3.8 Engine

Warranty: Caterpillar® Six Months



- Used with 364-5971 Compact DPF cleaner to clean C3.8 engine DPF's
- Adapts an oval shaped DPF to fit onto the 364-5971 Compact DPF Cleaner

Specifications

- Dimensions: 333 x 206 mm (13.11 x 8.11 in)
- Weight: 9.397 kg (20.716 lb)

Part Number	Description
392-3966	Oval DPF Adapter

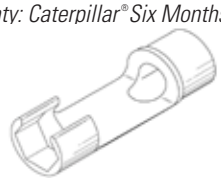
AIR INDUCTION

Slotted Socket

Essential Tool

Model Usage: All Tier 4 Engines

Warranty: Caterpillar® Six Months



- Used with 3/8 inch square drive wrench
- Cut out, deep-well design provides clearance for sensor connector
- Five point hex (16 mm) design helps prevent sensor damage
- Socket is 78 mm (3.0 in) long with a durable chrome plated finish

Part Number	Description
349-3548	Slotted Socket

Socket, Oxygen Sensor

Model Usage: C175 and More

Warranty: Caterpillar® Six Months



- New flare nut shallow slotted socket needed for NOx sensors on C175
- Special shallow depth allows easy access in tight spaces.
- SWAG is 1 x 2 x 2 in.

Part No.	Description	Drive	Weight
554-5055	Socket, Oxygen Sensor	22 mm (7/8 in) and 9.53 mm (3/8 in)	0.25 kg (0.6 lb)

Slotted Socket (22 mm)

Model Usage: All Tier 4 Engines

Warranty: Manufacturer's



- Used to easily remove the 359-9171 NOx sensor with a 22 mm hex
- Makes removal of any other sensor using a 22 mm hex easy
- Fits over the harness of the socket
- Used where open-end wrench will not reach

Specifications

- Dimensions: 22 X 101.6 mm (length: 4 in)
- Weight: 0.12 kg (0.26 lb)

Part Number	Description
468-8116	Slotted Socket

Socket Set

Model Usage: C3.4B

Warranty: Caterpillar® Six Months



- Used with ½ inch square drive
- Used to remove the hex nut of the fuel line on C3.4B engines
- Socket sizes: 12, 14, 16, 17, 18, and 19 mm
- Includes storage box

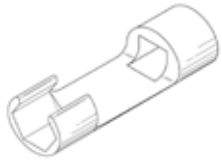
Part No.	Description	Dimensions	Weight
528-5370	Socket Set	284.5 x 147.3 x 40.6 mm (11.2 x 5.8 x 1.6 in)	0.5 kg (1.1 lb)

Slotted Socket

Essential Tool

Model Usage: All Tier 4 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install 320-0576 Engine Temperature Sensor
- Used with 3/8 inch square drive wrench
- 17 mm deep-well socket with cut out provides clearance for sensor body
- Chrome plated for corrosion resistance
- Five-point hex grips sensor base helping prevent damage to sensor
- Length: 78 mm (3.07 in)
- Used to remove and install flame detect sensor on Cat® Tier 4 Engines with Caterpillar Regeneration System (CRS) heads.

Part Number	Description
342-9516	Slotted Socket

Socket

Essential Tool

Model Usage: SE60 Screed

Warranty: Manufacturer's



- Removes 336-2011 temperature Sensor Group
- Used with 3/8 square drive wrench 18 mm deep-well socket with cut out provides clearance for sensor body
- Six-point hex grips sensor base helps to prevent damage to sensor
- Chrome plated for corrosion resistance

Specifications

- Diameter: 26 mm (1 in)
- Length: 84 mm (3.3 in)
- Weight: 0.12 kg (0.3 lb)

Part Number	Description
466-5339	Socket

Turbo Speed Sensor Socket

Model Usage: 3500 Engines Equipped With TPS 44 Turbocharger

Warranty: Caterpillar® Six Months



- Used to remove or install the TPS 44 turbocharger speed sensor
- 3/8 inch square drive
- 19 mm deep-well socket with cut out side
- Five-point hex
- Chrome plated

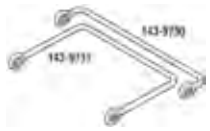
Part No.	Description	Length	Weight
491-4666	Turbo Speed Sensor Socket	89.9 mm (3.5 in)	.145 kg (5.115 oz)

AIR INDUCTION

Wrench (30 mm throat), Wrench (122 mm throat)

Model Usage: 3176, 3176B, C-10, C-12, 3114, 3116, 3126 Engines

Warranty: Caterpillar® Six Months



- Used to properly tighten hard-to-reach 15 mm (0.59 in) nuts
- Used with .5" square drive torque wrench
- Helps prevent turbocharger gasket failures
- 2 wrenches fit almost all turbocharger installations

Part Number	Description	Size	Drive	Distance Between Wrench Faces
143-9730	Turbocharger Wrench, 30 mm (1.18 in) reach throat	15 mm, 12 point	12 in, square	266.7 mm (10.50 in)
143-9731	Turbocharger Wrench, 122 mm (4.8 in) reach throat	15 mm, 12 point	12 in, square	200 mm (7.87 in)

Throttle Bearing Tool Assembly

Model Usage: G3512 Engines

Warranty: Caterpillar® Six Months



- New service tool to replace the outboard bearing on the woodward throttle bodies
- Used with the 555-1602 bearing group to service the actuator group in the throttle

Part No.	Description	Specifications	Weight
554-5061	Throttle Bearing Tool Assembly	Dia 76.2 x 127 mm (Dia 3 x 5 in)	1.2 kg (2.7 lb)

Holding Fixture Assembly

Model Usage: 793D Mechanical Drive OHT

Warranty: Caterpillar® Six Months



Reference

- RENR8334, 793 Off-Highway Truck Disassembly/Assembly Engine Supplement, Modular Front End Remove/Install
- Used to provide secure method for holding and storing radiator and cowling group during removal and installation of modular front end
- Prevents bottom of radiator tank from being crushed when removed from truck
- Allows use of fork lift with a 2722 kg (6000 lb) capacity, to move or store radiator and cowling group once removed from truck
- Overall size (L x W x H): 305 x 229 x 236 cm (120 x 90 x 93 in)

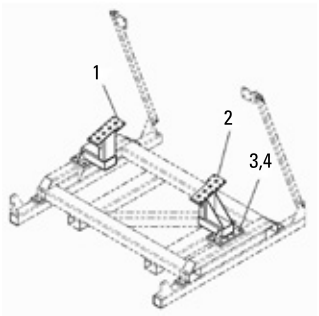
Part Number	Description
348-4227	Holding Fixture Assembly

Tool Group

Essential Tool

Model Usage: 793F MD Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to hold radiator, with shrouding and ladder, in vertical position
- Used with 175-7532 Radiator Support Assembly
- Consists of 315-0227 Left-Hand Fixture Assembly, 316-0649 Right-Hand Fixture Assembly, mounting hardware
- Prevents damage to bottom of radiator
- Requires a minimum 2722 kg (6000 lb) forklift to move fixture and radiator combination
- Fixture assemblies have 3E-3879 Eyebolt (M16 x 2) to allow easy lifting and positioning (part of assembly)
- Uses 4K-7239 Dowels to locate fixture assemblies on radiator support assembly (part of assembly)

Item	Part Number	Description	Quantity
—	315-0009	Tool Group	—
1	315-0227	Left-Hand Fixture Assembly	1
2	316-0649	Right-Hand Fixture Assembly	1
3	8T-0666	Bolt, M24 x 76.2 mm (3.0 in) long	—
4	6V-8237	Hard Washer	—

Radiator Fin Comb

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Multi-head tool which handles 8, 9, 10, 12, 14, and 15 fins/inch
- Breaks down easily for tool box storage

Part Number	Description
208-1350	Radiator Fin Comb

Air Wand and Twist-lock Coupler

Model Usage: D8T and D9T Track Type Tractors

Warranty: Manufacturer's

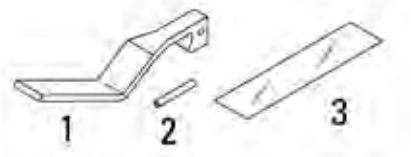


- Cleans radiator cores and cooling components
- Supplied with 3/4 inch twist lock coupler (240-9588 Twist Lock Coupler, sold separately, mates with air wand coupler)
- Aluminum extension tube is 179 cm (70.5 in) long for cleaning hard to reach areas
- Adjustable handle on extension tube adds stability during cleaning operations
- Twenty-two 3 mm (0.12 in) holes at end of extension tube provide more efficient cleaning
- Provides up to 4 kp (9.0 lbf) thrust at 690 kPa (100 PSI) and 5700 lpm (200 scfm) air flow
- Lightweight design for easy use
- Compliant with OSHA standards
- Rebuild kits are available (see charts)

Part Number	Description
240-9588	Twist-lock Coupler (for air supply hose)
307-6728	Air Wand (with twist-lock coupler)

COOLING SYSTEMS

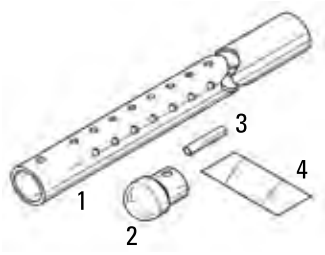
Trigger Kit



Item	Description
1	Replacement Trigger
2	Pin
3	Warning Film

Part Number	Description
317-6934	Trigger Kit

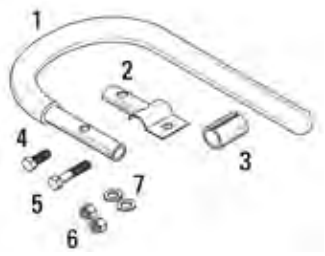
Extension Kit



Item	Description
1	Replacement Extension Tube, 1791 mm (70.5 in)
2	Extension Cap
3	Pin
4	Warning Film

Part Number	Description
317-6935	Extension Kit (Used with 317-6937 Compression Fitting)

Handle Kit



Item	Description
1	Replacement Handle
2	Handle Clamp (2)
3	Bushing
4	Bolt
5	Bolt
6	Nut (2)
7	Washer (2)

Part Number	Description
317-6936	Handle Kit

Compression Fitting



Item	Description
1	Compression Fitting
2	Compression Ring
3	Compression Nut

Part Number	Description
317-6937	Compression Fitting (Used with 317-6935 Extension Kit)

Blade Reversing Tool

Model Usage: Multiple Engine Models

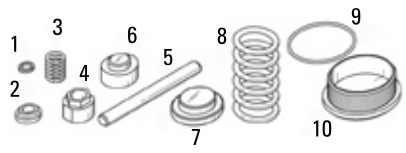
Warranty: Caterpillar® Six Months

- Used to change fan blade pitch on machines equipped with reversible fan blades



Part Number	Description
2S-9528	Blade Reversing Tool

Valve Rebuild Kit



Part Number	Description
317-6938	Valve Rebuild Kit

Item	Description
1	O-ring
2	Top Packing
3	Spring
4	Packing Nut
5	Valve Stem
6	Poppet Skirt
7	Poppet Seal
8	Spring
9	O-ring
10	Valve Cap

Spanner Wrench Assembly

Model Usage: C-9 Engines in Timber King Feller Buncher

Warranty: Caterpillar® Six Months



- Disassembles/assembles Flexxaire engine fan
- Used with 1/2 inch square drive ratchet

Specifications

- Square drive: 1/2 in
- Number of teeth: 4, equally spaced
- Tooth width: 6.1 mm (0.24 in)
- Inside diameter: 64.0 mm (2.5 in)
- Outside diameter: 76.2 mm (3 in)

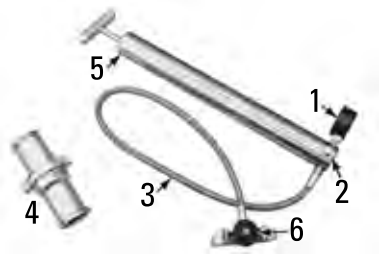
Part Number	Description
243-6532	Spanner Wrench Assembly

COOLING SYSTEMS

Pressurizing Pump

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Pressurizes cooling systems to detect leaks
- Also tests dash gauges, relief valves, and pressure caps

Reference

- SMHS8303, Special Instruction

Item	Part No.	Description
—	9S-8140	Pressurizing Pump
1	6V-7775	Gauge 0 — 205 kPa (0 — 30 PSI)
2	2P-2331	Release Valve (for testing of automotive-type cooling systems)
3	3R-3810	Hose
4	2P-2329	Adapter Bushing
5	9S-8139	Packing (Internal)
6	6V-0117	Bushing
not shown	186-5234	Hose Assembly
not shown	4M-5317	Pipe Reducing Bushing (Part of Cylinder Pressure Group)
not shown	6V-9068	Valve Kit

Vacuum Filling Tool

Model Usage: All Tier 4 Engines

Warranty: Manufacturer's



- The cooling system refiller eliminates airlocks during cooling system refilling.
- Eliminates the need to change hoses during the refilling process
- Operates with shop air
- 80 psi required
- Includes a cooling system adapter and seals directly on the radiator or with standard type adapters

Part No.	Description	Dimensions	Weight
516-9339	Vacuum Filling Tool	254 x 153 x 127 mm (10 x 6 x 5 in)	2.27 kg (5 lb)

Fuel Accumulator Nut Wrench

Model Usage: C175 Tier 4

Warranty: Caterpillar® Six Months



- Used to tighten the nut that attaches the accumulator to the injector on Tier 4 fuel rail groups
- 27 mm double-hex design allows for greater freedom of movement over standard flare nut wrenches.
- Improves time on nut tensioning process by up to 80%
- Improves tensioning process quality and consistency

Part No.	Description	Dimensions	Weight
513-8858	Fuel Accumulator Nut Wrench	76 x 44 x 20 mm (3 x 1.7 x 0.75 in)	0.22 kg (0.5 lb)

Lifting Bracket Assembly

Model Usage: Multiple Machine Models

Warranty: Caterpillar® Six Months



- Replaces 178-3704 lifting bracket assembly that lifts only Advanced Modular Radiator Cores (AMOC)
- Designed for newer radiators with reduced clearance between the tool and tube nose
- Seats rubber seals into the coolant tank
- Allows one-person removal and installation of radiator cores
- Grasps cooling tube and removes it without damaging the tube on AGT radiators
- Removes Next Generation Modular Radiators (NGMR), Advanced Modular Cooling (AMOC) and Aluminum Modular Radiator Cores (AMC) on any vehicle

Reference

- NEHS1213 Tool Operating Manual

Part No.	Description	Dimensions	Weight
464-0265*	Lifting Bracket Assembly	172 x 135 x 114 mm (6.7 x 5.3 x 4.5 in)	1.4 kg (3.1 lb)

*Replaces 178-3704

Pressure Cap Test Adapter

Model Usage: 785C, 785D, 789C, 789D, 793D, 793F, 793F AC, 795F AC and 797F

Warranty: Caterpillar® Six Months



- Allows for pressure testing of the 365-7388 pressure cap
- Used with the 9S-8140 Pressurizing Pump or 259-6237 Cooling System Tester pump

Specifications

- Dimensions: 142.4 x 101.6 mm (5.6 x 4.0 in)
- Weight: 1.1 kg (2.5 lb)

Part Number	Description
456-6746	Pressure Cap Test Adapter

Tool Group

Model Usage: Multiple Engine Models

Warranty: Manufacturer's



- Allows the 9S-8140 to be used on machines which use the 345-1237 screw-on coolant cap assembly
- Contains two adapters: Cooling System Test Adapter and Pressure Cap Test Adapter

Specifications

- Threaded Adapter: 139.7 x 58.42 x 33.02 mm (5.5 x 2.3 x 1.3 in)
- Adapter Cap: 73.66 x 71.12 x 66.04 mm (2.9 x 2.8 x 2.6 in)

Part Number	Description
440-2009	Tool Group

Cooling System Tester

Essential Tool

Model Usage: 416, 420, 428, 430, 434, 442 Series E Backhoe Loaders, Small Track-Type Tractors, Small Track-Type Loaders, Mini-Excavators, Compact Wheel Loaders

Warranty: Manufacturer's Lifetime



- Used to pressure test cooling systems that use screw-on type radiator caps
- Used on many light commercial vehicles, passenger vehicles, marine applications, and motorcycles with internal radiator neck diameters of 45.0 mm (1.77 in) or less
- Cooling system tester group includes: pump, set of extensions to fit different sizes of radiator necks, gauge, supply and drain hoses, instruction book, and carrying case

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:

https://repairtrack.bosch-automotive.com

Part Number	Description
259-6237	Cooling System Tester

Seal Driver

Model Usage: 3208 Engines

Warranty: Caterpillar® Six Months



- Installs 9N-3141 Water Pump Seal Assembly (9N-3075 Water Pump/9N-3898 Water Pump)
- Required to compress seal spring pre-determined distance

References

- SENR3910, 3176 Service Manual SEHS9120, Special Instruction, Operation

Part Number	Description
5P-9722	Seal Driver

COOLING SYSTEMS

Water Pump Seal Installer

Model Usage: 3500

Warranty: Caterpillar® Six Months



- Used to install water pump seal to correct depth without damage to seal
- Used to quickly install 416-0603 water seal into water pump housing

Specifications

- Dimensions: 39.5 x 83.4 mm (1.6 x 3.3 in)
- Weight: .538 kg (1.18 lb)
- Material: Steel

Part Number	Description
438-8155	Water Pump Seal Installer

Puller Assembly

Model Usage: Water Pump Seal 416-0603

Warranty: Caterpillar® Six Months



- Quickly and easily removes the 416-0603 seal
- Will not damage the shaft during removal process
- Used on the following water pumps that use the 416-0603 Seal: 416-0614, 416-0613, 416-0612, 416-0611, 416-0610, 416-0609, 416-0608, 416-0606 and 416-0607

Part No.	Description	Dimensions	Weight
521-4900	Puller Assembly	60 x 94 mm (2.5 x 4 in)	1.2 kg (2.6 lb)

Seal Guide

Model Usage: 3204 Engines

Warranty: Caterpillar® Six Months



- Used for assembly of 1W-6446 Water Pump and 2W-1223 Water Pump
- Prevents shaft seal from rolling when shaft is installed in water pump housing

Part Number	Description
6V-6159	Seal Guide

Water Pump Seal Installation Tools

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- 7N-7843 and 7N-8268 Water Pump Seal Installation Tools used to install seal groups in respective water pumps (see chart)

Reference

- SEHS8449, Special Instruction

Part Number	Description	Engine
7N-7843	Installation Tool	3400 Series
7N-8268	Installation Tool	6 1/4 Bore Vee

Oil Seal Installation Tool

Model Usage: Water Pumps Using the 153-1256 Oil Seal, C15, C18, C27 and C32

Warranty: Caterpillar® Six Months



- Allows the installation of the main shaft into the water pump housing without the risk of damaging the oil seal
- Used on water pumps that use the 153-1256 oil Seal

Part No.	Description	Dimensions	Weight
488-2672	Oil Seal Installation Tool	35.4 x 19 mm (1.394 x 0.757 in)	0.018 kg (0.039 lb)

COOLING SYSTEMS

Seal Installer

Model Usage: 3306 Engines

Warranty: Caterpillar® Six Months



- Used to install 154-9291 and 169-1750 Water Pump Seals
- Makes installation quick and easy

Part No.	Description	Outside Diameter	Inside Diameter	Counter Bore Diameter	Material
172-5711	Seal Installer	47.4 mm (1.87 in)	19.54 mm (0.769 in)	36.50 mm (1.437 in)	Steel

Seal Driver

Model Usage: 3300, 3400, 3500s

Warranty: Caterpillar® Six Months



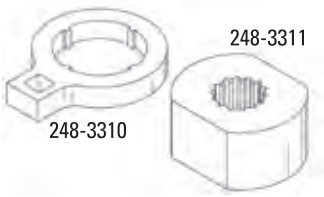
- Installs the 4W-3864 water pump seal and the 262-4378 water pump seal
- Installs the seals to the correct depth without damage to the seals

Part No.	Description
455-0130	Seal Driver

Spanner Wrench, Holding Fixture

Model Usage: G3520B and G3520C Engines in Large Mining Trucks

Warranty: Caterpillar® Six Months



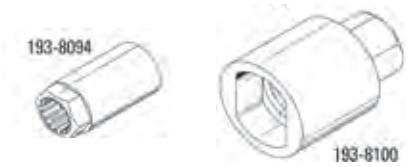
- Used to disassemble and assemble jacket water (JW) pumps and separate circuit aftercooler (SCAC) water pumps
- Used with a bench vise and 1/2 inch square drive ratchet
- Special repair tools allow pump repair instead of pump replacement
- Holding fixture is placed in a bench vise to hold pump spline
- Fits innermost locknut inside pump housing

Part No.	Description
248-3310	Spanner Wrench
248-3311	Holding Fixture

Spline Wrench (14 Teeth), Impeller Nut Spanner

Model Usage: All 3500 Marine Engines with discontinued 148-8000 Seawater Pump

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble pump during rebuild

Reference

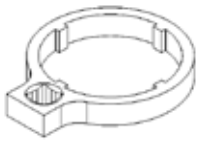
- SENR6564, Service Manual, 3500B Engines Disassembly and Assembly

Part No.	Description
193-8094 (holds spline)	Spline Wrench (14 Teeth)
193-8100 (removes locknut)	Impeller Nut Spanner

Spanner Wrench for Water Pump

Model Usage: C175-20 and 3520 engines

Warranty: Caterpillar® Six Months



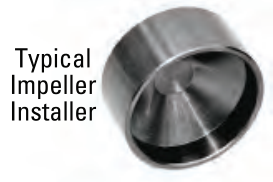
- Provides a safe and effective way to remove and install the 382-6140 locknut during rebuild of the 381-7341 water pump
- ½ inch square drive
- Tool allows for repair instead of pump replacement

Part No.	Description	I. D.	Weight
476-2902	Spanner Wrench for Water Pump	69.42 mm (2.73" in) with 4 equally spaced teeth	0.23 kg (0.5 lb)

Impeller Installers

Model Usage: 3204, 3208

Warranty: Caterpillar® Six Months



- Used with an arbor press to position impeller to specified clearance from water pump body
- Designed to bottom on water pump body when impeller is in correct position on shaft
- 8T-3142 Impeller Installer for all 3204 Family Engine water pumps
- 8T-0457 Impeller Installer for all 3208 Family Engine water pumps

Part Number	Description
8T-0457	Impeller Installer — 3208 Family Engine water pumps
8T-3142	Impeller Installer — 3204 Family Engine water pumps

Torque Wrench Assembly (46 mm Adapter)

Model Usage: Industrial 660, 5500, EP 150, 500, Perkins 5200, 5500

Warranty: Caterpillar® Six Months



- Used to tighten fan tensioner nut on C13, C15 and C18 Gen Set and Industrial Engines equipped with 348-8109 or 309-8037 fan tensioner groups
- Used with interchangeable torque wrench

Specifications

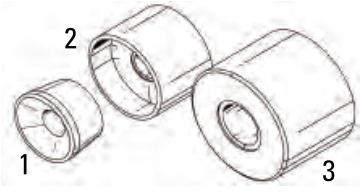
- Dimensions: 46 mm (1.81 in)

Part Number	Description
385-4006	Torque Wrench Assembly (46 mm Adapter)

Water Pump Seal Installer

Model Usage: 3400 Engines

Warranty: Caterpillar® Six Months



- Used to install water pump seals
- Both 139-0088 and 138-9299 tools work on 3406C Engines with serial numbers 8PN10279-UP and 3406E Engines with serial numbers 5EK85240-UP

Item	Part Number	Description	Outside Diameter	Inside Diameter	Counter Bore Diameter	Material	Installs
1	138-9299	Oil Seal Tool	35.42 mm (1.394 in)	19.25 mm (0.757 in)	—	Aluminum or Plastic	Pump shaft through Oil Seal in pump housing
2	139-0088	Seal Installer	43.9 mm (1.73 in)	19.31 mm (0.760 in)	37.6 mm (1.48 in)	Steel	128-0317 Coolant Seal and support ring in housing
3	147-6521	Seal/Shaft Installer	—	—	—	—	Shaft/oil seal assembly into early pump housing

Seal Installer

Essential Tool

Model Usage: C9 Marine Engine, C9 Petroleum Engine

Warranty: Caterpillar® Six Months



- Installs 200-3052 Seal Group in water pump
- Seal fits into counterbore of seal installer and then uses pump shaft as a guide
- Correctly installs seal without damage
- Durable, steel construction

Reference

- RENR8633, C9 Petroleum Disassembly and Assembly

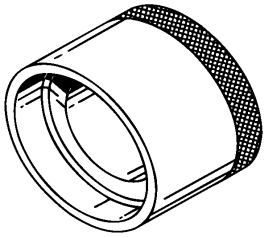
Part No.	Description
323-3526	Seal Installer

COOLING SYSTEMS

Water Pump Seal Installer

Model Usage: 3406 Engines

Warranty: Caterpillar® Six Months



- Used to correctly and quickly install the 118-9163 Seal Group in water pumps
- Replaces discontinued 2W-9102 Installation Tool (Water Pump Seal) and 125-9622 Seal Installer (Water Pump)
- Seal fits into counterbore of seal installer
- Seal installer slips over pump shaft (seal is installed using hand force)
- Overall length: 22.4 mm (0.88 in)
- Diameter: 31.75 mm (1.25 in)

Reference

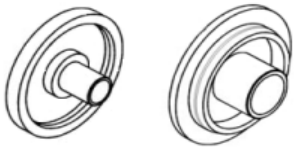
- SEHS8449, Special Instruction, Installation of Water Pump Seal Group

Part No.	Description
135-7629	Water Pump Seal Installer

Seal Installer Tool

Model Usage: 3406E, C15, C18, G3516C Auxiliary Water Pump

Warranty: Caterpillar® Six Months



417-6000 417-6001

- Used to correctly install new style seals into 391-2227 Sea Pump
- Guides seal and set seals to correct depth
- Black Oxide coated for durability
- Used in conjunction with hand press
- The 417-6000 installs the seal on the drive end of the pump
- The 417-6001 installs the seal on the non-drive end of the pump

Reference

- RENR2389, C18 Marine and Auxiliary Marine Generator Set Engines

Part Number	Description	Dimensions
417-6000	Seal Installer Tool	140 x 55.8 mm (5.5 x 2.2 in)
417-6001	Seal Installer Tool	90 x 31.7 mm (3.5 x 1.3 in)

Seal Installer

Model Usage: C18 Marine Auxiliary Water Pump 524-3160

Warranty: Caterpillar® Six Months



- Used to correctly install new style seals into 524-3160 auxiliary water pump
- Guides and sets seals to correct depth
- Black-oxide coated for durability
- Used in conjunction with hand press
- The 533-1142 installs the seal on the drive end of the shorter shaft of the pump.

Part No.	Description	Diameter	Weight
533-1142	Seal Installer	140 x 53 mm (5.5 x 2.1 in)	1.2 kg (3 lb)

Seal Installer

Essential Tool

Model Usage: C15 and C18 Engines for Cat Built Machines and On-Highway use

Warranty: Caterpillar® Six Months



- Installs 276-4756 Seal Group in water pump
- Seal fits into counterbore of seal installer and then uses pump shaft as guide
- Correctly installs seals without damage
- Durable, steel construction
- Black oxide coating for corrosion resistance

Reference

- RENR9706, C15 On-Highway Engines

Part No.	Description
325-5756	Seal Installer

Seal Installer

Essential Tool

Model Usage: 3176, C-10, C-12, and 3196 Engines

Warranty: Caterpillar® Six Months



- Used to install 147-5088 Pump Seal into 153-8053 Pump
- Provides quick, easy installation

Part No.	Description
183-4028	Seal Installer

COOLING SYSTEMS

Seal Installer

Model Usage: C15, C18, C175, 3500, C27, C32 water pumps using the 336-2212 seal

Warranty: Caterpillar® Six Months



- Used to install the 336-2212 seal
- Correctly installs the seal without damage
- Provides quick and easy installation

Specifications

- Dimensions: 60 x 25 mm (2.4 x 1.0 in)
- Material: Steel

Part Number	Description
449-1904	Seal Installer

Slotted Socket

Model Usage: 3406E, C-15, and C-16 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install coolant temperature sensor
- Deep well design easily reaches sensor
- Slotted side for sensor wire clearance
- Square drive: 1/2 inch
- Socket type: 6 point, 1 1/16 in

Part Number	Description
9U-5103	Slotted Socket

Seal Installer

Model Usage: C4.4 6.6 Tier III

Warranty: Caterpillar® Six Months



- Used with 398-1868 installation tool to properly install the unique 380-3728 front crankshaft seal

Specifications

- Dimensions: 90 x 24 mm (3.54 x 0.94 in)

Part Number	Description
441-6763	Seal Installer

Seal Installer, Locknut Spanner Wrench

Model Usage: 3400 Marine Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 6I-1928 and 105-0268 Raw Water Pumps — used on 5N-6054 Seal Group
- Spanner sockets reduce removal time of shaft locknuts — easier removal and less chance of damage
- Dual purpose 9U-6627 Seal Driver installs seal — ring is used with driver to remove old seal

Item	Part Number	Description
1 & 2	9U-6627	Seal Installer (Includes item 2 Seal Remover)
3	9U-6626	Locknut Spanner Wrench
4	2P-2317	Locknut Spanner Wrench

Pressure Probe

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



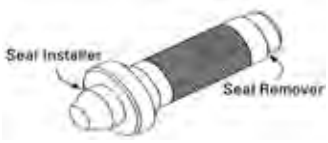
- 428-7586 Pressure Probe is 12 mm longer than the 164-2192
- Used with pressure gauge to check pressure of fluid-filled compartments
- Fits 3.175 mm (1/8 in) pipe plug threads
- Can be used alone or with 5P-2720 Probe Adapter Group, 5P-2725 Probe Adapter Group, or 5P-3591 Probe Adapter Group
- Can be used in applications up to 2750 kPa (400 PSI)
- Brass and steel construction

Part Number	Description
164-2192	Pressure Probe
428-7586	Pressure Probe

Water Pump Seal Installer

Model Usage: 3408 and 3412 Marine Engines

Warranty: Caterpillar® Six Months



- Used to remove and install ceramic seals on most pumps that use a 5N-6055 Seal Group
- Used with 1U-8306 Socket-Spanner for rebuilding 6I-1898 and 4C-3613 Water Pumps
- One-piece design eliminates second tool
- Large end of driver installs seals — greatly reduces chances of damage
- Handle end of driver removes old ceramic seal
- Overall length: 180.0 mm (7.1 in)
- Large diameter: 70.0 mm (2.75 in)

Part Number	Description
9U-6956	Water Pump Seal Installer

Seal Installer

Model Usage: C32 Marine

Warranty: Caterpillar® Six Months



- Used to replace seals on the auxiliary pump
- Prevents seal damage during installation

Specifications

- Dimensions: 37.0 x 30.1 mm (1.5 x 1.2 in)
- Weight: 0.05 kg (0.1 lb)

Part Number	Description
385-4578	Seal Installer

Water Pump Seal Installer

Model Usage: D8R, 3406E, D8N, D9N, D11R, 994F, D11T CD

Warranty: Caterpillar® Six Months



- Used to properly install water pump seal 311-8411 into assembly 311-8410

Specifications

- Dimensions: 47 x 45 mm (1.85 x 1.77 in)
- Weight: .463 kg (1.02 lb)

Part Number	Description
420-5855	Water Pump Seal Installer

COOLING SYSTEMS

Seal Installer

225-8266



- Used to install thermostat seal in housing
- Top portion of installer fits into housing and acts as a guide
- Lower portion slides through guide portion to install seals accurately and efficiently
- Lower portion bolts to handle using a 2D-4534 Bolt (3/8-16)
- Knurled handle makes installer easier to hold

Part Number	Description
221-8647	Seal Installer

Temporary Strainers

Model Usage: 3400, 3500, 3600 Family Engines

Warranty: Caterpillar® Six Months



- Convenient to install in coolant lines on 3600, 3500 and some 3400 Family Engines
- Filter particles larger than 1.58 mm (1/16 in) diameter
- Used during initial startups and after overhauls
- Meant to be removed from cooling system before engine returned to service

Part Number	Description	Material	Perforations	Pipe Size
4C-9045	Temporary Strainer	Stainless Steel	1.58 mm (1/16 in) diameter	101.6 mm (4 in)
4C-9046	Temporary Strainer	Stainless Steel	1.58 mm (1/16 in) diameter	127 mm (5 in)
4C-9047	Temporary Strainer	Stainless Steel	1.58 mm (1/16 in) diameter	152.4 mm (6 in)

Mounting Bar

Model Usage: 3406E Marine Engine

Warranty: Caterpillar® Six Months



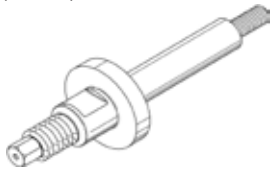
- Used to hold heat exchanger plates in alignment during disassembly and assembly
- Makes repair work faster and easier

Part No.	Description	Hex End	Outside Diameter	Threaded End
125-5597	Mounting Bar	19.05 mm (3/4 in)	29.75 mm (1.171 in)	1/2 – 13

Mounting Bar

Model Usage: C-18

Warranty: Caterpillar® Six Months



- Used to preload aftercooler plates for assembly
- Makes repair work easier and faster
- 2 bars are typically used per aftercooler

Part Number	Description
237-9608	Mounting Bar

Mounting Bar

Essential Tool

Model Usage: C27, C30, C32, and 3412E Marine Engines

Warranty: Caterpillar® Six Months



- Used to align and preload aftercooler plates during assembly
- Bars align aftercooler plates and threaded adjuster compresses plates to proper preload
- Makes repair work easier and faster
- Two bars are typically used per aftercooler
- Durable steel construction

Reference

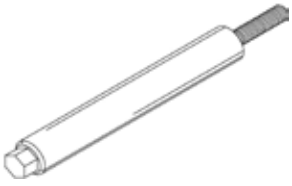
- SENR5031, Service Manual, 3412E, C30, and C32 Marine Engines, Disassembly and Assembly Manual

Part Number	Description
334-0114	Mounting Bar

Mounting Bar

Model Usage: 3412 HEUI Marine Engines

Warranty: Caterpillar® Six Months



- Used to align heat exchanger plates during disassembly and assembly
- Makes heat exchanger repair work easier and faster
- Two guides are typically used per heat exchanger

Reference

SENR5031, Disassembly and Assembly Manual

Specifications

- Hex end: 19.05 mm (3/4 in)
- Outside diameter: 29.75 mm (1.171 in)
- Threaded end: 5/8-11

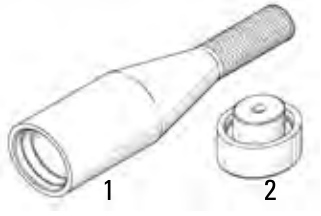
Part Number	Description
169-4309	Mounting Bar

Fan Drive Installer

Essential Tool

Model Usage: D6R, D6T Track-Type Tractors, 937D Track-Type Loader

Warranty: Caterpillar® Six Months



- Used to install wear sleeves on 336-7696 and 350-5637 Fan Drives
- Provides a way to install wear sleeves without damage to seals or fan drive
- Made from hardened steel and black oxide coated for long service life

Reference

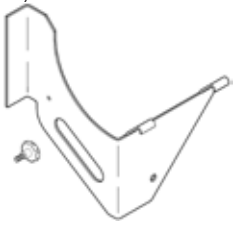
- RENR8175, D6R Series III and D6T Track-Type Tractors, Engine Supplement, Disassembly and Assembly

Item	Part Number	Description
1	359-4915	Fan Drive Installer
2	359-4916	Fan Drive Installer

Turbo Alignment Bracket

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Required to properly install and align the turbo assembly

Specifications

- Dimensions: 355.6 x 279.4 x 304.8 mm (14.0 x 11.0 x 12.0 in)
- Weight: 2.3 kg (5.0 lb)

Part Number	Description
373-7492	Turbo Alignment Bracket

COOLING SYSTEMS

Assembly Tooling for MESABI Radiator

Model Usage: 793, 797 Off-Highway Truck

Warranty: Caterpillar® Six Months

- Used to assemble MESABI Radiator
- Various tools and lubricating oil provide means to correctly assemble radiator components, including seals
- Special hand tools designed to help prevent damage to the radiator during assembly

References

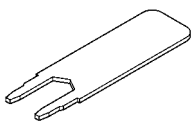
- KENR8578, 793F Off-Highway Truck, Engine Supplement, Disassembly and Assembly

Part Number	Description
342-2334	Support Tool
342-2335	Cleaning Brush
342-2346	Lubrication Brush
342-2348	Lubrication Brush
342-2349	Lubricating Oil
4Q-5144	Install Tool
4Q-5222	Breaker Tool

Air Compressor Coolant Line Release Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to install injector into cylinder head
- Releases the locking mechanism to allow the removal of the coolant line on the air compressor

Specifications

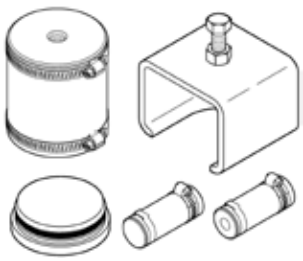
- Dimensions: 3 x 1 x 0.25 in
- Weight: 0.23 kg (0.50 lbs)

Part Number	Description
373-4724	Air Compressor Coolant Line Release Tool

Charge Air Cooler Test Group

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to perform diagnostics on the charge air cooler (intercooler).

Specifications

- Dimensions: 177.8 x 134.6 x 134.6 mm (7.0 x 5.3 x 5.3 in)
- Weight: 2.56 kg (5.65 lb)

Part No.	Description
373-4793	Charge Air Cooler Test Group

Tool Group (Air Cooler)

Model Usage: CT660

Warranty: Manufacturer's



- Tests the Charge Air Cooler to determine if the leak rate is within acceptable limits
- The Charge Air Cooler does not need to be removed from the vehicle to perform this test

Specifications

- Dimensions: 305 X 343 X 109 mm (12 x 13.5 x 4.3 in)
- Weight: 3.265 kg (7.2 lb)

Part No.	Description
372-5273	Tool Group (Air Cooler)

CT660 15L Engine Tools

Model Usage: CT660

Warranty: Caterpillar® Six Months



- Service tools for servicing various systems of the CT660, 15L engine.

Part Number	Description	Weight	Qty.
392-7197	High Pressure Pump Alignment Pins	.054 kg (.12 lb)	2
392-7198	Oil Pressure Test Adapter	.118 kg (.26 lb)	1
392-7199	Fuel Line Return Test hose & Adapter	1.54 kg (3.39 lb)	1
392-7200	Turbo Lifting Bracket	1.03 kg (2.26 lb)	1
392-7201	Cylinder Head Lifting Bracket	2.25 kg (4.95 lb)	2
392-7202	EGR Lifting Bracket	2.73 kg (6.03 lb)	1
392-7203	Crankcase Pressure Adapter	.040 kg (.089 lb)	1
392-7204	Intake Housing Alignment Pins	.064 kg (.14 lb)	2
392-7205	Air Intake Guard	.168 kg (.37 lb)	1
392-7209	Oil Cooler Pressure Test Kit	.868 kg (1.91 lb)	2
394-6446	Fuel Pressure Test Kit	.136 kg (.30 lb)	1
394-6449	High Pressure Return Line Tester (19 mm)	1.50 kg (3.30 lb)	1
418-4041	AFTFSV Temperature Breakout Harness	.227 kg (.50 lb)	1
442-9850	Alignment Tool Assembly	4.626 kg (10.20 lb)	1

Thermostat Housing Extension Tube Seal Installer



- Used to properly install the extension tube seal into the thermostat housing

Specifications

- Dimensions: 137.2 x 177.8 x 134.6 mm (5.4 x 7.0 x 5.3 in)
- Weight: 0.29 kg (0.65 lb)

Part No.	Description
373-4794	Thermostat Housing Extension Tube Seal Installer

Seal Installer

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to properly install the extension tube seal into the air charge cooler (intercooler) pipe

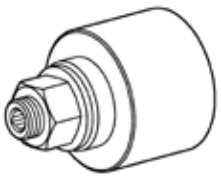
Specifications

- Dimensions: 137.2 x 180.3 x 134.6 mm (5.4 x 7.1 x 5.3 in)
- Weight: 0.54 kg (1.2 lb)

Part Number	Description
373-4825	Charge Air Cooler Pipe to High Speed Turbo Extension Tube Seal Installer

COOLING SYSTEMS

Fan Hub Seal Installer



- Used to properly install the fan hub housing seal

Specifications

- Dimensions: 127.0 x 127.0 x 177.8 mm (5 x 5 x 7 in)
- Weight: 2.1 kg (4.6 lb)

Part Number	Description
373-4831	Fan Hub Seal Installer

Fan Clutch Wrench

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to easily remove fan hub nut on CT660 engines
- Force can be applied using air hammer or by hand using included attachment and standard hammer or mallet
- Fan clutch wrench can be used with 1/2" drive torque wrench to reinstall nut

Specifications

- Dimensions: 101.6 x 101.6 x 863.6 mm (4.0 x 4.0 x 34.0 in)
- Weight: 3.6 kg (7.9 lb)

Part Number	Description
379-9007	Fan Clutch Wrench

Coolant Management Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Equipped with two unique adapters that use standard shop air to create regulated pressure and a powerful vacuum
- Regulated pressure quickly empties system
- Single closure valve allows for pressure test
- Vacuum eliminates possibility of air pockets forming in the EGR cooler

Specifications

- Dimensions: 439.4 x 528.3 x 1252.2 mm (17.3 x 20.8 x 49.3 in)
- Weight: 33.1 kg (73 lb)

Part Number	Description
372-5254	Coolant Management Tool

Part Number	Description
379-5669	Tank and Cart Only
379-5673	Radiator Cap Adapter
379-5670	Vacuum Assembly
379-5671	Pressure Regulator Assembly
379-8352	Adapter Cap (Surge Tank)

Coolant Plug

Model Usage: CT660s Equipped with 11 and 13L Engines

Warranty: Manufacturer's



- Used to plug the coolant supply and return lines for Aftertreatment Fuel Injector
- Helps prevent coolant leaks
- Eliminates the need to drain the cooling system
- Reduces repair times

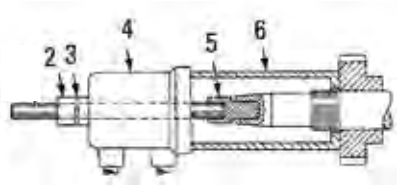
Part Number	Description
455-8045	Coolant Plug

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Gear Installation Tools

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



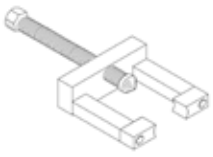
- Used to install crankshaft gears on most engines with tool setup illustrated

Item	Part Number	Description	Thread Size
2	1B-4206	Nut	—
3	4D-3704	Washer	—
4	6V-3160	Cylinder Group	—
Thread sizes of adapters (5) are as follows:			
5	5F-7339	Adapter	3/4 in NF — Male x 5/8 in NF — Female
5	5F-7342	Adapter	1 in NF — Male x 5/8 in NF — Female
5	5H-1274	Adapter	1 1/4 in NF — Male x 5/8 in NF — Female
5	5H-1276	Adapter	7/8 in NF — Male x 5/8 in NF — Female

Crank Gear Puller

Model Usage: 3116 and 3126 Engines

Warranty: Caterpillar® Six Months



- Used to remove 2W-8147 Gear from crankshaft
- Saves time by allowing crankshaft gear to be removed without removing crankshaft from engine or engine from frame
- Especially useful on 3126 Engines in motor home applications
- Weight: 3 kg (7 lb)
- All items in figure are included

Part Number	Description
137-7293	Crank Gear Puller

Puller Plate

Model Usage: D10, D11N, 245B, 992C

Warranty: Caterpillar® Six Months



- Used to remove 9S-3013 Crankshaft Gear on D343 and 1693 Engines
- Used with 6V-3160 Hydraulic Puller, three 6F-4991 Bolts, and three 7F-1926 Bolts

Part Number	Description
5P-3546	Puller Plate

BrakeSaver Rotor Support

Model Usage: 3406, 3406B, 3408, 3408B

Warranty: Caterpillar® Six Months



- Used to prevent damage to seals during BrakeSaver removal and installation on 3400 Series Engines
- Attached to engine with four 0S-1594 Bolts
- Replaces 9N-0046 design changes

Part Number	Description
5P-8718	BrakeSaver Rotor Support

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Installation Guide

Model Usage: C175 16 & 20

Warranty: Caterpillar® Six Months



- 417-2349 slips over studs in the block.
- Used to safely guide C175 crankshafts during installation
- Eliminates crankshaft journal and stud contact during removal and installation
- Four are required

Reference:

- KENR6052 — Disassembly and Assembly — C175-16 and C175-20 Engines for Caterpillar Built Machines
- RENR7466 — Disassembly and Assembly — C175-16 and C175-20 Generator Set Engine

Specifications

- Dimensions: 80.0 x 56.0 x 482.0 mm (3.15 x 2.2 0x 19.0 in)
- Weight: 2.80 kg (5.75 lb)
- White Nylon Plastic

Part Number	Description
417-2349	Crankshaft Installation Guide

Crankshaft Support Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- V-block-type supports used to inspect crankshafts for bend (2 support groups required)
- Replaceable plastic bearing pads will not damage crankshaft

Reference

- SEBF8054, Guideline for Reusable Parts

Part Number	Description	Quantity
5P-8637	Crankshaft Support Group	—
Crankshaft Support Group Consists of:		
0S-0509	Bolt (3/8 – 16)	2
2H-6120	Screw (used with 268-1699)	3
5P-8636	Pad	2
7F-7836	Screw	4

Flywheel Lifter

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used for flywheel removal and installation
- Two lifters can be used for removal and installation of some crankshafts
- Maximum lifting capacity: 454 kg (1000 lb)

Part Number	Description
8F-4423	Lifter — Flywheel

Flywheel Stopper Plate

Model Usage: C3.8

Warranty: Manufacturer's



- Used to loosen and tighten the flywheel screw

Specifications

- Dimensions: 140 x 78.7 mm (5.51 x 3.10 in)
- Weight: .662 kg (1.45 lb)

Part Number	Description
393-2572	Flywheel Stopper Plate

Wear Sleeve and Seal Installer

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to install both front and rear seals and wear sleeves on 15.88 cm (6.25 in) bore V-engines
- Also included with 3N-8008 Crankshaft Seal Conversion Group, Front, and 3N-8000 Crankshaft Seal Conversion Group, Rear, for replacing former piston ring-type seal, thrower, and baffle

Part Number	Description
5P-3022	Wear Sleeve and Seal Installer

C4.4 Timing Case Cover Alignment Tool

Model Usage: C4.4

Warranty: Caterpillar® Six Months



- Used to correctly align pressed timing case cover for C4.4 engine

Specifications

- Dimensions:
  - Outer Diameter: 79.35 mm (3.12 in)
  - Depth: 44.45 mm (1.75 in)
- Weight: 3.62 kg (8.0 lb)
- Material(s): Steel

Part Number	Description
364-7209	C4.4 Timing Case Cover Alignment Tool

Timing Case Cover Alignment Tool

Model Usage: C7.1, C6.6

Warranty: Caterpillar® Six Months



- Used to correctly align pressed timing case cover

Specifications

- Dimensions:
  - Outer Diameter: 79.35 mm (3.12 in)
  - Depth: 44.45 mm (1.75 in)
- Weight: 1.12 kg (2.49 lb)
- Material(s): Steel

Part Number	Description
364-7210	Timing Case Cover Alignment Tool

Flywheel Guide Pin

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to remove and install flywheel (2 required)
- Supports weight and aligns flywheel during engine assembly
- Simple to use (threaded guide pin has screwdriver slot for easy installation)
- Thread: M12 x 1.25
- Overall length: 190 mm (7.5 in)

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engines

Part Number	Description
9U-7994	Flywheel Guide Pin

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Turning Tool

Model Usage: C175-16 & 20

Warranty: Caterpillar® Six Months



- Used at either crankshaft end to rotate crankshaft when checking crankshaft end clearance during initial fit up
- Reduces time by eliminating need to install bolts in crankshaft flange to rotate crankshaft
- Allows manual rotation of crankshaft as needed for D&A processes
- Material: Steel

Specifications

- Length: 787.4 x 40.6 mm (31.0 x 1.6 in.)
- Weight: 1.1 Kg (2.5 lb.)

Part Number	Description
417-3193	Crankshaft Turning Tool

PTO Oil Seal Installer

Model Usage: 3408 and 3412 Engines

Warranty: Caterpillar® Six Months



- Tool must be used to install the 160-8181 PTO Shaft Seal (Seal is included in the 178-2973 Seal Kit)
- Used with nut and washer of PTO yoke to push seal into position
- Decreases installation time (uses positive stop to accurately set depth of seal)
- Made from hardened steel for added durability

Part Number	Description
193-0233	PTO Oil Seal Installer

Distorter Adapter

Model Usage: 3508, 3512, 3516, 789, 793, 994

Warranty: Caterpillar® Six Months

- Used with 5P-7409 Distorter to remove front and rear crankshaft wear sleeves from 3500 Series Engines with 1W-6974 Seal Group and 1W-6977 Seal Group
- Positions 5P-7409 Distorter properly against flywheel and timing gear housing for wear sleeve removal, a difficult task without the use of a distorter and adapter to expand sleeve away from crankshaft; once expanded on journal, wear sleeve can be easily removed

Part Number	Description
1U-7325	Distorter Adapter

PTO Seal Installer Tool Assembly

Model Usage: 3500 Machine Engines

Warranty: Caterpillar® Six Months



- Quickly and easily installs rear PTO oil seal
- Necessary to install seal without damage
- Decreases installation time
- Made from steel with black oxide coating

Part Number	Dimensions	Weight
422-7508	152.5 x 101.6 mm (6.0 x 4.0 in)	4.25 kg (9.37 lb)

Wear Sleeve Installers

Model Usage: 3176, 3176B, C-10, and C-12 Engines

Warranty: Caterpillar® Six Months

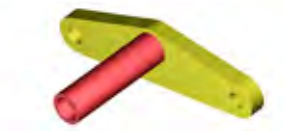
- Used to install crankshaft wear sleeves

Part Number	Description	Use
145-5247	Wear Sleeve Installer	Front Crankshaft Sleeves
147-2675	Wear Sleeve Installer	Rear Sleeves

PTO Shaft Stop Tool Assembly

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Attaches to the rear housing assembly to captivate the PTO shaft
- Prevents the PTO assembly from rotating when assembling the shaft onto the auxiliary drive gear
- Simplifies the assembly process

Specifications

- Dimensions: 92 x 48 x 102 mm (3.6 x 1.9 x 4.0in)
- Weight: 1 kg (2.2 lb)

Part No.	Description
478-1934	PTO Shaft Stop Tool Assembly

PTO Wear Sleeve Installation Driver

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Quickly Installs the 9X-7726 wear sleeve onto the PTO shaft
- Replicates factory production tool and process
- Installs to correct depth on the shaft
- Protective insert prevents shaft end damage

Specifications

- Dimensions: 279 x 76.2 Dia mm (11.0 x 3.0 Dia in)
- Weight: 3.5 kg (7.7 lb)

Part No.	Description
482-8221	PTO Wear Sleeve Installation Driver

Flat Seal Installer

Model Usage: 3508, 3508B, 3508C, 3512, 3512B, 3512C, 3516, 3516B, 3516C, 777D, 785C, 785D, 789C, 793C, 793D, 992G, 994F, D11R, G3512, G3512E, G3516, G3516B, G3516C, G3516E, G3520C, G3520E, PM3516, SPF343C

Warranty: Caterpillar® Six Months



- Used to install front and rear crankshaft seals
- Specifically designed to install the following crankshaft seals:
  - 436-1478 Crankshaft Seal (Clockwise Rotation)
  - 436-1479 Crankshaft Seal (Counter-Clockwise Rotation)
- Consists of a pilot, driver, three (3) cap screws, flange nut and bearing Installs 436-1478 and 436-1479 crankshaft seals
- Provides uniform pressure to install the seal without damage

Reference

- Media Number: TEBE3184-00
- Program Number: PI7-0565
- Program Title: Product Improvement Program For Removing all 447-6264 Tool Assemblies (Crankshaft Seal Installers) from Dealer Inventory

Part No.	Description	Dimensions	Weight
484-7863	Flat Seal Installer	272 mm (10.71 in)	31.75 kg (70 lb)
447-6483	Drive Assembly	-	-
447-6490	Pilot Assembly	-	-

Crankshaft Lifting Assembly

Model Usage: C175

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Provides a safe way to lift C175 16- and 20-cylinder crankshafts
- Lifts by the counterweights, eliminating possible damage to journal surfaces
- Lifts from a single point, eliminating straps or spreader bars

Reference

- NEHS1178 Tool Operating Manual

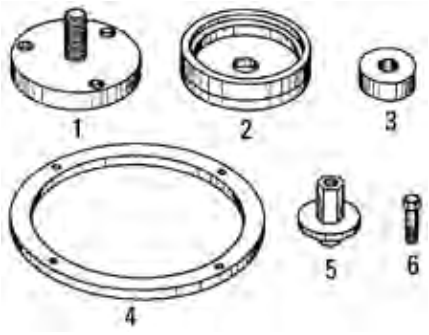
Part No.	Description	WLL	Dimensions	Weight
424-8895	Crankshaft Lifting Assembly	11,814 kg (4,000 lb)	483 x 381 x 680 mm (19 x 15 x 27 in)	41 kg (90 lb)

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic)

Model Usage: 1100, 3100, 3200, 3300, 3400

Warranty: Caterpillar® Six Months



- Typical tools for installing silicone and hydrodynamic-type oil seals and wear sleeves

Reference

- SMHS7100-02, Special Instruction
- SMHS8508, Special Instruction
- SMHS8301, Special Instruction
- SMHS6959-01, Special Instruction

Item	Location	Part Number	Description	Qty.
1100 and 3100 Engines — Silicon Seals — SMHS7100				
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7338	Distorter Ring/Adapter	—
1	Rear	5P-0290	Locator	—
2	Front	9S-6030	Installer	—
2	Rear	5P-7293	Installer	—
3, 4	Front	6V-7777	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	1P-5515	Bolt	2
3034				
2	Front	159-9074	Front Seal Installer	—
2	Rear	159-9071	Rear Seal Installer	—
3, 4	Front and Rear	159-9076	Rear Drive Handle	—
3054 and 3056				
—	Front Group	9U-6210	Installer Group	—
1	Front	9U-6208	Locator [a]	—
2	Front	9U-6207	Plate	—
2	Front	9U-6211	Installer	—
2	Rear	9U-6203	Installer	—
3, 4	Front	9U-6206	Stud	—
3, 4	Front	9U-6209	Sleeve	—
3, 4	Rear	9U-6202	Plate	—
3, 4	Rear	9U-6204	Seal Guide	—
6	Front	089-7989	Bolt	3
3064 and 3066				
—	Front Group	9U-6180	Front Seal Installer Group	—
—	Rear Group	9U-6170	Rear Seal Installer Group	—
1	Rear	9U-6171	Locator	—
2	Rear	6V-3303	Bolt	—
2	Rear	9U-6169	Installer	—
3, 4	Front	9U-6178	Installer Stud	—
3, 4	Rear	5P-8247	Hard Washer	—
6	Rear	9U-6172	Bolt	2
3046				
2	Front	4C-6378	Seal Installer Sleeve	—
2	Rear	6V-3303	Bolt	—
3, 4	Front	4C-6376	Installer Stud	—
3, 4	Front	4C-6377	Installer Washer	—
3, 4	Rear	5P-8247	Hard Washer	—
6	Rear	9U-6172	Bolt	2

a. Includes 089-7989 Bolt

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic) (Continued)

Item	Location	Part Number	Description	Qty.
3200 and 3204 Engines — Silcon Seals — SMHS7100				
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7338	Distorter Ring/Adapter	—
1	Rear	5P-0290	Locator	—
2	Front	9S-6030	Installer	—
2	Rear	5P-7293	Installer	—
2	Rear	8T-3098	Installer	—
3, 4	Front	6V-7777	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	1P-5515	Bolt	2
3208 Engines — Silcon Seals — SMHS7100				
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7338	Distorter Ring/Adapter	—
1	Rear	5P-0290	Locator	—
2	Rear	5P-7293	Installer	—
3, 4	Front	5P-4230	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	1P-5515	Bolt	2
3208 Engines — Hydrodynamic Seals — SMHS8508				
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7338	Distorter Ring/Adapter	—
1	Rear	5P-0290	Locator	—
2	Front	4C-4234	Installer [a]	—
2	Rear	5P-7293	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	1P-5515	Bolt	2
3300 Engines — Silcon Seals — SMHS7100				
—	Front	5P-7315	Distorter Ring	—
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7313	Distorter Ring	—
1	Rear	9S-8871	Locator	3
2	Front	4C-8982	Installer	—
2	Rear	5P-7298	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	7F-8022	Bolt	1
6	Rear	9S-8890	Bolts	3
3300 Engines — Hydrodynamic Seals — SMHS8508				
—	Front	5P-7315	Distorter Ring	—
—	Front and Rear	5P-7312	Distorter	—
—	Rear	5P-7313	Distorter Ring	—
1	Rear	9S-8871	Locator	3
2	Front	4C-8982	Installer	—
2	Rear	9S-8890	Bolt	—
2	Rear	6V-7876	Installer	—
2	Rear	6V-7877	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	2P-1956	Bolt	—
6	Rear	7F-8022	Bolt	1
—	Front	9Y-9895	Seal Group	1

a. Use stud instead of damper bolt

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic) (Continued)

Item	Location	Part Number	Description	Qty.
3114 and 3116 Engines — Hydrodynamic Seals — SMHS8508, SEHS8868				
—	—	171-7212	Wear Sleeve	—
—	Front and Rear	5P-7312	Distorter	—
—	Rear	4C-4869	Distorter Ring	—
2	Front	1U-7430	Front Crank Seal Installer	—
2	Rear	1U-7594	Rear Installer	—
3, 4	Rear	1U-7597	Sleeve Ring	—
5	Front and Rear	9S-8858	Nut Assembly	—
—	—	5P-6208	Wear Sleeve Installer	—
6	Rear	1U-7596	Modified by Cat® Bolt	—
3114, 3116 and 3126 HEUI Engines — Hydrodynamic Seals — SMHS8508				
—	—	171-7212	Wear Sleeve	—
—	Front and Rear	5P-7312	Distorter	—
—	Rear	4C-4869	Distorter Ring	—
1	Rear	132-8772	Locator	2
2	Front	1U-7430	Front Crank Seal Installer	—
2	Rear	1U-7594	Rear Installer	—
3, 4	Rear	1U-7597	Sleeve Ring	—
5	Front and Rear	9S-8858	Nut Assembly	—
—	—	5P-6208	Wear Sleeve Installer	—
6	Rear	1U-7596	Modified by Cat® Bolt	—
3176, 3196, C-10 and C-12				
—	Front	145-5247	Wear Sleeve Installer	—
—	Rear	147-2675	Wear Sleeve Installer	—
—	Front	9Y-0821	Wear Sleeve	—
—	Rear	9Y-0810	Wear Sleeve	—
3400 Engines — Silcon Seals — SMHS7100				
—	Front and Rear	5P-7312	Distorter	—
—	Front and Rear	5P-7314	Distorter Ring	—
1	Front and Rear	5P-1733	Locator	—
1	Rear	5P-7301	Locator	—
2	Front	6V-2086	Installer	—
2	Rear	6V-2087	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front and Rear	5P-1737	Bolt	3
6	Rear	5P-7309	Bolt	2
6	Rear	5P-7310	Bolt	2
3400 Engines — Hydrodynamic Seals — SMHS8508				
—	Front and Rear	5P-7312	Distorter	—
—	Front and Rear	5P-7314	Distorter Ring	—
—	Rear	5P-7409	Sleeve Distorter	—
1	Front and Rear	5P-1733	Locator	—
1	Rear	5P-3594	Locator	—
1	Rear	5P-7301	Locator	—
2	Front	6V-6142	Installer	—
2	Rear	6V-6143	Installer	—
2	Rear	8T-2683	Installer	—
2	Rear	8T-2855	Installer	—
3, 4	Rear	8T-2856	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front and Rear	5P-1737	Bolt	3
6	Rear	1T-0720	Bolt	2
6	Rear	5P-7309	Bolt	2
6	Rear	5P-7310	Bolt	2

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic) (Continued)

Item	Location	Part Number	Description	Qty.
3500 Engines — Hydrodynamic Seals — SMHS8508				
—	Front and Rear	1U-7325	Distorter Adapter	—
—	Front and Rear	6V-3143	Distorter Adapter	—
—	Rear	5P-7409	Sleeve Distorter	—
1	Front and Rear	6V-4003	Locator	—
1	Rear	192-6339	Crankshaft Seal Locator Assembly	—
2	Front and Rear	6V-4977	Installer	—
2	Front and Rear	8T-3099	Installer	—
2	Rear	187-1841	Seal And Wear Sleeve Installer	—
3, 4	Front and Rear	6V-4001	Other Part	—
3, 4	Front and Rear	6V-4002	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
5	Rear	2J-3505	Full Nut	4
6	Front and Rear	2N-5006	Bolt	2
C27/C32 Engines — Hydrodynamic Seals — SMHS8508				
—	Front and Rear	5P-7312	Distorter	—
—	Front and Rear	5P-7314	Distorter Ring	—
1	Front and Rear	5P-1733	Locator	—
1	Rear	249-2937	Locator	—
2	Front	6V-6142	Installer	—
2	Rear	6V-6143	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
C175 Engines — Hydrodynamic Seals — SMHS8508				
—	Front and Rear	1U-7325	Distorter Adapter	—
—	Rear	5P-7409	Sleeve Distorter	—
1	Front and Rear	250-4586	Locator	—
2	Front and Rear	250-4587	Installer	—
3, 4	Front and Rear	323-4712	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front and Rear	322-2078	Bolt	—
D343 (5.4 in) 6 Cylinder Engines — Silicon Seals — SMHS7100				
—	Front	5P-7316	Distorter Ring	—
—	Front and Rear	5P-7312	Distorter	—
1	Front	9S-8876	Locator	—
1	Rear	9S-8870	Locator	—
2	Front	5P-7295	Installer	—
2	Rear	5P-7294	Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front	9S-8889	Bolt	2
6	Rear	2P-2346	Bolt	3
D348 (5.4 in) 60 degree Vee Engines — Silicon Seals — SMHS7100				
—	Front	5P-7316	Distorter Ring	—
—	Front and Rear	5P-7312	Distorter	—
1	Front	5P-7302	Locator	—
1	Rear	9S-8874	Locator	—
2	Front	5P-7297	Installer [a]	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front	9S-8889	Bolt	2
6	Front and Rear	9S-8893	Bolt	3

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic) (Continued)

Item	Location	Part Number	Description	Qty.
(5.4 in) 60 degree Vee Engines — Hydrodynamic Seals — SMHS8508				
—	Front	5P-7316	Distorter Ring	—
—	Front and Rear	5P-7312	Distorter	—
1	Front	5P-7302	Locator	—
1	Rear	9S-8874	Locator	—
2	Front	4C-5822	Installer	—
2	Rear	9U-5114	Seal and Wear Sleeve Installer	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front	9S-8889	Bolt	2
6	Front and Rear	9S-8893	Bolt	3
—	Front	7C-7473	Seal	—
—	Rear	7C-7474	Seal	—
D379, D398, D399, G379, G398 and G399 Engines — Hydrodynamic Seals — SMHS8301				
1	—	6V-7829	Locator	—
2	—	6V-7831	Installer	—
3, 4	—	6V-7799	Other Part	—
3, 4	—	6V-7833	Other Part	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	—	3B-1915	Bolt	6
6	—	4B-5271	Bolt	6
6	—	6V-7834	Bolt	2
6	—	6V-9442	Bolt	2

Crankshaft Seal and Wear Sleeve Installation Tools (Silicone and Hydrodynamic): Non-Current Engines

Item	Location	Part Number	Description	Qty.
D342 and 5.75 in Bore Engines — Silicon Seals — SMHS6959-01				
—	Front	5P-3037	Plate	—
2	Front	5P-6543	Installer	—
4	Front	5P-3036	Ring	—
4	Front	5P-6545	Ring	—
6	Front	5S-8096	Bolt	—
D334, 1674 and 4.75 in Bore Engines — Silicon Seals — SMHS6959-01 [a]				
1	Front	9S-8876	Locator	—
4	Front	9S-8537	Ring [b]	—
4	Front	9S-8545	Ring [c]	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front	9S-8889	Bolt	2
D334, 1674 and 4.75 in Bore Engines — Silicon Seals — SMHS6959-01 [d]				
—	Rear	9S-8864	Plate	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Rear	8S-4950	Cap (9/16 in — 18 thd)	2
D336, 1676 and 4.5 in Bore Engines — Silicon Seals — SMHS6959-01				
—	Rear	9S-8864	Plate	—
1	Front	9S-8876	Locator	—
5	Front and Rear	9S-8858	Nut Assembly	—
6	Front	9S-8889	Bolt	2
6	Rear	9S-8892	Bolt	—

a. 1674 Bore Engine: 92B322-Up, 93B292-Up, 94B675-Up or prior engines reworked with discontinued 9S-0124 or 1N-5466 Crankshaft Assemblies

b. Not used on D334 Marine Engines

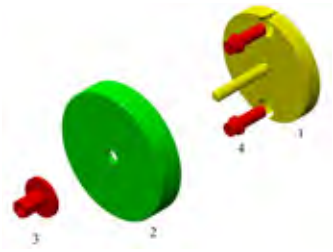
c. Not used on D334 Industrial or 1674 Engines

d. 1674 Bore Engine: 92B1-92B331, 93B1-93B291, 94B1-94B674 with discontinued 4S-5349 and discontinued 7L-5188 Crankshaft Assemblies

Seal Installer Tool Group

Model Usage: 3500 Engines Using the 113-8432 and 113-8433 Crankshaft Seals

Warranty: Caterpillar® Six Months



- Used to install crank seals 113-8432 and 113-8433 on 3500 models
- Improved dimensions of the tool allows better installation of the seals
- New Part Number includes all parts needed under one tool Group

Part No.	Description
550-9155	Seal Installer Tool Group

Seal Installer Tool Group Includes:

Item	Part No.	Description	Qty
1	6V-4003	Locator Tool Assembly	1
2	8T-3099	Installer Tool	1
3	9S-8858	Nut Assembly	1
4	2N-5006	12-Point Hd Bolt	2

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Distorter Adapter

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used with 5P-7409 Wear Sleeve Distorter to remove crankshaft wear sleeves

Part Number	Description
6V-3143	Distorter Adapter

Crankshaft Sleeve Installation Tool

Model Usage: C3.8

Warranty: Manufacturer's



- Used to easily install rear crank seal and wear sleeve

Specifications

- Dimensions: 130 x 115.1 mm (5.12 x 4.53 in)
- Weight: 2.02 kg (4.45 lbs)

Part Number	Description
393-2571	Crankshaft Sleeve Installation Tool

Installer Group

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to install rear seal and wear sleeve onto crankshaft (assures seal lip will bear uniformly around the crankshaft)
- Prevents seal damage during installation — longer seal life
- Group includes all items in figure

Reference

- SENR5553, Service Manual

Item	Part Number	Description	Size
—	9U-6170	Rear Seal Installer Group	—
1	9U-6169	Installer	—
2	9U-6171	Locator	—
3	9U-6172	Bolt	M12 x 1.25 x 20 mm long
4	5P-8247	Hard Washer	15.875 mm (0.625 in)
5	6V-3303	Bolt	M16 x 2 x 60 mm long

Alignment Tool

Model Usage: 416, 426, 428, 3054

Warranty: Caterpillar® Six Months



- Used when installing front cover on 3054 engine in 416 Backhoe Loader
- Fits around crankshaft into seal recess in cover and centers cover and seal on crankshaft
- Helps prevent seal damage during cover installation and ensures seal lip will bear uniformly around crankshaft to provide long seal life

Part Number	Description
4C-5501	Alignment Tool

Wear Sleeve Distorter Group

Model Usage: D10, D9N, D8K, 631E, 637E

Warranty: Caterpillar® Six Months



- Used to remove all 1.58 mm (0.062 in) thick crankshaft front and rear wear sleeves
- Prevents damage to crankshaft
- Removal in-chassis takes just a few minutes
- Group includes all items in figure

Item	Part Number	Description	Size	Where Used
—	5P-7318	Wear Sleeve Distorter Group	—	—
1	5P-7312	Distorter	—	—
Distorter Rings				
—	5P-7313	Distorter Ring	—	3300 Series, Rear
—	5P-7314	Distorter Ring	—	3400 Series, Front and Rear
—	5P-7315	Distorter Ring	—	3300 Series, Front
—	5P-7316	Distorter Ring	14.61 cm (5.75 in)	D-Series Engines
—	5P-7317	Distorer Ring	13.72 cm (5.4 in)	D-Series Engines
—	5P-7338	Distorter Ring/Adapter	—	1100, 3100, 3200 Series, Rear

Distorter Ring

Model Usage: 3114, 3116, 910E

Warranty: Caterpillar® Six Months

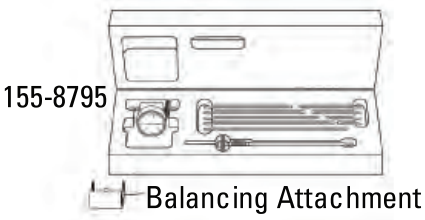
- Used with 5P-7312 Distorter to remove rear crankshaft wear sleeve from 1.1 liter engine
- Wear sleeve removal can be difficult without use of distorter and distorter ring to expand sleeve away from crankshaft; after wear sleeve is expanded on journal, it can easily be removed without damaging sealing surfaces

Part Number	Description
4C-4869	Distorter Ring

Crankshaft Distortion Gauge

Model Usage: All Engines, 3500 and Up

Warranty: Caterpillar® Six Months



- Used to check crankshaft bearing alignment or shaft deflection without engine disassembly
- Also used as a strain gauge on frame of running engine
- Will stay in any position for hands free operation
- Comes with ten rods (varying sizes)
- Sharp rod points hold gauge on surfaces with an angle up to 45 degrees
- Balancing attachment maintains face of indicator in any desired position
- Attractive protective case
- Group includes all items in figure

Specifications

- Dial indicator graduations: 0.02 mm
- Dial reading: 0-50-0
- Range per revolution: 1 mm (0.03 in)
- Travel length: 4.0 mm (0.16 in)
- Range: 61 — 458 mm (2.4 — 18 in)
- Balancing attachment quantity: 2

Part Number	Description
155-8795	Crankshaft Distortion Gauge

Distorter

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to remove 1.58 mm (0.062 in) thick crankshaft wear sleeves on engines equipped with BrakeSavers
- Appropriate distorter ring must be selected from 5P-7318 Distorter Group

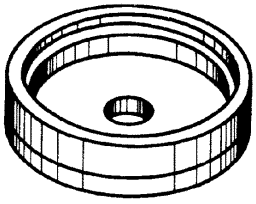
Part Number	Description
5P-7409	Sleeve Distorter

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Installer

Model Usage: 3300 Family Engines

Warranty: Caterpillar® Six Months



- Required to install new double lip 7C-4297 Seal Group in rear of block for crankshaft

Part Number	Description
6V-7876	Installer

Seal Installer

Model Usage: C4.4 6.6 Tier III

Warranty: Caterpillar® Six Months



- Used with 398-1868 installation tool to properly install the unique 380-3728 front crankshaft seal

Specifications

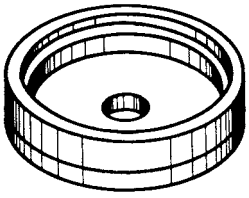
- Dimensions: 90 x 24 mm (3.54 x 0.94 in)

Part Number	Description
441-6763	Seal Installer

Seal and Wear Sleeve Installer

Model Usage: D346, D348, D349

Warranty: Caterpillar® Six Months



- Required to locate 7C-7474 Seal and Wear Sleeve, Rear, on D346, D348 and D349 Engines, 5.4 bore, 60° Vee

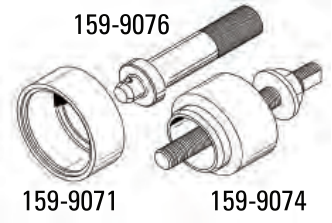
Part Number	Description
9U-5114	Seal and Wear Sleeve Installer

Crankshaft Oil Seal Installers

Essential Tool

Model Usage: 3034 Engines

Warranty: Caterpillar® Six Months



- Installs front and rear crankshaft oil seals
- 159-9074 front and 159-9071 rear crank seal
- 159-9076 Handle used with 159-9071

Reference

- SENR5013, Engine Disassembly and Assembly Module

Part Number	Description
159-9071	Rear Seal Installer
159-9074	Front Seal Installer
159-9076	Rear Drive Handle

Alignment Group

Model Usage: 3056 Engines

Warranty: Caterpillar® Six Months



- Used to install front cover (correctly aligns it for easier installation)
- Designed to fit around crankshaft and into seal recess — centers cover on crankshaft
- Prevents seal damage during installation and helps assure uniform contact of seal lip — two advantages that extend seal life

Reference

- SENR5555, Service Manual

Part Number	Description
9U-6201	Alignment Group

Gear Case Oil Seal Installation Tool

Model Usage: C3.8

Warranty: Manufacturer's



- Used to easily install gear case oil seal

Specifications

- Dimensions: 86.4 x 148.8 mm (3.40 x 5.86 in)
- Weight: 1.06 kg (2.33 lbs)

Part Number	Description
393-2570	Gear Case Oil Seal Installation Tool

Front Seal Installer, Rear Seal Installer Group

Model Usage: 3114, 3116

Warranty: Caterpillar® Six Months



- For disassembly, assembly and adjusting of 1.1 liter engine, fuel system, and governor
- 1U-7430 Front Seal Installer used to install crankshaft front seal
- 1U-7598 Rear Seal Installer Group to install crankshaft rear seal and mating wear sleeve

References

- SENR3582, Specification Module
- SENR3583, System Operation Testing and Adjusting
- SENR3611, Disassembly and Assembly Manual
- SEHS8868, Special Instruction, operation

Part Number	Description
1U-7430	Front Crank Seal Installer
1U-7598	Rear Seal Installer Group
Group Consists of:	
1U-7594	Rear Installer
1U-7596	Modified by Cat® Bolt
1U-7597	Sleeve Ring
9S-8858	Nut Assembly

Front Seal Installer Group

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to install crankshaft front seal without removing front cover
- Makes installation easier and prevents damage to seals
- Assures uniform contact around crankshaft (ultimately provides longer seal life)

Reference

SENR5553, Service Manual, 3066 Diesel Engines

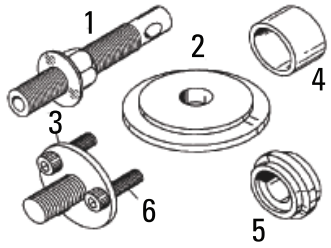
Item	Part No.	Description
—	9U-6180	Front Seal Installer Group
Group Consists of:		
2	9U-6178	Installer Stud
3	9U-6181	Sleeve

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Installer Group

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used to install crankshaft front oil seal to proper depth of 9.3 mm (0.37 in)
- Prevents seal damage

Reference

- SENR5547, Service Manual, Service Module in SENR5555

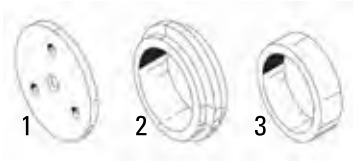
Item	Part Number	Description	Quantity
-	9U-6210	Installer Group	—
Group Consists of:			
1	9U-6206	Stud	—
2	9U-6207	Plate	—
3	9U-6208	Locator a	—
4	9U-6209	Sleeve	—
5	9U-6211	Installer	—
6	089-7989	Bolt	3

a. Includes 089-7989 Bolt

Rear Seal Installer Group

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used to install rear seal onto crankshafts (assures seal lip will conform uniformly around crankshaft)
- Prevents seal damage during installation — longer seal life

Reference

- SENR5555, Service Manual

Item	Part No.	Description
—	9U-6205	Rear Seal Installer Group
Group Consists of:		
1	9U-6202	Plate
2	9U-6203	Installer
3	9U-6204	Seal Guide

Main Bearing Installation Tool

Model Usage: Cat® 3054, C4.4, C6.6, C7.1

Warranty: Caterpillar® Six Months



- Used to install main bearings during rework process

Specifications

- Dimensions: 104.3 x 44.7 x 12.0 mm (4.11 x 1.76 x .47 in)
- Weight: .01 kg (.02 lb)
- Material: Plastic

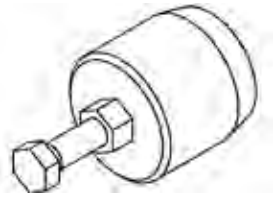
Part Number	Description
383-1654	Main Bearing Installation Tool

Seal Removal Tool

Essential Tool

Model Usage: C6.6 Engines

Warranty: Caterpillar® Six Months



- Used to remove front main oil seal
- Used with 1U-7600 Puller Group

Part Number	Description
278-2636	Seal Removal Tool

C6.6 Engine Tools

Essential Tool

Model Usage: C6.6 Engines

Warranty: None



Part Number	Description	Use
276-1207	Front Crankshaft Locator	Install front shaft seal in engine
276-1209	Installer	Install front shaft seal in engine

Seal Installer Tool

Model Usage: 3046 Engine

Warranty: Caterpillar® Six Months



- Used to install crankshafts front seal without removing front cover
- Makes installation easier, faster, and prevents damage to seal
- Ensures uniform seal around crankshaft — ultimately provides longer seal life

Reference

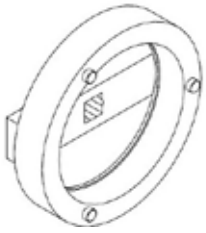
- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engine

Item	Part Number	Description
1	4C-6378	Seal Installer Sleeve
2	4C-6376	Installer Stud
3	4C-6377	Installer Washer

Seal Installer

Model Usage: C7.1, C6.6, C4.4

Warranty: Caterpillar® Six Months



- Used to correctly remove and assemble front crankshaft oil seal

Part Number	Description
367-3534	Seal Installer

Seal Installer Assembly

Model Usage: C6.4 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to install 324-4223 Seal on front of crankshaft without removing front cover
- Used in place of 9U-6180 Front Seal Installer Group when installing newly designed seals (9U-6180 will cause seal damage)
- Makes installation easier and prevents damage to seals
- Ensures uniform contact around crankshaft (ultimately provides longer seal life)
- Designed with clearance to fit around protruding parts
- Material: steel

Part Number	Description	Size	Weight
363-3031	Seal Installer Assembly	125 mm (4.9 in) overall diameter x 24.5 mm (.95 in) thick	0.6 kg (1.3 lb)

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Seal Installer

Model Usage: C6.4 Marine Engine Applications

Warranty: Caterpillar® Six Months



- Used to install rear crankshaft seal

Specifications

- Weight: 2.31 kg (5.1 lb)

Part Number	Description
396-5708	Seal Installer

Tool Installer

Model Usage: C6.4 Marine Engine Applications

Warranty: Caterpillar® Six Months



- Used to install front crankshaft seal

Specifications

- Dimensions: 92 x 95 mm (3.6 x 3.7 in)
- Weight: 2.79 kg (6.2 lb)

Part Number	Description
396-5709	Tool Installer

Liner Seat Installation Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to install stainless steal liner seat inserts into top deck of cylinder block of 3500 engines
- Guides cylinder block inserts during installation
- Ensures inserts are fully inserted into the block

Reference

- SEBF8255, Special Instructions

Specifications

- Dimensions: 44.5 x 300.0 mm (1.7 x 11.8 in)
- Weight: 10.0 kg (22.1 lb)

Part Number	Description
385-4007	Liner Seat Installation Tool

Seal Spacer

Model Usage: C6.4 Marine Engine Applications

Warranty: Caterpillar® Six Months



- Provides proper spacing when replacing crankshaft main seal (used with 396-5708)

Specifications

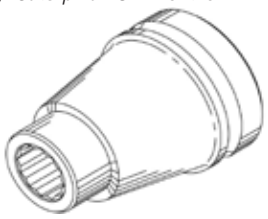
- Dimensions: 11 x 144 mm (.43 x 5.7 in)
- Weight: .367 kg (0.8 lb)

Part Number	Description
396-5712	Seal Spacer

Socket

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install crankshaft counterweight bolts and piston connecting rod bolts
- Used with an impact wrench
- 3/4 inch drive is necessary to obtain the correct bolt torque 1/2 inch drive sockets will not work in this application)
- Socket is specifically designed to provide adequate clearance

Part Number	Description	Drive Size	Size	Small Diameter
9U-6942	Socket	3/4 in	15.875 mm (5/8 in), 12 point	25 mm (1.0 in)

Thread Repair Kits

Essential Tool

Model Usage: 3406, G3406, 3408, G3408, 3508, G3508, 3512, G3512, 3516, and G3516 Engines

Warranty: Caterpillar® Six Months



- Used to repair main bearing cap bolt holes
- Repairs bolt hole threads to like-new condition
- Groups are serviced at individual tool level only

References

- SEBF8387, Main Bearing Bolt Hole Repair in 3400 Engines
- SEBF8437, Main Bearing Bolt Hole Repair in 3500 Engines

Item	Part Number	Description	Engine Model	1st Ream	2nd Ream	3rd Ream	1st Tap	2nd Tap	Insert Sleeve	Insert
1	178-2349	Reamer	—	—	—	—	—	—	—	—
1	178-2350	Reamer	—	—	—	—	—	—	—	—
1	178-2351	Reamer	—	—	—	—	—	—	—	—
1	178-2462	Reamer	—	—	—	—	—	—	—	—
2	178-2353	Tap (1-14 UNS)	—	—	—	—	—	—	—	—
2	178-2356	Tap (1-14 UNS)	—	—	—	—	—	—	—	—
2	178-2463	Tap (7/8-16)	—	—	—	—	—	—	—	—
2	178-2465	Tap (7/8-16)	—	—	—	—	—	—	—	—
3	178-2467	Insert, Sleeve	—	—	—	—	—	—	—	—
3	178-2468	Insert, Sleeve	—	—	—	—	—	—	—	—
4	178-2501	Threaded Insert (All 3400 Models)	—	—	—	—	—	—	—	—
4	178-2502	Threaded Insert (All Early 3500 Models)	—	—	—	—	—	—	—	—
4	178-2503	Threaded Insert (All Late 3500 Models)	—	—	—	—	—	—	—	—
Main Bearing Bolt Hole Repair Tools for 3400 and 3500 Engines										
—	—	Thread Repair Kit	All 3400	178-2349	178-2350	178-2351	178-2353	178-2356	178-2467	178-2501
—	—	Thread Repair Kit	Early 3500 3/4 in bolt hole	178-2462	N/A	N/A	178-2463	178-2465	178-2468	178-2502
—	—	Thread Repair Kit	Late 3500 7/8 in bolt hole	178-2351	N/A	N/A	178-2353	178-2356	178-2467	178-2503

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Bearing Cap Tools

Model Usage: 1100, 3100, 3208, D342, D379, D398, D399, 3512, D397, G397, D375, G375, D364, 3500

Warranty: Caterpillar® Six Months



- 8S-5131 Adapter used to torque front main bearing cap when oil pump is in place on 1100 and 3100 Series and 3208 Engines
- 1D-5343 Wrench used to remove hollow head screws from main bearing caps on D342 Engines
- 8M-9379 Wrench used to remove main bearing caps without removing pan on D379, D398 and D399 Engines; to apply actual torque indicated by the torque wrench dial reading, insert torque wrench at right angle to 8M-9379 Wrench Assembly
- 9U-5023 Main Bearing Wrench used to remove and install crankshaft main bearings on 3500 Family Engines; fits both 12.7 mm (1/2 in) diameter bolt and 19.05 mm (3/4 in) diameter main bearing bolts; can be used through crankshaft access opening in sides of block without removing oil pan when connected to short extension and 3/4 inch drive torque wrench; no longer fits bolts on 17.15 cm (6 3/4 in) bore engines (use 8M-9379 Wrench instead)

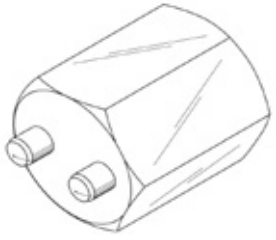
Item	Part Number	Description	Socket Size (left end)	Socket Size (right end)	Drive Size
1	8S-5131	Adapter	—	—	—
2	1D-5343	Wrench	—	—	
3	9U-5023	Main Bearing Wrench	1 5/16 in	1 1/8 in	3/4 in
5	8M-9379	Wrench	—	—	—

Spanner Wrench Assembly

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to remove and install main bearing cap studs
- Used with 1 1/4 inch socket or 1/2 inch square drive wrench

Reference

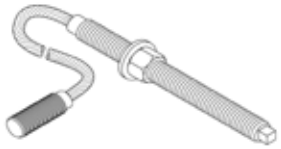
- RENR7466, C175 Engine Disassembly and Assembly Manual

Part Number	Description	Pin-to-Pin Center Distance
284-5266	Spanner Wrench Assembly	16 mm (0.63 in)
	Includes:	
9X-8979	Dowel Pin	—

Main Bearing Cap Removal/Installation Tool, 3500 Engine

Model Usage: All 3500 Engines

Warranty: Caterpillar® Six Months



- Used in pairs to remove and install main bearing cap (makes operation much easier)
- Allows one mechanic to remove or install a bearing cap weighing approximately 16 kg (35 lb)
- Flexible wire rope makes it easier to insert tool through engine side covers

Application Procedure

1. Loosen all 4 bolts for the main bearing cap.
2. Remove the 2 outer bolts for main bearing cap and replace with tooling.
3. Hand tighten smaller threaded end until tooling bottoms out in cylinder block.
4. Adjust nuts and washers on tooling until washers contact main bearing cap.
5. Remove the 2 remaining inner bolts for main bearing cap.
6. Loosen nuts evenly in order to lower cap. Lower cap to the end of the bolt to gain access to main bearing.
7. Reverse to process for installation.

Part Number	Use
230-5843	Early 3500 Engines with 3/4 in thd. bearing caps
236-6688	Later 3500 Engines with 7/8 in thd. bearing caps

Bearing Removal and Installation Tools

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to remove main bearing upper halves quickly and easily in Cat® Engines
- Shank of tool is adjustable to fit angle of crankshaft oil passage

Bearing Thickness	Part Number
Models: D353, D379, D398, D399/Bore Size: 159 mm (6.25 in)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Models: D339, D342, D364, D375, D386, D379/Bore Size: 146 mm (5.75 in)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Models: 4 Cylinder, 90 degree V-8, D343, D346, D348, D349, 1693/Bore Size: 137 mm (5.40 in)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Models: D326, D337/Bore Size: 130 mm (5.125 in)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Models: D315, D318, D336, 1673 (early), 1676/Bore Size: 114 mm (4.50 in)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Model Usage: D311 (early)/Bore Size: 102 mm (4.00)	
4.55 — 14.76 mm (0.179 — 0.581 in)	2P-5517
Model Usage: 3406/Bore Size: 137 mm (5.40 in)	
2.60 — 3.96 mm (0.1025 — 0.156 in)	2P-5518
Models: D330C, 3304, D333C, 3306, D334, 1674/Bore Size: 121 mm (4.75 in)	
2.60 — 3.96 mm (0.1025 — 0.156 in)	2P-5518
Models: D330, D333, D320, 1100 and 3100 Series, 3208, 1670, 1673 (Later)/Bore Size: 114 mm (4.00 in)	
2.60 — 3.96 mm (0.1025 — 0.156 in)	2P-5518
Models: D311 (Later), D320/Bore Size: 102 mm (4.00 in)	
2.60 — 3.96 mm (0.1025 — 0.156 in)	2P-5518

Liner Insert Air Leak Check Tool, 3500

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months

- Used to pressurize the joint and check for air leaks to insure liner insert is fully seated.
- Insert air leak check tool into newly inserted cylinder blocks
- Apply soapy water liberally around the joint on the top of deck
- Attach shop air supply line and set regulator to 137 kPa (20 PSI).
- Tool kit includes safety regulator

NOTE: Do not use without regulator set to 137 kPa (20 PSI)

Description	Dimensions
Kit	267 x 343 x 83 mm (10.5 x 13.5 x 3.26 in)
Tool	205 x 86.68 mm (8.07 x 3.41 in)

Part Number	Description
373-5840	3500 Liner Insert Air Leak Check Tool

Crankshaft Lift Test Fixture Assembly

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Provides safe and stable pry point when performing crankshaft lift measurement to determine proper bearing installation
- Eliminates damage from incorrect leverage location
- Bolts to existing holes and is used when block is inverted

Specifications

- Dimensions: 247 x 89 x 86 mm (7.9 x 3.5 x 3.4 in)
- Weight: 2 kg (4.4 lb)

Part No.	Description
478-1933	Crankshaft Lift Test Fixture Assembly

CRANKSHAFT, MAIN BEARINGS AND FLYWHEEL

Repair Sleeve

Model Usage: 3114, 3116, 3126, 3126B Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily repair front crankshaft hub damaged by crankshaft seal
- Used with current 5P-6208 Installation Tool
- Used in place of 5P-6188 Repair Sleeve
- Provides wider surface to ensure seal is running completely on sleeve
- Sleeve width: 29.0 mm (1.14 in)

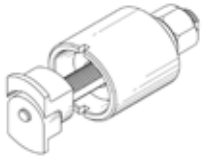
Part Number	Description
171-7212	Wear Sleeve

Bearing Puller Assembly

Essential Tool

Model Usage: 793F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to remove 146-7411 Bearing Sleeve from 146-7404 Cage Assembly in flywheel housing
- Used with 1 5/8 inch socket (dealer supplied)
- Spring-loaded puller tips retract to fit through bearing sleeve then expand to engage bearing sleeve
- Puller tips are hardened to increase strength and durability
- Acme threads on puller rod make removal faster
- Thrust bearing under nut allows easier removal of bearing sleeve
- Not for use with impact tools

Part Number	Description
332-9511	Bearing Puller Assembly

Installer Tool, Seal Adapter

Model Usage: C3.4, 3044C, 3044, 3046

Warranty: Caterpillar® Six Months



438-3244



438-3245

- Used to install wear sleeve and crankshaft rear seal into flywheel housing to correct depth without changing orientation of tool
- Installs wear sleeve and seal at the same time to the proper depth

Part Number	Description	Dimensions
438-3244	Installer Tool	113 x 98 mm (4.45 x 3.86 in)
438-3245	Seal Adapter	89 x 51 mm (3.54 x 2.0 in)

Front Crankshaft Seal

Model Usage: G3304B and G3306B

Warranty: Caterpillar® Six Months



- Installs the seal quickly and easily without damaging the seal
- Installs the seal to the proper depth
- Used for the new 362-8553 Seal Assembly

Specifications

- Dimensions: 91 x 140 mm (3.5 x 5.5 in)
- Weight: 2.5 kg (5.5 lb)

Part Number	Description
438-9547	Front Crankshaft Seal

Oil Seal Installation Jig

Model Usage: G3516H Gearbox

Warranty: Caterpillar® Six Months



- This seal guide tool is needed for G3520H gear boxes.

Part No.	Description	Diameter	Weight
533-1166	Oil Seal Installation Jig	119 x 230 mm (5 x 9 in)	2.4 kg (5.3 lb)

CYLINDER BLOCK AND LINERS

Compression Test Kit

Model Usage: 3046, 3054, 3056, 3064, and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to obtain compression pressure for comparison with other cylinders
- Gauge holds reading until released by bleed-off valve
- Flexible hose provides easy viewing angle of pressure gauge
- Air connectors also used to put shop air into combustion chamber while replacing valve springs
- Dual scales on gauge — PSI and kPa
- Pressure range: 0 to 7000 kPa (0 to 1000 PSI)

Item	Part No.	Description
—	9U-6274	Compression Test Kit
Service/Repair Parts		
1	9U-6279	Carrying Case
2	9U-6277	Pressure Gauge
3	9U-6389	Tee Fitting
4	456-7996	Bleed Valve [a]
5	9U-6275	Quick Coupler
6	9U-6280	Air Connector
7	9U-6384	Hose Assembly
8	9U-6145	Air Connector
9	9U-6390	Bushing
10	9U-6276	Quick Coupler
11	6V-2037	Quick Coupler
12	5C-0249	Plug Cap
13	9U-6394	Plug Cap
14	9U-6393	Check Valve
15	7D-2746	Elbow
16	9U-6392	Quick Coupler
Not Shown		
—	9U-6385	Foam Block
—	—	NEEG2538, Decal

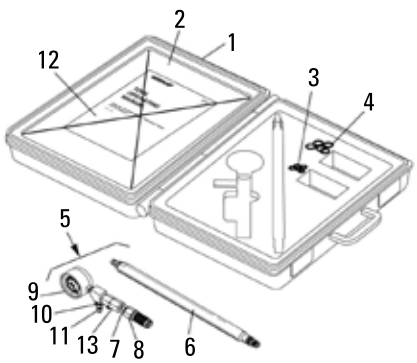
a. Part of Cylinder Pressure Group (Gas Engines)

Cylinder Pressure Tool Group (Gas Engines)

Essential Tool

Model Usage: G3300, G3400, G3500, and G3600 Engines

Warranty: Caterpillar® Six Months



- Used to check cylinder compression
- Low compression reading can be indication of valve guttering, broken valves, broken or worn piston rings, or worn cylinder liners
- Quick way to check for potential engine wear
- Can obtain compression pressure to compare with other cylinders and pressure ratio chart
- 8T-0855 Gauge holds pressure reading until bleed-off valve is released
- Includes easy to use instructions
- Pressure range: 0 to 4000 kPa (0 to 680 PSI)

Reference

- NEHS0798, Tool Operating Manual, Using the 193-5859 Cylinder Pressure Tool Group

Item	Part Number	Description
1	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid
2	6V-6126	Holder Block (Foam)
3	8L-2786	O-ring (Brown)
4	8M-5127	O-ring (Yellow)
5	—	Cylinder Pressure Group (Gas Engines)
6	192-7130	Adapter Group
7	5P-8998	Nipple — Pipe
8	6V-4144	Coupler Assembly (For 42000 kPa)
9	8T-0855	Gauge — Pressure
10	4M-5317	Pipe Reducing Bushing
11	456-7996	Bleed Valve
12	—	NEHS0798 Tool Operating Manual
13	—	Check Valve
Not Shown	—	NEEG2911 Decal
—	193-5859	Cylinder Pressure Tool Group (Gas Engines)

Chamfering Group

Model Usage: 1100, 3100

Warranty: Caterpillar® Six Months

- Used to break sharp corner at bottom of cylinder bore after honing cylinder bores on 1100 and 3100 Series Engines

Part Number	Description
1P-3565	Chamfering Group

Bore Brush

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to aid in chamfering the cylinder block liner bores on 3500 engines
- Shaft mounted 241.3 mm (9.5 in) O.D. brush
- Used with a suitable drill or honing machine
- Removes combustion residue and cleans liner bore

Part Number	Description
365-1197	Bore Bush

Ridge Reamer

Model Usage: 1100, 3100, 3204

Warranty: Caterpillar® Six Months

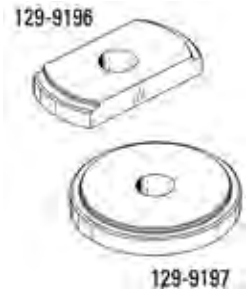
- Removes carbon buildup in cylinder bores

Part Number	Description
8S-2269	Ridge Reamer

Plate Puller

Model Usage: 3126 Engines

Warranty: Caterpillar® Six Months



- Used to install 107-7604 Cylinder Sleeve in cylinder blocks with damaged cylinder walls
- Used with 1P-0820 Hydraulic Puller Group, 6V-2183 Forcing Screw, 1P-2329 Insert, 1D-5119 Nut, 5H-1504 Washer, and hydraulic pump and hose

Reference

- SEBF8268, Installing a 107-7604 Cylinder Sleeve in 3126 Engines

Part Number	Description
129-9196	Puller Plate (lower)
129-9197	Puller Plate (upper)

Plate Puller

Model Usage: 3114 and 3116

Warranty: Caterpillar® Six Months



- Installs 7C-6208 Cylinder Sleeve into the block
- Used with 1P-0820 Hydraulic Puller, 6V-2183 Forcing Screw, 1P-2329 Insert, 1D-5119 Nut, 5H-1504 Washer, and hydraulic pump/ hose

Reference

- SEHS9047, Special Instruction, Installation of 7C-6208 Cylinder Sleeve

Part Number	Description
9U-6007	Plate Puller
9U-6008	Plate Puller

CYLINDER BLOCK AND LINERS

Puller Plate

Model Usage: 3114 and 3116

Warranty: Caterpillar® Six Months



- Used to install cylinder sleeves (both mechanically and hydraulically)
- Used with 1P-0820 Hydraulic Puller Group, 1D-5119 Jam Nut, 5H-1504 Washer, 6V-2183 Forcing Screw, discontinued 1P-2392 Puller Plate, and a hydraulic pump

Reference

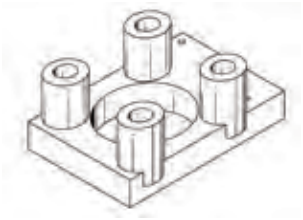
- SENR5553, Disassembly and Assembly Manual, 3066 Diesel Engine

Part Number	Description
9U-6142	Puller Plate

Stress Plate Group, Cylinder Head Stress Plate

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used to hone cylinder bores (necessary tool to properly recondition cylinder bores)
- Allows each cylinder to be honed individually
- Must be installed on cylinder block to simulate assembled cylinder block during stress honing and to measure finished bore dimensions
- Service Part: 200-5214 Spacer

References

- Service Manual for 3114 and 3116 Engines
- SEHS9047, Special Instruction, 3114 and 3116 Engines

Part Number	Description	Model
142-2285	Cylinder Head Stress Plate	3126B
4C-4377	Stress Plate Group	3114, 3116

Riser Plate Group

Model Usage: 3300 Engines with Spacer Plate

Warranty: Caterpillar® Six Months



- Used during salvage operation of liner seats which are cracked or damaged
- Used with 9U-7990 Counterbore Tool Group, 9U-7989 Cutter Plate or 9U-7961 Cutter Plate, and 9U-7992 Cutter Bit
- Eliminates need to remove adjacent cylinder liners during rework procedure

Reference

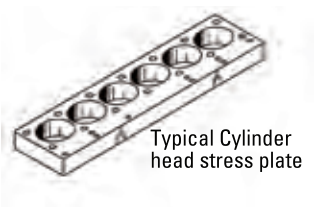
- NEHS0612, Tool Operating Manual

Part Number	Description
9U-7988	Riser Plate Group

Cylinder Head Stress Plates

Model Usage: 3114, 3116, and 3126 Engines

Warranty: Caterpillar® Six Months



- Recondition and measure cylinder bores
- Used with 8T-0362 Bolt and 8T-3282 Washer (14 of each required)
- Installed on cylinder block to simulate cylinder head being assembled onto block
- When plate is installed, cylinder bore is distorted as though cylinder head were installed (plate provides adequate clearance for cylinder hone and measuring tools)
- Hardened plate for added strength/durability
- If plate is not installed during honing, bore will not be round when cylinder head is assembled onto block (this will reduce overhall life and engine performance)

Specifications

- Overall size: 789 x 215 x 50 mm (31.1 x 8.5 x 2.0 in)
- Bore size (3126): 112 mm (4.4 in)
- Bore size (3114/3116): 107 mm (4.2 in)
- Bolt specifications: M20 x 2.5, 110 mm long

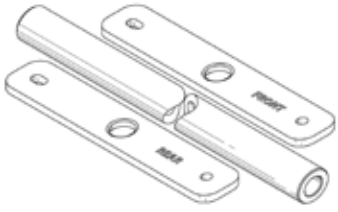
Part Number	Model
125-2064	3126
126-8132	3114, 3116

Tool Kit (Deck Height Measuring Tool)

Essential Tool

Model Usage: C15, C-15, C16, C-16, C18, C-18, 3400, C27 and C32

Warranty: Caterpillar® Six Months



- Used to measure deck height on both V-style and inline engines
- Used with 362-4253 Gauge Kit (order separately)
- End plates are marked for easy identification
- Tool is set up the same way each time to reduce inaccurate measurements
- For durability, end plates are black oxide coated, and tube is chrome plated

References

- NEHS1102, Tool Operating Manual
- SEBF9213, Measuring the distance to the top deck of C15, C-15, C-16, C18, 3400, C27, and C32 Engines

Specifications

- End plates: 3.17 kg (7.0 lb) each
- Tube: 7.03 kg (15.6 lb)

Part Number	Description
362-4250	Tool Kit (Deck Height Measuring Tool)
Service/Repair Parts	
362-4251	Thru-Bar
362-4252	End Plates
Additional Required Tooling (Sold Separately)	
362-4253	Depth Gauge

Piston Height Measuring Tool Group

Model Usage: C9.3 -C18 T4i and T4 Final

Warranty: Caterpillar® Six Months



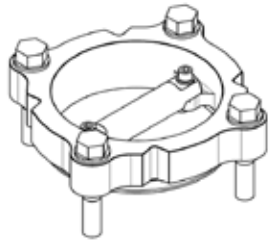
- C9.3 - C18 Piston Height Measuring Tool group consists of two measuring bodies for C9.3 engines, two measuring bodies for C13, C15 and C18 engines and two wing nuts
- Includes hard plastic case with four tool bodies total, two dial indicators, and two wing nuts
- Wing nut and unique dial indicator are available as serviceable parts to replace any dial indicators and wing nuts that may get lost or broken.
- Dial indicator holds the maximum reading of the highest travel distance of the piston, eliminating the need to closely monitor the dial indicator as engine is barred over.

S.No	Part No.	Description	Dimensions	Weight
1	533-1163	Piston Height Measuring Tool Group	471 x 832.2 x 99.3 mm (19 x 33 x 4 in)	4 kg (9 lb)
2	210-5829	Wing Nut	27 x 33 mm (1.1 x 1.3 in)	0.01 kg (0.03 lb)
3	541-9328	Indicator-Dial	Dia 57 x 46 x 125 mm (Dia 2.2 x 2 x 5 in)	0.12 kg (0.35 lb)

Sealed Insert Installation Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Installs the insert and seal evenly and squarely.
- Installs the 417-3781 standard insert and the 417-3780 oversized insert that is used with the 433-4929 integral seal.

Part No.	Description	Dimensions	Weight
489-0635	3500 Sealed Insert Installation Tool	275 x 58 mm (9 x 2.3 in) approx	9 kg (20 lb) approx

CYLINDER BLOCK AND LINERS

Upper Liner Bore Air Test Fixture

Model Usage: C175 All

Warranty: Caterpillar® Six Months



- Used to test the integrity of the 535-9573 upper liner bore inserts during C175 cylinder block salvage
- Seals on both sides of the joint between the block and insert
- Allows for either air decay leak test or visual liquid soap solution leak test
- Includes air regulator, shut off and hardware
- Requires ¼ in NPT air quick disconnect that matches facility requirement

Reference

- SEBF9185 Specifications and Salvage for Cylinder Blocks in C175 Engines
- SEHS0587 C175 Engine Dealer Rebuild Readiness Playbook™ for 793F, 794AC, 795FAC, 797F, Mining Off-Highway Trucks

Part No.	Description	Dimensions	Weight
550-9165	Upper Liner Bore Air Test Fixture	Dia 310 x 81mm (Dia 12.2 x 3.2 in)	4.5 kg (10 lb)

Upper Liner Insert Installation Tool

Model Usage: C175 All

Warranty: Caterpillar® Six Months



- Used to install the 535-9573 upper liner bore inserts during C175 cylinder block salvage
- Allows the insert to seat and remain stationary during the sealant curing process
- Includes hardware

Reference

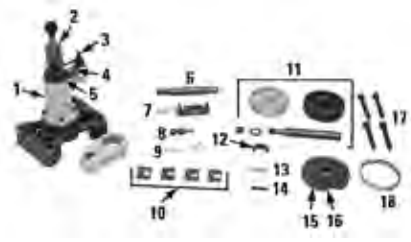
- SEBF9185 Specifications and Salvage for Cylinder Blocks in C175 Engines
- SEHS0587 C175 Engine Dealer Rebuild Readiness Playbook™ for 793F, 794AC, 795FAC, 797F, Mining Off-Highway Trucks

Part No.	Description	Specifications	Weight
558-4597	Upper Liner Insert Installation Tool	Dia 310 x 51 mm (Dia 12.2 x 2.0 in)	3.2 kg (7.4 lb)

Tools for Reconditioning Cylinder Block Counterbores

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



Engine blocks which develop cracks in the cylinder liner counterbore area can be repaired by machining a new counterbore and installing a liner seat insert. The insert is then machined to standard counterbore depth with the 5P-4175 Counterboring Tool.

The 5P-4175 Counterboring Tool along with the basic tools required for all engines are described below. Refer to chart for additional tools and the inserts to be be selected for individual engines.

References

- SMHS7600, Special Instruction
- SMHS7585, Special Instruction, Use of 5P-4175 Counterboring Tool
- Other Special Instructions listed in chart

Item	Description
3	Also includes: Drive Assembly (Part of 5P-1629)
7	No longer available — use 9U-7986 Base and Micrometer Group
11	Installer Assembly (includes parts listed below)
12	Depth Master Gauge
13	Cutter Assembly
14	Cutter Setting Gauge
15	Holder Group (includes parts listed below)
17	Mounting Bolts
18	Liner Seat Insert

Item	Part Number	Description
1	5P-4175	Counterboring Tool Group
2	8H-3127	Bolt — Hex Socket Head
3	4B-9806	Screw
3	5P-1627	Sprocket Drive (Part of 5P-1629)
3	5P-1629	Drive Group (Part of 5P-4175)
4	5P-1631	Chain Assembly (Part of 5P-4175)
5	6V-2120	Sprocket (Part of 5P-4175)
6	5P-1657	Shaft
8	5P-1630	Drive Adapter [a]
9	5P-1656	Tool Remover Hook
10	5P-1769	Washer (4)
Additional Tools Required for Individual Engines (Refer to Chart for Part Numbers)		
11	4M-6013	Washer
11	5F-9871	Nut
15	6V-4984	Screw
15	6V-4985	Holder Plate
16	5P-1626	Setscrew

a. Part of 1P-4000 Line Boring Tool Group

CYLINDER BLOCK AND LINERS

Application Chart for Counterboring Tools

	(18)	(11)	(12)	(13)	(14)	(15)	(17)		
Engine Model	**Liner Seat Insert**	**Installer**	**Master Depth Gauge**	**Cutter Assembly**	**Cutter Setting Gauge**	**Holder Group**	**Mounting Bolts**	**Water Ferrule**	**Special Instructions**
5.4/90 V-8	5P-0937	5P-1653	5P-1646	5P-1658	—	—	1D-4614	—	GMGO2442-01
D330 D333 1670 1673	5P-1621	—	—	5P-1659	5P-2409	—	8S-4740	—	GMGO2442-01
D330C D33C 1673C 3304 3306	5P-1622	5P-1651	—	5P-1659	5P-2409	5P-1637	1A-5405 (2)	—	GMGO2442-01
D339 D342	5P-6595 a	6V-4987, 6V-4983, 4M-6013, 5F-9871	6V-0156	5P-1619	5P-6593	—	1D-4614	5N-8869 a	SMHS7049-01, SMHS7982 a
D339 D342 D364 D375 D386 D397	5P-1625	—	—	5P-1619	—	—	1D-4614, 9S-1354	—	—
D343 1693	5P-1624	5P-1653	5P-1646	5P-1658	5P-1641	—	1D-4614	—	GMGO2442-01
D353 D379	1W-6265 a b	—	6V-0156	5P-8606	—	5P-1632	1D-4614	5N-8868	SMHS7221-01
D353 D379 D398 D399	5P-0936	5P-1655	5P-1646	5P-1619	5P-1644	5P-1632	1D-4614	—	GMGO2442-01
D398 D399	1W-6267 a a	4M-6013, 5F-9871	—	—	—	—	—	—	—
D398 D399	1W-6266 a a	6V-4983	—	—	—	—	—	5N-8869	SMHS7982
Spacer Plate Engines, Liner Seat Inserts 8N-6938, 8N-6150 (0.06 in); 8N-6939, 8N-6742 (0.12 in)									
3400 Series	2W-3815	—	6V-0118 (0.06)	6V-6191	6V-6189	—	7B-5163	—	SMHS8222
3400 Series	5N-0093	—	8T-0843 (0.10)	—	—	—	—	—	—
3500 Series	7W-5949	—	6V-0191	6V-2025	8T-5113	8T-2682	1D-3419	—	SMHS7600
D334 1674 3304 3306 a	5P-4174	5P-1651	5P-4176	5P-1659	5P-2409	5P-1637	1D-4588	—	GMGO2442-01
D342	8N-6150	—	6V-0118 (0.06)	6V-2025	—	—	9S-1351	—	SMHS7585
D342	8N-6742	—	6V-0191 (0.12)	—	—	—	—	—	SMHS7585
D343 1693 D346 D348 D349 a	5P-4173	5P-1653	5P-4176	5P-1658	5P-1641	—	1D-4614	—	GMGO2442-01
—	8N-6939	—	6V-0191 (0.12 in)	—	—	—	—	—	SMHS7600
—	8N-6938	—	6V-0118 (0.06 in)	6V-2025	—	5P-1632	1D-4614	—	—

a. Use in case of excessive counterbore cracking
b. D379-D398 and D399
c. Except discontinued 5S-9500 Block
d. Except discontinued 5S-6200 Block
e. D353 Cylinders 1 and 4
f. D342 only

Depth Gauge Assembly

Model Usage: 3300, 3400, and 3176 Engines

Warranty: Caterpillar® Six Months



- Used to measure actual depth of liner seat counterbore — used during rework procedure of 3176, 3300, and 3400 Engine cylinder blocks
- Used with 9U-7990 Counterbore Tool Group
- Counterbore tool does not have to be removed to measure depth of counterbore — saves time and ensures greater accuracy over conventional means of measuring

Reference

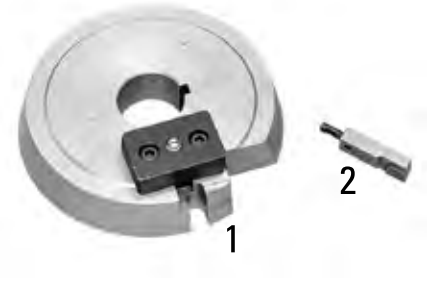
- NEHS0612, Tool Operating Manual

Part Number	Description
9U-7993	Depth Gauge Assembly

Counterbore Tool Group

Model Usage: 3176, 3300 (with spacer plate), and 3406 (with spacer plate) Engines

Warranty: Caterpillar® Six Months



- Used to machine engine block liner seats which are cracked or damaged
- Used with heavy duty electric drill (5/8 or 3/4 inch, 300 to 600 RPM, 8 amps or more), 9U-7988 Riser Plate Group (3300 Engine), 9U-7993 Depth Gauge Assembly
- A variety of insert thicknesses are available depending on depth of cut
- Cutter plate is tapered — helps center counterbore tooling in cylinder bore
- Each counterbore operation requires a specific cutter bit and cutter plate (see chart for specific tooling and insert part number) 3176 and 3300 Engines use 9U-7989 Cutter Plate and 9U-7992 Cutter Bit 3406 Engines use 9U-7991 Cutter Plate and 6V-6191 Cutter Bit
- Will not fit 3408 or 3412 Engines

Reference

- NEHS0612, Tool Operating Manual

Item	Part Number	Description	Model
—	9U-7990	Counterbore Tool Group	—
		Typical Examples	
1	9U-7989	Cutter Plate	3176 and 3300 Engines
1	9U-7991	Cutter Plate	3406 Engines
2	6V-6191	Cutter Bit	3406 Engines
2	9U-7992	Cutter Bit	3176 and 3300 Engines



Item	Part Number	Description
1	9U-7985	Basic Counterbore Tool Group including metal case (not serviced) (part of 1U-6220 Counterbore Group)
2	9U-7986	Base and Micrometer Group
3	9U-7987	Master Gauge
4	5P-1656	Tool Remover Hook
5	9U-7984	Depth Set Collar
6	1U-7575	Allen Wrench, 1/8 in
6	1U-7576	Allen Wrench, 5/32 in
6	1U-7577	Allen Wrench, 3/16 in
7	8T-0207	Bolt M16 x 2 x 100 mm long (3 required)
8	5P-8247	Hard Washer
9	0S-1569	Bolt, 5/8-11 x 4 in long (3 required)
10	5P-1630	Drive Adapter (Part of 1P-4000 Line Boring Tool Group)
12	5P-8248	Hard Washer
13	0L-1328	Bolt, 3/4-16 x 4 in long (3 required)

Reamer

Warranty: Caterpillar® Six Months



- Taper pin reamer is required for reconditioning cracked cylinder heads by taper pin method
- Can also be used in general applications such as cleaning holes, deburring tubes, etc.

Item	Part Number	Description
1	8B-4422	Taper Reamer No.1
2	9F-8758	Tape Reamer No. 2

CYLINDER BLOCK AND LINERS

Machining Dimensions for Cylinder Block Liner Seats

Liner Inserts	Bore Diameter	Depth of Cut
	3176 Engine	
105-4203	145.85 mm (5.742 in)	0.772 mm (0.0304 in)
105-4204	145.85 mm (5.742 in)	0.822 mm (0.0324 in)
105-4202	145.85 mm (5.742 in)	0.872 mm (0.0343 in)
104-7903	145.85 mm (5.742 in)	1.555 mm (0.0612 in)
104-7895	145.85 mm (5.742 in)	1.605 mm (0.0632 in)
104-7904	145.85 mm (5.742 in)	1.655 mm (0.0652 in)
104-7905	145.85 mm (5.742 in)	2.660 mm (0.1047 in)
104-7896	145.85 mm (5.742 in)	2.710 mm (0.1067 in)
104-7906	145.85 mm (5.742 in)	2.760 mm (0.1087 in)
	3300 engine	
104-5511	144.05 mm (5.671 in)	0.772 mm (0.0304 in)
104-5512	144.05 mm (5.671 in)	0.822 mm (0.0324 in)
104-5513	144.05 mm (5.671 in)	0.872 mm (0.0343 in)
104-5515	144.05 mm (5.671 in)	1.555 mm (0.0612 in)
104-5518	144.05 mm (5.671 in)	1.605 mm (0.0632 in)
104-5522	144.05 mm (5.671 in)	1.655 mm (0.0652 in)
104-5526	144.05 mm (5.671 in)	2.660 mm (0.1047 in)
104-5527	144.05 mm (5.671 in)	2.710 mm (0.1067 in)
104-5528	144.05 mm (5.671 in)	2.760 mm (0.1087 in)
104-5529	144.05 mm (5.671 in)	5.160 mm (0.2031 in)
104-5530	144.05 mm (5.671 in)	5.210 mm (0.2051 in)
104-5531	144.05 mm (5.671 in)	5.260 mm (0.2071 in)
5P-4174	147.32 mm (5.800 in)	5.210 mm (0.2051 in)
	3406 Engine	
6I-4361	166.05 mm (6.537 in)	0.772 mm (0.0304 in)
9Y-3368	166.05 mm (6.537 in)	0.822 mm (0.0324 in)
6I-4362	166.05 mm (6.537 in)	0.872 mm (0.0343 in)
6I-4363	166.05 mm (6.537 in)	1.555 mm (0.0612 in)
2W-3815	166.05 mm (6.537 in)	1.605 mm (0.0632 in)
6I-4364	166.05 mm (6.537 in)	1.655 mm (0.0652 in)
6I-4365	166.05 mm (6.537 in)	2.660 mm (0.1047 in)
5N-0093	166.05 mm (6.537 in)	2.710 mm (0.1067 in)
6I-4366	166.05 mm (6.537 in)	2.760 mm (0.1087 in)
101-0524	166.05 mm (6.537 in)	5.160 mm (0.2031 in)
101-0523	166.05 mm (6.537 in)	5.210 mm (0.2051 in)
101-0525	166.05 mm (6.537 in)	5.260 mm (0.2071 in)
5P-4173	169.29 mm (6.665 in)	5.080 mm (0.2000 in)
108-1068	169.33 mm (6.667 in)	3.302 mm (0.1300 in)

Leg Assembly

Essential Tool

Model Usage: 3600 Gas and Diesel Engines

Warranty: Caterpillar® Six Months



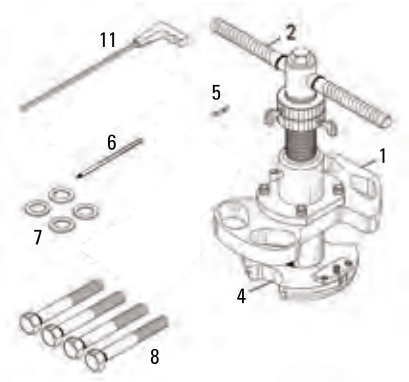
- Used to remove cylinder liners (replaces former design)
- Increased strength over the former 6V-7077 leg
- One-piece design is easier to use (eliminates separate bolt and foot components of former design)
- Serves as a replacement for 6V-7077 Puller Leg and 6V-7076 Foot which are both part of the 3600 Cylinder Liner Removal Tooling

Part Number	Description
299-5231	Leg Assembly

Counterbore Tool Group

Model Usage: C-10 and C-12 Engines

Warranty: Caterpillar® Six Months



- Used to machine cylinder bore liner seat ledge with special backcut seat design
- Used with 170-6555 Stylus Extension (100 mm [3.94 in]) to measure counterbore depth (not included in group, but requires 9U-7993 Depth Gauge and 8T-0455 Liner Projection Indicator Group
- Hand-operated, easy to use
- 4 shim thicknesses are available to raise liner back to its original height (can be stacked to achieve necessary projection)

References

- NEHS0733, Tool Operating Manual, 159-9404 Counterbore Tool Group For C-10 and C-12 Engines
- SENR6593, Testing and Adjusting C-10/C-12 Truck Engines

Item	Part Number	Description	Size	Quantity
—	159-9404	Counterbore Tool Group	—	—
1	159-9393	Basic Machine — Not Serviced	—	—
2	159-9397	T Handle	—	—
4	159-9402	Cutter Plate	—	—
5	159-9403	Cutter Bit	—	—
6	170-6555	Stylus Extension	100 mm (3.94 in)	—
7	5P-8247	Hard Washer	—	4
8	8T-0358	Bolt, M16	—	4
11	159-9398	Hex Key	—	—
Not shown				
—	168-7363	Shim	0.22 mm (0.009 in)	—
—	168-7364	Shim	0.25 mm (0.010 in)	—
—	168-7365	Shim	0.28 mm (0.011 in)	—
—	168-7366	Shim	0.50 mm (0.020 in)	—

Deck Checking Tool Assembly

Model Usage: 518

Warranty: Caterpillar® Six Months



- Provides very accurate measurements, which are compared to block specifications, to determine how much of top surface of cylinder block has been machined (when an engine is reconditioned, it is important to know if top deck has been previously machined)

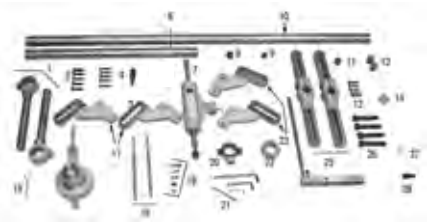
Reference

- SEHS8187, Special Instruction

Part Number	Description	Size
6V-7840	Deck Checking Tool Assembly	—
Service / Repair Parts		
4B-9820	Wrench	1/8 in
6B-7225	Wrench, 3/16 in Hex	3/16 in Hex

CYLINDER BLOCK AND LINERS

Line Boring Tool Group



- Used with the appropriate centering rings to precision bore semi-finished service main bearing caps
- Hydraulically operated feed mechanism and power drive with a 12.7 mm (1/2 in) drill

References

- SEBF4500, Engine and Component Reconditioning Guide
- SMHS7606, Special Instruction

Engine Bore Size	Centering Ring (2 Required) Standard	Centering Ring (2 Required) Oversize
4.50 in (1100, 3100, 3200)	1P-2344	6V-0138
5.40 in — 3400 Series	5P-2381	6V-0142
6.25 in V-Engines	1P-2351	6V-0145
6.70 in 3500 Engine	6V-7836	4C-8564
Not Shown: Box Assembly and Instructions Form SMH7606		

Item	Part Number	Description	Qty.
—	1P-4000	Line Boring Tool Group	—
2	0S-1571	Bolt (English)	5
3	0S-1587	Bolt	5
4	3K-4897	Pin	—
4	5P-1630	Drive Adapter [a]	—
7	5P-2981	Feed Assembly [a]	—
8	5M-5693	Washer	5
9	2S-6160	Washer	5
11	4D-0670	Washer	5
12	1B-9575	Bolt	5
13	1B-4331	Nut	4
14	4B-4283	Washer	8
15	9S-8521	Rod	—
16	465-4095	Micrometer	1
19	1P-2354	Tool Bit, 5/8 in	2
19	1P-2355	Tool Bit, 7/8 in	2
19	1P-2356	Tool Bit, 1 1/4 in	2
19	1P-2357	Tool Bit, 1 1/2 in	2
19	1P-2358	Tool Bit, 2 in	2
20	1P-2362	Holder Assembly, Larger	—
21	1D-5343	Wrench [a]	—
21	4B-9820	Wrench	—
22	1P-2366	Holder Assembly [a]	—
22	1P-2372	Screw	—
22	2H-0191	Bolt	2
26	1D-4615	Bolt	4
27	4B-4281	Washer	—
28	0S-1589	Bolt	—
Item 1, Upright Bearing Assembly (2 each) Consists of: [c]			
1	1L-0509	Socket Head Cap Screw (3/8-16)	4
1	7M-5130	Pin	—
Item 6, Bar Assembly, 31 in Long includes:			
6	1K-6976	Setscrew	2
Item 10, Bar Assembly, 66 in Long includes:			
6	1K-6976	Setscrew	2
Item 16, Micrometer Bracket Assembly includes: [a]			
—	3L-2540	Screw	—
—	8H-3127	Bolt — Hex Socket Head	—
Item 24, Torsion Bar Assembly includes: Bar, Bracket and:			
—	5S-7003	Screw	—
Item 25, Bridge Assembly includes:			
—	2L-0041	Bolt	—

a. Part of 1P-4000 Line Boring Tool Group

b. Includes: 1D-5343, 1/8/in and 5/16 in Hex Wrench, also a 3/8 in Hex Wrench

c. Also includes: Oiler

d. Also includes: Holder and Micrometer

Depth Micrometer Kit

Model Usage: 3400, C15, C-15, C-16, C18, C27, and C32 Engines

Warranty: Caterpillar® Six Months

- Measures deck height on specific engines
- Used with 362-4250 Tool Kit (Deck Height Measuring Tool)
- 600 mm (24 in) depth micrometer is ideal for measuring large parts
- Includes 400 mm (16 in) moveable bridge attachment
- Precision instrument with resolution of 0.01 mm (.0005 in) provides accurate deck height measurements
- MODE and SET buttons control a range of functions including On/Off, Preset/Hold, Absolute/Relative, and Inch/Metric displays
- One CR2032 lithium battery supplies power for a year or more of normal use
- Kit includes wooden case with provisions for storing depth gauge and moveable bridge attachment
- Includes supplier operating manual

References

- NEHS1102 Tool Operating Manual
- SEBF9213, Measuring the Distance to the Top Deck of C15, C-15, C-16, C18, 3400, C27, and C32 Engines, Reuse and Salvage Guidelines

Part Number	Description
362-4253	Depth Gauge

Cylinder Liner Puller

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Utilizes an impact wrench for fast removal of cylinder liners
- Pulls all liners, most in seconds
- Easy to install and remove
- 6V-4133 Wedge Bracket available separately to be used with 5P-8665 Puller; always use 6V-4133 when removing liners from 3500 Family Engines; it may be used to remove liners in horizontal position from 146.05 mm (5.75 in) bore and 158.75 mm (6.25 in) bore engines; wedge keeps puller feet rigidly positioned under edge of liner
- 1/2 inch impact wrench adequate for job
- Applicable to all Cat® cylinder liners and any other liner up to: Diameter: 178 mm (7.0 in) Length: 457 mm (18.0 in)

Item	Part Number	Description	Qty.
—	5P-8665	Cylinder Liner Puller	—
1	5P-8672	Arm Assembly	2
2	5P-8666	Pin	2
3	5P-8667	Bushing	—
4	131-6119	Plate Assembly, Top	—
5	5P-8669	Bearing Assembly	—
6	5P-8668	Turning Tool	—
7	5P-8671	Foot	2
8	6V-4133	Wedge Bracket (see information above)	—
9	2D-4534	Screw	2
10	8T-5103	Arm Assembly	2
11	131-6118	Lifting Bar	—
12	8T-5104	Spring (Part of Item 4)	2
13	8T-5105	Plunger (Part of Item 4)	2

CYLINDER BLOCK AND LINERS

Liner Projection Tool Group

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



Provides easy, accurate way to determine cylinder liner projection and counterbore depth

Reference

- SMHS7727, Special Instruction

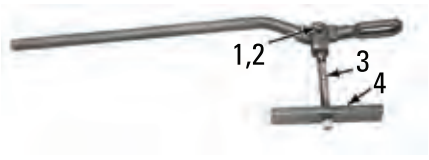
Item	Part Number	Description
—	8T-0455	Liner Projection Tool Group
1	6V-6045	Case — Plastic, NEEG2061 Accessories Case Decal
1	8T-0453	Block
2	2P-5486	Gauge Block
3	1P-2402	Gauge Body
4	1P-5507	Gauge
5	1P-2403	Dial Indicator
5	1P-5512	Contact Point
6	1P-5513	Contact Point
7	5S-2671	Screw

a. Part of 6D-6680 Tool Group

Cylinder Liner Installer Group

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



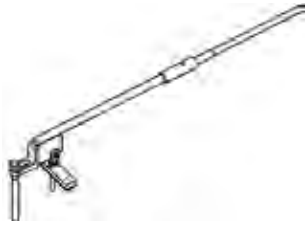
- Used to install cylinder liners
- Attaches to head bolt or stud, whichever is used, and applies firm, steady pressure, making damage to liner seals less likely

Item	Part Number	Description
—	2P-8260	Cylinder Liner Installer Group
1	3H-8538	Pin
2	3B-4615	Cotter Pin
3	—	Rod
4	—	Plate

Cylinder Liner Installer Group

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Used to install cylinder liners

Specifications

- Dimensions : 206.2 x 332 x 1165.9 mm (8.12 x 13 x 45.9 in)

Part Number	Description
392-3959	C175 Cylinder Liner Installer Group
Serviceable Parts	
433-6792	Rod Assembly
433-7410	Handle Assembly
433-7411	Plate Assembly
162-8716	Snap-on Handle Extension Bar (sold separately)

Cylinder Pack Pullers

Model Usage: See Chart

Warranty: Caterpillar® Six Months



- Used to pull liner, piston and connecting rod, as an assembly, from engines
- Very useful when used for in-frame overhauls because it eliminates need for ridge reaming and dirt generated by reaming
- Each puller should be used with appropriate bridge (see chart) and 1U-6319 Socket which has an extended body to cover length of threaded rod. Also used with impact wrench.

References

- SEHS8554, Special Instruction
- RENR7466, C175 Disassembly and Assembly Manual
- SENR1007, Disassembly and Assembly Manual

Engine (Bore mm)	3300 (120.7 mm)	3176 (125 mm)	C12 (130 mm)	3400 (137 mm/ 129.5 mm)	C32 (145 mm)	6.25 (160 mm)	3500 (170 mm)	C175 (175 mm)
Puller	8T-0812	1U-9593	129-6675	6V-9448 a b	373-1438	8T-0811	8T-2686	442-5798
Bridge	—	1U-9897	1U-9897	1U-6317	1U-6317	5F-7347	—	288-9171
Socket	1U-6319	1U-6319	1U-6319	1U-6319	1U-6319	1U-6319	1U-6319	—
Repair Parts								
Full Nut	2J-3506	2J-3506	2J-3506	2J-3506	2J-3506	2J-3506	2J-3506	2J-3506
Hard Washer	5H-1504	5H-1504	5H-1504	5H-1504	5H-1504	5H-1504	5H-1504	5H-1504
Plate	4C-8738	1U-9596	129-6677	4C-8743	373-1440	4C-8747	4C-8751	4C-8751
Threaded Stud	1U-9597	1U-9597	1U-9597	1U-9597	1U-9597	1U-9597	1U-9597	288-9159
Rubber Cup	4C-8736	1U-9594	129-6676	4C-8741	373-1439	4C-8745	4C-8749	417-3451
Segment Group	—	—	129-6678	4C-8744	373-1441	—	4C-8752	4C-8752
Base Cone	1U-9825	1U-9825	9U-6630	1U-9825	9U-6630	1U-9825	1U-9825	288-9161
Base Plate	—	—	—	4C-8742	—	—	4C-8750	288-9162

a. 6V-9448 also used for 139.7 mm (5.5 in) engine bore size

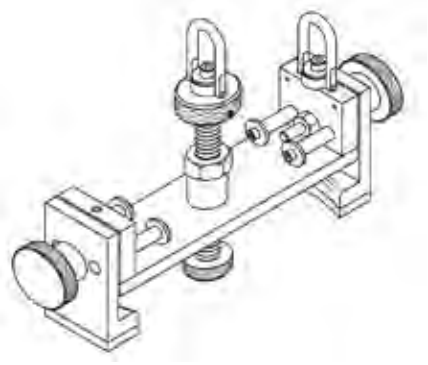
b. Early 6V-9448 Cylinder Pack Pullers have fine thread studs. The only service parts for these pullers are: 1B-4207 Full Nut, 5H-1504 Hard Washer, Threaded Stud made from 6V-4832

Puller Group

Essential Tool

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install cylinder liner, piston, and connecting rod as an assembly
- Very useful when used for in-frame overhauls because ridge reaming is not required (eliminates the dirt and grit generated by reaming)
- Puller group should be used with 328-5926 Spacer Plate (provides clearance between cylinder liner lip and head to allow installation of puller group)
- End blocks lock onto cylinder liner lip to secure piston pack to puller group
- Center lift pin assembly threads into piston to prevent it from dropping out of cylinder liner
- Dual lifting eyes allow straight or angled lifting of piston pack for easier removal and installation on engine block

References

- RENR7466, C175 Disassembly and Assembly Manual
- NEHS1074, Tool Operating Manual, 322-3564 Cylinder Pack Puller

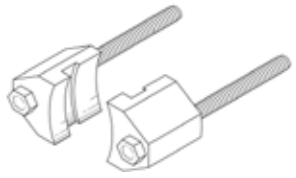
Part Number	Description	Working Load Limit
322-3564	Puller Group	57 kg (125 lb)
Serviceable Parts		
395-0090	Set Knobs (2)	—

CYLINDER BLOCK AND LINERS

Spacer

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Used to position and hold cylinder liner 35 mm (1.4 in) above surface of cylinder block during C175 Piston Pack service
- Used with 442-5798 Puller Group, 288-9171 Bridge, and 322-3564 Puller Group
- Supports cylinder liner in a raised position while other tooling is removed and installed
- Cylinder liner clamps are made from high molecular weight plastic to protect sealing surface of cylinder liner
- Steel bolts thread into existing holes in cylinder block to secure tooling

References

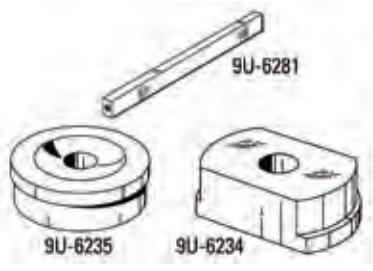
- RENR7466, C175-16 Generator Set Engine
- KENR6052, C175-16 and C175-20 Engines for Caterpillar Built Machines

Part Number	Description
328-5926	Spacer

Cylinder Liner Puller Plates and Leg

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install cylinder liners
- 9U-6234 Puller Plate used to remove liners, 9U-6235 to install liners
- Legs used between puller plates and additional tooling (three required)
- Liners manually or hydraulically removed (see additional tooling list)

Specifications

- 9U-6281 Leg:
  - Overall length: 330 mm (13.0 in)
  - Internal thread (one end): 1/2-13
- Included but Not Serviced:
  - 9S-7346: Cylinder Assembly (2)

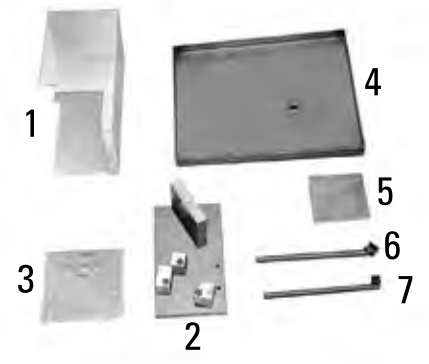
Part Number	Description	Use	Size	Quantity
9S-7346	Cylinder Assembly	—	2	—
9U-6234	Puller Plate	Remove liners	—	—
9U-6235	Puller Plate	Install liners	—	—
9U-6281	Leg	—	—	—
Additional tooling for hydraulic operation				
1A-1460	Bolt (1/2 — 13) (fork mounting hardware)	—	1/2 — 13 x 2 in	3
1D-5119	Jam Nut	—	—	1
1P-2329	Threaded Insert	—	1	—
1U-9895	Cross block	—	—	—
5F-7347	Head	—	—	—
5H-1504	Washer	—	—	—
5P-8245	Hard Washer	—	3	—
6V-2183	Forcing Screw [d]	—	1	—
Additional tooling for manual operation				
2J-3507	Nut	—	1 — 8 Thread	—
8H-0684	Wrench	—	—	—

a. These parts are used for both hydraulic and manual operation.

Piston Cooling Jet Alignment Tool Group

Model Usage: Older Cat® Engines including D353, D377, D398, D899, G379, and G399 only

Warranty: Caterpillar® Six Months



- Used to check the direction of cooling jet spray — used for 5S-1765, 4N-8986, 2N-4541, 4N-9881, and 5L-4262 Piston Cooling Jets only
- Used with fuel injection equipment test stands (FITB, FIETS, and AVM)
- Group has been updated to eliminate non-current bench tooling
- Tooling is required for off-engine testing of piston cooling jets for the engines listed above only
- Parts are serviced separately to reduce dealer cost (no need to purchase tools already in inventory)

Reference

- SMHS7267, Use of 5P-8709 Tool Group

Item	Description	Quantity	Where Used
Required Hardware	Hose Assembly	1	Oil supply #6 (37 degree) x 965.2 mm (38.00 in) long

Item	Part Number	Description	Quantity	Where Used
—	5P-8709	Piston Cooling Jet Alignment Tool Group	—	—
2	5P-8597	Spray Shield	1	With FITB, FIETS, and AVM
3	5P-8598	Target	1	With FITB, FIETS, and AVM
5	5P-8600	Oil Return Pan	1	With FITB bench only (Kent Moore)
Required Hardware (not included in group). The following list of hardware is required, but not included as part of the 5P-8709 Piston Cooling Jet Alignment Tool Group. This tooling can be purchased as needed.				
—	032-1267	Connector	1	Oil supply #6 (37 degree) to 1/4-18 NPTF (external)
—	032-1268	Elbow, 90 degree	1	Oil supply #6 (37 degree) to 1/4-18 NPTF (external)
—	0L-1138	Bolt	4	Target to 6V-9132
—	0S-1588	Bolt	2	6V-9132
—	6V-9134	Screw Assembly	1	fixture assembly to bench rails (short)
—	6V-9132	Fixture Assembly	1	target/fixture assembly to bench rails
—	6V-9138	Clamp Assembly	1	fixture assembly to rail system

CYLINDER BLOCK AND LINERS

Alignment Tool

Essential Tool

Model Usage: C4.4 and C6.6 Industrial Engine

Warranty: Caterpillar® Six Months



- Used to align front housing on engine block
- Used with three 8T-4185 Bolts (M10 x 50 mm long, dealer supplied) to attach tool to engine block
- Tool fits opening in front housing to accurately position housing during assembly
- Overall size: 77 x 25 mm (3.0 x 1.0 in)

Reference

- RENR9722, Disassembly and Assembly, C6.6 Industrial Engine

Part Number	Description
319-6486	Alignment Tool

Cylinder Pack Puller, Bridge Group, and Socket

Model Usage: 3176

Warranty: Caterpillar® Six Months



- 1U-9593 Cylinder Pack Puller used with 1U-9897 Bridge Group to remove cylinder packs or liner only
- 1U-6319 Socket used with 1U-9593 Cylinder Pack Puller; allows use of impact wrench

References

- SENR3910, 3176 Service Manual
- SEHS9120, Special Instruction, operation

Part Number	Description
1U-6319	Socket
1U-9593	Cylinder Pack Puller
1U-9897	Bridge Group

Driver

Model Usage: 3200

Warranty: Caterpillar® Six Months



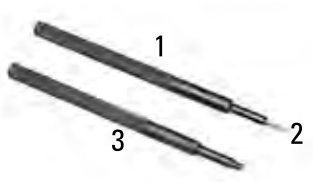
- Used to install piston cooling orifices

Part Number	Description
6V-7772	Driver

Driver

Model Usage: 3200

Warranty: Caterpillar® Six Months



- Used for installing piston cooling orifices and plugs

Item	Part Number	Description	Model	Use
1	6V-7772	Driver	3204 and 3208	Spring pin in end of driver helps hold orifice on tool until it is driven into place
2	6D-3039	Pin	—	—

Seal Installer

Essential Tool

Model Usage: 3034 Engine

Warranty: Caterpillar® Six Months



- Used to install rubber seal in front and rear main bearing cap
- Reduces risk of damage to seal's metal core

Reference

- 3034 Engine Service Manual

Part Number	Description	Overall Length	Diameter of Large End	Diameter of Small End
198-9113	Seal Installer	165 mm (6.5 in)	50.8 mm (2 in)	25.4 mm (1 in)

Honing Tool Group

Model Usage: 6.25 inch Bore, 6-Cylinder Diesel Engines

Warranty: Caterpillar® Six Months



5P-8595

- Used to recondition cylinder liners on 158.75 mm (6.25 in) bore, 6-cylinder diesel engines (D398, D379, D399, D353)
- When later pistons with Keystone rings are installed in earlier engines, honing operation necessary to remove liner wear ridge and produce smooth surface

Reference

- SMHS7220, Special Instruction

Part Number	Description
5P-8595	Honing Tool Group
Service/Repair Parts	
5P-8591	Holder, Stone
5P-8592	Stone, 114.03 — 182.88 mm (4.5 — 7.2 in) Diameter (70 Grit)
5P-8593	Stone, 114.03 — 182.88 mm (4.5 — 7.2 in) Diameter (600 Grit)
6V-7853	Stone, 101.6 — 142.24 mm (4.0 — 5.6 in) Diameter (70 Grit)

Protective Plug

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



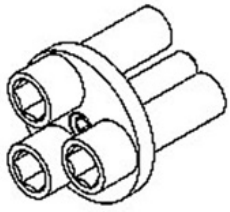
- Covers open cylinder bores during service
- Easily and quickly installed and removed
- Covers can be used on 3500 cylinder liners or bare cylinder block bores
- Made of durable plastic
- Stops debris from getting into cylinder block during machining operations.

Part Number	Description
356-9752	Protective Plug

Installer Assembly

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to correctly install crankshaft front oil seal

Specifications

- Dimensions: 54 X 50 X 50 mm (2.1 X 2.0 X 2.0 in)
- Weight: 0.3 kg (0.7 lb)

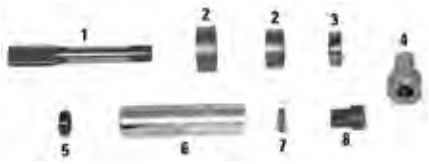
Part Number	Description
366-5984	Installer Assembly

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Thread Insert Installation Tools

Model Usage: All Engines Models

Warranty: Caterpillar® Six Months



- Installation of thread inserts provides relatively easy, inexpensive method of reconditioning cylinder heads in which precombustion chamber threads have been damaged

Reference

- SMHS7697, Special Instruction

			(1)	(3)	(7)
Engine Bore Size	**Drill Size**	**Thread Size**	**Tap**	**Tap Guide**	**Nib**
95.25 mm (3.75 in)	1 in	—	—	—	—
101.60 mm (4.0 in)	1 in	—	—	—	—
107.95 mm (4.25 in)	1 1/8 in	—	—	8F-5575	—
114.30 mm (4.5 in)	1 1/8 in	—	—	—	—
101.60 mm (4.0 in)	51/64 in	3/4 in – 12	—	—	—
114.30 mm (4.50 in)	51/74 in	3/4 in – 12	—	—	—
114.30 mm (4.50 in)	28/32 in	7/8 in – 12	9M-6595	—	9M-6593
114.30 mm (4.50 in) V-8	28/32 in	—	9M-6595	—	8S-6400
120.65 mm (4.75 in) 4-Valve	28/32 in	7/8 in – 12	9M-6595	—	8S-6400
120.65 mm (4.75 in) 2-Valve	28/32 in	7/8 in – 12	9M-6595	—	8S-6400
130.75 mm (5.12 in)	1 1/8 in	—	—	—	—
130.75 mm (5.12 in) Series F	1 in	—	—	—	—

			(1)	(2)	(7)
Engine Bore Size	**Drill Size**	**Thread Size**	**Tap**	**Pilot**	**Nib**
137.31 mm (5.4 in)	29/32 in	7/8 in – 12	9M-6595	—	9M-6593
D343, 1693 90° V-8	—	—	—	—	—
137.31 mm (5.4 in)	29/32 in	7/8 in – 12	9M-6595	—	8S-6400
3400 Series, 137.31 mm (5.4 in)	29/32 in	7/8 in – 12	9M-6595	—	9M-6593
60° V-8, V-12, V-16, 146.05 mm (5.75 in)	1 1/4 in	1 1/4 in – 12	—	—	8F-5575
146.05 mm (5.75 in)	1 1/8 in	1 1/8 in – 12	—	—	—
158.75 mm (6.25 in)	1 in	1 in – 12	—	—	8S-6402

Special Length Heli-Coil Inserts

Thread Size x Length	Description	Part Number
3/4-16 x 1.500 [a]	Insert	6V-9074
3/4-16 x 1.500	Installation Tool	6V-9082
5/8-11 x 1.250 [a]	Insert	6V-9076
5/8-11 x 1.250	Tap	4C-9686
M16-2 x 32 mm [a]	Insert	9U-5604
M16-2 x 32 mm	Tap	4C-9732
M8-1.25 x 16 mm [a]	Insert	9U-5177
M8-1.25 x 16 mm	Installation Tool	8T-2790
M8-1.25 x 16 mm	Tap	4C-8475

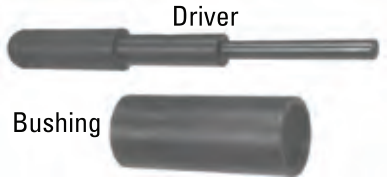
a. Warranty: Manufacturer, One Year

b. Warranty: Manufacturer, 30-Day

Valve Guide Driver and Bushing

Model Usage: All Cat® Diesel Engines, except 1100, 3100, 3208

Warranty: Caterpillar® Six Months



- Piloted drivers used to remove and install valve guides
- Most valve guides have flange that prevents driving them past correct depth; guides without flange require a bushing to ensure proper depth

Valve Guide Drivers and Bushings

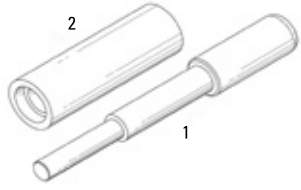
Bore Size	Engine and Engine Application	Driver Part No.	Bushing Part No.
130 mm (5.125 in)	D326, D337	4H-0446	—
146 mm (5.75 in)	D342	4H-0446	—
146 mm (5.75 in)	D339, D364, D375, D386, D397	4H-0446	—
159 mm (6.25 in)	D353, D379, D398, D399	4H-0446	5P-1726
137 mm (5.4 in)	4-Cylinder, D343, G343, 1693, V-8 90°	7M-3975	5P-1728
137 mm (5.4 in)	3406, 3408, 3412	—	5P-2396
137 mm (5.4 in)	D346, D348, D349 with 9.53 mm (0.375 in) Grooved Guides	7M-3975	5P-1729
114 mm (4.5 in)	1676	7S-5919	—
121 mm (4.75 in)	D334, 1674	7S-5919	—
121 mm (4.75 in)	D330C, 3304, D333C, 3306	—	7S-8858
170 mm (6.69 in)	G3500, 3500	7M-3975	5P-1729
175 mm (6.88 in)	C175	283-0052	284-1503

Valve Guide Driver and Bushing

Essential Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Driver used to remove and install valve guides with flanges
- Bushing used with 334-0409 Driver to install valve guides without flanges to proper depth
- Used on 201-4257, 239-0690, and 239-0691 Cylinder Heads
- Tools have black oxide coating to prevent corrosion
- Heat-treated for added durability

Item	Part No.	Description
1	334-0409	Valve Guide Driver
2	334-0410	Valve Guide Bushing

Water Ferrule Installation Tool Group

Model Usage: C27, C32, 3400, 3500, C175

Warranty: Caterpillar® Six Months



- Serves as an universal tool group for C175, 3500, 3400 and C27-32 engine series
- Used to position ferrules into the bore
- Improves repair quality ensuring that ferrule is installed perpendicular to the engine block
- Reduces installation time and leaks

Specifications (Overall)

- Weight: 1.9 kg (4.2 lb)
- Length: 207 mm (8.15 in)
- Width: 163 mm (6.42 in)
- Height: 58 mm (2.3 in)

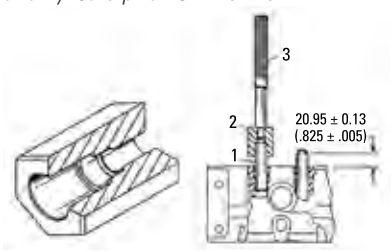
Part Number	Description
441-3674	Tool Group (C175, 3400 & 3500 Ferrule)
441-3675	Handle-Driver (Ferrule)
441-3676	Adapter-Larger (C175 Ferrule-Large)
441-3677	Adapter-Small (C175 Ferrule-Small)
441-3678	Adapter-Center (3500 Ferrule-Center)
441-3679	Adapter-Offset (3500 Ferrule-Offset)
441-9583	Pad-Plastic (C175, 3400 & C27-C32)
443-0936	Adapter (3400, C27-C32 Ferrule)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Guide Collar (Swirl)

Model Usage: 3406C Engines with Swirl Inlet Valve Seats/Inserts

Warranty: Caterpillar® Six Months



- Used to quickly and accurately install discontinued 121-4317 Valve Guide to proper installation height
- Used with 9U-6895 Valve Guide Driver
- Install valve guide into guide collar, install 9U-6895 Valve Guide Driver into guide collar, and drive it into place (when guide collar contacts surface of cylinder head, valve guide is at proper height)
- Guide collar is heat-treated and plated for durability
- Size: 31.8 mm (1.25 in) hex
- Length: 44.5 mm (1.75 in)

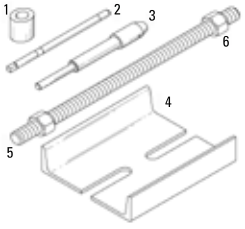
Item	Part Number	Description
1	121-4317	Valve Guide
2	124-9057	Guide Collar
3	9U-6895	Valve Seat Driver

Valve Guide Installation Tooling

Essential Tool

Model Usage: 3406C Engines with Swirl Inlet Valve Seats/Inserts

Warranty: Caterpillar® Six Months on 328-6001 and 328-6003 Only



- Used to install 184-5494 and 184-5495 Valve Guides — quickly and accurately
- 328-6001 Driver is hardened (RKW C40-50) for long service life

Reference

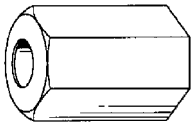
- SEBF9137, Guideline for Reusable Parts and Salvage Operations, Installation and Removal of Valve Guides and Valve Seat Inserts for G3500 Series of Engines

Item	Part Number	Description
1	328-6001	Valve Guide Bushing
2	328-6003	Valve Guide Reamer
6	6V-8182	Full Nut, 3/4 in - 10 thd

Guide Collar

Model Usage: 3300 Engines

Warranty: Caterpillar® Six Months



- Installs stepped valve guides to correct height
- Prevents damage to guide during installation
- Automatically controlls guide height
- Height of valve guide above head: 22.23 ± 0.25 mm (0.875 ± 0.010 in)

Part Number	Description
9U-6954	Guide Collar

Valve Guide Collar

Model Usage: 3126B Engines

Warranty: Caterpillar® Six Months



- Used to install exhaust valve guides to correct depth in cylinder heads
- Used with 9U-6895 Driver
- Installs valves guides to a consistent depth each time (removes guess work and time consuming measurements)
- Heat-treated for durability
- Overall length: 39.8 mm (1.57 in)
- Outside diameter: 28.5 mm (1.12 in)

Part Number	Description
149-4008	Valve Guide Collar

Stop Collar

Model Usage: 3054 and 3056 Engines (all SN's)

Warranty: Caterpillar® Six Months



- Used to install valve guides to proper height of 15.10 mm (0.594 in)
- Used with 1U-9169 Guide Driver (7ZK, 6FK, 7AK, 1 ML)
- Used with 157-3722 Guide Driver (5YS, 7MS, 2PW, 3GW)
- Zinc coated to prevent corrosion

Part Number	Description
9U-6220	Stop Collar

Stop Collar

Model Usage: C9 Engines

Warranty: Caterpillar® Six Months



- Used to install 259-5829 Valve Guide to proper height
- Used with 4C-6366 Guide Driver
- Prevents damage to valve guide during installation
- Black oxide coating for corrosion resistance

Part Number	Description
342-6109	Stop Collar

Valve Seat Driver and Stop Collar

Model Usage: C9 Engines using 268-3619 Cylinder Head Group

Warranty: Caterpillar® Six Months

459-1075





459-1076

- Installs valve guides and valve seat inserts
- Installs intake valve guides to proper height of 12 mm
- Installs standard intake valve seat inserts with outside diameter of 40.06 mm

Part Number	Dimensions	Weight
459-1075	Dia 33 X 252 mm, (1.3 X 9.9 in)	1.1 kg (2.4 lb)
459-1076	Dia 30 X 25.5 mm, (1.2 X 1 in)	0.3 kg (0.7 lb)

Description	Exhaust	Intake
Guide Part No	260-4856	259-5829
Seat Part No	212-8917	241-8388
Valve Seat Driver	173-5523	459-1075
Valve Guide Stop Collar	393-0369	459-1076
Valve Guide Driver	157-3722	4C-6366

Valve Guide Stop Collar

Model Usage: C9.3 Engines

Warranty: Caterpillar® Six Months



- For C9.3 engines with 346-6388, 293-4669, 310-7665, 348-5524 heads using the 255-8665 valve guides
- This new tool replaces discontinued 362-5404
- Used with 4C-6366 Valve Guide Driver
- Installs valve guides so that the top of the valve guide is 48.9 mm below the top surface of the cylinder head or extends 24.15mm out of the cylinder head.

Part No.	Description
476-2132	Valve Guide Stop Collar

Valve Guide Driver

Model Usage: 3054, 3056 Engines (serial no. 5YS, 7MS, 2PW, and 3GW)

Warranty: Caterpillar® Six Months



- Used to remove and install valve guides
- Used with 9U-6220 Stop Collar
- Heat-treated for added durability

Specifications

- Small diameter: 8.40 mm (0.331 in)
- Larger diameter: 12.75 mm (0.502 in)
- Overall diameter: 19.05 mm (0.750 in)
- Overall length: 233.5 mm (9.19 in)

Part Number	Description
157-3722	Guide Driver

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Guide Tools

Model Usage: C7.1

Warranty: Caterpillar® Six Months

Part No.	Description	Function	Diameter	Weight	Image
482-0188	Stop Collar	Installs valve guide to height of 12.65 mm, (typically found on 450-9263 cylinder head assembly,) uses the 482-0190 reamer to finish the installed valve guide to correct ID of 9 mm	30 x 26 mm (1.18 x 1.02 in)	0.140 kg (0.308 lb)	
482-0189	Valve Guide Driver	Installs new valve guides with internal diameter of 8 mm before reaming, (typically found on 450-9263 cylinder head assembly,) uses the 482-0190 reamer to finish the installed valve guide to correct ID of 9 mm	20 x 200 mm (0.787 X 7.844 in)	0.301 kg (0.663 lb)	
482-0190	9 mm Finish Reamer	Finishes the 335-6264 valve guide to the proper diameter	9 x 125 mm (125 x 5 in)	0.030 kg (0.066 lb)	
483-7533	Stop Collar (Intake and Exhaust)	Installs valve guide to height of 11 mm, (typically found on 349-5993 cylinder head assembly,) uses the 385-8470 reamer to finish the installed valve guide to correct ID of 7 mm	30 x 26 mm (1.18 x 1.02 in)	0.147 kg (0.324 lb)	
483-7534	Valve Guide Driver (Intake and Exhaust)	Installs new valve guides with internal diameters of 6.5 mm before reaming, (typically found on 349-5993 cylinder head assembly,) uses the 385-8470 reamer to finish the installed valve guide to correct ID of 7 mm	20 x 200 mm (0.787 x 7.844 in)	0.281 kg (0.619 lb)	

Valve Guide Driver

Model Usage: C3.4B

Warranty: Manufacturer's



- Used to drive out the old valve guide.
- Used to install the new valve guides when using the 435-3148 installation stop collar.
- Driver helps align the valve guide and the stop collar sets the proper installation height of the new valve guide.

Specifications

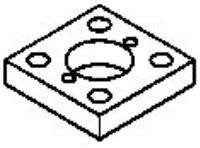
- Dimensions: 240 x 19.05 mm (9.44 x .749 in)

Part Number	Description
444-0978	Valve Guide Driver

Alignment Guide

Model Usage: G3500 Engines

Warranty: Caterpillar® Six Months



- Provides valve guide alignment during installation procedure
- For proper installation depth of valve guides

Reference

- SEBF9137

Specifications

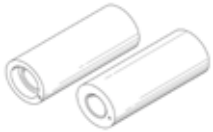
- Dimensions: 120 x 120 x 26 mm (4.72 x 4.72 x 1.02 in)
- Weight: 2.07 kg (4.56 lbs)
- Material: Steel

Part Number	Description
364-3081	Alignment Guide

Valve Guide Installer

Model Usage: G3408 and G3412 Engines

Warranty: Caterpillar® Six Months



- Used to install both intake and exhaust valve guides to two different heights (depends on which end of tool is placed against valve guide)
- Used with 9U-7349 Valve Guide Driver
- Inserting driver into end A will install 213-7537 Exhaust Valve Guide to required 32.3 mm (1.27 in) height
- Inserting 9U-7349 Valve Guide Driver into end B will install 213-7536 Intake Valve Guide to required 26.0 mm (1.02 in) height
- Used with hydraulic press rather than hammer to prevent damage to top of valve guide

Reference

- SENR6432, Service Manual, Disassembly and Assembly, G3408 & G3412 Engines

Part Number	Description
275-2423	Valve Guide Installer

Guide and Insert Tool Group

Model Usage: 3114, 3116

Warranty: Caterpillar® Six Months



- For disassembly, assembly, and adjusting of 1.1 liter engine, fuel system, and governor
- Used for valve guide and valve seat removal and installation

References

- SENR3582, Specification Module
- SENR3583, System Operation Testing and Adjusting
- SENR3611, Disassembly and Assembly Manual

Included:

- Valve Seat Driver

Part Number	Description
1U-6685	Guide and Insert Tool Group
1U-7792	Guide Collar
1U-7793	Guide Driver
1U-7795	Holding Block
1U-7796	Exhaust Extractor
1U-7797	Inlet Extractor
1U-7798	Slide Hammer
1U-8211	Lid Filler Block
6V-7145	Case

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Seat Installer

Model Usage: 3126B Engines

Warranty: Caterpillar® Six Months



- Used to install intake and exhaust valve seats
- Used with hydraulic press (valve seats should not be installed using this tool and a hammer)
- Heat-treated for added durability
- To install valve seats, place a 7N-1819 Valve Guide or a piece of suitable tubing over the pin and press into place using hydraulic press (if tubing is used, both ends must be machined squarely)

Reference

- Engine Service Manual

Specifications

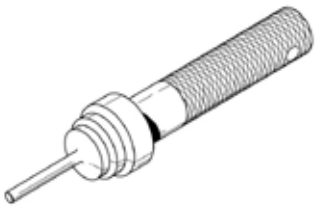
- Length of tubing: 103 mm (4.0 in) minimum
- Small end of driver: intake seats
- Larger end of driver: exhaust seats

Part Number	Description
149-6115	Valve Seat Installer

Valve Seat Driver (HEUI)

Model Usage: 3114, 3116, and 3126 (HEUI) Engines

Warranty: Caterpillar® Six Months



- Used to install 126-0453 Insert (inlet) and 1W-2713 Insert (exhaust) — helps eliminate damage to insert which can occur when a driver is not used
- Long pilot serves as a guide during installation
- Tool ensures that all seats are installed uniformly and to proper depth
- Hardened for added durability — knurled handle provides better grip

Specifications

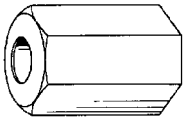
- Overall tool length: 212.0 mm (8.3 in)
- Pilot length: 81.0 mm (3.2 in)
- Pilot diameter: 7.9 mm (0.311 in)

Part Number	Description
132-4379	Valve Seat Driver

Guide Collar

Model Usage: 3176 Engines

Warranty: Caterpillar® Six Months



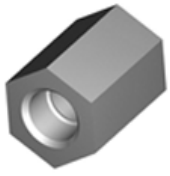
- Used to install stepped valve guide without damage to guide
- Used with 1U-9169 Driver for valve guide removal
- Installation height of guide is automatically set (drive guide collar down until it bottoms against top surface of cylinder head)
- Made from high strength steel and heat treated — provides a quality, long-lasting tool
- Bright nickel coating and hex shape provide easy identification

Part Number	Description
9U-6460	Guide Collar

Guide Collar

Model Usage: C9 Engines

Warranty: Caterpillar® Six Months



- Used to quickly and correctly install intake valve guides on C9 engines with 252-8439 head to correct depth and protrusion
- Used to install stepped valve guide without damage
- Installation guide height is automatically set
- Material: High strength heat treated steel provides a high quality, long-lasting tool

Specifications

- Dimensions: 40 x 28.6 mm (1.57 x 1.12 in)
- Weight: .17 kg (.37 lb)

Part Number	Description
421-9848	Guide Collar

Installation Guide Collar

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to install valve guides to 17.00 mm (0.669 in) above the top of the cylinder head (quickly and easily installs to correct height)
- Used with 1U-7793 Guide Driver
- Zinc coated to prevent corrosion

Reference

- SENR5553, Service Manual, 3066 Diesel Engines

Part Number	Description
9U-6137	Installation Guide Collar

Valve Guide Driver, Guide Collar

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to remove and install valve guide
- Ensures proper height of valve guide
- Knurled handle for better handling
- Guide collar stop height: 14.00 ± 0.10 mm (0.552 ± 0.004 in)

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engine

Part Number	Description
4C-6366	Valve Guide Driver
4C-6370	Guide Collar

C1.3 Engine Tools

Model Usage: C1.3 Engine in 303.5E Mini Hex

Warranty: Caterpillar® Six Months



- Material: Steel

Part Number	Description	Dimensions	Weight
439-5402	Crankshaft wear sleeve installer	267 x 343 x 83 mm (10.5 x 13.5 x 3.27 in)	2 kg (4.4 lb)
439-7530	Valve guide installation tool group	230 x 162 x 25 mm (9.1 x 6.4 x 1 in)	0.396 kg (0.87 lb)
439-7531	Connecting rod bushing installation tool — (Small End)	157 x 20 mm (6.18 x 0.79 in)	0.412 kg (0.91 lb)
440-0166	Connecting rod bushing installation tool — (Large End)	196 x 20 mm (7.72 x 0.79 in)	0.575 kg (1.27 lb)
442-0744	Governor gear shaft bushing service tool	74 x 188 mm (2.9 x 7.4 in)	2 kg (4.4 lb)
442-1006	Crankshaft Bearing Remover	55 x 135 mm (2.16 x 5.31 in)	0.8 kg (1.76 lb)
442-1007	Crankshaft Bearing Installer	72 x 135 mm (2.83 x 5.31 in)	0.95 kg (2.1 lb)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

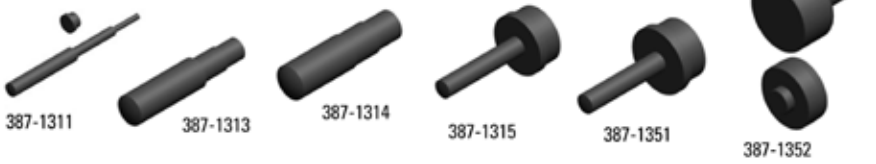
C1.8/C2.4 Tooling

Model Usage: 305E, 304E, 303.5E

Warranty: Manufacturer's



488-1131



Part No.	Description	Dimensions
387-1311	Valve Guide Driver	225 x 19.05 x 19.05 mm (8.86 x .75 x .75 in)
387-1313	Wrist Pin Removal Tool	162 x 34.9 x 34.9 mm (6.38 x 1.37 x 1.37 in)
387-1314	Idler Gear Bushing Removal Tool	175 x 45 x 45 mm (6.89 x 1.77 x 1.77 in)
387-1315	Crankshaft Bearing Removal Tool	135 x 64.7 x 64.7 mm (5.31 x 2.55 x 2.55 in)
387-1351	Crankshaft Bearing Installation Tool	130.5 x 88 mm (5.14 x 3.46 in)
387-1352	Rear Crankshaft Wear Sleeve/Guide Installation Tool	139.9 x 90 mm (5.51 x 3.54 in)
483-5054	Crankshaft Locking Tool (top-dead center position)	21 x 107 mm (0.83 x 4.21 in) diameter
488-1131	Extra-Deep Socket	63.5 x 101.6 mm (2.5 x 4 in)

C2.6 Tooling

Model Usage: 306E, 307E

Warranty: Manufacturer's

Part No.	Description	Dimensions
423-9662	Glow Plug Compressor Adapter	194.1 x 9.5 mm (7.6 x .374 in)
423-9663	Valve Guide	220 x 19.05 mm (8.7 x .749 in)
423-9664	Valve Bridge Shaft	169.9 x 60.3 mm (6.7 x 2.4 in)
423-9665	Crankshaft Sleeve Replacing Tool	154.4 x 104.9 mm (6.1 x 4.1 in)



423-9662



423-9663



423-9664



423-9665

- 423-9662 — Used to quickly and easily check compression on the C2.6
- 423-9663 — Used to replace valve guide to proper height
- 423-9664 — Use to quickly and easily replace valve bridge
- 423-9665 — Used to quickly and accurately replace crankshaft sleeve to proper depth

Installation Tool

Model Usage: C3.4B Engine

Warranty: Manufacturer's



- Installs the new 460-2323 box-type front crankshaft seal
- Used in conjunction with 390-1132

Specifications

- Dimensions: 76.2 X 76.2 X 101.6 mm (3 X 3 X 4 in)
- Weight: .680 kg (1.5 lb)

Part Number	Description
460-8232	Installation Tool

C3.4 Tools

Model Usage 416E, Sideshift BHL

Warranty: Caterpillar® Six Months



482-0572

Part No.	Description
390-1126	Filter Cartridge Remover — Used to remove and install oil filters Adjustable from 62 – 96 mm (2.4 – 3.8 in)
390-1129	Camshaft Bushing Punch Tool — Used to remove and install camshaft bushing and set bushing to proper depth (use with 390-1130)
390-1130	Punch Tool Handle — Used to remove and install camshaft bushing (use with 390-1129)
390-1132	Timing Case Fitment tool — Used to properly install timing gear
390-1124	Crankshaft Rear Seal Installer — Used to properly install rear crankshaft seal and install seal to proper depth
390-1125	Crankshaft Front Seal Installer — Used to properly install front crankshaft seal and install seal to proper depth
482-0572	Engine Timing Tool (TDC) — Used to locate TDC and properly time engine (can be used on all crankshaft versions of the C3.4). Dimensions: 20 x 89 mm (.79 x 3.5 in) Weight: 0.680 kg (1.5 lb)

Oil Filter Tool

Model Usage: All C175 Engines

Warranty: Manufacturer's



- Allows quick and easy disassembly of the 481-5918 and the 487-0224 centrifugal oil filters on C175 machine engines
- Clamps securely in a vice to allow filter to be safely and easily disassembled with a wrench
- Tool provides a safer method than simply using sockets on both ends by providing a method to stabilize the rotor during disassembly and assembly.

Part No.	Description	Dimensions	Weight
502-1421	Oil Filter Tool	101.6 x 254 mm (4 x 10 in)	0.226 kg (0.498 lb)

Centrifugal Oil Filter Sockets

Model Usage: C175 with Centrifugal Oil Filter

Warranty: Caterpillar® Six Months



- Special sockets aid in the disassembly and assembly of the filter.
- Used on the top and the side clamp handles and on the top retainer handles

S. No	Part No.	Description	Dimensions	Weight
1	526-5504	Socket As.-Top (C175 Oil Filter)	49.2 x 50.1 mm (1.9 x 2 in)	0.17 kg (0.4 lb)
2	526-5505	Socket As.-Side (C175 Oil Filter)	21.5 x 50.4 mm (0.8 x 2 in)	0.1 kg (0.2 lb)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Wrist Pin Bushing Replacement Tool

Model Usage: C3.3B

Warranty: Caterpillar® Six Months



- Used to replace the wrist pin bushing in the connecting rod

Specifications

- Dimensions: 194 x 31 mm (7.6 x 1.2 in)

Part Number	Description
435-3012	Wrist Pin Bushing Replacement Tool

Exhaust Seat Remover, Intake Seat Remover

Model Usage: C1.8 & C2.4 Engines

Warranty: Manufacturer's



- Used to quickly and easily remove valve seat inserts without damage to cylinder head

Part Number	Dimensions
389-7514	101.6 x 31.75 x 38.1 mm (3.99 x 1.25 x 1.49 in)
389-7515	101.6 x 31.75 x 32.3 mm (3.99 x 1.25 x 1.27 in)

Collar Stop

Model Usage: C3.4B Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily install valve guide during overhaul of cylinder head
- Helps to align and install valve guide into cylinder head to proper depth

Specifications

- Dimensions: 20 x 19.05 (dia.) mm (.787 x .75 in)
- Material: Steel

Part Number	Description
435-3148	Collar Stop

Valve Guide Seal Remover

Model Usage: 3046 Engines

Warranty: Caterpillar® Six Months



- Used to remove valve guide seal
- Used with 1U-7600 Slide Hammer
- Tapped hole for slide hammer: 1/2 – 20
- Wrench flat: 19 mm (3/4 in)

Part Number	Description
4C-8134	Valve Guide Seal Remover

Valve Guide Ream and Hone Tools

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used with head and driver from 1P-7451 Valve Guide Honing Group to ream and hone 12.7 mm (0.5 in) valve guides on D379, D398, D399, G379, G398, G399

Reference

- GMG00866

Part Number	Description
5P-7289	Mandrel
5P-7291	Stone
5P-7292	Adapter

Valve Guide Honing Group

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Provides precise method for sizing grooved valve guides on D346, D348, D349
- Recommended for measuring all current engine valve guides; however, 1P-7452 Valve Guide Measuring Group for 0.375 mm (0.0014 in) diameter guides still available

Reference

- SMHS7526, Special Instruction

Item	Part Number	Description
—	1P-7451	Valve Guide Honing Group
2	1P-7454	Stone (7)
6	1P-7452	Valve Guide Measuring Group

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Guide Knurling Group

Model Usage: 1100, 3100 and 3208

Warranty: Caterpillar® Six Months



- Used to recondition cylinder heads and valve guides that are 9.4 to 10 mm (0.371 to 0.375 in) in diameter
- Among models that can be serviced are 1100, 3100 and 3208 Engines; other arbor and reamer sizes adaptable to all current and most non-current Cat® engines are available separately; arbor and reamer sizes not listed can be obtained from K-Line Industries, Inc., 315 Garden Avenue, Holland, Michigan 49423

Reference

- SMHS6747, Special Instruction

Part Number	Description	Size
5P-5170	Valve Guide Knurling Group	—
	Consists of:	
5P-5171	Reamer	9.423 mm (0.371 in)
5P-5172	Reamer	9.423 mm (0.371 in)
5P-5173	Reamer	9.47 mm (0.373 in)
5P-5174	Reamer	9.499 mm (0.374 in)
5P-5175	Knurling Arbor	9.423 mm (0.371 in)
5P-5176	Brush	—
5P-5177	Speed Reducer	—
9U-5987	Oil	0.236 L (1/2 pint)
	Other Arbors and Reamers — Not Included in 5P-5170 (Sold Separately)	
5P-5179	Reamer	7.874 mm (0.310 in)
5P-5180	Reamer	7.899 mm (0.311 in)
5P-5182	Reamer	10.185 mm (0.401 in)
5P-5184	Reamer	12.573 mm (0.495 in)
5P-5185	Reamer	12.598 mm (0.496 in)
5P-5186	Reamer	12.623 mm (0.497 in)
5P-5188	Knurling Arbor	7.924 mm (0.312 in)

Valve Guide Gauge Group

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Provides method for quickly and accurately measuring all current valve guides for size, taper, and out-of-roundness on D379, D398, D399, G379, G398 and G399
- Contains 3 probes, 3 master ring gauges, and a dial bore gauge
- Probes sized to cover all current valve guides: 7.92 mm (0.312 in), 9.52 mm (0.375 in), and 12.7 mm (0.500 in)
- Each probe long enough to reach completely through longest guide
- Gauge graduated in 0.005 mm (0.0002 in) increments with useable range of 0.38 mm (0.015 in) for each probe

Reference

- GMGO2562, Special Instruction

Part Number	Description
5P-3536	Valve Guide Gauge Group

Valve Spring Compressor Group

Model Usage: 1100, 3100, 3208

Warranty: Caterpillar® Six Months



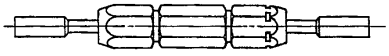
- Used to remove and install valve springs manually
- Engines with recessed valve spring chambers require 7M-3976 Adapter; 1100 and 3100 Series and 3208 Engines require 8S-2277 Adapter Assembly

Part Number	Description
7F-4291	Compressor Assembly
7F-4292	Valve Spring Compressor Group
7M-3976	Adapter (D343, 1693) (Not part of 7F-4292)
8S-2277	Adapter Assembly (1100, 3100 Series, 3208) (Not part of 7F-4292)

Valve Guide Gauges

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used for quick, accurate checking of valve guide wear limits on Cat® Engines
- Gauges are double-ended to permit checking maximum and minimum valve guide bore dimensions

Part Number	Engines In Which Gauge (Red End) is Used to Check Worn Valve Guides	Engines In Which Gauge (Green End) is Used to Check New or Knurled Value Guides
	Valve Guide Gauge Application	
261-3687	12.672 mm (0.498 in), 3508, 3512, 3516, 12.7 mm (0.5 in) exhaust valves only	12.594 mm (0.4958 in)
4C-9734	8.08 mm (0.318 in), 3114, 3116	8.035 mm (0.316 in)
6V-7058	9.55 mm (0.376 in),1673, 1693, 1100, Series, 3100 Series, 3204 3208, 3304, 3306, D330C, D333C, D342, D343, D346, D348, D349, D353, D379, D398, D399, 137.2 (5.4 in) Bore 90 degree V-8	9.5 mm (0.374 in), 1100 Series, 3100 Series, 3204 and 3208
6V-7068	9.54 mm (0.3755 in), 3406, 3408, 3412, 3508, 3512, 3516, 9.65 mm (0.38 in) intake and exhaust valve	9.460 mm (0.3725 in), 3304, 3306, 3406, 3408, 3412
6V-7895	12.775 mm (0.503 in), D353, D379, D398, D399	—

Pneumatic Valve Spring Compressor

Model Usage: All Engines except 3600

Warranty: Caterpillar® Six Months



- Timesaver removing/installing valve keepers

Item	Part Number	Description	Size
—	5S-1330	Pneumatic Valve Spring Compressor	—
2	5S-1323	Cylinder	—
4	5S-1327	Jaw	[25.4 mm (1 in) – 44.45 mm (1 1/4 in) Cap]
5	5S-1328	Jaw	[28.57 mm (1 1/8 in) – 50.8 mm (2 in) Cap]
6	5S-1329	Jaw	[38.1 mm (1 1/2 in) – 63.5 mm (2 1/2 in) Cap]

Valve Spring Compressor

Model Usage: 1.1, 1.2, 3126B, 3200, 3300, 3400

Warranty: Caterpillar® Six Months



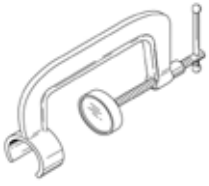
- Quick and easy way to remove valve springs
- Hand-operated
- Alternative to 5S-1330 Pneumatic Spring Compressor when compressed air unavailable
- Cylinder head must be off the engine

Part Number	Description
1P-3527	Valve Spring Compressor

Injector Spring Compressor

Model Usage: 3500 Marine

Warranty: Caterpillar® Six Months



- Used to check fuel injection — will move freely under its own weight
- Rack movement needs to be checked in several positions

Reference

- SENR4693, 3516 Marine Disassembly and Assembly

Part Number	Description
6V-4062	Injector Spring Compressor

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Adapter Assembly

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used for manual removal of valve springs (adapts 7F-4292 Compressor Group to 3064 and 3066 Engines)
- Can be used with 9U-6145 Air Connector to remove valve springs without removing head

Reference

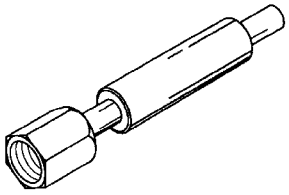
- SENR5553, Service Manual, 3066 Diesel Engines

Part Number	Description
9U-6144	Adapter Assembly

Air Connector

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Replaces valve springs and guide seals without removing the head (allows on-engine replacement)
- Air connector fits into cylinder head injector port to put shop air into combustion chamber (prevents valve dropping into cylinder bore)
- Used with 7F-4292 Valve Spring Compressor and 9U-6144 Compressor Adapter
- Part of 9U-6274 Compression Test Kit (connector can be ordered separately if the test kit is not needed)

Reference

- SENR5553, Service Manual, 3306 Diesel Engines

Specifications

- Overall length: 153 mm (6.0 in)
- Small end diameter: 7.15 mm (0.281 in)
- Body diameter: 16.75 mm (0.659 in)
- Air connection: 1/4-18 NPTF
- Hex head: 19.0 mm (0.75 in)

Part Number	Description
9U-6145	Air Connector

Compression Adapter

Essential Tool

Model Usage: C4.4, C7.1 and C6.6 Engines

Warranty: None



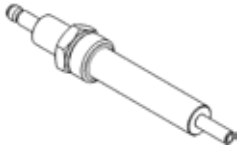
- Used to adapt compression tester

Part Number	Description
268-1971	Compression Adapter

Compression Test Adapter

Model Usage: 3056E

Warranty: Caterpillar® Six Months



- Used to test the compression of 3056E Engines in each cylinder
- Connects directly to the 9U-6274 Compression Test Group

Specifications

- Dimensions: 23.87 mm (0.9 in)
- Length: 160.2 mm (6.3 in)
- Weight: 0.24 kg (0.5 lb)

Part Number	Description
460-4917	Compression Test Adapter

Compression Test Adapter

Model Usage: C0.5, C0.7, C1.1 and C1.6L Engines using the 307-8672 Glow Plugs

Warranty: Caterpillar® Six Months



- Used to test the compression of C0.5, C0.7, C1.1, and C1.6L Engines in Each Cylinder
- These engines are used throughout the skid steer loaders and small gensets.
- This adapter fits engines with glow plug part number 307-8672.

Part No.	Description	Dimensions	Weight
528-5368	Compression Test Adapter	Hex: 12.7 mm (0.5 in) Length: 179 mm (7 in)	0.1 kg (0.2 lb)

Test Adapter (Diesel Engine Compression)

Model Usage: 301.7D, 302.4D, 302.2D, 300.9D, 301.4C, 302.7D Mini Hex

Warranty: Caterpillar® Six Months



- Connects directly to the 9U-6274 compression test kit to check engine compression

Specifications

- Dimensions: 50.8 mm (2 in)

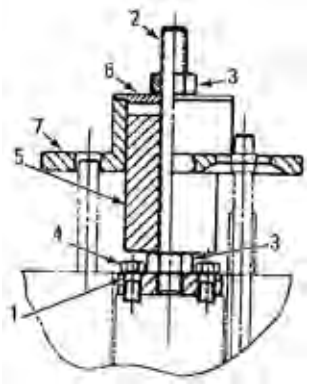
Part Number	Description
446-7646	Test Adapter (Diesel Engine Compression)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Spring Compressor Group

Model Usage: 3400

Warranty: Caterpillar® Six Months



- Used to remove and install valve springs on 3400 Family Engines equipped with earlier-style fuel nozzle adapter or new-style adapter
- Compresses all valve springs on one cylinder at same time; safely retains them while the valve locks are removed
- Can be used with cylinder head on or off engine
- Saves time, especially for on-engine applications
- Applications: replacing valve stem seals and springs, removing springs to service the unit injector sleeve

Reference

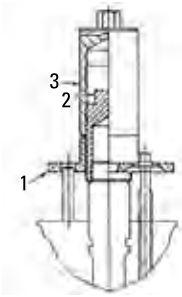
- SEHS9032, Special Instruction

Earlier Style Nozzle Adapters

Item	Description
1	Adapter Plate
2	Stud
5	Collar
6	Spacer
7	Plate Assembly

Item	Part Number	Description	Quantity
—	1U-9347	Valve Spring Compressor Group	—
3	1D-4719	Nut	2
4	0S-1618	Bolt	2

Later Style Nozzle Adapters



Item	Description
1	Plate Assembly
2	Adapter Assembly
3	Adapter Assembly

Spring Compressor Tool Group

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to compress valve springs without removal of the injector and quill tube assemblies
- Eliminates possible contamination and fuel system component damage
- Significant time reduction by eliminating fuel system component removal (0.6 hrs per cylinder based on machine labor time)
- Allows servicing of valve springs and roto coils
- Includes TDC indicator wheel to identify cylinder position without injector or access cover removal
- Includes foam-lined case

Reference

- NEHS1205 Tool Operating Manual

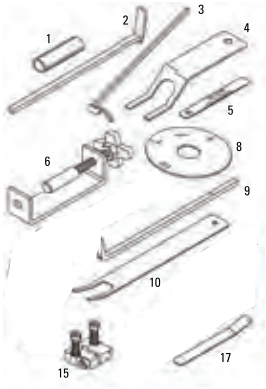
Part No.	Description	Dimensions	Weight
459-4664	Spring Compressor Tool Group	482.6 x 355.6 x 190.5 mm (19 x 14 x 7.5 in)	7.0 kg (15.3 lb)

Jacobs Vehicle Systems (Jake Brake®) Service Tools

Essential Tool

Model Usage: C-10, C-12, 3176/B, 3306B/C, 3406B/C/E Truck Engines

Warranty: Caterpillar® Six Months



- Used to quickly and accurately install or service Jake Brake Units on Cat® On-Highway Truck Engines and articulated trucks
- All tools are genuine OEM parts
- Tools can be ordered individually
- 149-6112 Trigger Upgrade Kit allows rotation of dial indicator in early trigger sets kits
- 143-6452 Fuel Line Protective Kit includes caps to seal fuel lines from contamination during a retrofit (for 3406B and C Engines only)
- 149-6111 Oil Pressure Test Kit includes a solenoid valve o-ring pack (pack not available separately). Individual O-rings are available by ordering 2U-1493 Seal Ring, Lower, 2U-1492 Seal Ring, Middle, and 143-6642 Seal Ring, Upper.

Item	Part Number	Description
1	149-6108	Installation Support Tool [a]
2	134-2836	Feeler Gauge, 1.70 mm (0.067 in) [a]
2	149-0050	Adjusting Gauge, 2.29 mm (0.09 in) [a]
2	149-0054	Adjusting Gauge, 0.457 mm (0.018 in) [a]
2	149-6105	Adjusting Gauge, 2.03 mm (0.08 in) [a]
3	149-0059	S/P Adjusting Gauge, 3.43 mm (0.135 in) [a]
4	149-0052	Feeler Gauge, 1.78 mm (0.07 in) [a]
4	149-0053	Feeler Gauge, 1.52 mm (0.06 in) [a]
5	149-0055	Feeler Gauge, 0.508 mm (0.02 in) [a]
5	149-0056	Feeler Gauge, 1.14 mm (0.045 in) [a]
5	149-0058	Feeler Gauge, 1.27 mm (0.05 in) [a]
5	149-6114	Feeler Gauge, 0.635 mm (0.025 in) [a]
5	150-7227	Feeler Gauge, 1.02 mm (0.04 in) [a]
6	134-2837	Slave Piston Tool
8	149-0114	Slave Lash Gauge, 0.889 mm (0.035 in) [a]
9	149-6110	M/P Holding Wedge [a]
10	149-0051	Feeler Gauge, 2.03 mm (0.08 in) [a]
15	149-6104	Dowel Extractor [a]
17	149-0028	Feeler Gauge, 0.686 mm (0.027 in) [a]
17	149-0049	Feeler Gauge, 0.762 mm (0.03 in) [a]
17	155-5238	Feeler Gauge, 0.838 mm (0.033 in) [a]
17	155-5239	Feeler Gauge, 0.94 mm (0.037 in) [a]
Not shown		
—	143-6452	Fuel Line Protective Kit [a]
—	149-6106	Cat® Tool Kit
—	149-6107	Tool Box [a]
—	149-6111	Oil Pressure Test Kit
—	149-6112	Trigger Adjusting Group Upgrade Kit

a. Part of 149-6106 Tool Kit-Cat®
b. Part of 149-6109 (discontinued) Trigger Adjusting Group
c. Part of 149-6111 Oil Pressure Test Kit

Intake Gauge, Exhaust Gauge

Model Usage: CT11, CT13, CT15 Engines

Warranty: Manufacturer's



- Used to properly service Jake brakes used on CT11, CT13 and CT15
- Tools angled at 90° angle for ease of access

Part No.	Description	Dimensions
376-7704	.5 mm Intake Gauge	175 x 43.7 mm (6.9 x 1.7 in)
376-7716	.8 mm Exhaust Gauge	175.3 x 43.7 mm (6.9 x 1.7 in)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Feeler Gauge (C15), Lash Gauge (C13)

Model Usage: C13 and C15 Engines

Warranty: Caterpillar® Six Months

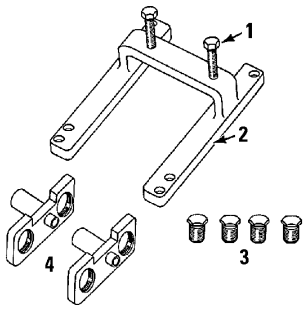
- Used to set variable valve actuators

Part Number	Description
228-3610	Feeler Gauge
235-0032	Lash Gauge

Spring Compressor Group

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



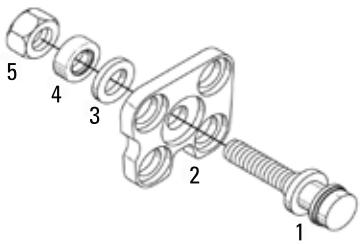
- Functions as valve spring compressor for on-engine removal of valve springs
- Compresses all four springs simultaneously
- Functions as valve depressor when plugs are installed in bridges; depressing valves allows borescope inspection of valve faces and seats
- Easy installation — requires removal of rocker shaft and rocker arms only
- Operable by one person
- Mounting bolts included

Item	Part Number	Description	Size	Quantity
1	0S-1587	Bolt	1/2-13 x 1 3/4 in	2
2	241-0121	Mounting Bracket	—	1
3	4T-5657	Plug	—	4
4	241-0122	Spring Compressor Bridge	—	2

Valve Spring Compressor Group for C13 Engine

Model Usage: C13 Engine

Warranty: Caterpillar® Six Months



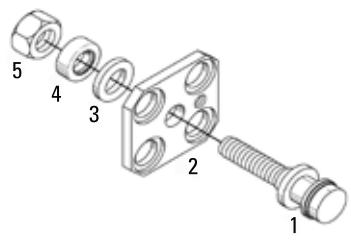
- Used to remove and install valve springs of C13 Engine
- Compresses all valve springs on one cylinder at same time; holds them in place while valve locks are removed
- Can be used with cylinder head on or off-engine
- Saves time, especially for on-engine applications

Item	Part Number	Description
235-0518 Valve Spring Compressor Group		
1	9U-7548	Compressor Base
2	267-5716	Compressor Plate
3	2S-0115	Washer
4	1U-8826	Thrust Bearing
5	2J-3506	Nut

Valve Spring Compressor Group for 3176 Engine

Model Usage: 3176 Engine

Warranty: Caterpillar® Six Months



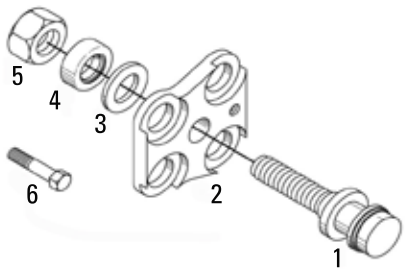
- Used to remove and install valve springs of 3176 Engine
- Compresses all valve springs on one cylinder at same time; holds them in place while valve locks are removed
- Can be used with cylinder head on or off-engine
- Saves time, especially for on-engine applications

Item	Part Number	Description
4C-6726 Valve Spring Compressor Group		
1	9U-7548	Compressor Base
2	4C-6727	Compressor Plate
3	2S-0115	Washer
4	1U-8826	Thrust Bearing
5	2J-3506	Nut

Valve Spring Compressor Group for 3406E Engine

Model Usage: 3406E Engine

Warranty: Caterpillar® Six Months



- Removes/installs valve springs
- Compresses all valve springs on one cylinder at same time; holds them in place while valve locks are removed
- Used with cylinder head on or off-engine
- Saves time, especially on-engine applications

References

- SENR5580, Service Manual
- SENR6421, Service Manual Module, Disassembly and Assembly 3406E Engines

Item	Part Number	Description
9U-7241 Valve Spring Compressor Group		
1	1U-7639	Compressor Base
3	5P-8248	Hard Washer
4	1U-8826	Thrust Bearing
5	2J-3506	Nut
6	0L-1143	Bolt

Valve Spring Compressor Group

Model Usage: C4.4, C6.6, C7.1, 3054, 3056 Engines

Warranty: Caterpillar® Six Months



- Used to manually remove and install valve springs without removing cylinder head
- Used with 9U-6280 Air Connector to hold valves in position

Reference

- SENR5547, Service Module in SENR5555 Service Manual

Item	Part Number	Description
—	9U-6195	Valve Spring Compressor Group
1	9U-6193	Compressor Assembly
2	9U-6194	Stud

Valve Spring Compressor Adapter

Model Usage: C0.5, 0.7, 1.1, 1.5, 1.7L Engines

Warranty: Caterpillar® Six Months



- Used to manually remove and install valve springs without removing cylinder head
- Used with 9U-6193 valve spring compressor

Part No.	Hex. Size	Weight
533-1141	17 x 63 mm (0.67 x 2.5 in)	0.05 kg (0.1 lb)

Valve Spring Compressor Adapter

Model Usage: C9.4 T4 Engines (S/N WYE)

Warranty: Caterpillar® Six Months



- Used to compress individual valve springs
- Used with 9U-6195 valve spring compressor group
- Can be used with head installed or off block

Part No.	Description	Dimensions	Weight
550-9174	Valve Spring Compressor Adapter	63 x 19 mm (2.5 x 0.75 in)	0.06 kg (0.13 lb)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Spring Compressor

Model Usage: C3.4B Engines

Warranty: Manufacturer's



- Used to quickly and easily compress the valve springs
- Allows the removal of valve springs without removing cylinder head

Specifications

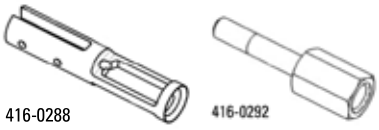
- Dimensions: 304.8 x 101.6 x 50.8 (12 x 4 x 2 in)

Part Number	Description
442-7299	Valve Spring Compressor

Spring Compressor, Adapter

Model Usage: C4.4, C6.6, C7.1 Engines

Warranty: Caterpillar® Six Months



- Used to compress valve springs
- Used with 9U-6195 valve spring compressor

Part Number	Dimensions	Weight
416-0288	145 x 25 mm (5.71 x .98 in)	.313 kg (.69 lb)
416-0292	63 x 16 mm (2.48 x .63 in)	.045 kg (.09 lb)

Valve Lash Feeler Gage Adjustment Group

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Provides solution to set/check C175 valve lash more quickly than dial gauge and mount currently available (8T-5096)
- Improved tool group mount
- Feeler gages provide accurate and repeatable method of setting valve lash
- Reduces adjustment time by 50%
- Separate tool for exhaust and intake valves
- Go/No-Go gage verifies adjustment
- Includes foam-lined case
- Replacement gage bodies available

Reference

- NEHS1238

Part No.	Dimensions	Weight
482-7519	305 x 177 x 57 mm (12 x 7 x 2.2 in)	0.5 kg (1.2 lb)

Compressor Group

Essential Tool

Model Usage: All 3600 Diesel Engines

Warranty: Caterpillar® Six Months



- Used to remove and install valve springs, plus prevents damage to the valve rotator
- Spring removal from HFO engines require 8T-2660 along with Spanner Wrench and 167-3974 Mounting Cap Assembly

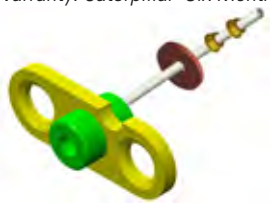
Item	Description
3	Extension Handle
3	Lever Group

Item	Part No.	Description	Size
2	167-3974	Mounting Cap Assembly (HFO Only) (not included)	—
3	2A-4781	Bolt	1/4-20 x 69.9 mm (2.75 in) long
3	6H-3956	Spring Pin	4.76 x 25.4 mm (0.187 x 1.0 in) long
3	8F-6350	Bolt	3/8-16 x 203 mm (8.0 in) long
3	8T-2660	Compressor Group	—
3	8T-2661	Spring Compressor Adapter	—
3	9S-8752	Nut — Full (3/8 — 16)	3/8-16

Valve Spring Compression Tool

Model Usage: G3600 Engines

Warranty: Caterpillar® Six Months



- Provides an alternative method of compressing the valve springs
- Quicker and easier to use than the lever style compressor
- Compresses two valve springs at the same time

Part No.	Description	Dimensions	Weight
515-1161	Plate Assembly	203 x 73 x 65 mm (8 x 3 x 2.6 in)	2.1 kg (4.6 lb)

Spark Plug Bore Wire Brush

Model Usage: C7.1 Engines



- For cleaning the ground electrode in ARD combustion head

Part Number	Description
305-2389	Spark Plug Bore Wire Brush

Valve Spring Tester

Model Usage: All

Warranty: Caterpillar® One Year



European Union Compliant, CE marked

- Used for compression spring testing of force and length
- Comes with USB-to-serial adapter to allow tool to communicate with PC
- Comes with manufacturer's software to store measurements
- Features a digital backlit display

Specifications

- Dimensions: 533 x 290 x 175 mm (21 x 11.5 x 7 in)
- Weight: 11.5 kg (25 lb)
- Force Capacity: 680.39 kg (1500 lb)
- Load Platform: 60.33 mm (2 3/8 in)

Part Number	Description
441-0714	Valve Spring Tester

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Keeper Inserter

Model Usage: All Cat® Engines

Warranty: Caterpillar® Six Months



- Used with the 7F-4292 Compressor to install valve keepers

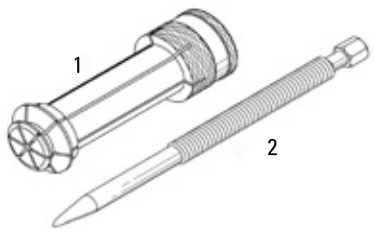
Part Number	Description
5S-1322	Valve Keeper Inserter

Valve Seat Extractor Tooling

Essential Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to remove valve seat inserts on 3500 Engines
- Used with 166-7441 Valve Seat Extractor Tool Group
- Both parts are hardened for strength and long service life
- Tools are black oxide coated for corrosion resistance

Reference

- SMHS7935, Special Instruction

Item	Part Number	Description
1	317-3841	Valve Seat Extractor
2	317-3843	Shaft Assembly

Valve Seat Driver, Inlet; Valve Seat Driver, Exhaust

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to install valve seats
- Serves as a guide to properly align seat during installation — saves time and reduces chance of damage
- Knurled handle for better handling

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engine

Part Number	Description
4C-6371	Valve Seat Driver, Inlet
4C-6372	Valve Seat Driver, Exhaust

Valve Seat Driver

Essential Tool

Model Usage: Cat 3400 Gas Engine

Warranty: Caterpillar® Six Months



- Used to install valve seats
- Used with suitable mallet
- Serves as a guide to properly align valve seat during installation — reduces assembly time and helps prevent possible damage
- Knurled handle for better grip and handling
- Hardened (RKW C40-45) for durability and long service life

Reference

- SENR6568, G3408C and G3412C Engines, Disassembly and Assembly

Part Number	Description	Use
343-6646	Valve Seat Driver, Exhaust	Installs 212-0938 Exhaust Valve Seat
343-6647	Valve Seat Driver, Inlet	Installs 214-3286 Inlet Valve Seat

Valve Seat Extractor Tool Group

Model Usage: All Cat® Engines except 3600

Warranty: Caterpillar® Six Months



- Replaces discontinued 6V-4805 Valve Seat Extractor Tool Group and discontinued 9S-3080 Valve Seat Insert Puller Group
- Removes valve seat inserts on all Cat engines
- Uses only 4 extractors and employs different method of insert removal, which causes less damage to the extractors
- Provides grinder to groove inside of insert to make insert removal easier with extractor
- 165-5647 has notched 47.63 mm (1.875 in) diameter for easy removal of G3500 swirl-type inserts

Reference

- SMHS7935, Special Instruction

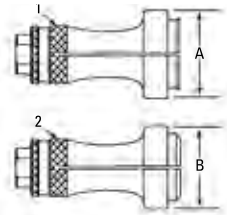
Item	Description
10	Plate Assembly

Item	Part Number	Description	Size
—	166-7441	Valve Seat Extractor Tool Group	—
2	6V-4802	Wheel	—
3	165-5647	Extractor	22.23 mm (0.875 in), 34.93 mm (1.375 in), 47.63 mm (1.875 in) plus swirl inserts
4	6V-4194	Extractor	25.4 mm (1.0 in), 38.1 mm (1.5 in), 50.8 mm (2.0 in)
5	6V-4195	Extractor	28.58 mm (1.125 in), 41.28 mm (1.625 in) 53.98 mm (2.125 in)
6	6V-4196	Extractor	31.75 mm (1.25 in), 44.45 mm (1.75 in) 57.15 mm (2.25 in)
7	222-3074	Medium Mini Die Grinder, requires 4C-3689 Collar	—
8	6V-4199	Lifting Bracket	—
9	6V-4197	Base Group	—
11	6V-4803	Thrust Bearing (Part of 6V-4804)	—
12	6V-4804	Handle Assembly	—
13	6V-4192	Shaft Assembly	—

Valve Seat Extractors

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used with 9S-3095 Handle Assembly to remove valve seat insert

Item	Part No.	Description	Dimension (A, B)	Extractor Length	Use
1	9U-6396	Extractor (Inlet)	49.5 mm (1.95)	102 mm (4 in)	Remove inlet valve seat
2	9U-6397	Extractor (Exhaust)	44.7 mm (1.76)	102 mm (4 in)	Remove exhaust valve seat

G3500 Engine Valve Guide Installer

Model Usage: G3500 Engines with water cooled inserts

Warranty: Caterpillar® Six Months



- Used to install intake and exhaust valve guides on G3500 engines with water cooled inserts, used during rework process
- This is a shorter version of the 9U-6184 that enables more control over the installation process
- Made from steel and hardened for durability

Part Number	Description	Size	Weight
366-5728	Valve Guide Installer	Overall dimensions: 42.4 mm (1.67 in) diameter X 76 mm (2.99 in) long	0.27 kg (.6 lb)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

G3500 Engine Valve Seat Installer

Model Usage: G3500 Engines with water cooled inserts

Warranty: Caterpillar® Six Months



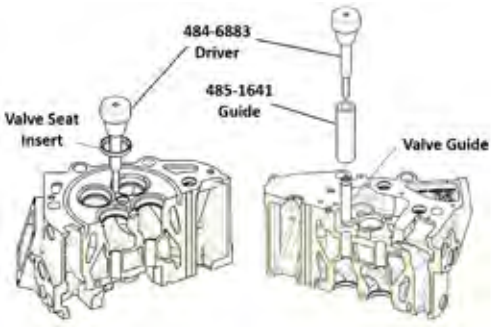
- Used in rework process for installing valve seats in G3500 engines with water cooled inserts
- Helps guide valve seat during installation (makes correct installation easier and faster)
- Made from steel and hardened for durability

Part Number	Description	Size	Weight
362-9108	Valve Seat Driver	Overall dimensions: 59.5 mm (2.34 in) diameter x 140 mm (5.51 in) long	Weight: 0.84 (1.85 lb)

Valve Guide Driver and Rod Guide

Model Usage: All C175s

Warranty: Caterpillar® Six Months



- Designed for high volume reuse and salvage operations
- One tool to install both valve guides and valve seat inserts (intake and exhaust)
- Can be configured to drive all four seats or guides simultaneously
- Can be used for new, 0.010" oversize, and 0.020" oversize guides and seat inserts

Reference

- SEBF9193

Part No.	Description	Dimensions	Weight
484-6883	Valve Seat & Guide Driver	60 x 60 x 210 mm (2.4 x 2.4 x 8.3 in)	1.3 kg (2.9 lb)
485-1641	Rod Guide	40 x 40 x 132 mm (1.6 x 1.6 x 5.2 in)	0.78 kg (1.7 lb)

C4.2 and C6.4 Valve Guide Install and Removal Tools

Model Usage: C4.2, C6.4

Warranty: Caterpillar® Six Months



- Used to install remove and install valve guides during rework process
- Made of hardened steel and black oxide coated for durability and corrosion resistance

Reference

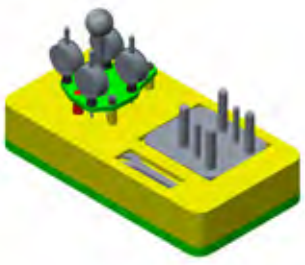
- KENR8105

Part Number	Description	Dimensions	Weight
384-8861	Valve Guide Remover	20.0 x 230.0 mm (.78 x 9.05 in)	.33 kg (.73 lb)
384-8862	Valve Guide Installer	20.0 x 120.0 mm (.78 x 4.72 in)	.28 kg (.62 lb)

Valve Recession Tool Kit

Model Usage: G3500 Engines, A, B, CEH and ULE

Warranty: Caterpillar® Six Months



- Measures valve recession on four valves simultaneously
- Not mounting the tool to the head provides additional accuracy.
- This method requires rocker arms to be removed.
- This tool replaces 421-1011.

Part No.	Description	Dimensions	Weight
502-1422	Valve Recession Tool Kit	470 x 251 x 280 mm (19 x 10 x 11 in)	9.12 kg (20.11 lb)

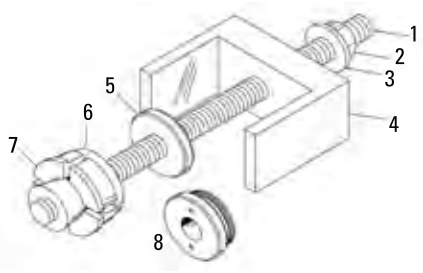
Serviceable Parts

Part No.	Description
503-1330	Calibration Block Assembly
503-1331	Block Gauge Assembly
369-2607	Dial Indicator
6V-3186	Collet
6V-7918	Wrench

Valve Seat Puller Group

Model Usage: All 3600 and G3600 Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 9U-5099 Valve Seat Puller Group (9U-5099 includes 9U-5096 Bridge Assembly)
- Used to remove intake and exhaust valve seat inserts
- Used with 6V-3160 Hydraulic Cylinder for faster, safer removal
- A 9U-5098 Threaded Insert, part of 130-1449, can be used to adapt Hydraulic Cylinder (130-1449 includes 9U-5096 Bridge Assembly)
- Overall length: 337 mm (13.3 in)
- Overall width: 140 mm (5.5 in)

Reference

- SENR3594, Disassembly and Assembly, 3612 and 3616 Engines

Item	Part Number	Description
—	130-1449	Valve Seat Puller Group
1	128-6759	Stud and Cone Assembly
2	1A-1935	Nut
3	3K-5234	Washer (3)
4	9U-5096	Bridge Assembly
6	9U-5097	Shoulder Screw
7	157-2882	Expander
8	9U-5098	Insert

C6.4 Valve Seat Install Tools

Model Usage: C6.4

Warranty: Caterpillar® Six Months



- Used to install intake and exhaust valve seats during rework process
- Made of hardened steel and black oxide coated for durability and corrosion resistance

Reference

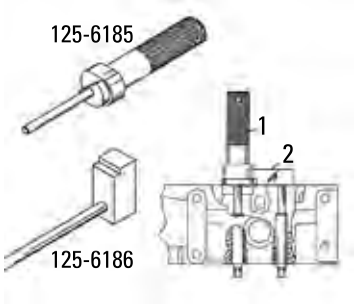
- KENR8106

Part Number	Description	Dimensions	Weight
384-8859	Intake Seat Installer	30.0 x 185.0 mm (1.18 x 7.28 in)	.65 kg (1.43 lb)
384-8860	Exhaust Seat Installer	37.9 x 185.5 mm (1.50 x 7.30 in)	.71 kg (1.56 lb)

Swirl Valve Seat Driver, Swirl Valve Seat Driver Guide

Model Usage: 3406C Engines With Swirl Valve Seat/Insert

Warranty: Caterpillar® Six Months



Using valve seat driver (1) and valve seat driver guide (2) to correctly position swirl-type valve seat.

- Used to install 115-2358 Inlet Swirl Valve Seat/Insert
- Using both tools quickly and correctly positions valve seat
- Valve seat locates on shoulder of valve seat driver (will only locate in one position)
- Valve seat driver guide correctly positions the radial location of valve seat driver (positions the seat in the correct radial location in cylinder head)
- Valve seat driver locates in valve guide bore — valve seat driver guide locates in valve guide bore of adjacent valve port
- Seat driver and guide are hardened and plated for durability
- Overall length of seal driver: 252 mm (9.9 in)
- Overall size of valve seat driver guide: 61 x 155 mm (2.4 x 6.1 in)

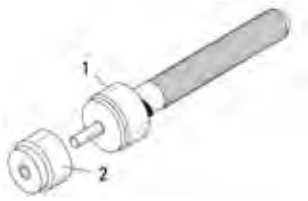
Part Number	Description
125-6185	Swirl Valve Seat Driver
125-6186	Swirl Valve Seat Driver Guide

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Seat Driver, Exhaust Driver Plate

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to install both intake and exhaust valve seats
- Correctly aligns insert during installation
- Knurled handle for better handling

Reference

- SENR5553, Service Manual, 3066 Diesel Engines

Item	Part Number	Description	Length	Major Outside Diameter
1	9U-6176	Valve Seat Driver	207 mm (8.1 in)	45.6 mm (1.79 in)
2	9U-6177	Driver Plate Exhaust	—	38.1 mm (1.50 in)

Valve Seat Driver

Model Usage: 3054 and 3056 Engines with 5YS, 7MS, 2PW, and 3GW Serial Numbers

Warranty: Caterpillar® Six Months



- Used to install 30° and 45° intake and exhaust valve seats
- Helps guide seat during installation (makes correct installation easier and faster)
- 9U-6183 used for 45° intake seats, 9U-6184 for 45° exhaust seats, 9U-6185 for 30° intake seats
- Knurled handle for better grip (zinc coated for corrosion resistance)
- Overall length: 203.0 mm (8.0 in)
- Outside major diameter: 42.4 to 51.2 mm (1.7 to 2.0 in)

References

- SENR5547, Service Manual
- SENR5555, Service Manual

Part Number	Description
9U-6183	Valve Seat Driver
9U-6184	Valve Seat Driver
9U-6185	Valve Seat Driver

Valve Seat Driver

Model Usage: 3054 and 3056 Engines with 5YS, 7MS, 2PW, and 3GW Serial Numbers

Warranty: Caterpillar® Six Months



- Used to install valve seats in new engines with unfinished valve seats and guides
- Installs both 30 and 45 degree seats
- Knurled handle provides better grip

Part Number	Description	Overall Length	Major Outside Diameter
157-3716	Valve Seat Driver (Exhaust)	227 mm (9 in)	44.9 mm (1.77 in)
157-3717	Valve Seat Driver (Intake)	227 mm (9 in)	42.8 mm (1.69 in)

Valve Seat Driver

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- Used to install valve seat inserts
- Serves as guide for proper alignment of insert during installation
- Knurled handle for better grip (zinc coated for corrosion resistance)

Reference

- SENR6421, Special Instruction

Part Number	Description	Overall Length	Major Outside Diameter
9U-6897	Valve Seat Driver (Inlet)	254 mm (10 in)	47.4 mm (1.87 in)
9U-6898	Valve Seat Driver (Exhaust)	254 mm (10 in)	42.5 mm (1.67 in)

Valve Seat Depth Gauge

Model Usage: 1100, 3100, 3200

Warranty: Caterpillar® Six Months



- Used to quickly determine valve seat depth on cylinder heads
- During cylinder head reconditioning, valve seat faces usually grind moving face of valve seat deeper into cylinder head; as material is removed from seat face, valve stem length on spring side of cylinder head increases, reducing distance valve spring is compressed and at same time reducing spring load; with use of straight edge across top of valve guide, gauges used to determine if valve seat depth is within limits

Reference

- SMHS8319, Special Instruction

Part Number	Detail
8T-0859	Gauge, 25,000 kPa (36000 PSI)

Valve Guide Stop Collar

Model Usage: C4.4

Warranty: Caterpillar® Six Months



- 393-0369 Valve Guide Stop Collar used to install the valve guides to the correct height 12.7 mm (.50 in) above the spring seat on the cylinder head
- Protects valve guides during installation

Specifications

- Dimensions: 25.5 x 30 mm (1.0 x 1.18 in)
- Material: Steel

Part Number	Detail
393-0369	Valve Guide Stop Collar

Vacuum Tester

Model Usage: 3612, 3616

Warranty: None



- Checks for leaks between valve face and seat on cylinder heads after valves and seats have been ground and valve springs assembled
- Consists of vacuum pump with connecting parts and set of 8 fabricated adapters to fit over all sizes of valves used in the Cat® Engine line

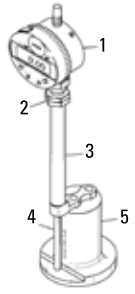
Item	Description	Quantity
2	Fabricated Adapters	8

Item	Part Number	Description
1	208-1356	Vacuum Pump

Valve Recession Tool Kit

Model Usage: 3500 and G3500 Engines

Warranty: Caterpillar® Six Months



- Determines actual valve and valve seat wear
- Digital Indicator displays inches and millimeters

Reference

- NEHS0708, Tool Operating Manual
- NEEG2811, Decal

Item	Part No.	Description
1	258-6575	Dial Indicator
2	5P-4814	Collet As — Clamp
3	155-1579	Base Assembly
4	155-1683	Rod Assembly
5	155-1643	Projection Gauge Block
Not shown		
—	258-6601	Foam Block
—	6V-3073	Case — Plastic

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

⚠ WARNING

Because of the pressures and temperatures involved, always wear safety glasses and insulated gloves when working with liquid and/or solid carbon dioxide (CO_2).

Valve Stem Gauge

Model Usage: Most Cat® Engines

Warranty: Caterpillar® Six Months



- Used to measure valve stem wear more quickly than a micrometer
- Application includes all valves on current Cat® engines and most non-current engines (micrometer still needed to measure valves on D336, D334, 1674 and some other non-current engines)
- Has 4 accurately machined slots used for the four most common valve stem diameters
- Hardened to resist wear but will not damage valve stems
- If correct gauge slot slides over valve stem, valve is worn excessively and should not be reused

Reference

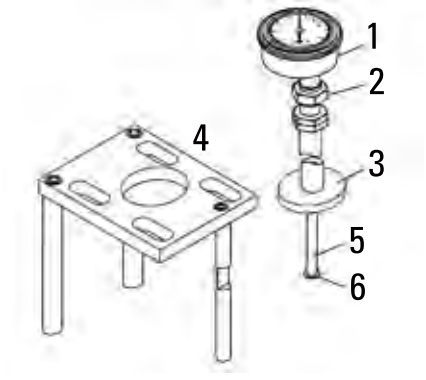
- SEBF8034, Guideline for Reusable Parts, Valves and Valve Spring Specifications (provides minimum use-again stem diameters for all valves used in Cat engines)

Item	Part Number	Description
—	6V-0087	Valve Stem Gauge
1	5P-4227	Tag Holder, Form SEES5544 Instruction Card

Valve Recession Tool Kit

Model Usage: G3400 Engine

Warranty: Caterpillar® Six Months



- Used to determine the actual valve and valve seat wear
- Valve recession can be checked without removing rocker arms — reducing engine downtime
- Large center hole in support assembly provides clearance for spark plug tube on engines with Magneto and CDIS ignition systems
- Slots in support assembly allow access to valve rotator on either side of rocker arm
- Small magnets in legs of base assembly hold it in place while taking measurements

Reference

NEHS0851, Tool Operating Manual, Operating Instructions for 213-9285 Valve Recession Tool Group for G3400 Engines

Item	Part Number	Description
—	213-9285	Valve Recession Tool Kit
Included with 213-9285		
—	4C-3975	Case
—	213-9198	Valve Recession Tool Group (Not Serviced)
—	NEEG2946	Decal
—	NEHS0851	Tool Operating Manual
Included with 213-9198 (not serviced)		
1	158-5080	Dial Indicator
2	5P-4814	Collet As — Clamp
3	213-9193	Base Assembly
4	230-5826	Support Assembly
5	213-9192	Rod Assembly
6	9S-8903	Point

Valve Recession Kit

Essential Tool

Model Usage: All G3500C and G3500E Engines

Warranty: Caterpillar® Six Months



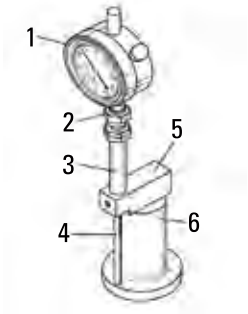
- Used to determine actual valve and seat wear on G3520C and G3520E Engines
- Can be used without removing rocker arms for reduced disassembly (less engine downtime)
- Indicator is set to zero using gauge block
- Horseshoe shaped plate bolts directly to cylinder head to provide a solid platform for 146-3270 Base Assembly (magnetic)
- For quick installation and removal, socket head cap screws are retained in horseshoe shaped plate with snap rings
- Can also be used with a 369-2607 Digital Indicator

Item	Part Number	Description
1	6V-3075	Indicator — Dial
2	5P-4814	Collet As — Clamp
3	146-3270	Base Assembly
4	9S-8883	Contact Point
5	356-2466	Case
6	1S-1638	Ring — Retaining
7	6V-1942	Bolt — Socket HD 5/16-18
-	334-7085	Valve Recession Tool Kit

Valve Recession Tool Kit

Model Usage: 3600 and G3600 Engines

Warranty: Caterpillar® Six Months



- Used to determine actual valve and valve seat wear
- Can be used without removing rocker arms (reduces engine downtime)
- Can be used with 369-2607 Digital Indicator or 6V-3075 Dial Indicator (not part of group)

Reference

- NEHS0710, Tool Operating Manual

Item	Part Number	Description
—	148-2997	Valve Recession Tool Kit
1	—	Indicator — Dial (not included)
2	5P-4814	Collet As — Clamp
3	—	Body (not serviced separately)
4	146-3271	Extension Rod
5	146-3270	Base Assembly
6	146-2738	Projection Gauge Block

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Dowel Driver

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used to install valve train bridge dowels to correct height
- 5P-0944 Dowel Puller Group and 5P-0942 Extractor used for dowel removal

Part Number	Model
5P-2406	3400
6V-4009	3500

Dowel Driver

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Used to install the 371-6455 dowel to the proper depth
- Quickly and consistently installs the dowel into cylinder block.
- Nylon surface of the driver prevents damage to the cylinder block.

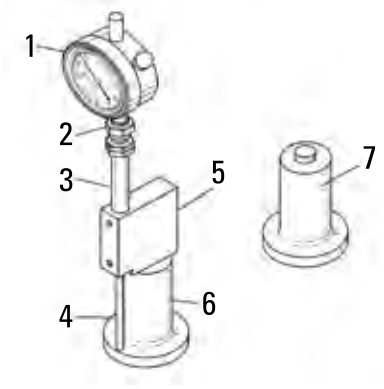
Part No.	Description	Dimensions	Weight
488-2468	Dowel Driver	160 x 76 mm (6.2 x 3 in)	2 kg (4.4 lb)

Valve Recession Tooling

Essential Tool

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Determines actual valve/valve seat wear
- Used with following parts from 148-2997 Valve Recession Kit: -Dial Indicator (1) -Clamp Collet (2) -Body (3) -Extension Rod (4)
- Can also be used with 369-2607 Digital Indicator or 6V-3075 Dial Indicator (not part of group)
- Allows measurements without removing rocker arms (reduces engine downtime)
- 326-7689 Projection Gauge Block (6) used for intake valves
- 326-7693 Projection Gauge Block (7) used for exhaust valves
- Projection gauge blocks are laser etched with part number, intake or exhaust, and dimension for easy identification
- 326-7698 Base Assembly (5) features 2 set screw locations -Lower set screw is used with 3600 and G3600 Engines -Upper set screw is used with C175 Engines
- 3 mm Allen wrench (dealer supplied) tightens appropriate set screw into locator hole in body (3)

Reference

- NEHS0710 Tool Operating Manual

Item	Part Number	Description
1 [a]	—	Indicator — Dial (not included)
2 [b]	5P-4814	Collet As — Clamp
3	—	Body (Part of 148-2997 Valve Recession Tool Kit)
4 [b]	146-3271	Extension Rod
5	326-7698	Base Assembly
6	326-7689	Projection Gauge Block (Intake)
7	326-7693	Projection Gauge Block (Exhaust)

a. Not included
b. Part of 148-2997 Valve Recession Tool Kit

Bridge Dowel Repair Tool Group

Model Usage: 3400

Warranty: Caterpillar® Six Months



- Used to repair cylinder heads with loose bridge dowels
- Repair done by drilling and reaming larger dowel hole and installing 5P-7324 Plug; plug then drilled and reamed for installation of new bridge dowel

Reference

- SMHS7072, Special Instruction

Item	Part Number	Description
—	5P-7333	Bridge Dowel Repair Tool Group
1	5P-7330	Screw
3	5P-7331	Reamer
4	5P-7332	Reamer
5	5P-7326	Drill Bushing

Installer Group

Model Usage: 6.25 inch Bore V-Engines

Warranty: Caterpillar® Six Months



- Used to locate and install seals between valve lifter guide brackets on later 158.75 mm (6.25 in) bore V-engines (D379B, D398B, D399)

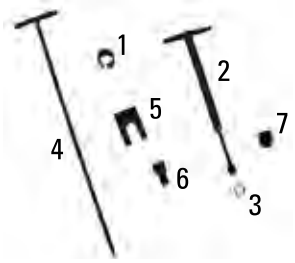
Item	Part Number	Description
—	0L-1404	Stud (attaches handle to installer)
—	3P-2243	Installer Group
1	1P-0529	Handle

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Cam Follower Tool Group

Model Usage: 3400

Warranty: Caterpillar® Six Months



- Used for removal and installation of valve lifters

Item	Part Number	Description
—	5P-7433	Cam Follower Tool Group
1	417-1323	Compressor
2	5P-2408	Handle Assembly
3	5P-2685	Nut
4	5P-6599	Handle Assembly
5	5P-2395	Holder Assembly
6	5P-6601	Collet
7	5P-2400	Compressor

Installation Sleeve

Model Usage: 3400C Engines

Warranty: Caterpillar® Six Months



- Used to remove and install lifter assembly in cylinder block
- Used to make an alignment of the new lifter guide spring
- Replaces discontinued 5P-2405, which is a part of 5P-7433 Cam Follower Group
- Serviceable part: order sleeve to update group 5P-7433
- Material: Steel

Specifications

- Dimensions: 38 x 36.5 mm (1.5 x 1.43 in)
- Weight: 0.065 kg (0.14 lb)

Part Number	Description
417-1323	Installation Sleeve

Tier 4 Hydraulic Lifter Adjusting Tool, 3500

Model Usage: Tier 4 3500 Engines

Warranty: Caterpillar® Six Months



- Used to adjust 3500 hydraulic valve lifters on Tier 4 engines
- Weight: 0.2 kg (0.44 lb)
- Material: Steel

Specifications

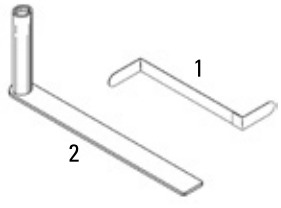
- Dimensions: 88.9 x 19.05 mm (3.5 x 0.75 in) Handle 43.1 x 33 x 13.3 mm (1.7 x 1.3 x 0.52 in) Plate

Part Number	Detail
440-7035	3500 Tier 4 Hydraulic Lifter Adjusting Tool

Tool Group

Model Usage: 3408 and 3412 HEUI Engines or G3500 Engines

Warranty: Caterpillar® Six Months



3408 and 3412 HEUI Engines (194-2062 Tool Group)

- Eases valve adjustment procedure
- Uses standard screwdriver to set valve lash
- Wrench has extra deep socket to reach adjustment locknut
- Specially designed feeler gauge has both 0.381 mm (0.015 in) and 0.762 mm (0.030 in) settings required for valve lash procedure

G3500 Engines (194-2061 Wrench)

- Used to adjust boost pressure of 146-0758 Exhaust Bypass Valve
- Uses standard 6.35 mm (1/4 in) Nut Driver
- Accesses adjustment screw, remove 9S-4205 Plug
- Wrench can be used to adjust valve bridges
- Socket end: 9/16 inch

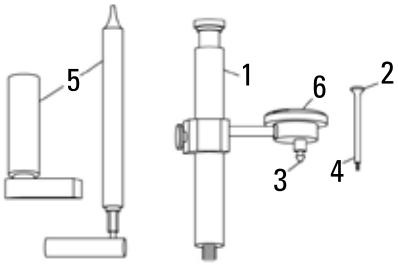
Item	Part Number	Description
—	194-2062	Tool Group
1	194-2060	Gauge
2	194-2061	Wrench

Valve Lash Setting Tool

Essential Tool

Model Usage: 3500A and 3500B Diesel, 3500 Magneto and EIS Gas Engines

Warranty: Caterpillar® Six Months



- Used to accurately set engine valve lash with factory setting methods
- Installation of tools is quick and easy with adjustment of indicator position required on initial set-up only
- Removal of fuel lines not necessary to measure valve lash
- Adding 147-2058 Extension to indicator allows valve lash to be measured on Magneto Gas engine without removing spark plug extension
- Socket and torque wrench used to torque rocker arm nuts are preset at factory to 70 N·m (52 ft-lb) — weight of torque wrench alone sets value of valve lash

156-7167

- Valve bridge adjustment can be made without removing the rocker arm. Use the 147-5536 Contact Point, 147-2058 Extension, and 148-7211 Socket to make the adjustment.
- A slide rule type torque computer, Form SEHS7150, is available to determine torque wrench dial reading for different extensions
- This tool will not fit on some early 3500 Engines with old fuel manifolds.
- Dial indicator is not included in group — choice of 147-2056 (inch) or 147-5537 (mm) is available

Reference

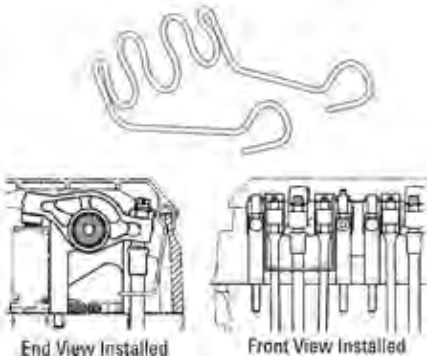
- REHS0128, Special Instruction

Item	Part Number	Description
147-5482 Valve Lash Adjustment Group		
—	6V-3073	Case — Plastic
1	145-5191	Support Assembly
2	147-5536	Contact Point
3	147-2057	Contact Point
4	147-2058	Extension
5	148-7211	Bridge Nut Socket
Not Shown	147-5535	Foam Block
Required tooling not included in 147-5482 — must be ordered separately:		
6	147-2056	Dial Indicator (inch), preferred
6	147-5537	Dial Indicator (metric)
Recommended tooling not included in 147-5482 — must be ordered separately:		
Not Shown	147-2059	Torque Wrench
Not Shown	147-2060	Socket Wrench

Push Rod Holder

Model Usage: 3114, 3116, and 3126 Engines with MUI Fuel Systems

Warranty: Caterpillar® Six Months



- Used to hold all three push rods in place while rocker arm assembly is installed to cylinder head
- Hook design ensures tool must be removed before valve cover can be installed
- Provides faster and easier method of installing rocker arm assemblies
- Individual holder tool design will work on either 4- or 6-cylinder engines

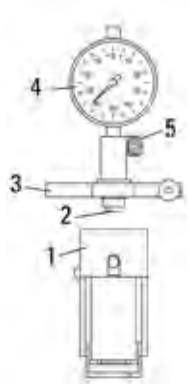
Part Number	Description
146-2597	Push Rod Holder

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Lash Setting Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 4C-8241 Valve Lash Setting Gauge
- Used to provide valve lash settings on 3500 A Series diesel engines
- Dial indicator eliminates guesswork by measuring exact valve gap (greatly reduces time needed to accurately adjust valves)
- Base assembly has an inner and outer sleeve: inner sleeve puts tension on rocker arm; outer sleeve puts pressure, in opposite direction, on valve bridge assembly; dial indicator measures gap to determine exact valve setting

Reference

- SEHS9261, Special Instruction

Specifications

- Indicator diameter: 57 mm (2.25 in)
- Graduations: 0.025 mm (0.001 in)
- Dial reading: 0-50-0
- Range: 6.35 mm (0.250 in) total; 2.54 mm (0.100 in) per revolution

Item	Part Number	Description
Assembled Valve Lash Setting Tool		
1	125-2742	Base Assembly (for 3500)
2	6V-2057	Contact Point
3	125-2743	Collar Group
4	4C-8246	Indicator
5	9U-6272	Nylon Screw
Not shown	6V-2030	Extension [a] [b]

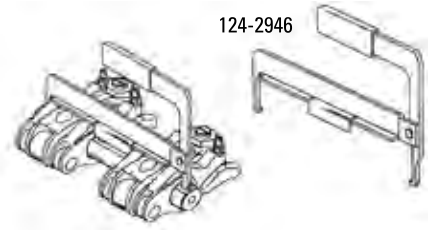
a. Used for FIETS and AVM with heavy duty coupling

b. Part of 6V-6042 Indicator Contact Point Group

Lifting Bracket Assembly

Model Usage: 3406E Engines and C11/13 Engines

Warranty: Caterpillar® Six Months



Lifting bracket firmly clamps rocker arm assembly together

- Used to lift rocker arm assembly during removal and installation (keeps the assembly aligned)
- Fingers of lifting bracket fit through bolt holes in rocker arm shaft and firmly clamp assembly together
- Using the lifting bracket greatly decreases assembly time because valve and unit injector rocker arms are held in correct relation to one another (using lifting bracket allows the mechanic to have a free hand during assembly)

Part Number	Description	Model
124-2946	Lifting Bracket Assembly	3406E Rocker Arm
293-2989	Lifting Bracket Assembly	C11/13 Rocker Arm
387-8004	Lifting Bracket Assembly	C27 Rocker Arm

Cylinder Head Lifting Bracket

European Union compliant, CE marked

- Quickly and easily lifts cylinder heads with exhaust manifold and turbo charger attached.
- Includes multiple lift points to help keep cylinder head level during installation.
- Uses three 5/16" — 18 x 1 1/4" (1B-7182) and two 1/2" — 13 x 3 1/4" (0V-0375) bolts to fasten bracket to cylinder head. (Bolts are purchased separately.)

Reference

- NEHS1114, Tool Operating Manual

Specifications

- Dimensions: 363 x 252 x 160 mm (14.3 x 9.9 x 6.3 in)
- Weight: 4.5 kg (10 lbs)
- Working Load Limit: 430.91 kg (950 lbs)

Part Number	Description
370-8083	Cylinder Head Lifting Bracket

Cylinder Head Stand Group

Model Usage: 3100 and 3208

Warranty: Caterpillar® Six Months



- Provide simple head support and clearance between head and work bench when service work required on cylinder heads
- 2 stands included in group

Part Number	Description
8S-6691	Cylinder Head Stand Group

Guide Bolt

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used to align cylinder head with block during installation (2 bolts required)
- Screw driver slot used to easily install and remove the guide bolt
- Zinc coated to prevent corrosion

Specifications

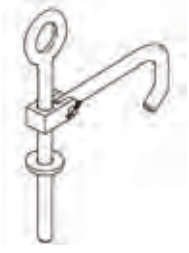
- Overall length: 127.0 mm (5.0 in)
- Diameter: 12.7 mm (0.5 in)
- Thread: 1/2 – 20 2A

Part Number	Description
9U-6238	Guide Bolt

Cylinder Head Lifting Hook Assembly

Model Usage: 3114, 3116, 3126, 3300, and 3400 (except 3126B and 3406E) Engines

Warranty: Caterpillar® Six Months



- Used to quickly and safely lift cylinder head core
- Designed for bare cylinder head "Core" handling only and not as an engine assembly tool
- Reduces potential injuries from manually handling cylinder head castings
- Easily attaches to core without bolts
- Straight leg inserts into middle bolt hole of cylinder head and hooked leg fits into breather opening on 3114, 3116, 3126 MUI/ HEUI Engines or into exhaust port on 3300, 3406, 3408, and 3412 Engines

Specifications

- Maximum lifting capacity: 340 kg (750 lb)

Part Number	Description
185-5321	Cylinder Head Lifting Hook Assembly

Hook Assembly

Model Usage: 3406E, C-15, and C-16 Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily lift cylinder head cores (camshaft must be removed prior to using tool)
- Used with an overhead lifting device
- Attaches easily without bolts or lifting eyes
- Grabs cylinder head core below camshaft bearing saddle
- Designed for bare head "core" lifting only

NOTICE

To prevent camshaft and other cylinder head component damage, DO NOT use this hook assembly as an engine assembly tool.

Specifications

- Maximum lifting capacity: 159 kg (350 lb)

Part Number	Description
199-1418	Hook Assembly

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Lifting Bracket

Model Usage: 3406

Warranty: Caterpillar® Six Months



- Used for cylinder head removal and installation for 3406 Truck Engines with little or no access to rear lifting eye on cylinder head

Part Number	Description
5P-3021	Lifting Bracket

Lifting Bracket

Model Usage: 3408, 3412 Marine Engines

Warranty: Caterpillar® Six Months



- Used to remove and install cylinder head and exhaust manifold assemblies on 3408 and 3412 Marine Engines in narrow engine compartments
- Designed to be used in pairs for lifting cylinder head assemblies vertically at approximately same angle as they are positioned on block; brackets attached to heads between end cylinders; two 0S-1618 Bolts, 5/16 inch-18 thread, 25.4 mm (1.0 in) long required for each bracket

Part Number	Description
5P-8700	Lifting Bracket

Guide Manifold

Model Usage: 3400 Engines

Warranty: Caterpillar® Six Months



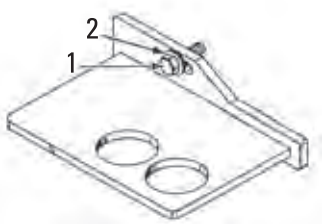
- Used to install exhaust manifolds
- Threads onto manifold stud for positive retention

Part Number	Description
165-4638	Guide Manifold

Head Lifting Bracket

Model Usage: 3176, C10, and C12 Engines

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install cylinder head
- Used with two 6V-3668 Bolts and 5P-8245 Hard Washers
- Use one of two lifting holes, depending on which head is being removed
- Slotted mounting holes allows mechanic to easily balance cylinder head before lifting

Specifications

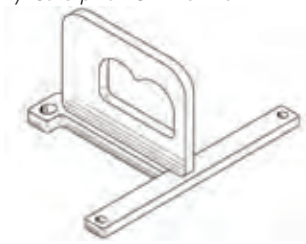
- Working load limit: 114 kg (250 lb)

Item	Part Number	Description
—	1U-8264	Head Lifting Bracket
1	6V-3668	Bolt
2	5P-8245	Hard Washer

Head Lifting Bracket

Model Usage: C-9 Engine

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to lift cylinder head with or without exhaust manifold and turbocharger
- Two lifting positions allow head to remain level during lifting procedure
- Bolts to cylinder head using two 6V-2317 Bolts, one 6V-3668 Bolt, two 5M-2894 Washers, and one 5P-8245 Washer (not part of lifting bracket)

Specifications

- Working load limit: 159 kg (350 lb)

Part Number	Description
209-1368	Head Lifting Bracket

Timing Case Cover Alignment Tool

Model Usage: C7.1

Warranty: Caterpillar® Six Months



- Used to correctly align pressed steel timing case cover to the timing case

Specifications

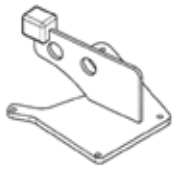
- Dimensions: 5.8 x 3.75 x 3.75 in (147 x 95.25 x 95.25 mm)
- Material: Steel

Part Number	Description
367-3535	Timing Case Cover Alignment Tool

Head Lifting Bracket

Model Usage: C175

Warranty: Caterpillar® Six Months



CE Compliant

- Allows operator to quickly and easily lift engine cylinder head
- Multiple lifting points enables cylinder head to be at lifted level or at angle of block deck
- Threaded block allows convenient use of handle (126-6920)
- Requires five M8 — 1.25 x 25 mm (6V-3940) and two M14 — 2.0 x 35 mm (6V-8550) bolts (purchased separately) for fastening bracket to cylinder head

Reference

- NEHS1128, Tool Operating Manual

Specifications

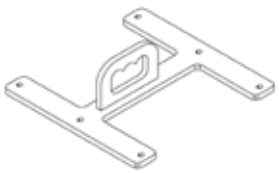
- Weight: 3.7 kg (8.61 lbs)
- Working Load Limit: 138 kg (300 lbs)

Part No.	Description	Dimensions
371-1079	Head Lifting Bracket	286 x 253 x 128.1 mm (113 x 10 x 5 in)

Lifting Bracket Assembly

Model Usage: 3406E, 3456, C-15, and C-16 Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily lift cylinder heads
- Attaches with six 1B-7182 Bolts and 9M-1974 Hard Washers or equivalent (not included)
- Designed for a bare cylinder head, with or without camshaft
- Multiple hook points for proper balancing

Part Number	Description
185-3145	Lifting Bracket Assembly

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Sleeve Replacement Tools

- 143-2099 Sleeve Replacement Tool Group replaces the former 127-3458 Sleeve Replacement Tool Group
- The former 127-3458 Sleeve Replacement Tool Group can be UPDATED to the new configuration simply by purchasing the 143-2098 Sleeve Removal Tool Group; previous tooling not listed below is no longer needed for the new procedures
- These new improved tools are simpler and make the job faster and easier — offering the following benefits over the former 127-3458 Tool Group:
  - No tapping of old sleeves — means less debris, no stripped threads and no problem with loose sleeves turning
  - Works in low-overhead applications, such as cylinders #5 and #6 in GM truck chassis, Cat® machine installations, and others
  - Should be no need to remove the cylinder head from the engine for sleeve replacement
- Used on engines equipped with Mechanical Unit Injectors (MUI) or Hydraulic Actuated Electronically Controlled Unit Injectors (HEUI)
- Engines produced since early 1994 have had injector sleeves roller expanded at the factory; the original 4C-4462 Tool Group will not pull these sleeves (either the 127-3458 or the 143-2099 Tool Group is required)
- All special tooling necessary to efficiently remove, install, and ream copper injector sleeves is included in a single custom case in the 143-2099 Group (some additional shop supplies are also required, as specified in the Tool Operating Manual NEHS0675)

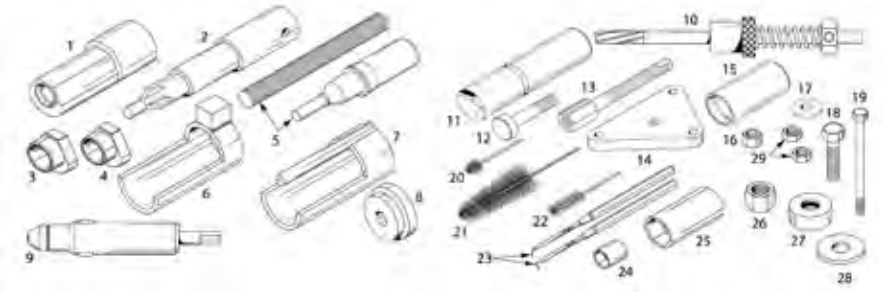
143-2099 Sleeve Replacement Tool Group

Item	Part Number	Description	Size
1	125-7060	Driver	—
3	4C-8714	Guide Bushing (large)	—
4	4C-8715	Guide Bushing (small)	—
6	125-7059	Reaction Sleeve (HEUI)	—
7	9U-5671	Receiver Sleeve Adapter [c]	—
8	4C-5572	Plate (for reaction sleeve)	—
9	121-2920	Roller Expander	—
10 [a]	9U-6101	Reamer Group	—
11	142-8278	Swage Tool	—
12	142-8279	Sleeve Puller	—
13	142-8280	Sleeve Stud	—
14	142-8281	Plate	—
15	143-8612	Driver	—
17	7D-1649	Hard Washer	—
18	—	Bolt	—
19	6V-3821	Hex Bolt	—
20	4C-5553	Sleeve Cleaning Brush (tapered)	—
21	126-3297	Large Bore Brush	—
22	4C-5570	Small Bore Brush	—
23	9U-6859	Pick Set	—
24	214-6625	Socket	—
25	213-3530	Socket	—
26	2J-3506	Nut	—
27	1U-8826	Thrust Bearing	—
28	2S-0115	Washer	—
29	1B-4430	Jam Nut	—
Item 2 — Reamer Assembly [b]			
2	4C-5502	Set Screw	—
2	4C-8713	Reamer Shank	—
Item 5 — Swage Assembly			
5	4C-5548	Stud	3/4 — 10 thd x 5 1/2 in
5	4C-5573	Swage (sleeve)	—
Not shown			
—	125-0684	Foam Insert	—
1	6V-7145	Case	—
NEEG2748	—	Decal	
NEHS0675	—	Tool Operating Manual, "Using the 143-2099 Sleeve Replacement Tool Group on 3114, 3116 and 3126 Engines"	

a. 9U-5671 Sleeve 36.0 mm (1.42 in) 98.0 mm (3.86 in) Open end

b. Includes: 9U-6102 Reamer, 9U-6103 Collar, 9U-6104 Compression Spring, and 9U-6105 Guide Bushing

c. Includes: Reamer Head



Sleeve Removal Tool Group

Warranty: Caterpillar® Six Months



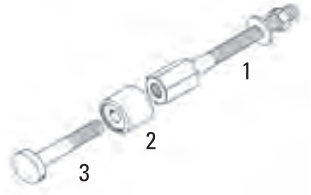
Item	Part Number	Description	Size
—	143-2098	Sleeve Removal Tool Group	—
1	142-8278	Swage Tool	—
2	142-8279	Sleeve Puller	—
3	142-8280	Sleeve Stud	—
4	142-8281	Plate	—
5	143-8612	Driver	—
6 a	3L-2415	Full Nut and Hex Bolt (forcing bolt)	Nut 1/2 – 13, Bolt 1/2 – 20, 63.5 mm (2.5 in) long
7	7D-1649	Hard Washer	—
9	6V-3821	Hex Bolt	M8 x 1.25, 110 mm (4.3 in) long
10	1B-4430	Jam Nut	1/2 – 20
Included (Not shown)			
	NEEG2748	Decal	
	NEHS0675	Tool Operating Manual, "Using the 143-2099 Sleeve Replacement Tool Group on 3114, 3116 and 3126 Engines"	

a. Item 8 is Bolt

Sleeve Jaw

Model Usage: 3114, 3116, 3126 Engines

Warranty: Caterpillar® Six Months



- Used with 143-2099 Sleeve Replacement Tool Group to aid in sleeve pulling operation
- Sharp chamfer rolls top of injector sleeve over sleeve stud, reducing chance stud pulls out

Item	Description
1	Pulling Stud
3	Sleeve Stud

Item	Part Number	Description
2	139-0692	Sleeve Jaw

Reamer Head

Essential Tool

Model Usage: 3114, 3116, and 3126 Engines

Warranty: Six Months



- For reaming tapered injector seat in copper alloy injector sleeves
- Used with 143-2099 Sleeve Replacement Tool Group
- Made from solid carbide for superior life and performance

Reference

- NEHS0675, Tool Operating Manual

Part Number	Description
131-8362	Reamer Head

Valve Guide Reamer

Model Usage: 308E, 906H, 907H, 908H, and any C3.3B engine

Warranty: Caterpillar® Six Months



- Used to properly install valve guides
- Reams value guide for the C3.3B engine

Specifications

- Dimensions: 178 x 7.1 mm (7.01 x .280 in)

Part Number	Description
385-8470	Valve Guide Reamer

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Valve Guide Reamer

Model Usage: C3.4B

Warranty: Manufacturer's



- Reams valve guide to correct size after valve guide has been pressed into the cylinder head

Specifications

- Dimensions: 177.8 x 8.03 mm

Part Number	Description
442-7298	Valve Gude Reamer

Reamer

Model Usage: Various Caterpillar Engines

Warranty: Manufacturer's



- Used if the sleeve of the unit injector has been removed from the engine to remove carbon on 3126B, C7, C9 and C9.3 engines
- Can also be used to ream valve guides to correct dimension within tolerance
- 9/32 inch (7.14mm)

Part Number	Description	Dimensions
417-4368	Reamer	178 x 7.1 mm (7.01 x .280 in)

Roller Expander

Model Usage: 1.1/1.2 L Engines

Warranty: Caterpillar® Six Months



- Included with 143-2099 Sleeve Replacement Tool Group
- For positive seal of sleeve to injector bore
- Easy to use — use torque wrench to turn in sleeve, up to 11 N·m (8 ft-lb)
- To update 4C-4462 Injector Sleeve Removal and Installation Tool Group

Reference

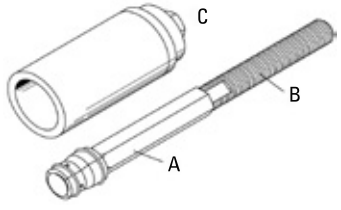
- NEHS0675, Tool Operating Manual, "Using the 143-2099 Sleeve Replacement Tool Group on 3114, 3116 and 3126 Engines"

Part Number	Description
121-2920	Roller Expander
4C-6732	Race
4C-6733	Bearing
4C-6737	Retaining Ring
4C-6738	Retaining Ring

Sleeve Remover Assembly

Model Usage: 3126B HEUI Engines

Warranty: Caterpillar® Six Months



- Used to easily remove injector sleeves
- Designed for non-grooved injector sleeves
- Includes 177-7804 Segment Collet

Application Procedure

1. Insert tool fully into injector sleeve bore. Expand tool by turning part A and part B in opposite directions. Sharp set screw points should bite into walls of sleeve.
2. Install pulling bridge, thrust bearing, washer, and nut (item C, part of tool group). Tighten nut on puller stud to remove sleeve.

Reference

- RENR1369, Special Instruction, Unit Injector Sleeves

NOTE: Set screw points should protrude approximately 2.0 mm (0.08 in) from surface of pulling tool collet.

Specifications

- Thread: 3/4 – 10
- Assembled length with puller: 254 mm (10 in)
- Points: 141-4635 Set Screw

Item	Description
A	Expanding segment
B	Threaded rod
C	Puller components

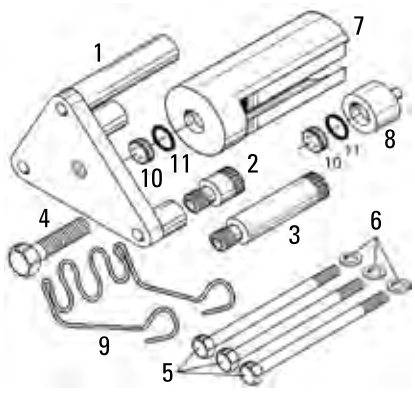
Part Number	Description
151-4832	Sleeve Remover Assembly

Injector Seating Tool Group

Essential Tool

Model Usage: 3114, 3116, 3126 MUI and 3116, 3126 2-Valve HEUI Engines

Warranty: Caterpillar® Six Months



- Used to seat entire injector seating land into sleeve (eliminates combustion gas leakage)
- Used with 9U-5019 Torque Wrench
- Trues up out of round injector sleeves that cause combustion gas leakage
- Eliminates need to ream newly installed sleeves
- Eliminates injector clamp bolt load relaxation
- Provides consistent seating force from cylinder to cylinder using a simple forcing screw operation
- Works with existing sleeve removal and installation tooling
- Can be used in place of 142-8279 Plate used for sleeve removal for more control of location
- Forcing bridge mounts same as 142-8279 Plate
- Interchangeable legs work on bare head or with intake manifold in place

Reference

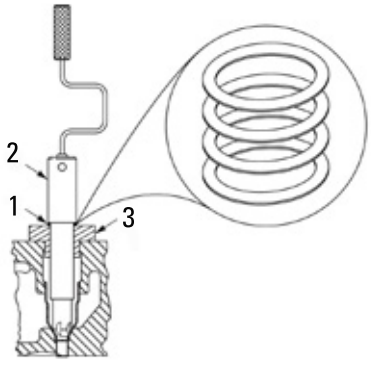
- NEHS0738, Using the 173-1530 Injector Seating Tool Group on 3114, 3116, 3126 MUI and 3116 and 3126 2-Valve HEUI Engines

Item	Part Number	Description
—	173-1530	Injector Seating Tool Group
1	173-1529	Forcing Bridge
2	173-1534	Short Spacer Leg
3	173-1535	Long Spacer Leg
4	3L-2415	Full Nut and Hex Bolt (forcing bolt)
5	7X-0457	Hex Head Bolt (for forcing bridge)
6	9M-1974	Washer
7	173-1531	Injector Forcing Cover (MUI)
8	173-1532	Injector Forcing Cover (HEUI)
9	146-2597	Push Rod Holder
10	175-7801	Wear Button
11	1P-8116	O-ring
Not shown		
—	173-1528	Foam Insert
—	6V-3073	Case — Plastic
—	NEEG2838	Decal, Case

Reamer Shims

Model Usage: 3116 and 3126 MUI, 3126 HEUI Engines

Warranty: Caterpillar® Six Months



- Used to control depth of injector sleeve reaming operation; helps eliminate reamer chatter
- Allows only 0.25 mm (0.01 in) of material to be removed at a time — can prevent sleeve from being reamed too deep
- Provides a positive stop at end of reaming operation
- Thickness: 0.25 mm (0.01 in)
- Number of shims per packet: 4

Application Procedure

1. Start with 4 shims installed between 4C-8713 Reamer Shank (2) and 4C-8714 Bushing (3).
2. Ream sleeve until reamer shank contacts shim.
3. Remove one 0.25 mm (0.01 in) shim at a time and repeat until proper seat depth is obtained.

Reference

- NEHS0675, Tool Operating Manual

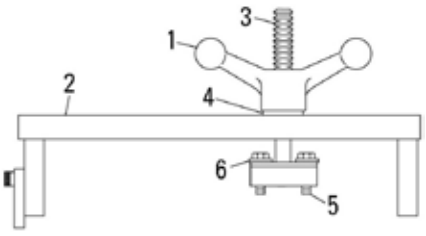
Item	Part Number	Description
1	170-9227	Reamer Shims
2	4C-8713	Reamer Shank
3	4C-8714	Guide Bushing (large)

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Puller Group (HEUI)

Model Usage: 3408 and 3412 HEUI Engines

Warranty: Caterpillar® Six Months



131-3921

- Used to easily remove carbon-fouled injectors from cylinder head
- Puller has large, balled end, handle for easier removal
- Puller bridge assembly sits on cylinder head top surface and uses a pivoting leg extension to keep bridge from sliding off of cylinder head

Specifications

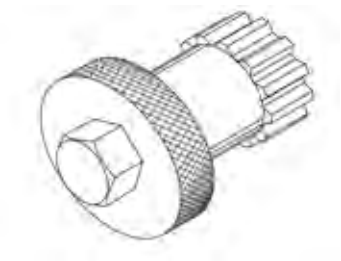
- Stud assembly overall length: 118.5 mm (4.67 in)
- Stud thread: 3/8 – 16
- Bolt size: 1/4 – 20
- Distance between bolt holes: 29 mm (1.1 in)
- Bridge overall length: 270 mm (10.7 in)

Item	Part Number	Description
—	131-3921	Puller Group (HEUI)
1	131-8196	Handle
2	131-8197	Puller Bridge Assembly
3	131-8198	Puller Stud Assembly
4	093-0386	Puller Stud Assembly
5	0S-1616	Bolt
6	4B-4276	Flat Washer

Injector Wrench (3408 and 3412 HEUI)

Model Usage: 3408 and 3412 HEUI Engines

Warranty: Caterpillar® Six Months



- Used to remove and install stainless steel injector sleeves
- Used with 3/4 inch socket
- Spline on tool engages internal spline in sleeve

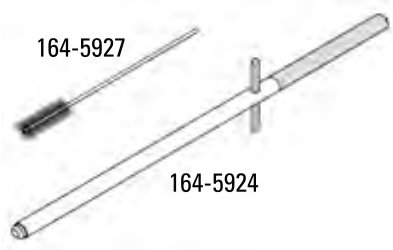
Part Number	Description	Hex Size	Knurled Washer Diameter	Spline
111-5051	Injector Wrench	3/4 in	50.8 mm (2 in)	48 – tooth

Injector Bore Gauge, Tube Brush

Essential Tool

Model Usage: 3408 and 3412 HEUI Engines

Warranty: Caterpillar® Six Months



- Used to clean and check clearance of injector sleeve tip area
- Proper cleaning of injector tip bore is mandatory when changing HEUI engine injectors
- Tools are included in 163-1575 HEUI Injector Rework Kit

Reference

- REHS0116, Special Instruction

Part Number	Description
164-5924	Injector Bore Gauge
164-5927	Tube Brush

Guide Bushing (Large), Guide Bushing (Small), Reaction Sleeve

Model Usage: 3114 and 3116 Engines

Warranty: Caterpillar® Six Months



- Used to replace and ream injector sleeves without removing valve springs — saves time
- 9U-5671 is designed to clear the valve springs and provide adequate support for pulling the injector sleeve
- 4C-8714 and 4C-8715 Guide Bushings allow reaming and sleeve installation without valve spring removal

Reference

- SEHS9120, Special Instruction

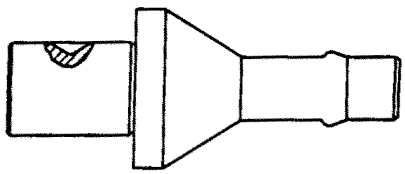
Part Number	Description
4C-8714	Guide Bushing (large)
4C-8715	Guide Bushing (small)
9U-5671	Receiver Sleeve Adapter [d]

a. 9U-5671 Sleeve 36.0 mm (1.42 in) 98.0 mm (3.86 in) Open end

Bottom Swage

Model Usage: 3176

Warranty: Caterpillar® Six Months



- Replaces discontinued 4C-6714 Bottom Swage
- Used to install injector sleeves in 3176 Engine cylinder heads
- Addition of pilot extension and lead-in chamfer ensure proper swaging of bottom of injector sleeve

Reference

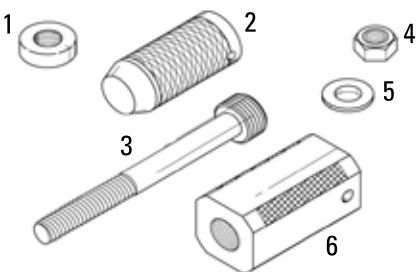
- SEHS9246, Special Instruction

Part Number	Description
4C-6591	Bottom Swage

Injector Tool Group

Model Usage: C-10, C-12, and 3406E Engines

Warranty: Caterpillar® Six Months



- 128-7889 Puller Bridge replaces discontinued 9U-7260 Puller Bridge (new puller bridge can be used on all three engines)
- Injector tool group is used to remove and install injector sleeves

References

- SENR6421, 3406E Service Manual, Disassembly and Assembly
- SENR1002, C-10 Disassembly and Assembly
- SENR1007, C-12 Disassembly and Assembly

Item	Part Number	Description
—	9U-6891	Injector Tool Group
1	9U-6877	Thrust Bearing
2	9U-7258	Driver Cap
3	221-9778	Puller Stud
4	4K-0367	Nut — Full
5	5P-8247	Hard Washer
6	128-7889	Puller Bridge

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Injector Brush

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to clean injector bores before inserting injectors
- Tapered design for easy insertion and efficient cleaning action
- Overall length: 350 mm (13.8 in)
- Diameter: 32 mm (1.26 in)
- Wire filament diameter: 0.25 mm (0.010 in)

Part Number	Description
312-3204	Injector Brush

Tool Group

Model Usage: 3176, 3176B

Warranty: Caterpillar® Six Months



- Replaces discontinued 4C-4054 Tool Group
- Used to install, clean, and ream injector sleeves in cylinder head

References

- SEHS8884, Unit Injector Test Specifications
- SENR5109, 3176 Service Manual
- SEHS9246 Special Instruction, operation

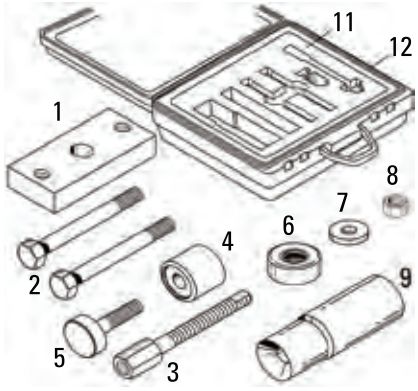
Part Number	Description
1B-2886	Bolt
1U-8826	Thrust Bearing
213-3530	Socket
2J-3506	Nut
2S-0115	Washer
3S-2713	Full Hardened Nut
4C-5502	Set Screw
4C-5538	Reamer Head
4C-5552	Large Bore Brush
4C-6591	Bottom Swage
4C-6730	Roller Expander [a]
4C-8720	Guide Bushing
4C-8721	Guide Bushing
4C-9495	Tee Handle
7X-0613	Hard Washer
8H-8556	Socket, 1 in
9U-6631	Foam Insert Set
9U-6851	Lower Pilot
9U-6853	Tap
9U-6854	Puller Screw
9U-6855	Reamer Shank
9U-6856	Flare Tool
9U-6857	Driver
9U-6858	Bridge Plate
9U-6859	Pick Set
9U-6860	Tool Group
9U-6862	Small Tapered Brush
9U-6863	Small Bore Brush

a. Includes 4C-6732 Race, 4C-6733 Bearing, 4C-6734 Roll, and 4C-6738 Retaining Ring

Injector Sleeves Tool Group

Model Usage: 3176 and 3176B Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily remove brass injector sleeves
- Eliminates sleeve tapping (threading) operation — no brass chips to fall into engine
- Similar to current 3100 Engine brass sleeve removal procedure

Reference

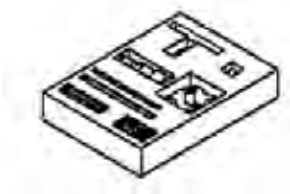
- NEHS0734, Tool Operating Manual, 169-3374 Brass Injector Sleeve Removal Group for 3176 and 3176B Engines

Item	Part Number	Description
—	169-3374	Injector Sleeves Tool Group
1	9U-6858	Bridge Plate
2	1B-2886	Bolt
3	142-8280	Sleeve Stud
4	151-4833	Sleeve Jaw
5	156-2870	Puller Stud
6	1U-8826	Thrust Bearing
7	7D-1649	Hard Washer
8	1F-7958	Full Nut (1/2 – 13) (fork mounting hardware)
9	156-2869	Crimping Swage
10	6V-3073	Case — Plastic
11	173-5508	Foam Insert

Tool Group

Model Usage: C9.3

Warranty: Caterpillar® Six Months



- Used to remove injector sleeves without introducing debris into cylinder
- Used to compress and remove valve springs without removing head
- Includes case

Reference

- NEHS1173, Tool Operating Manual

Specifications

- Dimensions: 342.9 x 260.4 x 127 mm (13.5 x 10.25 x 5.0 in)
- Weight: 1.3 kg (2.87 lb)

Serviceable Parts

Part Number	Description
424-2293	Tool Group
371-1603	Plate Assembly
364-0745	Plate
364-2687	Puller Assembly

Pilot Tool Group

Model Usage: C6.4 Marine Engine Applications

Warranty: Caterpillar® Six Months



- Injector sleeve removal tool group

Specifications

- Weight: .771 kg (1.7 lb)

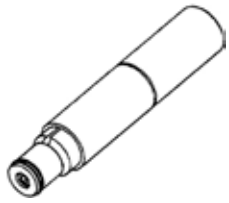
Part Number	Description
396-5710	Pilot Tool Group

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

C7 Injector Sleeve Removal/Installation Tool

Model Usage: C7 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install the injector sleeve on C7 Engines
- Used with the 454-6623 1/4 —28 x 6 in tap, sold separately
- Uses 2, 1/4" — 28 bolts to engage threads in sleeve after threads have been cut to remove sleeve
- The standard 6V-2166 Puller Group threads into the lower portion of the removal tool to pull out the old injector sleeve
- Install top portion of tool to use as an installer to tap new sleeve in place
- Black oxide coating and hardened steel allow for durability and resistance to rust

NOTE: Tool shown in install configuration (remove end piece to use as removal tool)

Specifications

- Dimensions: 35 x 185 mm (1.38 x 7.28 in)
- Weight: 1.2 kg (2.65 lbs)

Part Number	Description
372-7975	C7 Injector Sleeve Removal/Installation Tool

Injector Sleeve Tool

Essential Tool

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install externally threaded injector sleeves on C175 Engines
- Used with 1/2 inch drive wrench to install (screw in) and remove (screw out) threaded style injector sleeve
- Four hardened teeth (RKW C45-55) engage notches on interior of injector sleeve
- Longer length easily reaches down into cylinder head
- Durable, welded-steel construction with black oxide coating for corrosion resistance

References

- KENR6052, C175-16 and C175-20 Engines For Caterpillar Built Machines, Disassembly and Assembly
- RENR7466, C175-16 Generator Set Engine, Disassembly and Assembly

Part Number	Description
333-0759	Injector Sleeve Tool

Injector Sleeve Spanner

Model Usage: C175 Tier 4

Warranty: Caterpillar® Six Months



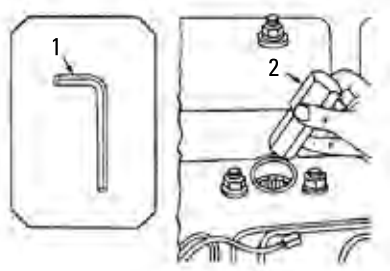
- Allows for easy removal and installation of C175 T4 fuel injector sleeves 370-7097
- Can be used with any ½ in drive extension
- Pilot aligns in sleeve bore to prevent spanner tabs from slipping out of slots.

Part No.	Description	Diameter	Weight
525-9169	Injector Sleeve Spanner	43 x 36 mm (1.7 x 1.4 in)	0.3 kg (0.6 lb)

Screw-In Precombustion Chamber Tools

Model Usage: Most Cat® Engines

Warranty: Caterpillar® Six Months



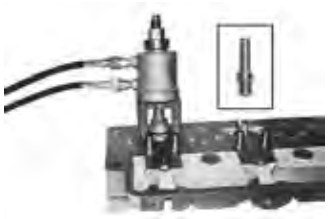
- 1D-5343 Wrench required to remove set screw and 1F-0479 Tool to loosen precombustion chamber on earlier screw-in type precombustion chambers
- 1F-0479 Tool also used to install these earlier precombustion chambers

Item	Part Number	Description
1	1D-5343	Wrench
2	1F-0479	Tool

Drive-In Precombustion Chamber Tools

Model Usage: Most Cat® Engines

Warranty: Caterpillar® Six Months



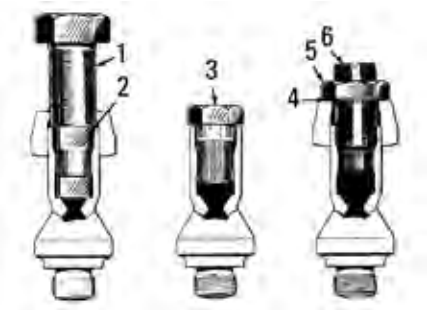
- Hydraulic puller combined with tools shown provides simple and efficient method of removing drive-in type precombustion chamber
- Same tools can be used without hydraulic puller
- Driver used to install drive-in type precombustion chambers in cylinder heads; lower end of this tool serves as pilot so hammer blows can be directed squarely on upper end of chamber

Part Number	Description
6V-3160	Cylinder Group, Includes Saddle

Precombustion Chamber Tool Group

Model Usage: Most Cat® Engines

Warranty: Caterpillar® Six Months



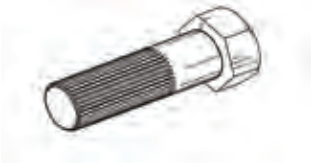
- Engines with 1-piece precombustion chambers require only 5F-8353 Wrench for removal and installation

Item	Part Number	Description	Use
—	5F-9217	Precombustion Chamber Tool Group	—
1	1A-2208	Bolt	Remove precombustion chamber retainer
2	5F-9072	Spacer	Remove precombustion chamber retainer
3	5F-8353	Wrench	Remove and install precombustion chamber
4	4B-4285	Washer	Replace precombustion chamber retainer
5	0L-1017	Nut	Replace precombustion chamber retainer
6	6F-5515	Screw	Replace precombustion chamber retainer

Precombustion Chamber Wrench

Model Usage: 1674, D334, 3400

Warranty: Caterpillar® Six Months



- Used to remove and install precombustion chambers on 1674, D334, and 3400 Series Engines

Part Number	Description
8S-0225	Precombustion Chamber Wrench

Glow Plug Wrench

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used to remove and install glow plugs with 9.525 mm (3/8 in) hex on D4E, D6D, D6H, 637D, 977L

Part Number	Description
5S-0276	Glow Plug Wrench

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Exhaust Wrap Removal Tool

Model Usage: 785G, 793F, T4F

Warranty: Manufacturer's



- Allows quick and easy removal of the exhaust insulation wraps without damage to the snaps or the cover material
- Does not require technician to touch the insulation material
- Saves approximately 3 hours of service time per inspection

Part No.	Description	Dimensions	Weight
502-1420	Exhaust Wrap Removal Tool	254 x 254 x 203.2 mm (10 x 10 x 8 in)	0.068 kg (0.149 lb)

Precombustion Chamber Wrench

Model Usage: 3204, D3, 910, 931

Warranty: Caterpillar® Six Months



- Used to remove and install precombustion chambers on 3204 Engine in D3 Tractors, 910 Wheel Loaders, and 931 Track Loaders

Part Number	Description
5P-0125	Precombustion Chamber Wrench

Fuel Valve Adapter Wrench

Model Usage: 3400

Warranty: Caterpillar® Six Months



- Used for removal and installation of direct injection fuel valve adapters on 3400 Series Engines

Part Number	Description
5P-0961	Fuel Valve Adapter Wrench

Glow Plug Tools

Model Usage: Most Cat® Engines

Warranty: Caterpillar® Six Months



- Wrenches and guide screws needed for installation and removal of glow plugs with 7.93 mm (5/16 in) hex on earlier engines

Item	Part Number	Description
2	8S-2243	Wrench
3	9S-2573	Socket
5	9F-4571	Guide Screw

Plug Adapter

Model Usage: C3.3B, C3.4B engines

Warranty: Manufacturer's



- Used to check engine compression from a glow plug port
- Used to verify that compression is at correct level

Specifications

- Dimensions: 193.6 x 19.1 mm (7.6 x .75 in)

Part Number	Description
390-1134	Plug Adapter

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Socket

Essential Tool

Model Usage: C-10 and C-12 Engines

Warranty: Caterpillar® Six Months



- Used to tighten cylinder head bolts under water manifold without removing it
- Works on both single and dual thermostat housings
- Required according to PS4435 Product Support Program
- Do NOT use with impact driver
- Heat-treated for added durability and long life

Specifications

- Square drive: 3/4 in
- Double hex socket: M16 bolts
- Overall length: 190 mm (7.5 in)

Part Number	Description
161-3440	Socket

Spark Plug Seat Cleaner

Model Usage: 3500 and 3600 Spark Ignited Engines

Warranty: Caterpillar® Six Months



- Used to clean gasket seat of rust resulting from a leaking gasket
- Used to clean threads in cylinder head

Reference

- NEEG2585, Decal (instructions for inside lid of case)

Specifications

- External hex: 22.225 mm (7/8 in)
- Internal square drive: 3/8 in
- Thread: M18 x 1.5 mm
- Overall length: 75 mm (3.0 in)

Part Number	Description
9U-7511	Spark Plug Seat Cleaner
To build service kit, order:	
105-7124	Gasket (oversize), 25 each
6V-6045	Case — Plastic, NEEG2061 Accessories Case Decal
9U-7512	Foam
9Y-6792	Gasket (standard), 25 each

Spark Plug Seat Cleaner



- Used to simultaneously clean rust and debris from gasket seat and cylinder head threads
- Used with 3/4 inch, 6 point socket (do not use 12 point socket)
- Spring-loaded design only removes dirt and debris, not metal

Specifications

- Thread size: M14 x 1.25
- External hex: 19 mm (0.75 in)
- Overall length: 75 mm (3.0 in)

Part Number	Description
154-9521	Spark Plug Seat Cleaner

Support Bracket

Model Usage: 3304 and 3306

Warranty: Caterpillar® Six Months



- Used to support fan drive bracket when cylinder head is removed from chassis

Part Number	Description
5P-1762	Support Bracket

Water Ferrule Testing Tool

Model Usage: 3500

Warranty: Caterpillar® Six Months



- Used to inspect for bubbles around the outer diameter of the insert on the block face
- Used to test for water leaks
- Usage will not damage insert
- Used with 4C-7158 fitting to connect pneumatic hose
- Rubber seals, 453-7293 are serviceable

Specifications

- Dimensions: 109 mm (4.29 in)
- Weight: .18 kg (.4 lb)

Reference

- NEHS1187, Tool Operating Manual

Part Number	Description
434-6509	Water Ferrule Testing Tool

Insert

Model Usage: D353 Engine

Warranty: Caterpillar® Six Months



- Required to modify former D353 cylinder heads for spacer plate blocks
- Quantity: 12

Reference

- SMHS7339, Special Instruction

Part Number	Description
5P-8703	Insert

Stud Removal Tool Group

Model Usage: 3200, 3300, 3400, C15, C-16, C18, C27, C32

Warranty: Caterpillar® Six Months



- Designed to remove broken exhaust manifold studs and bolts
- Consists of drill fixture, 2 alignment bushings, 2 drill bushings, and 2 drills
- Removal of broken stud begins by using disc grinder to grind broken stud so 164-3755 Drill Fixture can be secured to cylinder head; 1/8 inch drill and drill bushing first used to drill completely through broken stud; then stud is drilled out using 5/16 inch drill and drill bushing
- Since bolts are used to retain exhaust manifolds on 3200 Family Engines, HeliCoil is acceptable for repair of these heads; however, studs with taperlock threads are used to retain exhaust manifolds on 3300 and 3400 Family Engines and HeliCoil cannot be satisfactorily used to repair cylinder heads on these engines.

Reference

- SMHS8297, Special Instruction

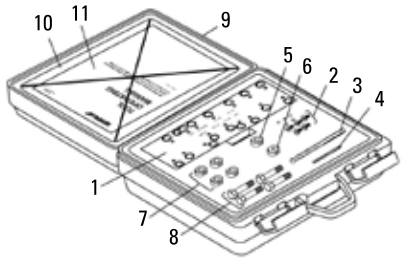
Item	Part Number	Description
—	6V-9050	Stud Removal Tool Group
1	6V-3073	Case — Plastic
2	6V-4094	Foam — Convoluted
3	6V-9051	Block
4	164-3755	Fixture
4	5P-7330	Screw
5	164-3756	Alignment Bushing, 9.53 mm (0.375 in) diameter (2 piece)
6	0S-1588	Bolt
7	164-3757	Drill Bushing, 7.94 mm (0.312 in) diameter
7	164-3758	Drill Bushing, 3.18 mm (0.125 in) diameter
8	5P-6732	Screw
9	6V-9048	Drill, 7.94 mm (5/16 in) outside diameter
9	6V-9049	Drill, 3.18 mm (1/8 in) outside diameter

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Exhaust Stud and Bolt Removal Tool Group

Model Usage: 3114, 3116, 3126, 3126B, 3176, 3176B, 3196, C7, C-10, and C-12 Engines

Warranty: Caterpillar® Six Months



- Used to remove broken metric exhaust bolts and studs from engines
- Designed for drilling out studs/bolts to minimum thread diameter — remaining pieces of thread can be removed and threads cleaned up with a tap
- Can be used with engine still installed in machine/vehicle
- Includes a drilling plate, alignment bushings, drill bushings, and drill bits

Reference

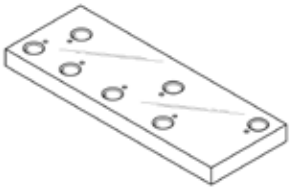
- NEHS0787, Tool Operating Manual

Item	Part Number	Description	Qty.
—	188-3922	Exhaust Stud and Bolt Removal Tool Group	—
1	188-3914	Drilling Plate	—
2	188-3915	Bushing Lock Screw	5
3	1U-8163	Drill, 8.5 mm (0.334 in)	—
4	1U-8133	Drill, 2.5 mm (0.098 in)	—
5	188-3923	Bushing, 8.5 mm (0.334 in) inside diameter	—
6	188-3918	Bushing, 2.5 mm (0.098 in) inside diameter	—
7	188-3916	Bushing, 10 mm (0.393 in) inside diameter	4
8	8T-4186	Bolt, M10 x 1.5, 40 mm (1.57 in) long	4
9	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—
10	188-3921	Foam Insert	—
11	—	NEHS0787 Tool Operating Manual	—
Not Shown	—	NEEG2895 Decal	—

Drilling Plate

Model Usage: 3054 Engines

Warranty: Caterpillar® Six Months



- Used to remove broken exhaust manifold studs and bolts from engine
- Used with 188-3922 Exhaust Stud and Bolt Removal Group
- Used in place of 188-3914 Drilling Plate
- Designed to attach to exhaust manifold and exactly locate drill bits when drilling out broken studs/bolts
- Can be used with engine still installed in machine/vehicle
- Black-oxide coated for corrosion resistance

Reference

- NEHS0787, Tool Operating Manual

Part Number	Description
367-4646	Drilling Plate

Drilling Guide Plate

Model Usage: C9, C11 and C13 Engines

Warranty: Caterpillar® Six Months



- Used to remove broken exhaust manifold studs and bolts from engines
- Used with 188-3922 Exhaust Stud and Bolt Removal Group
- Used in place of 188-3914 Drilling Plate
- Designed to attach to exhaust manifold and exactly locate drill bits when drilling out broken studs/bolts on C9, C11 and C13 engines
- Can be used with engine still installed in machine/vehicle
- Reversible design to fit both sides of engine
- Black oxide coated for corrosion resistance

Reference

- NEHS0787, Tool Operating Manual, 188-3922 Broken Bolt and Stud Removal Group

Part Number	Description
350-8688	Drilling Guide Plate

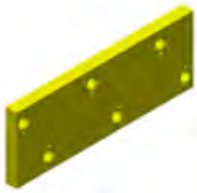
Exhaust Stud Drill Fixtures

Model Usage: C7.1, C6.6, C4.4 Engines

Warranty: Caterpillar® Six Months



533-1151



533-1152



533-1153



533-1154

533-1155 C7.1 Tool Group

- Used to remove broken metric exhaust bolts and studs from engines
- Designed for drilling out studs/bolts to minimum thread diameter so that remaining pieces of thread can be removed and threads cleaned up with a tap
- Can be used with engine still installed in machine/vehicle
- Includes a 533-1151 drilling plate, alignment bushings, drill bushings, and drill bits
- 533-1153 drill plate for C4.4 and 533-1152 drill plate for C6.6 must be ordered separately.

S.No	Part No.	Description	Qty
1	533-1152	Plate-Exhaust Manifold (C6.6 Drill Guide)	-
2	533-1153	Plate-Exhaust Manifold (C4.4 Drill Guide)	-
3	533-1155	Tool Group (Exhaust Manf Bolt Rmvl) Includes The Following Tools	-
3a	533-1151	Plate-Exhaust Manifold (C7.1 Drill Guide)	1
3b	1U-8133	Drill-2.50 mm dia	1
3c	1U-8163	Drill-8.50 mm dia	1
3d	6V-3072	Case-Plastic	1
3e	8T-4186	Bolt-Hex Head	4
3f	188-3915	Screw-Thumb	5
3g	188-3916	Bushing-Drill (10.0 mm)	4
3h	188-3918	Bushing-Drill (2.5 mm)	1
3i	188-3923	Bushing-Drill (8.5 mm)	1
3j	533-1154	Foam As.-Insert	1

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

G3500 Valve Seat Removal Tool

Model Usage: G3500

Warranty: Caterpillar® Six Months



- Safely removes valve seats from Gas 3500 engines
- Eliminates insert breakage
- Reduces repair time
- Reduces rework due to broken inserts

Specifications

- Hydraulic Source Requirements: 68.9 kPa (10,000 PSI)
- Dimensions: 355.6 x 228.6 x 190.5 mm (14 x 9 x 7.5 in)
- Weight: 8.85 kg (19.5 lbs)

Part Number	Description
359-4208	G3500 Valve Seat Removal Tool
Service Parts	
359-4286	Collet As.
359-4287	Drawbar
359-4288	Washer
361-0074	Slide-lower
371-0351	Cylinder-Puller

Installation Tool

Model Usage: C13 & C15 Engines

Warranty: Caterpillar® Six Months



- Used to install valve seal using hand pressure
- Prevents damage to valve seal during installation
- Used to install the 361-3926 valve guide seal

Specifications

- Dimensions: 150 x 26.8 mm (5.90 x 1.05 in)
- Weight: .54 kg (1.20 lbs)
- Material: Steel

Part Number	Description
375-2773	Installation Tool

Valve Seal Installer

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to install valve seal — easily installed using hand force
- Prevents damage to valve seal during installation — saves time and reduces cost
- Knurled for ease of handling

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engine

Part Number	Description
4C-6373	Valve Seal Installer

Valve Seal Installation Tool

Model Usage: C7-C32 Engines

Warranty: Caterpillar® Six Months



- Installs the valve guide seals, 163-2478, without damaging the seals by properly pressing on the outer metal shell of the seal
- Knurled handle to prevent slippage

Specifications

- Dimensions: 141 mm x 25 mm (5.5 in x 1 in)

Part Number	Description
455-0128	Valve Seal Installation Tool

Cylinder Condition Analysis Tools

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used to analyze cylinder condition on any Cat® engine
- Pressurized air is introduced into cylinder; amount of pressure drop is indicator of piston ring and valve condition

Reference

- GMG00694, Special Instruction

Item	Part Number	Description
1	6K-5875	Hose Assembly
2	1P-5564	Adapter (D.I. Engines)
3	1P-5565	Adapter (Gas Engines)
4	—	Norgren Regulator Model #11-002-049
5	3B-7767	Nipple (Modify nipple by filling with braze and drilling a 1.02 mm (0.04 in) orifice hole through braze)
6	3B-7762	Tee Fitting
7	6V-4142	Nipple, Unvalved (for 42000 kPa)
8	9S-7341	Fitting [6.35 mm (1/4 in) tube, 3.175 mm (1/8 in) pipe]
9	8S-2268	Tube Assembly
10	6V-4143	Coupler Assembly
10	7S-8897	Seal
11	8T-0846	Pressure Gauge
12	1P-5569	Tip
13	1P-5567	Tip
Not Shown		
—	5K-5068	Nipple — Pipe Hexagon

Plug Adapter

Model Usage: C1.8 & C2.4 Engines

Warranty: Caterpillar® Six Months



- Used to measure cylinder pressure on the C1.8 and C2.4 Engine using the 9U-6274 Compression Test Group
- M10x1.5 threaded adapter fits glow plug hole
- Uses ½ inch wrench

Specifications

- Dimensions: 98.0 x 13.0 mm (3.9 x 0.512 in)
- Weight: 0.04 kg (0.1 lb)

Part Number	Description
392-3960	Plug Adapter

Head Guide Pin

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to align cylinder head during engine assembly — two required
- Simple to use (threaded guide pin has screwdriver slot for easy installation)
- Thread: M12 x 1.75
- Overall length: 115.0 mm (4.5 in)

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engine

Part Number	Description
9U-7995	Head Guide Pin

CYLINDER HEAD, VALVES AND CAM FOLLOWERS

Socket (Head and Flywheel Bolt)

Model Usage: C175

Warranty: Caterpillar® Six Months



- Removes/installs cylinder head/flywheel bolts
- Used with 3/4 inch drive standard and torque wrenches
- Do not use with impact wrench
- Heavy-duty, twelve-point socket properly fits M16 Bolts (24 mm across flats)

References

- KENR6052, Service Manual, C175-16 and C175-20 Engine, Disassembly and Assembly
- RENR7466, Service Manual, C175-16 Generator Engine Sets, Disassembly and Assembly

Part Number	Description
312-2840	Socket (Head and Flywheel Bolt)

Puller Cylinder, Collets and Standoffs for Removing Valve Seat

Model Usage: C175, C175 HAA Machine Engines, All 3500 Diesel

Warranty: Caterpillar® Six Months



371-0351



447-5923



445-8987 & 447-5923



447-5922



445-8988 & 447-5922



445-5924



445-8989

European Union Compliant, CE marked

- Used to quickly and safely remove non-water-cooled valve seats from C175 cylinder heads
- Removes the insert without damage to the seat bore or combustion surface of the cylinder head
- Used when batch-processing cylinder heads and is best suited for high volume operations

NOTE: CE Compliance requires the use of appropriate CE Compliant power supply and hoses

Reference

- NEHS1194, Tool Operating Manual

Specifications

- Hydraulic Source Requirements: 31.0 MPa (4,000 PSI)

Part No.	Description	Specifications
371-0351	Cylinder Puller	355.6 x 228.6 x 190.5 mm (14 x 9 x 7.5 in), 8.30 kg (18.3 lb)
445-8987	Collet Assembly (C175 Std Exh) c	-
445-8988	Collet Assembly (C175 Std Int) c	-
445-8989	Standoff (C175 Std)	-
474-0580	Collet Assembly (C175 Water Cooled) d	-
474-5081	Standoff (C175Water Cooled)	-
447-5922	Collet Assembly (3500 Std Int) e	49 x 53 Dia mm (1.9 x 2.1 Dia in), 0.3kg (1 lb)
447-5923	Collet Assembly (3500 Std Exh) e	49 x 53 Dia mm (1.9 x 2.1 Dia in), 0.3kg (1 lb)
447-5924	Standoff (3500)	98 x 99 Dia mm (3.9 x 3.9 Dia in), 0.5kg (1lb)
Service Parts		
359-4287	Drawbar	-
359-4288	Washer	-
361-0074	Slide-lower	-

Part No.	Description	Engine	Series Seat
359-4286	Collet Assembly	G3500 b	Int & Exh

b. Standoff is required for use with 445-8987 or 445-8988

c. Standoff is included with the 359-4208 G3500 Seat Removal Tool

d. Standoff is required for use with the 474-0580

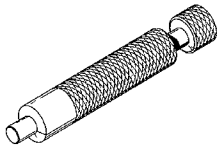
e. Standoff is required for use with the 447-5922 and 447-5923

ELECTRICAL AND IGNITION TOOLS

Installer Group

Model Usage: 3406E Engine

Warranty: Caterpillar® Six Months



- Used to install valve stem seals — easily installed using hand force
- Prevents installation damage to valve stem seals
- Seals can be installed with cylinder head on or off the engine
- Knurled handles for better grip and zinc-coated to prevent corrosion
- Diameter: 22.2 mm (0.87 in)
- Overall length: 140.0 mm (5.5 in)

Reference

- SENR5580, Service Manual

Part Number	Description	Diameter	Overall Length
9U-7226	Valve Seal Installer Group	22.2 mm (0.87 in)	140 mm (5.5 in)

Valve Stem Seal Installer

Model Usage: C3.4B

Warranty: Manufacturer's



- Used to install valve stem seals by hand in C3.4B engines
- Prevents damage to valve stem seal during installation

Specifications

- Dimensions: 19.05 x 203.2 (.75 x 8 in)

Part Number	Description
443-4074	Valve Stem Seal Installer

Mounting Ring Socket Wrench

Model Usage: Various

Warranty: Manufacturer's



- Used to tighten retaining nut on Emergency Stop Push Button assembly 109-6507 with 124-3176 Guard
- Double ended wrench can be used for 18 mm (.71 in) and 30 mm (1.2 in) pilot light mounting rings

Part Number	Description	Dimensions
398-6915	Mounting Ring Socket Wrench	101.6 x 35.3 mm (4.0 x 1.4 in)

Spark Plug Adapter Wrench, Spark Plug Wrench

Model Usage: 5.4 inch Bore Natural Gas Engines

Warranty: Caterpillar® Six Months



- Used to remove spark plugs and adapters on 137.2 mm (5.4 in) Bore Natural Gas Engines (G342, G353, G379, G398)
- Especially useful because plugs and adapters are deeply recessed in top of engine
- 1P-5559 Wrench: Large end: 31.75 mm (1.25 in) Small end: 19.05 mm (0.75 in)

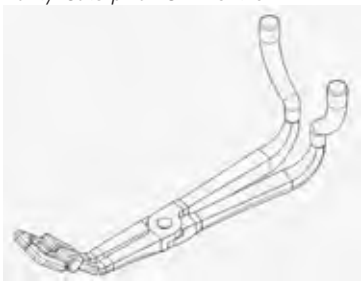
Part Number	Description
1P-5559	Spark Plug Adapter Wrench
2P-5481	Spark Plug Wrench

ELECTRICAL AND IGNITION TOOLS

Removal Tool (Injector Connector)

Model Usage: C13, 15, 18

Warranty: Caterpillar® Six Months



- Releases the locking tab on the 4-wire harness connector for the fuel injector and allows the connector to be easily disconnected
- Will not damage the locking tab or the rubber seals
- Bent handle allows the use of tool in tight quarters where overhead space is limited

Specifications

- Dimensions: 200.0 X 73.3 x 86.0 mm (7.0 x 2.7 x 3.4 in)
- Weight: 0.3 kg (0.7 lb)

Part Number	Description
458-3562	Removal Tool (Injector Connector)

Terminal Removal and Installation Tool Assembly

Model Usage: All G3500 Non-CSA Electronic Ignition Engines

Warranty: Caterpillar® Six Months



- Used to remove and install 169-4290 Terminal without removing 169-4295 Extension
- Saves time and money
- Threads easily into terminal
- Design permits quick replacement if shaft [127 mm (5 in) long] breaks during service
- For removal: 1) insert shaft through spring and thread three revolutions into terminal; 2) pull terminal out
- For installation: 1) screw terminal onto shaft; 2) insert through extension; 3) snap onto transformer head; 4) loosen shaft from terminal

Part Number	Description
176-7129	Terminal Removal and Installation Tool Assembly

Terminal Spanner Wrench

Model Usage: All G3500 and G3600 EIS Engines

Warranty: Caterpillar® Six Months



- Used to install and remove 127-8893 Terminal Assembly
- Required to allow proper torquing of terminal assembly (2.70 ± 0.25 N·m, 24.0 ± 2.2 in-lb)
- Accurate torque is essential to avoid damage to terminal components; necked-down diameter minimizes chance of over-torque

Part Number	Description
132-8263	Terminal Spanner Wrench

Sparkplug Adapter Removal Tool

Model Usage: All G3500C, G3500E, G3500H Engines

Warranty: Caterpillar® Six Months



- Removes and installs the 225-0902 adapter
- Safer design than previous 235-9751, providing proper leverage and grip
- Used with ¾" ratchet
- Made of steel

Part No.	Description	Dimensions	Weight
459-2619	Sparkplug Adapter Removal Tool	134 L x 60 mm dia. (5.3 x 2.4 in)	1.4 kg (3 lb)

Ignition Extender Torque Tool

Model Usage: G3500H

Warranty: Caterpillar® Six Months



519-3123 519-3124

- Used to hold 356-3701 transformer securely while torquing extender
- Teflon contact surfaces prevent assembly from being damaged.
- Hooked spanner wrench has 3/8 in square drive hole.

S. No	Part No.	Description	Dimensions	Weight
1	519-3123	Adapter-Nylon	127 x 64 mm (5 x 3 in)	1 kg (2.2 lb)
2	519-3124	Wrench-Spanner	64 x 3 x 102 mm (3 x 0.1 x 4 in)	0.04 kg (0.1 lb)

ELECTRICAL AND IGNITION TOOLS

Cylinder Head Surface Cleaning and Deburring Tool

Model Usage: All G3500C, G3500E, G3500H Engines

Warranty: Caterpillar® Six Months



- Used to remove any burrs on the sealing surface for the spark plug adapters
- Can be used with any 3/8 chuck drill

Part No.	Description	Dimensions	Weight
447-1209	Cylinder Head Surface Cleaning and Deburring Tool	307 L x 46 mm dia. (12.1 x 1.8 in)	0.9 kg (2 lb)

Spark Plug Adapter Tool

Model Usage: All G3500 CEH Engines

E models: EE079, GS191, GS192, GS262, GS273, GS290, GS290, GS291, GS291, GS292, GS292, GS293, GS294, GS295, GS299, GS299, GS313, GS454, GS454, GS472, GS472, GS509, GS509, GS510, GS510, GS511, GS511, GS535, GS547, GS547, GS555, GS623, GS696, GS697, GS698, GS699, GS700, GS701, GS702, GS703, GS704, GS705, GS706, GS707, GS708, GS730, GS736, GS737, GS855, GS885, GS988, PS065, PS065

Warranty: Caterpillar® Six Months

- Removes and installs 453-2319 spark plug adapter

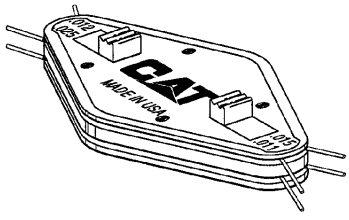
Part No.	Description	Dimensions	Weight
495-9773	Spark Plug Adapter Tool	130 x 44 mm (5.11 x 1.73 in)	1.3 kg (3 lb)



Spark Plug Gauge

Model Usage: 3300, 3400, 3500, and 3600 Spark Ignited Engines

Warranty: Caterpillar® Six Months



- Used to check spark plug gap on spark ignited engines
- Compact size — easy to carry from job to job
- Gap wires are retractable — prevents damage when not in use
- Gauge has 2 of each size wires (4 sizes in all)

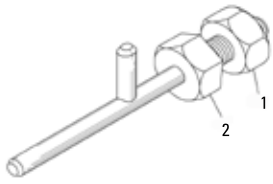
Engine Application	Spark Plug Gap
3600	0.279 mm (0.011 in)
3600 Ionization probe	0.635 mm (0.025 in)
3500	0.279 mm (0.011 in)
3400	0.381 mm (0.015 in)
3400 J-gap	0.304 mm (0.012 in)
3300	0.635 mm (0.025 in)

Part Number	Description
9U-7516	Spark Plug Gauge

Indicator Bracket

Model Usage: 3516 Locomotive Engine

Warranty: None



- Used to check engine to generator alignment
- Threads into hole on main traction generator drive shaft
- Allows 2 alignment readings to be taken at the same time — 1 indicator reads outer coupling diameter and 1 reads coupling face

Item	Part Number	Description
1	4K-0367	Nut — Full
2	7X-0344	Bolt, 5/8 – 11

Alternator Pulley Tool Group

Model Usage: Delco-Remy Alternators

Warranty: Caterpillar® Six Months



- Used to remove pulley retaining nut on shaft of Delco-Remy 20-SI and 25-SI Series Alternators

Item	Part Number	Description
—	1P-2977	Alternator Pulley Tool Group
1	1P-7363	Seal (2)

Belt Tension and Alignment Gauge

Model Usage: AP655D Asphalt Pavers and Other Applications

Warranty: Caterpillar® Six Months



- Two-piece laser alignment tool used to ensure proper alignment of the engine pulley and the driven pulley
- Each laser rests on the ribs of each pulley
- Also functions as belt tension and wear gauge
- Includes belt tension gauge, two laser alignment tools, belt wear gauge, tension chart, replacement battery, and battery installation wrench
- Shipped in hard plastic case

Part No.	Dimensions	Weight
428-8381	203 x 127 x 76 mm (8 x 5 x 3 in)	2.2 kg (4.6 lb)

ELECTRICAL AND IGNITION TOOLS

Driver Assembly

Model Usage: DV096 Generator Set

Warranty: Caterpillar® Six Months



- Used to install shaft seal for auxiliary water pump
- Used with hammer and suitable driver with 6.4 mm (0.25 in) pilot
- Drive installer onto shaft until OD of tool contacts housing
- Saves time during pump overhaul by installing seal at exact location every time (eliminates guess work)

Reference

- Generator Service Manual

Part Number	Description
192-7039	Driver Assembly

Clamp On Ammeter

Model Usage: All

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Extech Instruments
9 Townsend West
Nashua, NH 03061
Ph: (781) 890-7440, ext: 220
Fax: (781) 890-7864
Email: repair@extech.com

European Union compliant, CE marked

- Used to measure AC or DC current
- Compact size and low cost make this unit indispensable
- Clamp-on probe replaces standard test leads (allows current measurements without breaking circuit)
- Measures current in cables up to 23 mm (0.9 in) diameter
- User selectable 400 ampere and 1200 ampere scales for both AC and DC
- Powered by two 1U-9533 AA Alkaline Batteries
- Designed with a built-in display, push button zero control for DC operation, "display hold" to freeze display, "max/min recording" to display highest and lowest readings, auto power-off (unit turns off automatically after 30 minutes), and low battery indicator
- Shipped with batteries, carrying case, and users guide

Specifications

- Weight: 190 g (6.7 oz)
- Overall size: 183 x 61 x 36 mm (7.2 x 2.5 x 1.4 in)
- Resolution: 1 A

Part Number	Description
225-8266	Clamp On Ammeter (400, 1200 A ranges)
	Service/Repair Parts
1U-9533	AA Alkaline Battery, non-rechargeable, package qty 96 (5 required to power Indicator III)
6V-6014	Cable

LUBE SYSTEMS

Oil Filter Cutter Group

Model Usage: All Models

Warranty: Caterpillar® Six Months



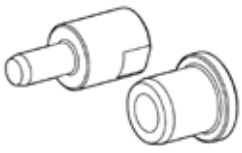
- Used to cut open spin-on filters to inspect filter media for contaminants, a common practice when diagnosing potential machine problems and internal contaminants.
- Aluminum frame construction
- Designed to cut all types of filters, including aircraft-style filters, without repositioning cutting wheels
- Heavy-duty double roller and cutting wheel design eliminates binding of filters
- All wear parts are heat-treated steel for added durability
- Cutting wheels are ground with a double-taper edge for easier cutting

Item	Part Number	Description	Required
—	175-7546	Oil Filter Cutter Group	—
1	177-0364	Roller	2
2	177-0365	Cutting Wheel	2
3	177-0367	Pin	4
Not shown	177-0366	Spacer	2

Oil Filter Housing Extension Tube Seal Installer

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to properly install the extension tube seals in the oil filter housing

Specifications

- Dimensions: 177.8 x 139.7 x 127.0 mm (7.0 x 5.5 x 5.0 in)
- Weight: 0.43 kg (0.94 lb)

Part Number	Description
373-4824	Oil Filter Housing Extension Tube Seal Installer

Stud Driver Tool Assembly

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Used to install the new 485-2866 oil filter stud that bottoms out in the oil filter housing (as opposed to the old taperlock stud)
- Built-in releasing mechanism ensures torque on the stud is not lost when tool is removed.

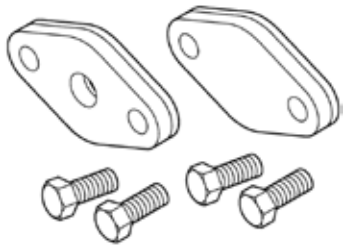
Part No.	Description	Dimensions	Weight
523-3834	Stud Driver Tool Assembly	65 x 75 mm (2.6 x 3 in)	0.73 kg (1.6 lb)

LUBE SYSTEMS

Oil Cooler Test Plates

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to pressure test the oil cooler

Specifications

- Dimensions: 5 x 4 x 2 in
- Weight: 0.5 lbs

Part Number	Description
373-4830	Oil Cooler Test Plates

Oil Filter Drainer Group

Model Usage: Any Engine Application

Warranty: Caterpillar® Six Months



- Used to cleanly drain an oil filter before removal from engine
- Designed to puncture a hole in side of the inverted oil filters to allow easy oil drainage
- Do not remove oil filter from engine until oil has been completed drained into oil storage container
- Equipped with 101.6 – 165.1 mm (4 – 6 ½ in) attached clamp

Specifications

- Dimensions: 64 x 35 x 31.75 mm (2.52 x 1.38 x 1.25 in)
- Weight: 69.0 kg (1.51 lb)

Part Number	Description
371-4330	Oil Filter Drainer Group

Funnel

Model Usage: C175-20 Locomotive Engines and Many Other Applications

Warranty: Manufacturer's



- Funnels can be formed into any size or shape and used over and over.
- Cleans easily with common degreasers.
- Coated with Nitrile Rubber to withstand temperatures of up to 425 deg F and most chemicals (including diesel fuel, brake fluid, and battery acid)

Part No.	Description	Dimensions	Weight
502-1419	Funnel	4 sizes of funnels included: 9 x 4.75 in, 4.5 x 6.5 in, 22 x 8-5/8 in, 29 x 5 in	1.722 kg (3.796 lb)

Coupler, Plug

Model Usage: D8H, 583H, D9G, DD9G, 594

Warranty: Caterpillar® Six Months



- Coupler is quick disconnect adapter for equipment that services high speed oil change attachment groups; high speed oil change groups provide convenient method for both fill and evacuation of engine crankcase oil, and a compatible quick disconnect coupler is essential for service equipment that supplies and evacuates oil
- Minimal chance for airborne contaminates to enter engine during oil changes with high speed oil change arrangement
- Three different nipples are used in various attachment groups; 9S-9273 Coupler accommodates all three; steel cable lanyard provided for disconnecting coupler from nipple
- 9S-9274 Plug Assembly used to protect coupler from dirt and other contaminants when not in use
- Easier for customer to meet local regulations concerning oil spillage; leakproof seal created when coupler connected to nipple; also, no leakage occurs when coupler engages nipple or when connection is broken
- 41.3 mm (1.62 in) hex for installing 3/4 inch-14 NPTF threaded end into service hose fitting

Specifications

- Length: 70.6 mm (2.78 in)
- Diameter: 50.8 mm (2.00 in)

Item	Part Number	Description
1	9S-9273	Coupler
2	1P-7919	Nipple, Bulkhead 37 degree Male, 1 1/16 – 12 thd
Not shown	8T-5373	Nipple, Face Seal Male, 1 3/16 – 12 thd
Not shown	9S-9271	Nipple, 3/4 – 14 NPTF thd Male
Not shown	9S-9272	Cap Assembly (for the 3 nipples)
Not shown	9S-9274	Plug Assembly

Bushing Removal Tool Group

Model Usage: 3208 Engines

Warranty: Caterpillar® Six Months



- Removes oil pump bushing fast without damaging timing gear cover
- Works on both naturally aspirated and turbo-charged engines
- Marked for each engine for easy use

Item	Part Number	Description
—	4C-6780	Bushing Removal Tool Group
	Service/Repair Parts	
1	4C-6781	Bushing Removal Guide
2	4C-6782	Bushing Removal Punch

Oil Pump Hub Removal Tooling

Model Usage: C1.5/2.2 Engines

Warranty: Caterpillar® Six Months



484-2861



484-2862

- Removes oil pump hub with the 1P-0074 slide hammer
- Eliminates the need to remove crankshaft, camshaft and other engine components to gain access to remove hub.
- East to use, saves considerable time and tooling
- Adapter is installed over the oil pump hub and 2 pointed setscrews firmly hold the hub. The threaded end of the slide hammer installs into the adapter, and the hub is then easily removed with the slide hammer.

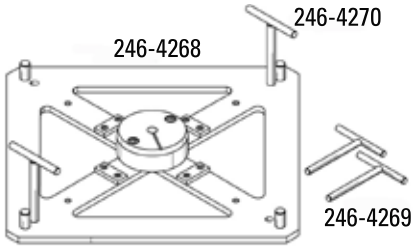
Part Number	Description	Weight
484-2861	Dia 79 X 90 mm	1.3 kg
484-2862	Dia 91 X 90 mm	1.5 kg
484-3804	Screws	-

LUBE SYSTEMS

Coupler Rework Fixture Group

Model Usage: 3524B Engine

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 3524B Engine coupling group
- Used with two 246-4269 Positioning Pin Assembly and two 246-4270 Positioning Pin Assembly (part of group)
- Allows replacement of individual parts rather than entire group

Reference

- RENR2276-02, 3524B Engine Service Manual, Disassembly and Assembly

Part Number	Description
246-4268	Coupler Rework Fixture Group

Bit

Model Usage: MY2000, C-15, and C-16 Engines

Warranty: Caterpillar® Six Months



- Special 5/16 inch bit used to remove the square socket oil gallery pipe plugs
- Used with standard 7/16 inch socket and ratchet

Specifications

- Male hex: 7/16 in
- Male square: 5/16 in
- Overall length: 32 mm (1.25 in)

Part Number	Description
201-2592	Bit

Flywheel Adapter

Model Usage: C175-16 & C175-20

Warranty: Caterpillar® Six Months



- Used to mount C175 engines to dynamometer
- Eliminates need to remove flywheel bolts
- Saves time and reduces cost
- Made of heavy duty steel

Part Number	Dimensions	Weight
434-3321	606 x 41.37 mm (23.85 x 1.62 in)	57.1 kg (126 lb)
434-3331	505 x 41.37 mm (19.88 x 1.62 in)	39.0 kg (86 lb)

Flywheel Adapter, C175 EPG

Model Usage: C175 EPG Engines

Warranty: Caterpillar® Six Months



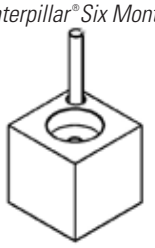
- Used For dynamometer testing of C175 EPG engines
- Eliminates misalignment
- Provides accurate interface for all standard dynamometers

Part No.	Description	Dimensions	Weight
467-5334	Flywheel Adapter, C175 EPG	673 dia. x 25 mm thick (26.5 x 1.0 in)	56 kg (124 lb)

Alignment Tool

Model Usage: C1.5 and C2.2 Engine

Warranty: Caterpillar® Six Months



- Properly orients the oil pump to the engine block
- Provide protection of the oil pump during the installation process

Reference:

- KENR9149, KENR6948, KENR6229

Part Number	Description
301-0285	Alignment Tool

Transmission and Crankcase Oil Nozzle Assembly

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



Typical nozzle assembly

- Used to attach hose of high speed oil change equipment onto component being serviced on D8R Track-Type Tractor (provides leakproof connection when installed)
- Nozzles help customers to more effectively meet local regulations concerning oil spillage
- Using high speed oil change equipment provides fast and convenient way to fill and drain oil from components

Part Number	Description	Length	Diameter	Thread Size	Hex Size	Installed To	Used with
126-7538	Nozzle Assembly	78.7 mm (3.10 in)	48.5 mm (1.91 in)	3/4 -14 NPTF	33.3 mm (1.31 in)	transmission case oil drain	110-8319 Receiver Assembly
126-7539	Nozzle Assembly	83.8 mm (3.30 in)	54.6 mm (2.15 in)	3/4 – 14 NPTF	38.1 mm (1.50 in)	engine crankcase oil drain	110-8827 Receiver Assembly

LUBE SYSTEMS

Quick Drain Pump Group

Model Usage: TTT, MWL, MG,
with HSOC fittings

Warranty: Caterpillar® Six Months





European Union Compliant, CE marked

- An easy-to-use, portable pump to allow efficient, quick and clean way to drain engine oil, anywhere, anytime
- Perform quick evacuation of engine oil or transmission fluid on earthmoving machines via high-speed oil change fittings, without having to bring the machine into the workshop.
- Self-priming electric pump with bronze gears
- Featuring a light case with handle for improved protection and easy transport
- Completed by on/off switch, cable with integrated fuse, and battery clips
- Pump comes with tubing for suction and drain lines and compatible nozzle 126-7539 for HSOC engine oil fitting (PTO nozzle optional)
- Powered by Cat® machine 24v batteries

Reference

- Tool Operating Manual M0076294

Part No.	Description	Flow Rate	Pressure	Dimensions	Weight
464-8520	Quick Drain Pump Group	4 GPM (15 LPM)	29 PSI (200 kPa)	210 x 150 x 170 mm (8 x 6 x 7 in)	3.5 kg (8 lb)

ENGINE TEST TOOLS

Engine Repair Indicator Kit

Model Usage: All Earthmoving Machines

Warranty: Caterpillar® Six Months



- For Dealer Product Support Salesmen
- Consolidates many non-technical engine service tools into convenient, easy-to-carry-and-use kit; includes simple service tools to measure crankcase pressure, check coolant conditioner and allow for filter inspection
- Allows more accurate check of general engine condition than possible with casual walk-around inspection
- With Engine Overhaul Estimator (ordered separately), allows qualified personnel to predict repair options and to recommend improved customer maintenance practices

Consists of 3 parts:

- Non-technical engine evaluation service tools (see consist below) and order form for Engine Overhaul Estimator
- Engine evaluation worksheet which includes guidelines for walk- around inspection of machines engine and cooling system
- Literature discussing proper engine maintenance practices

Reference

- SEHS9037, Special Instruction

Part Number	Description
185-3630	Filter Strap Wrench Assm.
1S-0178	Fitting
1U-7262	Magnet
239-6825	Ratchet (1/2 in Drive)
4C-3502	Engine Repair Indicator Kit
4C-4733	Crankcase Pressure Gauge
4C-9301	Coolant Test Kit
5H-8936	Adapter
8H-8580	Scraper
8T-2844	Temperature Recorder Group
9S-1732	Extension — 127 mm (5.0 in) Long (1/2 in Drive)

Kit also Includes:

- Screwdriver (flat blade)
- Water Bottle
- SEHS9037 Use of the 4C-3502 Engine Repair Indicator Kit
- PEEP7234 Oil Change Labels (English)
- PEEP8211 Engine Evaluation Worksheet
- SEBD0717 Diesel Fuel and Your Engine
- SEBD0518 Know Your Cooling System
- PEDP6101 Repair Before Failure Testimonial
- PEDP7101 Managing Preventive Maintenance Before Failure
- SEBU5596 Identification Number Location Guide
- SEBU6250 Caterpillar's Machine Lubricant Recommendations
- PEHP9013 Air Filter Indicator Facts Sheet
- PEDP7105 Scheduling Oil Sampling
- SEBD0640 Oil and Your Engine

DEF Measurement Tooling Group

Model Usage: 3500 and C175 commergial equipped with Air Assist SCR Systems

Warranty: Caterpillar® Six Months



- Used to measure the amount of DEF that is dispensed during a DEF system test
- Used to diagnose failed DEF pump or injector
- Kit includes beaker and hose assembly

Reference

- KENR6887 and UENR0589

Specifications

- Kit Dimensions: 750 x 485 x 121 mm (29.5 x 19.1 x 4.8 in)

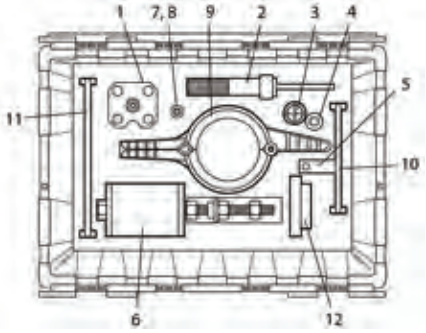
Part No.	Description	Dimensions	Weight
464-1955	Tool Group	749 x 486 x 120 mm (29.5 x 19.1 x 4.7 in)	3.302 kg (7.279 lb)
457-5734	Beaker Container Assembly	76.2 x 381 mm (3 x 15 in)	0.227 kg (0.500 lb)
471-6557	Hose Assembly	1899 x 108 mm (74.8 x 4.3 in)	0.300 kg (.661 lb)

ENGINE TEST TOOLS

Tool Kit, C-9 Engine

Model Usage: C-9 Engine

Warranty: Caterpillar® Six Months



- 196-3165 Tool Kit used to overhaul C-9 Engines (contains all tools unique to this engine)
- 173-5533 Bracket securely attaches C-9 engine to repair stand — bolts to engine using breather assembly mounting holes
- Used with 173-5533 Repair Stand Bracket and 1U-5750 Engine Repair Stand
- Available as a kit or individual parts can be ordered separately

Reference

- Service Manual, for C-9 Engines

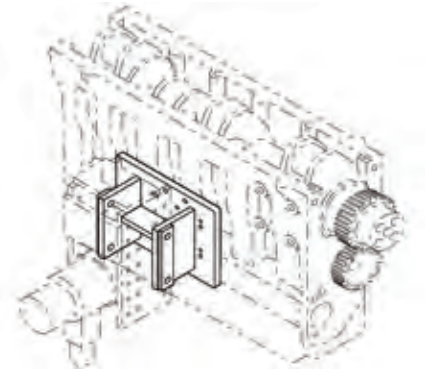
Item	Part Number	Description
—	196-3165	Tool Kit, C-9 Engine
1	176-5487	Valve Spring Compressor [a]
2	173-5523	Valve Seat Installer
3	173-5525	Valve Seat Puller
4	173-5524	Driver Valve Guide
5	191-6077	Bracket
6	173-5527	Cylinder Pack Puller Group
7	136-4632	Timing Pin
8	139-7064	Timing Pin Adapter
9	173-5528	Piston Ring Compressor
10	143-9731	Turbocharger Wrench, 122 mm (4.8 in) reach throat
11	143-9730	Turbocharger Wrench, 30 mm (1.18 in) reach throat
12	1U-7430	Front Crank Seal Installer
13	196-5469	Foam Insert
14	196-5472	Storage Case
Not Shown	—	NEEG2925, Decal

a. Includes 176-5484 Plate Assembly

Media Number	Description
NEEG2925 (Not Shown)	Decal

Repair Stand Bracket

Warranty: Caterpillar® Six Months



Part Number	Description
Engine Repair Stand with Adapter Bracket	
173-5533	Engine Stand Bracket
1U-5750	Engine Repair Stand

Tool Kit, 3406E Engine

Model Usage: 3406E, C-15, C-16
Warranty: Caterpillar® Six Months

- Contains tools to remove and install camshaft and cam bearing, compress valve springs, install valve seals, valve seats, and valve guides, remove and install pendulum damper, adjust injector pre-stroke, remove and install injector sleeve, test and adjust adjustable idler gear, clean injector bores
- Also services cable connectors, and provides necessary electronic cables to test, adjust, and troubleshoot 3406E Engines
- Packaged in 2 plastic containers with foam inserts for ease of handling and storage (Plastic cases and foam inserts are not serviced under Cat® part number; if these items are needed, contact the Dealer Service Tools Division)
- Chart, packaged in each kit, identifies tool requirements by job and lists reference publication form numbers
- Total weight: 48 kg (105 lb)

Reference

- SENR5580, Service Manual

NOTE: Refer to part number in Tool Guide for individual features/benefits and picture of each tool listed.

Includes	Description
NEEG2581	3406E Tooling Reference Chart

Part Number	Description
9U-7530	Tool Kit, 3406E Engine
Service/Repair Parts	
175-3700	Connector Service Kit (less crimp tool)
4C-5552	Large Bore Brush
7X-1403	Adapter Cable Assembly
7X-1686	Adapter Cable Assembly
7X-1695	Timing Probe Cable
7X-1715	Adapter Cable Assembly
9U-6862	Small Tapered Brush
9U-6863	Small Bore Brush
9U-6891	Injector Tool Group
9U-6894	Guide Collar
9U-6895	Valve Seat Driver
9U-6896	Guide Bolt
9U-6897	Valve Seat Driver (Inlet)
9U-6898	Valve Seat Driver (Exhaust)
9U-7210	Puller Plate
9U-7213	Backup Plate
9U-7214	Spacer Plate
9U-7222	Cam Bearing Pilot
9U-7223	Alignment Bushing
9U-7225	Camshaft Pilot (2 required)
9U-7226	Valve Seal Installer Group
9U-7227	Injector Height Gauge Assembly
9U-7237	Drill Extension
9U-7240	Camshaft Lifting Hook (2 required)
9U-7241	Valve Spring Compressor Group
9U-7243	Alignment Sleeve
9U-7244	End Brush
9U-7256	Guide Assembly
9U-7257	Cradle Assembly
9U-7324	Indicator Bracket

ENGINE TEST TOOLS

G3600 Operator Tool Group

Model Usage: G3606 (3XF), G3608 (4WF), G3612 (1YG), G3616 (4CG)

Warranty: Caterpillar® Six Months

- Aids in providing daily service to an engine
- May be used with 169-8373 Bottle Group
- Includes pad of data sheets to record all service information
- Helps to lubricate pivot joints of waste gate, fuel mixing valve, and choke linkage
- Used to remove spark plugs and chase threads
- Helps to clean and gap spark plugs
- Aids in gathering oil samples

Media Number	Description
NEHS0680	Data Sheet Pad

Part Number	Description
356-8752	Operator Tool Group
356-8752 G3600 Operator Tool Group	
1U-9824	Tool Group
245-5829	Coolant Test Kit
4C-4601	Spark Plug Socket
6V-9124	Screwdriver
7X-3387	S·O·S Sampling Valve
8C-3445	Dust Cap (Engine)
8F-9866	Cat® Pro "L" Grease Gun
9U-7511	Spark Plug Seat Cleaner
9U-7516	Spark Plug Gauge

DPF Ash Level Check Tool

Model Usage: All models with a Diesel Particulate Filter

Warranty: Manufacturer's



- Allows the technician to determine if the DPF needs to be cleaned
- Wire is dropped into the DPF and the ash level can then be determined
- Two wires (both are .035") and a hard case are included

Specifications

- Diameter: .88 mm (.035 in)
- Length: 457 mm (18 in)

Media Number	Description
456-6048	DPF Ash Level Check Tool

Diesel Particulate Filter (DPF) Crack Detection Kit

Model Usage: C13: S/N LEE1-UP, C15: S/N SDP1-UP, B5R1-UP

Warranty: Caterpillar® Six Months



- For On-Highway Truck Engines equipped with DPFs (2007 and newer), not for Tier 4 machines
- Used to determine whether a DPF is defective
- Utilized while DPF is still on the engine to take an exhaust sample
- Uses filter paper elements to determine amount of soot leaking through DPF

Reference

- REHS5017, Special Instructions

Part Number	Description
360-9664	Diesel Particulate Filter (DPF) Crack Detection Kit
360-9664 DPF Crack Detection Kit	
001-6449	Connector — Flared
360-9665	Box — Filter
360-9666	Orifice — Short
360-9667	Orifice Assembly — Long
360-9668	Cap
360-9669	Foam Assembly
360-9670	Card Comparator
3L-7055	Connector — Pipe

Diesel Particulate Filter (DPF) Crack Detection Kit

Model Usage: All Tier 4 Machines with DPF's

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to detect cracks in Diesel Particulate Filters for Tier 4 machines
- Used to determine if a DPF is defective
- Draws exhaust sample over a filter paper and compares with a gray scale comparator card
- Requires 12 or 24 VDC power

Reference

- REHS5704, Special Instructions

Specifications

- Dimensions: 667 x 378 x 203 mm (26.3 x 14.9 x 8.0 in)

Part Number	Description
380-5200	Diesel Particulate Filter (DPF) Crack Detection Kit
Serviceable Parts — DPF Crack Detection Kit	
380-5189	Card — Comparator
380-5190	Foam Assembly
380-5191	Hose Assembly
380-5193	Hose Assembly
380-5197	Harness Assembly
380-5462	Case Assembly
360-9665	Filter
3L-5055	Connector — Pipe
380-5294	Pump Assembly
7J-8611	Elbow 90° — Pipe

Crack Detection Group Cap

Model Usage: C7, C9

Warranty: Caterpillar® Six Months



- Used with 360-9664 Crack Detection Group to measure leakage of soot through DPF Systems
- Provides proper fitting flanges to restrict exhaust flow during crack detection test
- Fits 4 inch exhaust systems

Part Number	Description
399-7930	Crack Detection Group Cap
Serviceable Parts	
399-7932	Cap
399-7933	Orifice
399-7934	Plate

DEF Filler Neck Strainer Removal Tool

Model Usage: Multiple Machine Models

Warranty: Caterpillar® Six Months



- Allows for quick and easy removal of the DEF tank filler neck strainer.
- Integrated tool to disengage the tab locks for removal of the strainer
- Made from steel for long life

Specifications

- Dimensions: 160 x 50.8 x 13.6 mm (6.3 x 2 x 0.5 in)
- Weight: 0.06 kg (0.13 lb)

Part Number	Description
457-6144	DEF Filler Neck Strainer Removal Tool

DEF Filter Removal Tool

Model Usage: Machines with Inline DEF Filter

Warranty: Caterpillar® Six Months



- New improved material and design
- 1074/1075 general purpose spring steel
- More durable than previous design
- Tool is slightly wider to better remove the DEF filter element

Specifications

- Dimensions: 110 x 2.4 x 45 mm (4.33 x 0.0944 x 1.77 in)
- Weight: 0.041 kg (0.09038 lb)

Part No.	Description
443-0955	DEF Filter Removal Tool

ENGINE TEST TOOLS

DEF Tool Group

Model Usage: C7.1, C9.3, C13, C15 and C18 (T4F) Engines

Warranty: Caterpillar® Six Months



441-0451 and 450-1515



441-0454

- Measures diesel exhaust fluid flow through the injector to assure it meets specification
- Hose/harness extension kits allow DEF Injector testing in more convenient location
- For complete diagnostic testing of DEF Injector
- Beaker has graduated scale (english/metric)

Part No.	Description	Includes
441-0451 a b	DEF Tool Group Complete group used for testing the DEF injector	441-0454 Beaker 443-7055 Test Kit (DEF Dosing Injector Spray) 431-7087 DEF Refractometer 398-5080 Test Lead 398-5081 Test Lead 398-4985 Male Probe (3mm) 398-4987 Female Probe (3mm) 398-5083 Black and Red Test Plugs Hard Case and Foam Insert Wing Nuts and Screws for attaching DEF Injector to Beaker
450-1515	Used when the complete kit is not needed	441-0454 Beaker Wing Nuts and Screws for attaching DEF Injector to Beaker Hard Case and Foam Insert 398-5083 Test Plugs 398-5080 Test Lead 398-5081 Test Lead 398-4985 Male Probe (3mm) 398-4987 Female Probe (3mm)
441-0454	The beaker includes the beaker and a cap with a stainless steel riveted insert for strength	Beaker Cap Stainless Steel Riveted Insert Screws and Wing Nuts for attaching Injector to Lid
443-7055	Used to locate the DEF injector to a more convenient and remote location for testing	3 ft Braided Harness Extension 3 ft Hose Extension 2 Plastic Coolant Plugs

a. 398-5056 is optional extra-small connection (1.5 x 8 mm), available separately

b. 398-5063 is optional extra-small connection (1.5 x 8 mm), available separately

Injector Beaker Assembly

Model Usage: C3.4B T4F Engines

Warranty: Caterpillar® Six Months



- Used when testing the DEF Injector on C3.4B T4F engines
- DEF injector mounts securely to top of beaker with thumb screws.
- Graduated scale allows easy measurement of DEF fluid.
- To be used with the 481-9905 DEF dosing injector spray kit (for relocation of the DEF injector during testing)

Part No.	Description	Dimensions	Weight
503-9003	Injector Beaker Assembly	120 x 173 mm (4.72 x 6.8 in)	0.5 kg (1.1 lb)

Testing Kit for DEF Dosing Injector Spray

Model Usage: C3.4B T4F Engines

Warranty: Manufacturer's



- Allows the DEF injector to be moved to a convenient location for testing
- Used with beaker assembly 503-9003
- Includes hose extension, harness extension, and two plugs (harness extension not shown)

Part No.	Description	Dimensions	Weight
481-9905	Testing Kit	200 x 200 x 40 mm (7.87 x 7.87 x 1.57 in)	0.97 kg (2.14 lb)

DEF Test Strip

Model Usage: Any machine using Diesel Exhaust Fluid (DEF)

Warranty: Manufacturer's



- Tests the quality of Diesel Exhaust Fluid (DEF)
- Tells if diesel fuel has contaminated DEF tank
- Darkness of the strip coloration indicates the concentration of fuel contamination
- Fuel in a DEF tank can damage or destroy the SCR system used on diesel engines
- Easy to read graduations
- 100 test strips per kit

Specifications

- Dimensions: 70 mm (2.8 in) x 20 mm (.8 in)
- Weight: .23 kg (.5 lb)

Part Number	Description
466-8796	DEF Test Strip

Beaker Assembly

Model Usage: C3.8 T4 and C4.4 T4

Warranty: Caterpillar® Six Months



- Used when testing the DEF Injector on C3.8 T4 and C4.4 T4 engines
- DEF injector mounts securely to top of beaker with thumb screws.
- Graduated scale allows easy measurement of DEF fluid.
- To be used with the 481-8593 DEF dosing injector spray kit (for relocation of the DEF injector during testing)

Part No.	Description	Dimensions	Weight
470-7263	Beaker Assembly	120 x 173 mm (4.72 x 6.8 in)	0.5 kg (1.1 lb)

ENGINE TEST TOOLS

Diesel Exhaust Fluid (DEF) Testing Kit

Model Usage: C3.8 T4 and C4.4 T4

Warranty: Caterpillar® Six Months



- Used with the 470-7263 beaker assembly
- Used for relocation of the diesel exhaust fluid (DEF) injector during testing

Includes the following parts:

- 481-7849: 5/16 in hose assembly
- 481-7850: 3/8 in hose assembly
- 481-6375: electrical harness assembly

Part No.	Description	Dimensions	Weight
481-8593	Testing Kit for DEF Dosing Injector Spray	120 x 173 mm (4.72 x 6.8 in)	0.5 kg (1.1 lb)

Beaker Assembly

Model Usage: C3.4B Engines

Warranty: Caterpillar® Six Months



- Used when testing the DEF Injector on C3.4B engines
- DEF injector mounts securely to top of beaker with thumb screws.
- Graduated scale allows easy measurement of DEF fluid.
- To be used with the 481-9905 DEF dosing injector spray kit for relocation of the DEF injector during testing

Part No.	Description	Diameter	Weight
503-9003	Beaker Assembly	120 x 173 mm (4.72 x 6.8 in)	0.5 kg (1.1 lb)

Handle Assembly

Model Usage: C32, Gas and Diesel 3500, C175

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used only to lift the 399-9851 and 399-9852 12" SCR catalyst substrate drums
- Used with 421-5660 eyebolt assembly
- Easy to install
- Made of steel

Specifications

- Dimensions: 324 x 240.1 mm (12.75 x 9.45 in)
- Weight: 1 kg (2.2 lb)

Part Number	Description
399-9725	Handle Assembly

Dummy Injector Tool

Model Usage: 3500 Engines

Warranty: Caterpillar® Six Months



- Installs in place of fuel injector and has 1/4" — 18 NPTF tapped port to allow for leak checking of cylinder head

Specifications

- Port Size: 1/4" – 18" NPTF
- Material: Steel
- Seal Installer Dimensions: 62 mm (2.44 in) dia x 147 mm (5.79 in) long
- Weight: 1.56 kg (3.4 lbs)

Part Number	Description
370-2284	Dummy Injector Tool

Dummy Injector Tool/Dummy Injector Hold Down Clamp

Model Usage: All C175 Engines

Warranty: Caterpillar® Six Months





- Used to support troubleshooting of compression leaks on C175 engines
- Installs in place of fuel injector and has 1/4" – 18 NPTF tapped port to allow for leak checking of cylinder head
- Material: Steel

Part Number	Description	Dimensions	Weight
388-5591	Tool	49.7 x 162 mm (1.96 x 6.38 in)	.992 kg (2.19 lb)
390-0480	Clamp	118.9 x 62.4 x 49.7 mm (4.68 x 2.46 x 1.96 in)	.42 kg (.93 lb)

Dummy Injector Tool

Model Usage: C175 Tier 4

Warranty: Caterpillar® Six Months



- Used to pressure test C175 Tier 4 cylinders with the 370-7097 injector sleeves
- Installed in the injector bore to allow low pressure air into the cylinder head to check for gasket and cylinder head leaks
- ¼-18 NPTF port
- Utilizes standard injector clamp, reducing cost

Part No.	Description	Diameter	Weight
514-3533	Dummy Injector Tool	150 x 46 mm (5.9 x 1.8 in)	0.5 kg (1 lb)

ENGINE TEST TOOLS

Marine Tool Kit (Not Serviced)

Model Usage: 3116, 3126, 3126B, 3176, 3196 Marine Engines with Metric Fasteners

Warranty: Caterpillar® Six Months



- Used for basic engine repairs and maintenance (provides a ride-along tool kit with specific engine tools)
- 195-0875 Tool Kit is not serviced as a group (allows for option of adding or deleting tools to fit the customers needs)
- 202-8643 Tool Box is a plastic, water-tight container (will not rust or scratch like metal boxes)
- Inch sockets and wrenches may be substituted or added to the kit
- Tool box capacity: 9 kg (20 lb)
- Tool box decal: NEEG2916

Included in Kit:

- Wrench Group, Metric
- Orange Hand Cleaner, 225 mL (7.5 oz)

Part Number	Description
195-0875	Marine Tool Kit (Not Serviced)
Recommended Tool List	
141-1655	Inspection Light
146-2728	Flex Pickup Tool
185-3630	Filter Strap Wrench Assm.
194-3574	3/8 Drive, 12 Point Metric Socket Set, 12-piece
1S-0257	Ball Peen Hammer, 0.34 kg (12 oz)
202-8643	Tool Box (plastic)
239-6824	Reversible Ratchet, 3/8 in Drive
285-1145	Combination Padlock
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in)
6V-6193	Diagonal Cutting Pliers, 44.45 cm (17 1/2 in)
8H-8575	Extension Assembly
8H-8576	Adapter
9U-7290	Screwdriver Set

a. Warranty: Six Months

EGR Leak Detection Kit

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to perform leak test on each chamber of the EGR cooler
- Uses compressed air pressure to detect leaks
- Test can be performed in less than 5 minutes
- Kit includes 10 components including a regulator assembly for more accurate test results

Specifications

- Dimensions: 495.3 x 393.7 x 165.1 mm (19.5 x 15.5 x 6.5 in)
- Weight: 7.3 kg (16.0 lb)

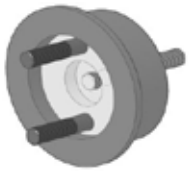


Part Number	Description
372-5257	EGR Leak Detection Kit
379-4904	Connector
379-4905	Cooler Plug
379-4906	Cooler Plug - Air Inlet
379-4907	Cooler Plug- Leak Detection
379-4908	Large Plate Assembly- Leak Detection
379-4909	Small Plate Assembly - Double Hole
379-4910	Plug Assembly - Double Hole
379-4911	Disc Assembly - Plug
379-4912	Disc Assembly - Handle
379-4913	Regulator Assembly

Seal Installer

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to install the crankshaft front oil seal on the 11L and 13L engines

Specifications

- Dimensions: 203.2 x 203.2 mm (8.0 x 8.0 in)
- Weight: 5.0 kg (11.0 lb)

Part Number	Description
373-4725	Front Oil Seal Installer

EGR Leak Detection Update Kit

Model Usage: CT660 CT11, CT13

Warranty: Manufacturer's



- Used to update the 372-5257 EGR Cooler Leak Detection Group to handle 45 PSI, which is the new system testing pressure
- Provides more accurate and quicker testing results
- Includes new gaskets and pop-off valves

Specifications

- Dimensions: 152.4 x 203.2 x 25.4 mm (6.0 x 8.0 x 1.0 in)

Part Number	Description
449-9630	EGR Leak Detection Update Kit

ENGINE TEST TOOLS

EGR Leak Detection Group

Model Usage: CT660 Trucks with C15L Engine

Warranty: Manufacturer's



- Used to perform leak test on each chamber of the EGR cooler
- Uses compressed air pressure to detect leaks
- Test can be performed in less than 5 minutes
- Includes ten components including a regulator assembly for more accurate test results

Specifications

- Dimensions: 495.3 x 393.7 x 165.1 (19.5 x 15.5 x 6.5 in)
- Weight: 7.25 kg (16.0 lb)

Part Number	Description
449-9631	EGR Leak Detection Group

Lift Tool, Induction Cleaning System, Core Pullers

Model Usage: CT660

Warranty: Manufacturer's

- 462-9173 - Aids in the removal and installation of the (optional) twin piston clutch operated air compressor
- 462-9174 - Designed to remove and install the Low Temperature EGR Core from the housing
- 462-9175 - Allows cleaning of intake port and valves by injecting EGR cleaning solution into the engine at high idle. Also loosens up sticking valves to prevent engine damage
- 462-9176 - Designed to remove and install the High Temperature EGR Core from the housing

Part Number	Dimensions	Weight
462-9173	915 X 204 X 204 mm, (36 X 79.3 X 79.3 in)	10 kg (22 lb)
462-9174	356 X 254 X 153 mm, (14 X 10 X 6 in)	4 kg (8.8 lb)
462-9175	407 X 407 X 712 mm, (16 X 16 X 28 in)	10 kg (22 lb)
462-9176	610 X 432 X 204 mm, (24 X 17 X 8 in)	9 kg (20 lb



462-9173



462-9174



462-9175



462-9176

Expanded Update Kit for EGR Leak Detection

Model Usage: CT660

Warranty: Caterpillar® Six Months



- Updates and expands the current 372-5257 to include an improved rear plate that allows leak testing of CT11 and CT13L EGR coolers without removing the EGR Valve
- New labeling, foam insert, and updated tool instructions are included
- Used in addition to 449-9630 update group

Specifications

- Dimensions: 482.6 mm x 355.6 mm x 190.5 mm
- Weight: 6.8 kg (15 lb)

Part Number	Description
463-0279	Expanded Update Kit for EGR Leak Detection

Expandable Plug, 60 mm Non-Vented

Model Usage: 3512 EGR Cooler

Warranty: Manufacturer's



Specifications

- Dimensions: 60.32 x 50.8 mm (2-3/8 x 2 in)
- Rubber Diameter: 58.42 mm (2.3 in)
- Body Length Diameter: 50.8 mm (2 in)
- Flange Diameter: 76.2 mm (3 in)
- Top Plate Diameter: 81.02 mm (3.19 in)
- Installed Height: 43.43 mm (1.71 in)

Part No.	Description
503-2130	Expandable Plug

ENGINE TEST TOOLS

Seal Installer

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to install the crankshaft rear oil seal on the 11L and 13L engines

Specifications

- Dimensions: 182.9 x 177.8 mm (7.2 x 7.0 in)
- Weight: 4.5 kg (9.9 lb)

Part Number	Description
373-4726	Rear Oil Seal Installer

Air Intake Guard

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to help prevent foreign material from entering the air intake port

Specifications

- Dimensions: 177.8 mm dia. x 50.8 mm h (7 in. dia. x 2 in h)
- Weight: .344 kg (.76 lb)
- Material: Plastic

Part Number	Description
373-4732	Air Intake Guard

Pilot Bearing Seal Installation Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to press the pilot bearing seal into the flywheel housing on 11L and 13L engines

Specifications

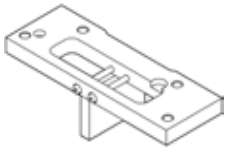
- Dimensions: 172.7 x 132.1 x 121.9 mm (6.8 x 5.2 x 4.8 in)
- Weight: 0.63 kg (1.4 lb)

Part Number	Description
373-4733	Pilot Bearing Seal Installation Tool

High Pressure Pump Drive Holding Plate

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Holding fixture used for high pressure pump
- Mounts in a vise for installation of pump drive gear

Specifications

- Dimensions: 261.6 x 170.2 x 175.3 mm (10.3 x 6.7 x 6.9 in)
- Weight: 2.53 kg (5.57 lb)

Part No.	Description
373-4796	High Pressure Pump Drive Holding Plate

High Pressure Pump Drive Seal Installer

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to install high pressure pump drive seal

Specifications

- Dimensions: 119.4 x 111.8 x 61.0 mm (4.7 x 4.4 x 2.4 in)
- Weight: 0.61 kg (1.35 lb)

Part No.	Description
373-4797	High Pressure Pump Drive Seal Installer

Seal Installer

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to install the large extension tube seal into the upper EGR coolant housing

Specifications

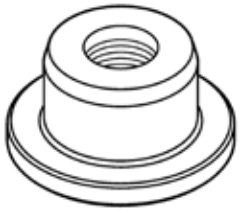
- Dimensions: 119.4 x 111.8 x 61.0 mm (4.7 x 4.4 x 2.4 in)
- Weight: 0.45 kg (1.0 lb)

Part Number	Description
373-4798	EGR Coolant Housing Upper Elbow Extension Tube Seal Installer (large)

Seal Installer

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to install the small extension tube seal into the upper EGR coolant housing

Specifications

- Dimensions: 25.4 x 25.4 x 25.4 mm (1 x 1 x 1 in)
- Weight: 0.45 kg (1.0 lb)

Part Number	Description
373-4799	EGR Coolant Housing Upper Elbow Extension Tube Seal Installer (small)

ENGINE TEST TOOLS

Sleeve Protrusion Hold Down Clamps

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to secure cylinder liner in place to accurately measure line protrusion during service
- Clamps are secured in place with four 10.9 grade bolts

Specifications

- Dimensions: 101.6 x 88.9 x 33.0 mm (4.0 x 3.5 x 1.3 in)
- Weight: 1.16 kg (2.85 lb)

Part Number	Description
374-6394	Sleeve Protrusion Hold Down Clamps

G3500 Valve Seat and Guide Runout Tool

Model Usage: G3512C, G3512E, G3516C, G3516E, G3520, G3520C and G3520E

Warranty: Manufacturer's



- Used to measure valve guide to valve seat runout
- Checks accuracy of total valve seat runout

Reference

- SEBF9137-05, Reuse and Salvage Guidelines
- NEHS1140 Tool Operating Manual

Part Number	Description
384-2804	G3500 Valve Seat and Guide Runout Tool
384-2804 Gauge Group Service/Repair	
384-2802	Pilot

Fey Ring Installation Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to align and install fey rings on the exhaust manifold
- Cone positioned on manifold housing as guide to properly seat rings
- Plastic installer used to expand rings over cone to properly seat the fey rings

Specifications

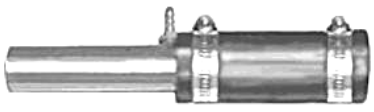
- Dimensions: 127.0 x 121.9 x 7.4 mm (5.0 x 4.8 x 2.9 in)
- Weight: 0.9 kg (1.3 lb)

Part Number	Description
374-6417	Fey Ring Installation Tool

Crankcase Pressure Test Adapter

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to measure combustion gas flow out of the engine breather
- Can be used with the digital manometer from the 368-8645 Blow-by Group or the 8T-0452 Water Manometer

Specifications

- Dimensions: 2.7 x 8.3 x 1.7 in
- Weight: 1.2 lbs

Part Number	Description
376-7698	Crankcase Pressure Test Adapter

Compression Test Adapter

Model Usage: All C3.8 Engines

Warranty: Caterpillar® Six Months



- Used to easily check cylinder compression on the C3.8 engine
- Used with the 9U-6274 Compression Test Group

Part Number	Description	Dimensions
399-2786	Compression Test Adapter	170.2 x 38.1 mm (6.7 x 1.5 in)

Compression Test Adapter for Glow Plug Hole

Model Usage: C1.3 Engine

Warranty: Manufacturer's



- Used to connect to the 9U-6274 Compression Test Kit to test compression of the engine

Specifications

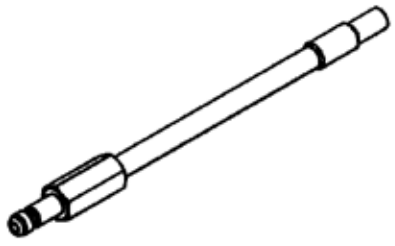
- Dimensions: 47.62 x 6.35 mm (1.87 x 0.25 in)

Part Number	Description
443-7047	Compression Test Adapter for Glow Plug Hole

Compression Test Adapter

Model Usage: C1.1, C2.2 Engines

Warranty: Manufacturer's



- Used with the 9U-6274 Compression Test Kit to test compression of the engine

Specifications

- Dimensions: 180 x 12.7 mm (7.1 x 0.5 in)

Part No.	Description	Quantity
469-7630	Compression Test Adapter	1
2P-1303	Taperlock Stud (Part of 125-0200)	1
0S-1617	Bolt	2
8T-3169	Crank Assembly	1

Camshaft Installation Adapter

Model Usage: G3516 TA

Warranty: Caterpillar® Six Months



- New Adapter for G35166 TA camshaft installation
- Used between the camshaft and the pilot of the existing Gas 3500 camshaft removal tools

Part No.	Description	Dimensions	Weight
516-2836	Camshaft Installation Adapter Assembly - Cam (G3516 TA Cam Instl)	Dia 81 x 101.6 mm (Dia 3.2 x 4 in)	3.2 kg (7 lb)

FUEL SYSTEMS

AVM 2-PC Fuel Injection Equipment Test Stand

Model Usage: Cat® Engines

Warranty: Manufacturer's One Year





European Union compliant, CE marked

Test benches are capable of operating in the 380-480 Volt range but actual voltage will be checked and or changed during the on-site commissioning by the authorized Hartridge agent.

- 158-2262 AVM 2-PC Fuel Injection Equipment Test Stand used to test fuel injection system components for pump and line fuel systems on Cat® engines

Machine Basics

- Advanced Video Metering (AVM)
- Designed to Caterpillar® specifications to test most injection pumps in the Cat® product line (includes all Cat-built pumps, Stanadyne DB2 and DB4 pumps used on 3054 and 3056 pre-emission certified engines, and Zexel and Nippondenso pumps used on 3046, 3064, and 3066)
- Stanadyne, Lucas, and Bosch emission certified pumps may not be serviced by Cat® dealers
- Complies with European CE marking directive and conforms with ECM standards
- Basic machine and metering unit complies with ISO4008, EEC, and UL/CSA standards (pump mounting system, cooled nozzle block, and master nozzles are unique to Cat®)
- "DCdrive" and standard PC architecture allow modem or network connections
- Uses industry standard PC allowing future expansion
- Uses a direct drive, high-torque, 15 kW (20 HP. DC motor for low RPM performance
- An on-board air supply with electronic readout is available for setting FARC controls
- Electronic dynamic phasing
- Auto Step test plan editor and execution
- Pressure phasing to 80 bars
- Other features are 2 variable DC supplies, cooled metering unit, back leakage temperature measurement at pump outlet, analog speed trim for fine control of governors, digital pressure displays, drive "nudge" control
- This unit has many common parts currently used with standard Hartridge benches, resulting in product support from Delphi Diesel Systems Worldwide

Machine Displays

- Control panel pivots to permit operation from either side of test stand
- Display modes include; speed, pump output, phasing angle, pressure and test stand self diagnostic information
- With exception of oil pressure control valves and emergency stop buttons, a built-in computer and keyboard control test stand with user friendly Windows®
- Pump output and test stand operating data are displayed on a 38 cm (15 in) color monitor

Nozzle Block

- Cooled nozzle block dissipates heat, at its source, from high-energy Cat® fuel pumps
- Articulated support arm pivots beneath front of table, allowing master nozzle mount to be repositioned without disturbing pump mounting brackets
- Underslung multi-position master nozzle mount has vertical adjustment

Injection Pump Mounting Information

- Standard Cat® pump mounting rail uses existing mounting accessories and hardware (not included)

Testing

- "Intelligent Firing Order Learning" allows pump to be connected to test injectors in most convenient way
- Drive system automatically compensates for load variations (provides a constant, pre-selectable test speed within a range of 30 to 4000 RPM
- All connections and associated valves are grouped together on the bulkhead, leaving a large unobstructed, self-draining work area at front of table for tools and fittings
- Powerful Hewlett-Packard computer controlled platform is flexible, and upgradeable to meet future requirements and provides accurate metering and information management/documentation capabilities provide compliance with current emissions and ISO standards
- High-speed, 12-cylinder advanced metering system reduces test time

AVM 2-PC Fuel Injection Equipment Test Stand (Continued)

Operation

- Control console pivots to permit operation from either side of test stand
- Keyboard height and angle are set to minimize strain
- Floppy and CD-ROM can be accessed from front of machine
- Computer and keyboard allow operator to enter data (speed) and observe results (pump output) on display
- All functions are menu controlled
- On-screen "analog" pressure gauges, a first in the test bench market, allows viewing trends and relative measurements while displaying numerical value for accurate setting
- Dynamic phasing display shows all pump phasing angles (±0.1°) simultaneously for rapid adjustment
- Self-diagnostic function will indicate motor over/temperature, air supply failure, dirty filter, stalled motor, and low tank levels
- Built-in PC allows test data to be stored on standard database software or print to color printer (not included). Operating data such as test plans can be entered, stored, removed and executed

Service

- Built-in, self-diagnostic routines are used to detect internal machine problems, with faults and test results displayed on LCD screen
- All electronic circuits use solid state technology and feature simple plug-in replacement boards
- All test oil supply and lube system components are located on left-hand side of bench
- All electrical and electronic services are on right side of bench

Worldwide Compatibility

REPAIR INFORMATION

If test stand needs more than general maintenance or adjusting, contact Hartridge Repair/Service Information: 421 Radclive Road, Buckingham MK18 4FD U.K., Phone:+44-(0)1280-825600, Fax:+44-(0)1280-825601 support@hartridge.com, www.hartridge.com

- Machines have multiple language capability (current language choices are Dutch, English, French, German, Greek, Italian, Portuguese, Spanish, and Turkish)
- The machines include the Manual on CD-ROM in the following languages: Dutch, English, French, German, Greek, Italian, Portuguese, Spanish, and Turkish
- Bench is CSA-approved
- Bench meets applicable CE directives when on-site commissioning is completed

Reference

- NEHS0724, Tool Operating Manual (included with bench — may be ordered separately)

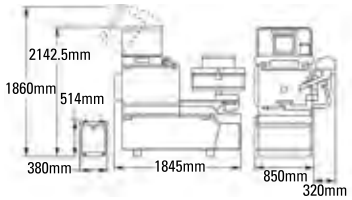
Ordering Information

- Test benches are capable of operating in the 380-480 Volt range, but actual voltage will be checked and or changed during the on-site commissioning by the authorized Hartridge agent. On-site startup is provided by the manufacturer. For 220 to 240 volt applications, a transformer is required.

Part Number	Description
158-2262	AVM 2-PC Fuel Injection Equipment Test Stand, 380 to 480 volt, 50/60 Hz, 3-phase

FUEL SYSTEMS

Installation Requirements



These items are necessary for installation and must be ordered separately.

- 6V-6067 Calibration Fluid (208.5 L [55 gal]) or 6V-6068 Calibration Fluid (19 L [5 gal])
- 10W Engine lube oil preferred; 10 W 30 is acceptable
- 380 to 480 volt, 50/60 Hz, 3-phase (45 amp maximum)
- 3 lpm (0.6 gpm) at 20°C (68°F) maximum temperature at 1.5 bar pressure

On-Site Startup and Commissioning

A one-time on-site commissioning and basic bench training is included in the price of the bench. This service is provided by Hartridge.

- Fuel injection pump mounting and drive hardware must be ordered separately (contact your Dealer Service Tools Division representative for ordering assistance)

Specifications

- Case size: 191 x 114 x 209 cm (75 x 45 x 81 in)
- Gross weight: 1170 kg (2580 lb)
- Net weight: 970 kg (2140 lb)
- DC motor: 14.9 kW (20 HP. high torque
- Flywheel: 1.8 kgm^2 (43 ft-lb^2)
- Motor RPM: 30 – 4000 RPM load compensating
- Electrical supply: For 20 HP. 380 – 480 V, 3-phase (80 A max.)
- Current amp requirements: 63 A, but 100 A service is recommended
- Transformer requirements: 208 – 240 V (45 kva) units require a 50 – 60 Hz
- Compressed air supply: 6 bar (90 PSI)
- Water supply: 3.0 lpm (0.06 gpm)

Computer Drive System

- PC: Routeco
- Processor: Pentium P633
- Hard disk drive: 10 GB
- RAM: 64 MB
- Operating system: NT Workstation
- Floppy disk drive: 3.5 in 1.44 MB

CD-ROM drive:

- Mouse: (PS/2 connection)
- Serial ports: 2
- Parallel port: 1
- Expansion: Standard ISA or PCI card interface
- Industrial grade monitor: 38 cm (15 in) diagonal color 800 x 600 SVGA
- Keyboard: 102 key with protection membrane cover

Drive System:

- Motor: DC Thyristor controlled, 15 kW (20 HP)
- Speed range: 30 – 4000 RPM
- Speed/torque (RPM/N·m): 0/165, 590/165, 1500/95, 2500/51

Continuous Operation Torque Ratings — Speed Control

- Closed loop speed control system: Zero steady state droop
- Digital speed selection: From computer application
- Analogue trim adjustment: ±10%
- Acceleration rate: 400 RPM per second
- "Nudge" function: Orientates drive to aid pump mounting
- Flywheel inertia: 1.8 kgm^2 (43 ft-lb^2)
- Flywheel brake: Air-operated friction brake for emergency stop

Continuous Operation Torque Ratings — Calibration System

- Video display metering: 12 line
- Color display screen: 38 cm (15 in)
- Capacity: 5 – 500 mm^3 stroke with 3 measuring modes, calibrate, overcheck, and average
- Selectable units: (mm^3st, cc/50, cc/100, cc/125, cc/250, cc/300, cc/500) and adjustable scale via upper/lower limits entry
- Back leakage flowmeter display: 50 – 1500 cc/min or 3 – 90 L/hr
- Units: cc/min, l/hr, and cc/1000st

Phasing

- Pressure phasing: Standard, dynamic phasing optional, and angle of rotation shown:
- Resolution display: 0.1°:

	Range	Resolution
Static Phasing	0° to 360°	0.1°
12-line Dynamic Phasing	0° to 360°	0.1°

Instrumentation

	On-screen display	Resolution	Range	Display	Units
Tachometer	Numerical	1 RPM			
Fuel Supply			1 – 4 bars	On-screen as numerical value and analogue representation	bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Auxiliary A			0 – 4 bars	On-screen as numerical value and analogue representation	bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Auxiliary B			0 – 16 bars	On-screen as numerical value and analogue representation	bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Boost Pressure			0 – 4 bars	On-screen as numerical value and analogue representation	bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Pressure Phasing	80 bar displayed as numerical value				bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Lube Oil	7 bar displayed as numerical value				bar, Mpa, PSI, mmHg, mbar, HPa, kPa
Advance (optional)		0.1 mm	±10 mm		mm, DPA°, DPC°, Stanadyne°, Bosch°
Fuel Supply Temperature			0° to 80°C	Numerical value on-screen	°C (°F)
Back Leakage	Both temperature and flow numerical values		0° to 80°C		Flow units: cc/min, l/hr, and cc/1000str

Hydraulic System

Test Oil Supply and Controls

- Electric motor: Direct pump drive
- Pressure: 550 L/hr and 0 – 4 bar (0 – 60 PSI)
- Pressure phase supply: 0 – 80 bar
- Tank: 45 L (10 gal) capacity

Temperature Control

- Temperature controlling: ±2°C

Lube Oil Supply

- Pressure: 250 L/hr and 0 – 4 bar
- Tank: 14 L (3 gal) capacity

Separate hours counters for:

- Fuel pump
- "Change Filter" message every 500 hours
- Drive
- Machine

Auxiliaries

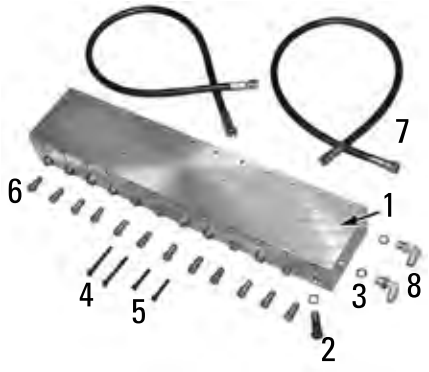
- Two DC supply outlets: 0 – 25 V at 3 A, which can be parallel connected to give 6 A
- Multi-pin 110V connector: For external single cylinder calibrator and point of injection transducers
- Clock display: Real time
- Socket: For advance kit transducer

FUEL SYSTEMS

FIETS Nozzle Block and Lines

Model Usage: Fuel Injection Equipment Test Stand

Warranty: Caterpillar® Six Months



- Nozzle block and replacement lines are applicable to all Fuel Injection Equipment Test Stands
- Nozzle holding block uses test oil from phasing pressure circuit to carry nozzle-generated heat back to sump where it is removed by heat exchanger
- Improves work environment by eliminating hot test oil vapors at graduates
- Reduces heat-related deterioration of test stands non-metallic lines
- Contains replaceable nozzle tip shields to prevent erosion of nozzle block
- Required when using latest test specifications (in TMI)
- Required when testing pumps from higher horsepower 3400 Servies Engines

FIETS Lines Group

- Bypasses constricting joints in swing arm 9U-7694 Nozzle Lines Group — provides nozzle bleed return to test oil sump
- Increases test stand accuracy by minimizing leaks
- Former nylon tubing replaced with teflon tubing for better abrasion resistance of tubes inside swing arm and longer life
- Flexible tubing is fuel, heat, and ozone resistant (used for pulse dampers and lines to graduates)
- Internal routing of teflon lines redirected through front bearing support arm — reduces kinking and makes line replacement faster and easier
- Corrects possible contamination of test oil from table drain tray on certain vintage benches

References

- NEHS0594-01, Using the TMI System to Retrieve Off Engine Injection Pump Test Specifications for the FIETS
- NEHS0593, Tool Operating Manual, Installing the Replacement Lines on the FIETS

Cooled Nozzle Block Parts

Item	Part Number	Description	Quantity
1	128-5093	Block Nozzle	1
2	128-5094	Tip Shield Fitting	12
3	3J-1907	O-ring Seal for 5P-9617 Adapter	14
4	6L-5551	Bolt	2
5	2H-3764	Bolt	2
6	5P-4400	Air Block Connector	12
7	7G-7105	Hose Assembly	2
8	030-7947	Elbow Fitting	2

Calibration Fluid

Model Usage: Cat® Fuel Injection Test Bench and Cat® Fuel Injection Equipment Test Stand

Warranty: Caterpillar® Six Months



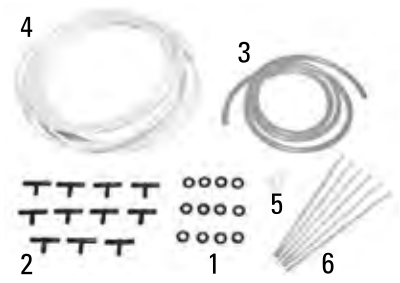
- Fuel injection test benches
- Pop Testers

- SAE J967 (ISO 4113) Calibration Fluid recommended by Cat® for use in fuel injection test benches, 5P-4150 Nozzle Tester Group and discontinued 6V-4022 Injector Tester

Part Number	Qty.	Size
6V-6068	1	18.9 L (5 gal)
6V-6067	1	208 L (55 gal)

Nozzle Lines Group

Warranty: Caterpillar® Six Months



Item	Part Number	Description
—	9U-7694	Nozzle Lines Group
Nozzle Lines Group Consists of:		
1	5R-7136	Sealing Washer
2	9U-7698	Tee Fitting
3	9U-7699	Flexible Tubing
4	9U-7707	Flexible Tubing
5	9U-7706	Hose Clamp
6	068-9941	Wire Tie
Not shown	1S-9593	Cable Strap

Fast-Fill Nozzle

Model Usage: All Cat® Machines with Ground-Level Fill Capability

Warranty: Caterpillar® Six Months



- Provides an alternative ground-level fill nozzle to 4C-6716
- Automatic shutoff feature
- Trips off at a preset pressure
- Sum of all pressure drops between the nozzle and atmosphere
- Higher nozzle shutoff settings will overcome higher system pressure drops:
  - Helps reduce short fills
  - Achieves higher flow rates
- For diesel fuel only (For DEF Nozzle See Part Number 449-3224)
- Rugged, light-weight aluminum and high-strength steel
- Handles flows in excess of 150 GPM

Specifications (all three part numbers)

- Dimensions: 375.8 x 213.5 x 127 mm (14.8 x 8.4 x 5.0 inches)
- Weight: 3.175 kg (6.9 lbs)

Part No.	Shutoff Pressure	Description
477-0604	8 psi (For all Cat® machines)	Fast-Fill Nozzle
477-0605	10-11.5 psi (for larger WTS/MG; not for pressurized systems)	Fast-Fill Nozzle
477-0606	13.5-15 psi (for 200+ GPM; not for pressurized systems)	Fast-Fill Nozzle

FUEL SYSTEMS

Rebuild Kits and Tools for the Diesel Fluid Fast-Fill Nozzles

Model Usage: Fast-Fill Nozzles 477-0604, 477-0605, 477-0606

Warranty: Caterpillar® Six Months

- Used to rebuild the fast-fill fuel nozzles.
- Seal kits and tools are available to make all necessary repairs.

S.No	Part No.	Description	Dimensions	Weight
1	533-1157	Tool Group (Piston And Cylinder)	dia 53.1 x 209 mm (dia 2 x 8.2 in)	1.2 kg (3 lb)
2	533-1158	Insertion Tool (Poppet)	dia 46.1 x 72.4 mm (dia 1.8 x 3 in)	1.15 kg (2.5 lb)
3	533-1159	Spanner Wrench	100 x dia 28.6 x 102.1 mm (4 x dia 1.1 x 4 in)	0.5 kg (1.1 lb)
4	533-1160	Tool Group (Nozzle Rebuild)	-	0.5 kg (1.1 lb)



533-1157



533-1158



533-1159



533-1160

Fuel Line Capping Kit

Model Usage: C9.3B Engines

Warranty: Caterpillar® Six Months



541-9333



558-4574

- New fuel line capping kit for C9.3B engines
- Used for injector testing
- The kit consist of five 541-9333 capping plugs in a plastic container.
- Each 541-9333 capping plug is also available separately.

Part No.	Description	Dimensions	Weight
541-9333	Plug As-Rail	HEX 19.1 x 40.6 mm (HEX 0.75 x 1.6 in)	0.06 kg (0.13 lb)
558-4574	Tool As. (Rail Plug)	25.4 x 172 x 185 mm (1 x 6.8 x 7.3 in)	0.5 kg (1.1 lb)

FUEL SYSTEMS

Fuel Filtration System, Cat® Portable Bulk

Model Usage: All Models

Warranty: Caterpillar® One Year



Clean, dry fuel is absolutely essential in order to achieve long fuel system component life and reduce equipment down time. Over 90% of diesel fuel system troubles are due to dirt and/or water in the fuel. Filtration systems on machines and engines are not designed to clean heavily contaminated fuel. To improve equipment uptime, bulk fuel filtration is the most cost-effective and efficient method to ensure that clean and dry fuel is delivered to fuel tanks.

Fuel Contamination

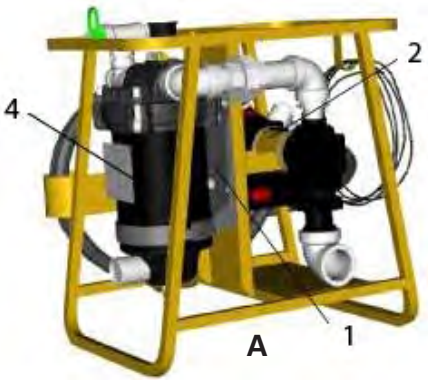
When dirt or water are introduced into fuel during transportation or storage, you have fuel contamination. This causes premature filter plugging, as well as accelerated fuel system component wear.

- This system will reduce costly fuel injector failures in your fuel systems.
- Lightweight – Portable easy to move
- Flow rate 20 GPM (75 LPM)
- Powered by a 12V pump
- Removes both particulates AND water
- Delivers clean, dry fuel in a single pass

Reference

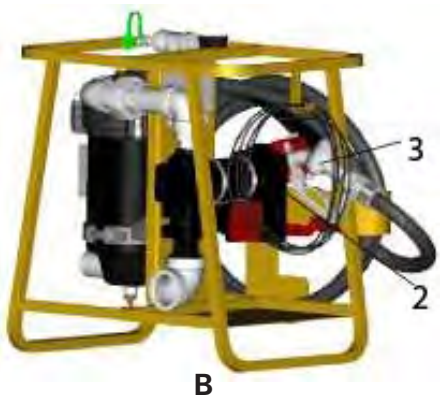
- PEDJ0295 Brochure
- NEHS1216 Tool Operating Manual

Part No.	Description	Dimensions	Weight
464-8510	Cat® Portable Bulk Fuel Filtration System	576 x 533 x 495 mm (23 x 21 x 19 in)	37 kg (83 lb)



Service Repair Parts

Item	Part No.	Description
1	464-8511	Mounting Bracket
2	464-8512	Pump, 12V (duty cycle 30 min)
3	464-8513	Nozzle
4	461-5138	Filter Housing Assembly
5	7x-3387	Sampling Valve
6	6v-0852	Dust Cap
7	8t-0863	Pressure Gauge







Common Rail Assembly Reseal and Flushing Group

Model Usage: All C175s

Warranty: Caterpillar® Six Months







- Complete bench assembly for resealing and flushing of C175 Common Rail Groups. (All Applications)
- Provides a stable, adjustable and safe platform to reliably reseal, assemble, align and flush a C175 Common Rail Fuel Group
- Reuse, salvage, resealing and flushing of the fuel rail provides significant cost savings and offers an attractive component repair option to the customer.
- Flushing system is designed to provide reliable and repeatable flushing results to help the dealer conform to Caterpillar Contamination Control cleanliness guidelines for fuel system components after rebuild.
- Sampling port for flushing flow allows monitoring of component cleanliness during flushing process.
- Two selectable 225 L (60 gal) fluid tanks allows for off-line filtration while rail is being flushed.
- Two-stage off-line kidney loop filtration utilizing Caterpillar Clean Fuel Module®.
- Sampling ports for off-line tanks allow monitoring of fluid cleanliness before the flushing process.
- Configurable to provide leak test of low pressure return tubes and seals
- Assembly table, two assembly fixtures, and adjustable holding jigs included
- Separate quill tube flushing manifold included
- All necessary plugs, alignment tools and adapters included
- May be adapted to additional tubes and other fuel system components such as low pressure supply/return lines or 3500 series fuel manifold groups
- Two assembly fixtures improves technician efficiency by allowing a second rail to be assembled while the other is being flushed.
- Reseal, assembly, and flushing time is approximately 4 man hours per rail.
- Contamination monitor/particle analyzer is required but not included.
- Contact your Cat® Dealer Service Tools representative for assistance and ROI analysis.

Reference

- M0072382 Inspection, Salvage, Reuse, and Cleaning of the C175 Engine Fuel Rails

Part No.	Description
502-0889	C175 Common Rail Assembly Reseal and Flushing Group

Flushing Bench:

Dimensions	3550 x 1260 x 508 mm (139 x 49 x 20 in)
Weight	545 kg (1200 lb)
Fluid Capacity	457 L (120 gal) 2 x 227 L(60 gal) tanks
Electrical	100/230 VAC / 50/60 HZ /1 PH
Air	760 kPa (110 psi)
Acceptable Flushing Fluid	Diesel (non-bio), mineral spirits, 6V6067 calibration fluid

Assembly Table and Fixture:

Dimensions	3184 x 903 x 508 mm (125 x 36 x 20 in)
Weight	87 kg (195 lb)
Radial Fixture Adjustment	180° / 30° increments

FUEL SYSTEMS

Fuel Injection Tube Assemblies

Model Usage: Cat® Fuel Injection Test Bench (FITB) and Fuel Injection Equipment Test Stand (FIETS)

Warranty: Caterpillar® Six Months



- Bend-to-fit lines that reduce need for special fuel injection lines
- Data available in TMI uses 9U-6705 Master Nozzles and 9U-5298 and 9U-5299 lines (see SEHS0594)

References

- NEHS0594, Tool Operating Manual, Using TMI to Find Pump Specifications
- LEBQ0724, Technical Marketing Information (TMI)

Part Number	Overall Length	Use
9U-5298	76 cm (30 in)	Used for testing all in-line pumps and 3208
9U-5299	127 cm (50 in)	Used for testing all 3400 Vee pumps

Master Nozzle Group

Model Usage: Cat® Fuel Injection Test Bench (FITB) and Fuel Injection Equipment Test Stand (FIETS), AVM

Warranty: Caterpillar® Six Months



- Replaces discontinued 1U-5500 Master Valve Assembly, 9U-5024 Master Valve Assembly, and 6V-9470 Master Valve Assembly
- Used to test fuel pump delivery rates on FITB and FIETS
- Has improved accuracy of ±1% with four-orifice tip (greatly improved over former valve assemblies with ±5% accuracy)
- Required when using new pump performance test specifications available in TMI
- Use with 9U-5298 and 9U-5299 Tube Assemblies (high pressure fuel lines)

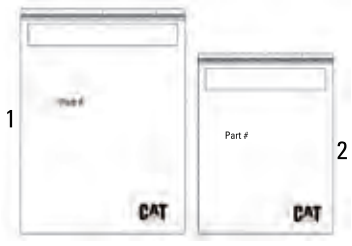
References

- NEHS0594, Tool Operating Manual, Using TMI to Find Off-Engine Test Specs
- LEBQ0724, Technical Marketing Information (TMI)

Part Number	Description
9U-6705	Nozzle Master
Service/Repair Parts	
7W-4486	Sealing Washer
9U-5037	Bleed Fitting

Storage Bags

Warranty: None



- Keep fuel lines sealed and protected from dust and dirt
- Ziplock closure prevents oil and other greases from leakage
- Printed with 2-color Cat® logo, black part number, and a white area that can be written on to identify the parts inside the bag
- Transparent so the parts can be visibly identified
- May be used for a variety of purposes
- 3 sealed hang holes on top of bag spaced to fit standard one inch pegboard hooks

Item	Part Number	Outside Dimensions	Ziplock Closure	Clear Vinyl Back and Front
1	152-0789	55.9 x 76.2 mm (22 x 30 in)	Top of bag (55.9 mm [22 in])	10.0 mm
2	152-0788	45.7 x 60.0 mm (18 x 24 in)	Top of bag (45.7 mm [18 in])	10.0 mm

Injection Pump Off Engine Test Specification Determination

Model Usage: Fuel Injection Equipment Test Stand

Warranty: None

- Contains complete instructions to obtain test specifications through TMI on Caterpillar® Network
- New data format gives larger selection of data for each pump (does not require resetting pump)
- Data can be obtained using injection pump and governor group part number, or engine arrangement number
- Most current data is always available on line

Reference

- LEBQ0724, TMI Technical Marketing Information

Pressure Gauge

Model Usage: All Models with Pump and Line Fuel Systems

Warranty: Caterpillar® Six Months



- Used to replace original gauges on the discontinued 6V-7900, discontinued 1U-8212, and discontinued 1U-8213 Fuel Injection Test Benches, and discontinued 132-9753 and discontinued 139-1437 (AVM)
- Replaces without modifying test stand
- Displays both kPa and PSI
- Diameter: 102 mm (4.0 in)
- 1/4 inch NPT lower back connection
- Liquid-filled, chrome-plated cast brass case
- Clamp and profile ring included for panel mounting

Part Number	Replaces Hartridge Gauge
4C-4617	0 to 7000 kPa (0 to 1000 PSI)
8T-7637	0 to 1400 kPa (0 to 203 PSI)
9U-6099	-100 to 4000 kPa (-14 to 580 PSI)
9U-6100	0 to 700 kPa (0 to 101 PSI)

Calibration Fluid Tool Group

Model Usage: FIETS, FITB, AVM, All Cat Engines

Warranty: Caterpillar® One Year



- Used to measure viscosity and specific gravity of SAE J967D (ISO4113) calibration fluid
- Used with fuel injection equipment test stand (FIETS) and fuel injection test bench (FITB) — helps to maintain accuracy of test equipment
- Performs test to make sure calibration fluid in test equipment is within specifications
- Saves money — fluid is not changed prematurely
- Beakers made from durable Nalgene and Pyrex
- Hydrometers are filled with a non toxic biodegradable measurement fluid
- Viscosity cup is individually calibrated for each test group — cup and calibration chart marked with individual serial number (matched set)
- Used to correct measured horsepower for density of fuel when testing engines on dynamometers

Reference

- NEHS0607, Tool Operating Manual
- NEHS0631, Tool Operating Manual, General Maintenance for FIETS
- NEHS0640, Tool Operating Manual, Installing Fuel Suction Port on the FIETS

Specifications

- Case: 470 x 395 x 203 mm (18.5 x 15.6 x 8 in)
- Weight: 2.3 kg (5 lb)
- Viscosity Cup: Individually serialized (includes calibration sheets)
- Beaker Material: Nalgene or Pyrex
- Also included (not shown) NEEG3148 Decal

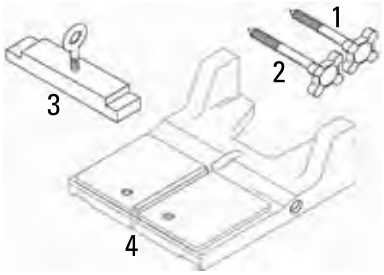
Item	Part No.	Description
—	398-9680	Calibration Fluid Tool Group
	Serviceable Parts	
1	398-9676	Hydrometer Instrument
2	398-9677	Hydrometer Instrument
3	398-9678	Beaker Instrument
4	9U-7839	Stopwatch
5	9U-7841	Viscosity Cup
6	9U-7842	Beaker
7	6V-9449	Case

FUEL SYSTEMS

Basic Mounting/Setup Group (Not Serviced)

Model Usage: All Fuel Injection Equipment Test Stands (FITB, FIETS, and AVM)

Warranty: Caterpillar® Six Months



- Replaces discontinued 1U-7426 Pump Adapter Group
- Used to adapt injection pump mounting and drive groups to test stand
- Used with fuel injection equipment test stands (FITB, FIETS, and AVM)
- Group has been updated to eliminate non-current tooling and add new required tooling
- Tooling is required for off-engine testing of injection pumps and governors
- Parts are serviced separately to reduce dealer cost (no need to purchase tools already in inventory)

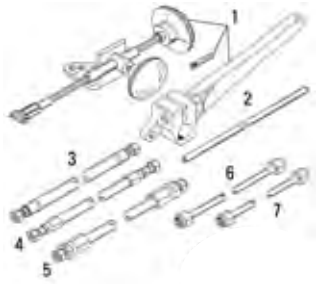
References

- NEHS0594, TMI Specification
- NEHS0624, 4C-8192 Heavy Duty Coupling Group (Hartridge Bench UpGrade)
- NEHS0625, Tool Operating Manual, 3408/12, PEEC NSFS
- NEHS0631, FIETS General Maintenance and Trouble Shooting
- NEHS0639, Tool Operating Manual, 3406B and 3406C, PEEC NSFS
- NEHS0640, Tool Operating Manual, Calibration Fluid Suction Port
- SEHS8024, 6V-6070 Governor Adjustment Tool Group
- SEHS9318, 3161 Woodward Test and Adjustment
- SMHS7013, 5P-4203 SMFS Tool Group

Item	Part Number	Description	Quantity
—	136-8330	Basic Mounting/Setup Group (not serviced)	—
Mounting Hardware			
1	6V-6103	Screw Assembly	2
2	6V-9134	Screw Assembly	2
3	6V-9138	Clamp Assembly	2
4	6V-9132	Fixture Assembly	1

Lines and Testing Hardware

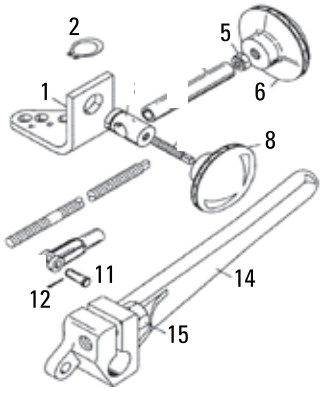
Warranty: Caterpillar® Six Months



Item	Part Number	Description	Quantity
Lines and Testing Hardware			
2	126-1827	Rod	1
3	7G-7105	Hose Assembly	3
4	3V-2744	Hose Assembly	1
5	031-2125	Hose Assembly — Hyd	1
6	9U-5299	Tube As — Fuel Injection Test	12
7	9U-5298	Tube As — Fuel Injection Test	8

Additional Service/Repair Parts

Warranty: Caterpillar® Six Months

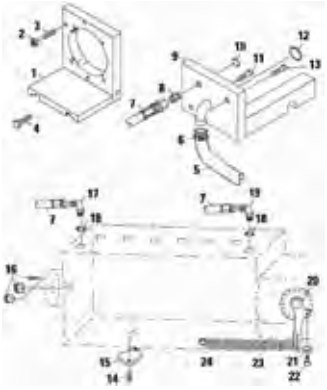


Item	Part No.	Description	Qty.	Where Used
Additional Hardware (Dependent on Pump Model)				
—	1U-5223	Fitting	6	bleed return for 1P-1795 (discontinued)
—	3P-1539	Tube Assembly	8	1.60 mm (0.063 in) ID x 533.4 mm (21.0 in) long
—	6V-7793	Coupling Group	1	drive adapt Hartridge 20.00 mm (0.787 in) jaw
—	4L-5937	Injection Pump Fuel Line Assembly	6	1.60 mm (0.063 in) ID x 431.8 mm (17.0 in) long
Additional Parts				
6	6V-9138	Clamp Assembly	—	fixture assembly to rail system
9	6V-9134	Screw Assembly	—	fixture assembly to bench rails (short)
10	6V-6103	Screw Assembly	—	fixture assembly to bench rails (long)
10	6V-9132	Fixture Assembly	—	target/fixture assembly to bench rails
—	126-1827	Rod	—	drive coupling rotation (Cat® heavy duty)
—	1U-5223	Fitting	6	bleed return for 1P-1795 (discontinued)
—	3P-1539	Tube Assembly	8	1.60 mm (0.063 in) ID x 533.4 mm (21.0 in) long
—	6V-7793	Coupling Group	1	drive adapt Hartridge 20.00 mm (0.787 in) jaw
—	9U-6705	Nozzle Master	—	for master nozzle
—	9U-5299	Tube As — Fuel Injection Test	—	1.83 mm (0.072 in) ID x 1270.0 mm (50.0 in) long
—	9U-5298	Tube As — Fuel Injection Test	—	1.83 mm (0.072 in) ID x 762.0 mm (30.0 in) long
—	031-2125	Hose Assembly — Hyd	—	#4 (37 degree) [7/16 – 20 thd x 1016 mm (40 in) long]
—	1T-0416	Bolt	—	for master nozzle
—	3V-2744	Hose Assembly	—	#4 (37 degree) [7/16 – 20 thd x 610 mm (24.0 in) long]
—	4L-5937	Injection Pump Fuel Line Assembly	6	1.60 mm (0.063 in) ID x 431.8 mm (17.0 in) long
—	8N-5132	Clamp	—	for master nozzle

Mounting Drive Group (Not Serviced)

Model Usage: 3406B, 3406C, and 3406 PEEC Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 6V-4990 Adapter Group
- Used to mount and test fuel injection pumps
- Used with fuel injection equipment test stands (FITB, FIETS, and AVM)
- Tooling is required for off-engine testing of injection pumps
- Parts are serviced separately to reduce dealer cost (no need to purchase tools already in inventory)

References

- NEHS0594, TMI Specification
- NEHS0624, Tool Operating Manual
- NEHS0639, Tool Operating Manual

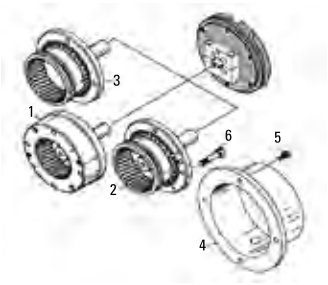
Item	Part Number	Description	Qty.
—	135-2916	Mounting Drive Group (not serviced)	—
1	6V-6101	Plate Assembly [a]	1
2	6V-8801	Nut	5
3	1J-8668	Stud	5
4	0L-1143	Bolt	3
5	9U-7709	Drain Tube	1
6	5D-1026	Hose Clamp	1
7	7G-7105	Hose Assembly	3
8	5P-6661	Fitting	1
9	6V-6102	Support Assembly	1
10	1S-0004	O-ring Seal	1
11	0S-1591	Bolt	1
12	3J-1907	O-ring Seal for 5P-9617 Adapter	2
12	8S-5953	O-ring Seal	1
13	3B-1915	Bolt	1
14 [a]	2A-0762	Bolt	2
15	9U-5297	Cover	2
16	4W-0435	Quad Ring Seal	1
16	4W-4616	Quad Ring Seal	1
16	7H-2069	Bolt	1
16	8T-2848	Plug	1
16	8T-2849	Plug	1
17	030-7947	Elbow Fitting	1
19	1W-3151	Orifice Fitting	1
20	6N-3646	Lever	1
21	5P-0537	Hard Washer	1
23	9M-3858	Spring	1
24	6V-8918	Bolt	1

a. Some later 6V-6101 Plate Assemblies do not include shield.

b. 2A-0762 Bolt, is item 14 (Qty. 2) and item 22 (Qty. 1)

Additional Required Hardware for Mounting Drive Group

Warranty: Caterpillar® Six Months



The following list of hardware is required, but not included as part of the 135-2916 Mounting Drive Group (not serviced). This tooling can be purchased as needed.

Drive Adapters for 4C-8723 Jaw Assembly

Item	Part No.	Description	Where Used	Qty.
1	6V-6097	Camshaft Drive Adapter Assembly	camshaft drive (10 degree helix with 50 teeth)	—
2	1U-8700	Camshaft Drive Adapter Assembly	camshaft drive (15 degree helix with 50 teeth)	—
3	4C-8249	Camshaft Drive Adapter Assembly	camshaft drive (15.615 degree helix with 52 teeth)	—
4	6V-6099	Camshaft Drive Shield Assembly [a]	—	1
5	4L-7124	Bolt — Hex Socket Head [c]	—	4
6	0L-1143	Bolt	bolt, drive adapter to injection pump cam	3

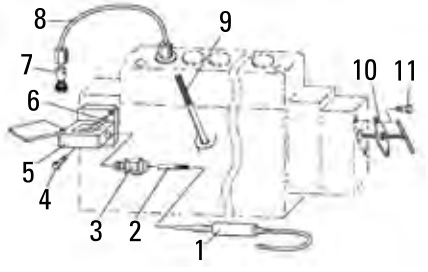
a. Some later 6V-6101 Plate Assemblies do not include shield.
b. Part of 1P-0520 Driver Group

Adapter Part Numbers and Usage

Usage	4C-8723 Jaw Assembly
3406 Truck Engine — 7FB and 4MG3600-DOWN, 10 degree Helix with 50 teeth	6V-6097
3406B PEEC Engine — 3ZJ, 3406B Truck Engine — 4MG3600-UP, 15.615 degree Helix with 52 teeth	4C-8249
3406B PEEC Engine — 8TC, 3406B Truck Engine — 4MG3600-UP, 15 degree Helix with 50 teeth	1U-8700

c. Requires 126-1826 Oil Shield Assembly on 6V-6101 Plate Assembly.
d. Requires 4C-8189 Drive Tube.
e. Attach the 4C-8723 Jaw Assembly onto the discontinued 4C-8192 Heavy-Duty Coupling Group.

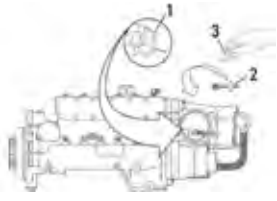
Test Hardware (PEEC and Non-PEEC Engines)



Item	Part Number	Description	Qty
1	8T-1002	Position Probe (X4)	1
2	5P-4160	Point — Indicator Contact, 19.05 mm (0.75 in) long	1
3	5P-4814	Collet As — Clamp	1
4	7B-2742	Bolt	1
5	8T-9198	Rack Indicator Bracket Assembly	1
6	0S-1615	Bolt [d]	1
7	9U-6705	Nozzle Master	6
8	9U-5298	Tube As — Fuel Injection Test	6
9	6V-4186	Pin — Fuel Pump Timing	1
10	9U-5296	Rack Positioning Assembly [a]	—
11	4F-7957	Bolt	—

a. Parts serviced separately.
b. Non-PEEC, 3406B and 3406C Rack Adjustment

Rack Positioning Hardware (3406 PEEC Engines)



Item	Part Number	Description
1	9U-5292	Rack Pre-load Assembly
2	9U-5295	Rack Positioning Assembly
3	9U-5120	Spanner Wrench

FUEL SYSTEMS

Fuel Pump and Governor D&A Tools, Zexel and Nippondenso

Model Usage: 3046, 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble fuel injection pump and governor
- Makes overhaul of pump and governor simpler and faster
- Using this specialized tooling reduces the risk of part and component damage

References

- SENR6572, Supplement for Fuel Injection Pumps for 3064 and 3066 Engines
- SENR6573, Supplement for Fuel Injection Pumps for 3046 Engines

Part Number	Description	Use
4C-6608	Holding Tray	keep parts organized (reduces chance of lost or damaged parts)

Fixture Group/Mounting Plate



Item	Part Number	Description	Use
1	4C-5602	Fixture Group	hold pump in any position for ease of repair (can greatly increase mechanic's efficiency during overhaul)
2	4C-5603	Mounting Plate	bolts to fuel injection pump and attaches to 4C-5602 Fixture Group; allows attachment of Nippondenso, Zexel, and Stanadyne pump, all to the same plate

Assemble Tools for Zexel and Nippondenso Fuel Pump



Item	Part Number	Description	Use
1	4C-5567	Torque Adjusting Socket	remove and adjust torque control spring
2	126-2370	Wrench (3046 only)	remove and adjust torque control spring
2	4C-5085	Wrench (3064 and 3066 only)	remove and adjust torque control spring
3	5P-1720	Seal Pick	remove shims under plunger springs
4	4C-6605	Tweezers	remove and install delivery valve (care must be taken not to damage this part)
6	4C-4025	Bearing Installer	install bearing on camshaft (reduces bearing damage and part replacement cost)
7	4C-4098	Seal Installer	install seals in front pump cover

Fuel Pump and Governor T&A Tools, Zexel and Nippondenso

Model Usage: 3046, 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to test and adjust fuel pump and governor after an overhaul
- Used with discontinued 8T-1001 Electronic Position Indicator, 8T-1002 Indicator Probe, 6V-3075 Indicator, and 5P-4163 Indicator Tip

References

- NEHS0622, Tool Operating Manual, Testing and Adjusting Fuel Injection Pump and Governor on 3064 and 3066 Engines
- SENR6573, Supplement, Nippondenso Fuel System

Item	Part Number	Description	Use
Mounting Tools			
1	8S-2264	Puller Group	helps remove drive adapter from pump
2	9U-7493	Drive Adapter	attaches pump to test stand drive spindl
3	0T-0722	Bolt	attaches pump to test stand base plate
4	4S-9191	Flat Washer	attaches pump to test stand base plate
5	9U-7494	Pump Mounting Plate	attaches pump to test stand base plate
6	6V-9138	Clamp Assembly	pump mounting base (part of Fuel Injecti Test Stand)
7	0T-0924	Bolt	attaches pump to test stand base plate
8	3B-4506	Lock Washer	attaches pump to test stand base plate
9	6V-9134	Screw Assembly	pump mounting base (part of Fuel Injection Test Stand)
10	6V-9132	Fixture Assembly	pump mounting base (part of Fuel Injection Test Stand)
11	118-1713	Washer	attaches pump to test stand drive spindle
12	118-1711	Nut	attaches pump to test stand drive spindle
13	2A-4639	Bolt	attaches pump to test stand drive spindle
14	9U-7501	Drive Adapter	attaches pump to test stand drive spindle
Not shown			
—	146-7767	Guard Assembly	—
—	2H-0191	Bolt	—

a. Item 13 includes: item 8, 3B-4506 Lock Washers (2)

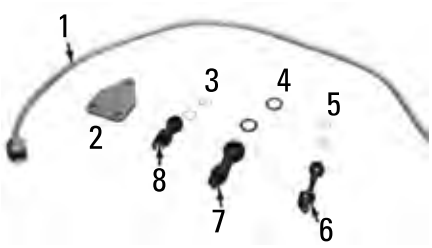
Adjustment Tools



Item	Part Number	Description	Use
Adjustment Tools			
1	8T-1001	Electronic Position Indicator	obtain measurement specifications
2	8T-1002	Position Probe (X4)	obtain rack measurement specifications
3	6V-3075	Indicator — Dial	obtain measurement specifications
4	5P-4163	Point — Indicator Contact, 120.65 mm (4.75 in) long	obtain measurement specifications
5	4C-2982	Indicator Collet	as an assembly to measure plunger lift
6	4C-5713	Nozzle Overflow Assembly	allows mechanic to see when fuel stops flowing and then check timing angle
7	4C-5085	Wrench (3064 and 3066 only)	adjusts the setting of torque idling screw
8	4C-5567	Torque Adjusting Socket	adjusts the setting of torque idling screw
9	4C-6509	Plunger Spring Retainer	replace adjustment shims (holds plunger spring off top of roller)
10	5P-1720	Seal Pick	replace adjustment shims (holds plunger spring off top of roller)
11	4C-6605	Tweezers	helps to remove and install delivery valve
12	9Y-6051	Locknut	as an assembly to measure plunger lift
13	4C-5604	Copper Washer (2)	as an assembly to measure plunger lift
14	4C-4658	J-tube Fitting	as an assembly to measure plunger lift
15	4C-4766	Plunger Adapter	as an assembly to measure plunger lift

FUEL SYSTEMS

Calibration Fluid and Lube Line Tooling



Item	Part Number	Description	Use
1	127-4365	Fuel Injector Test Tube Assembly (6)	connect injection pump to master nozzle
2	4C-4909	Transfer Pump Cover	covers transfer pump opening during testing
3	4C-5708	Copper Washer (2)	returns test oil from pump back to test stand
4	4C-5707	Copper Washer (2)	supplies test oil to fuel pump
5	4C-5706	Copper Washer (2)	supplies lube oil to pump
6	4C-6609	Lube Oil Supply Fitting	supplies lube oil to pump
7	4C-5711	Calibration Fluid Supply Fitting	supplies test oil to fuel pump
8	4C-5710	Calibration Fluid Return Fitting	returns test oil from pump back to test stand

Disassemble Tools for Zexel and Nippondenso Fuel Pump



Item	Part Number	Description	Use
1	4C-5601	Plunger Compressor	compresses plunger spring and roller so plunger holders can be installed and removed
2	4C-6381	Lower Plier	designed to reach through pump case and remove/install plungers
3	4C-6597	Plunger Holder	hold plungers off camshaft so it can be removed or installed
4	4C-5580	Pulling Adapter	removes 4C-4024 Camshaft Holder from camshaft
5	4C-4024	Camshaft Holder	hold camshaft while removing and installing retaining nut that holds flyweights to camshaft
6	4C-6380	Plunger Holder	makes removal and installation of roller much easier
7	4C-4956	Nut Socket	removes and installs flyweight retaining nut (specially designed)

Indicator Tools

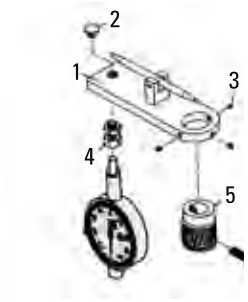


Item [a]	Part Number	Description	Use
		Indicator Tools	
1	—	Electronic Position Indicator	obtain rack measurement specifications
2	8T-1002	Position Probe (X4)	obtain rack measurement specifications
3	5P-4160	Point — Indicator Contact, 19.05 mm (0.75 in) long	obtain rack measurement specifications
4	3P-1567	Indicator	obtain rack measurement specifications
5	4C-5569	Measurement Adapter [b]	attaches indicator to pump for rack measurement
6	4C-2982	Indicator Collet	as an assembly to measure plunger lift

a. Item 1: Electronic Position Indicator, Use: obtain rack measurement specifications

b. Used for FIETS and AVM with heavy duty coupling

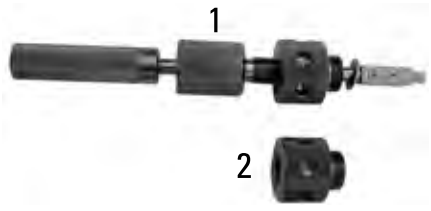
Rack Position Bracket Group (not serviced)



Item	Part Number	Description	Qty.
—	146-7780	Rack Position Bracket Group (not serviced)	—
1	146-7777	Arm Assembly [a]	—
2	6V-2057	Contact Point	1
3	5B-9324	Set Screw [a]	3
4	3P-1565	Collet Clamp	—
5	146-7771	Rack Measurement Adapter [a]	—
Not Shown			
—	6V-2030	Extension [a] [b]	1

a. Used for FIETS and AVM with heavy duty coupling
b. Part of 6V-6042 Indicator Contact Point Group

Thread Adapter



This adapter is used to adapt the 4C-5601 Plunger Compressor to Zexel pumps with M28 threaded plugs.

To remove existing M26 thread adapter:

1. Remove block with spring fingers (heat may be required to loosen thread lock compound).
2. Remove washer and current M26 thread adapter (silver).
3. Install new M28 thread adapter (black oxide).
4. Install washer and block with spring fingers (use 4C-4030 Thread Lock to secure block with spring fingers).

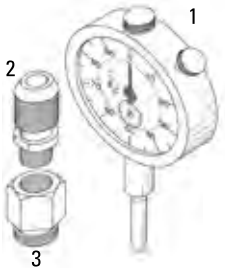
Item	Part Number	Description
1	4C-5601	Plunger Compressor
2	195-0768	Thread Adapter

Engine Governor Adjustment Tools

Essential Tool

Model Usage: C0.5, C0.7, C1.1, C1.5, C1.6 and C2.2 Engines

Warranty: Caterpillar® Six Months



- Used to adjust governor on specific model Industrial engines
- Used with 8C-4982 Allen Head Screw (M4 x 20 x 0.70 mm)

Reference

- KENR6228-00, Testing and Adjusting C0.5, C0.7, C1.1, C1.5, C1.6 and C2.2 Industrial Engines

Item	Part Number	Description	Use
1	330-7396	Dial Indicator	graduated in 0.01 mm increments and has a 20 mm (.8 in) long extension tip
2	330-7397	Dial Indicator Holder	fits over indicator shaft and collet locks it in position
3	330-7398	Engine Block Adapter	installs in cylinder block and allows dial indicator holder to thread into adapter

FUEL SYSTEMS

Injection Pump

Model Usage: Early 3054 and 3056 Pre-Emission Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble Stanadyne DB2 and DB4 fuel injection pump and governor used on pre-emission 3054 and 3056 engines
- Makes adjustments to fuel pump and governor simpler and faster
- Specialized tooling reduces the risk of parts and/or component damage
- Not for use on 3054-3056 Engines with Stanadyne, Lucas, or Bosch emission pumps

References

- SENR6574, Stanadyne Fuel System (Supplement)
- ENG95-1 IRM, for 3054 and 3056 Engine Fuel Systems

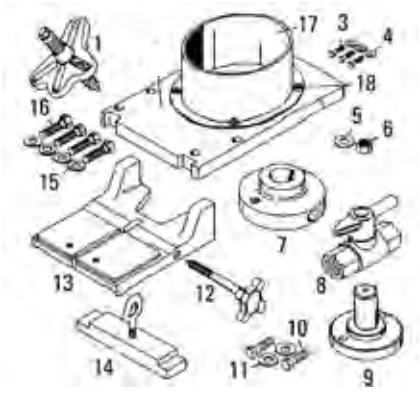
Part Number	Description	Use
4C-6608	Holding Tray	keep parts organized (reduces chance of lost or damaged parts)

Disassembly and Assembly Tools for Injection Pump Off-Engine



Item	Part Number	Description	Used
1	4C-5602	Fixture Group	disassembly and assembly
2	4C-5603	Plate	hold pump during disassembly and assembly

Bench Mounting Tools and Testing Tools



Item	Part Number	Description	Use	Qty
Bench Mounting Tools and Testing Tools				
1	8S-2264	Puller Group	remove 9U-7493 Drive Adapter from pump	—
3	0T-0772	Bolt	connect fuel injection pump to mounting plate	3
4	4S-9191	Flat Washer	connect fuel injection pump to mounting plate	3
5	118-1713	Washer	connect 9U-7493 to pump	—
6	118-1711	Nut	connect 9U-7493 to pump	—
7	9U-7493	Drive Adapter	connect 9U-7501 Drive Adapter to bench drive	—
8	8T-6864	Valve Shut-off	—	—
9	9U-7501	Drive Adapter	—	—
10	2A-4639	Bolt	bolt 9U-7501 to 9U-7493	2
11 a	5M-2894	Washer	bolt 9U-7501 to 9U-7493	2
12	6V-9134	Screw Assembly	secure base plate to rails	—
13	6V-9132	Fixture Assembly	—	—
14	6V-9138	Clamp Assembly	secure base plate to rails	—
16	0T-0924	Bolt	—	4
17	146-7767	Guard Assembly	—	—
18	2H-0191	Bolt	—	4

a. Item 11: 2M-2894 Flat Washer (Qty. 2) is also Item 15: 2M-2894 Flat Washer (Qty. 4)

Air Supply and Test Group



Item	Description
6	9.53 mm (3/8 in) Tubing, 0.46 m (1.5 ft)
7	Air Bulb (W.A. Baum Co. Inc. Catalog No. 1890)

Item	Part Number	Description	Size	Qty.
—	4C-8740	Air Supply and Test Group	—	—
1	8T-0841	Plastic Case	—	—
2	8T-0839	Diff Pressure Gauge	—	—
3	9U-6100	Gauge	—	—
4	4C-3974	Union Fitting	—	4
5	1U-5469	Pressure Gauge	—	—
Not Shown a				
—	3J-7354	O-ring Seal	—	2
—	4C-3973	Fitting	3.18 x 3.18 mm (1/8 x 1/8 in)	4
—	8T-0821	Tubing	16 m (52.5 ft)	—
—	5D-9231	Fitting	—	2

a. Also not shown: Male Connector, 6.35 x 3.18 mm (1/4 x 1/8 in) (Qty. 2) and Bulkhead Union, 3.18 mm (1/8 in) (Qty. 2)

FUEL SYSTEMS

Governor Torque Control Tool Group, 3161

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used to perform variety of in-vehicle engine governor and fuel system settings for D11 Track-Type Tractor and the 777, 785 and 789 Off-Highway Trucks
- Easily installed on governor without removing surrounding components such as alternator or water hoses
- With correct combination of lever arms and weights, a specific torque is applied to 3161 Woodward Governor speeder and terminal shafts; allows for setup of governor, setting fuel injection timing, derating of governor for high altitude applications, and evaluation of governor schedule

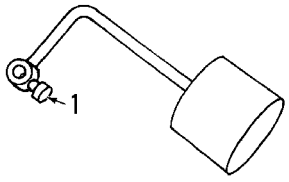
Item [a]	Part Number	Description	Weight
—	4C-6100	Tool Group, 3161 Governor Torque Control	—
1	4C-3975	Plastic Storage Case	—

a. Not shown: NEEG2435 Decal

Governor Torque Arm

Model Usage: 3500 Marine and Industrial Generator Sets

Warranty: Caterpillar® Six Months



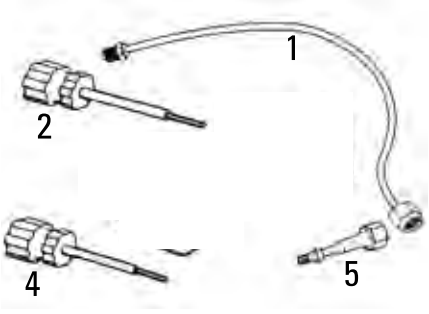
- Used to test and adjust 3161 governor
- Applies consistent torque to governor and fuel system linkage for more accurate fuel system adjustments
- Can be installed on terminal shaft of 3161 governor
- Arm applies 10.3 N·m (7.60 ft-lb) of torque to governor linkage when torque arm is installed with center line of cylinder-shaped weight in horizontal position

Reference

- SEHS9240-01, Special Instruction

Item	Part Number	Description
—	1U-9361	Governor Torque Arm
1	3F-7147	Bolt

Calibration Fluid and Lube Line Tooling



Item	Part Number	Description	Use
1	127-4365	Fuel Injector Test Tube Assembly	connect injection pump to master nozzle

Injector Sleeve

Model Usage: D11N, 3508, 3512, 3516, 777B, 785, 789, 3500

Warranty: Caterpillar® Six Months



- Used to cover fuel ports when cleaning injectors on D11N. 777B, 785, 789, and 3500 Series Engines

Part Number	Description
6V-4172	Injector Sleeve

Injection Nozzle Test Kit

Model Usage: C3.3B, C3.8

Warranty: Manufacturer's



- Used to accurately test Bosch and Denso electronic fuel injectors on C3.3B and C3.8 engines
- Connects directly to the 442-1747 Pop Teste (not included)

Part Number	Description
440-6907	Injection Nozzle Test Kit

Nozzle Tester Group

Model Usage: 1100, 3100, 3208, 3400

Warranty: Caterpillar® Six Months



- Used to test all fuel nozzles, including pencil-type nozzles on 1100 and 3100 Series and 3208 Engines, direct injection capsule-type fuel nozzles on 3400 Series Engines, and capsule-type nozzles used on all other engines

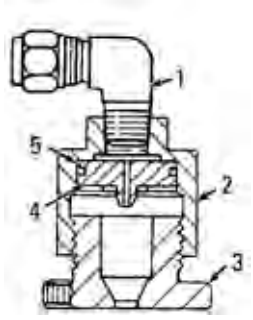
Reference

- SEHS7292, Special Instruction

Item	Part Number	Description	Notes
—	5P-4150	Nozzle Tester Group	—
1	5P-8744	Adapter Assembly	If desired, quick disconnect fittings may be installed for faster changing of nozzle adapters; refer to Engine News of October 3, 1979, for installation instructions
3	8T-0856	Gauge	6000 kPa (870 PSI) SEHS7605 Caution Label
4	5P-4721	Tube	End fittings not included; included with 5P-4719 and 5P-4720
5	5P-4244	Adapter	—
6	5P-4719	Fitting	Includes connecting fitting for 5P-4721
7	5P-4243	Fitting	—
8	8T-5313	Filter	—
9	4J-7533	Seal	one on each hand valve, qty. 5
10	6V-0183	Gasket	between reservoir and pump
11	8T-0859	Gauge — Pressure	25000 kPa (3600 PSI)
Available separately (not shown)			
—	1U-9578	Repair Kit	—

FUEL SYSTEMS

Service/Repair Parts for 5P-8744 Adapter Assembly (Sold Separately)



Item	Description
2	Adapter
3	Retainer

Item	Part Number	Description
1	5P-4720	Fitting [d]
4	5P-8742	Piston Assembly
5	2S-4663	Seal

a. Includes connecting fitting for 5P-4721

Nozzle Tester Repair Kit

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months

- Used to disassemble and assemble 5P-4150 Nozzle Tester Group
- Contains gaskets, seals, O-rings, steel balls and filter, along with printed parts breakdown if parts not included in the kit are needed
- Allows worn or broken 5P-4150 Nozzle Tester Group to be repaired and put back into operation when used along with other service parts listed in Tool Guide

Part Number	Description
1U-9578	Repair Kit

Adapter

Model Usage: Flat Seat Fuel Injection Valves

Warranty: Caterpillar® Six Months



- Used to test and adjust flat seat fuel injection valves on 5P-4150 Tester and also discontinued 1P-1795 Master Valve from fuel injection test bench

Part Number	Description
5P-7448	Adapter [a]

a. Not included with tube assemblies, must be ordered separately

Fuel Ratio Control Adjusting and Synchronizing Wrench

Essential Tool

Model Usage: 3114, 3116, 3126 MUI Engines Used in Challenger 35, 45, and 55 Tractors

Warranty: Caterpillar® Six Months



- Used to adjust fuel ratio control (similar to 1U-6673)
- Shorter length provides necessary clearance for Challengers
- May be used in place of 1U-6673 for most applications
- Overall length: 145.9 mm (5.74 in)
- Hex wrench size: 2 mm

References

- SENR6454, Service Manual, Governor

Part Number	Description
159-1783	Fuel Ratio Control Adjusting and Synchronizing Wrench

Fuel Collector, Extension Tube and Extension

Model Usage: All Fuel Systems

Warranty: Caterpillar® Six Months (U-8857)



1U-8857 Extension Tube

- Used with 8S-2270 Fuel Collector to collect spray from 5P-4150 Nozzle Tester or 8S-2242 Nozzle Tester
- Increases height of 8S-2270 Fuel Collector to prevent splashing of test fluid; made of plastic

Part Number	Description
1U-8857	Extension Tube
8S-2270	Fuel Collector

Tube Assemblies

Model Usage: D6D, 528, 3300, 3046, 3054, 3056, 3064, 3066

Warranty: Caterpillar® Six Months



- Used with 5P-4150 Nozzle Tester and 5P-7448 Adapter to test fuel nozzles in 3300 Series DI Engines
- 6V-2170 and 5P-7448 are used on 3054, 3056, 3064 and 3066 Engines (14 mm x 1.5 thd)
- 5P-4718 Adapter is used for, 3034 and 3046 Engines (12 mm x 1.5 thd)

Item	Part Number	Description	Used to Test
2	6V-2171	Tube Assembly	7N-0449 Fuel Nozzle
3	3J-1906	Nut (Part of 6V-2170 and 6V-2171)	—
4	3J-1905	Sleeve (Part of 6V-2170 and 6V-2171)	—
5	5P-7448	Adapter [b]	—
Not shown	5P-4718	Adapter (not included with tube assemblies; must be ordered separately)	—

b. Not included with tube assemblies, must be ordered separately

FUEL SYSTEMS

Wrench

Model Usage: 3116 Engines

Warranty: Caterpillar® One Year



- Replaces discontinued 131-5009 Wrench
- Removes and installs tamper-resistant plugs on 3116 governors installed after 01/01/96
- Used with standard socket and ratchet or flat wrench
- Short hex design for confined spaces
- 3/8 square drive (required for dual HP governors)
- Tamper resistant plugs protect load stop and fuel air ratio control settings on some Type IV governors and fuel air ratio control setting only on some Type V governors
- Hex head diameter: 22.23 mm (7/8 in)

Reference

- SENR6454, Service Manual Module, 3114/3116 and 3116 Engine Governors (MUI)

Part Number	Description
148-3605	Wrench

Nozzle

Essential Tool

Model Usage: C6.4 Engines

Warranty: Caterpillar® Six Months



- Used to connect fuel leak kit to 297-7658 Manifold Block (for measuring test fuel system leaks)
- Used with 300-4988 Fuel Leak Kit
- M14 x 1.5 threaded end installs into manifold block
- Barbed end fits 8.25 mm (5/16 in) ID hose from fuel leak kit

Part Number	Description
334-3221	Nozzle

Governor Adjust Tool Group (Not Serviced)



- Used to calibrate governors
- 1U-7299 Adjusting Wrench — adjusts governor output (load stop) position and fuel ratio control setting on Type V and later model governors (used with 1U-7300)
- 1U-7431 Adjusting Tool — adjusts low power load stop setting on Type VI governors (used with 1U-7300)
- 1U-7316 Calibration Pin Group — used to calibrate Type V and later model governors and is designed to avoid interference with fuel ration control (cannot be used for on-engine fuel setting adjustment)

Item	Part Number	Description
—	1U-9087	Governor Adjust Tool Group
1	4C-9594	Wrench, 1/2 in (low idle adjustment)
2	1U-5548	Wrench, 8 mm (high idle adjustment)
3	5P-4205	Wrench [b]
4 [a]	1U-6673	Wrench — Fuel Ratio Control Adjusting and Synchronizing
5	1U-6672	Rack Adjusting Wrench
6	1U-7299	Adjustment (FRC) Wrench ("Type V" 1994 and later Trucks)
7	1U-7300	Wrench (3 mm Hex)
8	1U-8815	Point — Indicator Contact
9	1U-7316	Calibration Pin Group
10	1U-7431	Adjusting Tool (dual horsepower screw)

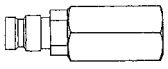
a. Warranty: Six Months

b. 159-1783 Fuel Ratio Control Adjusting Wrench is 51 mm (2 in) shorter than 1U-6673; required for 3116-3126 Engines in Challenger 35, 45, and 55

Adapter

Model Usage: 3114, 3116

Warranty: Caterpillar® Six Months



- Used on governor transfer pump outlet fitting
- Use 3K-0360 or 8M-5260 O-ring Seal with adapter

Reference

- SEHS8868, Special Instruction

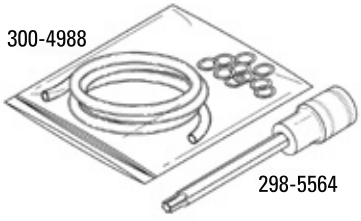
Part Number	Description
4C-9309	Spanner Pin Group

Fuel System Tools

Essential Tool

Model Usage: C4.4 and C6.6 Engines

Warranty: Caterpillar® Six Months, except 298-5564 which is Manufacturer's Lifetime



300-4988 Fuel Leak Kit

- Used to measure fuel leak rates on C4.4 and C6.6 engines
- Aids in diagnosing faulty fuel injectors on hard-to-start engines

298-5564 T40 Torx Socket

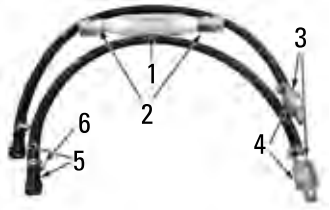
- Used to install injector hold down bolt on C4.4 and C6.6 engines
- Eliminates risk of damaging injector or inlet rocker arm
- 3/8 inch square drive with T40 Torx bit
- Overall length: 114.3 mm (4.5 in)

References

- SEBD9416, Service Manual (298-5564) TIBU4874, Bulletin (300-4988)

Part Number	Description
298-5564	T40 Torx Socket
300-4988	Fuel Leak Kit

Air-in-Fuel Test Kit



- Used to check for air in fuel in C4.4 and C6.6 engines

Item	Part Number	Description
—	301-1501	Air-In Fuel Test Kit
	Service/Repair Parts	
1	2P-8278	Fuel Flow Tube
2	3P-2233	Coupler Assembly
3	102-5758	Hose End
4	3P-2234	Nipple
5	215-9513	Connector
6	124-6275	Hose Clamp

Pressure Adapter



- Used to check transfer pump pressure on C4.4 and C6.6 engines

Item	Part Number	Description
—	304-3107	Pressure Adapter
	Service/Repair Parts	
1	8T-0854	Gauge
2	6V-1739	Pipe Reducing Tee
3	3P-2236	Nipple
4	3P-2233	Coupler Assembly

FUEL SYSTEMS

Fuel System Priming Group

Model Usage: CT660 with C11 and C13 Engines

Warranty: Manufacturer's



- Used to prime the fuel system
- Assists in priming the fuel filter housings and the high pressure fuel pump after either component has been replaced

Part Number	Dimensions
446-7641	609.6 x 304.6 x 1219.2 mm (2.0 x 1.0 x 4.0 ft)

Fuel Delivery Test Kits

Model Usage: C4.4, C6.6, C9.3 Engines

Warranty: Caterpillar® Six Months



- Used to check volumetric flow rates for high-pressure rail fuel systems
- Provides a method to flush fuel outlet ports on high-pressure rail fuel systems
- Steel fitting, orifice, and tube assembly connects to each outlet individually
- Includes five high-pressure cap assemblies to block fuel outlets not being tested
- Drilled orifice meters fuel flow at precise rate
- Volumetric fuel flow (volume over a specific time) from each outlet, can be compared to determine if fuel pump output is acceptable

Reference

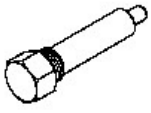
- KENR6938 High Leakoff of the Electronic Unit Injector on C4.4 and C6.6 Engines
- KENR9307, UENR3402 Injector Bypass Fuel Flow - Test, for C9.3 Engines

Part Number	Description
323-3949	Fuel Delivery Test Kit for C9.3 Engines
362-9754	Fuel Delivery Test Kit
356-2470	Graduated Cylinder
362-9749	Discharge Orifice Assembly
362-9751	Rail Plug Assembly
362-9752	Nut
362-9753	Pin Gauge

Engine Timing Pin

Model Usage: C7.1, C6.6, C4.4

Warranty: Caterpillar® Six Months



- Determines when crankshaft is positioned at top dead center
- Locks crankshaft in TDC position

Specifications

- Dimensions: 87 x 22 x 22 mm (3.4 x 0.87 x 0.87 in)
- Weight: 0.14 kg (0.31 lb)

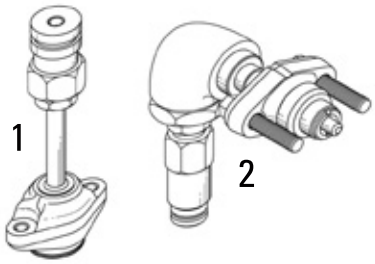
Part Number	Description
367-8608	Engine Timing Pin

Connector Assemblies

Essential Tool

Model Usage: C175-16 Engine — S/N WYB1-UP

Warranty: Caterpillar® Six Months



- Used to back flush common rail fuel system on C175 Engines
- Used with 295-5490 Filter Cart, 170-8500 Particle Analyzer, and various cap/plugs (part of 276-7018 Cap and Plug Kit)
- Provides a method of flushing fuel systems on C175 engines with out removing fuel system components

Reference

- SEBF9107, Reuse and Salvage Guideline, Procedure for Back Flushing the Common Rail Fuel System of C175 Engines
- SEBF9109, Reuse and Salvage Guideline, Handling Procedures for the Components of the Common Rail Fuel System for C175 Engines
- PEBJ0002, Caterpillar Dealer Contamination Control Guidelines
- PEBJ9180, Contamination Control Guideline, Diesel Fuel Cleanliness By Particle Analyzer
- RENR7466, Disassembly and Assembly, C175-16 Generator Set Engine
- RENR9338, Systems Operation, Testing and Adjusting, C175-16 Generator Set Engine
- RENR9339, Troubleshooting, C175-16 Generator Set Engine
- NEHS0799, 170-8500 Analyzer Group Tool Operating Manual

Item	Part Number	Description	Use
1	330-7185	Connector Assembly	installed in place of high pressure fuel line on number two cylinder
2	334-4442	Connector Assembly	installed in place of high pressure fuel line at pump outlet
-	301-1501	Air-In Fuel Test Kit	—
-	304-3107	Pressure Adapter	—

Timing Fixture Plates

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to time accessory drive shaft to engine with fuel pump housing and governor removed

Part Number	Engine
5P-0143	3204 Engine
5P-4240	D8K Engine (14 degree 17 in timing)
8S-4625	951B Traxcavator with 4.5 in Bore engine and hydraulic governor
8S-5417	4.75 in Bore, 4- and 6- Cylinder 2-valve engines (scroll pumps)

Timing Decal

Model Usage: 1100, 3100

Warranty: Caterpillar® Six Months



- Attach to crankshaft pulley or damper pulley on 1100 and 3100 Series Engines as alternate method for flow checking static timing without removing rocker arm shaft and injection nozzle

Part Number	Description
2P-8256	Timing Decal

FUEL SYSTEMS

Engine Timing Indicator Group

Model Usage: Multiple Engine Models

Warranty: Caterpillar® Six Months



- Used to determine piston true top dead center (TDC) and fuel injection pump timing of most Cat® engines
- Replaces discontinued 3S-2954 Indicator Group
- Components for timing each engine in accordance with procedure described in Special Instruction SMHS7083 listed in application chart below
- 6V-2056 Rod and 6V-2057 Contact Point available separately for 3300 Series DI Engines

Model	Adapter	Rod	Contact Point	Dial Indicator and Collet
D336,1676	8T-5340	3S-3264	9S-8883	6V-3075, 5P-4814
1100 and 3100 Series 3208, 3204 and 3406 DI [b]	8T-3206	8S-2296	9S-8883	6V-3075, 5P-4814
3204 PC [a]	8T-5339	3S-3264	9S-8883	6V-3075, 5P-4814
3300 Series DI [b]	8T-3206	6V-2056	6V-2057	6V-3075, 5P-4814
3400 Series DI	8T-5340	3S-3264	5P-7261	6V-3075, 5P-4814
3400 Series PC [a]	8T-5340	3S-3264	5P-2393	6V-3075, 5P-4814
D353, D379, D398, D399	8T-5338	3S-3264	5P-6531	6V-3075, 5P-4814
Engines Not Listed Above [a]	8T-5338	3S-3264	5P-7261	6V-3075, 5P-4814
3406A	8T-3205	3S-3264	—	6V-3075, 5P-4814
3406B, 3408B, 3412B	8T-3206	5S-8090	6V-2057	6V-3075, 5P-4814

a. DI — Direct Injection

b. PC — Precombustion Chamber

Item [b]	Part Number	Description	Size
—	8T-5246	Engine Timing Indicator Group	—
1	5P-7276	Container	—
1	3S-3269	Contact Point	25.40 mm (1 in)
1	5P-4809	Point Indicator	50.80 mm (2 in)
1	5P-2393	Contact Point	38.10 mm (1.50 in)
1	9S-8883	Contact Point	12.70 mm (0.50 in)
1	3S-3268	Point — Indicator Contact	6.35 mm (0.25 in)
1	5P-6531	Point	57.20 mm (2.25 in)
1	5P-7261	Contact Point	31.80 mm (1.25 in)
1	6V-2057	Contact Point	3.17 mm (0.12 in) [a]
1	8S-3675	Point — Indicator	3.10 mm (0.12 in)
1	3S-3270	Point — Indicator Contact, 44.45 mm (1.75 in) long	44.50 mm (1.75 in)
2	6V-3075	Indicator — Dial	—
3	5P-4814	Collet As — Clamp	—
4	6V-6105	Block	—
5	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—
6	8T-5247	Block (not serviced)	—
7	8T-5339	Adapter	—
8	8T-5340	Adapter	—
9	8T-5338	Adapter	—
10	3S-3264	Rod	180.90 mm (7.12 in)
11	8S-2296	Rod	133.40 mm (5.25 in)
12	8T-3206	Adapter	—
13	9S-0239	Adapter Assembly	—
14	5S-8090	Rod Assembly	—
15	6V-2056	Rod Assembly	—
16	1T-0416	Bolt	—
17	8N-5132	Clamp	—
18	8T-3205	Adapter	—

a. Item 6: 8T-5247 Block (Not serviced)

b. 9.52 mm (0.375 in) diameter flat face

Torque Adapter

Model Usage: D25C, 3304B, 3306B

Warranty: Caterpillar® Six Months



- 4C-9874 replaces discontinued 6V-6176 Torque Adapter
- Bolted to fuel pump drive gear on 3300 Series Engines so that specific torque can be applied to gear by tightening center bolt to specified torque value
- 6V-6175 Adapter used on standard engines; 4C-9874 Adapter used on engines with automatic timing advance
- Both adapters have 1/2 inch square drive

Part Number	Description
4C-9874	Torque Adapter
6V-6175	Torque Adapter

Timing Plate

Model Usage: 1100, 3100, 3208

Warranty: Caterpillar® Six Months



- Used to time fuel injection pump and governor with front cover removed

Part Number	Description
5P-0950	Timing Plate

Low-Height Fuel Injector Adjustment Tool

Model Usage: All EUI and MUI Engines 3500B 1U-8869 and up

Warranty: Caterpillar® Six Months



- Used to test and adjust fuel systems, including fuel timing, rack, synchronization and fuel setting
- Used with digital dial indicator 369-2607 (preferred method)
- Used on No. 2 cylinders or injector adjustments on MT4400 trucks
- Built-in collets hold digital dial indicator
- Used on mechanical and electrical unit injector engines

Specifications

- Dimensions: 155 x 40 mm (6.1 x 1.6 in)
- Weight: 0.18 kg (0.4 lb)

Reference

- NEHGE2013-030

Part No.	Description
443-4177	Low-Height Fuel Injector Adjustment Tool
443-4174	Magnetic Fixture used in the 443-4177 Timing Group

FUEL SYSTEMS

Timing Advance Holding Tool

Model Usage: 3406B

Warranty: Caterpillar® Six Months



- Used when pin timing 1988 and newer 3406B Engines, serial numbers 4MG3600 and up, that have large cone-type retainer on fuel timing advance
- Mounted on timing advance
- Required to hold timing advance at bottom of its travel (retarded position) while pin timing engine; if not used, position can slip and proper timing is not achieved

Reference

- SEBR0544-02, Truck Engine Manual

Part Number	Description
4C-9287	Timing Advance Holding Tool

Timing Pin

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Used to set engine piston at 100° before top dead center (BTDC) when timing Lucas fuel pump (at this location, the piston can be more accurately set to a specific position)
- Whistle on top of timing pin confirms that piston is on compression stroke
- Installs into nozzle bore and is held in place with nozzle clamp
- Material: SAE 1020 steel

Reference

- SENR6525, Supplement, Lucas Fuel System

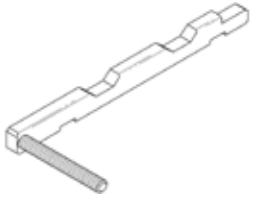
Part Number	Description
127-1069	Timing Pin

Timer Tool Assembly

Essential Tool

Model Usage: 3054B Engine

Warranty: Caterpillar® Six Months



- Used to remove and install balancer (maintains timing)
- Also used during disassembly and assembly of balancer
- Black oxide coated for corrosion resistance

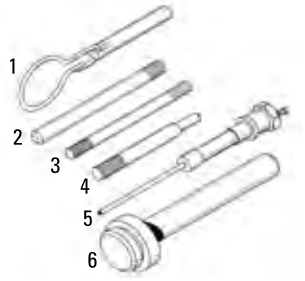
Part Number	Description
329-6925	Timer Tool Assembly

Timing Setting Tool

Essential Tool

Model Usage: C4.4, C6.6, C7.1 3054E and 3056E Engines

Warranty: Caterpillar® Six Months

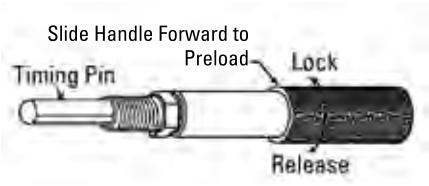


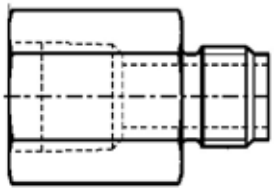
Item	Part Number	Description
1	230-6283	Locking Pin - Locks the crakshaft in the TDC position
2	231-8848	Balancer Fitting Pin
3	231-8849	Balancer Locking (Timing) Pin - Locks driveshaft of balancer in correct position for removal and installation (not for C6.6 or C7.1)
4	230-6284	Locking Pin - Locks the camshaft in the TDC position
5	226-2270	Timing Tool - Installs in fuel injector port of 3056 and uses contact with the piston to determine TDC. Refer to RENR2427
6	226-2268	Tappet chamber oil plug tool

Timing Pin

Model Usage: C4.4, C6.6, C7.1, 1.1L, 1.2L, 3300, 3176 and 3400 Engines

Warranty: Caterpillar® Six Months





- Used to determine when crankshaft is positioned at top dead center
- Spring loaded pin presses against flywheel; as engine is rotated pin will drop into hole as number one cylinder reaches TDC
- Adapters furnished to fit models listed with sufficient clearance behind timing hole
- Easier to use than a bolt — allows one man operation
- Adapters are installed onto the existing adapter on pin assembly, based on thread size in flywheel housing of your engine.
- 208-9388 adapter has male ½-20 thread on one end, 9/16 – 18 male thread on other end STOR to replace stock adapter in the 136-4632 timing pin. Used for flywheel housings with ½ - 20 threads.
- Hardened pin to resist bending
- No adapter needed for 3300 and 3400
- Requires 268-1966 adapter for C4.4, C6.6, and C7.1 engines
- 220-2793 timing pin is used as replacement for the pin that comes with the 136-4632.

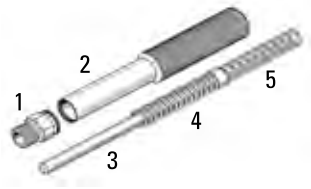
Part No.	Description	Male End Size	Female End Size	Use
136-4632	Timing Pin Adapter	1/4 - 18 NPFT	9/16 – 18 STOR	—
139-7063	Timing Pin Adapter	7/16 in – 20	1/4 - 20 NPFT	1.1 and 1.2 L Engines
139-7064	Timing Pin Adapter	1/2 in – 20	1/4 - 18 NPFT	3176 C10/12 Engines
220-2793	Timing Pin	117 mm approx. length		—
268-1966		M18 x 1.5	1/4 - 18 NPFT	

Timing Pin, Adapter

Essential Tool

Model Usage: 3176C Engine, D7R Track-Type Tractor and C-9 Engine, D6R Track-Type Tractor

Warranty: Caterpillar® Six Months



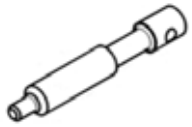
- Pin and adapter allows use of 136-4632 Timing Pin with D6R and D7R flywheel housings
- Used with 208-0888 Crankshaft Turning Tool
- Easily determines when crankshaft is positioned at top dead center
- 208-9388 adapter has male ½-20 thread on one end, 9/16 – 18 male thread on other end STOR to replace stock adapter in the 136-4632.
- Used for flywheel housings with ½ - 20 threads.
- Spring loaded pin presses against flywheel. As engine is rotated pin drops into hole when number one cylinder reaches TDC
- Easy to use — allows 1-man operation
- Hardened pin resists bending
- 208-9387 pin is used as replacement for pin that comes with the 136-4632.

Item	Part No.	Description
1	208-9388	Adapter
2	136-4632	Timing Pin
3	208-9387	Pin (133 mm approx. length (127 mm from shoulder of pin to the tip)
4	—	Spring (part of timing pin)
5	—	Spring (part of timing pin)

PIN (Camshaft Timing)

Model Usage: C3.4B

Warranty: Caterpillar® Six Months



- Used to keep camshaft from rotating when the idler gear is removed
- Used to maintain timing of fuel injection pump

Specifications

- Dimensions: 82 x 11.5 mm (3.22 x .45 in)
- Weight: .05 kg (.11 lb)

Part Number	Description
435-3146	PIN (Camshaft Timing)

FUEL SYSTEMS

Timing Pin Assembly

Model Usage: Machines with Tier 4 Engines

Warranty: Caterpillar® Six Months



- Used to pin engine without removing extra components needed for Tier 4 compliance
- Shorter pin allows pinning of engine when space is limited
- Used with existing adapter, 208-9388
- Adapter fits flywheel housing thread size of ¼-18 NPFT
- Material: Steel
- Black oxide finish for corrosion resistance

Specifications

- Dimensions: 19 x 105 mm (.75 x 4.1 in)
- Weight: .12 kg (.26 lb)

Part Number	Description
433-7100	Timing Pin Assembly

Timing Pin

Model Usage: 14M and 16M Motor Graders

Warranty: Caterpillar® Six Months



- Used on either the C11 equipped 14M, or the C13 equipped 16M Motor Grader, with a 277-4434 Flywheel Housing
- The technician is not required to remove the ECM or engine oil dipstick to perform timing
- Spring-loaded timing pin allows the technician to install the timing pin and then rotate the engine by himself.
- Constructed of steel

Specifications

- Length: 105.8 mm (4.2 in)
- Diameter: 7.5 mm (0.3 in)
- Weight: 0.1 kg (0.2 lb)

Part No.	Description
456-7526	Timing Pin

Timing Adapter Pin

Essential Tool

Model Usage: C4.4, C6.6, C7.1 Engines

Warranty: None



- Allows use of a timing pin

Part Number	Description
268-1966	Timing Adapter Pin

High-Pressure Fuel Pump Removal and Installation Tools

Model Usage: C3.8 T4 Final Engines

Warranty: Manufacturer's



- Allows the removal and installation of the gear for the high pressure fuel pump

Part No.	Description	Dimensions	Weight
506-3178	Puller	Hex, 41 x 40.5 mm (1.6 x 1.6 in)	0.227 kg (0.5 lb)
506-3179	Installation Jig	54 x 42 x 13 mm (2.13 x 1.65 x 0.5 in)	0.454 kg (1 lb)

Fuel Pump Locking Pin

Model Usage: C7.1, C6.6, C4.4

Warranty: Caterpillar® Six Months



- Used to lock the fuel injection pump in the correct timing position
- Engages into rear of pump drive gear

Part Number	Description
364-9107	Fuel Pump Locking Pin

Open Socket (17 mm)

Model Usage: C6.6 and C7.1 Engines



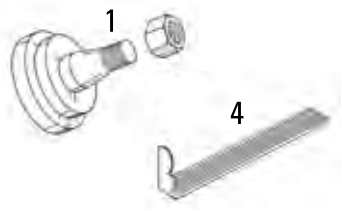
- Accesses fuel line connectors/fuel line nuts
- Thin-walled, 3/8" drive, 12-point crowfoot provides easy access near fuel line

Part Number	Description
367-2771	Open Socket (17 mm)

Timing Fixture Group

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months



- Four separate tools used in combination to check accuracy of timing mark location on fuel injection pump or engine
- Needed to determine location of timing mark on engine if front cover is replaced

Reference

- SENR5547, Service Module in SENR5555 Service Manual

Item	Part Number	Description
—	9U-6188	Timing Fixture Group
1	9U-6189	Drive Adapter
4	9U-6191	Pointer

Pump Timing Tool Group

Essential Tool

Model Usage: C6.6 Engines

Warranty: Caterpillar® Six Months



- Used to set timing of common rail fuel pump
- Required for installation to ensure proper operation of fuel pump

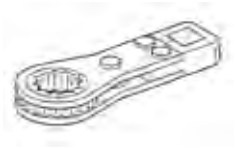
Part Number	Description
338-1054	Pump Timing Tool Group

FUEL SYSTEMS

Fuel Spanner

Model Usage: 3054 and 3056 Engines with Bosch Fuel Pumps

Warranty: Caterpillar® Six Months



- Used to remove and install Bosch fuel injection pumps
- Built-in ratchet mechanism reduces removal/installation time
- Square drive: 3/8 inch
- Socket size: 13 mm, 12-point

Part Number	Description
157-3719	Fuel Spanner

Timing Gauge

Model Usage: 3056 Engines with Bosch Pumps

Warranty: Caterpillar® Six Months



- Replaces discontinued 136-3113 Timing Gauge
- Used to hold dial indicator while checking injection pump timing on engines with Bosch EPVE fuel pump

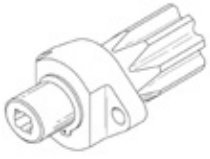
Part Number	Description
192-3331	Timing Gauge

Crankshaft Turning Group

Essential Tool

Model Usage: C4.2, C6.4, 3054, and 3096 Engines

Warranty: Caterpillar® Six Months



- Used to rotate engine crankshaft
- Used with 1/2 inch drive
- Designed with internal bearings for smooth rotation
- Bolts to access hole in flywheel housing

Part Number	Description
299-9126	Crankshaft Turning Group

Engine Turning Group

Model Usage: 3516, 3520, and 3524 Large Mining Truck Engines

Warranty: Caterpillar® Six Months



- Used to rotate engine crankshaft
- Used with 1 inch socket
- Heavy-duty design uses two needle bearings for smoother rotation
- Bolts to access hole in flywheel housing

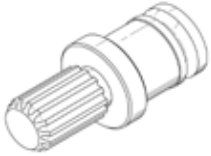
Part Number	Description
285-5989	Engine Turning Group

Engine Turning Tool

Essential Tool

Model Usage: 3176C and C-9 Engines

Warranty: Caterpillar® Six Months



- Used to turn crankshaft in engines with rear PTO flywheel housing (engages forward spline of upper PTO gear)
- Used in applications where no flywheel turning tool access is provided
- Heat-treated for added durability
- To install: remove cover plate or hydraulic pump as needed

Specifications

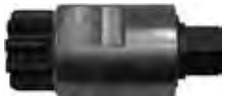
- Square drive: 3/4 in
- Spline: 14-tooth

Part Number	Description
208-0888	Engine Turning Tool

Engine Turning Handle, Engine Turning Pinion

Model Usage: C3.4B

Warranty: Manufacturer's



442-7300



445-2702

- Used to turn engine over by hand using a common wrench

Specifications

- Assembled Dimensions: 76.2 x 76.2 x 127 mm (3.0 x 3.0 x 5.0 in)

Part Number	Description
442-7300	Engine Turning Handle
445-2702	Engine Turning Pinion

Barring Group

Model Usage: 3500, 3600, and C175 Engines

Warranty: Caterpillar® Six Months



- Used to rotate engine during valve setting and timing procedures
- Used with shop air supply and dealer-supplied connectors
- Makes engine rotation much easier and enables one-person operation
- Rugged design provides maximum durability and dependability
- 620 kPa (90 PSI) air pressure produces more than 203 N·m (150 ft-lb) of torque
- Reversible-vane, air motor provides precise control in both clockwise and counterclockwise directions
- Incorporates pull pin locking device that engages/disengages barring motor
- Air supply and lock-out valves prohibit unintentional tool operation
- Dual pendent levers control direction (CW/CCW) and speed (pressing lever farther down increases rotation speed)
- Opposing male/female disconnects between air motor and control pendant for easy assembly and to ensure consistent directional control (rotation)
- Control pendent group and air motor group disconnects can be coupled together to provide air line contamination control when tooling is not assembled
- Depending on engine, use access cover or remove starter to install barring tool
- Air motor mounting flange can be positioned through 360 degrees of rotation for different applications
- 328-2307 Muffler offered as serviceable part
- 334-3258 Service Kit available for air motor rebuild

Part Number	Description
329-3831	Barring Group
Service/Repair Parts	
328-2307	Muffler
334-3258	Service Kit

Barring Device

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Manually rotates crankshaft on C175 Engine
- Used with M34 Socket
- Bolts to starter access hole in flywheel housing

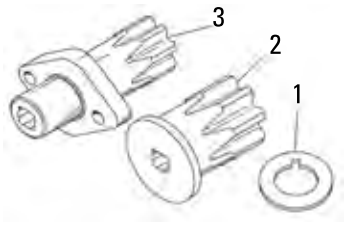
Part Number	Description
279-3473	Barring Device

FUEL SYSTEMS

Rotating Crankshaft Tools

Model Usage: C15, C16, 3400, 3508, 3512 Engines and 5.4 inch Bore Engine

Warranty: Caterpillar® Six Months



Item	Part Number	Description	Use
1	9S-9114	Spacer	Position 1P-7410 Timing Plate on discontinued 8S-2346 Shaft Assembly when setting lifters off engine
2	9S-9082	Turning Tool, 1/2 in drive	Rotate crankshaft
3	238-9586	Turning Tool, 1/2 in drive	Contains internal needle bearings; bolts to flywheel housing for easier rotation of crankshaft

Rotating Crankshaft Tools

Model Usage: 3114, 3116 and 3126 Engines

Warranty: Caterpillar® Six Months



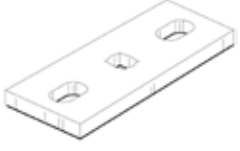
- Used to rotate crankshaft (makes setting valves and engine timing procedures easier)
- Used with 5P-7305 Engine Turning Gear and 1/2 inch square drive ratchet
- Fastens to starter mounting hole using starter mounting bolts
- Rotate gear shaft housing assembly until 5P-7305 Engine Turning Gear engages flywheel gear before tightening starter mounting bolts

Part Number	Description	Size
Measure dimension X on starter housing to determine which part to use		
5P-7305	Engine Turning Gear	6/8 and 8/10 pitch
9U-6943	Shaft Housing Assembly	146 mm (5.75 in)
9U-7336	Shaft Housing Assembly	127 mm (5.00 in)

Crankshaft Turning Tool

Model Usage: C4.4, C6.6, C7.1, 3054, 3056 Engines

Warranty: Caterpillar® Six Months



- Used to rotate crankshafts (connects directly to front of crankshafts)
- Has 1/2 inch drive in center to connect ratchet or breaker bar
- Dimensions: 50 x 140 mm (2.0 x 5.5 in)

Reference

- SENR5555, Service Manual

Part Number	Description
9U-6198	Crankshaft Turning Tool

Socket

Model Usage: 3114, 3116, 3126 MUI, HEUI, and 3126B Engines

Warranty: Caterpillar® Six Months



- Used to turn engine crankshaft by hand
- Socket crossbars engage all four bolt heads in front pulley hub
- Prevents over-tightening or loosening of a single bolt when it used to turn crankshaft clockwise or counterclockwise
- Square drive: 3/4 inch
- Overall length: 90 mm (3.5 in)

Part Number	Description
178-8615	Socket

Socket Assembly (C9.3 Engine)

Essential Tool

Model Usage: All C9.3 Engines

Warranty: Caterpillar® Six Months



- Used to rotate crankshaft by hand
- Used with 3/4 inch square drive ratchet
- Socket cross-bars engage four front pulley hub bolts eliminating need for removal to attach turning tool

Part Number	Description	Size
350-7549	Socket Assembly (C9.3 Engine)	Overall diameter: 79 mm (3.11 in) x 87 mm (3.43 in) long

Gear Shaft Housing Assembly, Engine Turning Gear

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Makes engine rotation much easier for valve setting and timing procedures, especially on engines with no compression release
- Any engine that will accept standard short and long nose electric starters can be rotated
- Pinion gear has 6/8 pitch gear on one end and 8/10 pitch on other
- Both ends of pinion have 1/2 inch square drive hole to accommodate standard ratchet

Part Number	Description
5P-7305	Engine Turning Gear
5P-7306	Gear Shaft Housing Assembly

Cap, Plug

Model Usage: D5B, D6D, D9N, IT28, 943, 953, 963, 973

Warranty: Caterpillar® Six Months



- Used to protect fuel pumps (cap) and lines (plug) when removing them from engine

Part Number	Description
2F-2990	Plug
5F-2807	Cap

Reamer Assembly

Model Usage: 1100, 3100, 3200 and 330 Series Direct Injection Engines

Warranty: Caterpillar® Six Months



- Removes carbon deposits from bores of pencil-type fuel nozzles

Part Number	Description
6V-4089	Reamer Assembly

Extractor

Model Usage: 3400 Series Direct Injection Engine

Warranty: Caterpillar® Six Months



- Used to remove fuel nozzle adapter body on 3400 Series Direct Injection Engines and most other engines with precombustion chambers

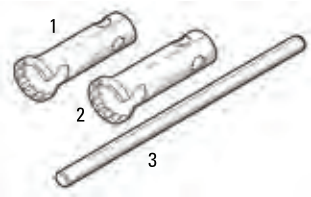
Part Number	Description
5P-6229	Extractor

FUEL SYSTEMS

Fuel Injection Valve Nut Removal Tools

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used for fuel injection valve nut removal on early engines

Item	Part Number	Description	Size
1	9B-2029	Wrench	1 3/4 in hex
2	—	Wrench	1 7/8 in hex

Cleaning Tool Group

Model Usage: 1100, 3100, 3208

Warranty: Caterpillar® Six Months

- Used to properly service pencil-type injection nozzles used in 1100 and 3100 Series and 3208 Engines

Reference

- SEHS7292

Part No.	Description
546-3323	Cleaning Tool Group

Included in 8S-2245 Cleaning Tool Group:

Part No.	Description
2P-8279	Locknut Adapter
5P-0958	Retractor Assembly-V
5P-4813	Socket
6V-4979	Seal Tool
8S-2246	Wire Assembly, 0.20 mm (0.008 in)
8S-2247	Wire Assembly, 0.28 mm (0.011 in)
8S-2249	Cleaning Pad
8S-2250	Holding Tool
8S-2251	Drill - Sac Hole
8S-2254	Retractor Assembly-V
8S-2255	Scraper - Tip Seat
8S-2256	Vise Assembly - Pin
8S-2257	Loupe
8S-2258	Brass Wire Cleaning Brush
8S-2260	Honing Stone



2P-8279



5P-0958 and 8S-2254



5P-4813



6V-4979



8S-2246 and 8S-2247



8S-2249



8S-2250



8S-2251 and 8S-2255



8S-2258



8S-2259



8S-2257



8S-2260



8S-2256

Fuel Injection Nozzle Tool Tester

Model Usage: C3.3B, C3.8 Engines with Bosch or Denso Injectors

Warranty: Manufacturer's



- Pop Tester connects directly to the 440-6907 injector test kit for testing Bosch and Denso electronic fuel injectors

Specifications

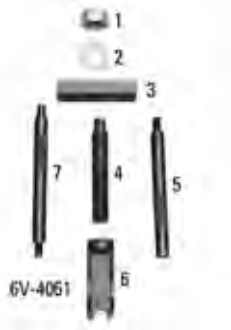
- Dimensions: 660.4 x 146.05 x 285.75 (26 x 5.75 x 11.25 in)

Part Number	Description
442-1747	Fuel Injection Nozzle Tool Tester

Nozzle Puller Group

Model Usage: D5B, D6D, 225B, 225B-3208, 3208, 518

Warranty: Caterpillar® Six Months



- Used to remove direct injection fuel nozzles from 1100, 3100, 3200 and 3300 Series DI Engines

Item	Part Number	Description
—	6V-4061	Nozzle Puller Group
1	1B-4206	Nut
2	2S-5658	Washer
3	6V-4153	Plate
4 a	6V-4152	Screw
5	6V-4150	Leg
6	6V-4149	Jaw
7	6V-4151	Leg

a. Also part of 6V-4061 Puller Group

Nozzle Puller Group

Model Usage: D5B, D6D, 225B, 225B-3208, 3208, 518

Warranty: Caterpillar® Six Months



- 6V-4054 Puller Group used with 6V-4061 Group to remove 7N-0449 Nozzles in 3300 Series DI Engines (all parts of 6V-4061 Puller Group, except 6V-4153 Plate, needed)

Item	Part Number	Description
—	6V-4054	Nozzle Puller Group
1	0S-1618	Bolt

Nozzle Puller Group

Model Usage: 3406

Warranty: Caterpillar® Six Months



- Used for removal of 8N-7006 Direct Injection Fuel Nozzles from 3406 Engines
- Uses several parts from earlier 6V-4061 Nozzle Puller Group

Item	Part Number	Description
—	6V-6981	Nozzle Puller Group
1	1B-4206	Nut
2	2S-5658	Washer
3	6V-4152	Screw
4 a	6V-6982	Sleeve Assembly
5 a	6V-6983	Adapter

a. These parts are needed to make the 6V-6981 Nozzle Puller Group from the earlier 6V-4061 Nozzle Puller Group.

FUEL SYSTEMS

Nozzle Puller Group

Model Usage: 3300

Warranty: Caterpillar® Six Months



- Replaces discontinued 6V-3129 Puller
- Used for removing 8N-7003 and 8N-7005 Nozzles used in 3300 Series Engines; can also be used for removal of discontinued 8N-7001 and 8N-7002 Nozzles
- Required because carbon build-up around nozzle stems prevent nozzles from being removed by hand

NOTE: The 6V-6980 Puller Group should only be used when less than 150 pound-inches torque is required to pull the nozzle. The nozzle stem will bend or break if more than 150 pound-inches torque is applied with the 6V-6980 Puller. For nozzles that are extremely difficult to remove, the 1P-0074 Slide Hammer is still recommended. When using these tools, it is often necessary to remove various engine components.

Item [a]	Part Number	Description
—	6V-6980	Nozzle Puller Group
1	6V-6197	Screw
2	6V-6198	Clip
3	6V-6199	Button
4 [b]	6V-6130	Puller

a. Item 4: 6V-6130 Puller (not serviced)

b. Not serviced

Puller Group

Model Usage: 3204

Warranty: Caterpillar® Six Months



- Used to remove discontinued 1W-3996 Direct Injection Fuel Nozzles on 3204 Engines; nozzles tend to stick in their bores due to carbon deposits, etc.

NOTE: As indicated in the parts list, several parts of the 6V-6976 Puller Group are also used in the existing 6V-4061 Nozzle Puller Group. If the dealer already has the 6V-4061 Group, only the last 4 parts (items 5, 6, 7 and 8) are needed to assemble the 6V-6976 Group.

Item	Part Number	Description
—	6V-6976	Nozzle Puller Group
1	1B-4206	Nut
2 [a]	2S-5657	Washer
3 [a]	6V-4153	Plate
4 [a]	6V-4152	Screw
5	6V-6979	Leg
6	6V-6978	Head
7	6V-6977	Leg
8	1D-4716	Nut

Nozzle Puller Assembly

Model Usage: 3306 Engine

Warranty: Caterpillar® Six Months



- Used to remove 104-9450 Direct Injection Fuel Nozzle Assembly
- Required for nozzle removal (carbon build-up around nozzle stems prevents removal by hand)
- Using specialized puller makes nozzle removal faster, easier, and helps prevent damage
- As of June 1, 1994 the 104-9450 Fuel Injection Nozzle is used only in the European market

Part Number	Description
4C-8175	Nozzle Puller Assembly

Nozzle Puller Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Combines all components of 5 nozzle puller groups listed below without duplicating commonly-used components
- Also included are various maintenance items, such as 6V-4979 Carbon Stop Seal Too, 25 extra carbon stop seals and 6V-4089 Reamer for carbon removal; socket, extension and handle included for removal of 5/16 inch-12 point hold down screws used on some nozzle clamps

Reference

- SEHS8094, Special Instruction

Nozzle Puller Group	Engine Used On	Nozzle Part Number
6V-6981	3406	8N-7006
6V-6980	3300 Series	8N-7005, 8N-7003
6V-6976	3204	—
6V-4061	1100, 3100 and 3200 Series	9N-2366, 9N-3299, 1W-5829, 9L-6969, 9N-3299
6V-4054	3300 Series	7N-0449

Part Number	Description	Quantity
6V-7020	Nozzle Puller Group	—
	Service/Repair Parts	
5P-7276	Container	1
6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	1
6V-4054	Nozzle Puller Group	1
6V-4089	Reamer Assembly	1
6V-4149	Jaw	1
6V-4150	Leg	1
6V-4151	Leg	1
6V-4979	Carbon Stop Seal Tool	1
6V-6976	Nozzle Puller Group	1
6V-6980	Nozzle Puller Group	1
6V-6982	Sleeve Assembly	1
6V-6983	Adapter	1
6V-7031	Block	1
9L-9098	Carbon Stop Seal	25
9S-1715	Socket	1
9S-1721	Extension	1

Fuel Nozzle and Fuel Nozzle Adapter Tools, 3406B Engine

Model Usage: 3406B

Warranty: Caterpillar® Six Months



- Smaller tools required to remove and install cylinder heads on 3406B Engines, which were redesigned with smaller diameter fuel injection nozzle adapters

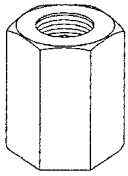
Item	Part Number	Description
1	1B-4206	Nut
2	8T-3199	Screw
3	6V-6983	Adapter
4	8T-3198	Sleeve Assembly

FUEL SYSTEMS

Injector Puller Connector

Model Usage: 3054, 3056, 3064, and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to remove stuck injector nozzles due to carbon deposit build-up in bore
- Used with 1U-7600 Puller Group
- 1/2 – 20 thread (female) on one end and M12 x 1.5 thread (female) on other end

Part Number	Description
9U-6278	Injector Puller Connector

Nozzle Retainer Spanner Wrench

Model Usage: 3406B, 3406C, 3408, 3408B, and 3412 Engines with P and L Fuel Systems

Warranty: Caterpillar® Six Months



- Replaces discontinued 8T-3139 Spanner Wrench and 9U-5840 Spanner Wrench
- Used to remove and install 7W-2315 Fuel Injection Nozzle Retainer
- Provides additional clearance for 3406B and 3406C Engines equipped with Jacobs Engine Brake
- Made from SAE 4140 steel and heat-treated for long tool life

Specifications

- Hex size: 14.28 mm (9/16 in)
- Overall height: 20.5 mm (0.81 in)
- Overall diameter: 41.0 mm (1.61 in)
- Distance between pins: 28.5 mm (1.12 in)

Part Number	Description
134-2570	Nozzle Retainer Spanner Wrench

Wrench

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used on following engines to remove and replace nozzle adapters
- Larger and stronger to eliminate breakage when removing tight adapters
- Works on both 7W-1645 (old style) and 7W-5435 (new style) Nozzle Adapters
- Has 1/2 inch square drive for normal usage, and 28.57 mm (1 1/8 in) hex so larger drive socket can be used when removing tight adapters

Engine	Serial No.
3406B	All
3408	S/N 78Z-1277-up
—	S/N 67U-11092-up (DI only)
3412	S/N 81Z-4579-up
—	S/N 38S-13223-up
—	S/N 60M-2477-up

Part Number	Description
1U-9725	Wrench

Guide

Model Usage: 3406

Warranty: Caterpillar® Six Months



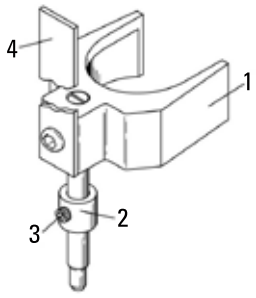
- Replaces discontinued 5P-4755 Guide
- Used to properly install 5P-2060 Seal onto 4N-3761 Direct Injection Capsule Valve Adapter on 3406 Engines

Part Number	Description
6V-7025	Guide

Injector Height Setting Gauge, Spacer Sleeve

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months





9U-7227 Injector Height Setting Gauge

- Used to adjust injector Prestroke
- Leaves both hands free to make adjustments

187-0482 Spacer Sleeve

- Used to help prevent improper injector height settings
- Used with 9U-7227 Injector Height Gauge with a straight indicator pin (spacer sleeve can be ordered separately)
- Sleeve rests against injector spring to keep gauge square on spring retainer
- Earlier gauges with a support flare machined onto the indicator pin do not need this spacer
- All new gauges include a spacer sleeve

247-5377 Torque Screwdriver

- Tightens torx screws to the proper torque without damaging the injector
- Torque range of 5-40 in lbs
- Accepts all standard screwdriver bits

References

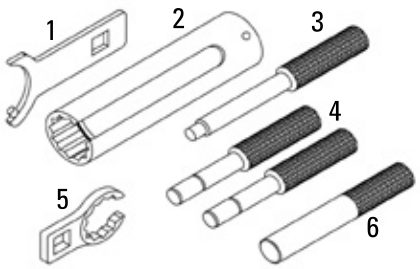
- SENR5580, Service Manual
- SENR6421, Service Manual Module, Disassembly and Assembly 3406E Engines

Item	Part Number	Description
1	9U-7227	Injector Height Gauge Assembly
2	187-0482	Spacer Sleeve
3	4L-5966	Setscrew
4	1U-9084	Flag
5	247-5377	Torque Screwdriver

Tool Group, 3408 PEEC and 3412 PEEC

Model Usage: 3408 and 3412 PEEC Engine

Warranty: Caterpillar® Six Months



- Replaces discontinued 4C-9579 Tool Group
- Used to test and adjust fuel pump timing on 3408 and 3412 PEEC Engines
- Increased accuracy
- On-engine field adjustments expand capability of field service mechanics
- Increases service revenue opportunities
- Durable, high quality design — convenient case protects tool investment
- 90 mm (3.54 mm) long timing pin
- Two 89 mm (3.50 in) long rack zero pins
- Modified 19.05 mm (3/4 in) crowsfoot with 3/8 inch drive
- Slotted 1 5/16 inch socket with 1/2 inch drive
- Solenoid spanner wrench with 3/8 inch square drive
- 6V-2112 Pin for Haliburton Engines

Item	Part Number	Description
—	9U-5127	Tool Group, 3408 PEEC and 3412 PEEC
1	9U-5120	Spanner Wrench
2	136-3124	Socket-Sensor (rack)
3	6V-2112	Pin
3 and 6	6V-4186	Pin — Fuel Pump Timing
4	4C-9581	Pin
5	4C-9582	Crowfoot Wrench, 19.05 mm (3/4 in)
Not Shown		
—	9U-5128	Foam
4	6V-3073	Case — Plastic

FUEL SYSTEMS

Nozzle Puller Group

Model Usage: 3200, 3300

Warranty: Caterpillar® Six Months



- Works to pull all 7000 Series Fuel Nozzles on 3200 and 3300 Series Engines; short enough to use on rear cylinders on 3208 Engines in highway trucks
- Strong enough to pull stuck nozzles on 3300 Series Engines
- Replaces two nozzle pullers: 6V-6980 Nozzle Puller Group for 3300 Series Engines and 6V-6976 Nozzle Puller Group for 3204 Engines
- Has two adapters, one with full clamp for 3300 Series Engines and one with half clamp for 3200 Series Engines

Part Number	Description
1U-8780	Nozzle Puller Group

Tool Group 3406 PEEC Engines

Model Usage: 3406B PEEC Engine

Warranty: Caterpillar® Six Months



- Replaces discontinued Tool Group (to update former 1U-5540, order 9U-5103 Slotted Socket, and NEEG2516 Decal
- Used to set clearance dimension between engine speed sensor and 4W-2485 Slotted Retainer (pulse wheel)
- Establish zero rack position, necessary before discontinued 8T-8697 ECAP can be used to calibrate rack position sensor without breaking governor seals
- Remove and install 6T-9675 Solenoid (fuel shutoff)
- Set timing position sensor, necessary before 8T-5282 DDT and/or discontinued 8T-8697 ECAP can be used to calibrate timing position sensor
- Remove and install water temperature sensor

Reference

- SEHS8746, Special Instruction

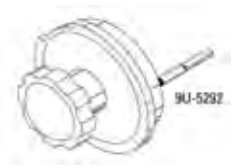
Item	Part Number	Description	Size
—	9U-5219	Tool Group 3406 PEEC Engines	—
1	8T-9198	Rack Indicator Bracket Assembly	—
2	5P-4814	Collet As — Clamp	—
3	9U-5120	Spanner Wrench	—
4	6V-4186	Pin — Fuel Pump Timing	90 mm (3.54 in)
5	1U-5426	Zero Rack Compressor Assembly	—
5	6D-3982	Nut	—
5	7F-2359	Spring	—
5	9S-8903	Point	2.4 mm (0.094 in)
6	9U-5103	Slotted Socket	—
7	5P-0326	Crowfoot Wrench	19.05 mm (3/4 in)
8	1U-5536	Crowfoot Wrench	33.33 mm (1 5/16 in)
9	1U-5425	Timing Gauge Assembly	—
Not shown			
—	—	Decal	
1	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	

a. 12.7 mm (0.5 in) diameter flat face with a bevel to 9.7 mm (0.38 in) diameter

Rack Preload Assembly (3400 PEEC)

Model Usage: 3406, 3408, and 3412 Series NSFS (PEEC) Engines with Fuel Injection Pump and Governor Group

Warranty: Caterpillar® Six Months



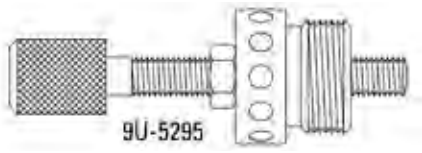
- Used to set the PEEC injection pump rack position without an electronic control system

9U-5292 Rack Preload Assembly

- Used to hold pressure against (preload) rack in plus direction
- Fits in place of pumps electronic control unit (BTM)
- Fluted knob provides easy adjustment
- Outside diameter: 82.6 mm (3.25 in)
- Knob: 1V-5044

Part Number	Description
9U-5292	Rack Pre-load Assembly

Rack Position Group (3400 PEEC)



9U-5295 Rack Positioning Group

- Used to limit travel of rack and make precision rack adjustments
- Fits in place of the rack shut-off solenoid
- Knurled surfaces provide better grip while adjusting rack position
- Parts are serviced individually

References

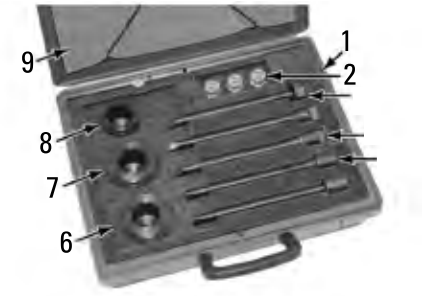
- NEHS0625, Tool Operating Manual
- NEHS0639, Tool Operating Manual

Part Number	Description
9U-5295	Rack Positioning Assembly
Rack Positioning Group Consists of:	
3S-2713	Full Hardened Nut

Gas Regulator Setting Tool Group

Model Usage: All gas engines with Fisher Gas Regulators

Warranty: Caterpillar® Six Months



- Used to adjust gas line pressure regulator on entire current and non-current lines of spark ignition engines
- Can service engines equipped with both smaller regulator used on 3304 and 3306 and 2 of the larger regulators used on larger engines
- Allows adjustment of gas regulator spring with no leakage at air side of regulator; air leakage during adjustment causes incorrect settings

Item	Part Number	Description	Quantity
—	8T-5160	Gas Regulator Setting Tool Group	—
1	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—
2	8T-5149	Fitting	3
7	6L-7141	Gasket	2
8	3H-8012	Gasket	—
9	6V-6105	Block	—

Assembled Setting Tool

Model Usage: All gas engines with Fisher Gas Regulators

Warranty: Caterpillar® Six Months



Application Procedure

1. Select appropriate tool, adapter and gasket for regulator being set and assemble using 8T-5149 Fitting
2. To install, remove gas regulator cap and thread adapter into regulator in place of cap; push tool shaft down until it engages adjustment screw or nut and tighten fitting just enough to seal off any air leaks around shaft

Specifications

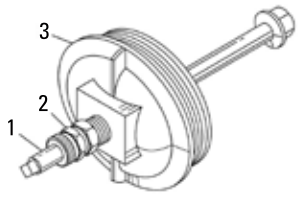
- 03304, 3306 Positive Pressure Regulator, 1 each:
  - Adapter
  - Tool
  - 8T-5149 Fitting
  - Gasket
- 3304, 3306 Vacuum Regulator, 1 each:
  - Adapter
  - Tool
  - 8T-5149 Fitting
  - Gasket
- 3400, 3500 Positive Pressure Regulator, 1 each:
  - Adapter
  - Tool
  - 8T-5149 Fitting
  - Gasket
- 3400, 3500 Vacuum Regulator, 1 each:
  - Adapter
  - Tool
  - 8T-5149 Fitting
  - Gasket
- 379, 398, 399 Positive Pressure Regulator, 2 each:
  - Adapters
  - Tools
  - 8T-5149 Fittings
  - Gaskets
- 379, 398, 399 Vacuum Regulator, 2 each:
  - Adapters
  - Tools
  - 8T-5149 Fittings
  - Gaskets

FUEL SYSTEMS

Gas Regulator Cap Assembly

Model Usage: All Models with discontinued 7E-3407 Gas Regulators

Warranty: None



- Used to adjust gas line pressure on discontinued 7E-3407 Gas Regulators
- Adjust regulator while engine is running
- Eliminates costly engine downtime
- Allows adjustment of regulator with no leakage

Item	Part Number	Description
Gas Regulator Adjusting Tool		
1	155-3062	Regulator Adjusting Tool
2	8T-5149	Fitting
3	123-5974	O-ring

Fuel Injection Pump Extractors

Model Usage: All Models with discontinued 7E-3407 Gas Regulators

Warranty: None



- Use the extractor and wrenches to remove and install fuel injection pumps and retaining bushings

Buttress Taps

- Bottoming
- For cleaning threads on 3300 NSFS and 3400 NSFS fuel system pumps

Size	Threads Per Inch	Part Number	Pitch Diameter
1.375 in	12	1U-6725	33.746 ± 0.090 mm (1.329 ± 0.004 in)
1.750 in	12	1U-6726	43.276 ± 0.090 mm (1.704 ± 0.004 in)

Item	Part Number	Description	Use
1	8S-2244	Extractor	—
2	8S-2243	Wrench	With 8S-2244 Extractor to remove and install fuel injection pumps on 1100 and 3100 Series Engines and engines with Sleeve Metering Fuel Systems
3	8T-5287	Wrench	With 8S-2244 Extractor to remove and install fuel injection pumps on engines with compact fuel systems; replaces discontinued 8S-4613 Wrench
4	5P-1668	Wrench, 3/8 in drive	Remove and install fuel pump retaining bushings where space does not permit use of 8S-2243 Wrench on 1100, 3100 and 3200 Series Engines

Compressor Group

Model Usage: 3406

Warranty: Caterpillar® Six Months



- Used for servicing fuel pump plunger and barrel assemblies on 3406 Engines with New Scroll Fuel System
- Needed to compress heavier pump lifter springs on these engines when plunger and barrel assemblies are removed and installed

Reference

- SMHS8278, Special Instruction

Item	Part Number	Description
—	6V-7050	Compressor Group
1	2N-3476	Screw (4)
3	5M-7418	Nut
4	4B-1228	Screw
5	4B-2046	Nut
Not shown [a]		
—	148-5675	Case
—	148-5677	Block

a. Also not shown: Block

Off-Engine Lifter Setting Tool Group

Model Usage: All Engines with Forged Body or Compact Fuel Systems

Warranty: Caterpillar® Six Months



- Replaces 5P-6600 Tool Group
- Includes lifter setting tools for all current engines, including 3400 Series Engines
- Also included are shaft assemblies which clamp positively to camshafts, eliminating movement between camshaft and degree wheel
- Tools required for individual engines are listed in the application chart below
- Additional tools needed, but not included, with 6V-4180 Group are also illustrated

6V-4180 Off-Engine Lifter Setting Tool Group

Item	Part Number	Description
—	6V-4180	Off-Engine Lifter Setting Tool Group
1	9S-6332	Box Assembly
1	9S-8105	Liner

Application Charts for 6V-4180 Tool Group

	Components of 6V-4180 Tool Group (Fig. 1)							
Item	Part No.	Description	D311, D312, D315, D318, D339, D342, D364, D375, D386, D397, D468, D3400, D4400, D4600, D6100, D6600, D7700, D8800, D11000, D13000, D17000	D326, D337, D343, 619C, 824A, 1693	D346, D348, D349	D349	D379, D398, D399	641, 650, 651, 657, 660, 666
			Forged Body Fuel System					
9	2S-6160	Washer	1	1	1	—	1	1
11	0S-1594	Bolt	1	—	1	1	1	—
12	0S-0509	Bolt (3/8 – 16)	1	1	1	—	1	—
13	0S-1617	Bolt	—	1	—	—	—	—
31	1P-7410	Degree Wheel	1	1	1	1	1	1

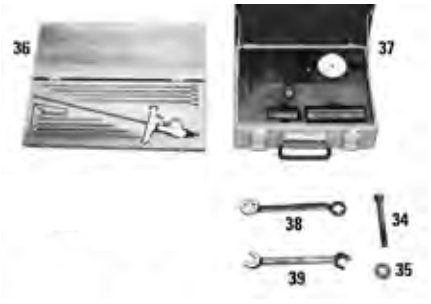
FUEL SYSTEMS

Compact Fuel System

Item	Components of 6V-4180 Tool Group (Fig.1)		D311H, D320, D330D, D333, 1670, 1673, D8, 583, 3204, 3304, 3306	D334, D343, 1674, 6193	D336, 1676	1140, 1145, 1150, 1160, 3145, 3150, 3160	3406	3408, 3412
	Part Number	Description						
Compact Fuel System								
7	5P-4158	Gauge	1	1	1	1	1	1
8	1F-1375	Bolt	—	—	2	—	—	—
9	2S-6160	Washer	1	1	1	—	1	1
10	2S-0932	Washer	—	—	—	1	—	—
11	0S-1594	Bolt	—	—	1	1	1	—
12	0S-0509	Bolt	1	1	1	—	1	—
13	0S-1517	Bolt	—	1	—	—	—	1
14	—	Pointer	—	—	—	1	—	—
15	6V-6019	Pin	—	—	—	—	—	1
16	1J-6298	Bolt	—	—	—	1	—	—
17	2M-5218	Shaft	1	—	—	—	—	—
24 [b]	5P-1768	Pointer	—	—	—	—	1	1
25	9S-4446	Shaft	—	—	—	1	—	—
26	5P-3601	Adapter	—	—	—	—	—	1
31 [b]	1P-7410	Plate	1	1	1	1	1	1

b. The 7.14 mm (0.281 in) diameter hole must be increased to 8.5 mm (0.328 in) diameter for use on later 3408 and 3412 fuel pump housings.

Additional Tools Needed But Not Included in 6V-4180 Group



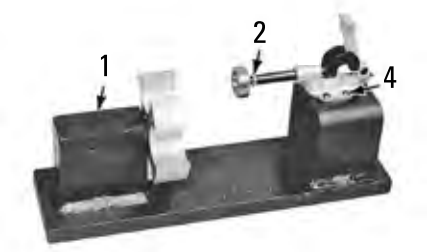
Item	Part Number	Description
34	1B-3680	Bolt
35	3F-1417	Washer
36 [a]	6V-2012	Gauge Group
37	6V-7926	Indicator Group
38 [a]	9M-4567	Wrench
39	9M-4568	Wrench

a. Optional

Fixture Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Designed with adjustable clamp and 5-position turret
- 1 position used for 3406B Engines with New Scroll Fuel Systems and remaining 4 positions for other engines with fuel pumps having reverse flow check valves

Reference

- SMHS8378, Special Instruction

Item	Part No.	Description
—	6V-7870	Fixture Group
1	4B-6060	Setscrew (2)
2	4B-2046	Nut
4	2N-3476	Screw (4)

Sockets for Special Applications

Model Usage: 3208, 1100, D379, D398, D399

Warranty: Caterpillar® Six Months



Item	Part Number	Description	Size	Use
1	9S-5031 [a]	Deep Well Socket	5/8 in, 3/8 in drive	Required for tachometer drive adapter shaft removal on 1100 and 3100 Series Engines equipped with hydraulic governors; also used for removal and tightening cap on 9L-6969 Nozzle for 3208 Engines
2	8S-2357	Deep Well Socket	9/16 in, 3/8 in drive	Required to loosen bolt which retains automatic timing advance unit to fuel injection pump camshaft on 1100 Series Engines equipped with max-min governor
3	9S-6054	Socket Assembly	3/4 in drive	Turning injection pump camshaft when setting lifters on D379, D398 and D399 Engines

a. Comes with insert for removing spark plugs

Timing Pin

Model Usage: 1100, 3100, 3406, 3408, 3412, 3306, 3304 D.I.

Warranty: Caterpillar® Six Months



Item	Part Number	Description	Model
1	6V-2112	Pin	1100 and 3100 Series and 3406 Engines
2	6V-6019	Pin	3408 and 3412 Engines
3	6V-4186	Pin — Fuel Pump Timing	3306 and 3304 D.I. Engines
		Not Shown	
—	3P-1544	Pin	328 SMFS
—	4C-9581	Pin	3408/12 PEEC

Timing Pin

Model Usage: 3054 and 3056 Engines

Warranty: Caterpillar® Six Months

- Used to install injection pumps on 3000 Series engines

Part Number	Description	Use
150-3992	Timing Pin	Required to install Bosch injection pumps
150-3993	Timing Pin	Required to install Lucas and Stanadyne injection pumps

Hook

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to pull rack against rack centering pin on engines with negative rack settings
- On some of these engines, overfueling spring may not move rack against centering pin

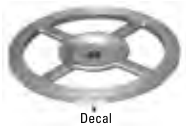
Part Number	Description
6V-7942	Hook

FUEL SYSTEMS

Decal for Degree Wheel

Model Usage: 3406B

Warranty: Caterpillar® Six Months



- Used to time 3406 Direct Injection Truck Engines (1978 Truck Model Year) with static fuel injection timing
- Decal, SEHS7306, must be applied to early 1P-7410 Degree Wheels for accurate timing
- Decal provides timing marks in increments less than one degree

Part Number	Description
1P-7410	Degree Wheel

Spring Compressor

Model Usage: 3406, 3408 and 3412 Engines

Warranty: Caterpillar® Six Months



- Works on all three engines — 3406, 3408 and 3412
- Used to compress heavier lifter springs in pump when fuel pump plunger and barrel assemblies are removed and installed
- Clamps on side of pump housing and eliminates need to attach to adjoining pump

References

- SENR5148, Service Manual
- SENR4658, Service Manual

Part Number	Description
9U-5692	Spring Compressor

Rethreading Die

Essential Tool

Model Usage: 613C II, DV-613C II Scraper

Warranty: Caterpillar® Six Months



- Used to cut additional threads on 214-5491 Filler Neck
- Used with large wrench (dealer supplied)
- Additional threads allow gasket in fuel cap to seal against filler neck and prevent fuel/vapor leaks
- Current threads align die onto filler neck during use

Specifications

- Thread size (inch): 4-12
- Hex size: 178 mm (7.0 in)
- Material: steel

Part Number	Description
318-6237	Rethreading Die

Fixture, Bearing Driver

Model Usage: 3408, 3412

Warranty: Caterpillar® Six Months



- Used to install tanged fuel rack bearings on 3408 and 3412 Engines

Part Number	Description
5P-6217	Fixture
5P-6218	Bearing Driver

Rack Setting Gauge

Model Usage: D333, D330, D320, D311H

Warranty: Caterpillar® Six Months



- Replaces 8M-0530 Gauge
- Measures rack travel in both fuel on and fuel off directions

Part Number	Description
7S-7113	Rack Setting Gauge

Driver, Plate

Model Usage: 3406B

Warranty: Caterpillar® Six Months



- Used to install D-shaped rack bearing in fuel injection pump housing on 3406B Engines
- 6V-4825 Plate, bolted to pump housing, pilots bearing as it is driven into position with 6V-4824 Driver
- Assure bearing installation to correct depth and angle

Reference

- 3406B Service Manual

Part Number	Description
6V-4824	Driver
6V-4825	Plate

Overfueling Spring Compressor

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



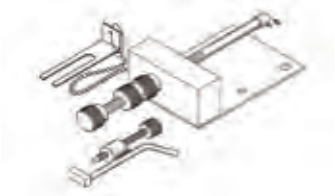
- Used to make fuel rack and fuel ratio control settings on engines with New Scroll Fuel Systems
- Replaces discontinued 6V-2128 Overfueling Spring Compressor
- Plunger travel in former 6V-2128 Compressor was limited by mechanical stops and would not permit checking full range of rack settings on above engines; 6V-7941 Compressor does not have internal stops, and thus will accommodate full range of rack settings

Part Number	Description
6V-7941	Compressor Assembly

Rack Set Tool

Model Usage: 3034 Engines

Warranty: Caterpillar® Six Months



- Used to adjust maximum fuel setting if timing case or fuel pump linkage are removed or repaired

Reference

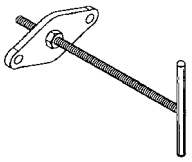
- SENR5013, Disassembly and Assembly of 3034 Engine

Part Number	Description
158-8665	Rack Set Tool

Rack Positioning Assembly

Model Usage: 3204, 3300, and 3406 Series NSFS (Non-PEEC) Engines

Warranty: Caterpillar® Six Months



- Used to set injection pump rack while pump is being tested on test bench
- Used with FITB, FIETS, and AVM test benches

Reference

- NEHS0639, Tool Operating Manual

Specifications

- Overall length: 171.4 mm (6.75 in)
- Thread size: 1/4 – 28
- Bolt hole diameter: 7.5 mm (0.30 in)
- Distance between holes: 63.6 mm (2.50 in)
- Service part: 6V-8187 Nut

Part Number	Description
9U-5296	Rack Positioning Assembly [b]

a. Non-PEEC, 3406B and 3406C Rack Adjustment

FUEL SYSTEMS

Body Group

Model Usage: 3208

Warranty: Caterpillar® Six Months



- Used to remove fuel pump drive gear from taper on drive shaft before removing sleeve metering fuel system on 3208 Engines
- Replaces 5P-2371 Puller Plate (provides more pulling force than 5P-2371)
- Needed because of lack of space in vehicle

Item	Part Number	Description
—	6V-4069	Body Group
1	5L-4041	Bolt (2)
2	2H-0191	Bolt
3	6V-4088	Washer

Rack Position Tool Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Provides convenient and accurate way to set or check rack position on Cat® Engines
- Used to measure fuel rack position during normal operation of engine, or measure fuel rack position and make any necessary adjustments while engine is shut down
- Rack setting can be made or checked without removing injection pump
- Replaces discontinued 9S-0240 Rack Position Tool Group; both groups are identical, except new group contains metric dial indicators and low cost plastic case

Reference

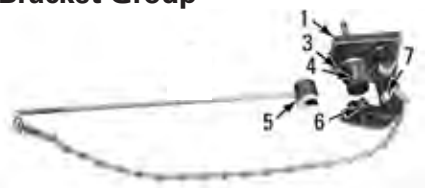
- SEHS8436, Special Instruction

Item	Part Number	Description	Size
—	6V-9128	Rack Position Tool Group	—
1	6V-9127	Liner	—
2	6V-7145	Case	—
2	0S-1616	Bolt	25.4 mm (1/4 in – 20 x 1.00 in)
3 [c]	9S-0239	Adapter Assembly	—
4 [d]	5S-8086	Contact Point	6.35 mm OD (0.25 in OD)
4	5S-8090	Rod Assembly	—
5	9S-8521	Rod	—
6	8T-0500	Light — Continuity Testing	—
7	6V-3075	Indicator — Dial	—
8	6V-6106	Dial Indicator	—
11	177-9037	Block	—
12	—	Spring	—
14	2A-0762	Bolt	16.0 mm (1/4 in – 20 x 7/8 in)
14	9S-7343	Bracket Assembly	—
15	9S-0227	Bracket Group	—
18	2H-0191	Bolt	16.0 mm (10 – 24 x 0.625 in)
18	9S-0225	Bracket Assembly	
19	3P-1565	Collet Clamp	—
19	5P-4814	Collet As — Clamp	—
19	5P-7276	Container	—
19	9S-0229	Contact Point	9.5 mm (0.4 in)
19	9S-8518	Plug	—
19	9S-8519	Plug	—
19	9S-8903	Point	9.50 mm (0.4 in)
19	3S-3269	Contact Point	25.4 mm (1.0 in)
19	9S-8883	Contact Point	12.7 mm (0.5 in)
19	3S-3268	Point — Indicator Contact	6.35 mm (0.25 in)
19	8S-3675	Point — Indicator	3 mm (0.12 in)
		Not Shown	
—	4C-3474	Cap	—

a. Also Item 13

b. Also Item 10 and 19

Bracket Group



Item	Part No.	Description
—	9S-0227	Bracket Group
1	—	Bracket Assembly
3	—	Plug
4	—	Rod
Service/Repair Parts		
6	2A-0762	Bolt
7	5S-7348	Screw

Service/Repair Parts for Rack Position Tool Group



Item	Part No.	Description
1	—	Bracket Assembly
2	—	Plug
8	—	Hole Attachment
Service/Repair Parts		
5	2A-0762	Bolt
6	5S-7348	Screw
7	3F-9190	Dowel

Tool Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to check and adjust rack and fuel ratio control linkage on all engines with New Scroll Fuel Systems (NSFS) — new procedure now used to check and adjust rack on these engines

Reference

- SEHS8024, Special Instruction
- Form SEHS8024
- Form NEEG2119 (Label)
- Form SEES5641 (Layout Chart)

Part Number	Description	Qty.
6V-6070	Tool Group	—
6V-6070 Tool Group Contains		
021-7956	Bolt	—
0S-1614	Bolt	2
0S-1615	Bolt [a]	2
2A-0762	Bolt	—
2P-8264	Socket	—
2P-8265	Socket	—
5B-5689	Gasket	—
5P-4814	Collet As — Clamp	2
6V-2014	Bracket Assembly	—
6V-2017	Tool	—
6V-2030	Extension [b c]	—
6V-2105	Tool As. — Rack ADJ	—
6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—
6V-3075	Indicator — Dial	—
6V-4186	Pin — Fuel Pump Timing	—
6V-6104	Block	—
6V-6105	Block	—
6V-6106	Dial Indicator	—
6V-6151	Adapter (Overfueling Spring Compressor)	—
6V-7941	Compressor Assembly	—
6V-7942	Hook	—
8H-3128	Bolt — Hex Socket Head	3
8H-9178	Bolt	2
8T-9198	Rack Indicator Bracket Assembly	—
9S-0229	Contact Point	—
9S-8903	Point	—
—	Arm	—
—	Arm (Part of 6V-2014)	2

a. Parts serviced separately.

b. Used for FIETS and AVM with heavy duty coupling

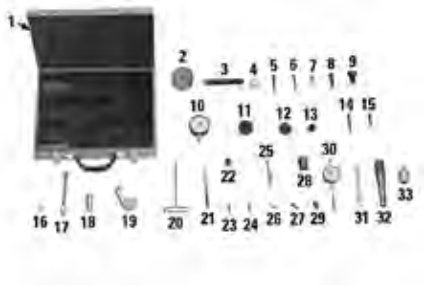
c. Part of 6V-6042 Indicator Contact Point Group

FUEL SYSTEMS

Sleeve Metering Field Service Tool Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used for disassembly, assembly, testing and adjusting Sleeve Metering Fuel System; used for fuel setting
- Metric tools; values for testing and adjusting given in metric pressures
- As a result of changes and improvements in test and adjust procedures, the discontinued 3P-1550 Sleeve Metering Field Service Tool Group was converted to the 5P-4203 S.M.F.S. Tool Group. Dealers should check the list to determine what tools are required to convert their discontinued 3P-1550 Group to the 5P-4203 Group. Some parts of the discontinued 3P-1550 Group are no longer needed, but a number of items should be retained in case of the need for dynamic checking of sleeve shaft movement.

Reference

- SMHS7013, Special Instruction

Item	Part Number	Description	Size	Qty.
—	5P-4203	Sleeve Metering Field Service Tool Group	—	—
1	3P-1549	Block	—	—
2	5P-0301	Driver	—	—
3	1P-0529	Handle	—	—
4	4B-4280	Washer	—	2
5	1D-4538	Bolt	—	—
6	1D-4533	Bolt	—	—
7	3K-4910	Screw	—	—
8	0S-1603	Bolt	—	—
-	8B-8817	Plug (Not shown)	—	—
10	8T-0853	Gauge, 0 — 400 kPa (0 — 60 PSI)	—	—
12	5P-0318	Driver	—	—
13	1P-0463	Plate	1.000 in Diameter	—
14	6L-5551	Bolt	2 1/4 in long	—
15	4L-7124	Bolt — Hex Socket Head [a]	1 1/4 in long	—
16	4B-4276	Flat Washer	—	4
17	3B-7734	Adapter STR	76.2 long (1/8 in NPT x 3 in)	—
17	3J-7354	Seal — O-ring — STOR for 8C-3446 (not pictured)	—	2
17 [b]	5D-9231	Connector	—	2
17	6J-3958	Coupling	—	—
18	3P-2210 [c]	Socket	—	—
19 [d e]	5P-6602	Adapter	—	—
20 [d]	5P-4205	Wrench [f]	—	—
21	3P-1544	Pin	—	—
22	4H-0553	Fitting	—	—
23	5P-0299	Pin	19.2831 mm (0.7592 in)	—
24	5P-0298	Pin	17.8587 mm (0.7028 in)	—
25 [f]	5P-4209	Gauge	—	—
26	3J-6956	Spring	—	—
27	8S-7271	Setscrew	—	—
28	8S-2243	Wrench	—	—
29	3P-1565	Collet Clamp	—	—
31	5P-0302	Bar (Injector Removal)	—	—
33 [b]	6V-3071	Seal Guide	—	—
3P-1567 Indicator, Includes:				
30	3P-1567	Indicator	—	—
30 [d]	5P-4228	Spring	—	—
30 [d]	5P-6531	Point	57.2 mm (2.25 in)	—
The following parts which, were in the discontinued 3P-1550 Tool Group, should be retained in case of the possible need for dynamic checking of sleeve shaft movement				
—	0S-1616	Bolt	—	—
—	7B-2742	Bolt	—	—
—	3K-6896	Gasket	—	—

a. Part of 1P-0520 Driver Group

b. Not included in early 5P-4203 Groups

c. Special socket

d. Tools which must be procured to convert the discontinued 3P-1550 Tool Group to the 5P-4203 Tool Group. The 3P-1567 Indicators from discontinued 3P-1550 Tool Groups must have the 5P-4228 Spring and 5P-6531 Contact Point installed. Some 3P-1567 Indicators had 5P-4809 Points, 50.8 (2.0 in) long.

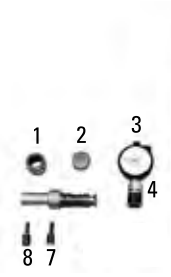
e. NOTE: The discontinued 5P-4226 Adapter was replaced by the 5P-6602 Adapter, which is required for 3208 Engines with EGR systems.

f. Warranty: Six Months

Sleeve Metering Calibration Tool Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used for calibrating (similar to lifter setting) sleeve metering fuel pumps in shop
- Several tools from 5P-4203 Tool Group also needed for this operation

Metric tools; values for testing and adjusting are given in metric terms, with exception of torque values and pressures

Reference

- SMHS6988, Special Instruction

Item	Part Number	Description	Size
—	3P-2200	Sleeve Metering Calibration Tool Group	—
1	7W-8120	Bushing	
2	1P-7379	Microgauge	—
3	3P-1568	Indicator	—
4	6V-3185	Base	—
4	6V-3186	Collet	—
7	3P-1546	Pin	15.9410 mm (0.62 in)
8	3P-1545	Pin	17.3734 mm (0.68 in)
10 [a]	5P-6557	Spring	—

a. Part of pump assembly

Additional Calibration Tools



Item	Part Number	Description
Additional Tools from 5P-4203 Tool Group Required for Pump Calibration		
1	8S-2243	Wrench
2	5P-6602	Adapter
3	5P-4205	Wrench [a]
4	5P-4206	Wrench
5	1D-4533	Bolt
6	1D-4538	Bolt
7	5P-4209	Gauge
8	8S-7271	Setscrew
9	2P-8264	Socket
10	6V-0190	Clamp (2)

a. Warranty: Six Months

Reaming Tool Group

Model Usage: 225B, 225B-3208, 3208, 613C

Warranty: Caterpillar® Six Months



- Used to ream 5P-4810 Camshaft Bearing when front bearing requires replacement in sleeve metering fuel system pump housings

Item	Part Number	Description
—	5P-3516	Reaming Tool Group
1	5P-3515	Reamer
2	5P-3057	Fixture Assembly

Driver, Bit

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Capable of applying torque required to remove and install mounting bolts for later 8N-2663 Flyweight Carrier in sleeve metering fuel systems

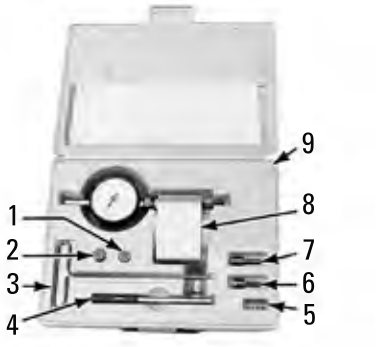
Item	Part Number	Description	Size
1	6V-4164	Driver	1/4 in Hex, 3/8 in Square Drive
2	6V-4163	Bit	1/4 in and 1/8 in Hex

FUEL SYSTEMS

Fuel Setting Tool Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Contains only those tools needed for checking and adjusting fuel setting on engines with Sleeve Metering Fuel Systems
- All tools in this group also contained in 5P-4203 Field Service Tool Group

Item	Part Number	Description
—	5P-6577	Fuel Setting Tool Group
1	1D-4533	Bolt
2	1D-4538	Bolt
3	5P-4205	Wrench [a]
4	3P-1544	Pin
5	3J-6956	Spring
6	5P-0299	Pin
7	5P-0298	Pin
7	3P-1565	Collet Clamp
8	3P-1567	Indicator
8	5P-6602	Adapter
8	8S-7271	Setscrew
8 [b]	5P-6531	Point
9	5P-7319	Box

a. Warranty: Six Months
b. Part of 3P-1567

Sleeve Metering Calibration Tool Group

Model Usage: 3208

Warranty: Caterpillar® Six Months



- Makes adjustment of sleeve levers easier on Sleeve Metering Fuel Systems
- When used with 6V-4980 Torque Screwdriver Tool Group, adjustment to sleeve levers on 3208 Engine takes about 5 minutes instead of 15 to 30 minutes
- Formerly, tolerances on sleeve lever had to be exact to 0.002 mm (0.00008 in); it was necessary to use 3P-2220 Calibration Tool Group to make an adjustment this exact; tolerances were changed to 0.05 mm (0.002 in) with a maximum of 0.05 mm (0.002 in) between each lever, and 6V-4141 Tool Group can make this adjustment accurately and faster

Reference

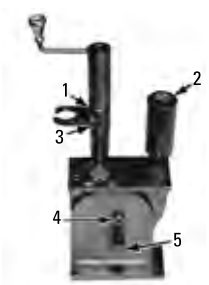
- MHS7835, Special Instructions

Item	Part Number	Description	Size
—	6V-4141	Sleeve Metering Calibration Tool Group	—
1	6V-4137	Fixture Group	—
2	3P-1545	Pin	17.3734 mm (0.68 in)
3	8T-0888	Washer	—
4	3P-1546	Pin	15.9410 mm (0.62 in)

Fixture Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



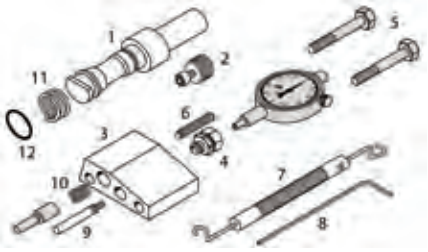
- Used for disassembly and assembly of unit injectors, and to check assembled injectors for free rack movement

Item	Part Number	Description
—	6V-4830	Fixture Group
1	5L-1100	Bearing
3	2N-7229	Spring
4	—	Screw

Calibration Tools

Model Usage: 3208 Engines with Heavy Sleeve Metering Fuel System

Warranty: Caterpillar® Six Months



- Used to set, test, and adjust heavy sleeve metering fuel pumps — these tools are not available as a group and should be ordered to supplement existing tool groups
- Used with 3P-2200 Sleeve Metering Calibration Tool Group, 5P-4203 Sleeve Metering Field Service Tool Group, and 5P-6577 Fuel Setting Tool Group
- The 3P-1565 Collet, 8S-7271 Setscrew, and 3J-6956 Spring are required for this operation and are part of 5P-4203 Sleeve Metering Field Service Tool Group or 5P-6577 Fuel Setting Tool Group
- A 6V-6082 Bit, 5/64 Hex, part of 6V-4980 Torque Screwdriver Tool Group, is required for 8S-7271 Setscrew to adjust the injection pumps
- 146-5068 Hex Key required for on engine adjustment for aftercooled engines
- All tools can be stored in a 6V-3073 Case; 6V-4094 foam (convoluted) is used in the lid; two foam blocks are required in the case bottom, 6V-4873 topped with 2P-8289 (convoluted); all foam is cut to fit the case

References

- REHS0063, Special Instructions, Sleeve Setting
- SENR3688, Service Manual

Item	Description
5	Original Load Stop Cover Bolts

Item	Part Number	Description	Used with	Used to
1	141-6727	Calibration Pump Assembly, 3208 HSMFS	3P-2200 Calibration Tool Group for sleeve lever setting	Set sleeve lever position on control shaft during injection pump assembly
2	141-6737	Adjustable Micro-Gauge	3P-2200 Calibration Tool Group for sleeve lever setting	Preset sleeve lever position before final calibration (use a wicking sealant to lock screw in place the first time this gauge is used)
3	145-1853	Calibration Fixture	3P-2200 Calibration Tool Group for sleeve lever setting 5P-4203 or 5P-6577 for fuel setting adjustments	Hold calibrating and zero pins for rack setting and positioning control shafts for sleeve setting (required for all 3208 HSMFS and 3208 SMFS injection pumps)
4	3P-1565	Collet Clamp	—	—
6	8S-7271	Setscrew	—	
7	131-3459	Sleeve Holder	—	Position sleeve during pump disassembly and assembly — simplifies assembly and protects sleeve from damage
8	146-5068	Hex Key-Ball End	—	—
9	5P-4809	Point Indicator	—	—
10	3J-6956	Spring	—	—
Service parts for 141-6727 Calibration Pump Assembly				
11	5P-6557	Spring	—	—
12	8T-0116	O-ring	—	—
Recommended but not shown				
—	2P-8289	Holder Block	—	—
—	6V-3073	Case — Plastic	—	—
—	6V-4094	Foam — Convoluted	—	—
—	6V-4873	Foam — Block	—	—

FUEL SYSTEMS

Cleaning Tray

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Holds specific parts of unit injectors in groups while they are cleaned in ultrasonic cleaner tank
- Plungers, bushings, tips and needles arranged in sequence so that parts which fit together and must be kept together can be cleaned but not mixed
- Tray fits in tank of either ultrasonic cleaner group

Part Number	Description
6V-6188	Cleaning Tray

Tip Driver

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to separate tip assembly from nut during disassembly of injector
- Can be used as alignment tool during assembly

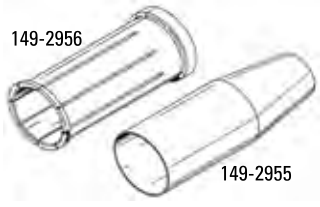
Part Number	Description
6V-4822	Tip Driver

Seal Protector, Backup Ring Installer

Model Usage: 3126B Engines

Warranty: Caterpillar® Six Months

- Used to quickly install stiff O-ring and both backup rings in top groove of HI300 injector
- Prevents steel backup ring from deforming or damaging injector case during ring installation



Part Number	Description	Overall Length	Outside Diameter (large end)	Inside Diameter (of large end)	Inside Diameter of taper	Inside Diameter
149-2955	Seal Protector	121 mm (4.76 in)	40 mm (1.57 in)	37.6 mm (1.48 in)	25.2 mm (0.99 in)	—
149-2956	Backup Ring Installer	105 mm (4.13 in)	—	—	—	40.75 mm (1.60 in)
Service Part						
5F-9657	O-ring seal	—	—	—	—	—

Hose Removal Tool

Model Usage: 3126B Engines

Warranty: Caterpillar® Six Months



- Used to easily separate hose from fitting
- Used on #10 fitting on 192-2963 Oil Supply Hose on HEUI high-pressure pump
- Separates fitting from hose collar (insert beveled edge between hose collar and fitting)
- For #6 fitting use 180-0186 Hose Tool

Part Number	Description
192-5092	Removal Tool

Hose Removal Tool

Model Usage: 3126B HEUI Engine

Warranty: Caterpillar® Six Months



- Used to quickly and easily separate 175-3236 High-Pressure Hose from fitting
- Insert beveled edge between fitting collar and hose collar; hose should release from fitting

Part Number	Description
180-0186	Removal Tool

Hose Removal Tool

Essential Tool

Model Usage: C15 and 3456 Engines

Warranty: Caterpillar® Six Months



- Used to quickly and easily separate a hose from a #8 fitting
- Used on C15 Engine turbocharger supply line and 3456 Engine crankgear
- Insert edge of tool between fitting and hose collar to release hose from fitting
- Helps prevent hose damage — angled end of tool allows hose to be pushed off of fitting
- Other hose release tools also available: #6 180-0186 and #10 192-5092

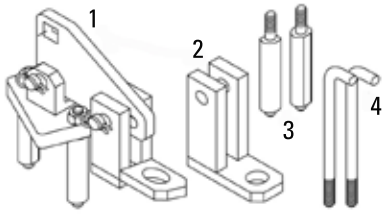
Part Number	Description
250-6092	Removal Tool

Injector Installation and Removal Tooling

Essential Tool

Model Usage: 3126B, C7, C9 Engines

Warranty: Caterpillar® Six Months



- Used to push injector into bore (attaches to rocker shaft bolt)
- Used with 1/2 inch drive ratchet to apply force to raise or lower injector
- Lever action provides fast and easy installation
- Eliminates injector damage which can occur when using other installation methods
- Order parts separately

References

- SENR9664, C9 Marine Engine
- RENR9218, C7 Engine for Cat Built Machines
- RENR9579, C9 Engine For Cat Built Machines
- RENR7458, C7 On Highway Engine

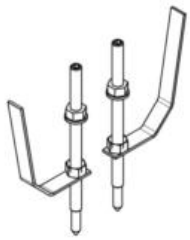
Item	Part Number	Description	Used with	Used To	Used On
Injector Installation and Removal Tooling					
1	152-1057	Injector Installation Tool	—	Install injectors	3126B
2	191-6077	Bracket	152-1057 Injector Installation Tool (replaces standard bracket assembly)	Install injectors	C9
3	272-1149	Leg (2 pieces)	152-1057 Injector Installation Tool (replaces standard legs)	Install injectors	C7, C9 (after 06/2004)
4	293-7624*	Rod (2 required)	152-1057 Injector Installation Tool	Remove injectors	C7, C9 (after 06/2004)

*Replaces 274-9198

Injector Installation and Removal Tooling

Model Usage: C7, C9 Engines

Warranty: Caterpillar® Six Months



- Used to safely remove and install injector
- Threaded tabs captured between injector clamp and head, allowing threaded rod to be turned with 4 mm hex wrench to jack out injector clamp
- Threaded rods can be installed into head thread end down and injectors can be pulled into head with M8 nuts
- M8 nuts supplied
- Lubricant suggested on threaded rods to reduce friction

Specifications

- Threaded Rods: M8 x 1.25
- Hex Wrench: 4 mm

Part Number	Description
367-3070	Injector Installation and Removal Tooling

FUEL SYSTEMS

Injector Sleeve Installation and Removal Tooling

Model Usage: C7, C9 Engines

Warranty: Caterpillar® Six Months

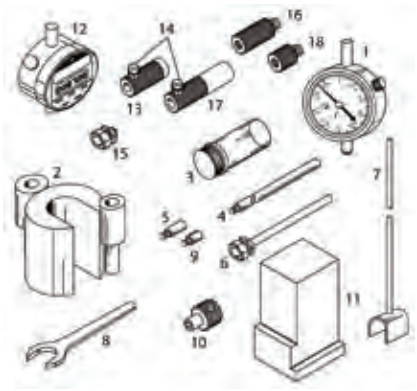


Part Number	Description
221-9777	Injector Sleeve Installer
221-9778	Injector Sleeve Puller

Timing Tool Group

Model Usage: 3500 EUI and MUI Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 6V-7880 Tool Group (to upgrade 6V-7880 to 9U-5132, order 6V-3072 Plastic Case, 9U-5138 Set Gauge, 9U-5233 Timing Fixture, 9U-5136 Foam Insert, 129-8602 Solenoid Nut Driver, and Decal NEEG2515)
- Used to test and adjust fuel systems, including fuel timing, rack synchronization, and fuel setting
- Tool group can be used for both MUI (Mechanical Unit Injector) and EUI (Electronic Unit Injector) engines
- 136-4587 Collet Extension and 136-4588 Collet Extension can also be used with this tool group (use 136-4587 for 9U-6273 and 136-4588 for 122-0449)

Reference

- NEHS0666, Tool Operating Manual

	Set Gauge Step	Rod Sleeve Extension	Extension Rod Assembly
For EUI engines use	64.34 mm (2.533 in)	122-0449	122-0451 [124.0 mm (4.78 in) long]
For MUI engines use	87.00 mm (3.425 in)	9U-6273	9U-5220 [181.0 mm (7.12 in) long]

Item	Part Number	Description	Size
—	9U-5132	Timing Tool Group	—
1	6V-3075	Indicator — Dial	—
2 [a]	9U-5137	Timing Fixture	—
3	5P-7276	Container	—
4	5P-7263	Indicator Contact Point	76.2 mm (3.0 in)
5	9S-8883	Contact Point	12.7 mm (0.5 in)
6	4C-8753	Extended Collet	—
7	8T-2684	Rack Synchronization Gauge	12.7 mm (0.5 in)
8	6V-7918	Wrench	5/8 in
9	8S-3675	Point — Indicator	3 mm (0.12 in)
10	129-8602	Solenoid Nut Driver	—
11	9U-5138	Set Gauge	—
13 [d]	9U-6273	Rod Sleeve Extension	—
14 [d]	9U-6272	Nylon Screw	—
17 [d]	122-0449	Rod Sleeve Extension	—
		Optional Tooling	
12	369-2607	Digital Indicator	
15	5P-4814	Collet As — Clamp	—
16	136-4588	Collet Extension	—
18	136-4587	Collet Extension	—
		Not shown	
—	122-0451	Extension Rod Assembly	—
—	5P-4160	Point — Indicator Contact, 19.05 mm (0.75 in) long	19.0 mm (0.75 in) (for digital indicator)
—	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—
—	9S-9082	Turning Tool, 1/2 in drive	1/2 in drive
—	9U-5136	Foam Insert	—
—	9U-5220	Extension Rod Assembly	—

a. Part of 9U -5233 Magnetic Fixture Group

b. Additional tooling required, but not part of 9U-5132

Plate, Socket

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used with 6V-4830 Fixture Group and 6V-4822 Tip Driver to remove and install nozzle on type 2 3500 Engine unit injector
- Make it possible to replace nozzle assemblies that plug or fail; with 1U-9395 Plate installed on 6V-4830 Fixture Group, injector can remove and install nozzle assembly

Reference

- SEHS8993, Special Instruction

Part Number	Description
1U-8701	Socket
1U-9395	Plate

Collet Extensions

Model Usage: 3500 and 3500B Engines

Warranty: Caterpillar® Six Months



- Used to hold a dial indicator in 9U-5233 Fixture Group with 5P-4814 Collet Clamp and two (2) 6V-7918 Collet Wrenches
- Released to provide an alternative to the nylon screw-type indicator mount
- Use 136-4587 Extension-Collet with 5P-4814 Collet-Clamp, instead of 9U-6273 Rod Sleeve Extension, to check and adjust fuel timing on 3500 MUI Engines
- Use 136-4588 Extension-Collet with 5P-4814 Collet-Clamp, instead of 122-0449 Rod Sleeve Extension, to check and adjust fuel timing on 3500B EUI Engines

Part Number	Overall Length	Diameter	Extension Length	External Thread	Internal Thread
136-4587	56.5 mm (2.2 in)	19 mm (0.7 in)	47 mm (1.85 in)	7/16 — 20	3/8 — 16
136-4588	23 mm (0.9 in)	19 mm (0.7 in)	13.5 mm (0.53 in)	7/16 — 20	3/8 — 16

Low Height Fuel Injector Adjustment Tool

Model Usage: 3516 Engines

Warranty: Caterpillar® Six Months



- Tests and adjusts fuel systems, including fuel timing, rack, synchronization, and fuel setting
- Used with digital dial indicator 1U-8869 (preferred method)
- Used on No. 2 cylinders or injector adjustments on MT4400 trucks
- Collets to hold digital dial indicator
- Used on Mechanical and Electrical Unit Injector Engines

Specifications

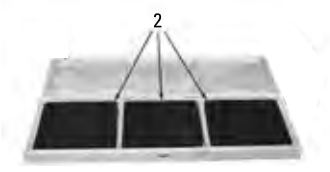
- Length: 155 mm (6.1 in)
- Width: 40 mm (1.6 in)
- Weight: .18 kg (.4 lb)

Part Number	Description
443-4177	Low Height Fuel Injector Adjustment Tool

Lapping Plates

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Lapping set permits distribution of lapping work between the 3 plates
- Makes it possible to lap plates against each other to make them flat after a period of use
- All parts need to be ordered separately

Part No.	Description
6V-6999	Lapping Plate

FUEL SYSTEMS

Fuel System and Governor Tool Group, 3114-3116

Model Usage: 3114, 3116, and 3126 Engines

Warranty: Caterpillar® One Year

- Used to simplify the required testing and adjusting operations
- Allows more precise fuel system adjustments in significantly less time, at less cost, than using previous tooling
- Improvements to tool group are described below

References

- NEHS0610, Tool Operating Manual
- SEBR0551, Service Manual, 3116 Diesel Truck Engine
- SENR3583, Service Manual, Systems Operation, Testing and Adjusting, Basic Engine Components — 3114 and 3116 Engines Timing

123-4940 Magnetic Base Indicator Group

- Attaches directly to tappet on top of each unit injector
- Saves time — moves from cylinder to cylinder quickly and easily
- Use with 9U-7274 Contact Point

369-2607 Digital Indicator

- Has a programmable preset feature
- Allows direct reading of published timing dimensions
- Used with the 9U-7269 Timing Gauge Block

9U-7270 Synchronization Gauge Block

- Used to set #1 injector to 3.5 mm (0.14 in) rack (gives more accurate and consistent results)
- Used on 127-8207 Injector

220-0123 Synchronization Gauge Block

- Used to set #1 injector to 3.0 mm (0.12 in) rack (gives more accurate and consistent results)
- Used on 127-8213 Injector

- **128-9640 Injector Synchronization Fixture Group**

- Used to hold linkage in synchronizing position for all cylinders
- Allows both hands to be free when making adjustments
- Provides more consistent results by applying a constant spring load to the linkage

9U-7264 Linkage Lever

- Used to actuate linkage when zeroing rack position at each injector
- Includes 1U-6235 Knob Fuel Setting

128-8827 Governor Pin Assembly

- Used to properly position injector control linkage relative to governor housing face when making static rack power setting
- Required for 1994 and later governors where calibration pin connection is not accessible from rear of governor (also works for earlier version governors)

136-4149 Governor Connection Sleeve Pliers

- Used to move linkage cover tube between governor and head to gain access to governor/rack linkage connection
- Pliers have more gripping force than former 6V-0006 Pliers (easier to move stubborn cover tubes)
- Pliers have self-locking feature of Vice-Grip type pliers
- Coated with vinyl material to prevent damage to sleeve (refer to Modifications section for reworking older pliers)

NOTE: The discontinued 1U-6681 Holding Tool (not included) is still needed for some model governors. The following list of tools is broken down into essential tools, recommended tools and improved tools. Many tools used in the discontinued 1U-6680 Tool Group are used again in 223-2454 Tool Group. See footnotes for status of tool. If desired, the discontinued 1U-6680 Tool Group can be updated to a 223-2454 Tool Group by ordering those items with footnotes 1 and 2. Unless otherwise specified, quantity required is one of each item.

Fuel System and Governor Tool Group, 3114-3116 (Continued)



Item	Part Number	Description	Size
—	223-2454	Fuel System and Governor Tool Group, 3114-3116	—
1 a	128-9640	Injector Synchronization Fixture Group	—
		128-8706 Spring Plunger (serviceable part)	
2	220-0123	Sync Gauge Block	3.0 mm (0.12 in)
2 a	9U-7270	Sync Gauge Block	3.5 mm (0.14 in)
3	9U-5120	Spanner Wrench	—
4 a	369-2607	Digital Indicator	—
5 a	128-8823	Locking Long Nose Pliers a	238 mm (9.375 in) long
6	1U-6675	Injector Spring Compressor	—
7	8T-4177	Bolt (spring compressor)	—
8	9U-7282	Indicator Fixture Group	—
		9U-6272 Nylon Screw (serviceable part)	
9	8C-4984	Bolt, (indicator stand)	—
10 a	9U-7263	Contact Point	18.5 mm (0.73 in) long
		Fuel Timing Tooling	
11 a	9U-7269	Timing Gauge Block	—
12 a a	123-4940	Magnetic Base Group	—
13 a	128-8824	Deep Offset Wrench	(16 and 18 mm)
14 a	128-8825	Deep Offset Wrench (17 and 19 mm)	—
15	9U-7274	Contact Point	85 mm (3.35 in) long
		Miscellaneous Engine Tools	
16 b	5P-0302	Bar (Injector Removal)	—
17 a b	123-4941	Valve Setting Gauge	—
18 a b	194-3542	Hex Socket Bit Driver	5 mm
		Fuel Setting Tooling	
19	130-2711	Fuel Setting Holding Tool	—
20	136-4149	Governor Connection Pliers	—
21 a	128-8827	Fuel Setting Pin Assembly	—
22 a b	1U-7523	Pilot — Pin Insertion	—
23 a	1U-7299	Adjustment (FRC) Wrench ("Type V" 1994 and later Trucks)	—
24 a	1U-7300	Wrench (3 mm Hex)	3 mm
25 a	1U-6673	Wrench — Fuel Ratio Control Adjusting and Synchronizing	—
		Not shown	
—	128-8828	Foam Insert Group	—
1	6V-7145	Case	—
Decal	—	NEEG2688	—

a. Recommended or improved tools.

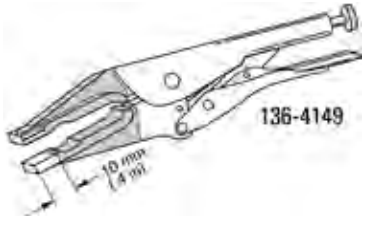
b. Some of the former 9U-7305 Groups used the new 123-4940 Magnetic Base; check your specific tool group.

c. Early 128 -8823 were 150 mm (6.0 in)

d. Refer to the appropriate engine Service Manual for additional information on use of these tools.

e. 159-1783 Fuel Ratio Control Adjusting Wrench is 51 mm (2 in) shorter than 1U-6673. Required for 3116-3126 Engines in Challenger 35, 45 and 55.

Governor Connection Pliers



The 136-4149 Governor Connection Pliers can be used for inspection procedures as outlined in Special Instruction REHS0601, if modified. Remove 10 mm (0.4 in) of rubberized coating from tips of pliers to expose metal teeth. This modification will not affect the original function of pliers, and it will allow pliers to fit onto rivet head.

Part Number	Description
136-4149	Governor Connection Pliers

FUEL SYSTEMS

Swivel Jaws Pliers

Model Usage: T4 Engines (Engines Without Fuel Shut-Off Valves Near Fuel Filters)

Warranty: Manufacturer's

504-3766



504-3767



- Swivel jaws allow even clamping pressure on flexible fuel lines.
- Pliers clamp onto fuel lines and lock into position preventing fuel from spilling when changing fuel filters.
- 504-3766 is 1/2 inch and works well on fuel lines 20 - 30 mm OD.
- 504-3767 is 1/4 inch and works well on fuel lines 20 mm OD and smaller.

Part No.	Description	Length	Weight
504-3766	Swivel Jaws Pliers 19.05 mm (0.75 in)	139.7 mm (5.5 in)	0.12 kg (0.5 lb)
504-3767	Swivel Jaws Pliers 31.75 mm (1.25 in)	234.95 mm (9.25 in)	0.12 kg (0.5 lb)

Offset Wrench

Model Usage: 3114, 3116

Warranty: Caterpillar® Six Months

- Replaces disc. 1U-8771 Offset Wrench
- Special wrench required for adjusting valve lash and injection timing on 3114/3116 Engine
- 4 necessary socket sizes — 16, 17, 18, 19 mm
- Offset for clearing intake manifold
- Has all metric socket sizes required to adjust valve lash on any 1.1 liter engine; discontinued 1U-8771 Offset Wrench had 2 sizes, 17 mm and 19 mm; world standards for metric fasteners changed and affected 1.1 liter engine; for example, early engines have 17 mm and 19 mm locknuts; later engines have 16 mm and 18 mm locknuts; interim period of engines may have combination of sizes of locknuts; no special serial number break exists for different size locknuts

Part Number	Description
1U-9563	Offset Wrench

Offset Wrench, 18 mm

Model Usage: 793C

Warranty: Caterpillar® Six Months



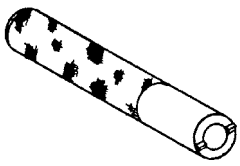
- Allows technician to properly tighten hose flange mounting bolts on the brake pump without removing other components

Part Number	Description
468-0551	Offset Wrench, 18 mm

Seal Remover

Model Usage: 3176

Warranty: Caterpillar® Six Months



- Used to remove copper combustion gas seal from unit injector tip on 3176 Engines
- Designed for quick removal without damaging injector; stretches copper seal so it can be removed by hand (pliers or chisels would likely damage injector)
- Has short chisel points that indent copper seal when tool is struck with small hammer; chisel points are shorter than seal thickness to prevent damage to injector

Part Number	Description
9U-5129	Seal Remover

Air Regulator Assembly

Model Usage: 16G

Warranty: Caterpillar® Six Months



- Enables use of shop air pressure to activate air-fuel ratio controls for checking or setting fuel rack or rack limiter
- Applicable to both mechanical and hydraulically operated controls

References

- SMHS7083, Special Instruction
- SEHS7465, Special Instruction

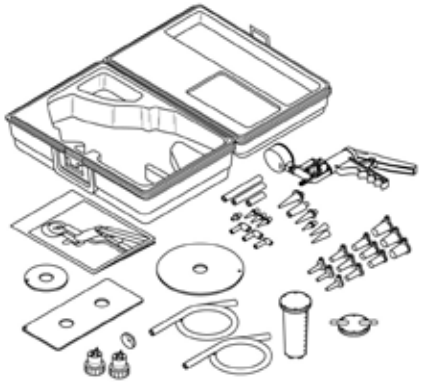
Item	Part Number	Description
—	5P-2413	Air Regulator Assembly
1	3B-7262	Nipple
2	4H-0553	Fitting

FUEL SYSTEMS

Pressure/Vacuum Pump Group

Model Usage: 3000 Series Engines With Stanadyne Fuel Injection Pumps

Warranty: Manufacturer's Five Years



- Used to check and adjust aneroid capsule
- Includes other accessories for general diagnostic, testing, and adjusting procedures requiring vacuum or pressure
- Compound pressure gauge
- Hand-operated, no external power required
- Includes compact carrying case

Specifications

- Maximum vacuum at sea level: -85 kPa (23 — 25 in Hg)
- Single stroke volume: 16.4 cu cm (1.0 cu in)
- Maximum pressure unassisted: 100 kPa (15 PSI)
- Maximum pressure assisted: 175 kPa (25 PSI)
- Compound pressure gauge range: 100 kPa (-30 mm Hg) — 200 kPa (30 PSI)
- Vacuum gauge accuracy -85 kPa (15 — 30 in Hg): 3% of full range

REPAIR INFORMATION

Prism Enterprises, Inc.
6952 Fairgrounds Parkway
San Antonio, TX 78238
Phone: (800) MITYVAC (648-9822) (210) 520-8051
Fax: (210) 520-8039
Web site: www.mityvac.com

WARRANTY INFORMATION

The pump is warranted to be free of all defects in material and workmanship for FIVE FULL YEARS from the date of original purchase. This warranty does not apply to any defects caused by negligence of the user, use of the product in any manner other than in accordance with the instructions provided with the product, or damage caused by accidents. It also does not apply to gauges, which are warranted for a period of 90 days from date of purchase.

Part Number	Description
195-0761	Pressure/Vacuum Pump Group

Piston Seal Guide, Piston Seal Guide

Model Usage: D40D, D400D, 3406, 3406B

Warranty: Caterpillar® Six Months



- Used to help install piston assembly in fuel ratio control body

Part Number	Description
6V-9052	Piston Seal Guide
6V-9072	Piston Seal Guide

Solenoid Spanner Wrench

Essential Tool

Model Usage: 3208 Engine with Air/Fuel Ratio Control Override Solenoids

Warranty: Caterpillar® Six Months



- Used to install solenoid
- Used with 3/8 inch drive torque wrench
- For installation only — DO NOT USE TO REMOVE SOLENOID

Specifications

- Square drive: 3/8 in
- Solenoid torque specification: 20 ± 5 N·m (15 ± 4 ft-lb)
- Torque wrench setting: 16 ± 4 N·m (12 ± 3 ft-lb)

Part Number	Description
159-0271	Solenoid Spanner Wrench

Ring Expander

Model Usage: 3300, 3406

Warranty: Caterpillar® Six Months



- Used for ring expanding and seal protection on all 3300 New Scroll Fuel Systems and on all 3406 New Scroll Fuel Systems
- Primary function: expander tool used with 6V-2163 Spring Compressor to install 7N-8821 Retaining Ring on weight carrier shaft; upon compression of spring assembly, 8T-3226 Ring Expander is inserted over end of weight carrier shaft; 7N-8821 Ring is then slid down over ring expander to its proper place on shaft
- Separate but important function: tool used to protect 4N-0820 Tachometer Drive Seal when assembling rear governor housing by placing ring expander over weight carrier shaft prior to assembling governor housing; rear governor housing that includes tachometer drive seal is then installed by placing it over ring expander; pre-assembled seal is protected from damage due to its position on housing; rounded top of ring expander guides seal into its proper position on carrier shaft

Part Number	Description
8T-3226	Ring Expander

Reamer

Model Usage: 3406B

Warranty: Caterpillar® Six Months

- Used to bore 8N-9679 Governor Housing on 3406B Engine to install 8N-3945 Bushing and to salvage terminal shaft (throttle) bearing bores

Part Number	Description
8T-5223	Reamer

Governor Adjusting Tool Group

Model Usage: 3406B

Warranty: Caterpillar® Six Months



- Socket handle assembly along with the 5P-4205 Wrench used to adjust high idle on 3406B Engine while in the vehicle
- Remove high idle adjusting screw cover, install 8T-3222 Governor Adjusting Tool Group over locknut, loosen locknut, adjust high idle screw using 5P-4205 Wrench and retighten locknut; remove tool group and replace cover on governor

Item	Part Number	Description
—	8T-3222	Governor Adjusting Tool Group
1	5P-4205	Wrench [b]

a. Warranty: Six Months

Applicator

Model Usage: 3114, 3116

Warranty: Caterpillar® Six Months



- Required to install Waldes Truarc ring (9X-2315 Retaining Ring, Series 5139-18) on servo on the 3114 and 3116 Governor
- Truarc ring requires a special applicator for installation; 4C-4354 Applicator grasps ring in a recess on underside of tool and holds it tightly under spring tension with an arm which extends over center section; tool angled so ring can be flattened to enter groove; when prongs have cleared shaft and ring is locked in groove, applicator can be withdrawn easily

Part Number	Description
4C-4354	Applicator

FUEL SYSTEMS

Check Valve Installer

Model Usage: 3204, 3304B, 3306B, 3406B Series Engines with New Scroll Fuel Systems (NSFS)

Warranty: Caterpillar® Six Months



- Used to install check valves in fuel transfer pumps

Part Number	Description
6V-6169	Check Valve Installer

Protractor Assembly

Model Usage: D10, D6H, D7G, D8H, 224, 977L

Warranty: Caterpillar® Six Months



- Precision tool for measuring all governor linkage angles
- Used on any linkage assemblies that are adjusted by "angle" method

Reference

- SMHS7188, Special Instruction illustrates Woodward Governor linkages including correct linkage dimensions and angles

Part Number	Description
1P-2385	Protractor Assembly

Fuel Flow Tube

Model Usage: Cat® Engines

Warranty: Caterpillar® One Year



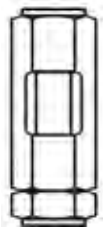
- Install this tube in engine fuel inlet line to determine amount of air entrained in fuel

Part Number	Description
2P-8278	Fuel Flow Tube

High Pressure In-Line Flow Sight

Model Usage: C13, C15, 3204, 3300, 3406B, 3406C

Warranty: Caterpillar® Six Months



- Used to view fuel passing through fuel line during priming on engines
- Also used to inspect fluid clarity for other applications
- Used in applications where a higher pressure capacity is required

Reference:

- SEBF8327, RENR9343

Specifications

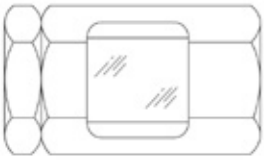
- Dimensions: 27 x 108 mm (1.06 x 4.25 in)
- Weight: .06 kg (.13lbs)
- Materials: Brass, Buna N Seals, Borosilicate Sight
- Port Size: 3/8"-18 NPT
- Maximum Working Pressure: 2930 kPa
- Maximum Working Temperature: 65.6°C

Part Number	Description
377-5782	High Pressure In-Line Flow Sight

In-line Flow Sight

Model Usage: 777C, 785B, 789B, 793B, D11N, and 994

Warranty: Caterpillar® Six Months



- Used to view fuel passing through fuel line during priming on 3500 EUI Engines
- Also used to inspect fluid clarity for other applications

Specifications

- Length: 75 mm (3.0 in)
- Width across flats: 35.05 mm (1.380 in)
- Port size: 1/2 — 14 NPTF
- Construction: brass with Buna N seals
- Maximum working temperature: 93°C (200°F)
- Maximum working pressure: 345 kPa @ 21°C (50 PSI @ 70°F)

Part Number	Description
9U-6872	In-line Flow Sight

Filter Strap Wrench

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Provides quick, efficient service when removing or installing all spin-on type fuel and oil filters
- Capable of applying higher torques required on larger filters without denting filter can

Item	Part Number	Description
—	185-3630	Filter Strap Wrench Assm. a
1	6H-7378	Retaining Ring
2	1P-0551	Spring Pin
3	2P-8253	Strap

a. Warranty: Six Months

Special Sockets for Fast Fill Fuel System Adapters

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



Fast-fill fuel system adapters require special sockets for their removal and installation

- 3P-2230 Socket used for Wiggins Adapter
- To remove and install Buckeye Adapter, order HG-190 Socket from Apex Machine and Tool Co, 7659 S. Western Avenue, Chicago, IL 60620

Item	Part Number	Description
1	3P-2230	Socket
2	HG-190	Socket

FUEL SYSTEMS

Digital Dial Indicator

Model Usage: 3116, 994

Warranty: Caterpillar® Six Months



- Replaces 1U-8869 Digital Dial Indicator
- Intended primarily for engine fuel system and governor adjustments but can be used in virtually any location or application that requires an indicator
- Can be used for any rack setting that is not greater than 12 mm (0.47 in); only a few engines, such as some 5.4 bore V engines, have rack settings that are greater than 12 mm (0.47 in)
- Especially useful for timing adjustments on engines with unit injectors
- Has 9.52 mm (3/8 in) stem and can be used with standard 9.52 mm (3/8 in) collets and brackets
- Can directly replace both inch and metric mechanical indicators if measuring task does not require more travel than 369-2607 is capable of
- Digital (LED) display which reads in either millimeters or inches -readings displayed to nearest 0.01 mm (0.0005 in)
- Total travel of 12.7 mm (0.50 in) and can be zeroed at any plunger position which allows 369-2608 to read either positive or negative in either direction of plunger travel
- Can be pre-set to read a specific number at a particular plunger position
- Pre-set feature especially useful for measuring or setting timing dimension on engines with unit injectors (1.1 liter, 3500, 3600); pre-set feature allows indicator to be set (off engine) to set gauge dimension; when indicator and timing fixture placed on injector, actual timing dimension is displayed
- Entire head, with display, can be rotated 270o for ease of readability
- Power is supplied by two SR 44 batteries contained in indicator
- Additional features, such as use with remote printer and computers, described in instructions packaged with indicator
- 369-2607 is less tolerant of vibration and is intended primarily as a versatile replacement for mechanical indicators
- Service Part: 3S-3268 Point

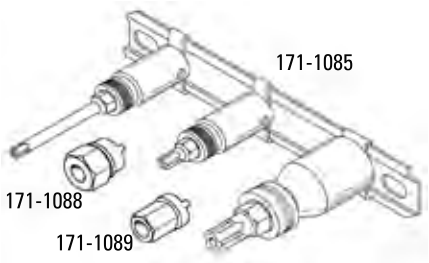
Part Number	Description
369-2607	Digital Indicator

Bolt Remover Kit

Essential Tool

Model Usage: 3054 and 3056 Engines with Stanadyne Pumps

Warranty: Caterpillar® Six Months



171-1085 Bolt Remover Kit

- Replaces discontinued 154-7151 Bolt Remover Kit
- Used to remove and install tamper resistant bolts on Stanadyne fuel injection pump and aneroid shield
- Used with 1/4 and 3/8 inch square drive ratchets
- Used on 5YS, 7MS, 2PW, 3GW serial number engines
- Includes longer 15IPR Torx bit for adjusting torque and idle screw

171-1088 Torque Screw Locknut Wrench

- Used to loosen and tighten the torque screw locknut
- Used with 1/2 inch open end wrench and 1 1/2 inch long 15IPR Torx bit

171-1089 Idle Adjustment Locknut Wrench

- Used to loosen and tighten the idle adjustment locknut
- Used with open end wrench and screw driver

NOTE: Use of these tamper resistant fastener tools is subject to Environmental Protection Agency (EPA) regulations. Read warning sheet included with each kit before using these tools.

Part Number	Description
171-1085	Bolt Remover Kit
171-1088	Torque Screw Locknut Wrench
171-1089	Idle Adjustment Locknut Wrench

Bolt Remover

Essential Tool

Model Usage: 3054 Engine, serial number 5HK
Used in 914G and 1T14G

Warranty: Caterpillar® Six Months



- Removes/installs tamper-resistant fasteners used on fuel injection pump access cover
- Hex shank bit fits standard 3/8" hex socket
- Subject to EPA regulations (for internal Cat® Dealer use by qualified mechanics)
- Fastener torque: 22 N·m (16 ft-lb)

Part Number	Description
173-9774	Bolt Remover

Pry Bar

Essential Tool

Model Usage: C9 Engines

Warranty: Caterpillar® Six Months



- Used to aid in removal of fuel injectors
- Leverage to remove injectors without damage
- Indexable tip allows adjustment to best fit each injector
- Tip can be locked at 17 incremental angles of 15 degrees
- Allen wrench (dealer supplied) used to lock claw into desired position
- Black oxide coated to resist corrosion

Specifications

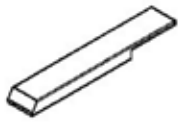
- Overall length: 203.2 mm (8.0 in)
- Approximate diameter: 12.7 mm (.500 in)
- Approximate tip width: 15.87 mm (.625 in)

Part Number	Description
342-9517	Pry Bar

Bearing Driver

Model Usage: All C175 Engines

Warranty: Caterpillar® Six Months



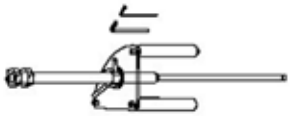
- Used to remove and install main bearings in C175 Engine
- Made from high-strength Teflon (1E1581) to prevent damage to bearing and bearing seat

Item	Part No.	Description
1	369-4007	Bearing Driver

Piston Tool Kit

Model Usage: All C175 Engines

Warranty: Caterpillar® Six Months



- Used to raise the piston for inspection, removal, or installation of C175 connecting rod bearings

Item	Part No.	Description
1	369-4008	Piston Tool Kit

Clean Fuel Source

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Tank provides a clean fuel source when performing fuel system diagnostic

Specifications

- Dimensions: 444 x 254 x 203 mm (17.5 x 10 x 8 in)

Part Number	Description
372-5842	Clean Fuel Source

FUEL SYSTEMS

High Pressure Rail Block off Plugs

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to test high pressure fuel system for leaks
- 6 pieces per set

Specifications

- Weight: 0.14 lb per piece (0.90 lb complete set)
- Size: 1.15 x .875 in per piece
- Material: Steel

Part Number	Description
372-5215	High Pressure Rail Block off Plugs

Fuel Pressure Gauge

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to measure fuel pressure, take a fuel sample and check for aerated fuel.

Specifications

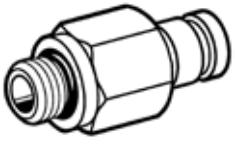
- Dimensions: 228.6 x 162.6 x 50.8 mm (9.0 x 6.4 x 2.0 in)
- Weight: .48 kg (1.05 lb)

Part Number	Description
372-5239	Fuel Pressure Gauge

Fuel Test Fitting

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to connect fuel/oil pressure test coupler to fuel fitting to measure fuel pressure of fuel inlet restriction — When measuring fuel inlet restriction, fitting installed at diagnostic port (inlet side) of filter housing — When measuring fuel pressure, fitting can be installed in fuel rail instead of Schrader valve

Specifications

- Dimensions: 50.8 x 12.7 x 12.7 mm (2.0 x 0.5 x 0.5 in)
- Weight: .05 kg (.1 lb)

Part Number	Description
372-5240	Fuel Test Fitting

Fuel Filter Wrench

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to loosen the top collar on Fuel Pro 382 models when replacing fuel filter, cap seal and vent cap seal.
- Tool should not be used to tighten the collar after replacement
- Rust free metal with cushion grip handle

Specifications

- Dimensions: 391 mm long
- Weight: 0.25 kg (0.55 lb)

Part Number	Description
372-5258	Fuel Filter Wrench

Injector Remover

Model Usage: 11L and 13L Engines

Warranty: Manufacturer's



- Used to remove injectors from cylinder head

Specifications

- Dimensions: 218.4 x 132.1 x 116.8 mm (8.6 x 5.2 x 4.6 in)
- Weight: 2.9 kg (6.5 lb)

Part Number	Description
373-4717	Injector Remover

Mechanical Fuel Injector Removal Tool

Model Usage: C7.1 Mechanical Engines

Warranty: Caterpillar® Six Months



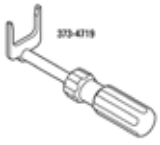
- Includes M8 (male) and M12/M14 (female) adaptors on each end
- Assists removal of stubborn Bosch and Lucas diesel injectors
- Presented in a handy blue molded case
- Saves time and money when injectors are difficult to remove
- Incorporating a slide hammer

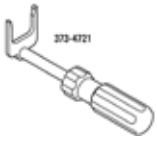
Part No.	Description	Dimensions	Weight
533-1140	Mechanical Fuel Injector Removal Tool	300 x 80 x 66 mm (11.8 x 3.2 x 2.6 in)	0.5 kg (1.1 lb)

Fuel Line Disconnect

Model Usage: CT660 Truck

Warranty: Manufacturer's





- Used to release the locking mechanism to allow fuel line removal

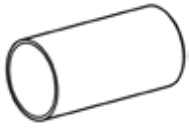
	373-4719	373-4721
Dimensions	127 x 38.1 x 38.1 mm (5.0 x 1.5 x 1.5 in)	127 x 38.1 x 38.1 mm (5.0 x 1.5 x 1.5 in)
Weight	0.06 kg (0.13 lb)	0.06 kg (0.13 lb)

Part Number	Description
373-4719	Fuel Line Disconnect
373-4721	Fuel Line Disconnect

Injector Installer

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Manually installs injector into cylinder head

Specifications

- Dimensions: 50.8 x 25.4 mm (2.0 x 1.0 in)
- Weight: 0.01 kg (0.4 oz)

Part Number	Description
373-4723	Injector Installer

Fuel Line Restriction and Aeration Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Assists in diagnosis of fuel loss/degradation

Specifications

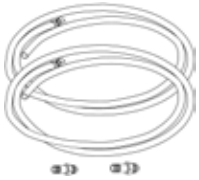
- Dimensions: 340.4 x 127 mm (13.4 x 5.0 in)
- Weight: 0.64 kg (1.4 lb)

Part Number	Description
373-4727	Fuel Line Restriction and Aeration Tool

High Pressure Fuel Rail Return Tester

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Properly tests the high pressure return line
- 17 mm (.70 in)

Specifications

- Dimensions: 203.2 x 152.4 x 25.4 mm (8 x 6 x 1 in.)
- Weight: 0.077 kg (0.2 lb.)

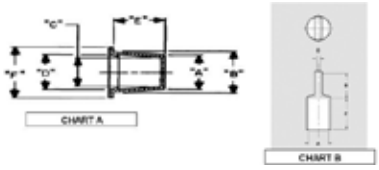
Part Number	Description
373-4728	High Pressure Fuel Rail Return Tester

FUEL SYSTEMS

Air & Fuel System Caps

Model Usage: CT660 Truck

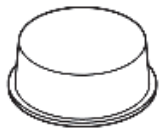
Warranty: Manufacturer's



- Used to prevent dirt and debris from entering system during service

Part Number	Description
373-4730	Air & Fuel System Caps

Fuel System Caps

	TYPE	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	CHART
	Tapered cap/plug	4.990	5.200	4.920	5.100	1.000	5.630	A
	Tapered cap/plug	4.090	4.320	4.010	4.240	1.250	4/620	A
	Tapered cap/plug	0.690	0.788	0.628	0.726	0.560	0.940	A
	Tapered cap/plug	0.815	0.930	0.753	0.868	0.625	1.090	A
	Tapered cap/plug	0.964	1.090	0.901	1.025	0.750	1.250	A
	Tapered cap/plug	0.390	0.456	0.327	0.394	0.380	0.590	A
	Tapered cap/plug	1.094	1.215	1.031	1.152	0.750	1.410	A
	Tapered cap/plug	2.760	2.990	2.685	2.947	1.000	3.130	A

Air System Caps

	TYPE	Dim A	Dim B	Dim C	Dim D	Dim E	Dim F	CHART
	Cap with Pull-Tab	0.475	0.625	1.000	0.125	1.625		B
	Cap with Pull-Tab	0.427	0.625	1.000	0.125	1.625		B

Fuel Injector Cups

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to protect and prevent dirt and debris from damaging injectors while out of engine

Specifications

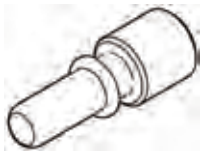
- Dimensions: 304.8 x 203.2 x 76.2 mm (12 x 8 x 3 in.)
- Weight: 0.23 kg (0.5 lb.)

Part Number	Description
373-4731	Fuel Injector Cups

Fuel Block Off Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



Specifications

- Dimensions: 50.8 x 12.7 x 12.7 mm (2 x .5 x .5 in)
- Weight: 0.1 kg (0.2 lb)

Part Number	Description
373-4734	Fuel Block Off Tool

Fuel Line Coupler

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used for in-line testing and diagnostics during tool usage

Specifications

- Dimensions: 45.7 x 106. x 20.3 mm (1.8 x 4.2 x 0.8 in)
- Weight: 0.1 kg (0.2 lbs)

Part Number	Description
373-4735	Fuel Line Coupler

FUEL SYSTEMS

Timing Case Cover Alignment Tool

Model Usage: C4.4

Warranty: Caterpillar® Six Months



- Used to correctly align pressed steel timing case cover to the timing case
- Material: Steel
- Used in place of 342-9206

Specifications

- Dimensions: 150 x 95 x 95 mm (5.9 x 3.7 x 3.7 in)
- Weight: 0.77 kg (1.7 lb)

Part Number	Description
380-8305	Timing Case Cover Alignment Tool

Piston Pin Bore Plug Gage Assembly and Air Gage Regulator Column Amplifier

Model Usage: All C175 Engines

Warranty: Manufacturer's



- Complete air gauging system for measuring pin bores of C175 pistons
- Provides a precise and repeatable method of determining pin bore conformance for reuse
- Eliminates measurement errors due to technician and measurement device variations
- The plug gage positions the air ports to the exact location in the center of the non-tapered area of the bore.
- Mahr Federal Millimar® S 1840PE column amplifier provides easy-to-read, three-color analog display with instant Go/No-Go confirmation.
- Digital dimension display
- 75.121 mm diameter Class XX Certified Master included
- Expandable for future single channel air gages
- Millimar® column may be configured via menu-guided front keypad or with a laptop via configuration software (included).
- Includes air supply installation kit (hoses, adapters air drier/filter) and power converter
- Direct ship from Mahr Federal

Reference

- SEBF9179 Specifications for Pistons, Rings, and Piston Pins for C175 Engines

Specifications	
Part No.	491-3253
Dimensions	75.1 x 47 x 171 mm (3 x 1.9 x 6.75 in)
Weight	0.5 kg (1.1 lb)

Specifications	
Part No.	491-3146
Dimensions	184 x 232 x 423 mm (7.3 x 9.1 x 16.6 in)
Weight	1.6 kg (3.5 lb)
Electrical	100/230 VAC / 50/60 HZ /1 PH
Air	>200 kPa (29 psi) before column regulator
Measuring Principle	Differential Pressure
Air Measuring Range µm/in	±50 /± .00196
Resolution µm/in	0.1 /.000005
Measurement Error	<1% Measuring Range
Operating Temperature	0- 45 °C (32-104 °F)

PISTONS, RINGS AND CONNECTING RODS

Tool Assembly (Rack Gauge)



- Used to measure fuel rack position on engine in a light package fuel system design
- Can be used on engine or on a test stand
- Used by attaching a linear position indicator (LVDT) to the back of the pump gear cover
- Made of Steel
- Easy to install

Specifications

- Dimensions: 190 x 147 x 50.8 mm (7.48 x 5.78 x 2 in)
- Weight: .44 kg (.97 lb)

Part Number	Description
436-1533	Tool Assembly (Rack Gauge)

Fuel Tube Test Group

Model Usage: C3.4B, C4.4, C6.6, C7.1

Warranty: Caterpillar® Six Months



- Used in test procedures to view air in fuel
- Quick disconnects for easy insertion and removal
- Used to temporarily replace low-pressure fuel line to make observation
- Two lines provided to fit either A or B versions of the C3.4 engine

Specifications

- Dimensions: 1294 x 34.6 x 19 mm (50.9 x 1.4 x 0.7 in)

Part Number	Description
420-2523	Fuel Tube Test Group

Piston Ring Groove Gauge

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to check top and intermediate ring grooves (rectangular) to determine piston reusability
- Includes 5 plug-type gauges that cover all widths of top and intermediate grooves (gauges numbered 1 through 5)
- Attached tag identifies gauges and their use

Reference

- SEBF8049, Guideline for Reusable Parts

Item	Part Number	Description
—	5P-3519	Piston Ring Groove Gauge
1	5P-4227	Tag Holder, Form SEES5544 Instruction Card
—	—	SEHS7758, Instruction Card
Also available for 3500 Engines		
—	4C-4519	Gauge Assembly (not part of 5P-3519)

Piston Gauge (3600 Diesel)

Essential Tool

Model Usage: 3600 Engine

Warranty: Caterpillar® Six Months



- Used on 197-6700 and 314-2700 Pistons
- Used to determines piston crown to skirt torque
- Used to indicate piston wear and reuse capability
- Used to measure angle on bolt that holds piston crown to piston skirt
- Made from aluminum with red anodizing — etched markings appear gray for better visibility
- Marked at 0, 30, 45, 60, and 90 degrees

Part Number	Description
342-6241	Piston Gauge (3600 Diesel)

PISTONS, RINGS AND CONNECTING RODS

Piston Ring Groove Gauge

Model Usage: C27 Engine Pistons

Warranty: Caterpillar® Six Months



- Used to quickly and accurately check top ring groove pistons for wear
- Improves reliability of inspection and reduces inspection time

Reference

- NEHS1127 or M0064650

Part No.	Description	Dimensions	Weight
477-3197	Piston Ring Groove Gauge	160 x 206 x 18 mm (6.2 x 8.1 x 0.7 in)	1.13 kg (2.5 lb)

Piston Ring Groove Gauge

Model Usage: 3114 and 3116 Engines

Warranty: Caterpillar® Six Months



- Used to measure piston ring groove
- Checks top and intermediate ring grooves to determine piston reusability
- Used on one-piece aluminum pistons: 7C-5668, 9Y-7452, 9Y-5536, 7E-1298, 7E-3428, 7E-3578
- Dimensions: 12.7 x 9.52 x 47.62 mm (0.5 x 0.37 x 1.87 in)

Part Number	Description
9U-5931	Piston Ring Groove Gauge

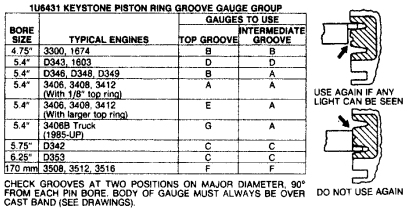
Gauge Group

Model Usage: 3406B

Warranty: Caterpillar® Six Months



SEES5678-02 Instruction Card



1U6431 KEYSTONE PISTON RING GROOVE GAUGE GROUP

BORE SIZE	TYPICAL ENGINES	GAUGES TO USE TOP GROOVE	GAUGES TO USE INTERMEDIATE GROOVE
4.75"	3300, 1674	B	B
5.4"	D343, 1603	D	D
5.4"	D346, D348, D349	B	A
5.4"	3406, 3408, 3412 (With 1/8" top ring)	A	A
5.4"	3406, 3408, 3412 (With larger top ring)	E	A
5.4"	3406B Truck (1985-UP)	G	A
5.75"	D342	C	C
6.25"	D353	C	C
170 mm	3508, 3512, 3516	F	F

CHECK GROOVES AT TWO POSITIONS ON MAJOR DIAMETER, 90° FROM EACH PIN BORE. BODY OF GAUGE MUST ALWAYS BE OVER CAST BAND (SEE DRAWINGS).

USE AGAIN IF ANY LIGHT CAN BE SEEN

DO NOT USE AGAIN

- Used for checking ring groove wear on 7C-0473, 7C-3496 and 7W-3668 Pistons found in some 3406B Truck Engines beginning with 1985 production
- Replaces discontinued 8T-3150 Gauge Group; consists of 6 gauges from 8T-3150 plus 1U-6432 Gauge and revised SEES5678-02 Instruction Card; 1U-6432 and SEES5678-02 Instruction Card can be used to upgrade existing 8T-3150 Gauge Group

Reference

- Service Magazine, June 1, 1987, page 15
- Truck Engine News, May 1987, Page 8, "Use Correct Pistons and Rings for 3406B Truck Engines"

Item	Part Number	Description
—	1U-6431	Gauge Group
1	8T-3144	Gauge Assembly
2	8T-3145	Gauge Assembly
3	8T-3146	Gauge Assembly
4	8T-3147	Gauge Assembly
5	8T-3148	Gauge Assembly
6	8T-3149	Gauge Assembly
7	1U-6432	Gauge Assembly
8	5P-4227	Tag Holder, Form SEES5544 Instruction Card
9	6V-3196	Gauge Assembly

No-Go Gauge for Connecting Rods (3500 Engines)

Model Usage: All 3500 Engines

Warranty: Caterpillar® Six Months



- Used to check connecting rod threads for excessive wear

Specifications

- Dimensions: 12.7 x 154 mm (0.5 x 6 in)

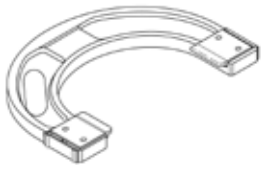
Part Number	Description
434-7091	No-Go Gauge for Connecting Rods (3500 Engines)
Serviceable Parts	
440-5602	No-Go Gauge

Piston Ring Groove Gauge Groups

Essential Tool

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used to quickly and accurately check top ring groove pistons for wear (checks top ring groove only)
- Uses a simple Go/No-Go design (if piston passes through gauge it cannot be reused)
- Improves reliability of inspection and reduces inspection time
- Gauge repair and recalibration done only by manufacturer (damaged blades can be replaced and adjustable design allows gauge to be easily recalibrated)

References

- NEHS0775 Tool Operating Manual
- NEHS0834 Tool Operating Manual
- NEHS0909 Tool Operating Manual
- SEBF8059 Inspection Procedures and Specifications for Pistons

NOTE: SEBF8059 also specifies the correct gauge for a given piston part number

Part Number	Engine Model	Manufacturer Recalibration
132-4389	3406E	No
186-0190	3126	Yes
204-8041	3500HD and 3524B	Yes
208-7632	C12, C13, and 3196	Yes
208-7636	C16	Yes
246-1176	3500A and B with Monotherm Pistons	Yes
325-8417	C9	Yes
325-8418	3406 to 3412	Yes
325-8419	C18 to C30	Yes
325-8420	C7	Yes
325-8421	C9	Yes
325-8422	3406	Yes
325-8423	C32	Yes
325-8425	C18 and 3412D	Yes
418-9826	C9	Yes
4C-8164	3114 and 3116	No
4C-8165	3176	No
4C-8168	3300	No
4C-8169	3400	No
9U-7360	3500 with Keystone Rings	No

Piston Ring Groove Gauge

Model Usage: 3500B Engines: Serial Numbers 7TR, 2GR, and 7RN

Warranty: Caterpillar® Six Months



- Used to quickly and accurately check 278-0247 Monotherm Piston Ring Grooves for wear
- Uses a simple Go/No-Go design (if piston passes through gauge it cannot be reused)
- Improves reliability of inspection and reduces inspection time
- Gauge repair and recalibration done only by manufacturer (damaged blades can be replaced and adjustable design allows gauge to be easily recalibrated)

References

- NEHS0909, Tool Operating Manual
- SEBF8059, Procedure to Clean and Inspect One-Piece Pistons

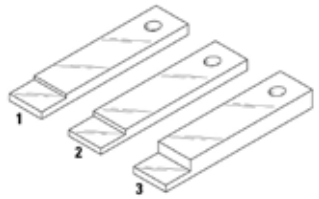
Part No.	Description	Used On
329-2630	Ring Groove Gauge	top piston ring groove
329-2631	Ring Groove Gauge	second piston ring groove

PISTONS, RINGS AND CONNECTING RODS

Piston Ring Groove Gauge

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



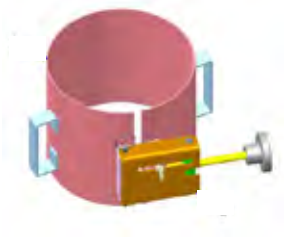
- Used to check piston ring groove wear to determine usability of C175 Engine piston
- Simple to use Go/No-Go design. If the scribe line is visible, then the piston ring groove is good. If the line is not visible, then the piston is nonreusable.
- Three separate gauges check all three piston ring grooves
- Gauges clearly marked with TOP RING, SECOND RING, and OIL RING for easy identification
- Made from heat treated steel for wear resistance
- Size (length x width): 75 x 19 mm (3.0 x 0.75 in)
- Hole in each gauge [0.125 mm (0.250 in)] allows gauges to be grouped together on a tether

Item	Part Number	Description
1	327-8644	Ring Groove Gauge (top ring)
2	327-8645	Ring Groove Gauge (second ring)
3	327-8646	Ring Groove Gauge (oil ring)

Tool Assembly Installer, Compressor Piston Ring

Model Usage: All 3500-Series Engines

Warranty: Caterpillar® Six Months



- Band-type piston ring compressor used for servicing 3500-Series Engines
- Taller design adds 25 mm to the former piston ring compressor. Taller design works with cuffed liners as well as the non-coffed liners.
- Has lock to secure compressed piston rings
- Two handles for easier handling
- Replaces 1U-7616

Part No.	Description	Dimensions	Weight
485-8003	Tool Assembly Installer	161 x 180 mm (6.3 x 7.1 in)	2.7 kg (6 lb)

Piston Installation Tool

Model Usage: CT660 2013-2015 13L Engines

Warranty: Manufacturer's



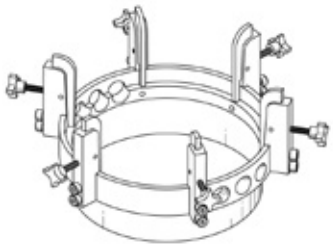
- Used to properly install pistons in 13L engines with anti-polish rings in cylinder blocks

Part No.	Description	Dimensions	Weight
492-5765	Piston Installation Tool	203.2 X 203.2 X 254 mm (8 x 8 x 10 in)	2.268 kg (5.00 lb)

Piston Ring Compressor Tool Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to compress piston rings for piston installation on 3600 Engines (fits into top of cylinder liner and guide piston into cylinder)
- Used with overhead lifting device to lower piston/connecting rod assembly into cylinder
- Guide arms hold rings in ring grooves to prevent liner damage during piston insertion
- Guides are hardened (RKW C58-62) and black oxide coated for long wear and resistance to corrosion
- Tool weight: 11.3 kg (25 lbs)

Application Procedure

1. Fully open all six adjustable guide arms.
2. Place tool over piston opening in cylinder block.
3. Lower piston until piston rings aligned with guide arms.
4. Lubricate piston rings and grooves.
5. Turn adjustment knobs to press rings into piston grooves.
6. Lower piston assembly into cylinder block.

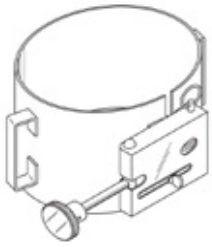
Part Number	Description
329-8877	Piston Ring Compressor Tool Group
Service/Repair Parts	
329-8876	Adjustable Guides
5M-2894	Washer
8T-9515	Socket Head Bolts

Ring Compressor Group

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to compress piston rings

Reference

- RENR7466, C175 Engine Disassembly and Assembly Manual

Part Number	Description
313-4079	Band Assembly (not serviced)

Part Number	Description
255-8897	Ring Compressor Group
Service/Repair Parts	
142-8546	Set Screw
313-4079	Band Assembly (not serviced)
6V-4027	Handle Assembly

Piston Ring Expander

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to easily and safely remove and install piston rings
- When removing or installing piston rings without suitable tool, rings apt to be broken or overstressed so they no longer fit cylinder wall properly

Engine Bore	Expander
114.3 mm (4.50 in)	5F-9059
120.7 mm (4.75 in)	7S-9470
130.2 mm (5.13 in) [a]	4C-3601
137.2 mm (5.40 in)	7M-3978
139.7 mm (5.50 in)	149-7179
146.1 mm (5.75 in)	7B-7974
158.8 mm (6.25 in)	5H-9621
170 mm (6.69 in)	271-0498
175 mm (6.89 in)	271-0504

a. Also available in Engine Bore: 133.4 mm (5.25 in)

PISTONS, RINGS AND CONNECTING RODS

Piston Ring Compressor

Model Usage: Cat® Engines

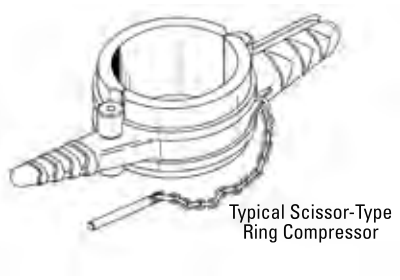
Warranty: Caterpillar® Six Months



- Simple, but practical, one-piece piston ring compressors save time and prevent damage to rings when installing in older engines
- Taper on inside is ground to a smooth surface so rings slide through easily
- Scissors-type piston ring compressors used on more current Cat® engines; much easier and faster to use; ring breakage and injury to fingers practically eliminated

Engine Bore	Compressor
146.10 mm (5.75 in)	2B-8184 {1}
158.80 mm (6.25 in)	6H-4140 {1}
108 mm (4.25 in)	1U-6684

Scissors Type Ring Compressor



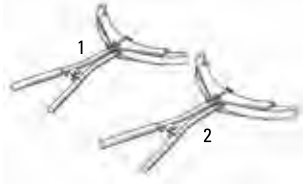
Typical Scissor-Type Ring Compressor

Engine Bore	Compressor
Scissors Type Ring Compressor	
105 mm (4.13 in)	187-1462
114.30 mm (4.50 in)	5P-3524
120.70 mm (4.75 in)	5P-3525
125 mm (4.92 in)	161-4163
130.10 mm (5.12 in)	161-4164
137.20 mm (5.40 in)	5P-3526
139.70 mm (5.50 in)	149-7180
145 mm (5.71 in)	200-3914
146.10 mm (5.75 in)	5P-3527
158.80 mm (6.25 in)	5P-3528
Scissors Type Ring Compressor (3126 and 3126B Engines)	
110 mm (4.33 in)	173-5529
Scissors Type Ring Compressor (C9.3 Engines)	
114.85 mm (4.52 in)	363-4046

Piston Ring Expansion Pliers

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install piston rings
- Will not damage/deform piston rings or piston
- Designed to the correct piston ring diameter
- Provides leverage to expand piston ring

Item	Part Number	Description	Sized For
1	318-3117 *	Ring Expanders	280 mm (11.0 in) rings
2	318-4874 **	Ring Expanders	300 mm (11.8 in) rings

* Replaces 271-0505 ** Replaces 4C-8995

Expander, Ring Expander, Compressor

Model Usage: 3114, 3116, 3176

Warranty: Caterpillar® Six Months



- 1U-6683 Expander used to expand piston rings to install on piston on 3114 and 3116 Engines
- 4C-3601 Ring Expander used to remove and install piston rings on 3176 Engine
- 1U-6684 Compressor used to compress piston rings to install piston into cylinder on 3114, 3116 and 3176
- 1U-6684 Compressor capacity: 76.2 mm (3 in) to 127.0 mm (5 in)

References

- SENR3582, Specification Module SENR3583, System Operation Testing and Adjusting
- SENR3611, Disassembly/Assembly Manual
- SEHS8868, Special Instruction, operation

Part Number	Description
1U-6683	Expander
1U-6684	Compressor
4C-3601	Ring Expander

Piston Wrist Pin Guide

Model Usage: C175, -16 and 20

Warranty: Caterpillar® Six Months



- Used to assist in installation of piston wrist pin in piston and rod assembly
- Reduces time by providing lead in alignment for the pin into piston crown and rod eye bore
- Reduces possibility of component damage to piston or rod bores

Specifications

- Dimensions: 263 x 30.5 x 30.5 mm (10.3 x 1.2 x 1.2 in)
- Weight: 0.9 kg (2.0 lb)
- Material: White Plastic

Part Number	Description
415-1205	Piston Wrist Pin Guide

Pin Mandrel, Bushing Out, Pin Mandrel, Bushing In

Model Usage: 3114 and 3116 Engines

Warranty: Caterpillar® Six Months



- Used to check connecting rods
- Provides accurate method for measuring bore misalignment and rod distortion
- Rod can be checked before and after rebuild with rod eye bushing in or out
- Length: 140 mm (5.5 in)
- Composition: steel

Part Number	Description
9U-5917	Pin Mandrel, Bushing Out
9U-5918	Pin Mandrel, Bushing In

Tools for Connecting Rod Pin Bearing Removal and Installation

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months

- Used to remove and install both tapered and standard connecting rod pin bearings
- Basic 5P-8639 Press Group required for all engines in addition to tools for each family of engines; refer to table for hydraulic service tools for use with 5P-8639 Press Group
- Refer to table below to select appropriate hydraulic pump and for comparison of hydraulic pump press time.

Part Number	Description	Press Time Seconds
350-7768	Pump Group — Hydraulic (115V)	3 — 5
350-7769	Pump Grp — Hydraulic (230V)	3 — 5
Hydraulic Service Tools for use with 5P-8639 Press Group		
1P-2375	Coupler Assembly Quick Connective (Male)	—
1P-2376	Coupler Assembly Quick Connective (Female) (2)	—
8F-0024	Hose Assembly	—

Installer Assembly (Ring Compressor)

Essential Tool

Model Usage: D3512E, G3512E and G3520E Engines

Warranty: Caterpillar® Six Months



- Used to install piston and connecting rod assembly into engines with 350-0074, 393-7368 and 455-8473 cuffed liners
- Fits inside of liner allowing rings to pass through cuffed section
- Heat-treating and electrolysis nickel plating make tool very durable
- One-piece design
- Teflon coating reduces friction of rings passing through tool during assembly

Specifications

- Dimensions: 30.4 x 21.1 x 3.18 cm (12 x 8.3 x 1.25 in)
- Weight: 1.5 kg (3.3 lb)

Part Number	Description
471-6593	Installer Assembly (Ring Compressor)

PISTONS, RINGS AND CONNECTING RODS

Socket, Extra-Deep 5/8 6-Point

Model Usage: Well Service and Land Electric T4 3500 Engines and All T4 C175 Engines

Warranty: Manufacturer's



- Special extra-deep socket used to tighten the fuel system accumulator stud on 3512E well service engines

Part No.	Description	Dimensions	Weight
510-4187	Extra Deep 5/8 6-Point Socket	120 x 173 mm (4.7 x 6.8 in)	0.5 kg (1.1 lb)

Service Parts for Connecting Rod Bearing Press Group (Basic)



Item	Part Number	Description
—	5P-8639	Connecting Rod Bearing Press Group
1	5P-8640	Clamp Bar
2	5P-8642	Clamp Pin
3	5P-9725	Cylinder Group
4 a	1P-2375	Coupler Assembly Quick Connective (Male)
4 a	1P-7437	Protective Cap

a. 5P-9724 Repair Kit is available

b. Part of 5P-9725

Tapered Connecting Rod Bearing Tools

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months

This is a complete list of tools required for bearing removal and installation. Use the application chart to select the tools for each engine connecting rod assembly.

Engine Model	Rod Assembly	Push Adapter	Spacer	R and L Adapter	Bar Clamp	Rod Part Number Position
D346	4N-9001	5P-8645	5P-8647	5P-8646	—	UP
D348	4N-9002	5P-8645	5P-8647	5P-8646	—	DOWN
D349	4N-4261	5P-8645	5P-8647	5P-8646	—	UP
—	—	5P-8645	5P-8647	5P-8646	—	UP
—	—	5P-8645	5P-8647	5P-8646	—	UP
3204	—	5P-8645	6V-4819	5P-8653	—	DOWN
3208	—	5P-8645	6V-4819	5P-8653	—	UP
3300	8N-1721	5P-8645	6V-3029	6V-2049	—	—
3400	7N-3229 -6	5P-8649	5P-8651	5P-8650	5P-8640	UP
—	7N-3231 -6	5P-8649	5P-8651	5P-8650	5P-8640	UP
—	8N-1726 -9	5P-8645	6V-3197	5P-8646	5P-8640	—
—	8N-2486 -9	5P-8645	6V-3197	5P-8646	5P-8640	UP
3500	—	5P-8649	6V-3043	6V-3042	5P-8640	DOWN
6°	—	5P-8649	6V-3043	6V-3042	5P-8640	DOWN
3500	—	4C-8725	4C-8726	4C-8727	5P-8640	DOWN
10°	—	—	—	—	—	DOWN
1.1 L	—	4C-9749	4C-9751	4C-9750	—	—
12.5°	—	—	—	—	—	—

Item	Part Number	Description
1	5P-8653	Adapter
2	6V-2049	Adapter
3	6V-4819	Spacer
4	5P-8650	Adapter
5	5P-8645	Adapter
6	5P-8646	Adapter
7	5P-8649	Adapter
8	6V-3042	Adapter
8	8T-5261	Adapter
9	6V-3043	Spacer
10	6V-3197	Spacer
11	5P-8647	Spacer
12	5P-8651	Spacer
13	6V-3029	Spacer

Reconditioning Connecting Rod Tools

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months

- Used to produce smoother surface finish (10 MU or less required) in piston pin bearing when new piston pin bearing is installed in connecting rod and 4W-7402 Piston is used
- Smoother surface finish required only for new piston pin bearings

References

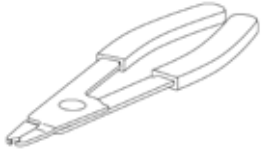
- SMHS7366, Special Instruction
- SEBF8075, Guideline for Reusable Parts

Item	Part Number	Description
5	8T-3170	Set Screw
Not shown	8T-2842	Pin-Mandrel (Bushing in)

Snap Ring Pliers

Model Usage: 3400 Engines

Warranty: Caterpillar® Six Months



- Used to remove specially designed piston pin retaining rings without holes such as 7E-5665 and 7E-1177
- Holds ring in tight clearance to piston pin
- Overall length: 213 mm (8.4 in)

Part Number	Description
139-9039	Snap Ring Pliers

Pin Bushing Adapter, Spacer, Push Adapter

Model Usage: 3500 Family Engines with discontinued 7C-8608 (10°) Connecting Rod Assemblies

Warranty: Caterpillar® Six Months



- Allow 5P-8639 Press Group to be used to remove and install piston pin bearings in 3500 Family Engines with discontinued 7C-8608 Connecting Rod Assemblies (10° taper on piston pin end)
- Fits rods with 10° taper

Part Number	Description
4C-8725	Pin Bushing Adapter
4C-8726	Spacer
4C-8727	Push Adapter

Push Adapter, Bushing Adapter, Spacer

Model Usage: All 1.1 Liter Engines

Warranty: Caterpillar® Six Months



- Used to remove and install connecting rod bearings
- Provides economical means to rebuild connecting rods

Part Number	Description
4C-9749	Push Adapter
4C-9750	Bushing Adapter
4C-9751	Spacer

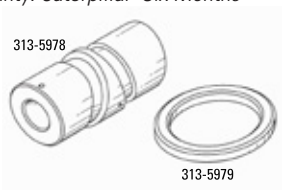
PISTONS, RINGS AND CONNECTING RODS

Pin Bushing Adapter, Spacer

Essential Tool

Model Usage: C27 and C32 Engines

Warranty: Caterpillar® Six Months



- Used together to remove and install connecting rod bearings
- Used with a suitable press
- Provides an efficient way to rebuild connecting rods, without damaging components
- Durable, black-oxide coating

Part Number	Description
313-5978	Pin Bushing Adapter
313-5979	Spacer

Bushing Removal Tool, Bushing Install Tool

Model Usage: 308E, 906H, 907H, 908H

Warranty: Caterpillar® Six Months



- Used to quickly and efficiently remove and install wrist pins on the C3.3B engine

Part Number	Dimensions
393-2568	107 x 38.1 mm (4.21 x 1.5 in)
393-2569	138.4 x 76.2 mm (5.45 x 3.0 in)

Connecting Rod Guide Assembly

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used in pairs to position C175 Engine connecting rods during removal and installation
- Covers connecting rod end to prevent crankshaft and bearing journal damage
- Helps guide connecting rod over crankshaft rod journal during disassembly and assembly
- Guides are made from lightweight plastic
- Spring pins locate guide on connecting rod
- Guide is attached to connecting rod using 339-6503 Bolt installed through center opening
- Two guides used on each connecting rod — order in pairs

Reference

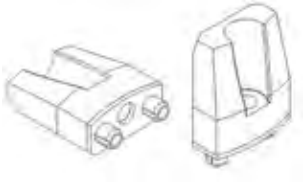
- RENR7466, C175-16 Generator Set Engine, Disassembly and Assembly, Pistons, Liners, and Connecting Rods, Remove and Install

Part Number	Description
274-5875	Connecting Rod Guide Assembly

Guide Assembly (Type 2)

Model Usage: C175 with "Type 2" Connecting Rods

Warranty: Caterpillar® Six Months



- Used in pairs to position C175 Engine connecting rods during removal and installation
- "Type 2" connecting rod part numbers: 417-7902 (even) and 417-7903 (odd)
- Covers connecting rod end to prevent crankshaft and bearing journal damage
- Guides are made from lightweight plastic
- Spring pins locate guide on "Type 2" connecting rod
- Two guides used on each connecting rod — order in pairs

Part Number	Description
418-1340	Guide Assembly (Type 2)

Connecting Rods Brush And Arbor

Model Usage: C175 Engines

Warranty: Manufacturer's



- 503-5808 drive arbor with threaded shaft
- For use with brushes with a maximum diameter of 4 in
- 503-5809 wire wheel brush, crimped wire, 6-inch brush diameter
- 6-inch brush allows proper and thorough cleaning of bearing journal before assembly

Part No.	Description
503-5808	Drive Arbor
503-5809	Brush

Connecting Rod Bend and Twist Measurement System

Model Usage: C7-C175

Warranty: Manufacturer's One Year





European Union Compliant, CE marked

- Complete measurement system for measuring bend and twist of connecting rods
- Replaces the discontinued 5P-2050 Connecting Rod Checking Fixture
- Provides a precise and repeatable method of determining conformance for reuse
- Eliminates measurement errors due to technician and measurement device variations
- The fixture locates the connecting rod on correct datums and measures bend and twist simultaneously.
- Two Mahr Millimar® S 1840 column amplifiers provide easy-to-read, three-color bar display with instant Go/No-Go confirmation.
- Also provides digital dimension display
- Compatible with existing Bushing IN and Bushing OUT Pin Mandrels (not included) specified in SMHS7366 "Using The 5P-2050 Connecting Rod Checking Fixture"
- Requires new connecting rod to be used as a master for each engine series measured
- Programmable via either integrated keypad or RS232 interface with MS-Windows® configuration software
- Results can be uploaded to dealer database via MarConnect® software (not included).
- Tool Operating Manual included

Ordering Information:

- Contact Mahr Inc., (401) 784-3100, orders@mahr.com.
- Please specify Cat® dealer and request quotation for product number DFM050918-1.

Reference

- SEBF8064 Reuse and Salvage Guideline: Specifications for Connecting Rods

Description	Dimensions	Weight
Fixture	870 x 610 x 308 mm (34.3 x 24 x 12 in)	44 kg (96 lb)
Readout Towers	184 x 232 x 423 mm (7.3 x 9.1 x 16.6 in)	3.2 kg (7.3 lb)

PISTONS, RINGS AND CONNECTING RODS

Induction Heaters

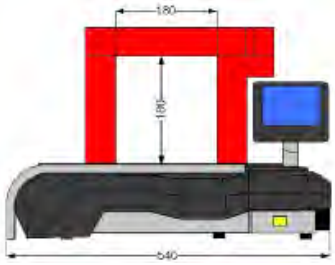
Essential Tool

Model Usage: All models

Warranty: Manufacturer's







Overall Dimensions

European Union compliant, CE marked

- Replaces canceled 6V-6996, 364-1170, 364-3040 and 6V-7118 bearing heaters
- Used to heat metal bearings, gears, rings, and bushings where a press fit is required
- Part heated by low voltage and high current induction to ensure equal temperature over the entire part (inner and outer ring)
- Suitable for use with sealed bearings, shielded bearings, pre-greased bearings, and bearings with polyamide cages
- Pivoting yoke design reduces unnecessary handling, reduces risk of contamination
- Suitable for continuous use — without any additional cooling system
- Includes a temperature detector (sensor) for monitoring part temperature during normal heating only
- Includes five different size induction yokes for maximum versatility
- Intelligent, programmable electronic unit:
  - includes IR remote control
  - set time and temperature to heat parts uniformly
  - program count down before heater start
  - probe and microprocessor constantly monitor heating process
  - power can be set manually from 0 to 100%

Features

- Controls (for tension free heating)
  - Temperature: 32-464°F
  - Time: 0-99 min
  - Time / Temperature Ramp: 5-99 min / 5-464°F
  - Heating time: Set- and actual time
  - Heating Time / temp ramp: Set- and actual temperature, time and power
  - Languages: English, German, Spanish, French
  - Error report: Call to action in display
- Other
  - Heating graph: In display
  - Upload/Download: USB-Stick (optional)
  - Connection network: With data cable (optional)
  - Sound signal: Beeper
  - Temperature hold: Yes
  - Demagnetizing: < 2A/cm
  - Magnetic probe: 1 piece
  - Thermal safety guard coil: Yes

REPAIR INFORMATION

TM Induction Heating US Sales
Office: 720-266-4403
Mobile: 720-838-5980
Fax: 303-646-4880
E-mail: rick@tminduction-us.com
Website: www.tminduction-us.com

Part Number	Description
533-1180	120v Induction Heater
533-1181	220v Induction Heater

Specifications

- Power rating:1.92 / 3.7kVA
- Voltage: 110 - 240Vac
- Current: 16A / 60 Hz
- Max. temperature: 240°C / 464°F

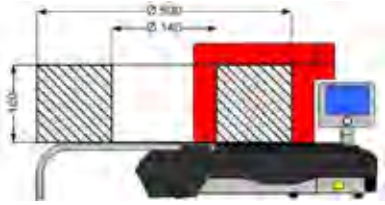
Standard Yoke Dimensions

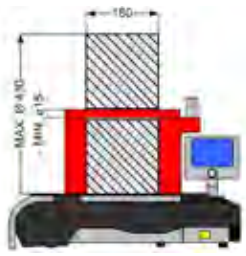
- 10 x10 x 280
- 14 x 14 x 280
- 25 x 25 x 280 Pivot
- 40 x 40 x 280 Pivot
- 50 x 50 x 280 Pivot

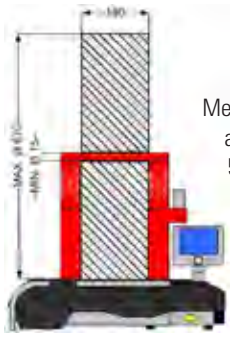
Workpiece	Horizontal	Vertical
Min. bore diameter	ø85 mm (3.35 in)	ø15 mm (0.59 in)
Max. outer diameter	ø500 mm (19.69 in)	ø430/*640 mm (19.93/25.20 in)
Max. width	180/*300 mm (7.14/11.81 in)	180 mm (7.14 in)
Max. weight (Bearings)	100 kg (220 lb)	-
Max. weight (Other Parts)	80 kg (175 lb)	-

*With extension yolks

Workpiece Dimensions







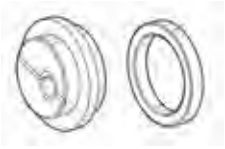
Measurement with adapter yokes 50 x 50 x 120

Spacer, Center Plug

Essential Tool

Model Usage: C15 Engine

Warranty: Caterpillar® Six Months



- Used to remove and install connecting rod wrist pin bearing
- Used with base plate of 5P-8639 Press Group
- Material: steel

Reference

- SEBF8242, Engine Service Manual, Procedure for Removing and Installing Connecting Rod Bearing

Part Number	Description	Overall Size	Weight
322-6227	Center Plug	100 mm (3.9 in) dia x 15.6 mm (.61 in) thick	0.381 kg (0.83 lb)
370-9186	Spacer	124 mm (4.9 in) dia x 50.0 mm (1.96 in) thick	3.1 kg (6.8 lb)

Wrist Pin Bushing Removal Tool

Model Usage: C3.3B, C2.6B Engines

Warranty: Manufacturer's



- Used with 393-2568 driver to remove wrist pin bushings in the C3.3B connecting rods
- Holds connecting rod stable to prevent damage
- Plate has clearance hole to allow bushing to pass through
- Uses 393-2569 installation tool to install bushing

Specifications

- Dimensions: 254 x 101.6 x 12.7 mm (9.99 x 3.99 x 0.49 in)

Part Number	Description
443-9447	Wrist Pin Bushing Removal Tool

Pin Bore Tool Bushing, Connecting Rod Fixture Assembly

Model Usage: C4.4, C6.6 Engines

Warranty: Caterpillar® Six Months



443-7045



443-7046

- Used to quickly and easily install wrist pin bushing of the connecting rods in C4.4 and C6.6 engines
- Fixture plate holds connecting rod securely while driver removes and installs bushing using a standard shop press

Part No.	Description	Dimensions
443-7045	Bushing	85 x 43 mm (3.34 x 1.69 in)
443-7046	Fixture Assembly	120 x 330 x 20 mm (4.72 x 12.99 x 0.78 in)

Piston Pin Bushing Adapter

Model Usage: C9

Warranty: Caterpillar® Six Months



- Used to remove the old bushing and install the new one in one continuous motion
- Made of steel
- Used with existing 5P-8639 connecting rod tool group

Part No.	Description	Length	Diameter
485-6928	Piston Pin Bushing Adapter	121 mm	45.7 mm

Piston Pin Bushing Adapter

Model Usage: C11, C12 and C13

Warranty: Caterpillar® Six Months



- Used to remove the old bushing and install the new one in one continuous motion
- Made of steel
- Used with existing 5P-8639 connecting rod tool group

Part No.	Description	Dimensions	Weight
528-5277	Piston Pin Bushing Adapter	56 x 116 mm (2.2 x 4.5 in)	1.1 kg (2.4 lb)

CAMSHAFT AND TIMING GEAR TOOLS

Camshaft Alignment Pilot Assembly

Model Usage: C-10 and C-12 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install camshafts (threads directly onto end of camshaft)
- Made from aluminum to prevent damage to cam bearings
- 2 cross-drilled holes provide means of removing pilot assemblies after installation
- 2 required — thread 4 into the other to make installation between engine/firewall easier

References

- SENR1002, Service Manual Module
- SENR1007, Service Manual Module

Specifications

- Length: 98 mm (3.9 in)
- Outside diameter: 74.74 mm (2.943 in)
- Stud: M10 x 1.5 thd

Part Number	Description
131-1525	Camshaft Alignment Pilot Assembly

Camshaft Installation Tools

Model Usage: 3500

Warranty: Caterpillar® Six Months



- Direct replacement for discontinued 6V-4019 Pilot Group; new tooling can be used on all earlier engines
- When installing camshaft into camshaft bearings in cylinder block, it is necessary to provide pilot/guide for camshaft to prevent damage to bearings; because of changes in camshafts of 3500 engines, there are new installation tools that pilot camshaft from both ends until camshaft is in place
- Designed so camshaft can be installed from either end of engine

Item	Part No.	Description	Size	Qty.
1	8T-3167	Guide Assembly	1	—
2	8T-3168	Pilot Assembly	2	—
3	8T-3169	Crank Assembly	1	—
4	8S-3887	Bolt	1/2 in — 13 x 11 in	4
5	4J-7945	Bolt	3/4 in — 10 x 1 1/2 in	2
6	0S-1617	Bolt	5/16 in — 18 x 3/4 in	2
7	0S-1594	Bolt	3/8 in — 16 x 1 in	3

Application Procedure



1. Use three 0S-1594 Bolts, finger tight, to install 8T-3167 Guide Assembly on flywheel housing or front cover as shown
2. Install 8T-3168 Pilot Assemblies and 8T-3169 Handle Assembly on camshaft as shown. 2-piece camshafts should be separated for installation.
3. Put engine oil on all bearings and camshaft journals. Install pilot and camshaft through guide assembly until pilot is located in first bearing. Tighten bolts on guide assembly while turning camshaft.
4. On 3508 Engines, complete the installation of the camshaft while rotating camshaft. Remove tooling and complete engine assembly.

On 3512 and 3516 Engines, one end of separated camshaft is rotated and installed as far as camshaft joint. Attach other end of camshaft and complete installation while rotating camshaft. Remove tooling and complete assembly of engine.

Camshaft Removal and Installation Tools

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to remove and install camshaft from front or rear of engine
- Pilot assembly used with 8T-3169 Turning Handle
- Guide can be mounted to cylinder block or to front or rear engine rollover adapter plates
- Pilot assembly simultaneously engages two cam bearings to ensure proper alignment
- Camshaft pilot and turning handle provide smooth access into cam bearings

Reference

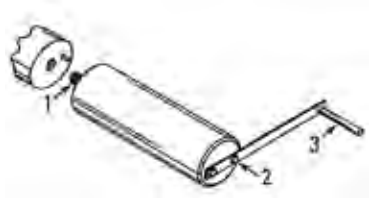
- RENR7466, C175-16 Engine Disassembly and Assembly Manual

Part Number	Description
255-2820	Camshaft Pilot Assembly
282-9962	Camshaft Guide Assembly
8T-3169	Crank Assembly

Camshaft Pilot

Model Usage: 3500B Engine with Large Diameter Camshaft

Warranty: Caterpillar® Six Months



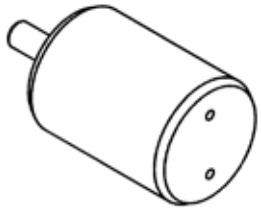
- Used to remove and install 106-4584 Camshaft — simply threads onto end of camshafts and functions as a guide during installation or removal
- Used with 8T-3169 Crank Assembly to help rotate camshaft during engine assembly and disassembly (use two 0S-1617 Bolts to attach crank assembly to camshaft)
- Length of pilot is designed to be supported by 2 camshaft journals at the same time (prevents camshaft from dropping as it is installed through each bearing journal)
- Groove in end of pilot provides clearance for dowel pin in camshaft (eliminates removal of dowel)
- Made from aluminum to prevent scratching or other damage to journal surfaces
- Diameter: 91.9 mm (3.62 in)
- Length: 305.0 mm (12.0 in)

Item	Part Number	Description	Quantity
—	125-0200	Camshaft Pilot	—
1	2P-1303	Taperlock Stud (part of 125-0200)	—
2	0S-1617	Bolt	2
3	8T-3169	Crank Assembly	—

Camshaft Pilot Tool Assembly

Model Usage: 3500 T4 Engines

Warranty: Caterpillar® Six Months



- Used with 8T-3169 crank assembly to help rotate camshaft during engine assembly and disassembly
- Uses two 0S-1617 bolts to attach crank assembly to cam shaft
- New shorter design allows the tool to be used with the newer designed turbo stands that makes the longer tool unable to be used.
- Aluminum construction prevents scratching and other damage to journal surfaces.
- Groove in end of pilot provides clearance for dowel pin in camshaft (eliminates removal of dowel.)
- Length of pilot is designed to be supported by two camshaft journals at the same time. This prevents camshaft from dropping as it is installed through each bearing journal.

Part No.	Description	Dimensions	Weight
525-1832	Camshaft Pilot Tool Assembly	92 x 180 mm (3.6 x 7 in)	2.4 kg (5.3 lb)

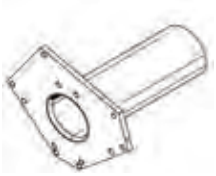
Part No.	Description	Qty.
2P-1303	Taperlock Stud (part of 525-1832)	-
0S-1617	Bolt	2
8T-3169	Crank Assembly	-

CAMSHAFT AND TIMING GEAR TOOLS

Camshaft Guide Assembly

Model Usage: 3500B Engines

Warranty: Caterpillar® Six Months



- Used to install camshaft from either end of engine
- Reduces installation time and helps prevent camshaft bearing damage
- Used with front or rear housing in place (does not bolt to bare block face)

Specifications

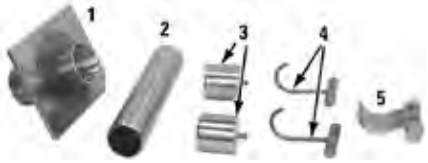
- Overall length: 303.0 mm (11.9 in)
- Tube inside diameter: 91.98 mm (3.621 in)

Part Number	Description
125-0201	Camshaft Guide Assembly

Camshaft Removal and Installation Tools

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- Removes and installs camshaft in chassis
- Prevents damage to camshaft and bearings
- For lifting camshaft without pinching fingers

References

- SENR5580, Service Manual, 3406E Engines
- SENR6421, Disassembly/Assembly Manual

Camshaft Removal and Installation Tools Specifications

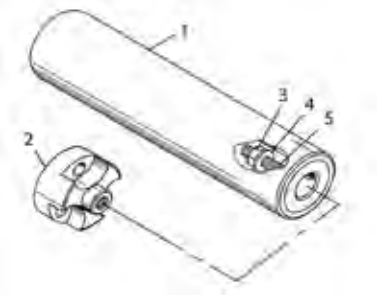
- 9U-7256 Guide Assembly (Item 1):
  - Tube (outside diameter x length): 102 x 195 mm (4.0 x 7.7 in)
  - Plate (W x L x T): 205 x 296 x 9.5 mm (8.0 x 11.6 x 0.38 in)
  - Plate offset from end of tube: 65 mm (2.5 in)
- 274-7932 Guide Assembly — Front (Item 1):
  - Tube (outside diameter x length): 102 x 228 mm (4.0 x 8.9 in)
  - Plate (W x L x T): 203.2 x 203.2 x 9.5 mm (8.0 x 8.0 x 0.38 in)
  - Plate offset from end of tube: 80 mm (3.15 in)
- 274-7933 Guide Assembly — Rear (Item 1):
  - Tube (outside diameter x length): 102 x 203 mm (4.0 x 8.0 in)
  - Plate (W x L x T): 249 x 279 x 9.5 mm (9.8 x 11.0 x 0.38 in)
  - Plate offset from end of tube: 65 mm (2.5 in)
- 9U-7243 Alignment Sleeve (Item 2):
  - Material: Steel tube
  - Tube (diameter x length): 85 x 430 mm (3.3 x 17.0 in)
- 9U-7225 Camshaft Pilot (Item 3):
  - Material: Aluminum
  - Rod (diameter x length): 84 x 85 mm (3.3 x 3.3 in)
  - Threaded stud (serviced by 3D-0490 Stud): 1/2 in-13 x 1.0 in
- 9U-7240 Camshaft Lifting Hook (Item 4):
  - Handle: 25(D) x 120(L) mm (1.0 x 4.8 in)
  - Hook: 6.4(D) x 180(L) mm (0.25 x 7.0 in)
- 9U-7257 Cradle Assembly (Item 5):
  - Rod: 40(D) x 140(L) mm (1.5 x 5.4 in)
  - Plate (W x L x T): 91 x 130 x 7.9 mm (3.5 x 5.0 x 0.31 in)

Item	Part Number	Description
1	274-7932	Guide Assembly — Front
1	274-7933	Guide Assembly — Rear
1	9U-7256	Guide Assembly
2	9U-7243	Alignment Sleeve
3	9U-7225	Camshaft Pilot
4	9U-7240	Camshaft Lifting Hook
5	9U-7257	Cradle Assembly

Cam Tool Group

Model Usage: 3406E, 3456, C-15, C-16, C27/C32

Warranty: Caterpillar® Six Months



- Used to remove camshaft through front or rear of cylinder head
- Used with three 6L-4697 Bolts to connect adapter to camshaft (not included)
- Used on many machines, cab over trucks, or when cylinder head is off for repair
- Pilot sleeve simultaneously engages 2 cam bearings to guide cam without damaging bearings — loosely assemble components to prevent tool alignment problems
- To remove camshaft through front of cylinder head, screw only pilot sleeve into opposite end of camshaft
- To remove cam through rear of head: 1) remove cam gear; 2) bolt adapter onto camshaft; 3) screw pilot sleeve onto adapter
- Min. pilot sleeve clearance between head and other components: 368.0 mm (14.5 in)
- Saves time by allowing cam removal without removing other components

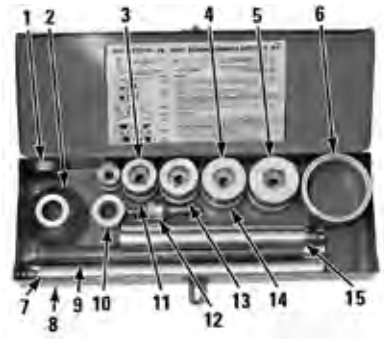
Item	Part Number	Description
—	177-8003	Cam Tool Group
1	177-8001	Pilot Sleeve
2	177-8002	Adapter (3406, C-15, C-16, C27/C32 rear install)
2	249-2936	Adapter (C27/C32 front install)
3	1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)
4	5P-8245	Hard Washer
5	3D-0472	Taperlock Stud

CAMSHAFT AND TIMING GEAR TOOLS

Camshaft Bearing Installation and Removal Group

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



- Used to remove and install camshaft bearings in most Cat® Engines
- Each collet designed to handle bearing diameter range listed in chart; replacement O-ring seals used to retain collets also listed

Item	Part Number	Description
—	8S-2241	Camshaft Bearing Installation and Removal Group
1	8S-8287	Thrust Bearing Assembly
2	8S-8288	Cone
5	8S-8285	Collet Assembly*
7	8S-8293	Long Extension
8	8S-8281	Tool Box
9	8S-8291	Threaded Shaft
10	8S-8290	Nut
12	8S-8286	Screw Expander
13	—	Backup Nut
15	8S-8292	Short Extension

*** Collet Assembly Specifications**

Collet	Inner Diameter Size Range	Replacement O-Ring Seals
8S-8285	60.33 — 69.85 mm (2.375 — 2.750 in)	4J-0524

Puller Plate, Spacer Tube

Model Usage: D379B, D398B, D399, 657E

Warranty: Caterpillar® Six Months



- Used with 8S-2241 Group for camshaft bearing removal and installation on 6.25 inch bore V Engines (two 8S-8292 Short Extensions and one 8S-8293 Long Extension required from 8S-2241 Group)

Item	Part Number	Description
1	5P-1666	Puller Plate
2	5P-1667	Spacer Tube
3	8S-8292	Short Extension
4	8S-8293	Long Extension

Adapter Group

Model Usage: 1100, 3100, 3208

Warranty: Caterpillar® Six Months



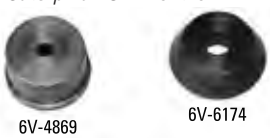
- Used with 8S-2241 Tool Group to install camshaft bearings on 1100 and 3100 Series and 3208 Engines

Part Number	Description
0S-0509	Bolt (3/8 — 16)
1P-5545	Adapter Group

Adapter, Plug

Model Usage: 3400

Warranty: Caterpillar® Six Months



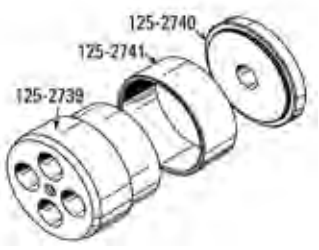
- Used with 8S-2241 Tool Group to remove and install camshaft bearings in 3400 Series Engines
- 6V-4869 Adapter used for collet assembly
- 6V-6174 Plug used for cone

Part Number	Description
6V-4869	Adapter
6V-6174	Plug

Camshaft Bearing Remove/Install Tools

Model Usage: 3500B Engines

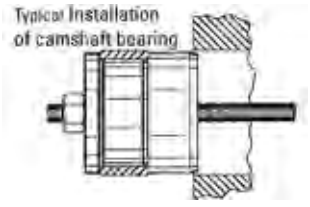
Warranty: Caterpillar® Six Months



- Used to remove and install 2 sizes of camshaft bearings — makes overhaul much simpler and reduces chance of bearing damage during installation
- Used with 6V-4077 Camshaft Bearing Tool Group and 8S-2241 Camshaft Bearing Installation and Removal Group
- Designed to trap camshaft bearing between camshaft bearing pilot and backup plate — can be pushed (removed) or pulled (installed) using 6V-4077 and 8S-2241 Tool Groups
- Install thin-walled bearings by placing 125-2741 Camshaft Bearing Sleeve over the camshaft bearing pilot
- Parts are plated and hardened for durability and long life

Part Number	Description
125-2739	Cam Bearing Pilot
125-2740	Backup Plate
125-2741	Cam Bearing Sleeve

Installation of Camshaft Bearing



Specifications

- Larger diameter of pilot: 97.9 mm (3.85 in)
- Small diameter of pilot: 85.9 mm (3.38 in)
- Outside diameter of sleeve: 92.1 mm (3.63 in)

Camshaft Bearing Tool Group

Model Usage: D11N, 3512, 3516, 777B, 785, 789, 994

Warranty: Caterpillar® Six Months



- Used with components of 8S-2241 Tool Group for manual removal and installation of camshaft bearings in 3500 Series Engines
- Otherwise 316-1493 Hydraulic Puller can be used

Item	Part Number	Description
—	6V-4077	Camshaft Bearing Tool Group
1	6V-4011	Spacer
2	6V-4015	Pulling Bar
3	6V-4013	Screw
4	2J-3506	Nut
5	5P-8248	Washer
6	0S-1621	Bolt
7	6V-3177	Pilot Group
8	6V-4012	Plate
9	6V-4010	Pulling Plate
10 [b]	6V-4005	Spacer
Not Shown		
—	6V-2054	Shield Driver

a. Qty. 2

Idle Gear Removal and Installation Tool

Model Usage: C3.8

Warranty: Manufacturer's



- Used to easily remove and install idler gear

Specifications

- Dimensions: 198.1 x 47.81 mm (7.72 x 1.88 in)
- Weight: .957 kg (2.1 lbs)

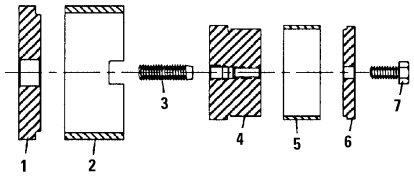
Part Number	Description
393-2573	Idle Gear Removal and Installation Tool

CAMSHAFT AND TIMING GEAR TOOLS

Camshaft Bearing Remove/Install Tools

Model Usage: C-10 and C-12 Engines

Warranty: Caterpillar® Six Months



- Used with 8S-2241 Camshaft Installation and Removal Group, 0S-1629 Bolt, and 8M-8778 Taperlock Stud to remove/install bearings
- Tools can be used to remove or install camshaft bearings (for installation, assemble parts as shown in illustration)
- Large diameter of bearing pilot guides it into bearing bore on engine for easier installation
- Reaction sleeve is designed with clearance for bolts on engine front housing

References

- SENR1002, Special Instruction C-10 Disassembly and Assembly
- SENR1007, Special Instruction C-12 Disassembly and Assembly

Specifications

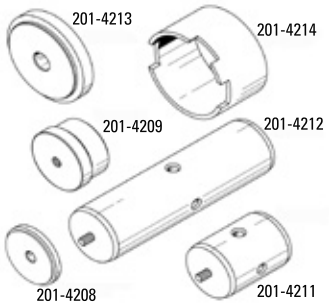
- 129-6673 Bearing Pilot:
  - Outside diameter: 80.92 mm (3.186 in)

Item	Part Number	Description
Camshaft Bearing Tooling		
1	129-6672	Puller Plate
2	129-6671	Reaction Sleeve
3	8M-8778	Taperlock Stud
4	129-6673	Bearing Pilot
5	—	Camshaft Bearing
6	129-6674	Backup Plate
7	0S-1629	Bolt
Not Shown		
—	8S-2241	Camshaft Bearing Installation and Removal Group

Camshaft Plates, Pilots, and Sleeves

Model Usage: C-11 and C-13 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install camshaft bearings
- Used with 8S-2241 Camshaft Installation and Removal Group
- Large diameter guides it into bearing bore on engine block for easier installation
- Receiving sleeve designed with clearance for front housing engine bolts

Part Number	Description
Service/Repair Parts	
201-4208	Backup Plate
201-4209	Bearing Pilot
201-4211	Pilot Assembly
201-4212	Pilot Assembly
201-4213	Puller Plate
201-4214	Receiving Sleeve

Camshaft Bearing Removal and Installation Tools

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- Used to remove and install camshaft bearing with head removed
- Used with 8M-8778 Stud, 6V-4013 Threaded Screw, 8S-8292 Short Extension, (2 required), 8S-8293 Long Extension, (2 required), 2J-3506 Nut, 5P-8248 Washer, 316-1493 Hydraulic Puller Assembly and hydraulic pump
- Hydraulic force easily removes bearings and prevents damage during installation

References

- SENR5580, Service Manual, 3406E Engine
- SENR6421, Disassembly and Assembly Manual

Item	Part Number	Description	Overall Dimensions (Diameter x Thickness)
1	9U-7210	Puller Plate	108.0 x 57.0 mm (4.25 x 2.25 in)
2	9U-7223	Alignment Bushing	85.0 x 32.0 mm (3.30 x 1.25 in)
3	9U-7222	Cam Bearing Pilot	90.0 x 70.0 mm (3.50 x 2.75 in)
4	9U-7213	Backup Plate	95.0 x 19.0 mm (3.75 x 0.75 in)
5	9U-7214	Spacer Plate	90.0 x 4.0 mm (3.50 x 0.16 in)

CAMSHAFT AND TIMING GEAR TOOLS

Camshaft Retainer

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- Used to hold camshaft in cylinder head during removal and installation
- Install retainer across camshaft bearing between 2 camshaft lobes
- Failure to use retainer can result in damaged camshafts (retainer is extremely cost-effective when compared to price of new camshaft)

Part Number	Description
132-3904	Camshaft Retainer

Magnetic Lifter Holder

Essential Tool

Model Usage: C7, C9, C11, and C13 Engines

Warranty: Caterpillar® Six Months



- Holds lifters in up position when removing and installing camshaft, easily adjustable
- Eliminates interference between lifters and camshaft for faster removal and installation
- 1 tool required for each lifter bore on engine

References

- RENR9707, C7/C9 Disassembly and Assembly Manual
- RENR9705, C11/C13 Disassembly and Assembly Manual

Part Number	Description
1U-7638	Magnetic Lifter Holder

Gear Installation Tools

Model Usage: 933, 951, 955, 977

Warranty: Caterpillar® Six Months



- Necessary only when installing accessory drive shaft with engine installed in 933 Traxcavators and in 951, 955, and 977

Traxcavators with 114.3 mm (4.5 in) bore engines equipped with mechanical governors

Item	Part Number	Description
1	1B-4210	Nut
3	—	Spacer

Puller Group

Model Usage: 3300 Engine

Warranty: Caterpillar® Six Months



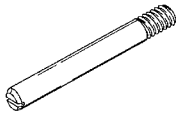
- Quickly and easily removes/installs idler gear stub shaft with a common slide hammer
- Used with 1U-7600 Slide Hammer or similar tool with 1/2 – 20 threads
- Helps eliminate damage to bore of cylinder block and stub shaft
- Used by slipping cup over the stub shaft; insert puller pin through side of cup and oil feed hole in the stub shaft
- Inside bore diameter: 35 mm (1.38 in)

Part Number	Description
173-2021	Puller Group

Guide Bolt

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- Easily aligns camshaft gear during installation by supporting weight of camshaft gear
- Used with 1P-7405 Eyebolt
- Length: 127 mm (5.0 in)
- Thread: 5/8 in – 11

References

- SENR5580 Service Manual
- SENR6421 Service Manual Module, Disassembly and Assembly 3406E Engines

Part Number	Description
9U-6896	Guide Bolt

CAMSHAFT AND TIMING GEAR TOOLS

Bolt Guide

Model Usage: All

Warranty: Caterpillar® Six Months



- Allows alignment of bolt holes during component remove and install
- New Guide stud for various applications
- 1 – 8 thread size, 305 mm long
- Slotted end for easy removal

Part No.	Description	Dimensions	Weight
541-9322	Bolt Guide	Dia 25.4 x 305 mm (Dia 1 x 12 in)	1.3 kg (2.8 lb)

Gear Removal Plate

Model Usage: Cat® Engines

Warranty: Caterpillar® Six Months



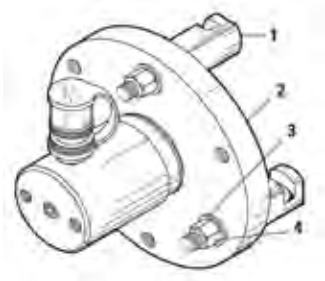
- Removal of camshaft or accessory drive gear with hydraulic puller (2) is simple operation combining use of plate (1) and push-puller (3)

Item	Part Number	Description
1	8F-3672	Plate
2	6V-3160	Cylinder Group
3	8B-7548	Puller Assembly — Bearing

Puller Group

Model Usage: 3176, 3176B, 3196, C-10, and C-12

Warranty: Caterpillar® Six Months



- Used to remove press fit camshaft gear without pulling camshaft or disturbing overhead components
- Used with dealer supplied 350-7768 Electric Hydraulic Pump or equivalent
- Used with induction gear heater to install cam gear (not included)
- Saves time on front cover repairs
- For engines built through May 1998
- Only works on cam gears with lightening holes; will not fit solid hub gears

Reference

- NEHS0760, Tool Operating Manual

Specifications

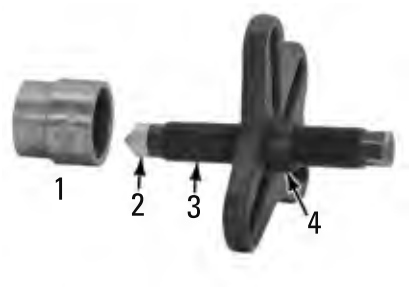
- Hydraulic ram: single action
- Ram stroke: 51 mm (2.0 in)
- Ram capacity: 25 ton

Item	Part Number	Description
—	167-3834	Puller Group
1	167-1999	Puller Leg
2	167-1998	Puller Plate
3	5P-8247	Hard Washer
4	6B-6683	Nut
Required parts, not included		
1	5P-8245	Hard Washer
—	439-3940	Bracket — Link
3	5P-2566	Hex Head Bolt

Puller Group, Sleeve

Model Usage: D330C, D333C, 3304 and 3306 Engines

Warranty: Caterpillar® Six Months



- Used for various pulling operations such as:
  - Removing accessory drive gears on D330C, D333C, 3304 and 3306 Engines
  - Removing crankshaft front pulley on 1100 and 3100 Series Engines
  - Water pump disassembly and assembly on D342, D353 and 3406 Engines
- Used with an 8S-8375 Sleeve to remove the accessory drive gear on 12.07 cm (4.75 in) bore 2-valve engines
- Also used in other general purpose applications
- Available separately: 6V-7837 Screw, length 71.37 mm (2.81 in), 3/4 inch-16 thread

Item	Part Number	Description
—	8S-2264	Puller Group
8S-2264 Puller Group		
1 [a]	8S-8375	Sleeve
2	8S-5133	Plug
3	8S-6470	Screw

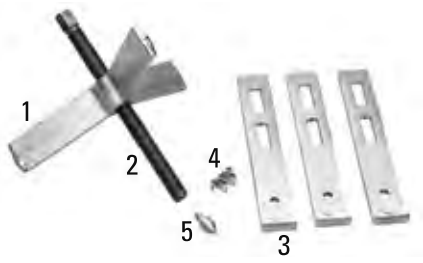
a. Not part of 8S-2264 Group

CAMSHAFT AND TIMING GEAR TOOLS

Puller Group

Model Usage: 3406

Warranty: Caterpillar® Six Months



- Used to remove air compressor drive gear
- Has wide puller jaws that distribute load across more surface area on gear and prevent damage to splined teeth; conventional puller jaws will not properly grab under gear hub due to clearance problems, so they are used to grab in spline tooth area where they may damage gear teeth
- Can be used for general purpose pulling operations
- 3-leg, 10-ton puller with wide, flat puller jaws

Item	Part Number	Description
—	4C-5613	Puller Group
1	4C-5628	Crossarm Body
2	4C-5626	Forcing Screw
3	4C-5625	Puller Jaw
4	4C-5624	Spring Clip
5	4C-5627	Tip

Air Compressor Gear Holder

Model Usage: 3406E, C-10, and C-12 Engines

Warranty: Caterpillar® Six Months



- Used to keep air compressor shaft from turning while removing or tightening drive gear retaining nut
- Holder makes removing and installing nut much simpler and faster — also reduces possibility of damage during overhaul procedure
- Use shop vise to hold air compressor assembly
- Service Part: 6B-6683 Nut

Specifications

- Inside diameter: 127 mm (5.0 in)
- Height including pins: 88.9 mm (3.50 in)
- Pin diameter: 12.7 mm (0.50 in)
- Retaining nut final torque: 462 ± 54 N·m (340 ± 40 ft-lb)

Part Number	Description
132-5451	Air Compressor Gear Holder

Idler Shaft Retrofit Tool Group

Model Usage: 3500

Warranty: Caterpillar® Six Months



- Used to retrofit idler gear shaft on 3500 Vee engines
- Easily and accurately aligns drill and tap for drilling and tapping bolt holes from 1/2 — 13 to 5/8 — 11 thread
- Eliminates replacing cylinder block
- Used with 1P-3048 Wrench Assembly and 1U-9218 Drill, 12.7 mm (1/2 in)

Reference

- SEBF8166, Guideline for Reusable Parts

Item	Part Number	Description	Size
—	1A-5822	Bolt (not part of 4C-9991 Tool Group)	1/2 in to 13 x 2 3/4 in
—	4C-9991	Idler Shaft Retrofit Tool Group	—
2	9U-5034	Bottoming Tap	-5/8 in — 11 thd
4	9X-8883	Bolt	5/8 in to 11 x 2 3/4 in
5	6V-4857	Lockscrew (2)	—
6	4C-9993	Guide Plate	—
7	4C-9994	Drill Bushing	12.7 mm (0.50 in)
8	4C-9995	Drill Bushing	0.531 in
9	4C-9996	Drill Bushing	0.625 in
10	4C-9997	Drill Bushing	0.635 in (pilot for 0.625 in tap)
Not Shown			
—	4C-9992	Idler Shaft Retrofit Pilot	—

Rectangular Plate (63.5 X 25.4 X 6.35 mm)



- Used to hold the gear segment tool in place and prevent the segment tool from rotating when checking backlash of cam gear.

Part Number	Description
434-3868	Rectangular Plate

Gear Segment Tools

Model Usage: C15, C16, C18, 3456, 3406E

Warranty: Caterpillar® Six Months



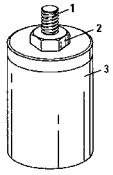
- Used for properly setting backlash on engines
- Tools are based on idler gear tooth count and gear bushing diameter
- Used to allow the correct cam gear backlash to be set for any cylinder head (new or re-machined)e
- Provides easy access to fasteners on the adjustable stub shaft for setting the correct backlash adjustments
- Set before idler gear is installed into plac

Part No.	Use with Idler Gear	Overall Dimensions	Weight	Gear Bore Diameter (mm)	No. of Gear Teeth
374-3473	130-4701	43 X 158 mm (1.7 x 6.2 in)	1.26 kg (2.78 lb)	50.86 mm (2 in)	56
421-7202	361-8238	46 X 159 mm (1.8 x 6.3 in)	1.25 kg (2.76 lb)	51.41 mm (2.02 in)	51
462-5095	417-4617	43 X 159 mm (1.7 x 6.3 in)	0.55 kg (1.21 lb)	50.86 mm (2 in)	51

Idler Shaft Removal Group

Model Usage: 3064 and 3066 Engines

Warranty: Caterpillar® Six Months



- Used to remove idler gear shaft

Reference

- SENR5553, Service Manual, 3066 Diesel Engines

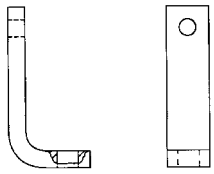
Item	Part Number	Description
—	9U-6148	Idler Shaft Removal Group
2	8T-4244	Nut (M12 x 1.75)
	Not Shown	
—	6V-8231	Nut (M10 x 1.25)

CAMSHAFT AND TIMING GEAR TOOLS

Indicator Bracket

Model Usage: 3406E Engines

Warranty: Caterpillar® Six Months



- L-shaped bracket used to fasten dial indicator to front housing (allows backlash between camshaft gear and idler gear to be measured)
- Used with 7H-1942 Dial Indicator, 3S-3268 Contact Point, and 7H-1940 Universal Attachment

References

- SENR5580, Service Manual
- SENR6421, Service Manual Module, Disassembly and Assembly 3406E Engine

Specifications

- Height: 66 mm (2.6 in)
- Threaded hole in long leg: 1/4 in — 20
- Clearance hole in short leg: 8.20 mm (0.312 in)

Part Number	Description
9U-7324	Indicator Bracket

Air Gap Measuring Gauge

Model Usage: C3.8

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to measure the crankshaft position sensor
- Provides a quick and efficient method for checking crankshaft position sensor
- Use with 9S-0215 Dial indicator

Specifications

- Dimensions: 104 x 65.6 mm (4.09 x 2.58 in)

Part Number	Description
398-9615	Air Gap Measuring Gauge

Position Sensor Bushing Tool

Model Usage: C3.3B

Warranty: Caterpillar® Six Months



Specifications

- Dimensions: 133 x 40 mm (5.2 x 1.6 in)
- Used to replace the bushing for the camshaft position sensor

Part Number	Dimensions
435-3013	Position Sensor Bushing Tool

Spanner Wrench

Essential Tool

Model Usage: G3516B and G3520B Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble air starter gear box

Reference

- RENR2269, G3516B and G3520B Disassembly and Assembly Manual

Part Number	Description
277-7088	Spanner Wrench

Engine Rebuild Stand

Model Usage: All engine models from 3204 through D348 and 3412

Warranty: Caterpillar® Six Months



- Designed to provide most efficient means for engine reconditioning
- Design permits dynamometer testing of engine on stand
- Normally used with 9S-9081 Sling Assembly and 9S-9060 Dual Hook Hoist to rotate engine during disassembly and assembly
- Superior to former 9S-8500 Stand because of its rigid, 1-piece construction and polyurethane rather than steel wheels
- Channel construction allows handling with lift truck with 2 sides

Reference

- SMHS7861, Special Instruction

Specifications

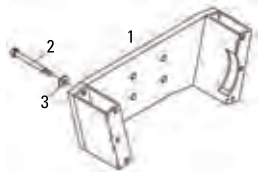
- Length: 1854 mm (73 in)
- Width: 1016 mm (40 in)
- Height: 610 mm (24 in)
- Weight: 272 kg (600 lb)

Part Number	Description	Quantity
6V-0097	Engine Rebuild Stand	—
	Service/Repair Parts	
0S-1587	Bolt	4
1A-1135	Bolt	2
1H-1200	Pin	2
3B-4629	Cotter Pin	4
4B-4283	Washer	2
5P-8245	Hard Washer	12
5P-8247	Hard Washer	2
6V-2026	Wheel	2

Engine Stand Adapter Assembly

Model Usage: 3408, 3412, C27 and C32

Warranty: Caterpillar® Six Months



- Mounts engines to roll-over stand (does not require removal of front gear train)
- Used with 4C-9832 Lg. Engine Roll-Over Stand
- Front and rear plates are interchangeable
- Camshaft work must be done with front bracket removed
- Flywheel housing and front gear housing must be removed

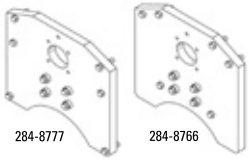
Item	Part Number	Description
1	171-4660	Engine Stand Adapter Assembly
2	4F-0411	Bolt
3	5M-2894	Washer

Rollover Plates

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used with 4C-9832 Engine Rollover Stand to rotate engine for maintenance work
- Front and rear plates are marked and cannot be interchanged
- Center hole in each plate permits attachment of cam guide for cam removal and installation

Reference

- RENR7466, C175-16 Engine Disassembly and Assembly Manual

Part Number	Description
284-8766	Front Plate
284-8777	Rear Plate

ENGINE LIFTING AND POSITIONING

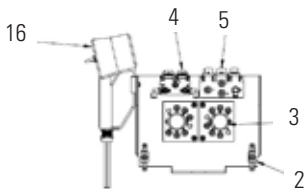
High-Capacity Engine Assembly Stand

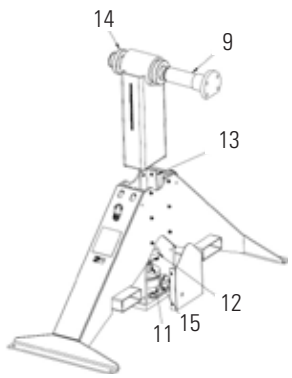
Model Usage: C27/32, All 3500, All C175

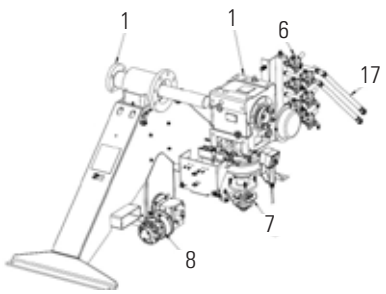
Warranty: Caterpillar® Six Months











European Union Compliant, CE marked

- High-capacity large engine rollover stand: 13,636 kg (30,000 lb) @ 2:1 safety factor
- Larger footprint for greater stability
- Pneumatic powered: no external electric or hydraulic power sources required
- Does not require permanent mounting
- Engine can be rotated and positioned anywhere in the full 360 degrees of rotation without pinning or repositioning.
- Double reduction gear drive provides infinite positioning and locking with zero backlash.
- Screw drive lift system allows for infinite positioning of the engine anywhere within the 305 mm (12 in) range.
- Reduces engine positioning time by 80%
- Enhances technician safety by providing greater stability
- Remote rotation control pendant allows the technician to be away from the engine while it is rotating.
- Compatible with all current large engine brackets
- Can be adapted to many other positioning applications
- Lifting eyes and fork pockets are provided to easily transport and position in the work area.

Specifications

- Dimensions: 1900 x 1034 x 750 mm (79 x 40.7 x 29.5 in)
- Weight: 820 kg (1800 lb)
- Spindle Centerline Height (Lowered): 874 mm (34 in)
- Spindle Centerline Height (Raised): 1179 mm (46 in)
- WLL (2:1 SF): 13636 kg (30,000 lb)
- Rotational Torque: 4666 Nm (41,300 in lb)
- Power Supply (Pneumatic): 700 kPa (100 psi) @ 320 CFM min Lubricated

Reference

- MOO73472-01 Tool Operating Manual

Part No.	Description
456-6500	High-Capacity Engine Assembly Stand

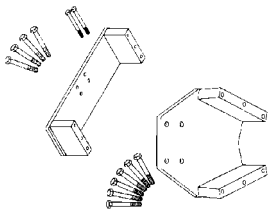
Serviceable Parts (Sold Separately)

Item	Part Number	Description
1	456-6483	Gear Reducer
2	456-6484	3-Position Toggle Valve
3	456-6485	Dual Shuttle Valve
4	456-6486	Dual 3/2 Valve without Handle
5	456-6487	Triple 3/2 Valve without Handle
6	456-6488	3-Way Piloted Valve
7	456-6489	Air Motor - 1 HP
8	456-6490	Air Motor - 5 HP
9	456-6491	Spindle
10	456-6492	Spindle - Gear Reducer Side
11	456-6493	Screw Jack Assembly
12	456-6494	Bronze Nut
13	456-6495	Spindle Post Guides
14	456-6496	Spindle Bearing
15	456-6497	Bumper Ring
16	456-6498	Pendant Assembly
17	456-6499	Air Supply Hose Assembly for Foot

Mount Bracket Group

Model Usage: D379, D398, D399, G379, G398, G399 Engines (6.25 Inch Bore)

Warranty: Caterpillar® Six Months



- Used to attach engines to 4C-9832 Large Engine Roll-Over Stand during disassembly and assembly
- Makes engine overhaul simpler and faster while providing a more convenient workspace for mechanic
- Two 1A-7669 Bolts and ten 1D-5499 Bolts included (attaches mounting brackets to engine block)
- Bolts meet or exceed SAE Grade 8

Part Number	Description	Size	Qty.
1A-7669	Bolt	1/2 — 13 thd x 178 mm (7.0 in)	2
1D-4599	Bolt	5/8 — 11 thd x 178 mm (7.0 in)	10
1U-6238	Mount Bracket Group	—	—

Engine Stand, 1000 lb

Model Usage: Engines within 1000 lb

Warranty: Caterpillar® Six Months



- Use for lift truck, car, and light truck engine service
- 4 adjustable attachment arms make engine mounting fast and easy
- Engine can be rotated full 360° with turn of handle
- Locking pin secures work in any of 8 positions
- Both rear wheels lock tightly to anchor stand; 2 swivel casters in front provide great mobility
- Disassemble by removing only 1 bolt for easy transport

Specifications

- Capacity: 454 kg (1000 lb)
- Weight: 45.4 kg (100 lb)

Part Number	Description
1U-9352	Engine Stand, 1000 lb

Bracket Assembly

Model Usage: C6.4 Marine Engine Applications

Warranty: Caterpillar® Six Months



- Mounting bracket for engine rollover stand, 1U-5750

Specifications

- Dimensions: 365 x 260 x 152 mm (14.14 x 10.2 x 6.0 in)
- Weight: 12.13 kg (26.7 lb)

Part Number	Description
396-5707	Bracket Assembly

ENGINE LIFTING AND POSITIONING

Diesel Engine Repair Stand, 2722 kg (6000 lb)

Model Usage: Engines within 6000 lb

Warranty: Caterpillar® Six Months



- 1U-5750 includes universal engine adapter assembly which permits use of engine mounting adapters
- Integral, 10.89 MT (12 ton) jack raises work to provide swing radius needed to turn work
- Turning even a 2.72 MT (3 ton) diesel 360° is easy — a 96 to 1 ratio worm and gear set does the job easily
- Crank handle can be locked in any position
- 2 front wheels and 2 rear casters permit easy mobility; floor locks anchor 1U-5750 in place
- Required floor space (W x L): 1219.2 x 1409.7 mm (48.0 x 55.5 in)
- Weight: 317 kg (698 lb)

Reference

- Tool Guide, Lifting, Blocking and Clamping Section

Part Number	Description
1U-5750	Engine Repair Stand

Engine Adapter Plates for 1U-5750

Warranty: Manufacturer's

- Order only adapters needed for engines being worked on; universal adapter assembly required for mounting all but John Deere adapters to stand
- NOTE: Products are shipped F.O.B. Searcy, Arkansas. Each Engine mounting plate includes all the necessary hardware and an engine application chart.

Adapter Plates Sold Separately



1U-7510



1U-7513



1U-5749

Part No.	Description	Model Use
1U-5749*	Adapter Plate	For Cat® engines; Nos. 1673, 1674, 1693, 3304, 3306 and 3406 in-line 6-cylinder; Nos. 1100 and 3208 V-8; No. 3408 V-8. Wt., 30.8 kg (68.0 lb)
1U-7510*	Adapter Plate	For Cummins engines: All NH, NTC and NTE 855 Series in-line 6-cylinder; 378 Series V-6; 504, 555 and 903 Series V-8; KT 1150 Series in-line 6-cylinder, L10. Wt., 18.6 kg (41.0 lb)
1U-7513*	Adapter Plate	For Mack engines: V-8 1000 and 1980 thru current 672 in-line 6-cylinder and 477 Scania series. Note: No. 206629 supersedes No. 205100. Wt., 14.5 kg (32.0 lb)
9U-5161	Adapter Plate	For Cat® Engines: 1.1 and 1.7, C11

*Must be used with universal adapter plate assembly

Engine Adapter Plates for 1U-5750

Warranty: Manufacturer's



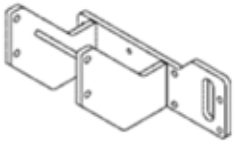
- Order only adapters needed for engines being worked on; universal adapter assembly required for mounting all but John Deere adapters to stand

NOTE: Products are shipped F.O.B. Searcy, Arkansas. Each Engine mounting plate includes all the necessary hardware and an engine application chart.

Engine Mounting Adapter

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Adapter for 1U-5750 Diesel Engine Repair Stand

Specifications

- Dimensions: 26.85 x 18.25 x 11.5 in
- Weight: 70 lbs

Part Number	Description
374-6393	Engine Mounting Adapter

Transmission Support Bracket

Model Usage: 924G, 928G, 938G and 938H Medium Wheel Loader

Warranty: None



- Used to mount transmission to an engine repair stand
- Used with 1U-5750 Engine Repair Stand
- Tool is equipped with shoulder bolt that is secured in place with a removable snap ring

Reference

- Service Manual, 924G and 928G Power Train Disassembly and Assembly

452-8986 Specifications

- Length: 203.2 mm
- Height: 100 mm
- Width: 40 mm
- Weight: 3.065 kg
- Threaded Bolt: M16

456-0652 Specifications

- Length: 203.2 mm
- Height: 90 mm
- Width: 40 mm
- Weight: 3.74 kg
- Threaded Bolt: M12

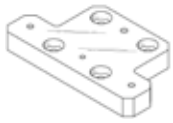
Part Number	Description
452-8986	Transmission Support Bracket
456-0652	Transmission Support Bracket

ENGINE LIFTING AND POSITIONING

Transmission Adapter

Model Usage: CX28, CX31, CX35 Transmissions

Warranty: none



- Mounts transmissions to engine repair stand
- Used with 1U-5750 Engine Repair Stand
- Supports transmission during disassembly and assembly

References

- KENR8152, CX31-P600 Petroleum Transmission Well Servicing
- KENR8128, CX35-P800 Petroleum Transmission and Petroleum Power Train Packages, Disassembly and Assembly
- KENR5098, CX28 On-Highway Transmission, Disassembly and Assembly

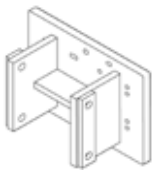
Part Number	Description
350-4401	Transmission Adapter

Repair Bracket Assembly

Essential Tool

Model Usage: C-9 Engine

Warranty: Caterpillar® Six Months



- Used to mount C-9 Engine on 1U-5750 Diesel Engine Repair Stand
- Allows engine to be rotated 360 degrees
- Attaches in place of crankcase breather cover (breather cover must first be removed)

Part Number	Description
173-5533	Engine Stand Bracket

Bracket Assembly

Model Usage: C6.6

Warranty: Caterpillar® Six Months



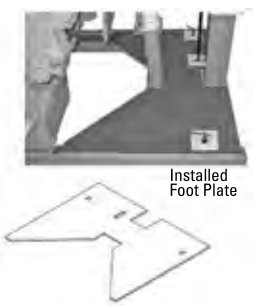
- Supports engine block during disassembly and assembly
- Allows engine to be rotated as needed
- Attaches in place of crankcase breather cover (breather cover must first be removed)

Part Number	Dimensions	Weight
351-0236	400 x 283 x 257 mm	23 kg (50.7 lb)

Foot Plate

Model Usage: 1U-5750 Rollover Stand

Warranty: Caterpillar® Six Months



- Used to provide a place for operator to stand and/or a place for tools or parts
- Used with 1U-5750 Engine Repair Stand
- Enhances usability of rollover stand
- Specially shaped to fill in space between hydraulic jack and end post
- Coated with anti-skid material and painted with high visibility yellow paint
- Steel construction 9.5 mm (0.38 in) thick

Installation Instructions

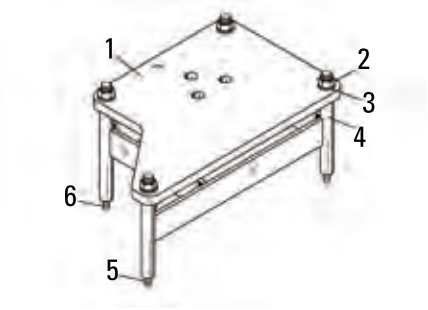
1. Installs without disassembling rollover stand.
2. Parking brake pins must be unscrewed and reinstalled when positioning plate.

Part Number	Description
206-0030	Plate

Adapter Group

Model Usage: MY2000 C-15 and C-16 Engines and 3406E Engines

Warranty: Caterpillar® Six Months



- Used to mount MY2000 C-15 and C-16 "Weight-Reduced" engines onto 1U-5750 Engine Repair Stand
- Allows 360 degree rotation of engine
- Attachment location minimizes number of components that must be removed
- Also fits 3406E Engines at the same attachment location

Application Procedure

1. Remove filter assembly from inlet manifold side of engine.
2. Install studs into two 3/4 inch threaded holes below head gasket joint.
3. Install studs into two 3/4 inch threaded holes midway down cylinder block.
4. Screw studs in as far as possible (some may bottom-out before stud shoulder contacts cylinder block).
5. Install 180-2875 Spacer Assembly (not serviced), 180-2876 Plate (not serviced), and 5P-8248 Hard Washers.
6. Securely tighten 2J-3506 Full Nuts.
7. Attach 180-2876 Plate (not serviced) to head of 1U-5750 Engine Repair Stand.

Item	Part Number	Description
—	180-2877	Adapter Group
1	180-2876	Plate (Not serviced)
2	2J-3506	Nut
3	5P-8248	Hard Washer
4	180-2875	Spacer Assembly (Not serviced)
5	205-9315	Special Stud (long)
6	205-9314	Special Stud (short)

Bolt

Model Usage: 3046 Diesel Engine

Warranty: Caterpillar® Six Months



- Used to fasten 3046 Engine to engine stand for disassembly and assembly (4 bolts required)
- Used with 1U-9352 Engine Stand
- Provides a source for this special hard-to-find bolt (most common fine-threaded bolts are not long enough)
- Size: M10 x 1.25 x 90 mm (3.5 in)
- Metric bolt class (grade): 10.9

Reference

- SENR6458, Special Instruction, Disassembly and Assembly of 3046 Engines

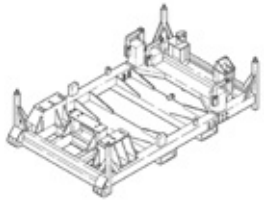
Part Number	Description
9U-7847	Bolt

Adjustable Engine Stand

Essential Tool

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



- Used to support C175-16, C175-20, and 797 Off-Highway Truck retro-fit engines for storage, shipping, and reconditioning
- Used with 323-1146 Lifting Group — attaches to engine stand mounting brackets (for lifting and moving stand with engine installed)
- Has built-in lift truck pockets for moving empty stand only (not to be used to move stand while engine is installed)
- Steel wheels on one end of stand allows engines to be loaded/unloaded from shipping containers
- Stand segments unbolt and expand to fit larger C175-20 engine
- Stackable design allows empty stands to be stored in less space

Specifications

- Length (closed): 3831 mm (150.8 in)
- Width: 2299 mm (90.5 in)
- Height: 1073 mm (42.2 in)
- Weight: 2196 kg (4842.0 lb)

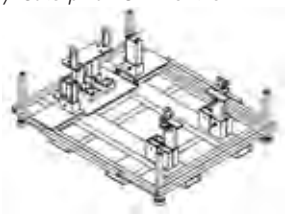
Part Number	Description
326-5851	Adjustable Engine Stand

ENGINE LIFTING AND POSITIONING

Engine Stand

Model Usage: 3408, 3412, C27 and C32 engines

Warranty: Caterpillar® Six Months



- Used as a shipping and storage stand for the 3408, 3412, C27 and C32 engines
- Reduces the number of stands required by providing one stand that can be used for all of the following engine platforms: 3408, 3412, C27 and C32 engines
- Stands are made of steel making them more durable than their wood counterparts

Specifications

- Dimensions: 2,035 x 1,724 x 593 mm (80.12 x 67.87 x 23.35 in)
- Weight: 545 kg (1,201.52 lb)

Part Number	Description
419-7403	Engine Stand

Lifting Bracket

Essential Tool

Model Usage: Skid Steer Loaders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install 3034, 3024C, and 3044C Engines
- Used with an overhead lifting device
- Top rail of bracket has multiple lifting points for center-of-gravity adjustments
- Bottom rail has three lifting points for various engines

Reference

- NEHS1113, Tool Operating Manual

Part Number	Description	Working Load Limit	Overall Size	Weight
368-0005	Lifting Bracket	340 kg (750 lb)	79 x 112 cm (31 x 44 in)	24 kg (53 lb)

Rail System, 795F AC Engine

Model Usage: 795F AC

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to support the C175 engine during removal and installation in the 795F AC Off-Highway Truck
- Includes rear and front rail tool groups and various support brackets
- Rear rail tool group can be used independently without using the front rail tool group
- Due to overhead obstruction, rails allow engine to be rolled forward and backward for removal and installation

Reference

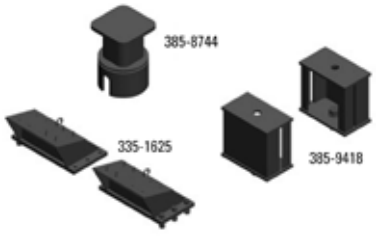
- NEHS1096, Tool Operating Manual
- KENR8726, 795F AC Off-Highway Engine Supplement

Part Number	Description	Weight
335-1617	Rear Rail Group	42 kg (92 lb)
335-1622	Front Rail Group	158 kg (349 lb)

R&I Rail Tool Group, 793F AC Engine

Model Usage: 793F AC

Warranty: Caterpillar® Six Months



- Used to support the C175 engine during removal and installation
- Allows removal/installation of engine without removing electrical cabinet off the machine
- Used with Front Rails that are part of the 335-1622 Front Rail Group

Reference

- NEHS1096, Tool Operating Manual

Part Number	Description	Weight
394-0867	793F AC Engine R&I Rail Tool Group	—
	Specifications	
335-1625	Mounting Bracket Group	98 kg (216.1 lb)
385-8744	Lift Cap Assembly	10 kg (22.0 lb)
385-9418	793F AC Front Rail Tool Group	41 kg (90.4 lb)

Motor Grader Rear Engine Support Groups

Model Usage: All G-Series Motor Grader Engines

Warranty: Caterpillar® Six Months

- Used to service all G-Series Motor Grader engines
- Allow removal of motor grader transmission without removing engine
- Saves about 4 hours of labor
- Motor grader model serial number listed in chart coincides with release of load sensing hydraulic systems, threaded gland hydraulic cylinders, and corporate electrical systems
- Contain 2 support assemblies which bolt to both sides of flywheel housing to support engine; forcing bolt and locknut properly position support assembly, which is attached to rear of engine, against top surface of motor grader frame

Model	Serial Number	Tool Group
12G	61M-12027 & Up	A
	3WC1067 & Up	A
14G	96U-7046 & Up	D
	3L193 & Up	D
16G	93U-2679 & Up	E
120G	87V-8360 & Up	C
	11W-1251 & Up	C
	61W591 & Up	C
	2AB62 & Up	C
130B	74V-2321 & Up	B
	12W-1082 & Up	B
	59K82 & Up	B
140G	72V-10334 & Up	A
	13W741 & Up	A
	50H-1261 & Up	A
160G	4JD141 & Up	A

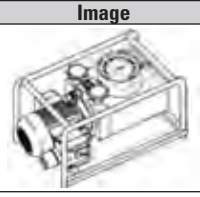
Part Number	Description	Qty.
Engine Support Group A [a]		
0S-1595	Bolt	8
1D-5118	Jam Nut	2
4B-4280	Washer	8
4N-7862	Support Assembly, Right	1
8H-6508	Forcing Bolt	2
Engine Support Group B [c]		
1D-5118	Jam Nut	2
7B-3235	Bolt (English)	4
8H-6508	Forcing Bolt	2
Engine Support Group C [a]		
0S-1595	Bolt	8
1D-5118	Jam Nut	2
8H-6508	Forcing Bolt	2
Engine Support Group D (Use 3 washers between support assembly and flywheel housing at each 7K-4370 bolt)		
1D-5118	Jam Nut	2
2P-8913	Support Assembly	2
4B-5275	Washer	12
7K-4370	Bolt	4
8H-6508	Forcing Bolt	2
Engine Support Group E (Use shims as required between support assembly and flywheel housing at both support locations)		
1D-5119	Jam Nut	2
4B-6208	Forcing Bolt	8
4N-6063	Shim	12
4N-7358	Support Assembly	2
8S-9092	Bolt	4

a. Includes: Support Assembly, Left, Qty. 1

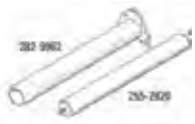
b. Includes: Support Assembly, Qty. 2

c. Included: Support Assembly, Qty. 2

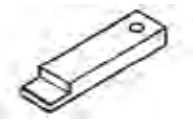
C175 Engine Repair Tools

Part No.	Part Name	Description	Image
227-6724	Hydraulic pump	Electric 120V AC and 60Hz - used to operate 253-3272 cylinder group.	
227-8834	Hydraulic pump	Electric 240V AC and 50Hz - used to operate 253-3272 cylinder group	
250-4586	Crank seal locator	Used to install crankshaft seals	
250-4587	Crank seal installer	Used to install crankshaft seals	
253-3275	Seal kit for stud tensioner cylinder	Used to repair 253-3272 hydraulic cylinder group	
255-2820	Camshaft pilot	Used to pilot camshaft during removal and installation	
255-8897	Piston ring compressor	Used to compress piston rings for installation into cylinder bore	
271-0504	Piston ring expander	Removes and installs piston rings	
274-5875	Connecting rod guide	Used to aid connecting rod installation - requires one 339-6503 bolt to secure guide onto connecting rod	
278-1150	Main bearing stud tension group	Used to tension main bearing studs. Includes 178-9312 hose, 185-0683 gauge, 253-3272 cylinder group and 253-3276 coupler. 253-3272 requires appropriate pump to be chosen from NEHS0944 TOM	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
279-3473	Turning tool	Used to manually rotate engine crankshaft	
282-9962	Camshaft guide	Used to install and remove camshaft	
283-2281	Flushing limiter	For use with 295-5490 fuel system filter cart group. Replaces the flow limiter in the cylinder 2 location to enable the best flow through the rail supporter while flushing	
284-1503	Valve guide collar	Used for insertion of valve guides. It requires 283-0052 valve guide driver.	
284-5266	Spanner wrench	Used to remove and install the main bearing cap studs onto the cylinder block	
284-8766	Plate - engine stand adapter (front)	Bolts to front of engine block and requires 4C9832 roll over stand and New C175 Roll Over Stand (Available to order by end of May-2016)	
284-8777	Plate - engine stand adapter (rear)	Bolts to rear of engine block and requires 4C9832 roll over stand and New C175 Roll Over Stand (Available to order by end of May-2016)	
288-9169	Adapter	Used with 2P-8260 to press cylinder liner into cylinder bore	
288-9171	Bridge	Used with cylinder pack puller to remove cylinder pack (Not required if engine is rotated to push cylinder liner and connecting rod up and out of engine block)	
304-9575	Bellows installation tool	Used to align bellows on exhaust side of turbochargers	
304-9576	Bellows checking tool	Used to check alignment of bellows on exhaust side of turbochargers	
312-2840	12 pt M24 3/4 drive impact socket	Used to torque M24 bolts on heads and flywheel	

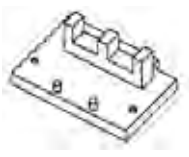
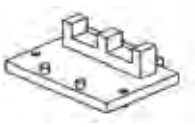
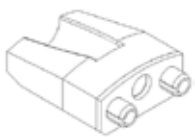
C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
312-3204	Injector bore brush	Used to clean fuel injector bore	
322-2078	Bolt (M24 x 2 x 63.5)"	Used to install crankshaft seals	
322-3564	Cylinder pack installer	Used to install cylinder pack cylinder liner, piston and connecting rod) into the block	
323-1146	Engine lifting device	Engine lifting device (set of two pieces)	
323-4712	"Guide bolt (M24 x 2 x 500)"	Used to locate flywheel during installation	
326-7689	Valve recession gauge block (inlet valve)	Used to set 148-2997 tool to zero for inlet valve measurements	
326-7693	Valve recession gauge block (exhaust valve)	Used to set 148-2997 tool to zero for exhaust valve measurements	
326-7698	Valve recession base assembly	Used to determine actual valve and valve seat wear. Adapts 148-2997 valve recession tool for use with C175 engines.	
327-8644	Piston ring gauge	Used to check top ring groove to determine piston reusability	
327-8645	Piston ring gauge	Used to check second ring groove wear	
327-8646	Piston ring gauge	Used to check bottom (oil ring) groove to determine piston reusability	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
328-5926	Piston liner spacer assembly	Used to support the cylinder pack when removing or attaching the cylinder pack installation tool Assembly consists of 2 bolts and two spacers	
329-3831	Air powered turning tool	Used to rotate crankshaft with air powered motor	
330-7185	Fuel supply connection	Supply connection for use with 295-5490 fuel system filter cart group	
333-0759	Electronic unit injector sleeve remover/installer	Used to install and remove electronic unit injectors	
334-4442	Fuel return connection	Return connection for use with 295-5490 fuel system filter cart group.	
339-6503	Bolt (M13 x 1.25 x 82)	Used to secure 274-5875 guide to connecting rod	
339-9352	Fuel line cap kit	Used to cap openings in the fuel system to prevent system contamination when removing injectors, quill tubes, or flow limiters	
339-9353	Fuel line cap kit	Used to cap openings in the fuel system to prevent system contamination when removing high pressure fuel pump	
339-9354	Fuel line cap kit	Used to cap openings in the fuel system to prevent system contamination when removing high pressure fuel rails	
369-4007	Main bearing driver	Used to roll main bearing halves in or out.	
369-4008	Piston raising tool	Used to raise the piston for inspection, removal, or installation of C175 connecting rod bearings	
371-0351	Valve Seat Removal Tool	Used to remove valve seats on machine cylinder heads hydraulically. Can service complete head in less than 2 minutes. Services only non-water coled heads art this time. Requires 445-8987, 445-8988 and 445-8989. (NOTE: This puller will also remove G3500 water cooled inserts with optional collets. 3500 machine and C175 EPG collets available)	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
371-1079	Cylinder Head Lifting Device	Cylinder Head Lifting Device - Bolt on Type	
396-9127	Bellows compressor	Used to service 291-5165 and 437-3038 bellows in all C175 engines	
415-1205	Piston Wrist Pin Guide	Used to assist in installation of piston wrist pin in piston and rod assembly in C175-16 and C175-20 Engines. Reduces time by providing lead in alignment for the pin into the piston crown and rod eye bore.	
417-2349	Crankshaft Installation Guides	Nylon guides are used to assist in the installation of crankshaft into main journals. The nylon guides fit over front and rear main cap studs reducing possibility of component damage due to crankshaft contact with studs.	
417-2869	C175 Cam Lifter Assembly Supports	Provide the cam lift group to support the C175 tools	
417-3193	Crankshaft Turning Tool	Crankshaft turning tool for C175 CRC tools. Used to rotate the crankshaft when checking the crankshaft end clearance on initial fit up.	
417-9607	C175 Cam Lifter Assembly Supports	Provide the cam lift group to support the C175 tools	
417-9617	C175 Cam Lifter Assembly Supports	Provide the cam lift group to support the C175 tools	
418-1340	Connecting rod guide for type 2 connecting rods	Used to aid connecting rod installation - requires one 339-6503 bolt to secure guide onto connecting rod	
419-9827	C175 Damper Lifting Device	Lift assembly which permits the secure removal and installation of crankshaft damper with overhead crane	

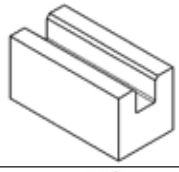
C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
420-7630	Main bearing cap lifting device	Tool used to securely remove and install the main bearing caps when the block is in the engine roll over stand. The two pins in the storage holes go through the lower frame holes and main bearing cap lifting eyes.	
420-9053	Cylinder Block Lifting Tool	Provide the tool assembly used to lift the Cylinder Blocks.This one piece tool fits in the block V and is positioned under two inlet manifold ports.	
421-4079	Bellows compressor	Used to service 389-9659 and 363-2086 bellows in all C175 engines	
421-4080	Bellows compressor	Used to service 348-9252 bellows in all C175 engines	
423-1236	Cam bearing installation removal tool	Removes and installs camshaft bearings utilizing features on the top of the block to align the cam bearing bore to correct centerline to remove and install the camshaft bearings and eliminating the need for multisection tooling.	
423-1743	Cylinder Head Lifting Device	Used to lift the head in the horizontal position and requires no hardware for C175-16 & C175-20.	
424-8895	Crankshaft Lifting device	• Provides a safe way to lift C175 16- and 20-cylinder crankshafts • Lifts by the counterweights eliminating possible damage to journal surfaces	
430-4389	C175 piston Assembly Snap Ring Compressor	C175 piston assembly snap ring compressor	
432-5403	Air System Lifting device	C175-20 HAA Air System Lifting device	
434-3321	Flywheel adapter	Flywheel adapter used to connect C175- 20 machine engines to dynomometer	

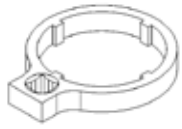
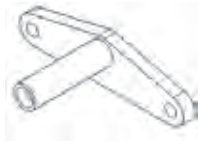
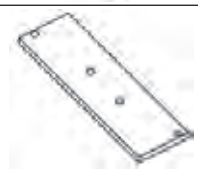
C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
434-3331	Flywheel adapter	Flywheel adapter used to connect C175- 16 machine engines to dynomometer	
437-5632	Turbocharger digital alignment gage	Digital protractor used to measure accurate orientation of turbos and end housings	
440-0210	Bellows compressor	Used to service 315-7909 bellows in all C175 engines	
441-3674	Water Ferrule Installation Tool Group	Serves as an universal tool group for C175, 3500, 3400 and C27-32 engine series • Used to position ferrules into the bore • Improves quality of repair by ensuring that ferrule is installed perpendicular to the engine block • Reduces installation time with less potential for leaks	
442-5798	Cylinder pack puller	Used to pull liner, piston and connecting rod, as an assembly, from engines	
443-7540	Bellows compressor	Used to service 354-3510 bellows in HAA 793F and 795F Turbine Outlet	
443-7542	Bellows compressor	Used to service 258-8016 bellows in HAA 797F Front Turbine Outlet	
443-7543	Bellows compressor	Used to service 344-0079 bellows in HAA 797F Exhaust Bypass and Rear Turbine Inlet	
443-7544	Bellows compressor	Used to service 365-6532 bellows in HAA 797F Rear Turbine Outlet	
445-8987	Collet As. for C175 Standard Exhaust Valve Seat	Collet assembly to support C175 standard valve seat extraction. Used with 371-0351 Extraction Cylinder Gp	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
445-8988	Collet As. for C175 Standard Intake Valve Seat	Collet assembly to support C175 standard valve seat extraction. Used with 371-0351 Extraction Cylinder Gp	
445-8989	Standoff for Standard Valve Seat	Collet assembly to support C175 standard valve seat extraction. Used with 371-0351 Extraction Cylinder Gp	
452-6804	Bellows compressor	Used to service 443-5940 bellows in LAA 793F, 795F and 797F outboard turbine inlet	
455-8106	Rod Bolt Reuse Gage	Used to determine reuse and wear of the vibration dampening material (FKM) on the new 428-7386 rod bolts.	
457-3255	Cycle counter kit for stud tensioner cylinder	Cycle counter kit for 253-3272 hydraulic cylinder group. It provides a way to track cylinder use and replace change bushing at recommended 2000 cycle interval.	
459-4664	Valve spring compressor and timing wheel group	New group replaces original 333-0758. It does not require removal of fuel injector and wiring harness. It is more robust and designed for high volume applications. Includes 459-4666 timing indicator group used to set engine to top dead center	
467-5334	Flywheel Adapter	Used to connect C175 - EPG Machine Engine to Dyno	
469-7628	Lifting As. (C175 Front Gear Cluster Group)	Provide lifting assembly used to lift C175 front gear train cluster gear	
472-0580	Collet	Collet assembly to support C175 standard valve seat extraction. Used with 371-0351 Extraction Cylinder Gp	
472-0581	Standoff	"Used with 472-0480 collet	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
473-7085 473-7087 (ABB)	Turbo Charger Balancer (C4.4-C175) Turbo Charger Balancer (C175-3600 ABB)	Balancer for balancing turbochargers when replacing any component and especially after bearing and seal replacement	
476-2902	Spanner Nut Wrench	Spanner wrench for larger bearing locknut on 381-7341 water pump	
477-3946	Fuel filter strap wrench	Provide support for the C175-20 Tier 4F Engine in changing the secondary fuel filter	
478-1932	Dowel driver	Dowel drivers for 6V-3535 dowel (block top and bottom of head) and camshaft segment	
478-1933	Crankshaft lift test fixture Assembly	• Provides safe and stable pry point when performing crankshaft lift measurement to determine proper bearing installation • Eliminates damage from incorrect leverage location • Bolts to existing holes and is used when block is inverted	
478-1934	PTO shaft stop tool assembly	Tool assembly used to hold 373-7691 housing assembly PTO shaft while tightening rear gear train PTO gear bolts	
482-7518	Seal Installer	Provide driver assembly used to install 109-5722 lip seal in C175 engines and also prevents misalignment used in CRC's	
482-7519	Valve Lash Feeler Gauge	C175 Valve Lash Feeler Gauge	
482-8221	PTO Wear Sleeve Installation Driver	Driver assembly used to install 9X-7726 wear sleeve	
483-8572	Piston Cooling Jet Alignment Tool	• Used to check proper piston cooling jet alignment • Prevents engine overheating due to misaligned cooling jet nozzles	

C175 ENGINE TOOLS

Part No.	Part Name	Description	Image
484-0506	Tool As.- Alignment (Intake Manifold)	Intake manifold subassembly alignment tool and lifting device	
484-7869 485-9771	Wear Sleeve Wear Sleeve Driver	Driver assembly used to Install A/C compressor pulley wear sleeve Driver assembly used to install alternator pulley wear sleeve	
484-9036	Dowel driver	Dowel drivers for 6V-3535 dowel (block top and bottom of head) and camshaft segment	
485-3789	Tool As.-Cart (Intake Manifold)	To provide tool assembly-alignment used to align intake manifold and lifts onto engine for installation or removal	
488-1752	Driver As. (C175 Top Center Block)	Provide Driver Assembly for 384-3712 dowel (top center block)	
488-2468	Dowel Driver	To install new 493-5366 oil supply dowel	
491-3246	Turbocharger Oil line alignment tool	To install and align turbocharger oil lines	
491-3256	Tool As.-Wrench (Torque - C175 CAM)	Preset Torque wrench and head for 388-8842 camshaft segment bolts	
498-6326	Engine Dynamometer Coolant Flushing System	Provide tank assembly used to displace water left in the cooling systems of the engine after dyno testing with open circuit cooling systems	
502-0889	Fuel Rail Assembly and Flushing System	Flushing system and assembly fixture for Reuse and Salvage of 415-3234 and 415-3235 C175 Common Rail Assemblies. Includes adapters and alignment tooling as well as table and fixtutes	

C3.3B Engine Tooling

Model Usage: 308E, 906H, 907H, 908H

Warranty: Caterpillar® Six Months

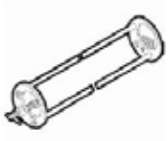
- 390-1134 — Glow plug adapter used to check compression using the 9U-6274 Compression Test Kit
- 390-1135 — Replaces idle gear bushing
- 390-1136 — Used to replace valve guides
- 390-1140 — Replaces front cover oil seal
- 390-1142 — Used to replace valve bridge
- 390-1146 — Used to easily replace crankshaft sleeve
- 390-1149 — Used to easily replace camshaft cover
- 390-1150 — Used to easily pull injection pump gear (use with 154-6360)
- 390-1151 — Used to connect governor rod

Part No.	Description	Dimensions	Weight
390-1134	Plug Adapter	200 x 16 mm (7.9 x 0.6 in)	0.1 kg (0.2 lb)
390-1135	Bush	152 x 44 mm (6.00 x 1.7 in)	1.7 kg (3.7 lb)
390-1136	Tool Group	225 x 19 mm (8.9 x 0.7 in)	0.3 kg (0.8 lb)
390-1140	Driver	120 x 95 mm (4.7 x 3.7 in)	0.9 kg (2.1 lb)
390-1142	Spacer	60 x 32 x 19 mm (2.4 x 1.26 x 0.7 in)	0.2 kg (0.3 lb)
390-1146	Tool Kit	163 x 101 mm (6.4 x 4.0 in)	3.0 kg (6.6 lb)
390-1149	Driver	132 x 80 mm (5.2 x 3.1 in)	1.1 kg (2.4 lb)
390-1150	Puller	100 x 40 mm (3.9 x 1.6 in)	0.2 kg (0.5 lb)
390-1151	Jig Tool	53 x 38 mm (2.1 x 1.5 in)	.2 kg (0.5 lb)

Rocker Arm Timing and Installation Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



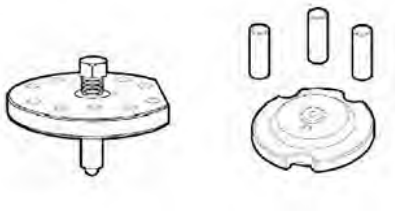
- Used to aid in the assembly of the rocker arms
- Five lock blocks are included

Part Number	Description
456-7964	Rocker Arm Timing and Installation Tool

Liner Projection Measurement

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



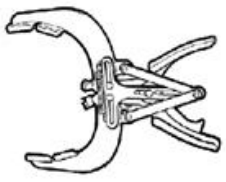
- Used to hold the cylinder liner in position for liner projection measurement
- 456-7965 and 457-9786 are used together

Part Number	Description
456-7965, 457-9786	Liner Projection Measurement

Piston Ring Pliers

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to remove and install Piston Rings

Specifications

- Weight: 0.5 kg (1 lb)

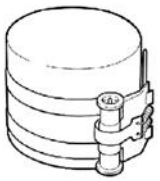
Part Number	Description
456-7966	Piston Ring Pliers

•

Piston Ring Compressor

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Compresses the Piston Rings for assembly of the piston into the Cylinder Block

Specifications

- Weight: 0 .5 kg (1 lb)

Part Number	Description
456-7967	Piston Ring Compressor

Valve Spring Compressor

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Compresses the valve springs for removal of the Valve Spring Locks. Compresses all four valve springs at the same time.

Specifications

- Weight: 1.4 kg (3 lb)

Part Number	Description
456-7968	Valve Spring Compressor

Valve Guide Driver

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Removes the Valve Guide from the Cylinder Head

Specifications

- Weight: 0 .5 kg (1 lb)

Part Number	Description
456-7969	Valve Guide Driver

Valve Guide Stop Collar

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to install Valve Guide to the proper depth
- Used with 456-7969

Specifications

- Weight: 0 .5 kg (1 lb)

Part Number	Description
456-7970	Valve Guide Stop Collar

Valve Guide Reamer

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to ream the Valve Guide to the final proper diameter after installation

Specifications

- Weight: 0 .5 kg (1 lb)

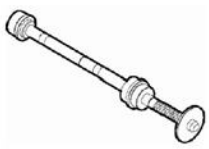
Part Number	Description
456-7980	Valve Guide Reamer

C8.7 ENGINE TOOLS

Camshaft Bushing Remove and Install

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to remove and install the Camshaft Bushings

Specifications

- Weight: 8.2 kg (18 lb)

Part Number	Description
456-7982	Camshaft Bushing Remove and Install

Valve Stem Seal Installation

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to install the Valve Stem Seal without damaging the seal
- Quickly and easily installs the seal by hand

Specifications

- Weight: 0.2 kg (.5 lb)

Part Number	Description
456-7983	Valve Stem Seal Installation

Rear Crank Seal Installer

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to install the Rear Crank Seal into the Cylinder Block

Specifications

- Weight: 6.8 kg (15 lb)

Part Number	Description
456-7986	Rear Crank Seal Installer

Front Crank Seal Installer

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to install the front crank seal into the cylinder block

Specifications

- Weight: 6.8 kg (15 lb)

Part Number	Description
456-7987	Front Crank Seal Installer

Torque Turn Gages

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- A pair of ½ inch and ¾ inch drive Torque Turn Gauges. Used when the special torque-turn method on bolts is needed.
- More precise than other methods

Specifications

- Weight: 1.8 kg (4 lb)

Part Number	Description
456-7988	Torque Turn Gages

High Pressure Pump Alignment Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used for checking and setting the proper distance between the high pressure fuel pump and the camshaft gear

Specifications

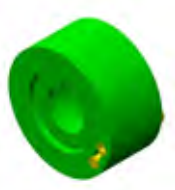
- Weight: 3.1 kg (7 lb)

Part Number	Description
487-3142	High Pressure Pump Alignment Tool

Pump Alignment Tool Assembly

Model Usage: C9.3B

Warranty: Caterpillar® Six Months



- Alignment tool is used to install the fuel pump on to the C9.3B Engine.
- Used whenever the fuel pump is removed and installed onto the engine

Part No.	Description	Dimensions	Weight
533-1183	Pump Alignment Tool Assembly	Dia 70 x 41.6 mm (Dia 3 x 2 in)	1 kg (2.2 lb)

Crankshaft TDC Timing Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Locks the Crankshaft in No 1 Cyl TDC Position

Specifications

- Weight: 0.1 kg (.25 lb)

Part Number	Description
456-7990	Crankshaft TDC Timing Tool

Idler Gear Positioning Gage

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Determines the correct distance of idler gear between the cam gear and flywheel and sets correct backlash

Specifications

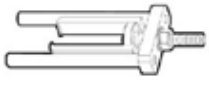
- Weight: 1.8 kg (4 lb)

Part Number	Description
456-7991	Idler Gear Positioning Gage

Injector Puller

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used for removing the fuel injectors

Specifications

- Weight: 1.1 kg (2.5 lb)

Part Number	Description
456-7992	Injector Puller

C8.7 ENGINE TOOLS

Engine Turning Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to rotate the engine by turning the water pump gear

Specifications

- Weight: 1.8 kg (4 lb)

Part Number	Description
456-7994	Engine Turning Tool

Flywheel Locking Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Locks the flywheel to the cylinder block so that the flywheel mounting bolts can be removed and installed easily

Specifications

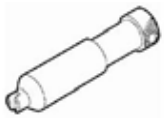
- Weight: 1.6 kg (3.5 lb)

Part Number	Description
456-7995	Flywheel Locking Tool

Phonic Wheel Timing Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used for timing adjustment of Phonic Wheel on camshaft

Specifications

- Weight: 0.2 kg (.5 lb)

Part Number	Description
456-7997	Phonic Wheel Timing Tool

Cylinder Liner Retention Tool

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used to hold cylinder liners in place during assembly

Specifications

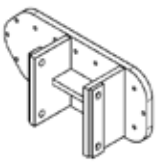
- Weight: 0.2 kg (.5 lb)

Part Number	Description
456-7999	Cylinder Liner Retention Tool

Rollover Stand Adapter Brackets

Model Usage: C8.7 L Engine

Warranty: Manufacturer's



- Used with the 1U-5750 repair stand

Specifications

- Weight: 0.2 kg (.5 lb)

Part Number	Description
480-7972	Rollover Stand Adapter Brackets

C12.9 ENGINE TOOLS

C8.7 ENGINE TOOLS

Harness Assembly

Model Usage: C8.7 Marine Engines



- Used to allow technician's laptop to communicate with the system controllers in Three60 Precision Control
- Allows laptop to be connected to the L1 panel on the engine for software updates

Part No.	Description
430-7691	Harness Assembly

Harness Assembly

Model Usage: C12.9 Marine Engines



- Harness used to connect to controllers via J4 connection - RS232
- Allows laptop to be connected to the L1 panel on the engine for software updates

Part No.	Description
391-6641	Harness Assembly

Harness Assembly

Model Usage: C12.9 Marine Engines



- Harness used to connect to controllers via J10 connection - RS485
- Allows laptop to be connected to the L1 panel on the engine for software updates

Part No.	Description
391-6643	Harness Assembly

Communication Adapter

Model Usage: C12.9 Marine Engines



- Communications adapter used to adapt 391-6641 and 391-6643 to USB
- Compatible with USB 2.0
- 921.6 Kbps max baudrate
- Drivers provided for Windows XP and 7
- Mini DB9 female-to-terminal block adapter
- LEDs for indicating USB and TxD/RxD activity
- 15 KV ESD protection for all serial ports
- Compliant with RoHS, CRoHS, WEEE

Reference

- UENR0934

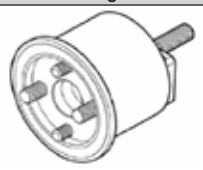
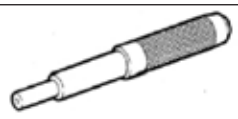
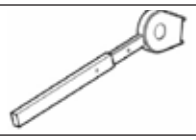
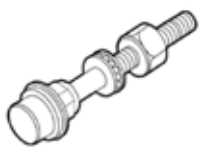
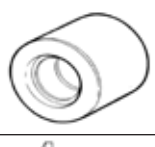
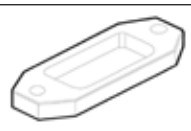
Part No.	Description
391-6645	Communication Adapter

C12.9 ENGINE TOOLS

Marine Engine Tooling

Model Usage: C12.9 Marine Engines

Warranty: Manufacturer's

Part No.	Description	Dimensions	Weight	Image
487-3123	Front Crank Seal Installer	175 x 175 x 175 mm (6.88 x 6.88 x 6.88 in)	5.774 kg (12.729 lb)	
487-3124	Torx Socket	40 x 40 x 100 mm (1.57 x 1.57 x 3.93 in)	0.124 kg (0.273 lb)	
487-3125	Valve Guide Driver	25.4 x 254 mm (1.00 x 10 in)	0.001 kg (0.002 lb)	
487-3126	Belt Tensioner	25.4 x 76.2 x 457.2 mm (1.00 x 3.00 x 18.00 in)	0.454 kg (1.000 lb)	
487-3127	Injector Bore Insert for Valve Spring Compressor	55 x 55 x 200 mm (2.16 x 2.16 x 7.87 in)	0.430 kg (0.947 lb)	
487-3128	Cap for Valve Spring Compression	130 x 25 x 130 mm (5.11 x 0.98 x 5.11 in)	0.768 kg (1.693 lb)	
487-3129	Valve Guide Stop Collar	25.4 x 50.8 mm (1 x 2 in)	0.113 kg (0.249 lb)	
487-3130	Flywheel Turning Tool	130 x 130 x 105 mm (5.11 x 5.11 x 4.13 in)	1.444 kg (3.183 lb)	
487-3131	Spacer for Flywheel Turning Tool	70 x 35 x 140 mm (2.75 x 1.37 x 5.51 in)	0.312 kg (0.687 lb)	

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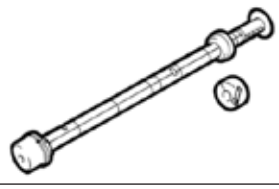
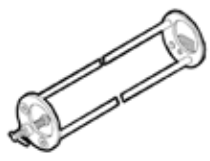
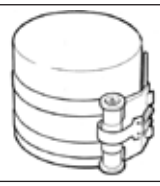
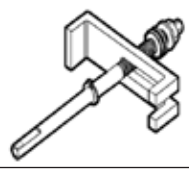
Marine Engine Tooling (Continued)

Model Usage: C12.9 Marine Engines

Warranty: Manufacturer's

Part No.	Description	Dimensions	Weight	Image
487-3132	Valve Guide Seal Installer	40 x 40 x 200 mm (1.57 x 1.57 x 7.87 in)	0.340 kg (0.749 lb)	
487-3133	Spacer - Used With 487-3134	75 x 55 x 100 mm (2.95 x 2.16 x 3.93 in)	0.698 kg (1.538 lb)	
487-3134	Cap for Cylinder Liner Projection Measurement - Used With 487-3133	180 x 180 x 60 mm (7.08 x 7.08 x 2.36 in)	2.824 kg (6.225 lb)	
487-3135	Slide Hammer for Camshaft Bearing Replacement	1330 x 130 x 130 mm (52.36 x 5.11 x 5.11 in)	15.600 kg (34.392 lb)	
487-3136	Rocker Shaft Remove and Install Tool	1080 x 140 x 140 mm (42.51 x 5.51 x 5.51 in)	6.967 kg (15.359 lb)	
487-3137	Piston Ring Compressor Tool	90 x 70 x 90 mm (3.54 x 2.75 x 3.54 in)	0.380 kg (0.837 lb)	
487-3138	Cylinder Liner Puller - Used With 487-3139	75 x 75 x 475 mm (2.95 x 2.95 x 18.70 in)	3.244 kg (7.151 lb)	
487-3139	Plate Used with Cylinder Liner Puller Tool	55 x 55 x 200 mm (2.16 x 2.16 x 7.87 in)	1.108 kg (2.442 lb)	

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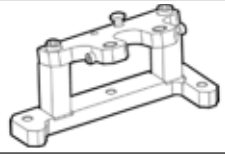
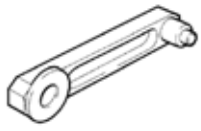
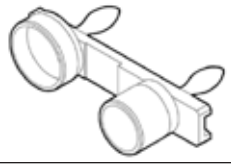
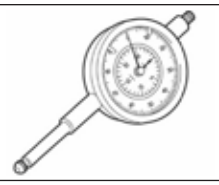
C12.9 ENGINE TOOLS

Marine Engine Tooling (Continued)

Model Usage: C12.9 Marine Engines

Warranty: Manufacturer's

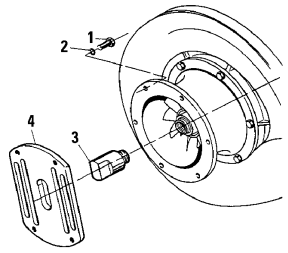
Part No.	Description	Dimensions	Weight	Image
487-3140	High Pressure Pump Gear Removal Tool	130 x 130 x 105 mm (5.11 x 5.11 x 4.13 in)	0.907 kg (1.999 lb)	
487-3141	Fixture for Checking Engine Timing - Used With 487-3146	155 x 110 x 70 mm (6.10 x 4.33 x 2.75 in)	2.268 kg (5 lb)	
487-3143	Valve Guide Reamer	40 x 40 x 200 mm (1.57 x 1.57 x 7.87 in)	0.1 kg (0.22 lb)	
487-3144	Cam Gear Backlash Tool (Cam and Idler Gear)	70 x 70 x 270 mm (2.75 x 2.75 x 10.62 in)	1.410 kg (3.108 lb)	
487-3145	Cam Gear Backlash Tool (Cam Gear and High Pressure Pump)	195 x 105 x 340 mm (7.67 x 4.13 x 13.38 in)	1.361 kg (3 lb)	
487-3146	Dial Indicator for Engine Timing - Used With 487-3141	85 x 33 x 198 mm (3.34 x 1.29 x 7.79 in)	0.215 kg (0.473 lb)	
487-3147	Front Oil Seal Installation Tool	135 x 50 x 135 mm (5.31 x 1.96 x 5.31 in)	1.178 kg (2.597 lb)	

3600 ENGINE TOOLS

Turbocharger Blocking Tool

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Prevents rotation of turbocharger impeller (allows emergency engine operation at reduced power)
- To stop rotation, disconnect air inlet; install key (3) into impeller bushing; secure with plate (4)
- When rotation of turbocharger is prevented, air flow through turbo is maintained and lubricating oil flow must be stopped; (for procedure to stop lubricating oil, refer to Special Instruction SEHS8704) The output power of the engine must then be limited so exhaust gas temperature at cylinders does not exceed 480°C (900°F)

Item	Part No.	Description	Size	Qty.
—	8T-9209	Turbocharger Blocking Tool	—	—
1 a	0S-1595	Bolt	1/2 – 13 x 11/4 in	4
2 a	0S-1593	Lock Washer	—	4
3	—	Key	—	—
4	—	Plate	—	—

a. Items are not part of 8T-9209

Turbocharger Wash Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



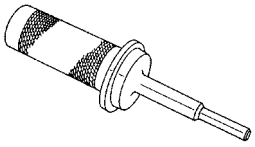
- Used to remove deposits which form on the diffuser and turbine blades when an engine is operated on heavy fuels
- Washer provides cleaner turbines resulting in increased performance of turbocharger
- Use only with fresh, clean water (additives, solvents, salt, and dirt in water tend to form deposits on diffuser and turbine blades)

Item	Part Number	Description
—	137-7024	Turbocharger Wash Group
1	130-3298	Flow Meter
2	130-3299	Screen
4	130-3301	Needle Valve
5	130-3295	Quick Disconnect Nipple
6	130-3296	Quick Disconnect Nipple
7	130-3297	Quick Disconnect Coupler
8	129-4891	Hose Assembly

Valve Seat Driver

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to install water-cooled valve seat inserts
- Serves as guide and driver, helping to prevent insert damage during installation and ensuring insert is uniformly installed in cylinder head
- Overall length: 355.0 mm (14.0 in)
- Diameter of knurl handle: 65.0 mm (2.5 in)

Part Number	Description
4C-8769	Valve Seat Driver

Cylinder Head Stud Socket Assembly

Model Usage: 3618 Engines

Warranty: Caterpillar® Six Months



- Used to quickly remove and install cylinder head nuts after tensioning is released
- Also known as a nut spinner

Part Number	Description
184-3131	Cylinder Head Stud Socket Assembly

3-295

3600 ENGINE TOOLS

Wear Sleeve and Seal Installer, Stud Assembly, Distorter Block

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to remove and install crankshaft wear sleeve — essential to correctly remove and install sleeve without damage to sleeve or crankshaft
- 1U-6241 installs seal after wear sleeve is installed

Removal

- Use the 121-7700 Distorter Block with 5P-7409 Distorter
- Distorter block bolts directly to engine housing using one of the cover mounting holes and bolt
- Tools work together to make an indentation in the sleeve (helps to loosen sleeve from crankshaft)
- Distorter tool is rotated between distorter block and wear sleeve to create an indentation in the metal (similar to using a hammer and chisel to make the indentation)
- Making four indentations around the crankshaft wear sleeve should allow sleeve to easily slide off crankshaft

Installation

1. Install wear sleeve in installer.
2. Thread four studs into crankshaft.
3. Install sleeve and installer onto studs.
4. Install washers and nuts.
5. Tighten nuts to pull wear sleeve onto crankshaft.
6. When inside face of installer bottoms against end of crankshaft, sleeve is installed to correct depth.
7. Install seal.

Reference

- SENR3594, Service Manual Module, Disassembly and Assembly

Item	Part Number	Description	Size
1	121-7705	Stud Assembly	Threads on large end: 11/8 – 12, Threads on small end: 1/2 – 13
2	1F-7958	Full Nut (1/2 - 13) (fork mounting hardware)	1/2-13
3	5P-8245	Hard Washer	—
4	200-5958	Wear Sleeve Installer	—
5	5P-7409	Sleeve Distorter	—
6	121-7700	Distorter Block	—
7	1U-6241	Seal Installer	—

Overhaul Protection Kit

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months

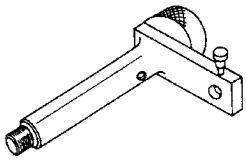
- Contains covers and plugs for one cylinder
- Protect fuel lines and openings in cylinder head from dust and dirt and serve as moisture seal while engine is overhauled
- Easily installed and quickly removed
- 4 plastic web sleeves in each kit reduce impact damage to threads of cylinder head studs

Part Number	Description	Quantity
229-3639	Overhaul Protection Kit	—
	Service/Repair Parts	
229-3608	Protective Plug, Cylinder Liner and Bore	2
4C-9517	Protective Plug, injector hole in head	1
4C-9518	Protective Plug, 3/16 — 16 thd, fuel lines	4
4C-9519	Protective Cap, 3/16 — 16 thd, fuel line connectors on head and block	4
4C-9521	Protective Cap, 9/16 — 18 thd, oil line connectors in head and block	2
4C-9524	Protective Web Sleeve, threads on cylinder head studs	4
6P-6605	Plug, intake hole in block	1
7H-2902	Protective Plug, water jacket in block	4

Valve Lash Tool

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to easily check and adjust valve lash clearance of intake and exhaust valve
- Part of 4C-6594 Timing and Fuel Setting Tools
- Used with 6V-3075 Dial Indicator and 8S-3675 Contact Point (parts of 4C-6594 Tool Group); both can be secured in valve lash tool by tightening nylon thumb screw
- 11.11 cm (4 3/8 in) fabricated steel bracket with: 1/4 – 24 plastic thumb screw to hold a dial indicator in place 3/8 – 16 bolt with 38.1 mm (1 1/2 in) diameter knurled knob for ease of installing to valve rocker cover base

Part Number	Description
4C-6593	Adjusting As — Valve Lash

Valve Recession Tool Kit

Model Usage: G3600 Engines

Warranty: Caterpillar® Six Months



- Measures valve recession on four valves simultaneously
- Not mounting the tool to the head provides additional accuracy.
- This method requires rocker arms to be removed.

Part No.	Description	Dimensions	Weight
504-1405	Valve Recession Tool Kit	600 x 251 x 312 mm (24 x 10 x 13 in)	15 kg (33.07 lb)

Serviceable Parts

Part No.	Description
504-1406	Calibration Block Assembly
504-1407	Dial Indicator
504-1408	Block Gauge Assembly
6V-3186	Collet
6V-7918	Wrench

Cylinder Pressure Measuring Indicator Group, 3000 PSI

Model Usage: 3600 Engines

Warranty: Manufacturer's Six Months



REPAIR AND SERVICE

Kiene Diesel Accessories, Inc. 325 So. Fairbanks Street
Addison, IL 60101
Phone: 708-543-5950
Fax: 708-543-5953

- Troubleshooting tool used to check cylinder pressure on 3600 Family Diesel Engines
- Easily provides relative average peak cylinder pressure on running engine
- Not recommended for use on other than diesel engines because static pressure indication would require too much tapping to bring pointer to correct reading
- Used with 7E-1699 Manual Valve Group designed so any movement of valve stem due to engine vibration tightens valve stem against its seat; prevents valve from accidentally opening during engine operation
- K-107 cylinder pressure indicator manufactured by Kiene Diesel Accessories, Inc.
- Equipped with 3 1/2 inch Zytel nylon Bezel and case, threaded Bezel, Bourdon tube gauge, dual range 0 through 3000 PSI and 0 through 210 kg/cm², metal case and service tool
- Kiene AX-13A standard indicator connection (M) by 1 1/16-10 Whitworth (F), wing nut and plug, 45° bend, 15.2 cm (6 in) long

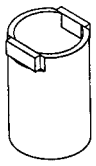
Part Number	Description
4C-6585	Cylinder Pressure Measuring Indicator Group

3600 ENGINE TOOLS

Socket

Model Usage: All 3600 Engines except 3618

Warranty: Caterpillar® Six Months



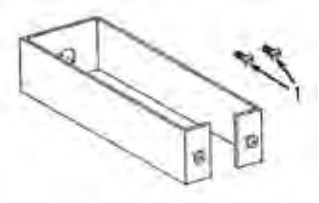
- Used for removal and installation of cylinder head nuts
- Saves time by installing nuts prior to use of tensioners and removing nuts after releasing torque
- Used with hydraulic stud tensioners of 4C-5858 Tool Group
- Maximum torque: 340 N·m (250 ft-lb)

Part Number	Description
4C-6987	Socket

Safety Retainer Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



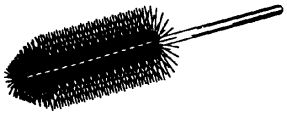
- Used for disassembly and assembly of cylinder head assembly
- Steel strap safety retainer for pulling rod in case pulling rod accidentally breaks
- Fits around 316-1493 Hydraulic Puller Assembly (fastened to bottom with 2 screws)
- If the pulling rod accidentally breaks and the retainer becomes deformed, the retainer should be replaced.
- Dimensions (thickness x width x length): 3.175 x 44.45 x 290 mm (1/8 x 1 3/4 x 11.4 in) long (length allows full stroke of 316-1493 Puller Assembly)

Item	Part Number	Description
—	4C-9839	Safety Retainer Group
1	2M-5139	Screw (2)

Injector Seat Cleaning Brush

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to clean injector bore seats (also part of 9U-5106 Diesel Tool Group)
- Used with 1/4 inch drive drill
- Made of stainless steel — provides best cleaning results without causing damage to injector bore seat (other brushes may not have the stiffness to clean or be too stiff and cause damage)

Specifications

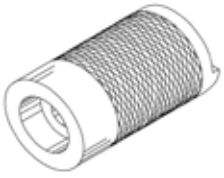
- Overall length: 31.8 cm (12.5 in)
- Brush diameter: 47.6 mm (1.88 in)
- Wire diameter: 0.25 mm (0.010 in)

Part Number	Description
130-6993	Injector Bore Brush

Bridge Dowel Gauge

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to check straightness and projection of 4W-5441 Bridge Guide Dowel
- Bridge dowels that are not straight will not go through gauge and must be replaced (fast and easy method of determining reusability)
- Also used to check projection of dowel above cylinder head
- Gauge quickly and accurately measures 105 ± 2 mm (4.1 ± 0.08 in) height requirement for bridge guide dowels
- Inside diameter: 19.09 mm (0.752 in)

Part Number	Description
130-2534	Bridge Dowel Gauge

Valve Guide Gauges

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to check wear and correct installation of valve guide
- 9U-6401 Gauge quickly gives use again or do not use again status of valve guides
- 9U-6399 Gauge used to check newly installed valve guides (passing gauge through valve guide determines straightness (deformation) of inside diameter and shows if an area is below minimum diameter)

Part Number	Description	Diameter x Length (Go)	Diameter x Length (No-Go)
9U-6399	Valve Guide Gauge	16.003 x 175 mm (0.630 x 6.9 in)	16.059 x 50.8 mm (0.6322 x 2.0 in)
9U-6401	Valve Guide Gauge	16.106 x 50.8 mm (0.634 x 2.0 in)	16.209 x 50.8 mm (0.6381 x 2.0 in)

Dowel Puller Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used for pulling 15.875 mm (5/8 in) and 19.05 mm (3/4 in) dowels
- Makes the job quick and easy

Specifications

Stand height: 88.9 mm (3.5 in)

Shaft length: 452.6 mm (17.81 in)

Slide hammer weight: 2.72 kg (6 lb)

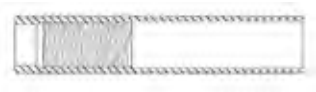
Item	Part Number	Description
—	1U-9570	Dowel Puller Group
1	1U-9568	Metal Box (not serviced)
10	1U-9577	Forcing Collar
2	1U-9569	Foam Block (not serviced)
3	8T-9413	Nut (not serviced)
4	1U-9571	Handle
5	1U-9574	Shaft
6	1U-9575	Slide Hammer
7	1U-9573	Extractor, 19.05 mm (3/4 in)
8	1U-9572	Extractor, 15.875 mm (5/8 in)
9	1U-9576	Dowel Retriever Stand

3600 ENGINE TOOLS

Thread Repair Insert

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Replaces disc. 4C-6409 Thread Repair Insert
- Used to repair stud holes with damaged threads (only one of four holes per head can be repaired using this insert)
- Install by drilling damaged hole to 23.41 mm (1 59/64 in) and threading hole with 2-12 tap
- Threaded repair insert is locked into place with 9S-3265 Retaining Compound

Reference

- SEBF8151, Guideline for Reusable Parts

Specifications

- Outside thread: 2-12
- Inside thread: 1 5/8 — 12
- Overall length: 270.0 mm (10.6 in)
- Drill: 4C-6415 Drill
- Tap with pilot: 4C-6417 Tap
- Extension tap: 4C-6416 Tap

Part Number	Description
128-5113	Thread Repair Insert

Ring Groove Gauges

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to check piston ring groove wear to determine reusability of piston
- Simple to use. If the scribe line is visible, then the piston ring groove is good. If the line is not visible, then the piston is nonreusable.
- 3 gauges (checks all four piston ring grooves)
- Gauges clearly marked with "top and second ring", "third ring", and "oil ring" for easy identification
- Made from heat treated steel for better wear resistance
- Size (L x W): 75 x 19 mm (3.0 x 0.8 in)

Part Number	Description
1U-9029	Ring Groove Gauge (oil ring)
1U-9030	Ring Groove Gauge (third ring)
4C-3654	Ring Groove Gauge (top and second ring)
Not shown	
197-3710	Ring Groove Gauge (top and second ring), 3618 only

Threaded Insert

Model Usage: 3600 Engines with Turbochargers

Warranty: Caterpillar® Six Months



- Used to repair stripped or damaged threads in turbocharger housings
- Will withstand 540°C (1000°F) temperatures
- Used with 4C-9730 Tap and 8T-2793 Installation Tool
- Thread specification: M10 x 1.5

Part Number	Description
133-1531	Threaded Insert

Spark Ignited Tool Group (9U-5107)

Model Usage: 3600 Series Spark Ignited Engines

Warranty: Caterpillar® Six Months

Part Number	Description
9U-5107	Spark Ignited Tool Group
The 9U-5107 Group consists of the following tools (each is discussed separately)	
369-2607	Digital Indicator
4C-4601	Spark Plug Socket
4C-6593	Adjusting As — Valve Lash
4C-8568	Liner Puller Group
4C-9043	Compressor Group
5P-4160	Point — Indicator Contact, 19.05 mm (0.75 in) long
9U-5156	Cleaning Tool Group

Liner Puller Group (part of 9U-5107 Group)

Model Usage: 3600 Spark Ignited Engines

Warranty: Caterpillar® Six Months



- Used to remove and install cylinder liner using hydraulic pressure (hoist attaches to puller to easily handle tool and cylinder liner)
- Hydraulic pump connects to two hydraulic puller assemblies for a combined pulling force of 11 tons at 34,474 kPa (5000 PSI)
- Used with 350-7768 Hydraulic Pump (115 Volt) or 350-7769 Hydraulic Pump (230 Volt); other required tooling is 8T-3035 Lines Group and 8T-0820 Pressure Gauge

References

- SENR4255, Service Manual
- SENR5500, Service Manual

Item	Part Number	Description	Qty.
—	4C-8568	Liner Puller Group	—
2	4C-8565	Top Ring	—
4	6V-7069	Rod Spacer	4
5	4C-8566	Bottom Ring	—
6	2J-5245	Bolt — Hex Socket Head	4
7	316-1493	Hydraulic Puller Group	2
10	4B-5278	Washer	2
11	299-5231	Leg Assembly	2
12	4D-3120	Bolt	8
13	4H-6996	Spring Pin	8
		Not shown	
—	1B-4331	Nut	2
—	2K-6073	Bolt	4
—	4B-5276	Bolt Washer	2

Piston Ring Compressor Group (part of 9U-5107 Group)

Model Usage: 3600 Spark Ignited Engines

Warranty: Caterpillar® Six Months



- Installs piston and connecting rod assemblies
- Band-type ring compressor for 30cm piston
- Over-center adjustable lock
- Proper seating of band assembly on cylinder liner to minimize possibility of ring breakage
- 4 tabs for support while securing to piston
- 2 handles for easy piston and ring positioning

References

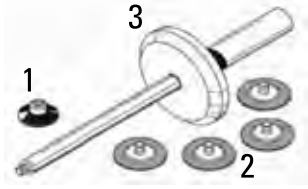
- SENR4255, Service Manual
- SENR5535, Service Manual

Item	Part Number	Description
—	4C-9043	Compressor Group
1	6V-4027	Handle Assembly

Cleaning Tool Group (part of 9U-5107 Group)

Model Usage: 3600 Spark Ignited Engines

Warranty: Caterpillar® Six Months



- Cleans prechamber seats on cylinder heads
- Used with 3/8 inch drive speed handle (easily removes rust with 10 to 20 turns of handle)
- Pilot helps to keep tool aligned

Specifications

- Extension length: 23 cm (9.0 in)
- Major OD: 78 mm (3.0 in)
- Drive end: 3/8 in square (female)
- Extension end: 1/4 — 20 thd

Item	Part Number	Description
—	9U-5156	Cleaning Tool Group
1	150-5431	Pad Cut Down Disc [a]
2	150-5483	EXL Unitized Roloc Disc
3	1U-9023	Pilot Assembly

a. Warranty: Manufacturer's, 120-Day

3600 ENGINE TOOLS

Basic Tool Group (9U-5105)

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months

Part Number	Description	Qty
9U-5105	Basic Tool Group	—
The 9U-5105 Group consists of the following tools (each is discussed separately)		
121-7700	Distorter Block	—
121-7705	Stud Assembly	—
126-6918	Head Lifting Bracket	—
126-6919	Head Lifting Bracket	—
126-6920	Handle Rod	—
134-0932	Main Bearing Driver	—
136-1452	Internal Pliers Assembly	—
439-3938	Bracket Assembly — Link	2
439-3939	Link Bracket	2
439-3940	Bracket — Link	2
145-5190	Piston Support Group	—
191-1135	Cylinder Space Assembly	2
1F-7958	Full Nut (1/2 – 13) (fork mounting hardware)	—
1P-7405	Eyebolt	—
1P-7407	Eyebolt (1/2 – 13)	—
1P-7409	Eyebolt	—
1U-8692	Piston Pin Guide	—
1U-9392	Damper Guide Pin	2
1U-9393	Damper Guide Pin	2
1U-9824	Tool Group	—
200-5958	Wear Sleeve Installer	—
235-0632	Cylinder Installation Tool Group	—
4C-6173	Fuel Drain Tray Assembly	—
4C-6357	Guide Group	—
4C-9426	Damper Guide Pin	—
4C-9451	Idler Rear Wrench	—
4C-9452	Idler Rear Wrench	—
4C-9818	Hex Shank	—
4C-9819	Universal Joint	—
5D-1972	Bolt (2)	—
5P-7409	Sleeve Distorter	—
5P-8245	Hard Washer	—
8T-0890	Puller Group	—
8T-0914	Flywheel Guide Pin	2
8T-0960	Handling Tool Group	—
8T-0970	Camshaft Bearing Tool Group	—
8T-3022	Rod Guide Group	—
8T-3029	Camshaft Segment Support Group	—
8T-3034	Water Pump Seal Driver	—
9U-5932	Extension Camshaft Torque	—
9U-5981	Snap Ring Retainer	—
9U-6244	Support	—
9U-6248	Guide Bolt	3
9U-6251	Suspension Yoke Assembly	—
9U-6461	Phoenix Screwdriver	—

Engine Tools, Phoenix Screwdriver (Part of 9U-5105 Group)

Model Usage: 3600 Engines

Warranty: Manufacturer's



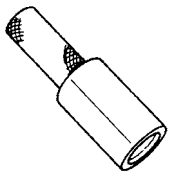
- Used to tighten Phoenix connectors to correct torque (prevents over-torque and thus damage to terminals)
- Length: 180.0 mm (7.0 in)

Part Number	Description
9U-6461	Phoenix Screwdriver

Basic Tool Group for Miscellaneous Tools, Water Pump Seal Driver (Part of 9U-5105 Group)

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to seat ceramic ring and rubber seat into water pump housing (knurled handle for better grip)
- Also installs carbon seal onto pump shaft (pressed onto shaft until light contact with ceramic seal face is made)
- Length: 210.0 mm (8.3 in)
- Seal diameter: 63.0 mm (2.5 in)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part Number	Description
8T-3034	Water Pump Seal Driver

1U-9824 Oil Drain Tool Group (Part of 9U-5105 Group)

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to drain oil from filter housing (keeps engine clean, captures all used oil, reduces cleanup cost)
- 9U-9822 and 9U-9821 Trays catch oil; 5N-5566 Hose routes it to a container (trays attach to filter housing with four 9S-8752 Nuts)
- 1U-9823 Scoop provides convenient way to carry used filters to a disposal area (filter is also too hot to handle without scoop)
- Allows filter replacement while engine is running
- Drain trays and scoop made from heavy-gauge sheet metal
- Scoop diameter: 203 mm (8.0 in)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Item	Part Number	Description	Qty.
—	1U-9824	Tool Group	—
1	1U-9823	Filter Scoop Assembly	—
2 [a]	9S-8752	Nut — Full (3/8 – 16)	2
3	1U-9822	Tray Assembly, Upper	—
4	1U-9821	Tray Assembly, Lower	—
5 [a]	5N-5566	Hose (not part of 4C-6173)	

a. Not part of 1U-9824

Fuel Drain Tray Assembly (Part of 9U-5105 Group)

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to drain fuel from filter housing (keeps engine clean, captures all fuel, reduces cleanup costs)
- 7V-0198 Hose and 4C-6173 Tray catches fuel; 5N-5566 Hose routes it to a container (tray attaches with two 4F-4879 Bolts)
- 1U-9823 Scoop from 1U-9824 Oil Drain Tool Group provides convenient way to carry used filters to a disposal area
- Allows filter replacement on running engine
- Heavy-gauge sheet metal with 25 mm spout

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Item	Part Number	Description
1	7V-0198	Hose (not part of 4C-6173)
2	4F-4879	Bolt, (2) (not part of 4C-6173)
3	4C-6173	Fuel Drain Tray Assembly
4	5N-5566	Hose (not part of 4C-6173)

3600 ENGINE TOOLS

Idler Gear Wrench (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to remove and install bolts on rear idler gear of 3612 and 3616 Engines (accesses hard to reach bolts)
- Torque extensions of 101.6 and 254 mm (4 and 10 in) etched on each wrench so correct torque can be calculated (SEHS7150 Special Instruction for correct torque wrench setting)
- 3/4" square-drive to connect torque wrench
- 2 opposite L-shaped wrenches 12-point socket: 1 1/8 inch Square drive end: 3/4 inch

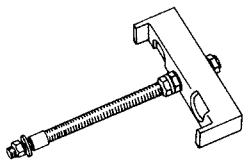
Reference

- SENR3594, Service Manual Module of SENR3590 Service Manual

Part Number	Description
4C-9451	Idler Rear Wrench
4C-9452	Idler Rear Wrench

Puller Group (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Removes rotor cover from centrifugal oil filter (allows replacement of 7C-8390 Rotor Liner)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual

Specifications

- Bolt size and length: 1/2 – 13 x 10.5 in
- Nuts (3): 1/2 – 13 thd
- Bridge: 35 x 40 x 169 mm (1.4 x 1.6 x 6.7 in)

Part Number	Description
8T-0890	Puller Group

Camshaft Torque Extension (Part of 9U-5105 and 9U-5106 Groups)

Model Usage: 3600 Engines



- Used to remove and install bolts retaining thick-flange camshaft segments
- Using the extension requires a calculation to determine the correct torque; the extension uses a 100 mm (4 in) lever arm (use Form SEHS7150 to calculate the proper torque wrench setting)
- Designed with minimum clearance to fit onto the bolts (conventional sockets cannot reach the bolts)

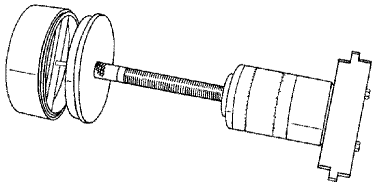
Specifications

- Square drive: 1/2 in
- Socket (12 point): 15/16 in
- Length of extension: 100 mm (4.0 in)

Part Number	Description
9U-5932	Extension Camshaft Torque

Camshaft Bearing Tool Group, 3600 Engines (Part of 9U-5105 Group), Camshaft Bearing Tool Group, 3618 Engines (Not Part of 9U-5105 Group)

Model Usage: 3600 Engines



Assembled Camshaft Bearing Tool Group

- Removes/installs camshaft bearings (not possible by any other means)
- Disc. 8T-0968 Bridge will pilot in bearing bore on one side and when reversed, pilot in cylinder block bearing bore on other side
- Used with 350-7768 Hydraulic Pump (115 V) or 350-7769 Hydraulic Pump (230 V); other required tooling is 8T-3035 Lines Group and 8T-0820 Pressure Gauge

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

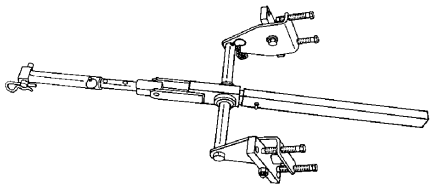
Specifications

- Cylinder:
  - Capacity: 180 kN (20 ton)
  - Stroke: 76 mm (3.0 in)
  - Max. oper. pressure: 69,000kPa (10,000PSI)

Part Number	Description
156-7155	Camshaft Bearing Tool Group
8T-0970	Camshaft Bearing Tool Group

Cylinder Head, Handling Tool Group (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to raise and lower crankshaft main bearing cap and 207-5034 Stud Tension Tool Group
- 4C-8357 Tray Support Rail is installed in oil pan baffle holes and supports Stud Tensioner Tray (tray used as work table to support main bearing caps or stud tensioner tooling before they are lifted into place)
- 8T-0947 Tee Handle is used as handhold to aid in alignment of 207-5034
- Two 8T-0916 Pins connect this handling group to main bearing caps (use 4K-0367 Nuts on pins)
- Most parts in the group are assembled with pins and spring clips (clips prevent tooling from falling into oil pan)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Assembled Handling Tool Group



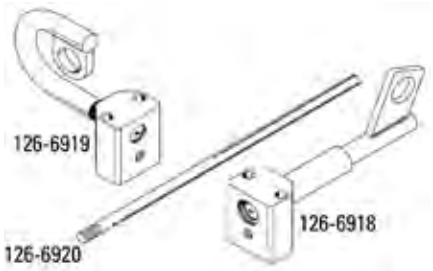
Item	Part Number	Description
—	8T-0960	Handling Tool Group
1	8T-0916	Pin
2	8T-0959	Hitch Pin
6	8T-0961	Rail Retainer Bushing
7	4C-8357	Tray Support Rail
8	4K-0367	Nut — Full
9	8T-0947	Tee Handle
10	1B-4430	Jam Nut
11	8T-0946	Tension Lift Stud
13	5P-0370	Lock Pin
15	—	No Longer Available

a. Includes 8T-0806 Block and 9U-7238 Handle

Head Lifting Bracket (3600 Vee), Head Lifting Bracket (3600 In-line), Handle Rod (Part of 9U-5105 Group)

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Replaces discontinued 8T-2860 Head Lifting Bracket (3600)
- Used to remove and install heads on 3600 Engines — 126-6918 used for Vee engines and 126-6920 used for in-line engines
- Lifting bracket for Vee engines is designed with 25° angle (keeps bottom of head parallel to 25° block angle)
- Attach lifting bracket bolt to head with two 5D-1972 Bolts (3/4 in – 10, 11 3/4 in) (part of 9U-5105 Group)
- Handle rod screws into either bracket and helps mechanic position head during assembly
- Not shown: 5D-1972 Bolt (3/4 in -10, 11 3/4 in)

Specifications

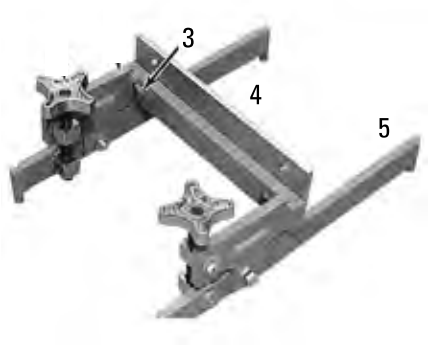
- Working load limit for either lifting bracket
- 227 kg (500 lb)

Part Number	Description
126-6918	Head Lifting Bracket
126-6919	Head Lifting Bracket
126-6920	Handle Rod

3600 ENGINE TOOLS

Crankshaft and Camshaft, Camshaft Segment Support Group (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to support camshaft segments during removal and installation (weight of camshaft segments 28 kg [62 lb])
- Swivel assembly is adjustable for easier alignment of segment during installation

References

- SENR3594, Service Manual Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Item	Part Number	Description
—	8T-3029	Camshaft Segment Support Group
4	1U-6311	Camshaft Support Adapter
3	—	3/8 in – 16 Bolt (not part of 8T-3029)
5	8T-3048	Lifting Bar

Camshaft Bearing Tools

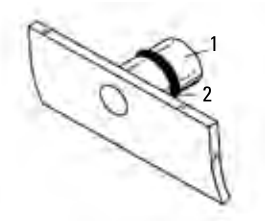


Item	Part Number	Description
8T-0970 Camshaft Bearing Tool Group, 3600 Engines		
1 a	316-1496	Cylinder
2 a	184-5397	Threaded Rod
6	0L-1143	Bolt
7 a	0S-1619	Bolt
8 a	8T-0973	Insert for Cylinder
156-7155 Camshaft Bearing Tool Group, 3618 Engines		
1 a	316-1496	Cylinder
2 a	184-5397	Threaded Rod
5	156-7156	Plate
6	0L-1143	Bolt
7 a	0S-1619	Bolt
8 a	8T-0973	Insert for Cylinder
9 Not Shown	317-7104	Insert for 316-1496 Cylinder

a. Common to both groups

Main Bearing Driver (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Removes/installs crankshaft main bearings (old 6I-4528 Main Bearing and new 111-3378 Main Bearing) without removing crankshaft
- Bearings are easily removed by inserting tool into crankshaft journal lubrication hole and rotating crankshaft clockwise to roll out
- Will also roll in new bearings by rotating crankshaft in a counterclockwise direction
- Threaded hole in pin allows easy removal from oil passage if tool shears (tool designed to shear to prevent damage to crankshaft)

References

- SENR3594, Module of SENR3590
- SENR3600, Module of SENR3595
- SENR4259, Module of SENR4245
- SENR5535, Module of SENR5500

Specifications

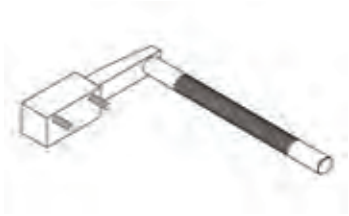
- Blade width: 90 mm (3.54 in)
- Blade thickness: 6.35 mm (0.250 in)
- Pin diameter: 19.48 mm (0.767 in)
- Threaded puller hole in pin 8 -32

Item	Part Number	Description
1	134-0932	Main Bearing Driver
2	8F-3469	Seal

Piston and Connecting Rod Assembly

Piston Support Group, (Part of 9U-5105)

Model Usage: All 3600 Engines



- Used to safely support piston and connecting rod assembly on all 3600 Engines when replacing connecting rod bearing
- Mounted in place of oil cooling jet with two 0S-1619 Bolts (after engine rotated until piston at top dead center position)
- Lightweight aluminum for ease of installation
- Knurled for firm grip
- Not shown: 0S-1619 Bolts, 3/8-16 x 3 inch (2)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual

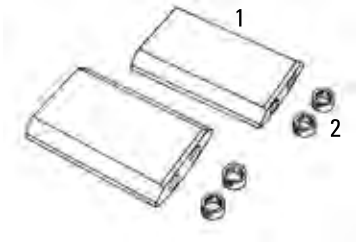
Specifications

- Support capacity: 102 kg (225 lb)

Part Number	Description
145-5190	Piston Support Group

Rod Guide Group (Part of 9U-5105 Group)

Model Usage: 3606 and 3608 Engines



- Used to protect crankshaft bearing journal from damage
- Guides help align connecting rod onto crankshaft during installation (held to connecting rod studs with 8T-2859 Nut)
- Both parts constructed from aluminum to help prevent scratching of finished machined surfaces
- Guide dimensions: 163 x 109 x 32 mm (6.4 x 4.3 x 1.2 in)
- Knurled nut: 3/4 – 16 thread

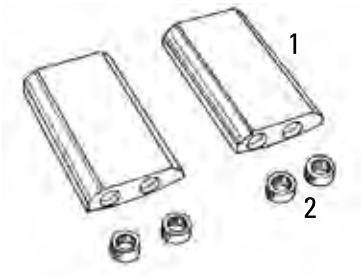
References

- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Item	Part Number	Description
—	8T-3022	Rod Guide Group
Rod Guide Group Consists of:		
1	—	Guide (not serviced separately)
2	8T-2859	Nut

Guide Group (Part of 9U-5105 Group)

Model Usage: 3612 and 3616 Engines



- Used to protect crankshaft bearing journal from damage
- Guides help align connecting rod onto crankshaft during installation (held to connecting rod studs with 8T-2859 Nut)
- Both parts constructed from aluminum to help prevent scratching of finished machined surfaces
- Guide dimensions: 163 x 96.5 x 30.5 mm (6.4 x 3.8 x 1.2 in)
- Knurled nut: 3/4 – 16 thread

Reference

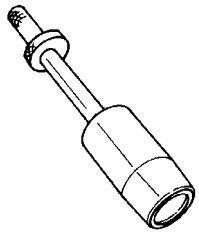
- SENR3594, Service Manual Module of SENR3590 Service Manual

Item	Part Number	Description
—	4C-6357	Guide Group
Guide Group Consists of:		
1	—	Guide (not serviced separately)
2	8T-2859	Nut

3600 ENGINE TOOLS

Guide, Piston Pin (Part of 9U-5105 Group)

Model Usage: 3600



- Engines Used to easily install piston pin into piston and rod assembly (pin is put onto guide which helps align piston and rod bores)
- Constructed of lightweight aluminum

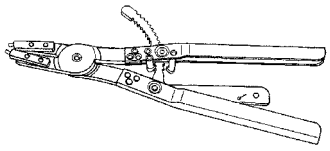
References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part Number	Description	Diameter	Length	Weight
1U-8692	Piston Pin Guide	22.8 cm (9.0 in)	64.2 cm (25.3 in)	7 kg (14 lb)

Internal Pliers Assembly (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to remove and install piston pin retainer or snap ring (pliers have locking handles for easier installation)
- Use with 9U-5981 Snap Ring Retainer to provide added protection if snap ring slips off pliers
- Replaceable tip makes pliers more economical
- Service Part: 1U-6728 Tip Set

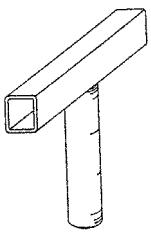
References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part Number	Description	Length
136-1452	Internal Pliers Assembly	40 cm (16 in)

Snap Ring Retainer (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to contain piston pin retainer (snap ring)
- Used with 136-1452 Internal Pliers Assembly during disassembly and assembly of piston and connecting rod

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Specifications

- Handle: 31.8 mm (1.25 in) square tubing
- Body diameter: 42.9 mm (1.68 in)
- Body length: 20 x 20 cm (7.8 x 7.8 in)

Part Number	Description
9U-5981	Snap Ring Retainer

Cylinder Liner Spacer Assembly (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to install cylinder liner into block (using two will easily and evenly seat the liners)
- Steel tube designed to fit over head studs
- Used with 2 head-stud nuts, 4C-6987 Socket (184-3131 Socket for 3618 Engines) and 239-6826 Ratchet (1/2 inch Drive)

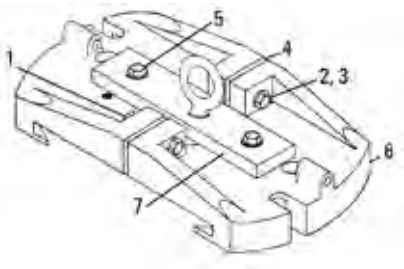
Specifications

- Length: 31.432 cm (12.375 in)
- 2 required

Part Number	Description
191-1135	Cylinder Space Assembly

Block, Cylinder Installation Tool Group (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to remove and install cylinder assembly, cylinder liner, and piston and connecting rod assembly (provides convenient method of attaching a hoist)
- Piston and connecting rod assembly can be removed separately using 235-0612 Bracket, 9S-1366 Bolt, and 5P-1076 Washer

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Item	Part Number	Description	Qty.
—	235-0632	Cylinder Installation Tool Group	—
		Cylinder Installation Tool Group Consists of:	
1	1F-7958	Full Nut (1/2 – 13) (fork mounting hardware)	2
2	9S-1366	Bolt (1/2-13)	2
3	5P-1076	Hard Washer, 13.5 mm ID x 30 mm OD	6
4	1U-7619	Spacer	2
5	0V-0375	Bolt	2
6	4C-9040	Bracket	2
7	235-0612	Bracket Assembly	1

Shank-Hex (Part of 9U-5105 Group), Universal Joint (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to easily rotate crankshaft
- Used with 213-3110 Socket, or similar part, and 12.7 mm (1/2 in) drill (reversible variable speed drill works best, but is not necessary)

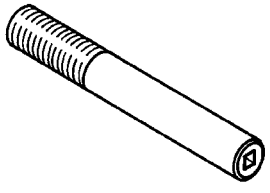
Specifications

- 4C-9818 Hex Shank:
  - Shank size: 7/16 hex
  - Shank length: 32 mm (1.3 in)
  - Drive end: 1/2 in square drive with lock button
  - Overall length: 70 mm (2.8 in)
- 4C-9819 Universal Joint:
  - Outside diameter: 30 mm (1.9 in)
  - Overall length: 63 mm (2.5 in)
  - Male drive end: 1/2 in square drive with lock button
  - Female drive end: 1/2 in square drive

Item	Part Number	Description
1	213-3110	Socket, 1 1/8 in
2	4C-9819	Universal Joint
3	4C-9818	Hex Shank

Vibration Damper and Flywheel, Damper Guide Pin (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to align and support vibration damper during assembly and disassembly of 3606, 3608, and 3612 Engines (2 required)
- 1/2 inch square drive socket for easy installation and removal

References

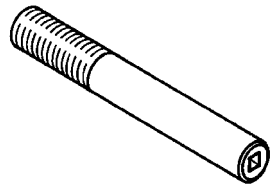
- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part No.	Description	Diameter	Length	Thread	Weight
4C-9426	Damper Guide Pin	25 mm (1 in)	15.2 cm (6.0 in)	1 – 14 thd	0.6 kg (1.3)

3600 ENGINE TOOLS

Damper Guide Pin (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to align and support single vibration dampers (2 required)
- 1/2 inch square drive socket for easy installation and removal

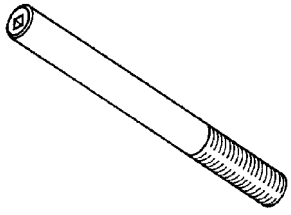
References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part No.	Description	Diameter	Length	Thread	Weight
1U-9393	Damper Guide Pin	25 mm (1 in)	15.2 cm (6.0 in)	1 – 8 thd	0.6 kg (1.3)

Damper Guide Pin (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to align and support outer vibration damper of dual vibration dampers (2 required)
- 1/2 inch square drive socket for easy installation and removal

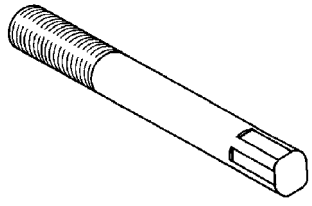
References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part No.	Description	Diameter	Length	Thread	Weight
1U-9392	Damper Guide Pin	28.4 mm (1.12 in)	25.4 cm (10.0 in)	1 1/8 – 8 thd	1.3 kg (2.9)

Flywheel Guide Pin (Part of 9U-5105 Group)

Model Usage: 3600 Engines



- Used to align and support flywheel and rear gear support assembly during installation and removal (2 required)
- 1/2 inch external square drive for easy installation and removal

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Part No.	Description	Diameter	Length	Thread	Weight
8T-0914	Flywheel Guide Pin	28.4 mm (1.12 in)	61 cm (24 in)	1 1/8 – 12 thd	3 kg (6 lb)

Diesel Tool Group (9U-5106)

Model Usage: 3600 Diesel Engines

Warranty: Caterpillar® Six Months

Part Number	Description
9U-5106	Diesel Tool Group
9U-5106 Consists of:	
130-6993	Injector Bore Brush
1U-8795	Governor Torque Arm
4C-5719	Piston Ring Compression Group
4C-6594	Timing Tool Group
5P-0328	Crowfoot Wrench, 7/8 in (Fuel Line)
5P-0329	Crowfoot Wrench, 15/16 in (Fuel Line)
6V-7073	Liner Puller Group
8T-3268	Bolt (2)
9U-5932	Extension Camshaft Torque

Liner Puller Group (Part of 9U-5106 Group)

Model Usage: 3600 Diesel Engines



- Used to remove and install cylinder liner using hydraulic pressure (hoist attaches to puller to easily handle tool and cylinder liner)
- Used with 350-7768 Hydraulic Pump (115 Volt) or 350-7769 Hydraulic Pump (230 Volt); other required tooling is 8T-3035 Lines Group and 8T-0820 Pressure Gauge
- Hydraulic pump connects to two hydraulic puller assemblies for a combined pulling force of 11 tons at 5000 PSI

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual

Item	Part Number	Description
—	6V-7073	Liner Puller Group
6V-7073 Liner Puller Group Consists of:		
1	316-1493	Hydraulic Puller Group
2	2J-5245	Bolt — Hex Socket Head
5	6V-7069	Rod Spacer
8	4B-5278	Washer
11	299-5231	Leg Assembly
12	4D-3120	Bolt
13	4H-6996	Spring Pin
Not shown		
—	1B-4331	Nut
—	2K-6073	Bolt
—	4B-5276	Bolt Washer

Timing and Fuel Setting Tool Group (Part of 9U-5106 Group)

Model Usage: 3600 Diesel Engines



- Replaces discontinued 6V-6170 Timing and Fuel Setting Tool Group
- Used to accurately test and adjust injector synchronization and fuel timing dimension
- 4C-6593 Valve Lash Tool is used to check and adjust valve lash clearance of intake and exhaust valves using a dial indicator (used with 6V-3075 Dial Indicator and 8S-3675 Contact Point)
- 6V-3075 Dial Indicator has black numbers and markings for positive travel and red markings for negative travel (369-2607 is an optional digital indicator)

References

- SENR3593, Service Manual Module of SENR3590 Service Manual
- SENR3599, Service Manual Module of SENR3595 Service Manual
- SEHS9599, Special Instruction

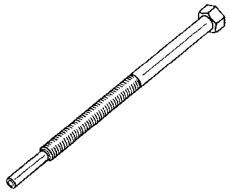
Item	Part Number	Description
4C-6594 Timing and Fuel Setting Tool Group Consists of:		
—	4C-6594	Timing Tool Group
1	6V-9058	Fixture Assembly
2	6V-3075	Indicator — Dial
3	369-2607	Digital Indicator
4	6V-9056	Set Gauge
5	4C-6593	Adjusting As — Valve Lash
6	6V-7918	Wrench
7	8S-3675	Point — Indicator
8	5P-7263	Indicator Contact Point
9	4C-8753	Extended Collet
10	5P-7276	Container
11	6V-9057	Rack Synchronizing Gauge
Not shown		
—	4C-6595	Top Insert
—	4C-6596	Bottom Insert
—	6V-7145	Case

a. Parts used to upgrade a discontinued 6V-6170 to a 4C-6594 (also order an NEEG2491 Decal)

3600 ENGINE TOOLS

Bolt (Part of 9U-5106 Group)

Model Usage: 3600 Engines



- Used to remove unit injector by evenly tightening two bolts at the same time

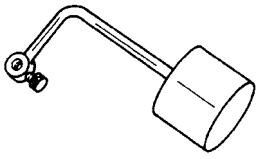
References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual

Part No.	Description	Overall Length	Pilot Diameter	Pilot Length	Thread
8T-3268	Bolt	13.9 cm (5.5 in)	6 mm (0.24 in)	27 mm (1.1 in)	15/16 – 18

Governor Torque Arm (Part of 9U-5106 Group)

Model Usage: 3600 Engines



- Holds governor or actuator terminal shaft to fuel "ON" position while injectors are being adjusted
- When torque arm is installed with weight in horizontal position, 18.6 N·m (13.65 ft-lb) is applied to governor linkage
- Shaft clearance hole diameter: 16.3 mm (0.64 in)

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual

Part Number	Description
1U-8795	Governor Torque Arm

Camshaft Torque Extension (Part of 9U-5105 and 9U-5106 Groups)

Model Usage: 3600 Engines



- Used to remove and install bolts retaining thick-flange camshaft segments
- Designed with minimum clearance to fit onto the bolts (conventional sockets cannot reach the bolts)
- Using the extension requires a calculation to determine the correct torque; the extension uses a 100 mm (4 in) lever arm (use Form SEHS7150 to calculate the proper torque wrench setting)

Specifications

- Square drive: 1/2 in
- Socket (12 point): 15/16 in
- Length of extension: 100 mm (4.0 in)

Part Number	Description
9U-5932	Extension Camshaft Torque

Cylinder Liner Spacer Assembly

Essential Tool

Model Usage: All 3600 and G3600 Engines

Warranty: Caterpillar® Six Months



- Used to install cylinder liner into cylinder head
- Used with 4C-6987 Socket and two cylinder head stud nuts
- Used with 184-3131 Socket for 3618 Engines
- Steel tube fits over cylinder head studs
- Using two spacer assemblies will easily and evenly seat cylinder liners
- Overall length: 314.32 mm (12.375 in)

Part Number	Description
191-1135	Cylinder Space Assembly

Maintenance Tool Group (Continued)

Model Usage: G3600 Engines

Warranty: Caterpillar® Six Months



- Used to perform routine maintenance tasks on G3600 Engines

Item	Part Number	Description	Use
—	146-2726	Maintenance Tool Group	—
1	6V-9124	Screwdriver	Used for terminal strips
2	146-2739	Cylinder Pressure Adapter	Connects outside air pressure source to cylinders on 3500 and 3600 Engines during cylinder leak down testing
3	257-9140	Fluke 87V Multimeter	Test and adjust electrical circuits
4	148-2997	Valve Recession Tool Kit	Measures valve seat recession by placing magnetic block on top of valve rotator with rod extending to top of cylinder head (used with 6V-3075 Dial Indicator or 369-2607 Digital Indicator)
5	439-3938	Bracket Assembly — Link	Turbo lift bracket
6	146-2742	GAV Lash Tool	Set gas admission valve (GAV) lash by installing in valve cover base rear bolt hole and adjusting 5P-2056 Indicator Tip on gas admission rocker arm flat (use with 147-5536 Indicator Contact Point and 6V-3075 Indicator on gas admission rocker arms with pin)
7	143-8995	Leak Down Check Tool	Tests check valves in prechamber
8	9U-6244	Support	Turbo support
9	4C-6593	Adjusting As — Valve Lash	Check and adjust valve lash
10	146-2728	Flex Pickup Tool	Remove check valve seal
11	1P-0529	Handle	Waste gate tool
12	9U-6248	Guide Bolt	Install equally spaced bolts in outer ring of holes in back of turbocharger compressor housing during assembly
13	9U-7516	Spark Plug Gauge	Check spark plug gap
14	9U-7511	Spark Plug Seat Cleaner	Spark plug seat cleaner
15	1P-0462	Plate, 0.937 in Diameter	Waste gate tool
16	6L-5897	Bolt, 7/8 in long	Waste gate tool
17	143-8997	Dummy Check Valve	Checks leak down fixture (143-8995) before testing check valves
18	4C-4601	Spark Plug Socket	Remove and install spark plugs
19	9S-5031	Deep Well Socket	Removes combustion sensor spark plug
Not shown			
—	285-0901	Blowby Pickup Group	Check blow by volume
—	368-9910	Multi-tool Group	Measures volume of blowby gas coming from crankcase breather and air velocity through radiator
—	—	NETG5044	Software License Card (required to activate software)

a. Comes with insert for removing spark plugs

Crankshaft Journal Cover

Model Usage: 3600/C280

Warranty: Manufacturer's



- Used to protect crankshaft bearing journals from impact damage
- 443-4070 is used to protect main bearing journals. One cover will protect the complete journal.
- 443-4072 is used to protect connecting rod journals on 6 and 8 cylinder engines. One cover will protect the complete journal.
- 443-4073 is used to protect connecting rod journals on 12 and 16 cylinder engines. One cover will protect half of the journal in case one rod is removed. If both rods are removed, use two covers for complete journal protection.

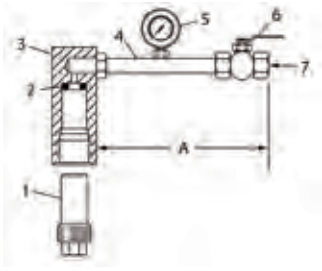
Part Number	Dimensions
443-4070	876 mm long x 120 mm wide 34.5 in long x 4.7 in wide
443-4072	762 mm long x 110 mm wide 30.0 in long x 4.3 in wide
443-4073	762 mm long x 97 mm wide 30.0 in long x 3.8 in wide

3600 ENGINE TOOLS

Leak Down Check Tool, Check Valve (Dummy)

Model Usage: G3606, G3608, G3612, and G3616 Engines

Warranty: Caterpillar® Six Months



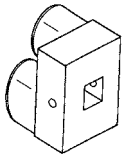
- Used to test prechamber check valves for leakage
- When 827 kPa (120 PSI) air pressure is applied, pressure cannot leak down below 689 kPa (100 PSI) within five seconds
- Used with external compressed air supply, air pressure gauge with a maximum 1378 kPa (200 PSI) capacity, and quick action shut-off valve
- 143-8997 Dummy Check Valve is used to verify that leak down check tool does not have any leaks
- A 2M-4453 O-ring Seal is included with leak down check tool and is a service part
- When connecting air supply, it must be as close as possible [within 300.0 mm (12.0 in) max] to inlet side of air pressure gauge
- Maximum air pressure (pressure gauge): 1378 kPa (200 PSI)
- Maximum length between tool and leak down check valve: 304.0 mm (12.0 in)

Item	Part Number	Description
1	143-8997	Dummy Check Valve
2	2M-4453	O-ring Seal
3	143-8995	Leak Down Check Tool
4	—	Tube
5	—	Pressure gauge
6	—	Ball valve
7	—	Air supply
A	—	305 mm (12.0 in) maximum length

Governor Calibration Tool

Model Usage: 3600 Locomotive Engine with PGEV Governor

Warranty: Caterpillar® Six Months



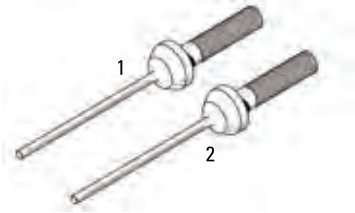
- Holds the governor shaft to the fuel on position when synchronizing injectors
- Makes it easier to rotate governor terminal shaft and easier to hold it in position when adjusting power setting
- Has 2 dowels on one side to fit into 2 holes on governor shaft position indicator
- 1/2 inch square drive connection on other side for attaching socket wrench as lever arm

Part Number	Description
4C-6583	Governor Calibration Tool

Diesel Valve Seat Group

Model Usage: 3600 Diesel Engines

Warranty: Caterpillar® Six Months



- Used to measure valve seat angle after machining of seat
- Pilots in valve guide to ensure that seat is perpendicular to guide
- Features knurled handle for positive grip
- Lightly oiling tool before storage is recommended to prevent corrosion of precision machined surfaces
- Tool group includes case and foam insert

References

- SEBF8129, Guideline for Reusable Parts
- SEHS0095, Special Instruction

Item	Part No.	Description	Seat Angle	Overall Length	Pilot Diameter
—	147-2285	Diesel Valve Seat Group	—	—	—
1	147-1642	Valve Seat Angle Gauge	30.5°	344.50 mm (13.56 in)	16 mm (0.630 in)
2	147-1643	Valve Seat Angle Gauge	31°	344.50 mm (13.56 in)	16 mm (0.630 in)
Not Shown					
—	6V-3072	Case — Plastic, NEEG2574 Group Decal on lid	—	—	—

Stud Tensioner Tool Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to tension cylinder head studs and main bearing studs
- Used with 8T-0820 Pressure Group and 8T-3035 Lines Group
- Used with one of these pumps: 350-7768 Hydraulic Pump (115 Volt) or 350-7769 Hydraulic Pump (230V); 8T-0820 Pressure Gauge and 8T-3035 Lines Group also required (Cannot be used with 156-7166, 227-6724, 227-8834, 191-5347, and 156-7167 Hydraulic Pumps which are used with the other stud tensioning tools)
- Used with 8T-0960 Handling Tool Group to remove and install main bearings
- Simultaneously tension four cylinder head studs or two crankshaft main bearing studs (use 8T-0960 Handling Tool Group when removing crankshaft main bearings)
- 4C-5816 Retainer Collar attaches as protective device to 8T-0895 Cylinder Group before tightening or loosening crankshaft main bearing studs (helps contain 207-4607 Collar and stud in case of breakage)
- 8T-0493 Cylinder Test Stud, 8T-0495 Test Stud Spacer, and two 207-4607 Thread Collars are used to test 8T-0895 Cylinder Group
- 9U-5141 Nut Turning Handle used to loosen and tighten nuts while studs are extended (9U-5141 Nut Turning Handle replaces discontinued 4C-6986 Nut Turning Handle)
- 4C-6987 Socket used to pre-torque cylinder head nuts

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual
- SEHS9342, Special Instruction

Specifications

- 8T-0895 Cylinder Group:
  - Applied force of each cylinder at maximum pressure : 1540 N @ 69,000 kPa (173 ton @ 10,000 PSI)
  - Piston area: 223 cm^2 (34.6 sq in)
  - Weight: 20 kg (45.0 lb)

Item	Part Number	Description
—	207-5034	Stud Tensioner Tool Group
1	207-4607	Threaded Collar (bearing stud)
2	8T-0889	Threaded Collar (head stud)
3	8T-0898	Cylinder Head Pedestal
4	8T-0891	Threaded Collar (head stud)
5	8T-0896	Bearing Pedestal
6	8T-0494	Test Stud Spacer
7	8T-0493	Cylinder Test Stud
8	8T-0897	Cylinder Head Pedestal
9	4C-6987	Socket
10	9U-5141	Nut Turning Handle
11	1B-0581	Bolt
12	4C-5816	Collar Retainer
13	0L-1351	Bolt
14	8T-0895	Cylinder Group
Not shown		
—	8T-0901	Valve
—	8T-0902	Screw
—	8T-0903	Screen
—	8T-0904	Ring
—	8T-0907	Spring
—	8T-0908	Bolt
—	8T-0909	Wiper
—	8T-0915	Ring
—	8T-0917	Ring

3600 ENGINE TOOLS

Pressure Gauge

Model Usage: 3600 Engines



- Used to provide pressure reading of hydraulic pumps when used with 207-5034 Stud Tensioner Group or 8T-0970 Cam Bearing Tool Group or 6V-7073 Liner Puller Group or 4C-8568 Liner Puller Group
- Used with 350-7768 Hydraulic Pump (115 Volt) or 350-7769 Hydraulic Pump (230 Volt); 2N-1931 Fitting, 45° Street Ell can be used to make gauge face more visible
- Liquid-filled gauge has face calibrated with both kPa and PSI

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Specifications

- Pressure range: 0 – 70,000 kPa (0 – 10,000 PSI)
- Operating temperature: -20° to 65°C (-4° to 150°F)
- Male-threaded connection: 1/4 – 18 NPTF
- Gauge diameter: 102 mm (4.0 in)

Part Number	Description
8T-0820	Standard Pressure Gauge

Lines Group

Model Usage: 3600 Engines



- Used to connect hydraulically operated tool to hydraulic pump — 350-7768 Hydraulic Pump (115 Volt) or 350-7769 Hydraulic Pump (230V); used in the following applications: remove and install cylinder head and crankshaft main bearings, camshaft bearings, and cylinder liners
- Used with 207-5034 Stud Tensioner Tool Group, 6V-7073 Liner Puller Group, 8T-0970 Camshaft Bearing Tool Group, 6V-7073 Liner Puller Group or 4C-8568 Liner Puller Group

References

- SENR3594, Service Manual Module of SENR3590 Service Manual
- SENR3600, Service Manual Module of SENR3595 Service Manual
- SENR4259, Service Manual Module of SENR4255 Service Manual

Specifications

- 6D-7726 Hose Assembly:
  - Length: 3480 mm (137.0 in)
  - Maximum pressure rating: 70,000 kPa (10,000 PSI)
  - Threaded connections (both ends): 1/4 – 18 NPTF
- 1P-2375 Coupler Assembly (male):
  - Threaded connection: 3/8 – 18 NPTF
  - Proof pressure: 82,000 kPa (12,000 PSI)
  - Burst pressure: 137,000 kPa (20,000 PSI)
- 1P-2376 Coupler Assembly (female):
  - Threaded connection: 1/4 – 18 NPTF
  - Proof pressure: 82,000 kPa (12,000 PSI)
  - Burst pressure: 144,000 kPa (21,000 PSI)
- 8T-5206 Manifold:
  - Number of ports: 6
  - Threaded connection (female): 3/8 – 16 NPTF
  - Plug (3/8-18 NPTF): 3J-5390 Plug

Item	Part Number	Description
—	8T-3035	Lines Group
1	6D-7726	Hydraulic Hose (2)
2	3J-5390	Plug — NPTF (Ext Hex) 3/8 in-18 NPTF external to 1/8 in-27 NPTF internal
3	8T-5206	Manifold
4	1P-2375	Coupler Assembly Quick Connective (Male)
5	1P-2376	Coupler Assembly Quick Connective (Female) (2)

Camshaft Separation Assembly

Model Usage: 3618 Engines (serial numbers 2MW1-UP)

Warranty: Caterpillar® Six Months



- Used to separate camshaft segments
- Replaces separating method which used jacking screws (these holes are no longer available in current camshafts)
- Used with 9X-8881 Bolt
- Bolt length: 57.2 mm (2.25 in)
- Bolt size: 5/8 – 11

Reference

- RENR1333-01, Service Manual

Part Number	Description
156-7159	Camshaft Separation Assembly

Piston Support

Model Usage: 3618 Engines

Warranty: Caterpillar® Six Months



- Used to safely support piston and connecting rod assembly while replacing connecting rod bearings
- Made of lightweight aluminum for easy installation
- Mounts in place of cooling jet with existing bolts

Part Number	Description
156-7160	Piston Support

Rod Cap Guide (3618)

Model Usage: 3618 Engines (2MW1-Up)

Warranty: Caterpillar® Six Months



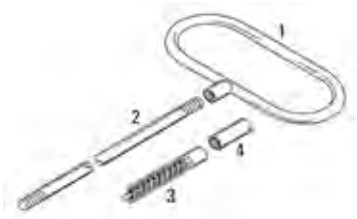
- Used to easily remove and install connecting rod cap
- Guides (2) thread into lower portion of connecting rod
- Helps prevent damage to connecting rod cap
- Thread: M24 x 3.0

Part Number	Description
178-5063	Rod Cap Guide

Cleaning Kit

Model Usage: 3600 Gas Engines with Two-Stage After Coolers

Warranty: Caterpillar® Six Months



- Used to clean water tubes in 2-stage after coolers
- Soft deposits left by coolant are removed by inserting brushes into after cooler tubes and working back and forth through the length of coolant tubes
- Kit includes 9.5 mm (0.38 in) diameter brushes, rods, handle, and connector
- Rotate cleaning rods and brushes in clockwise direction to prevent parts from unscrewing

Item	Description	Quantity
1	Handle	1
2	Rod	3
3	Brush	12
4	Connector	2

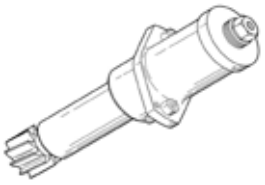
Part Number	Description
145-0316	Cleaning Kit

3600 ENGINE TOOLS

Prechamber Machining Tool Group (G3600)

Model Usage: All G3600 Engines

Warranty: Caterpillar® Six Months



- Used to remove pitting and corrosion in lower sealing surface of prechambers
- Machines lower sealing surface of prechamber
- Maximum material removal: 0.5 mm (0.02 in)

Reference

- NEHS0790, Using the 187-6273 Prechamber Machining Tool Group (G3600)

NOTICE

Use with caution and as a last resort to salvage cylinder heads. Excessive material removal could result in loss of core credit of the cylinder head. Follow step-by-step directions in NEHS0790 Tool Operating Manual provided with this tool.

Part Number	Description
187-6273	Prechamber Machining Tool Group
460-1375	Adjustable Ring

Template Seal

Model Usage: 3600 and G3600 Engines

Warranty: Caterpillar® Six Months



- Just outline ID and OD of template to reveal sealing surface
- Used to easily and quickly identify area of cylinder head that needs a smooth sealing surface
- Any nicks, gouges, and/or damage in this area may result in incorrect sealing

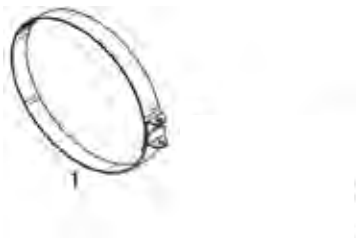
Part Number	Description
151-8689	Template Seal

Seal Installer Group

Model Usage: 3600 Diesel and Heavy Fuel Oil Engines

Warranty: Caterpillar® Six Months





- Used to install seals on high pressure aftercoolers (HPAC)
- Group contains seal compressors and pliers to consecutively install both seals — makes installation easier and faster, while helping to eliminate seal damage during installation

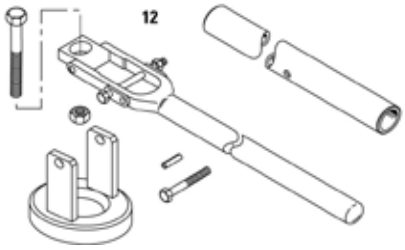
Item	Part Number	Description
1	148-6442	Ring
2	148-6443	Ring Insert
3	148-6444	Seal Driver
4	148-6445	Seal Installer

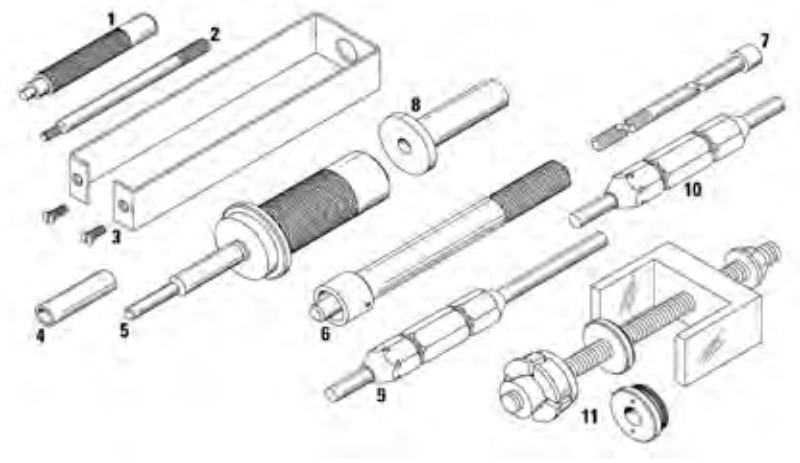
Item	Part Number	Description	Qty.
—	148-9704	Seal Installer Group	—
1	148-9705	Seal Ring Compressor	2

Head Repair Tool Group

Model Usage: All 3600 and G3600 Engines

Warranty: Caterpillar® Six Months





Compressor Group (Item 12)

- Used for general disassembly and assembly of cylinder head

References

- 3600 and G3600 Engine Service Manuals Cylinder Head Disassembly and Assembly Module

Item	Part Number	Description
—	9U-7522	Head Repair Tool Group
1	4C-8540	Dowel and Plug Driver
2	4C-8731	Dowel Pulling Rod
3	4C-9839	Safety Retainer Group
4	8T-2673	Stop Sleeve
5	8T-2674	Valve Seat Driver
6	8T-2676	Valve Guide Driver Assembly
7	8T-2679	Pulling Rod Assembly
8	8T-2781	Cylinder Support Pedestal
9	9U-6399	Valve Guide Gauge
10	9U-6401	Valve Guide Gauge
11	130-1449	Valve Seat Puller Group
12	8T-2660	Compressor Group

3600 ENGINE TOOLS

Cylinder Tool Group, Pump Tool Group

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Both tool groups used together to disassemble and assemble 3600 Engine turbochargers
- Used with 6V-7030 Micrometer Depth Gauge Group (metric) or 6V-2012 Micrometer Depth Gauge Group (inches), and 8T-5096 Dial Indicator Group
- Hoses and fittings working pressure: 10,000 PSI (68,900 kPa)

Reference

- NEHS0615, Tool Operating Manual, 3600 Turbocharger Disassembly and Assembly

Item	Part Number	Description	Qty.
9U-6249 Cylinder Tool Group (3600 Turbo) Service/Repair Parts			
—	9U-6249	Cylinder Tool Group	—
2 [a]	9U-6244	Support	2
5	503-1854	Hydraulic Puller Group	1
6 [a]	9U-6251	Suspension Yoke Assembly	1
11	9U-6255	Removal Housing Assembly	1
13	1D-4614	Bolt	1
14	1D-5119	Jam Nut	1
15	9U-6256	End Plug	1
16	126-8290	Spanner Wrench	1
Not shown			
—	1U-7564	Hex Wrench, 5 mm	1
—	1U-7566	Hex Wrench	1
—	4C-9658 [b]	Case — Protective	1
—	Media Number	NEEG2543. Decal	1
9U-6250 Tool Group, Pump (3600 Turbo) Service/Repair Parts			
—	9U-6250	Pump Tool Group	—
1	8F-0024	Hose Assembly	2
3	2J-3506	Nut	1
3	9U-6246	Adapter Assembly	1
7	9U-6253	Removal Shaft Assembly	1
8	9U-6254	Installation Shaft Assembly	1
9	9U-7262	Plate	1
12	9U-6243	Extension Handle	1
17 [a]	9U-6248	Guide Bolt	3
Not shown			
—	133-8951	Screw Thrust	—
—	4C-9664 [d]	Travel Vault	1
—	7J-9108	O-ring Seal [c]	4
—	9U-6684	Foam Block (top)	1
—	Media Number	NEEG2544, Decal	1

a. Part of 9U-5105 Basic Tool Group, 3600

b. Fold-down handle

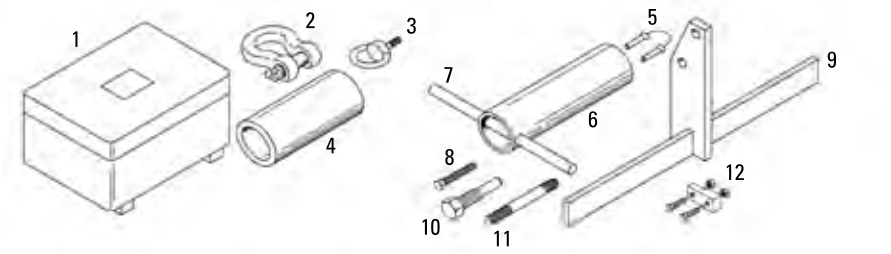
c. Supplied with regular foam; Pick-N'Pluck is not available

d. Part of 9U-6253 Removal Shaft Assembly and part of 9U-6254 Installation Shaft Assembly (both assemblies are part of 9U-6250 Pump Tool Group)

ABB Turbocharger Tool Kit (TPL61)

Model Usage: 3612 Marine Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble ABB TPL61 turbochargers

Reference

- REHS0811, Special Instruction, Disassembly and Assembly of TPL61 Turbocharger

Item	Description	Qty.
1	Tool Box	—
2	Shackle	—
3	Ring Bolt	2
4	Guide Tube	—
5	Radial Bearing Pin	—
6	Press On Bushing	—
7	Bar	—
8	Forcing Screw	4
9	Mounting Supports	2
10	Puller Screw	3
11	Stud	2
12	Press on Tool Assembly	2
Not shown	NEEG2923 Decal	

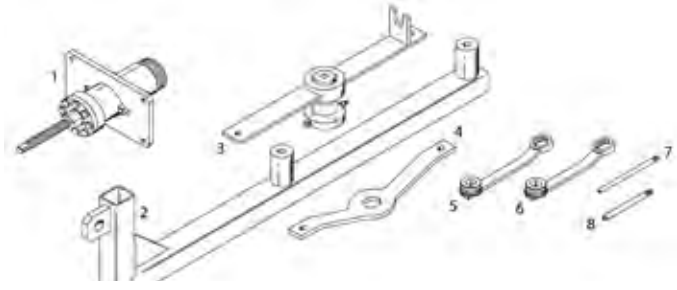
Part Number	Description
195-8104	ABB Turbocharger Tool Kit (TPL61)

Tool Group (NA297)

Essential Tool

Model Usage: 3600 Engines

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble Napier NA297 Turbochargers

Reference

- REHS0285, Special Instruction, Disassembly and Assembly of the Napier NA297 Turbocharger

Item	Part Number	Description
—	187-3703	Tool Group (NA297)
1	177-9811	Turbo Thrust Collar Tool Group
2	177-9781	Turbo Compressor Lifting Bracket Assembly
3	177-9856	Turbo Impeller Removal Tool Group
4	177-9791	Turbine Locking Tool
5	178-0193	Torque Adapter (30 mm)
6	178-0196	Torque Adapter (1 1/8 in)
7	177-9809	Turbo Bearing Guide Rod
8	177-9852	Insert Guide Rod

3600 ENGINE TOOLS

Stud Tensioner Tool Group

Essential Tool

Model Usage: 3618 Engines

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

Stud Tensioner Tool Group

- Used to simultaneously tension four cylinder head studs or two crankshaft main bearing cap studs
- Comes with seal kits for cylinder groups and pump group

Cylinder Groups

- Smaller, lighter cylinders with convenient carrying handles
- Pistons return automatically when hydraulic pressure is released
- Gear driven turning sleeve allows stud nut rotation with 1/2 inch square drive ratchet

Main Bearing Cap Handling Group

- Part of 179-1904 Stud Tensioner Tool Group
- Air cylinder raises and lowers main bearing caps for main bearing inspection or replacement
- Made of lightweight aluminum for easier use
- Allows one-person operation
- Ideal for tight engine compartments

160-0475 Support Tray

- Used to place 153-8488 Cylinder Group onto 156-7168 Main Bearing Cap Handling Group
- Used with 160-4901 Tray Support Rail
- Recommended but not included

References

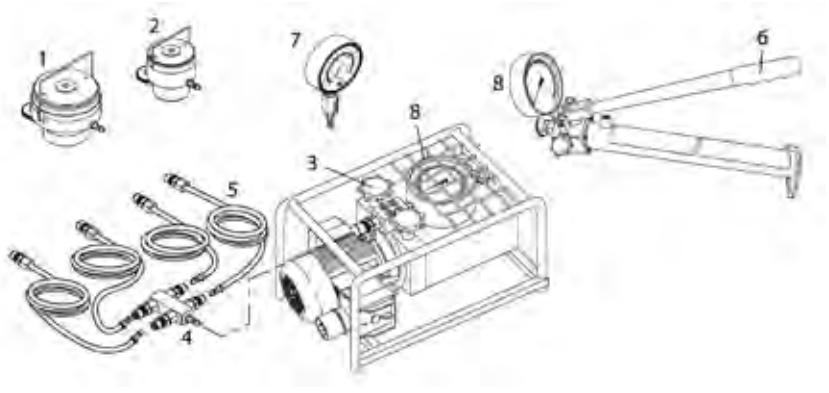
- NEHS0762, Tool Operating Manual, Operation and Maintenance of the 179-1904 Stud Tensioner Tool Group Used on 3618 Engines
- RENR1333, Service Manual, Disassembly and Assembly of 3618 Engines

Specifications

- Hydraulic Pump (Electric)
  - Maximum pressure: 150 mPa (21,755 PSI)
  - Voltage: 230/400 V (50/60 Hz)
  - Weight: 33 kg (73 lb)

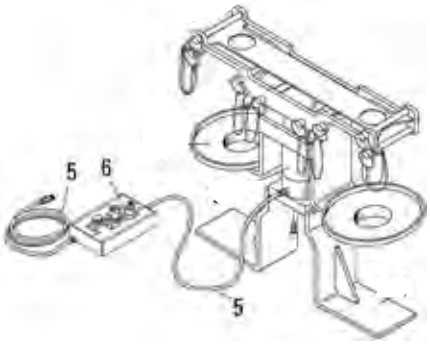
Part Number	Description	Tensioning Force at Max. Pressure	Maximum Stroke	Overall Dimensions	Weight
153-8487	Stud Tensioner Cylinder Group (Cylinder Head)	1100 kN at 150 mPa (247,289 lb at 21,755 PSI)	8 mm (0.31 in)	161.5 mm (6.36 in) high x 143.0 mm (5.63 in) diameter	9.6 kg (21.16 lb)
153-8488	Stud Tensioner Cylinder Group (Main Bearing)	2015 kN at 150 mPa (452,990 lb at 21,755 PSI)	10.0 mm (0.32 in)	182.2 mm (7.17 in) high x 188 mm (7.4 in) diameter	18.2 kg (40.12 lb)
179-1904	Stud Tensioner Tool Group	—	—	—	—

Stud Tensioner Tool Group



Item	Part Number	Description
1	153-8488	Stud Tensioner Cylinder Group (Main Bearing)
2	153-8487	Stud Tensioner Cylinder Group (Cylinder Head)
3	156-7166	Hydraulic Pump, Electric
4	178-9313	Distribution Coupler
5	178-9312	Hose Assembly
6	156-7167	Hydraulic Pump, Manual
7	185-0683	Comparison Gauge
8	185-4436	Pressure Gauge (service part for 227-6724, 227-8834, 1 and 191-5347 Pumps)
Not shown		
—	175-0191	Seal Kit (for 191-5323 Main Bearing Cylinder Group)
—	178-9058	Seal Kit (for 191-5322 Cylinder Head Cylinder Group)
—	178-9314	Pump Seal Kit
—	—	Socket Extension (1/2 in drive, 127 mm (5.0 in) long)
—	—	Swivel Head Ratchet (1/2 in drive)

Main Bearing Cap Handling Group



Item	Part Number	Description
156-7168 Main Bearing Cap Handling Group (part of 179-1904 Stud Tensioner Tool Group)		
5	5P-6011	Air Line
6	160-0465	Air Control Box

3600 ENGINE TOOLS

Stud Tensioner Tool Group, Pump Accessory Group

Hydraulic Pumps

Model Usage: All 3600 Engines Except 3618

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- Used to simultaneously loosen or tighten nuts on four cylinder head studs or two crankshaft main bearing cap studs
- Used with 8T-0960 Handling Tool Group for easier removal and installation of main bearing caps
- Requires one 301-5215 Group, one 229-9453 Group, and one of optional pumps listed (cannot be used with any other pumps except the ones listed as item 10)
- Compact, lightweight cylinders have convenient carrying handles
- Optional gear drive permits faster installation of nut onto stud (1/2 inch square drive ratchet)
- ISO9001 Certified

References

- NEHS0866, Operation and Maintenance of Stud Tensioner Tooling Group used on 3600 Engines (except 3618)
- SENR4259, Disassembly and Assembly G3606 and G3608 Engines
- SENR5535, Disassembly and Assembly G3612 and G3616 Engines
- SENR3600, Disassembly and Assembly 3606 and 3608 Engines
- SENR3594, Disassembly and Assembly 3612 and 3616 Engines

Part Number	Description
229-9453	Pump Accessory Group
301-5215	Stud Tensioner Tool Group

Basic Tooling Required for 301-5215 Stud Tensioner Tool Group

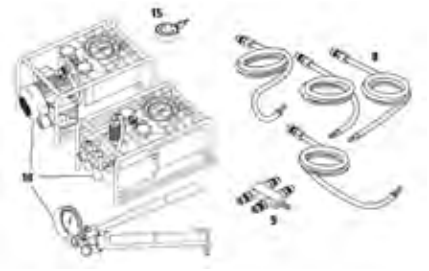


Item	Part Number	Description	Qty.
301-5215 Stud Tensioner Tool Group (required)			
1	191-5322	Cylinder Head Cylinder Group	4
2	191-5333	Cylinder Head Support	4
3	191-5323	Main Bearing Cylinder Group	2
4	191-5335	Main Bearing Support	2
5	9U-5141	Nut Turning Handle	2
6	—	Spanner Wrench	—
7	—	Swivel Head Ratchet (1/2 in square drive)	—
11	191-5324	Bushing (for 191-5322 Group)	4
11	191-5326	Bushing (for 191-5323 Group)	2
12	225-5637	Support (used with 191-5322 and 191-5324)	2
13	225-5636	Adapter (used with 191-5322 and 191-5324)	2
Not Shown			
—	253-3272	Main Bearing Cylinder Group (C175)	2

NOTE: Adapter and support bushing are required for front cylinder heads adjacent to support bracket.Taller adapter and support provides necessary clearance.

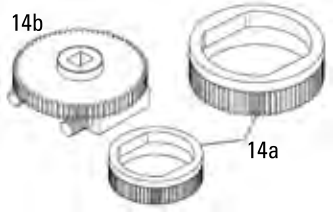
3600 ENGINE TOOLS

Basic Tooling Required



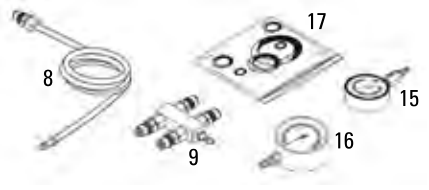
Item	Part Number	Description	Qty.
Pumps, Hose, and Coupler (requires one 229-9453 Group and one pump option)			
10	156-7167	Hydraulic Pump, Manual	—
10	191-5347	Hydraulic Pump, Pneumatic	1
10	227-6724	Hydraulic Pump, Electric, 120 V	1
10	227-8834	Hydraulic Pump, Electric, 240 V	1
229-9453 Pump Accessory Group Includes:			
8	178-9312	Hose Assembly	4
9	178-9313	Distribution Coupler	1
15	185-0683	Comparison Gauge	1

Optional Tooling



Item	Part Number	Description	Qty.
Optional Gear Drive Group (permits faster rotation of nut onto stud)			
14	191-5341	Gear Drive Group (optional, includes items 14a and 14b)	1
14a	191-5343	Turning Sleeve (for 191-5322 Cylinder Head Cylinder Group)	4
14a	192-4316	Turning Sleeve (for 191-5323 Main Bearing Cylinder Group)	2
14b	191-5342	Gear Drive Assembly	6

Service/Repair Parts



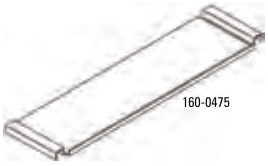
Item	Part Number	Description	Qty.
Service/Repair Parts			
8	178-9312	Hose Assembly	1
9	178-9313	Distribution Coupler	1
15	185-0683	Comparison Gauge	1
16	185-4436	Pressure Gauge (service part for 227-6724, 227-8834, 191-5347 Pumps)	1
17	175-0191	Seal Kit (for 191-5323 Main Bearing Cylinder Group)	1
17	178-9058	Seal Kit (for 191-5322 Cylinder Head Cylinder Group)	1
17	194-8202	Seal Kit (for 191-5347 Pump)	1
17	227-6725	Seal Kit (for 227-6724 Pump and 227-8834 Pump)	1
Not Shown			
—	253-3275	Seal Kit (for 253-3272 Main Bearing Cylinder Group)	—
—	253-3276	Distribution Coupler	—

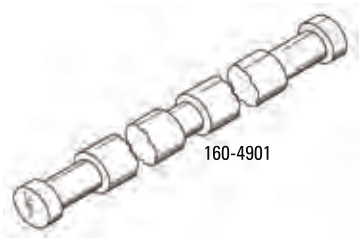
3600 ENGINE TOOLS

Support Tray

Model Usage: 3618 Engines

Warranty: Caterpillar® Six Months





- Used to support 153-8488 Tensioning Cylinder being manually placed onto 156-7168 Bearing Cap Handling Group
- Tray support rail easily fits onto engine oil pan baffles

Reference

- RENR1333, Service Manual, Disassembly and Assembly of 3618 Engines

Part Number	Description
160-0475	Support Tray
	Support Tray Rail

Cycle Counter Kits

Model Usage: All C175, C280, 3600

Warranty: Manufacturer's



Bushing And Hydraulic Block For 457-3253 (Retrofit 3600 Head) and 457-3254 (Retrofit-3600 Main Bearing)



Bushing And Hydraulic Block For 457-3255 (Retrofit- C175 Main Bearing)

- This field-installable cycle counter upgrade allows monitoring the life cycle of the change bushing.
- Replacement of bushings recommended at approximately 2000 cycles.

Kit Includes:

- New cycle counter block
- New change bushing
- New seal repair kit
- Complete instructions
- Contact information for questions or assistance

Part No.	Dimensions	Weight
457-3253	330 x 178 x 178 mm (13 x 7 x 7 in)	4.1 kg (9 lb)
457-3254	330 x 178 x 178 mm (13 x 7 x 7 in)	6.4 kg (14 lb)
457-3255	254 x 152 x 101.6 mm (10 x 6 x 4 in)	3.2 kg (7 lb)

Optional Tooling

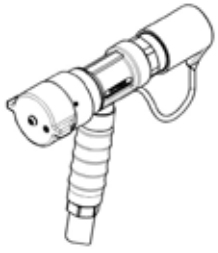
- 191-5322 Cylinder (Cylinder Head Studs):
  - Maximum tensioning force: 1100 kN (247,289 lb)
  - Maximum operating pressure: 150 mPa (21,755 PSI)
  - Effective piston surface: 73.2 cm^2 (11.35 in 2)
  - Stroke: 10.0 mm (0.39 in)
  - Weight: 9.5 kg (21 lb)
- 191-5323 Cylinder (Main Bearing Cap Studs):
  - Maximum tensioning force: 2015 kN (452,990 lb)
  - Maximum operating pressure: 150 mPa (21,755 PSI)
  - Effective piston surface: 134.3 cm^2 (20.8 in 2)
  - Stroke: 10.0 mm (0.39 in)
  - Weight: 19.5 kg (43 lb)
- 227-6724 and 227-8834 Electric Hydraulic Pump:
  - Oil quantity: 3.8 L (0.84 gal)
  - Maximum operating pressure: 150 mPa (21,755 PSI)
  - Voltage, frequency: 120/240 V, 60/50 Hz
  - Weight: 33 kg (73 lb)
- 191-5347 Pneumatic Hydraulic Pump:
  - Oil quantity: 4.0 L (0.88 gal)
  - Maximum operating pressure: 150 mPa (21,750 PSI)
  - Air pressure: 3.5 – 8 bar (51 – 116 PSI)
  - Air consumption: 104 – 206 gpm
  - Weight: 22 kg (48.5 lb)
- Oil Specifications:
  - Oil viscosity at 50°C (122°F): 1.75 E-9.1 Centistokes
  - Oil temperature (maximum): 60°C (140°F)
  - Oil approval: HLP10 nach/acc.to VDMA 24318 bzw./resp. DIN51525

Part Number	Description
191-5322	Cylinder Head Cylinder Group
191-5323	Main Bearing Cylinder Group
191-5347	Hydraulic Pump, Pneumatic
227-6724	Hydraulic Pump, Electric, 120 V
227-8834	Hydraulic Pump, Electric, 240 V

Fast-Fill DEF Nozzle (Ground Level)

Model Usage: Cat® Machines with Ground-Level DEF Fill Option

Warranty: Manufacturer's



For warranty/repair info, contact Hartmann Controls, 604 Progress Dr, Hartland, WI 53029. www.hartmanncontrols.com, 262-367-4299

- Improved design replaces the cancelled 449-3224
- 3/4 inch hose barb makes connecting to standard type dispensing hose a breeze
- Unique interface eliminates possibility of cross contamination with other fluids
- No-Spill design offers clean fluid break and does not allow dust or dirt into system
- All metal exterior components make it suitable for any field environment
- When tank is full, the cap snaps back into place and rotates 60 degrees, while revealing a red ring that provides visual cue to operator

Part No.	Description	Dimensions	Weight
506-8793	Fast-Fill DEF Nozzle	245 X 230 mm (9.64 x 9.05")	3.9 kg (8.7 lb)
453-1650	Cap	52.7 X 69 mm (2.07 X 2.7")	0.06 (est) kg (0.12 lb)

DEF Nozzle Purge Tool

Warranty: Manufacturer's



- This tool purges DEF from the 506-8793 DEF nozzle after use.

Part No.	Description	Dimensions	Weight
509-7101	DEF Nozzle Purge Tool	169 x 49 mm (6.7 x 2 in)	1.6 kg (3.5 lb)

3600 ENGINE TOOLS

Diesel Exhaust Fluid (DEF) Truck Tank

Model Usage: All Machines Requiring DEF

Warranty: Manufacturer's



- All stainless steel frame to hold tank construction — will not be attacked by DEF or weather
- Truck pan constructed to bolt to truck bed with vertical and horizontal slotted holes for optimal placement
- Self-Priming 12 Volt — 7 GPM DEF Pump with 12' Power Cord, in-line fuse and battery clips
- Custom designed to mount behind truck bed diesel tank between the wheel wells
- 32 gallon polyethylene tank meets ISO standards for proper storage of DEF
- 71 gallon polyethylene tank meets ISO standards for proper storage of DEF

Specifications

- Size: 71 Gallon
- Dimensions: 1,219 x 533 x 914 mm (48 x 21 x 36 in)
- Weight: 45 kg (99 lb)

Part No.	Description
460-4078	Diesel Exhaust Fluid Truck Tanks (Made Asd Ordered)

DEF Dispenser

Model Usage: All Machines and Engines using DEF

Warranty: Manufacturer's



- Used to dispense DEF (Diesel Exhaust Fluid) from a 1000 liter (264.2 gal.) tote
- Optional coupler (423-7799) and flowmeter (423-7795) are available
- Unit mounts directly to tote
- Simple to install
- Flow rate: 8.5 gpm to 9.5 gpm (32.2 lpm to 35.9 lpm)
- Requires 13 amp @ start (110 Volt unit) or 7 amp @ start (230 volt unit)

Specifications

- Dispenser comes packaged with necessary hardware for installation:
  - Stainless steel centrifugal pump
  - 20 ft (6.1 m) discharge hose
  - 6 ft (1.8 m) electrical cord
  - 4 ft (1.2 m) suction hose
  - Stainless steel automatic nozzle with hose barb swivel
  - 4 hose clamps
  - 2 tote elbow brackets

Part No.	Dimensions	Power
423-7843	559 x 483 x 457 mm (22 x 19 x 18 in)	110 VAC, 60hz
423-7944	559 x 483 x 457 mm (22 x 19 x 18 in)	230 VAC, 60hz
456-8816	Dia 175 x 150 mm (0.520 kg)	

DEF Dispensing Unit

Model Usage: All Tier 4 Machines

Warranty: Manufacturer's



- Cold weather stationary power-dispensing unit made of stainless steel, polyurethane, powder-coated carbon steel
- Insulation to negative 40°F
- 2 locking door handles
- Diesel air heater
- 1 fuel-metering pump
- 2 ft of combustion air inlet hose
- 18 inches of exhaust outlet hose
- 2.5 gallon diesel tank
- 2 ft of 1/8 inch diesel fuel hose
- Petu tank stand (stainless steel)
- 24-volt power relay
- 24-volt DEF transfer pump
- 24-volt DEF transfer pump mounting bracket
- Stainless steel interface plate
- 2-inch cam to 3/4 inch house barb (for tote integration)
- 500-gallon tank
- Trailer not included

Part No.	Description
472-2065	DEF Dispensing Unit

DEF Dispensing Unit Repair Parts and Year-Round Enclosures

Model Usage: All

Warranty: Caterpillar® One Year



436-6642 c



436-6644 f

- 435-8671 a — used to protect tote from elements



i

478-1150

436-6647 d



436-6645 g

- 435-8672 b — used to protect tote from elements



436-6643 e



436-6646 h

a. Warm weather enclosure: 2209 x 1219 x 2159 (87 x 48 x 85 in)
b. Cold weather enclosure: 2209 x 1219 x 2159 (87 x 48 x 85 in)
c. Hoses used on dispensing units 422-1185, 423-7843, 423-7844: 609.6 & 121.9 cm (20 & 4 ft)
d. Nozzle used on dispensing units 422-1185, 423-7843, 423-7844
e. Pump repair group used on 422-1185 12 volt pump group
f. Swivel used on dispensing units 422-1185, 423-7843, 423-7844
g. Repair group: 1/2 HP pump
h. 12 V Repair group used on 422-1185 12 volt pump group
i. Used to cover the 436-6647 nozzle spot during transport of DEF

3600 ENGINE TOOLS

Test Kit, Brix Refractometer

Essential Tool

Warranty: Manufacturer's



European Union compliant, CE marked

- Measures concentration levels in various fluids such as:
  - Urea concentration in Diesel Exhaust Fluid
  - Cat® Extended Life Inhibitor (ELI)
  - Ethylene glycol-based coolant in cooling systems (freeze protection)
  - Propylene glycol-based coolant in cooling systems (freeze protection)
  - Specific gravity (battery state of charge) in battery fluid
- Calibrate with water only, no more special solutions required
- Battery life approximately 11,000 measurements (with new alkaline batteries)
- Ergonomic design with easy to read LCD display for one-hand operation
- Used with conversion charts (part of NEHS1097 Tool Operating Manual) to convert percent of Brix to other units of measurement
- Automatic Temperature Compensation feature allows testing fluids from 10 to 75°C
- Ambient temperature range of 10 to 40°C
- Requires only a 0.3 ml (.01 oz) sample volume
- Compact design weighs only 100g (3.5 oz) and fits in a shirt pocket, so it is convenient to carry and use indoors and outdoors
- Includes storage case

Reference

- NEHS1097 Tool Operating Manual, 360-0774 Brix Refractometer

Specifications

- Measurement range: Brix 0.0 to 53.0%
- Measurement accuracy: Brix ±0.2%
- Measurement time: 3 seconds
- Resolution: Brix 0.1%
- Power supply: Two size AAA batteries
- Dimensions (L x W x D): 109 x 55 x 31 mm (4.29 x 2.16 x 1.22 in)

Part Number	Description
360-0774	Test Kit, Brix Refractometer

DEF Refractometer

Model Usage: All Tier 4

Warranty: Manufacturer's



European Union Compliant, CE Marked

- New DEF Refractometer specifically made for DEF fluid

Specifications

- Measurement Range: UREA 0.0 to 55.0%
- Measurement Accuracy: UREA ±0.3%
- Measurement Temperature: 10 to 40 °C
- Measurement Time: 3 seconds
- Resolution: UREA 0.1%
- Sample Volume: 0.3 mL
- Power Supply: two AAA batteries
- Storage Case

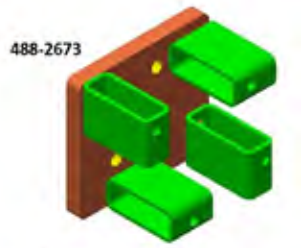
Part No.	Description	Dimensions
522-8375	DEF Refractometer	55 x 31 x 109 mm (2.2 x 1.2 x 4.3 in)

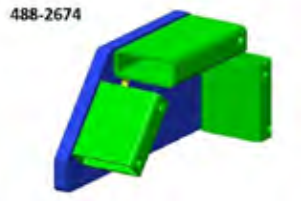
THREE60 POD 650

Rollover Bracket

Model Usage: C12.9 Marine Engines

Warranty: Caterpillar® Six Months





- Allows the C12.9 engine to be mounted to the 4C-9832 large engine rollover stand
- Refer to disassembly manual for specific mounting instructions.

Part No.	Description	Dimensions	Weight
488-2673	C12.9 Marine Engine Rollover Bracket	245 x 225 x 153 mm (9.6 x 8.9 x 6 in)	15.3 kg (33.7 lb)
488-2674	C12.9 Marine Engine Rollover Bracket	470 x 224 x 153 mm (18.5 x 8.8 x 6 in)	25.6 kg (56.4 lb)

Three60 Pod 650

Model Usage: Marine Propulsion System

Warranty: Caterpillar® Six Months



467-6449



490-8560



490-8561

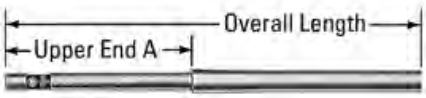
- Propeller nut tools and oil change socket are used to perform common maintenance procedures in marine propulsion systems.
- Other tools are used for installation of the propulsion system into the hull of marine pleasure craft vessels.

S.No	Part No.	Description	Dimensions	Weight
1	467-6449	TOOL AS. (REAR PROPELLER NUT)	Dia 89 x 75 mm (Dia 4 x 2.9 in)	1.2 kg (2.6 lb)
2	490-8560	TOOL AS. (OIL CHANGE)	Hex 50 x 79 mm (Hex 2 x 3.2 in)	0.5 kg (1 lb)
3	490-8561	TOOL AS. (FWD PROPELLER NUT)	185 x 120 x 105 mm (7.3 x 4.7 x 4.2 in)	3.6 kg (8 lb)
4	416-3253	TOOL AS (ENGINE STRINGER LOC)	1253 x 862 x 512 mm (49.3 x 34 x 20.1 in)	26.7 kg (59 lb)
5	539-0595	TOOL AS (LASER CRADLE MOUNT)	701 x 450 x 47.7 mm (27.6 x 17.7 x 1.9 in)	8.6 kg (19 lb)
6	554-5057	LIGHT-LASER	Dia. 10.5 x 25.5 mm (Dia. 0.4 x 1 in)	0.01 kg (0.02 lb)
7	554-5058	BATTERY AS-PACK	77 x 30 x 20 mm (3 x 1.2 x .8 in)	0.16 kg (0.4 lb)
8	522-4748	TOOL AS-HULL (SEAL PRESSURE TEST)	Hex 28.6 x 78 mm (Hex 1.1 x 3 in)	0.34 kg (0.8 lb)
9	416-3236	PLATE AS.-DRILL	1077 x 826 x 31.7 mm (42.4 x 32.5 x 1.2 in)	16.8 kg (37 lb)
10	539-0612	TOOL AS. (LASER CRADLE)	230 x 127 x 79.8 mm (9 x 5 x 3.1 in)	1 kg (2.2 lb)
11	461-9266	TOOL AS (LASER HOLDER)	95 x 73 x 89.5 mm (3.7 x 2.9 x 3.5 in)	0.83 kg (1.9 lb)
12	490-8562	TOOL-ALIGNMENT TARGET	544 x 170 x 16 mm (21.4 x 6.7 x .6 in)	3.9 kg (8.6 lb)
13	416-3245	TOOL AS.-FLATTENING	1128 x 877 x 369.2 mm (44.4 x 34.5 x 14.5 in)	44.1 kg (97 lb)

JULY 2018 Engine Tools 3-331

Tapered Pilots and Plug Gauges

Warranty: Caterpillar® Six Months



- Patented pilot illustrated shows length of tapered pilot from end to end indicated as overall length (The other section of the pilot is indicated as upper end)

Part Number	Size Fractional	Size (Decimal)	Overall Length	Upper End
9U-5453	9.5 mm (3/8 in plus 0.001)	9.60 mm (0.378 in)	203.2 mm (8 in)	101.6 mm (4 in)

Gasoline Engine-Driven Air Compressors

Warranty: Caterpillar® Six Months



- Cast iron frame and cylinders
- Ductile iron crankshaft
- Splash lubricated
- 2-stage design
- V-belt drive
- Kohler Magnum Series engine
- Constant speed control with engine slow-down
- Standard equipment: Kohler, air-cooled gasoline engine, magneto ignition with 12-volt electric key start, 1.5 gallon fuel tank, 10-micron inlet filter on compressor, totally enclosed belt guard (TEBG), manual tank drain

Part No.	HP	Alternator Yes	Air Delivery @ 175 PSIG	Receiver Size	Shipping Weight	Length	Width	Height
4C-4440	12.5	X	24 cfm	30 gal	204 kg (450 lb)	1,117.6 mm (44 in)	558.8 mm (22 in)	1,168.4 mm (46 in)

Air Compressor

Model Usage: 49HR Drill



- Horizontal tank
- Belt-driven splash-lubricated pump
- Automatic drain system
- Stationary mounting
- 175 psi maximum pressure
- 40 cfm at 175 psi
- 380 volt, 3 phase, 50 Hz

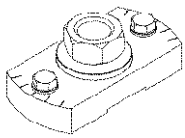
Part No.	Description	Dimensions
388-6629	Air Compressor	1981.2 x 762 x 1422.4 mm (78 x 30 x 56 in)

Locknut Wrench Assembly

Essential Tool

Model Usage: Feller Buncher (HF181, HF201, HF221 Felling Head)

Warranty: Caterpillar® Six Months



- Used to adjust tension on cutting chain — this tool provides the only safe and efficient way of adjustment
- Used with 1 13/16 inch socket
- Distance between pins: 117.0 mm (4.60 in)

Part Number	Description
186-3646	Locknut Wrench Assembly
187-3978	Adapter

Steel Rule

Warranty: Caterpillar® Six Months



- Length x width: 304.8 x 25.4 mm (12.0 x 1.0 in)

Part Number	Description
5P-3920	Rule — Steel

Sprayer Tool

Warranty: Manufacturer's



- 24 ounce vessel capable of holding pressurized oil solvent or water-based liquids
- Save money for jobs requiring spraying liquids
- Sprayer Tool can be reused
- Adjustable nozzle
- Chemical-resistant black anodized finish
- Maximum pressure of 200 PSI

Part Number	Description
452-6867	Sprayer Tool

Spacer

Warranty: Caterpillar® Six Months



- Used to adapt a deburring wheel to a 3/4 inch shaft bench grinder
- Used with 4C-8296 Bench Grinder and 8T-7749 Deburr Wheel
- Deburring wheel can be used in many applications including deburring permanent hose couplings
- Requires 1 spacer and 2 adapters (187-3978)

Part Number	Description	Material	Weight
187-3977	Spacer	Steel	0.0807 kg (0.18 lb)

Adapter

Warranty: Caterpillar® Six Months



- Used to adapt a deburring wheel to a 3/4 inch shaft bench grinder
- Used with 4C-8296 Bench Grinder and 8T-7749 Deburr Wheel
- Deburring wheel can be used in many applications including deburring permanent hose couplings
- Requires 2 adapters and 1 spacer (187-3977)

Specifications

- Material: Aluminium
- Weight: 0.33 kg (0.7275 lb)
- Max. Operating Speed: 4000 RPM
- Hole Diameter: 19.05 mm (3/4 in)

Part Number	Description
187-3978	Adapter

Crimp Tool

Model Usage: 735B, 740B and other Tier 4 engine applications

Warranty: Caterpillar® Six Months



- Tightens and cut stainless steel cable ties
- Used on 290-1993 cable strap for Tier 4 engine applications

Reference

- UENR0203 Engine Supplement Disassemble & Assembly

Specifications

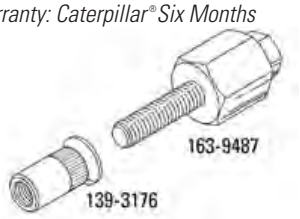
- Dimensions: 228 x 165 x 57 mm (9 x 6.5 x 2.25 in)
- Material: Steel and Plastic

Part Number	Description
305-2395	Crimp Tool

Installation Tool

Model Usage: PS150/200B Pneumatic Compactor

Warranty: Caterpillar® Six Months



- Installs 139-3176 Threaded Insert (M10 x 1.5)
- Used with standard hand tools to thread insert in hole
- Allows convenient field repair of stripped or damaged threads
- Compact design allows installation in confined area

Reference

- NEHS0677, Special Instruction

Part Number	Hex Size	Length	Bolt Thread
163-9487	9/16 in	12.7 mm (0.50 in)	M10 x 1.5

Pipe Wrench (48 inch)

Warranty: Caterpillar® Six Months



- Heavy-duty construction for strength and durability
- Forty percent lighter than cast iron
- Built-in pipe diameter scale

Specifications

- Max Pipe Capacity: 152.4 mm (6.00 in)
- Length: 1219.0 mm (48.00 in)

Part Number	Description
457-3048	Pipe Wrench (48 inch)

High Pressure Pump Removal Tool

Model Usage: CT660 11 & 13 Liter Engines

Warranty: Manufacturer's



- Used to remove high pressure fuel pump from accessory drive housing during off-vehicle repairs
- 414-7694 also requires 373-4796 for use

Specifications

- Dimensions: 292.1 x 130.2 mm (11.5 x 5.1 in)

Part Number	Description
424-7694	High Pressure Pump Removal Tool

Radio Removal Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Easily removes audio unit from dash of CT660

Specifications

- Dimensions: 82.5 x 37.3 mm (3.25 x 1.47 in)

Part Number	Description
424-2882	Radio Removal Tool

Insert Pliers, Insert Installers

Essential Tool

Model Usage: All Skid Steer Loaders

Warranty: Caterpillar® Six Months



- Used to install M4, M5, M6, and M8 metric threaded inserts with radius corner hex bodies
- Combination pliers/insert installer properly installs insert even in various material thicknesses
- Installs into hex hole (radius corners expand to fill mounting hole)
- Insert installers sold separately and easily attach to pliers
- Overall length: 270 mm (10.6 in)

Part Number	Description	Size
204-6327	Insert pliers	—
205-0569	Insert installer	M4 x 0.7
205-0570	Insert installer	M5 x 0.8
204-5905	Insert installer	M6 x 1.00
204-5906	Insert installer	M8 x 1.25

Sensor Installer Tools

Model Usage: 323F HEX, 336F XE

Warranty: Caterpillar® Six Months



506-7101



506-7102

- Aligns the Anisotropic Magneto Resistive (AMR) sensor perfectly with the guard during installation

Part No.	Description	Dimensions	Weight
506-7101	Tool-Installer (336 HEX AMR Bucket)	Dia 233 x 18 mm (Dia 9.2 x 0.7 in)	2.5 kg (5.5 lb)
506-7102	Tool-Installer (320, 320GC, 323 HEX AMR Bucket Sensor)	Dia 171 x 18 mm (Dia 6.7 x 0.7 in)	1.2 kg (2.7 lb)

Trim Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Customizes, installs and finishes exterior and interior trim
- Tapered forks slide under most types of body clips; a squeeze of handle extracts clips out

Specifications

- Dimensions: 279.4 x 45.7 x 177.8 mm (11.0 x 1.8 x 7.0 in)
- Weight: 0.5 kg (1.0 lb)

Part Number	Description
377-5250	Trim Tool

Drive Cordless Impact Wrench Kit (1/2 in)

Warranty: Manufacturer's One Year) on Wrench and Charger;
Manufacturer's Two Years on Batteries





UL, CUL, CE marked

- 600 ft/lb (813 Nm) of torque output with 750 ft/lb (1,017 Nm) of bolt breakaway torque
- Soft-start trigger goes from zero to 1,900 RPM free speed with 2,280 blows per minute.
- Sintered rare earth magnet motor delivers more torque with less battery drain.
- Built-in brake stops anvil to prevent thrown fasteners or sockets.
- Integrated LED covers work areas with super-bright light.
- Digital microprocessor-controlled switch maximizes performance, runtime, and durability.
- Integrated battery management prevents battery drain and prolongs tool life.
- Charge time 60 minutes/5 amp via USB port (built into charger)

Kit Includes:

- 1/2" Drive Cordless Impact Wrench
- Battery Charger with USB Port
- Two 18v Lithium Battery Packs
- Set of Six Cat® 1/2" Impact Sockets: 13 mm, 19 mm, 1/2", 9/16", 3/4", 7/8"
- MonsterLithium™ Cordless LED Work Light (see below)
- Cat branded storage bag

Specifications

- Dimensions: 9.2 x 7.7 in (234 x 196 mm)
- Weight: 15.4 lb (7 kg)
- Drive: 1/2 in

Part Number	Description
463-6821	Cordless Impact Wrench Kit (18v)

Cordless Impact Wrench Kit (3/8 in)

Warranty: Manufacturer's One Year on Impact Tool and Charger; Manufacturer's Two Years on Batteries; Caterpillar® Lifetime on Sockets; Caterpillar® Six Months on Tool Bag



UL, CUL and CE Marked

- 600 ft lb (813 Nm) or torque output with 750 ft lb (1017 Nm) of bolt breakaway torque
- 1900 RPM free speed with 2,280 blows per minute
- Soft-start trigger
- Uses a sintered rare earth magnet motor to deliver more torque with less battery drain
- Built-in brake stops anvil to prevent thrown fasteners or sockets.
- Integrated LED covers work area in super bright light.
- Digital microprocessor-controlled switch maximizes performance, runtime, and durability.
- Integrated battery management prevents battery drain and prolongs tool life.
- Charge time 60 minutes/5 amp
- USB built into charger
- Cat® 3/8 in impact sockets: 13 mm, 19mm, 1/2 in, 9/16 in, 3/4 in and 7/8 in
- Cat bag: 9.2 in (234 mm) x 7.7 in (196 mm)
- 13# (5.93kg)

Contents

- 3/8" Drive Cordless Snap-on Impact Wrench
- Two 18 v Lithium Batteries
- 100-240 volt/50-60 Hz Compatible Charger
- Six Cat Impact Sockets
- Cat Storage Bag

WARRANTY INFORMATION

Send warranty-related questions to global_warranty@cat.com or catwarranty@snapon.com, 262-656-4769

Part No.	Description
512-7546	Cordless Impact Wrench Kit (3/8 in)

Defroster Repair Kit

Model Usage: All Cat® machines with electrically heated windows for defrost

Warranty: Caterpillar® Six Months



- Used to repair the most common rear window defroster problems, including broken grids, separated tabs, lost or damaged connectors and tabs
- Equipped with 10 uni-con replacement connectors and 10 uni-clip replacement tabs
- Kit includes, tab repair kit, grid repair kit, trouble lamp, and solder paste:
  - Tab repair kit is used to bond defroster tabs back to defroster
  - Grid repair kit is used to repair scratched or broken defroster grid lines
  - Trouble lamp is used for fast troubleshooting of defrosters in the field
  - Solder paste is used when solder is required to repair defroster tabs

Part Number	Description
385-1201	Defroster Repair Kit

Socket Kit for Installing Electrical Sensors

Warranty: Caterpillar® Six Months



- Used to remove and install electrical sensors that require clearance for wires
- 1/4 inch square drive
- Also used for nut and bolt removal or installation, in place of a deep well socket set
- Hollow drive tool and socket design eliminates the need for special sensor removal tools (wires can pass through socket, extension, and ratchet wrench)
- Durable chrome plated finish

Kit Includes:

- SAE sockets: 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 7/16, 1/2, 9/16
- Metric sockets: 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13
- 76 and 152 mm (3.0 and 6.0 in) extensions
- Locking flex gear ratchet handle with 11 locking positions with flexible head
- 1/4 in drive adapter allows standard square drive sockets (not included) to be used with flex gear ratchet handle
- Molded carry case

Part Number	Description
344-2750	Socket Kit

Heavy-Duty Air Powered Caulking Gun

Warranty: Caterpillar® Six Months



- Easy twist-lock loading
- Smooth uniform bead dispensing
- No after-dripping
- Pistol handle grip for comfort
- All metal construction
- Air pressure requirements are 34.5 to 690 kPa (5 to 100 PSI)
- 3.048 m (10 ft) air line with standard 6.35 mm (1/4 in) fittings supplied

Part Number	Description
4C-6507	Caulking Gun

Spanner Assembly

Model Usage: 773F through 777F Off-Highway Trucks and 336, 337, 406, 407, and 220B through 580B Telehandlers

Warranty: None



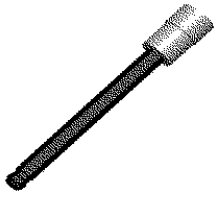
- Used to remove and install the following window latches: 8Y-8294, 201-9820, and 269-7548 Two Pin Latch Assemblies 213-3263 Four Pin Latch Assembly
- Can be used with 6V-7798 Socket Assembly
- Pins engage latch so it can be removed or installed without damage
- Two-sided design allows tool to fit multiple applications
- Made from 3F-6353 Bolt (1-8)

Part Number	Description
1L-5316	Spring Pin
3H-1118	Spring Pin

Special Hex Driver Bit

Model Usage: C175 Engine with Auxiliary Driven Pumps

Warranty: Caterpillar® Six Months



- Used to torque the auxiliary drive bolts on the C175 engine without removing front cover
- Special 8 mm hex ball driver designed to withstand a higher torque

Specifications

- Dimensions: 17.2 x 120.0 mm (.67 x 4.72 in)
- Weight: .07 kg (.15 lb)
- Maximum Torque: 135.5 N·m (100 ft-lb)
- Material: Hardened and plated steel

Part Number	Description
378-4523	Special Hex Driver Bit

Pig® Grippy® Absorbent Mat

Warranty: Caterpillar® Six Months



- Absorbs and retains water, oils, grease, coolants, solvents, etc., while preventing dirt, sand, and liquids from being tracked off onto clean floors
- Demonstrated to reduce slips and falls by as much as 90%
- Grippy® backing holds mat in place but peels up easily without residue
- Heat-fuse and needle-punched for durability
- Holds up to heavy traffic, including power trucks
- Liquid proof barrier layer prevents seepage through the mat
- Dark color hides grime allowing longer use
- Absorbs up to 13 gal (49 L)

Specifications

- Dimensions: 36 in x 100 ft (914 mm x 30 m)
- Weight: 24 pounds (11 kg)

Part Number	Description
473-6461	Pig® Grippy® Absorbent Mat

Serviceman's Tool Set, 117 Piece Set

Warranty: See Individual Part Number



- Ideal for servicemen apprentices and shop mechanics
- Large assortment of 3/8 inch, 1/2 inch and 3/4 inch drive tools, 1/4 inch to 1 5/8 inch wrenches, pliers, punches, hammers and screwdrivers
- Designed for use on heavy equipment
- See 8T-0461 Serviceman's Tool Set, 95 Piece, for a similar but smaller set of tools; 8T-0461 contains complete groups of 1/4 inch, 3/8 inch and 1/2 inch drive tools
- Individual hand tools within the group have

Part Number	Description	Size
8T-0460	Serviceman's Tool Set (117 piece tool set)	–
3/8 inch Drive Tools		
239-6824	Reversible Ratchet, 3/8 in Drive	3/8 in
8H-8562	Universal Socket	7/16 in
8H-8563	Universal Socket	1/2 in
8H-8564	Universal Socket	9/16 in
8H-8565	Universal Socket	5/8 in
8H-8566	Universal Socket	3/4 in
8H-8567	Socket	7/16 in
8H-8568	Socket	1/2 in
8H-8569	Socket	9/16 in
8H-8570	Socket	5/8 in
8H-8571	Socket	3/4 in
8H-8573	Speeder Handle	3/8 in
8H-8574	Socket Extension	76.2 mm (3.00 in) long
8H-8575	Extension Assembly	152.4 mm (6.00 in) long
8H-8576	Adapter	3/8 in Female to 1/2 in Male
8S-2274	Socket	3/8 in
8S-2284	Universal Socket	3/8 in
1/2 inch Drive Tools		
168-0383	Breaker Bar	1/2 in
1S-0259	Socket	1/2 in
239-6826	Reversible Ratchet	1/2 in
8H-8549	Socket	9/16 in
8H-8550	Socket	5/8 in
8H-8551	Socket	11/16 in
8H-8552	Socket	3/4 in
8H-8553	Socket	13/16 in
8H-8554	Socket	7/8 in
8H-8555	Socket	15/16 in
8H-8556	Socket, 1 in	1 in
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in) long
8H-8560	Universal Joint	1/2 in
8H-8561	Adapter	1/2 in Female to 3/4 in Male
3/4 inch Drive Tools		
160-6389 (Warranty Lifetime-Repairable)	Reversible Ratchet Head	3/4 in
162-8716	Ratchet Head Handle	–
8H-8504	Socket	2 1/4 in
8H-8529	Socket	3/4 in
8H-8530	Socket	7/8 in
8H-8531	Socket	15/16 in
8H-8532	Socket	1 in
8H-8533	Socket	1 1/16 in
8H-8534	Socket	1 1/8 in
8H-8535	Socket	1 1/4 in
8H-8536	Socket	1 5/16 in
8H-8537	Socket	1 1/2 in
8H-8538	Socket	1 11/16 in
8H-8539	Socket	1 5/8 in
8H-8540	Socket	1 3/4 in
8H-8541	Socket	1 7/8 in

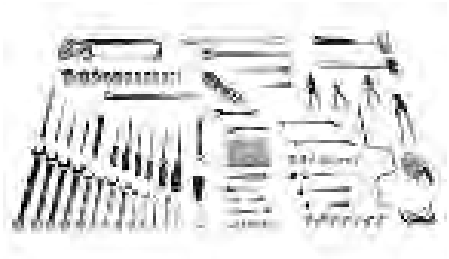
TOOL SETS

8H-8542	Socket	2 in
8H-8543	Socket	2 1/8 in
8H-8544	Socket	2 3/16 in
8H-8546	Breaker Bar Head	3/4 in
8H-8548	Socket Extension	203.2 mm (8.00 in) long
Combination Wrenches		
1S-0253	Combination Wrench	3/4 in (short)
1S-0254	Combination Wrench	9/16 in (short)
4C-9592	Combination Wrench	3/8 in
4C-9593	Combination Wrench	7/16 in
4C-9594	Wrench, 1/2 in (low idle adjustment)	1/2 in
4C-9595	Combination Wrench	9/16 in
4C-9596	Combination Wrench	5/8 in
4C-9597	Combination Wrench	11/16 in
4C-9598	Combination Wrench	3/4 in
4C-9599	Combination Wrench	13/16 in
4C-9601	Combination Wrench	7/8 in
4C-9602	Combination Wrench	15/16 in
4C-9603	Combination Wrench	1 in
4C-9604	Combination Wrench	1/4 in
4C-9605	Combination Wrench	5/16 in
8H-8423	Combination Wrench	1 5/8 in
8H-8424	Combination Wrench	1 1/2 in
8H-8501	Open End Tappet Wrench	1/2 in x 9/16 in
8H-8516	Combination Wrench	1 1/16 in
8H-8517	Combination Wrench	1 1/8 in
8H-8518	Combination Wrench	1 1/4 in
8H-8519	Combination Wrench	1 5/16 in
8H-8520	Combination Wrench	1 3/8 in (short)
Sockets Designed for 12 Point Shoulder Bolts		
541-3250	Shoulder Bolt Socket, 12 point	1/4 in
541-3246	Shoulder Bolt Socket, 12 point	5/16 in
541-3238	Socket	3/8 in
541-3235	Socket	7/16 in
541-3236	Socket	1/2 in
8S-1594	Socket	9/16 in
541-3242	Socket	5/8 in
541-3247	Socket	11/16 in
541-3244	Socket	3/4 in
541-3249	Socket	13/16 in
8S-1599	Socket	7/8 in
541-3248	Socket	15/16 in
541-3245	Socket	1 in
Pliers, Punches, Screwdrivers and Hammers		
1F-1159	Center Punch	3/16 in, 152.4 mm (6.00 in) long
1F-1161	Chisel	3/4 in Edge, 177.8 mm (7.00 in) long
1S-0257	Ball Peen Hammer, 0.34 kg (12 oz)	1 1/8 in, 340.2 g (12 oz)
1S-0258	Soft Face Hammer (Serviceable parts of the hammer, 1 Medium Tip 3S-0460, 1 Hard Tip 3S-0459)	1 11/16 in, 907.2 g (32 oz)
277-8790	Plastic Handle Screwdriver	1/2 in tip, 469 mm (18.47 in) long
316-0706	Locking Pliers	254 mm (10.00 in)
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in)	406.4 mm (16.00 in) long
6V-6192	Slip Joint Pliers	208 mm (8 in)
6V-6193	Diagonal Cutting Pliers	185.67 mm (7.31 in)
6V-6194	Needle Nose Pliers	181.1 mm (7.13 in)
6V-6195	Interlocking Joint Pliers	234.7 mm (9.25 in)
6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm (13.47 in) long
6V-7933	Standard Screwdriver	5/16 in tip, 277.11 mm (10.91 in) long
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm (8.41 in) long
6V-7935	Standard Screwdriver	1/4 in tip, 212.85 mm (8.38 in) long
6V-7936	Phillips Screwdriver	No. 1 Phillips tip, 162.9 mm (6.66 in) long
6V-7937	Standard Screwdriver	239.78 mm (9.44 in) long
6V-7938	Screwdriver	1/4 in tip, 100.1 mm (3.94 in) long
8H-8577	Ball Peen Hammer	2 lb, 1 1/4 in
8H-8578	Punch	3/8 in Point, 241.3 mm (9.50 in) long
8H-8579	Punch	5/32 in Point, 203.2 mm (8.00 in) long

8H-8580	Scraper	38.1 mm (1.50 in) wide
8H-8581	Feeler Gauge	25 Blade, .0015 in - .025 in

Serviceman's Tool Set, 95-Piece Set

Warranty: See Individual Part Number



- Similar to 8T-0460 Serviceman's Tool Set, except in drive tools
- 8T-0461 set contains complete groups of 1/4 inch, 3/8 inch and 1/2 inch drive tools; whereas the 8T-0460 set contains 3/8 inch, 1/2 inch and 3/4 inch drive tools
- Individual hand tools within the group have a Lifetime Warranty; hand tools within a group will be warranted when necessary
- Tool box must be ordered separately

Part Number	Description	Size
8T-0461	Serviceman's Tool Group (full 95 piece set)	–
1/4 inch Drive Tools		
239-6823	Reversible Ratchet	1/4 in
9S-1711	Socket	3/16 in
9S-1712	Socket	7/32 in
9S-1713	Socket	1/4 in
9S-1714	Socket	9/32 in
9S-1715	Socket	5/16 in
9S-1716	Socket	11/32 in
9S-1717	Socket	3/8 in
9S-1718	Socket	7/16 in
9S-1719	Socket	1/2 in
9S-1720	Socket Extension	50.8 m (2.00 in)
9S-1721	Extension	101.6 mm (4.00 in)
9S-1722	Socket Driver	1/4 in
9S-1724	Universal Joint	1/4 in
9S-1725	Case	–
9S-2573	Socket, Deep Length	3/8 in
3/8 inch Drive Tools		
239-6824	Reversible Ratchet, 3/8 in Drive	3/8 in
8H-8562	Universal Socket	7/16 in
8H-8563	Universal Socket	1/2 in
8H-8564	Universal Socket	9/16 in
8H-8565	Universal Socket	5/8 in
8H-8566	Universal Socket	3/4 in
8H-8567	Socket	7/16 in
8H-8568	Socket	1/2 in
8H-8569	Socket	9/16 in
8H-8570	Socket	5/8 in
8H-8571	Socket	3/4 in

TOOL SETS

8H-8573	Speeder Handle	3/8 in
8H-8574	Socket Extension	76.2 mm (3.00 in)
8H-8575	Extension Assembly	152.4 mm (6.00 in)
8H-8576	Adapter	3/8 in Female to 1/2 in Male
541-3250	Shoulder Bolt Socket, 12 point	1/4 in
541-3246	Shoulder Bolt Socket, 12 point	5/16 in
8S-2274	Socket	3/8 in
8S-2284	Universal Socket	3/8 in
9S-1727	Universal Socket	11/16 in
9S-1728	Socket	11/16 in
1/2 inch Drive Tools		
168-0383	Breaker Bar	1/2 in
1S-0259	Socket	1/2 in
239-6826	Reversible Ratchet	1/2 in
8H-8549	Socket	9/16 in
8H-8550	Socket	5/8 in
8H-8551	Socket	11/16 in
8H-8552	Socket	3/4 in
8H-8553	Socket	13/16 in
8H-8554	Socket	7/8 in
8H-8555	Socket	15/16 in
8H-8556	Socket, 1 in	1 in
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in)
9S-1729	Socket	1 1/16 in
9S-1730	Socket	1 1/8 in
9S-1731	Socket	1 1/4 in
9S-1732	Extension, 127 mm (5.0 in) Long (1/2 in Drive)	1/2 in drive, 127.0 mm (5.00 in)
Combination Wrenches		
1S-0254	Combination Wrench	9/16 in (short)
4C-9592	Combination Wrench	3/8 in
4C-9593	Combination Wrench	7/16 in
4C-9594	Wrench, 1/2 in (low idle adjustment)	1/2 in
4C-9595	Combination Wrench	9/16 in
4C-9596	Combination Wrench	5/8 in
4C-9597	Combination Wrench	11/16 in
4C-9598	Combination Wrench	3/4 in
4C-9599	Combination Wrench	13/16 in
4C-9601	Combination Wrench	7/8 in
4C-9602	Combination Wrench (2)	15/16 in
4C-9603	Combination Wrench	1 in
4C-9604	Combination Wrench	1/4 in
4C-9605	Combination Wrench	5/16 in
8H-8501	Open End Tappet Wrench (2)	1/2 in x 9/16 in
Pliers, Punches, Screwdrivers and Hammers		
1F-1159	Center Punch	3/16 in, 152.4 mm (6.00 in)
1F-1161	Chisel	3/4 in Edge, 177.8 mm (7.00 in)
1S-0257	Ball Peen Hammer, 0.34 kg (12 oz)	1 1/8 in, 340.2 g (12 oz)
1S-0258	Soft Face Hammer, Serviceable parts: 1 med. tip 3S-0460, 1 hard tip 3S-0459	1 11/16 in, 907.2 g (32 oz)
208-6183	Hacksaw	419.0 mm (16.50 in) long
316-0706	Locking Pliers	254 mm (10.00 in)
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in)	406.4 mm (16.00 in)
6V-6192	Slip Joint Pliers	208 mm (8 in)
6V-6193	Diagonal Cutting Pliers, 44.45 cm (17 1/2 in)	185.67 mm (7.31 in)
6V-6194	Needle Nose Pliers	181.1 mm (7.13 in)
6V-6195	Interlocking Joint Pliers	234.7 mm (9.25 in)

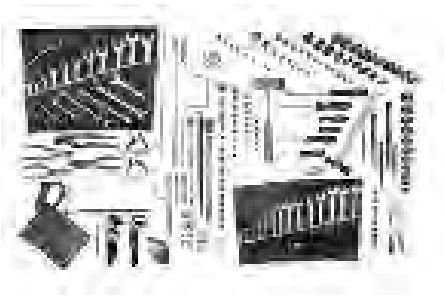
TOOL SETS

6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm (13.47 in) long
6V-7933	Standard Screwdriver	5/16 in tip, 277.11 mm (10.91 in) long
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm (8.41 in) long
6V-7935	Standard Screwdriver	1/4 in tip, 212.85 mm (8.38 in) long
6V-7936	Phillips Screwdriver	No. 1 Phillips tip, 162.9 mm (6.66 in) long
6V-7937	Standard Screwdriver	239.78 mm (9.44 in) long
8H-8578	Punch	3/8 in Point, 241.3 mm (9.50 in) long
8H-8579	Punch	5/32 in Point, 203.2 mm (8.00 in) long
8H-8580	Scraper	38.1 mm (1.50 in) wide
8H-8581	Feeler Gauge	25 Blade, .0015 in - .025 in
9S-1742	Hex Key Wrench Assembly	9 bits: .05 in, 1/16 in, 5/64 in, 3/32 in, 7/64 in, 1/8 in, 9/64 in, 5/32 in, 3/16 in
9S-1743	Ferrule Nut Wrench	3/4 in and 1 in

TOOL SETS

Student Tool Set

Warranty: Caterpillar® See Individual Part Number



- A specially selected set of over 200 basic hand tools for students in the Caterpillar Model Dealer Service Technician Program
- Premier quality tools for the work done in the classroom and on the job

Part Number	Description
222-7876	Complete Student Tool Set
146-2728	Flex Pickup Tool
194-3574	3/8 Drive, 12 Point Metric Socket Set, 12-piece
194-3576	Metric Socket Set
194-3578	Metric Socket Set
194-3584	Torx Socket Set
194-3585	Hex Bit Socket Set
199-6156	Metric Socket Set
199-9019	Metric Socket Set
1U-5545	Combination Wrench Set
1U-7321	Flashlight
200-1931	Metric Hex Key Set
200-8413	Metric Socket Set
293-3025	Fractional Ball-end Hex Wrench Set
293-3026	Metric Ball-end Hex Wrench Set
2P-5490	Deep Well Socket Set
396-2007	Safety Glasses
5P-1720	Seal Pick
5P-3277	Tape
5P-3920	Rule - Steel
8T-0461	Serviceman's Tool Group (full 95 piece set)

Hand Tool Set

Model Usage: All Track-Type Tractors, Track-Type Loaders and Engines

Warranty: Caterpillar® See Individual Part Number



Part No.	Description	Size
211-0616	Hand Tool Set [1]	
185-3630	Filter Strap Wrench Assm. [1]	–
1S-0259	Socket	1/2 in, 1/2 in drive, 12 Pt.
211-0136	Cat Tool Bag (not shown) [1]	–
212-8144	Petcock Socket	1/2 in drive
212-8145	Drain Plug Socket [1]	1/2 in Female, 3/4 in Male
213-1983	Combination Pliers	167.0 mm (6.60 in)
239-6826	Reversible Ratchet	1/2 in
4C-9592	Combination Wrench	3/8 in
4C-9594	Wrench, 1/2 in, low idle adjustment)	1/2 in
4C-9595	Combination Wrench	9/16 in
4C-9596	Combination Wrench	5/8 in
4C-9598	Combination Wrench	3/4 in
4C-9601	Combination Wrench	7/8 in
4C-9603	Combination Wrench	1 in
4C-9605	Combination Wrench	5/16 in
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in) [1]	406.4 mm (16.00 in)
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm, (8.41 in)
6V-7935	Standard Screwdriver	Standard 1/4 in tip, 212.85 mm (8.38 in)
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8549	Socket	9/16 in, 1/2 in drive, 12 Pt.
8H-8554	Socket	7/8 in, 1/2 in drive, 12 Pt.
8H-8555	Socket	15/16 in, 1/2 in drive, 12 Pt.
8H-8556	Socket, 1 in	1 in, 1/2 in drive, 12 Pt.
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in)
8H-8581	Feeler Gauge [1]	25 blade, .0015 in to .025 in
9S-1730	Socket	1 1/8 in, 1/2 in drive, 12 Pt
9S-1732	Extension – 127 mm (5.0 in) Long (1/2 in Drive)	1/2 in drive, 127.0 mm (5.0 in)

[1] Warranty: Caterpillar® Six Months
[2] Warranty: Caterpillar® Lifetime

Hand Tool Set

Model Usage: All rubber-tired machines (Wheel Loaders, Motor Graders, Skidders, Solid Frame Off Highway Trucks, Wheel Tractors, Backhoe Loaders and Integrated Toolcarriers)

Warranty: See Individual Part Number



Part No.	Description	Size
211-0617	Hand Tool Set [2]	
185-3630	Filter Strap Wrench Assm. [1]	–
1P-0545	Tire Pressure Gauge Group	
1S-0259	Socket	1/2 in, 1/2 in drive, 12 Pt.
212-8144	Petcock Socket	1/2 in drive
212-8145	Drain Plug Socket [1]	1/2 in Female, 3/4 in Male
213-1985	Sliding T-Handle	1/2 in drive, 304.8 mm (12.00 in)
4C-9592	Combination Wrench	3/8 in
4C-9594	Wrench, 1/2 in (low idle adjustment)	1/2 in
4C-9595	Combination Wrench	9/16 in
4C-9596	Combination Wrench	5/8 in
4C-9597	Combination Wrench	11/16 in
4C-9598	Combination Wrench	3/4 in
4C-9605	Combination Wrench	5/16 in
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in) [1]	406.4 mm (16.00 in)
6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm, (13.47 in)
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm (8.41 in)
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8536	Socket	1 5/16 in, 3/4 in drive, 12 Pt.
8H-8537	Socket	1 1/2 in, 3/4 in drive, 12 Pt.
8H-8538	Socket	1 11/16 in, 3/4 in drive, 12 Pt.
8H-8541	Socket	1 7/8 in, 3/4 in drive, 12Pt.
8H-8549	Socket	9/16 in, 1/2 in drive, 12 Pt.
8H-8551	Socket	11/16 in, 1/2 in drive, 12 Pt.
8H-8552	Socket	3/4 in, 1/2 in drive, 12 Pt.
8H-8553	Socket	13/16 in, 1/2 in drive, 21 Pt.
8H-8554	Socket	7/8 in, 1/2 in drive, 12 Pt.
8H-8555	Socket	15/16 in, 1/2 in drive, 12 Pt.
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in)
8H-8581	Feeler Gauge [1]	25 blade, .0015 in to .025 in
9S-1730	Socket	1 1/8 in, 1/2 in drive, 12 Pt
9S-1731	Socket	1 1/4 in, 1/2 in drive, 12 Pt.

Hand Tool Set

Model Usage: All Rear Engine Track-Type Loaders such as the 943, 953, 963 and 973

Warranty: See Individual Part Number



Part No.	Description	Size
214-6153	Hand Tool Group [2]	–
185-3630	Filter Strap Wrench Assm. [1]	–
211-0136	Cat Tool Bag (not shown) [1]	610.0 x 203.0 x 159.0, mm (24.00 x 8.00 x 6.25 in)
212-8144	Petcock Socket	1/2 in square
213-1983	Combination Pliers	167.0 mm (6.60 in) long
239-6826	Reversible Ratchet	1/2 in
4C-9594	Wrench, 1/2 in (low idle adjustment)	1/2 in
4C-9595	Combination Wrench	9/16 in
4C-9598	Combination Wrench	3/4 in
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in) [1]	406.4 mm (16.00 in)
6V-7935	Standard Screwdriver	1/4 in tip, 212.85 mm (8.38 in)
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8549	Socket	9/16 in
8H-8552	Socket	3/4 in
8H-8554	Socket	7/8 in
8H-8556	Socket, 1 in	1 in
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in)
9U-7419	Bit, 19.05 mm (3/4 in)	–
9S-1731	Socket	1 1/4 in, 1/2 in drive, 12 Pt.

[1] *Warranty: Caterpillar® Six Months*
[2] *Warranty: Caterpillar® Lifetime*

TOOL SETS

Hand Tool Set

Model Usage: All 300 Series Excavators

Warranty: Caterpillar® See Individual Part Number



- Used for routine maintenance and adjustment
- Using proper tools reduces downtime
- Flat top tool box provides adequate storage for all tools in this group

Part No.	Description	Size
214-7318	Complete Hand Tool Group [2]	–
185-3630	Filter Strap Wrench Assembly [1]	–
194-3535	Socket, Assembly, T30	–
194-3538	Socket, Assembly, T50	–
194-3565	Socket	30 mm, 1/2 in drive, 12 Pt.
199-6154	Socket	24 mm, 1/2 in drive, 12 Pt.
1U-7563	Hex Wrench, 4 mm	4 mm
1U-7564	Hex Wrench, 5 mm	5 mm
1U-7565	Allen Key	6 mm
1U-7566	Hex Wrench	8 mm
1U-7567	Hex Wrench	10 mm
1U-7569	Hex Wrench	14 mm
1U-7585	Hex Wrench	5/8 in
213-6926	Impact Socket	10.0 mm, 1/2 in drive, 6 Pt.
213-6927	Impact Socket	11.0 mm, 1/2 in drive, 6 Pt.
213-6929	Impact Socket	13.0 mm, 1/2 in drive. 6 Pt.
214-7222	Combination Wrench	32.0 mm
214-7223	Combination Wrench	36.0 mm
214-7329	Open End Wrench	41.0 mm
214-7330	Adjustable Wrench	12.00 in, 1 5/16 jaw range
239-6826	Reversible Ratchet	1/2 in
5F-4764	"Rolling Head Pry Bar [1]	406.4 mm (16.00 in) long
6V-6192	Slip Joint Pliers	208 mm (8 in)
6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm (13.47 in) long
6V-9096	Wrench	16.0 mm
6V-9098	Wrench	18.0 mm
6V-9099	Wrench	19.0 mm
6V-9101	Combination Wrench	21.0 mm
6V-9102	Combination Wrench	22.0 mm
6V-9103	Combination Wrench	24.0 mm
6V-9104	Combination Wrench	30.0 mm
6V-9111	Socket	16.0 mm, 1/2 in drive, 12 Pt.
6V-9112	Socket	17.0 mm, 1/2 in drive, 12 Pt.
6V-9113	Socket	18.0 mm, 1/2 in drive, 12 Pt.
6V-9116	Socket	22.0 mm, 1/2 in drive, 12 Pt.
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8424	Combination Wrench	1 1/2 in
8H-8577	Ball Peen Hammer [1]	2 lb, 1 1/4 in
8H-8581	Feeler Gauge [1]	25 Blade, .0015 in - .025 in
9S-1732	Extension	1/2 in drive, 127.0 mm (5.00 in) long
9U-6219	Tool Box	–
9U-7968	Pry Bar [2]	–

[1] Warranty: Caterpillar® Six Months
[2] Warranty: Caterpillar® Lifetime

Hand Tool Set

Warranty: See Individual Part Number



Part No.	Description	Size
214-7219	Complete Hand Tool Group [2]	–
185-3630	Filter Strap Wrench Assm. [1]	–
213-1985	Sliding T-Handle	1/2 in drive, 304.8 mm (12.00 in) long
4C-9592	Combination Wrench	3/8 in
4C-9595	Combination Wrench	9/16 in
4C-9598	Combination Wrench	3/4 in
5F-4764	Rolling Head Pry Bar	406.4 mm (16.00 in) long
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8549	Socket	9/16 in
8H-8556	Socket	1 in
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in) long
8H-8581	Feeler Gauge [1]	25 Blade, .0015 in - .025 in

Hand Tool Set

Model Usage: 972G Wheel Loaders

Warranty: See Individual Part Number

- For routine maintenance and adjustment
- Twenty six individual hand tools
- Metric wrenches and sockets accommodate fasteners and fittings on wheel loader
- Reduce downtime by using proper tools



Part No.	Description	Size
157-0674	Complete Hand Tool Group [2]	–
162-8716	Ratchet Head Handle	–
185-3630	Filter Strap Wrench Assm. [1]	–
199-6150	Socket	13.0 mm, 1/2 in drive
199-6154	Socket	24 mm, 1/2 in drive, 12 Pt.
1P-0545	Tire Pressure Gauge Group	–
1U-5548	Wrench (high idle adjustment)	8.0 mm
212-8144	Petcock Socket	1/2 in square
212-8145	Drain Plug Socket[1]	1/2 in Female, 3/4 in Male
213-1985	Sliding T-Handle	1/2 in drive, 304.8 mm (12.00 in) long
5F-4764	Rolling Head Pry Bar[1]	406.4 mm (16.00 in) long
6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm (13.47 in) long
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm (8.41 in) long
6V-9090	Wrench	10.0 mm
6V-9093	Wrench	13.0 mm
6V-9097	Wrench	17.0 mm
6V-9099	Wrench	19.0 mm
6V-9112	Socket	17.0 mm, 1/2 in drive, 12 Pt.
6V-9114	Socket	19.0 mm
6V-9116	Socket	22.0 mm, 1/2 in drive, 12 Pt.
6V-9118	Socket	30 mm
6V-9119	Socket	36 mm
6V-9120	Socket	46 mm
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8546	Breaker Bar Head	3/4 in
8H-8548	Socket Extension	203.2 mm (8.00 in) long
8H-8559	Socket Extension	1/2 in drive, 254.0 mm (10.00 in) long
8H-8581	Feeler Gauge [1]	25 Blade, .0015 in - .025 in

[1] *Warranty: Caterpillar® Six Months*
[2] *Warranty: Caterpillar® Lifetime*

TOOL SETS

Hand Tool Set



- Basic maintenance tool group
- Contains 21 individual hand tools
- Includes canvas storage/transport bag
- Warranty: Canvas bag, grease gun, and strap wrench assembly have a 6 month warranty; all other hand tools have a lifetime warranty

Part No.	Description	Size
207-1515	Hand Tool Set	–
185-3630	Filter Strap Wrench Assm.[1]	–
1U-7563	Hex Wrench	4 mm
1U-7564	Hex Wrench	5 mm
1U-7565	Allen Key	6 mm
1U-7566	Hex Wrench	8 mm
1U-7567	Hex Wrench	10 mm
1U-7569	Hex Wrench	14 mm
1U-7585	Hex Wrench	5/8 in
239-6826	Reversible Ratchet	1/2 in
5F-4764	Rolling Head Pry Bar[1]	406.4 mm (16.00 in) long
6V-7933	Standard Screwdriver	5/16 in tip, 277.11 mm (10.91 in) long
6V-7934	Phillips Screwdriver	No. 2 Phillips tip, 213.6 mm (8.41 in) long
6V-9096	Wrench	16.0 mm
6V-9098	Wrench	18.0 mm
6V-9099	Wrench	19.0 mm
6V-9101	Combination Wrench	21.0 mm
6V-9102	Combination Wrench	22.0 mm
6V-9103	Combination Wrench	24.0 mm
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8581	Feeler Gauge [1]	25 Blade, .0015 in - .025 in
9S-1732	Extension	1/2 in drive, 127.0 mm (5.00 in) long

[1] Warranty: Caterpillar® Six Months
[2] Warranty: Caterpillar® Lifetime

Hand Tool Set

- Used for routine maintenance and adjustment
- Using proper tools reduces downtime
- Flat top tool box provides adequate storage for all tools in this group

Part No.	Description	Size
256-4816	Hand Tool Set [1]	–
185-3630	Filter Strap Wrench Assm. [1]	–
194-3565	Socket	30 mm, 1/2 in drive, 12 Pt.
199-6154	Socket	24 mm, 1/2 in drive, 12 Pt.
1U-7563	Hex Wrench	4 mm
1U-7564	Hex Wrench	5 mm
1U-7565	Allen Key	6 mm
1U-7566	Hex Wrench	8 mm
1U-7567	Hex Wrench	10 mm
1U-7569	Hex Wrench	14 mm
1U-7585	Hex Wrench	5/8 in
200-1929	Metric Hex Key Set	1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm, 8.0 mm, and 10.0 mm
213-6926	Impact Socket	10.0 mm, 1/2 in drive, 6 Pt.
213-6927	Impact Socket	11.0 mm, 1/2 in drive, 6 Pt.
213-6929	Impact Socket	13.0 mm, 1/2 in drive. 6 Pt.
214-7223	Combination Wrench	36.0 mm
214-7322	Adjustable Wrench	8 in
214-7324	Torx® Bit Set	–
214-7329	Open End Wrench	41.0 mm
239-6826	Reversible Ratchet	1/2 in
256-4879	Torx Wrench, T50	–
6V-7932	Standard Screwdriver	3/8 in tip, 342.1 mm (13.47 in) long
6V-9096	Wrench	16.0 mm
6V-9098	Wrench	18.0 mm
6V-9099	Wrench	19.0 mm
6V-9101	Combination Wrench	21.0 mm
6V-9102	Combination Wrench	22.0 mm
6V-9103	Combination Wrench	24.0 mm
6V-9104	Combination Wrench	30.0 mm
6V-9111	Socket	16.0 mm, 1/2 in drive, 12 Pt.
6V-9113	Socket	18.0 mm, 1/2 in drive, 12 Pt.
6V-9116	Socket	22.0 mm, 1/2 in drive, 12 Pt.
8F-9866	Cat Pro "L" Grease Gun [1]	
8H-8577	Ball Peen Hammer [1]	2 lb, 1 1/4 in
9S-1732	Extension	1/2 in drive, 127.0 mm (5.00 in) long
9U-6219	Tool Box	–
9U-7968	Pry Bar[2]	–

TOOL SETS

Field Tool Set

Model Usage: 902, 906, 908 Compact Wheel Loaders



- Used to perform routine maintenance and adjustments
- Includes 12 required hand tools
- Includes English and metric wrenches and screwdrivers
- Roll-up pouch provides storage in tight space

Part No.	Open End Wrenches	Hex Wrench	Screwdrivers	Ball Peen Hammer	Adjustable Wrench	Filter Band Wrench	T-Bar and Sliding Head	Deep Socket
152-4942	10.0, 11.0, 12.0, 13.0, 16.0, 17.0, 18.0, and 19.0 mm [2]	4.0 mm	#2 Phillips and 1/4 in flat tip	6 oz	8"	3-3/4 in diameter	12.00 in long x 1/2 in sq. drive	1 1/8 in, 6 point, 1/2 in square drive

[1] *Warranty: Caterpillar® Six Months*
[2] *Warranty: Caterpillar® Lifetime*

Customer Appreciation Tool Set

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Commercial grade Cat® branded tools for Cat customers
- Packaged in a high-density foam-lined Cat carrying case that keeps tools firmly in place
- 128 pieces
- Includes ¼" and ½" drive ratchets/sockets
- Wrenches and sockets are metric sizes

Part No.	Description	Dimensions	Weight
497-8174	Customer Appreciation Tool Kit	400 x 552 x 102 mm (15 ¾ x 21 ¾ x 4 ¾ in)	14.2 kg (31 lb 6 oz)

Contents	Description
Combination Wrenches	8 - 19 mm
Screwdrivers	1-1/2 Stubby Flat; 3",4", 6", 8" Flat; 1-1/2" and 4" Phillips #2, 3" Phillips #1
Pliers	8" Needle Nose with Cutter, 7-1/2" Gripper with Cutter, 6-1/2" Diagonal Cutter, 9-1/2" Water Pump Style
1/2" Drive Tools	10" Ratchet, 15" Breaker Bar, 5" Extension
1/2" Sockets	10 - 22, 24, 27, 30, 32, 34 mm
1/4" Drive Tools	5-1/2" Ratchet, 6" Handle, 2" Extension, 4" Extension
1/4" Sockets	4 mm, 4.5 mm, 5 mm, 5.5 mm, 6 - 13 mm
Prybar	19" Rolling Head
Hammer	4 lb
Drive Impact Swivel Adaptor	1/2"
Drive Impact Swivel Adaptor	1/4"
Square Drive-to-Hex Adapter	1/4 to 1/4"
Square Drive-to-Hex Adapter	1/2 to 5/16"
Pickup Tool	Telescoping, Magnetic
Long Ball Hex Key Set	1.5 - 10 mm with holder
1/4" Hex Screwdriver Bit Set in Plastic Case with Hex Shank Bit Holder (31 pieces)	
5/16" Hex Bits Assorted Flat, Phillips, Torx, Triple Sq, Square (18 pieces)	

Field Tool Set

Model Usage: C-series Backhoe Loaders



- Group includes 20 required hand tools
- Features both English and Metric wrenches and sockets
- Includes "T" handle wrench and extension for wheel lug removal and installation
- Canvas bag provides adequate storage even in limited space

Part No.	Description	Wrench Sizes	Socket Sizes	T-Handles	Extension	Screwdrivers	Pliers	Socket
133-8877	Field Tool Group[2]	7/16 in, 1/2 in, 13/16 in, 7/8/in, 15/16in; 14.0 mm, 17.0 mm	15/16 in, 17.0mm	1/2 in and 3/4" drive	3/4" drive	No. 2 Phillips and 1/4" flat	1 slip joint, 1 retaining ring	3/8 in drive, T30 Torx Bit
185-3630	Filter Strap Wrench Assm.[1]	—	—	—	—	—	—	—
8F-9866	Cat Pro "L" Grease Gun[1]	—	—	—	—	—	—	—

[1] *Warranty: Caterpillar®* Six Months
[2] *Warranty: Caterpillar® Lifetime*e

Field Tool Set

Model Usage: 914G, 924F and 928G Wheel Loaders



- Used to perform routine maintenance and adjustment operations
- Group contains 25 individual hand tools
- Features both English and metric wrenches and sockets
- Includes Cat grease gun, filter wrench and tire pressure gauge
- Includes Cat® canvas bag provides adequate storage even in limited space

Part No.	Description	Size
144-4674	Complete Field Tool Group	
185-3630	Filter Strap Wrench Assm.	–
194-3535	Torx Socket	T30 - 3/8 in
194-3538	Torx Socket	T50 - 3/8 in
199-9026	Socket	10 mm
199-9029	Socket	13 mm
199-9032	Socket	16 mm
199-9035	Socket	19 mm
213-1983	Slip Joint Pliers	–
239-6824	Drive Ratchet	3/8 in
4C-9598	Wrench	3/4 in
4C-9599	Wrench	13/16 in
6V-7934	No. 2 Phillips	–
6V-7935	1/4 Flat Screwdriver	–
6V-9090	Wrench	10 mm
6V-9093	Wrench	13 mm
6V-9096	Wrench	16 mm
6V-9098	Wrench	18 mm
6V-9099	Wrench	19 mm
8F-9866	Cat Pro "L" Grease Gun	
8H-8423	Wrench	1 5/8 in
8H-8517	Wrench	1 1/8 in
8H-8520	Wrench	1 3/8 in
8H-8575	Drive Extension	6 x 3/8 in
8H-8576	Adapter	3/8 - 1/2 in
8T-0886	Tire Pressure Gauge	-

Fractional Combination Wrench Set

Warranty: See Individual Parts

- 11-pc, standard length, polished chrome finish



Size	Part Number	Description	Length
—	4C-9600	Fractional Combination Wrench Set (11-pc)	—
3/8 in	4C-9592	Combination Wrench	165.1 mm (6.50 in)
7/16 in	4C-9593	Combination Wrench	184.2 mm (7.25 in)
1/2 in	4C-9594	Wrench (low idle adjustment)	204.0 mm (8.03 in)
9/16 in	4C-9595	Combination Wrench	222.3 mm (8.75 in)
5/8 in	4C-9596	Combination Wrench	241.3 mm (9.50 in)
11/16 in	4C-9597	Combination Wrench	260.4 mm (10.25 in)
3/4 in	4C-9598	Combination Wrench	280.2 mm (11.03 in)
13/16 in	4C-9599	Combination Wrench	299.2 mm (11.78 in)
7/8 in	4C-9601	Combination Wrench	318.3 mm (12.53 in)
15/16 in	4C-9602	Combination Wrench	338.1 mm (13.31 in)
1 in	4C-9603	Combination Wrench	357.1 mm (14.06 in)
—	271-4700	Wrench Gripper Rack (not included)	—

Fractional Short Length Combination Wrench Set

Warranty: Caterpillar® Lifetime

- 9-pc, standard length, polished chrome finish
- Includes vinyl bag

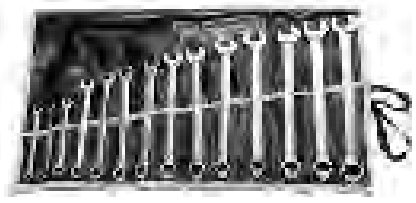


Size	Part No.	Description	Length
—	4C-9610	Fractional Short Length Combination Wrench Set (9-pc)	—
1/4 in	4C-9604	Combination Wrench	114.3 mm (4.50 in)
5/16 in	4C-9605	Combination Wrench	124.0 mm (4.88 in)
3/8 in	4C-9606	Combination Wrench	132.6 mm (5.22 in)
7/16 in	4C-9607	Combination Wrench	138.2 mm (5.44 in)
1/2 in	4C-9608	Combination Wrench	146.1 mm (5.75 in)
9/16 in	1S-0254	Combination Wrench	165.1 mm (6.50 in)
5/8 in	4C-9609	Combination Wrench	157.2 mm (6.19 in)
11/16 in	4C-9611	Combination Wrench	167.4 mm (6.59 in)
3/4 in	1S-0253	Combination Wrench	174.8 mm (6.88 in)

Metric Combination Wrench Set

Warranty: Caterpillar® Lifetime

- Metric: 6.0 mm through 19.0 mm
- Includes storage pouch
- 14-piece, polished chrome finish



Size	Part No.	Description	Length
—	1U-5545	Metric Combination Wrench Set (14-pc)	—
6.0 mm	1U-5546	Wrench	113 mm (4.45 in)
7.0 mm	1U-5547	Wrench	118 mm (4.65 in)
8.0 mm	1U-5548	Wrench (high idle adjustment)	123 mm (4.84 in)
9.0 mm	1U-5549	Wrench	159 mm (626 in)
10.0 mm	6V-9090	Wrench	171 mm (6.73 in)
11.0 mm	6V-9091	Wrench	184 mm (7.24 in)
12.0 mm	6V-9092	Wrench	195 mm (7.68 in)
13.0 mm	6V-9093	Wrench	207 mm (8.15 in)
14.0 mm	6V-9094	Wrench	219 mm (8.62 in)
15.0 mm	6V-9095	Wrench	233 mm (9.17 in)
16.0 mm	6V-9096	Wrench	242 mm (9.53 in)
17.0 mm	6V-9097	Wrench	256 mm (10.08 in)
18.0 mm	6V-9098	Wrench	267 mm (10.51 in)
19.0 mm	6V-9099	Wrench	280 mm (11.02 in)

Metric Combination Wrench Set

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Wrench box end contacts the fastener on flats rather than corners, preventing rounding of fastener and allowing more torque
- Continuous arc open-end design evenly distributes applied stress over entire radius of open end, improving wrench strength and tool life
- Concentric or uniform wall thickness on the box end eliminates weak spots while allowing for a thin wall design for greater accessibility
- Long handles for better reach and torque
- 10-pic highly polished nickel/chrome plating — tough nickel for corrosion resistance and chrome plating for wear resistance

Size	Part Number	Description	Length
—	233-1632	Metric Combination Wrench Set (10 pc)	—
10.0 mm	6V-9090	Wrench	171.0 mm (6.73 in)
11.0 mm	6V-9091	Wrench	184.0 mm (7.24 in)
12.0 mm	6V-9092	Wrench	195.0 mm (7.68 in)
13.0 mm	6V-9093	Wrench	207.0 mm (8.15 in)
14.0 mm	6V-9094	Wrench	219.0 mm (8.62 in)
15.0 mm	6V-9095	Wrench	233.0 mm (9.17 in)
16.0 mm	6V-9096	Wrench	242.0 mm (9.53 in)
17.0 mm	6V-9097	Wrench	256.0 mm (10.08 in)
18.0 mm	6V-9098	Wrench	267.0 mm (10.51 in)
19.0 mm	6V-9099	Wrench	280.0 mm (11.02 in)

Metric Combination Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

- 15° angle on open end/15° offset on box end

Size	Part Number	Length
6.0 mm	1U-5546	113.0 mm (4.45 in)
7.0 mm	1U-5547	118.0 mm (4.65 in)
8.0 mm	1U-5548	123.0 mm (4.84 in)
9.0 mm	1U-5549	159.0 mm (6.26 in)
10.0 mm	6V-9090	171.0 mm (6.73 in)
11.0 mm	6V-9091	184.0 mm (7.24 in)
12.0 mm	6V-9092	195.0 mm (7.68 in)
13.0 mm	6V-9093	207.0 mm (8.15 in)
14.0 mm	6V-9094	219.0 mm (8.62 in)
15.0 mm	6V-9095	233.0 mm (9.17 in)
16.0 mm	6V-9096	242.0 mm (9.53 in)
17.0 mm	6V-9097	256.0 mm (10.08 in)
18.0 mm	6V-9098	267.0 mm (10.51 in)
19.0 mm	6V-9099	280.0 mm (11.02 in)
20.0 mm	6V-9100	292.0 mm (11.50 in)
21.0 mm	6V-9101	304.0 mm (11.97 in)
22.0 mm	6V-9102	318.0 mm (12.52 in)
23.0 mm	214-7214	328.0 mm (12.91 in)
24.0 mm	6V-9103	338.0 mm (13.31 in)
25.0 mm	214-7215	356.0 mm (14.02 in)
26.0 mm	214-7217	364.0 mm (14.33 in)
27.0 mm	214-7218	376.0 mm (14.80 in)
29.0 mm	214-7220	395.0 mm (15.55 in)
30.0 mm	6V-9104	414.0 mm (16.30 in)
32.0 mm	214-7222	433.0 mm (17.05 in)
36.0 mm	214-7223	490.0 mm (19.29 in)
46.0 mm	9U-5130 (Black oxide finish)	596.0 mm (23.46 in)
55.0 mm	454-3162 (Satin finish, warranty: Manufacturer Six Months)	711 mm (28 in)

WRENCHES

Metric Combination Wrenches

Warranty: Caterpillar® Lifetime



- 15° angle on open end/15° offset on box end
- Flank drive wrenches use the flat areas of the bolt or nut to loosen or tighten, rather than the corners, not stripping the bolts or nuts

Part No.	Size	Length
17.0 mm	386-3324 (polished chrome finish)	256 mm (10.08 in)
19.0 mm	386-3325 (polished chrome finish)	280 mm (11.02 in)
22.0 mm	386-3326 (polished chrome finish)	318 mm (12.52 in)
24.0 mm	386-3327 (polished chrome finish)	337 mm (13.28 in)
27.0 mm	386-3328 (polished chrome finish)	375 mm (14.76 in)
30.0 mm	386-3329 (polished chrome finish)	414 mm (16.30 in)
32.0 mm	386-3330 (polished chrome finish)	433 mm (17.05 in)
36.0 mm	386-3331 (polished chrome finish)	490 mm (19.29 in)
41.0 mm	386-3332 (satin finish)	546 mm (21.50 in)
46.0 mm	386-3333 (black oxide finish)	596 mm (23.46 in)

Wrenches

Model Usage: C7, C9, C13 and C15 Engines

Warranty: Caterpillar® Six Months



- Nickel-chrome finish
- 12 -point
- 15° angle on open end and 15° offset on box end

Part No.	Description	Dimensions	Weight
460-9906	Cat® Metric Combination Wrench	28 mm Length: 381 mm (15 in)	0.6 kg (1 lb-5 oz)
460-9908	Cat® Metric Combination Wrench	33 mm Length: 452 mm (17-25/32 in)	1 kg (2 lb-3 oz)
460-9909	Cat® Metric Combination Wrench	34 mm Length: 452 mm (17-25/32 in)	1 kg (2 lb-3 oz)
460-9910	Cat® Metric Combination Wrench	35 mm Length: 470 mm (18-½ in)	1 kg (2 lb-3 oz)

Fractional Ratcheting Wrench Set

Warranty: Caterpillar® Lifetime



- Dual pawl ratcheting box end
- 15° offset box head
- Box ends are reversible
- Durable nickel chrome finish

Part No.	Description	Size	Length
248-8810	Fractional Ratcheting Wrench Set (8-pc)	–	–
248-8811	Ratcheting Wrench	5/16	135 mm (5 5/16 in)
248-8812	Ratcheting Wrench	3/8	160 mm (6 5/16 in)
248-8813	Ratcheting Wrench	7/16	170 mm (6 11/16 in)
248-8814	Ratcheting Wrench	1/2	180 mm (7 1/16 in)
248-8815	Ratcheting Wrench	9/16	190 mm (7 1/2 in)
248-8816	Ratcheting Wrench	5/8	210 mm (8 1/4 in)
248-8817	Ratcheting Wrench	11/16	230 mm (9 1/16 in)
248-8818	Ratcheting Wrench	3/4	250 mm (9 13/16 in)

Single Head Ratcheting Box Wrench

Warranty: Caterpillar® Six Months

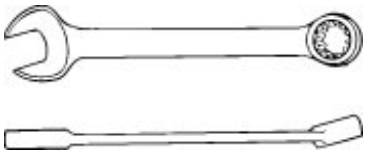


Part No.	Description	Size	Length
451-9943	Single Head Ratcheting Box Wrench, Chrome Finish	27 mm (1.1 in)	304.8 mm (12 in)

Fractional Combination Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 15° angle on open end, 15° offset on box end
- Box end is 12 pt, except 8H-8502 which is 6 pt
- All are polished chrome finish except 9U-5130

Part No.	Size	Length
1S-0253	3/4 in (short)	174.8 mm (6.88 in)
1S-0254	9/16 in (short)	165.1 mm (6.50 in)
4C-9592	3/8 in	165.1 mm (6.50 in)
4C-9593	7/16 in	184.2 mm (7.25 in)
4C-9594	1/2 in	204 mm (8.03 in)
4C-9595	9/16 in	222.3 mm (8.75 in)
4C-9596	5/8 in	241.3 mm (9.50 in)
4C-9597	11/16 in	260.4 mm (10.25 in)
4C-9598	3/4 in	280.2 mm (11.03 in)
4C-9599	13/16 in	299.2 mm (11.78 in)
4C-9601	7/8 in	318.3 mm (12.53 in)
4C-9602	15/16 in	338.1 mm (13.31 in)
4C-9603	1 in	357.1 mm (14.06 in)
4C-9604	1/4 in	114.3 mm (4.50 in)
4C-9605	5/16 in	124 mm (4.88 in)
4C-9606	3/8 in	132.6 mm (5.22 in)
4C-9607	7/16 in	138.2 mm (5.44 in)
4C-9608	1/2 in	146.1 mm (5.75 in)
4C-9609	5/8 in	157.2 mm (6.19 in)
4C-9611	11/16 in	167.4 mm (6.59 in)
8H-8423	1 5/8 in	562.4 mm (22.14 in)
8H-8424	1 1/2 in	534.5 mm (21.04 in)
8H-8502	1/4 in (Box end is 6-point)	78.7 mm (3.10 in)
8H-8516	1 1/16 in	382.8 mm (15.07 in)
8H-8517	1 1/8 in	404.6 mm (15.93 in)
8H-8518	1 1/4 in	433.1 mm (17.05 in)
8H-8519	1 5/16 in	458.5 mm (18.05 in)
8H-8520	1 3/8 in (short)	482.6 mm (19 in)
9U-5130	1 13/16 in (Black oxide finish)	596 mm (23.46 in)
386-3276	1 7/16 in (Black oxide finish)	483 mm (19.02 in)
386-3274	1 11/16 in (Black oxide finish)	559 mm (22.01 in)
386-3275	1 3/4 in (Black oxide finish)	559 mm (22.01 in)
386-3277	1 7/8 in	610 mm (24.02 in)
386-3281	2 in	635 mm (25 in)
386-3279	2 3/16 in	660 mm (25.98 in)
386-3278	2 1/4 in	686 mm (27.01 in)
386-3280	2 3/8 in	711 mm (27.99 in)
386-3352	2 1/2 in	762 mm (30 in)
386-3282	3 1/2 in (Black oxide finish)	787 mm (30.98 in)
386-3283	3 7/8 in (Black oxide finish)	978 mm (38.50 in)
386-3284	4 in (Black oxide finish)	991 mm (39.02 in)

WRENCHES

Fractional Straight Handle Wrench Set, 11 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Available in hex sizes from 3/8 inch to 1 inch
- Ratchets in 45° increments (1/8 of a turn)
- Forged steel jaws, heat treated high carbon steel handles, and stainless steel rivets with a black corrosion-resistant finish

Part No.	Description	Hex Size	Torque Capacity
8T-3120	Straight Handle Wrench Set	–	–
8T-3122	Wrench	3/8	26 N·m (19.18 ft-lb)
8T-3123	Wrench	7/16	29 N·m (21.39 ft-lb)
8T-3124	Wrench	1/2	34 N·m (25.08 ft-lb)
8T-3125	Wrench	9/16	45 N·m (33.19 ft-lb)
8T-3126	Wrench	5/8	68 N·m (50.15 ft-lb)
8T-3127	Wrench	11/16	86 N·m (63.43 ft-lb)
8T-3128	Wrench	3/4	97 N·m (71.54 ft-lb)
8T-3129	Wrench	13/16	114 N·m (84.08 ft-lb)
8T-3130	Wrench	7/8	141 N·m (104 ft-lb)
8T-3131	Wrench	15/16	159 N·m (117.27 ft-lb)
8T-3132	Wrench	1	170 N·m (125.39 ft-lb)

Fractional Straight Handle Wrench Set

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Available in hex sizes from 1 1/16 -1 5/8"
- Ratchets in 45° increments (1/8 of a turn)
- Forged steel jaws, heat treated high carbon steel handles, and stainless steel rivets with a black corrosion-resistant finish

Part No.	Description	Hex Size	Torque Capacity
8T-3227	Fractional Straight Handle Wrench Set (6-pc)	-	-
8T-3133	Wrench	1 1/16 in	190 N·m (140.14 ft·lb)
8T-3136	Wrench	1 3/8 in	340 N·m (250.77 ft·lb)
8T-3137	Wrench	1 1/2 in	410 N·m (302.40 ft·lb)
8T-3138	Wrench	1 5/8 in	475 N·m (350.34 ft·lb)

Metric Ratcheting Wrench Set

Warranty: Caterpillar® Lifetime



- Dual pawl ratcheting box end
- 15° offset box head
- Box ends are reversible
- Durable nickel chrome finish

Size	Part No.	Description	Length
	248-8819	Metric Ratcheting Wrench Set (12-pc)	-
8.0	248-8820	Metric Ratcheting Wrench	135.0 mm (5.5 in)
9.0	248-8822	Metric Ratcheting Wrench	150.0 mm (5.9 in)
10.0	248-8823	Metric Ratcheting Wrench	160.0 mm (6.3 in)
11.0	248-8824	Metric Ratcheting Wrench	170.0 mm (6.7 in)
12.0	248-8825	Metric Ratcheting Wrench	175.0 mm (6.9 in)
13.0	248-8826	Metric Ratcheting Wrench	180.0 mm (7.1 in)
14.0	248-8827	Metric Ratcheting Wrench	190.0 mm (7.5 in)
15.0	248-8828	Metric Ratcheting Wrench	200.0 mm (7.9 in)
16.0	248-8829	Metric Ratcheting Wrench	210.0 mm (8.3 in)
17.0	248-8830	Metric Ratcheting Wrench	230.0 mm (9.1 in)
18.0	248-8831	Metric Ratcheting Wrench	240.0 mm (9.4 in)
19.0	248-8832	Metric Ratcheting Wrench	250.0 mm (9.8 in)

Ratchet Wrench

Model Usage: 5000 Series Mining Excavators
SMCS Code: 7063-010, 7063-017, 0602

Warranty: Caterpillar® Lifetime



- Used to quickly remove and install bolts (Use standard wrench for initial loosening; bolts cannot be tightened to final torque with ratchet wrench.)
- Ratcheting style wrench greatly decreases time for removing or installing the many bolts required to attach swing bearing/gear (Starting and running bolts down until seated, or removing bolts, can take a large amount of time if done with conventional hand tools.)
- For 30 mm hex bolts
- Fits 46 mm (1 13/16 in) bolt heads

Reference

- SENR6058, 5130 Service Manual Module, Disassembly and Assembly; SENR6108, 5230 Service Manual Module, Disassembly and Assembly; SEHS9721 Special Instruction, Assembly Procedure for Hydraulic Excavator (5130 only)

Part No.	Description	Bolt Head Size	Torque Specification	Thickness	Head Diameter	Overall Length
9U-6517	Ratchet Wrench	46 mm (1.81 in)	up to 490 N•m (366 lb ft)	16.0 mm (0.63 in)	80.8 mm (3.18 in)	354.0 mm (14.00 in)

Ratcheting Box Flare Wrench

Warranty: Caterpillar® Six Months



- Not sold in a set; must be ordered individually

Part No.	Description	Specifications
1U-5734	Ratcheting Box Flare Wrench	3/4 inch Square Drive, 2" Hex

WRENCHES

Angle Wrench Set

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Offset wrenches allow the use of one wrench in four different positions to gain additional turning angles.
- 30° and 60° Offset
- 14 pieces

Part No.	Description	Size	Length
1P-3515	Angle Wrench Set (14-pc)	–	–
1P-3501	Angle Wrench	3/8 in	122.9 mm (4.84 in)
1P-3502	Angle Wrench	7/16 in	137.4 mm (5.41 in)
1P-3503	Angle Wrench	1/2 in	151.6 mm (5.97 in)
1P-3504	Angle Wrench	9/16 in	166.6 mm (6.56 in)
1P-3505	Angle Wrench	5/8 in	180.8 mm (7.12 in)
1P-3506	Angle Wrench	11/16 in	197.6 mm (7.78 in)
1P-3507	Angle Wrench	3/4 in	210.3 mm (8.28 in)
1P-3508	Angle Wrench	13/16 in	225.6 mm (8.88 in)
1P-3509	Angle Wrench	7/8 in	239.8 mm (9.44 in)
1P-3510	Angle Wrench	15/16 in	254 mm (10 in)
1P-3511	Angle Wrench	1 in	269 mm (10.59 in)
1P-3512	Angle Wrench	1/16 in	283.5 mm (11.16 in)
1P-3513	Angle Wrench	1/8 in	298.5 mm (11.75 in)
1P-3514	Angle Wrench	1/4 in	327.2 mm (12.88 in)
Additional Sizes			
127-2277	Angle Wrench	3/8 in	356.6 mm (14.04 in)
127-2278	Angle Wrench	1/2 in	385.8 mm (15.19 in)
127-2279	Angle Wrench	5/8 in	415 mm (16.34 in)
127-2280	Angle Wrench	7/8 in	473.2 mm (18.63 in)

Angle Wrench Set

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Continuous arc open-end design evenly distributes applied stress over entire radius of open end, enhancing wrench strength life
- Long handles for better reach and greater applied torque
- 7 pieces
- Highly polished nickel/chrome plating—tough nickel for corrosion resistance and chrome plating for wear resistance and a mirror-like finish

Drive	Part No.	Description	Length
–	233-1635	Angle Wrench Set (7-pc)	–
3/8 in	1P-3501	Angle Wrench	122.9 mm (4.84 in)
7/16 in	1P-3502	Angle Wrench	137.4 mm (5.41 in)
1/2 in	1P-3503	Angle Wrench	151.6 mm (5.97 in)
9/16 in	1P-3504	Angle Wrench	166.6 mm (6.56 in)
5/8 in	1P-3505	Angle Wrench	180.8 mm (7.12 in)
11/16 in	1P-3506	Angle Wrench	197.6 mm (7.78 in)
3/4 in	1P-3507	Angle Wrench	210.3 mm (8.28 in)

Angle Wrench Set, Large

Warranty: Caterpillar® Lifetime



- Continuous arc open-end design evenly distributes applied stress over entire radius of open end, enhancing wrench strength life
- Long handles for better reach and greater applied torque
- 7 pieces
- Highly polished nickel/chrome plating—tough nickel for corrosion resistance and chrome plating for wear resistance and a mirror-like finish

Drive	Part No.	Description	Length
–	233-1636	Angle Wrench Set, Large (7-pc)	–
13/16 in	1P-3508	Angle Wrench	225.6 mm (8.88 in)
7/8 in	1P-3509	Angle Wrench	239.8 mm (9.44 in)
15/16 in	1P-3510	Angle Wrench	254.0 mm (10 in)
1 in	1P-3511	Angle Wrench	269.0 mm (10.59 in)
1/16 in	1P-3512	Angle Wrench	283.5 mm (11.16 in)
1/8 in	1P-3513	Angle Wrench	298.5 mm (11.75 in)
1/4 in	1P-3514	Angle Wrench	327.2 mm (12.88 in)

Half-Moon Wrench

Warranty: Caterpillar® Lifetime



- Moon-shaped wrench to help you get at hard to reach bolts
- 12-point

Part No.	Description	Wrench End Size
194-4935	Half-Moon Wrench	Box End 5/8 in and 3/4 in
472-4214	Half-Moon Wrench	Box End 7/8 in and 15/16 in

Heavy-Duty Adjustable End Wrench

Warranty: Caterpillar® Six Months



- Designed for heavy-duty work
- Accommodates many of the larger nuts
- Cadmium coated to prevent rusting
- Jaw adjusts in 1/8 inch increments

Specifications

- Jaw Range: 69.9-120.7 mm (2 3/4 in-4 3/4 in)
- Jaw Thickness: 28.6 mm (1 1/8 in)

Service Parts

- 8F-2246 Bolt
- 5B-3254 Nut (#4 in picture)

Part No.	Description	Length	Weight
8F-2243	Heavy-Duty Adjustable End Wrench	914.4 mm (36 in)	10.0 kg (22 lb)

Adjustable Wrench



Part Number	Jaw Range	Length	Finish
214-7322	24.0 mm (0.94 in) [2]	203.2 mm (8 in)	Black Oxide
214-7323	29.0 mm (1.13 in) [1]	254.0 mm (10 in)	Black Oxide
214-7330	33.0 mm (1.31 in) [2]	304.8 mm (12 in)	Black Oxide
214-7332	42.0 mm (1.66 in) [1]	381.0 mm (15 in)	Black Oxide

(1) Warranty: Six Months
(2) Warranty: Lifetime

WRENCHES

Aluminum Pipe Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 10 inch through 24 inch
- 35% lighter than cast iron wrenches
- Heat treated titanium — aluminum alloy handle
- Forged hook jaw
- Heat-treated alloy steel parts interchangeable with iron wrenches

Item	Part No.	Pipe Capacity	Length
1	4C-6974	14.0 mm - 63.0 mm (.25 in - 2.00 in)	356.0 mm (14.02 in)
2	4C-6975	14.0 mm - 75.0 mm (.25 in - 2.50 in)	457.0 mm (17.99 in)
3	4C-6976	14.0 mm - 90.0 mm (1.25 in - 3.00 in)	610.0 mm (24.02 in)
Not shown	4C-6973	10.0 mm - 48.0 mm (.13 in - 1.50 in)	254.0 mm (10 in)

Heavy-Duty Pipe Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- High-tensile ductile iron handle and hardened tool-steel parts
- Designed to withstand heavy demands

Part No.	Pipe Capacity	Length	Weight
4C-6962	10.0 mm - 48.0 mm (.13 in - 1.50 in)	254.0 mm (10.00 in)	5.4 kg (12 lb)
4C-6963	10.0 mm - 60.0 mm (.13 in - 2.00 in)	305.0 mm (12.00 in)	8.1 kg (18 lb)
4C-6964	14.0 mm - 63.0 mm (.25 in - 2.00 in)	356.0 mm (14.00 in)	9.5 kg (21 lb)
4C-6965	14.0 mm - 75.0 mm (.25 in - 2.50 in)	457.0 mm (18.00 in)	15.0 kg (33 lb)
4C-6972	14.0 mm - 90.0 mm (.25 in - 3.00 in)	610.0 mm (24.00 in)	27.2 kg (60 lb)

Wrench, 48-Inch Pipe

Model Usage: All Cat® Products

Warranty: Manufacturer's Lifetime



- Professional Strength
- 98% Lightweight Aluminum, 2% Steel

Part No.	Max. Pipe Capacity	Length
386-3304	152.4 mm (6.00 in)	1219.0 mm (48.00 in)

Wrench, 48-Inch Pipe

Warranty: Caterpillar® Six Months



- Heavy-duty construction for strength and durability
- Forty percent lighter than cast iron
- Built-in pipe diameter scale

Part No.	Max. Pipe Capacity	Length
457-3048	152.4 mm (6.00 in)	1219.0 mm (48.00 in)

Pipe Wrench, Rigid 60-Inch

Warranty: Manufacturer's Lifetime



- Rigid 60" Wrench
- Professional Strength
- Cast Iron Handle
- Forged Steel Jaws
- Meets or exceeds: GGG-N65IE, Type II, Class A

Part No.	Max. Pipe Capacity	Length
423-8977	20 cm (8 in)	152 cm (60 in)

Chain Wrench for Special Applications

Warranty: Caterpillar® Six Months



- Used for holding cylinders and other irregularly shaped objects—works for parts of most any size and shape
- Special head design for turning wrench in either direction
- Ratcheting action makes it possible to regrip without removal
- Chain wrench capacity: 1/2 inch to 4 3/4 inch O.D

Part No.	Max. Pipe Capacity	Description
1U-8760	1/2 in to 4 3/4 in O.D.	Wrench for Special Applications

Chain Wrench Group

SMCS Code: 4303-017, 5105-017, 5309-017, 5102-017

Model Usage: 16G, 518, 613C, 615, 910

Warranty: Caterpillar® Six Months



- Used to remove and install threaded crown, which is used to retain head on later hydraulic cylinders
- General purpose tool that can be used in many applications

Item	Part No.	Description
–	3P-1535	Chain Wrench Group
1	3P-1536	Handle
2	1U-8792	Chain Wrench Assembly, Handle Length 482.6 mm (19.00 in)
3	1U-8791	Chain - part of 1U-8792, 76.2 mm (3.00 in) O.D. Minimum and 171.5 mm (6.75 in) O.D. Maximum
4	3P-1537	Pin - part of 1U-8792

WRENCHES

Filter Wrench

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Used to remove spin-on oil and fuel filters
- • Makes filter removal quick and easy
- Fits filter diameters between 88.9 to 98.6 mm (3.50 to 3.88 in)

Item	Part Number	Description
–	185-3630	Filter Strap Wrench Assembly
1	6H-7378	Retaining Ring
2	1P-0551	Spring Pin
3	2P-8253	Strap

Filter Wrench

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Used to remove spin-on oil and fuel filters
- Makes filter removal quick and easy
- Fits filter diameters between 88.9 to 98.6 mm (3.50 to 3.88 in)

Part No.	Description
187-2718	Filter Wrench

Fractional Hex Bit Set, 9 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Black oxide finish
- 3 1/2 inch cadmium case

Part No.	Description	Length	Size
9S-1742	Hex Key Wrench Assembly	3 in bits	9 bits: .05 in, 1/16 in, 5/64 in, 3/32 in, 7/64 in, 1/8 in, 9/64 in, 5/32 in, 3/16 in

Fractional "L" Shaped Hex Key Wrench Set, 13 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Plastic holder included

Part No.	Description	Size
200-1928	Fractional Hex Key Set	.05 in, 1/16 in, 5/64 in, 3/32 in, 7/64 in, 1/8 in, 9/64 in, 5/32 in, 3/16 in, 7/32 in, 1/4 in, 5/16 in and 3/8 in

Fractional Hex Key Wrench Set with Ball End, 13 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Cat branded plastic holder included

Part No.	Description	Size
293-3025	Fractional Ball-end Hex Wrench Set	.05 in, 1/16 in, 5/64 in, 3/32 in, 7/64 in, 1/8 in, 9/64 in, 5/32 in, 3/16 in, 7/32 in, 1/4 in, 5/16 in and 3/8 in

Metric Hex Bit Set, 7 Piece

Model Usage: All Cat® Products

Warranty: Lifetime



- Black oxide finish bits
- Chrome plated case

Part No.	Description	Length	Size
200-1931	Metric Hex Key Set	76.2 mm (3.00 in) long bits	1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm

Metric "L" Shaped Hex Key Wrench Set, 9 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Cat branded plastic holder included

Part No.	Description	Size
200-1929	Metric Hex Key Set	1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm, 8.0 mm, and 10.0 mm

Metric Hex Key Wrench Set with Ball End, 9 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Cat branded plastic holder included

Part No.	Description	Size
293-3026	Metric Ball-End Hex Wrench Set	1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 4.0 mm, 5.0 mm, 6.0 mm, 8.0 mm, and 10.0 mm

L-Shaped Torx Wrench T50

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Description	Length	Flute Length	Material
256-4879	Torx Wrench, T50	95.25 mm (3.75 in)	8.84 mm (0.348 in)	Steel

Hex Wrench Key

Warranty: Caterpillar® Six Months



- 8650 chrome nickel alloy steel
- Heat-treated black oxide finish for optimum strength and rust resistance

Part No.	Description	Dimensions	Weight
460-9905	Eklind 22 mm Jumbo Hex L-Key	Long Arm Length: 353 mm (13.9 in) Short Arm Length: 69 mm (2.7 in)	0.22 kg (7.8 oz)

WRENCHES

Hex Key Wrenches, Extra Length (Standard and Metric)

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime, unless noted



Part No.	Size
1U-7559	1.5 mm
1U-7560	2 mm
1U-7561	2.5 mm
1U-7562	3 mm
1U-7563	4 mm
1U-7564	5 mm
1U-7565	6 mm
1U-7566	8 mm
1U-7567	10 mm
1U-7568	12 mm
1U-7569	14 mm
1U-7570	17 mm
1U-7571	19 mm
1U-7572	1/16 in
1U-7573	5/64 in
1U-7574	3/32 in
1U-7575	1/8 in
1U-7576	5/32 in
1U-7577	3/16 in
1U-7578	7/32 in
1U-7579	1/4 in
1U-7580	5/16 in
1U-7581	3/8 in
1U-7582	7/16 in
1U-7583	1/2 in
1U-7584	9/16 in
1U-7585	5/8 in
1U-7586	1 in
1U-7632	3/4 in
4C-4067	22 mm (extra long length (13.9 in)

T-Handle Allen Head Wrench Set

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Cushion grip
- Rust preventive coating
- Protanium steel
- Welded handle

Part No.	Description	Sizes
386-3239	8-piece Metric T-Handle Allen Head Wrench Set	2, 2.5, 3 ,4, 5, 6, 8, 10
386-3240	10-piece Fractional T-Handle Allen Head Wrench Set	3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8

Allen Head Wrench, 4mm T-Handle

Model Usage: Longwall Mining PMC-R

Warranty: Manufacturer's (Snap-on)



- 4 mm Hex T-Handle for removing and tightening screws during PMC-R rebuilds

Part No.	Description	Dimensions	Weight
549-6791	4mm T-Handle Allen Head Wrench	167 x 76 x 15 mm (6.6 x 3 x 0.6 in)	.06 kg (0.13 lb)

Hollow Head Screw Hex Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime unless noted



- Used to remove and install hollow head screws

Item	Part No.	Description	Size
1	1P-3566	Bit, 14.28 mm (9/16 in)	9/16 in
1	9U-7419	Bit, 19.05 mm (3/4 in)	3/4 in
2	5P-4205	Wrench	5/32 in
2	6V-0115	Wrench (Six Month Warranty)	1/8 in
2	6V-2104	Wrench (Six Month Warranty)	3/32 in

Spark Plug Wrench

SMCS Code: 1555-011

Model Usage: 5.4 inch Bore Natural Gas Engines

Warranty: Caterpillar® Lifetime



- Used to remove spark plugs and adapters on 5.4 inch Bore Natural Gas Engines (G342, G353, G379, G398)
- Especially useful because plugs and adapters are deeply recessed in top of engine

Part No.	Description	Size
1P-5559	Spark Plug Adapter Wrench	Large end, 1.25 in; Small end, .75 in
2P-5481	Spark Plug Wrench	-

Open-End Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- For low torque applications
- Tappet wrench

Size	Part No.	Length
1/2 in x 9/16 in	8H-8501	9.50 in

Wrench, 41.0 mm

SMCS Code: 4303-010

Model Usage: Telescoping Material Handlers RT50, RT60, and RTC60, 214B Hydraulic Excavator

Warranty: Caterpillar® Lifetime



- As special application tools, used to remove and install front steering cylinder linkage knuckle on Cat vehicles liste
- Forged steel, straight-handled, open end, with black oxide finish

Part No.	Description	Size
214-7329	Open End Wrench	41.0 mm

Wrench, 55.0 mm

SMCS Code: 4303-010

Models: Telescoping Material Handlers RT50, RT60, and RTC60

Warranty: Caterpillar® Six Months



- As special application tools, used to remove and install front steering cylinder linkage knuckle on Cat vehicles liste
- Forged steel, straight-handled, open end, with black oxide finish

Part No.	Description	Size
4C-4065	Open End Wrench	55.0 mm

WRENCHES

Special Open-End Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Warranty As noted



- Special application wrenches for tight and confined spaces

Part Number	Size	Offset
386-3368	24 mm (Six Month Warranty)	30°
9B-1496	1 5/8 in (Lifetime Warranty)	30°
0V-0455	1 7/8 in (Lifetime Warranty)	30°
9F-3869	2 3/4 in (Six Month Warranty)	20°
8F-2239	2 9/32 in (Manuf. 30-Day Warranty)	15°

Wrench Set, Double End Flare Nut, 3 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Size	Description	Length
214-7335	–	Wrench Set	–
214-7315	1/2 in x 9/16 in	Wrench	173.0 mm (6.81 in)
214-7314	3/8 in x 7/16 in	Wrench	147.6 mm (5.81 in)
214-7317	5/8 in x 11/16 in	Wrench	200.8 mm (7.91 in)

Heavy-Duty Box Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



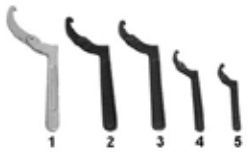
- Used to tighten large fasteners such as hitch pins

Item	Part No.	Description	Size
1	5P-7320	Wrench	38.1 mm (1.50 in)
2	9U-7376	Sledge Wrench	46.0 mm (1.81 in)
3	8T-3196	Offset Box Wrench	47.6 mm (1.88 in)
4	5P-1661	Sledge Wrench	114 mm (4.5 in)

Nut Spanner Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months, unless noted



Item	Part No.	Description	Diameter Range
1	1P-2856	Spanner Wrench	155.6-222.3 mm (6.13-8.75 in)
2	1P-2854	Spanner Wrench	114.3-158.8 mm (4.50-6.25 in)
3	1P-2853	Spanner Wrench (Lifetime Warranty)	50.8-120.7 mm (2.00-4.75 in)
4	1P-2852	Spanner Wrench	31.8-76.2 mm (1.25-3.00 in)
5	1P-2851	Spanner Wrench	19.1-50.8 mm (.75-2.00 in)

Individual Offset Wrenches, Double End Flare Nut

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Size	Part No.	Length
13/32 in and 15/32 in	5P-7254	127 mm (5 in)
17/32 in and 19/32 in	5P-7255	165.1 mm (6.50 in)
3/4 in and 1 in	9S-1743	203.2 mm (8 in)

Special Application Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Part No.	Description	Size	Offset	Application
128-8824	Deep Offset Wrench	16 mm	18 mm	Fuel system
128-8825	Deep Offset Wrench (17 and 19 mm)	17 mm	19 mm	Fuel system
5P-0144	Fuel Line Socket	–	–	Fuel line
5P-0167	–	–	–	Brake spring
5P-5195	–	–	–	Fuel line
8T-0833	Box, end, chrome, for use with 1/2" ratchet	9/16 inch	–	Fuel pump
9S-9149	Box, offset, chrome	7/16 inch	–	Brake shoe bolt adjustment

Saw Adjustment Wrench

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Used to adjust saw tension on newer model saw heads
- Designed for easy access of adjustment nut

Part No.	Description	Size
197-3672	Saw Adjustment Wrench	Wrench opening: 3 3/4 in

WRENCHES

Slug Wrenches

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Designed to be struck by a hammer on end to loosen frozen fasteners or to set and tighten fasteners
- Heat treated for maximum durability and long life

Part No.	Size (inches)	Length
386-3286	1 1/2	194 mm (7.63 in)
386-3287	1 1/4	192 mm (7.55 in)
386-3288	1 11/16	198 mm (7.79 in)
386-3289	1 13/16	203 mm (7.99 in)
386-3290	1 3/4	203 mm (7.99 in)
386-3291	1 5/8	199 mm (7.83 in)
386-3292	1 7/16	194 mm (7.63 in)
386-3293	1 7/8	203 mm (7.99 in)
386-3294	2 1/4	298 mm (11.73 in)
386-3295	2 3/16	298 mm (11.73 in)
386-3296	2 3/8	302 mm (11.88 in)
386-3297	2	294 mm (11.57 in)
386-3298	3 1/2	456 mm (17.95 in)
386-3299	3 7/8	456 mm (17.95 in)
386-3300	1 3/16	192 mm (7.55 in)
386-3301	4	457 mm (17.99 in)

Slug Wrench, 3/4 Inch Drive

Model Usage: 797F and More

Warranty: Caterpillar® Six Months



- Used to loosen final drive oil-check plugs on 797F OHT and others.
- ¾ in drive works for many applications.
- Heat treated for maximum durability and long life

Part No.	Description	Overall Length	Weight
541-9344	3/4 Inch Drive Slug Wrench	292.1 mm (11.5 in)	3.5 kg (8 lb)

Fractional Open-End Crowfoot Wrench Group, 9 piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Can be used with 3/8 inch drive ratchet or torque wrenches
- Can be ordered by set or individually

Part No.	Description	Size	Drive
2P-5520	Open-End Crowfoot Wrench Group	-	-
2P-5487	Adapter	3/8	3/8
2P-5488	Wrench	7/16	3/8
2P-5489	Wrench	1/2	3/8
2P-5491	Wrench	9/16	3/8
2P-5492	Wrench	5/8	3/8
2P-5493	Wrench	11/16	3/8
2P-5494	Wrench	3/4	3/8
2P-5495	Wrench	13/16	3/8
2P-5496	Wrench	7/8	3/8

Fractional Crowfoot Wrench Group, 11 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- May be used with 3/8 inch or 1/2 inch drive ratchet or torque wrenches
- Can be ordered by set or individually

Part No.	Description	Size	Drive
5P-0336	Crowfoot Wrench Group	–	–
5P-0324	Wrench	5/8 in	3/8 in
5P-0325	Wrench	11/16 in	3/8 in
5P-0326	Crowfoot Wrench	3/4 in	3/8 in
5P-0327	Wrench	13/16 in	3/8 in
5P-0328	Crowfoot Wrench (Fuel Line)	7/8 in	3/8 in
5P-0329	Crowfoot Wrench (Fuel Line)	15/16 in	3/8 in
5P-0331	Wrench	1 in	3/8 in
5P-0332	Wrench	1 1/16	3/8 in
5P-0333	Crowfoot Wrench	1 1/8 in	1/2 in
5P-0334	Wrench	1 1/4 in	1/2 in
5P-0335	Wrench	1 3/8 in	1/2 in
Optional Wrenches (not included in 5P-0336)			
463-1899	Crowfeet Wrench (Fuel Line)	11/16 in	3/8 in
1U-5536	Crowfoot Wrench	1 5/16 in	1/2 in
1U-5732	Wrench	1 3/4 in	3/8 in
1U-5734	Wrench	2 in	3/8 in
1U-5735	Wrench	2 1/8 in	3/8 in
5P-0294	Wrench	1 11/16 in	1/2 in

Wrench Set, 15-Piece 1/2-inch Fractional Crowfoot

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Continuous arc open end minimizes jaw spread for constant contact with the fastener to give you the maximum torque with the minimum torque transmission loss
- Special alloy steel for strength and durability
- Can be ordered by set or individually

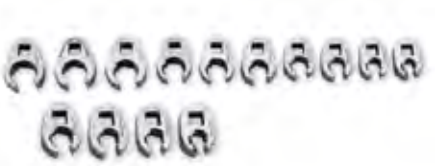
Part No.	Description	Size	Drive
430-9053	15- Piece Fractional Crowfoot Wrench Set	—	1/2 in
	Individual Drivers		
430-9038	Crowfoot Wrench	1 1/16 in	1/2 in
430-9039	Crowfoot Wrench	1 1/8 in	1/2 in
430-9040	Crowfoot Wrench	1 3/16 in	1/2 in
430-9041	Crowfoot Wrench	1 1/4 in	1/2 in
430-9042	Crowfoot Wrench	1 5/16 in	1/2 in
430-9043	Crowfoot Wrench	1 3/8 in	1/2 in
430-9044	Crowfoot Wrench	1 7/16 in	1/2 in
430-9045	Crowfoot Wrench	1 1/2 in	1/2 in
430-9046	Crowfoot Wrench	1 9/16 in	1/2 in
430-9047	Crowfoot Wrench	1 5/8 in	1/2 in
430-9048	Crowfoot Wrench	1 11/16 in	1/2 in
430-9049	Crowfoot Wrench	1 3/4 in	1/2 in
430-9050	Crowfoot Wrench	1 13/16 in	1/2 in
430-9051	Crowfoot Wrench	1 7/8 in	1/2 in
430-9052	Crowfoot Wrench	2 in	1/2 in

WRENCHES

Metric Flare Nut Crowfoot Wrench

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point

Part Number	Description	Size	Drive
305-3129	Metric Flare Nut Crowfoot Wrench Set	9 - 22 mm	3/8
	Crowfoot Wrench Set Consists of:		
305-3115	Flare Nut Crowfoot Wrench	9 mm	3/8
305-3116	Flare Nut Crowfoot Wrench	10 mm	3/8
305-3117	Flare Nut Crowfoot Wrench	11 mm	3/8
305-3118	Flare Nut Crowfoot Wrench	12 mm	3/8
305-3119	Flare Nut Crowfoot Wrench	13 mm	3/8
305-3120	Flare Nut Crowfoot Wrench	14 mm	3/8
305-3121	Flare Nut Crowfoot Wrench	15 mm	3/8
305-3122	Flare Nut Crowfoot Wrench	16 mm	3/8
305-3123	Flare Nut Crowfoot Wrench	17 mm	3/8
305-3124	Flare Nut Crowfoot Wrench	18 mm	3/8
305-3125	Flare Nut Crowfoot Wrench	19 mm	3/8
305-3126	Flare Nut Crowfoot Wrench	20 mm	3/8
305-3127	Flare Nut Crowfoot Wrench	21 mm	3/8
305-3128	Flare Nut Crowfoot Wrench	22 mm	3/8
	Additional Crowfoot Wrenches		
386-3367	Flare Nut Crowfoot Wrench	24 mm	3/8

Spanner Wrench

Model Usage: MD6640

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Tool is used to torque lock nut on rotary gearbox
- Uses ¾ drive ratchet or breaker bar to tighten spanner nut

Part No.	Description	Dimensions	Weight
510-3704	Spanner Wrench	200 x 250 x 12 mm (8 x 10 x 0.5 in)	1 kg (2.2 lb)

Swivel Head Tee Handle Socket Wrench (6 mm)

Model Usage: AP300F and AP355F Asphalt Pavers

Warranty: Manufacturer's Two Year, +39 02 8719 7384 www.attrezzieutensili.it



- 500 mm long wrench is required to reach the chain adjuster on AP300F and AP355F asphalt pavers.
- Saves time and allows technician to properly adjust the chain tension during service

Part No.	Description	OAL	Weight
507-7493	Swivel Head Tee Handle Socket Wrench (6 mm)	500 mm	0.7 kg (1.5 lb)

Fractional Socket Set, 17 Piece, 1/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® As Noted



- 12 point
- 1/4 inch square drive
- Standard length sockets
- Chrome finish

Size	Length	Part No.	Description
–	–	213-4443	Socket Set (Lifetime Warranty)
Socket Set Consists of:			
1/2 in	22.2 mm (.88 in)	9S-1719	Socket
1/4 in	22.2 mm (.88 in)	9S-1713	Socket
11/32 in	22.2 mm (.88 in)	9S-1716	Socket
3/16 in	22.2 mm (.88 in)	9S-1711	Socket
3/8 in	22.2 mm (.88 in)	9S-1717	Socket
5/16 in	22.2 mm (.88 in)	9S-1715	Socket
7/16 in	22.2 mm (.88 in)	9S-1718	Socket
7/32 in	22.2 mm (.88 in)	9S-1712	Socket
9/32 in	22.2 mm (.88 in)	9S-1714	Socket
Accessories			
–	159.5 mm (6.28 in)	9S-1725	Case (90-Day Manuf. Warranty)
1/4 in	–	239-6823	Reversible Ratchet
1/4 in	–	9S-1722	Socket Driver
1/4 in Female to 3/8 in male	–	213-4437	Socket Adapter
1/4 in	–	9S-1724	Universal Joint
101.6 mm (4.00 in)	–	9S-1721	Extension
3/8 in Female to 1/4 in male	–	261-0443	Socket Adapter
50.8 m (2.00 in)	–	9S-1720	Socket Extension

Fractional Socket Set, 11 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch square drive
- Chrome finish
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	9S-1746	Socket Set
Sockets Set consists of:			
1/2 in	23.8 mm (0.94 in)	8H-8568	Socket
11/16 in	27 mm (1.06 in)	9S-1728	Socket
3/4 in	27.8 mm (1.09 in)	8H-8571	Socket
3/8 in	23 mm (0.91 in)	8S-2274	Socket
5/8 in	26.2 mm (1.03 in)	8H-8570	Socket
7/16 in	23 mm (0.91 in)	8H-8567	Socket
9/16 in	24.6 mm (0.97 in)	8H-8569	Socket
Accessories included			
152.4 mm (6.00 in) long	152.4 mm (6 in)	8H-8575	Extension Assembly
3/8 in	447.5 mm (17.62 in)	8H-8573	Speeder Handle
3/8 in	187.5 mm (7.38 in)	239-6824	Reversible Ratchet, 3/8 in Drive
76.2 mm (3.00 in) long	76.2 mm (3 in)	8H-8574	Socket Extension

Fractional Socket Set, 16 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 1/2 inch square drive
- Chrome finish
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	9S-1748	Socket Set
Socket Set Consists of:			
1 1/16 in	41.3 mm (1.63 in)	9S-1729	Socket
1 1/4 in	47.6 mm (1.87 in)	9S-1731	Socket
1 1/8 in	44.5 mm (1.75 in)	9S-1730	Socket
1 in	38.1 mm (1.50 in)	8H-8556	Socket
1/2 in	38.1 mm (1.50 in)	1S-0259	Socket
11/16 in	38.1 mm (1.50 in)	8H-8551	Socket
13/16 in	38.1 mm (1.50 in)	8H-8553	Socket
15/16 in	38.1 mm (1.50 in)	8H-8555	Socket
3/4 in	38.1 mm (1.50 in)	8H-8552	Socket
5/8 in	38.1 mm (1.50 in)	8H-8550	Socket
7/8 in	38.1 mm (1.50 in)	8H-8554	Socket
9/16 in	38.1 mm (1.50 in)	8H-8549	Socket
Accessories Included			
1/2 in	381.0 mm (15 in)	239-6826	Reversible Ratchet
1/2 in	457.2 mm (18 in)	168-0383	Breaker Bar
1/2 in drive, 127.0 mm (5.00 in) long	127.0 mm (5 in)	9S-1732	Extension
1/2 in drive, 254.0 mm (10.00 in) long	279.0 mm (10.98 in)	8H-8559	Socket Extension

Fractional Socket Set, 21 piece, 3/4" Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® See Individual Parts



- 12 point
- 3/4 inch square drive
- Chrome finish
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	9S-1749	Socket Set
Socket Set Consists of:			
1 1/16 in	54.0 mm (2.13 in)	8H-8533	Socket
1 1/2 in	63.5 mm (2.50 in)	8H-8537	Socket
1 1/4 in	57.2 mm (2.25 in)	8H-8535	Socket
1 1/8 in	55.5 mm (2.19 in)	8H-8534	Socket
1 11/16 in	69.9 mm (2.75 in)	8H-8538	Socket
1 3/4 in	69.9 mm (2.75 in)	8H-8540	Socket
1 5/16 in	58.7 mm (2.31 in)	8H-8536	Socket
1 5/8 in	66.7 mm (2.63 in)	8H-8539	Socket
1 7/8 in	79.4 mm (3.13 in)	8H-8541	Socket
1 in	52.4 mm (2.06 in)	8H-8532	Socket
15/16 in	50.8 mm (2 in)	8H-8531	Socket
2 1/4 in	82.6 mm (3.25 in)	8H-8504	Socket
2 1/8 in	82.6 mm (3.25 in)	8H-8543	Socket
2 3/16 in	82.6 mm (3.25 in)	8H-8544	Socket
2 in	79.4 mm (3.13 in)	8H-8542	Socket
3/4 in	50.8 mm (2 in)	8H-8529	Socket
7/8 in	50.8 mm (2 in)	8H-8530	Socket
Accessories Included			
–	489.0 mm (19.25 in)	162-8716	Ratchet Head Handle
203.2 mm (8.00 in) long	203.2 mm (8 in)	8H-8548	Socket Extension
3/4 in	–	160-6389	Reversible Ratchet Head
3/4 in	93.6 mm (3.69 in)	8H-8546	Breaker Bar Head

RATCHETS AND SOCKETS

Fractional Shoulder Bolt Socket Set, 15 Piece

Model Usage: All Cat® Products

Warranty: See Individual Parts



- 12 point
- Black oxide finish
- Can be ordered by set or individually

Drive	Size	Length	Part No.	Description
–	–	–	292-9246	Shoulder Bolt Socket Set
Socket Set Consists of:				
3/8"	1/4"	1.25"	541-3250	Shoulder Bolt Socket
3/8"	5/16"	1.25"	541-3246	Shoulder Bolt Socket
3/8"	3/8"	1.5"	541-3238	Shoulder Bolt Socket
7/16"	3/8"	1.5"	541-3235	Shoulder Bolt Socket
1/2"	1/2"	1.75"	541-3236	Shoulder Bolt Socket
1/2"	9/16"	1.75"	8S-1594	Shoulder Bolt Socket
1/2"	5/8"	1.75"	541-3242	Shoulder Bolt Socket
1/2"	11/16"	1.75"	541-3247	Shoulder Bolt Socket
3/4"	3/4"	2 1/8"	541-3244	Shoulder Bolt Socket
3/4"	13/16"	2 1/8"	541-3249	Shoulder Bolt Socket
3/4"	7/8"	2 1/8"	8S-1599	Shoulder Bolt Socket
3/4"	15/16"	2 3/16"	541-3248	Shoulder Bolt Socket
3/4"	1"	2.25"	541-3245	Shoulder Bolt Socket
Accessories				
1/2" female, 3/8" male	-	1.5"	452-0539	Socket Adapter
-	-	9.5" x 5.5" x 2"	292-9148	Tool Box

Fractional Heavy-Duty Socket Set, 17 Piece, 1 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® As Noted



- 6 point
- 1 inch square drive
- Black oxide finish
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	5S-6093	Socket Set (Lifetime Warranty)
Heavy-Duty Socket Set Consists of:			
2 1/2 in	104.8 mm (4.13 in)	5S-6078	Socket
2 3/4 in	114.3 mm (4.50 in)	5S-6080	Socket
2 3/8 in Hex	98.4 mm (3.87 in)	5S-6077	Socket
2 5/8 in	57.2 mm (2.25 in)	5S-6079	Socket
3 1/2 in	133.4 mm (5.25 in)	5S-6084	Socket
3 1/4 in	127 mm (5 in)	5S-6083	Socket
3 1/8 in	127 mm (5 in)	5S-6082	Socket
3 3/4 in	136.5 mm (5.37 in)	5S-6086	Socket
3 5/8 in	133.4 mm (5.25 in)	5S-6085	Socket
3 in	123.8 mm (4.87 in)	5S-6081	Socket
4 in	127 mm (5 in)	5S-6087	Socket
Accessories Included			
–	–	161-3983	Ratchet Head (Warranty Lifetime-Repairable)
–	–	541-3255	Sledge Socket Wrench
–	–	5S-6090	Sliding T Wrench Head
–	736.6 mm (29 in)	5S-6089	Wrench Handle
–	788.67 mm (31.05 in)	5S-6092	Tool Box (90-Day Manuf. Warranty)
203.2 mm (8.00 in)	203.2 mm (8 in)	5S-6076	Socket Extension

Metric Ratchet Set, 17 Piece, 1/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Socket contacts the fastener on the flats rather than on the corners, preventing rounding of the fastener and allowing for more torque to be applied
- Concentric or uniform wall thickness eliminates weak spots while allowing for a thin wall design for greater accessibility
- Creates positive engagement with the drive tool for a tight/slop-free driving system.
- Detents are located on all four inner walls ensuring positive engagement with the drive tool in any orientation.
- Hex and drive ends of the socket are countersunk or funnel-shaped, making engagement with the fastener or drive tool quicker and easier
- Nickel chrome plating provides a durable, corrosion resistant coating and a brilliant tool finish

Size	Length	Part No.	Description
–	–	233-1642	Metric Ratchet Set
Metric Ratchet Set Consists of:			
1/4 in	–	9S-1724	Universal Joint
1/4 in	112.3 mm (4.42 in)	9U-6635	Ratchet
10.0 mm	22.2 mm (0.87 in)	200-8423	Socket (1/4 in Drive)
101.6 mm (4.00 in)	101.6 mm (4 in)	9S-1721	Extension
11.0 mm	22.2 mm (0.87 in)	200-8424	Socket (1/4 in Drive)
12.0 mm	22.2 mm (0.87 in)	200-8426	Socket (1/4 in Drive)
13.0 mm	22.2 mm (0.87 in)	200-8427	Socket (1/4 in Drive)
14.0 mm	22.2 mm (0.87 in)	200-8428	Socket (1/4 in Drive)
15.0 mm	23.0 mm (0.91 in)	200-8429	Socket (1/4 in Drive)
4.0 mm	22.2 mm (0.87 in)	200-8415	Socket (1/4 in Drive)
5.0 mm	22.2 mm (0.87 in)	200-8417	Socket (1/4 in Drive)
5.5 mm	22.2 mm (0.87 in)	200-8418	Socket (1/4 in Drive)
50.8 m (2.00 in)	50.8 mm (2 in)	9S-1720	Socket Extension
6.0 mm	22.2 mm (0.87 in)	200-8419	Socket (1/4 in Drive)
7.0 mm	22.2 mm (0.87 in)	200-8420	Socket (1/4 in Drive)
8.0 mm	22.2 mm (0.87 in)	200-8421	Socket (1/4 in Drive)
9.0 mm	22.2 mm (0.87 in)	200-8422	Socket (1/4 in Drive)

RATCHETS AND SOCKETS

Ratchet Set, 3 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Sealed heads protect internal components from outside environment which leads to longer product life and reduced maintenance, and prevents gear slippage
- Heads forged to exact tolerances for longer tool life and greater head strength
- High strength internal mechanism provides longer tool life
- Ergonomic handle reduces user fatigue and has a more comfortable grip
- Reverse lever can be shifted with one hand which saves time when the gear mechanism needs to be reversed in tight places
- Square drive is close to the end of the head, giving maximum accessibility to fasteners in restricted areas
- Nickel chrome plating provides a durable, corrosion resistant coating and a brilliant tool finish

Part No.	Description	Drive	Length	Smallest Working Arc	Repair Kit
233-1637	Ratchet Set	–	–	–	–
Ratchet Set Consists of:					
239-6823	Reversible Ratchet	1/4 in	112.3 mm (4.42 in)	12.0 Degrees	230-0812
239-6824	Reversible Ratchet, 3/8 in Drive	3/8 in	187.5 mm (7.38 in)	12.0 Degrees	230-0813
239-6825	Ratchet (1/2 in Drive)	1/2 in	261.9 mm (10.31 in)	10.0 Degrees	214-7339

Ratchets

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Sealed heads protect internal components from outside environment which leads to longer product life and reduced maintenance, and prevents gear slippage
- Heads forged to exact tolerances for longer tool life and greater head strength
- High strength internal mechanism provides longer tool life
- Ergonomic handle reduces user fatigue and has a more comfortable grip
- Reverse lever can be shifted with one hand which saves time when the gear mechanism needs to be reversed in tight places
- Square drive is close to the end of the head, giving maximum accessibility to fasteners in restricted areas
- Nickel chrome plating provides a durable, corrosion resistant coating and a brilliant tool finish

Part No.	Description	Size	Length	Smallest Working Arc	Repair Kit
194-4944 (Offset round swivel head)	Ratchet	3/8	260.4 mm (10.25 in)	5.0 Degrees	–
214-7340 (Round head)	Ratchet (Six Month Warranty)	1/2	287.3 mm (11.31 in)	4.5 Degrees	214-7341
239-6823	Reversible Ratchet	1/4	112.3 mm (4.42 in)	12.0 Degrees	230-0812
239-6824	Reversible Ratchet	3/8	187.5 mm (7.38 in)	12.0 Degrees	230-0813
239-6825	Ratchet	1/2	261.9 mm (10.31 in)	10.0 Degrees	214-7339
239-6826	Reversible Ratchet	1/2	381.0 mm (15 in)	10.0 Degrees	214-7339
263-3341 (Long flex handle)	Ratchet	1/2	448.6 mm (17.66 in)	10.0 Degrees	214-7339
Repair Kits for Discontinued Ratchets					
214-7333	Flex Head Ratchet	–	–	–	214-7339
5P-7443	Ratchet	–	–	–	5P-7444 (20 tooth gear) 5P- 7445 (30 tooth gear)
8H-8557	Ratchet	–	–	–	4S-7326
9U-6635	Ratchet	–	112.3 mm (4.42 in)	–	9U-6636 (30 tooth gear)
9U-6637	Ratchet	–	–	–	9U-6638 (30 tooth gear)
9U-6639	Ratchet	–	–	–	9U-6640 (32 tooth gear)

Ratchet Heads

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime - Repairable



Part No.	Size	Head Width	Head Length	Head Depth	Smallest Working Arc	Repair Kit
160-6389	3/4 in	63.0 mm (2.48 in)	150.9 mm (5.94 in)	31.2 mm (1.23 in)	11.2 Degrees	160-6390
161-3983	1 in	79.4 mm (3.12 in)	200.0 mm (7.86 in)	38.1 mm (1.50 in)	12.0 Degrees	161-3985

Ratchet Handles

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Part No.	Drive	Length
162-8716	3/4 in	489 mm (19.25 in)
5S-6089	1 in	736.6 mm (29 in)
450-9220	3/4 in	914 mm (35.98 in)

RATCHETS AND SOCKETS

Ratchet Handles

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Snap-on branded
- 3/8" drive
- 11.5" long
- Sealed, flex head design
- 80 gear teeth
- Reversible
- Nickel chrome finish

Part No.	Description
468-5748	Ratchet

Head Breaker Bar, 3/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Drive	Length	Width
8H-8546	3/4 in	93.6 mm (3.69 in)	42.1 mm (1.66 in)

Breaker Bars

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Drive	Length	Repair Kit
168-0383	1/2 in	457.2 mm (18 in)	293-0712
214-7316	1/4 in	152.4 mm (6 in)	–
452-4976	3/8 in	242.9 mm (9.56 in)	–
386-3264	1 in	868 mm (34.17 in)	–
386-3254	1 1/2 in	914 mm (35.98 in)	–

Sliding T-Handle

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Drive	Length
213-1985	1/2 in	304.8 mm (12 in)
214-7319	1/4 in	114.3 mm (4.50 in)
386-3359	3/4 in	450 mm (19.25 in)

Sliding "T" Wrench Head

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Drive	Description	Use
5S-6090	1 in	Sliding T Wrench Head	5S-6089 Handle

Speeder Handle, 1/2 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Chrome finish

Part No.	Description	Length	Weight
460-9907	Snap-on ½ in Speeder Handle	479.4 mm (18 7/8 in)	0.71 kg (1 lb-9 oz)

Speeder Handle, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Drive	Length
8H-8573	3/8 in	447.5 mm (17.62 in)

RATCHETS AND SOCKETS

Hand Impact Wrench

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Loosen nuts bound by corrosion and tighten nuts to an estimated torque value readily with this impact wrench
- Particularly suited to field use because an air or electric power source is not required
- With a 1 inch square drive and capacity up to 2000 ft-lb torque, the wrench will handle 3/4 inch to 1 3/4 inch bolts
- Wrench action provides impact torque in one direction and free ratcheting on the other
- When turned about 30°, energy stored in a heavy spring in the handle is suddenly released, delivering a torsional impact to the square output drive through a link and rotary hammer arrangement. To reverse the direction of this action, the wrench is merely turned over. The amount of impact is adjustable.

Part Number	Description
5P-2410	Hand Impact Wrench
Hand Impact Replacement Parts	
1A-2209	Bolt
1H-8134	Ring

Fractional Socket Set, 7 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Standard length sockets
- Chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-1143	Socket Set
Socket Set Consists of:			
3/8 in	23.1 mm (0.91 in)	214-1144	Socket
7/16 in	23.1 mm (0.91 in)	214-1145	Socket
1/2 in	23.9 mm (0.94 in)	214-1146	Socket
9/16 in	26.2 mm (1.03 in)	214-1147	Socket
5/8 in	27.7 mm (1.09 in)	214-1148	Socket
11/16 in	28.7 mm (1.13 in)	214-1149	Socket
3/4 in	30.2 mm (1.19 in)	214-1150	Socket

Fractional Socket Set, 9 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-1151	Socket Set
Socket Set Consists of:			
3/8 in	54.0 mm (2.13 in)	214-1152	Socket
7/16 in	54.0 mm (2.13 in)	214-1153	Socket
1/2 in	60.3 mm (2.37 in)	214-1154	Socket
9/16 in	60.3 mm (2.37 in)	214-1155	Socket
5/8 in	60.3 mm (2.37 in)	214-1156	Socket
11/16 in	66.7 mm (2.63 in)	214-1157	Socket
3/4 in	66.7 mm (2.63 in)	214-1158	Socket
13/16 in	69.9 mm (2.75 in)	214-1159	Socket
7/8 in	69.9 mm (2.75 in)	214-1160	Socket

Fractional Socket Set, 9 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point,
- 3/8 inch square drive
- Deep length sockets
- Chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	214-6490	Socket Set
Socket Set Consists of:			
3/8 in	54.1 mm (2.13 in)	214-6491	Socket
7/16 in	54.1 mm (2.13 in)	214-6492	Socket
1/2 in	60.5 mm (2.38 in)	214-6493	Socket
9/16 in	60.5 mm (2.38 in)	8S-2357	Deep Well Socket
5/8 in	60.5 mm (2.38 in)	9S-5031 (Includes insert for removing spark plugs)	Deep Well Socket
11/16 in	66.8 mm (2.63 in)	214-6494	Socket
3/4 in	66.8 mm (2.63 in)	214-6495	Socket
13/16 in	69.9 mm (2.75 in)	214-6496	Socket

Metric Socket Set, 12 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch square drive
- Standard length sockets
- Chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	194-3574	3/8 Drive, 12 Point Metric Socket Set, 12-piece
Socket Set Consists of:			
8.0 mm	23.0 mm (0.91 in)	194-3480	Socket (3/8 in Drive)
9.0 mm	23.0 mm (0.91 in)	194-3483	Socket (3/8 in Drive)
10.0 mm	23.0 mm (0.91 in)	194-3488	Socket (3/8 in Drive)
11.0 mm	23.0 mm (0.91 in)	194-3490	Socket (3/8 in Drive)
12.0 mm	23.8 mm (0.94 in)	194-3492	Socket (3/8 in Drive)
13.0 mm	24.6 mm (0.97 in)	194-3494	Socket (3/8 in Drive)
14.0 mm	26.2 mm (1.03 in)	194-3495	Socket (3/8 in Drive)
15.0 mm	27.0 mm (1.06 in)	194-3496	Socket (3/8 in Drive)
16.0 mm	27.8 mm (1.09 in)	194-3497	Socket (3/8 in Drive)
17.0 mm	28.6 mm (1.13 in)	194-3498	Socket (3/8 in Drive)
18.0 mm	28.6 mm (1.13 in)	194-3499	Socket (3/8 in Drive)
19.0 mm	30.2 mm (1.19 in)	194-3500	Socket (3/8 in Drive)

Metric Socket Set, 12 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch square drive
- Deep length sockets
- Chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	199-9019	Metric Socket Set
Socket Set Consists of:			
8.0 mm	54.0 mm (2.13 in)	199-9023	Socket (3/8 in Drive)
9.0 mm	54.0 mm (2.13 in)	199-9025	Socket (3/8 in Drive)
10.0 mm	54.0 mm (2.13 in)	199-9026	Socket (3/8 in Drive)
11.0 mm	54.0 mm (2.13 in)	199-9027	Socket (3/8 in Drive)
12.0 mm	54.0 mm (2.13 in)	199-9028	Socket (3/8 in Drive)
13.0 mm	54.0 mm (2.13 in)	199-9029	Socket (3/8 in Drive)
14.0 mm	60.3 mm (2.37 in)	199-9030	Socket (3/8 in Drive)
15.0 mm	60.3 mm (2.37 in)	199-9031	Socket (3/8 in Drive)
16.0 mm	60.3 mm (2.37 in)	199-9032	Socket (3/8 in Drive)
17.0 mm	66.7 mm (2.63 in)	199-9033	Socket (3/8 in Drive)
18.0 mm	66.7 mm (2.63 in)	199-9034	Socket (3/8 in Drive)
19.0 mm	66.7 mm (2.63 in)	199-9035	Socket (3/8 in Drive)

RATCHETS AND SOCKETS

Metric Socket Set, 12 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Standard length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	214-6620	Metric Socket Set
Socket Set Consists of:			
8.0 mm	23.0 mm (0.91 in)	214-6621	3/8 in Drive
9.0 mm	23.0 mm (0.91 in)	214-6623	3/8 in Drive
10.0 mm	23.0 mm (0.91 in)	214-6624	3/8 in Drive
11.0 mm	23.0 mm (0.91 in)	214-6625	3/8 in Drive
12.0 mm	23.8 mm (0.94 in)	214-6626	3/8 in Drive
13.0 mm	24.6 mm (0.97 in)	214-6627	3/8 in Drive
14.0 mm	26.2 mm (1.03 in)	214-6628	3/8 in Drive
15.0 mm	27.0 mm (1.06 in)	214-6629	3/8 in Drive
16.0 mm	27.8 mm (1.09 in)	214-6630	3/8 in Drive
17.0 mm	28.6 mm (1.13 in)	214-6631	3/8 in Drive
18.0 mm	28.6 mm (1.13 in)	214-6632	3/8 in Drive
19.0 mm	30.2 mm (1.19 in)	214-6633	3/8 in Drive

Metric Socket Set, 10 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	553-1198	Metric Socket Set
Socket Set Consists of:			
10.0 mm	54.0 mm (2.13 in)	214-6635	Socket (3/8 in Drive)
11.0 mm	54.0 mm (2.13 in)	214-6636	Socket (3/8 in Drive)
12.0 mm	54.0 mm (2.13 in)	214-6637	Socket (3/8 in Drive)
13.0 mm	54.0 mm (2.13 in)	214-6638	Socket (3/8 in Drive)
14.0 mm	60.3 mm (2.37 in)	214-6639	Socket (3/8 in Drive)
15.0 mm	60.3 mm (2.37 in)	214-6640	Socket (3/8 in Drive)
16.0 mm	60.3 mm (2.37 in)	553-1199	Socket (3/8 in Drive)
17.0 mm	66.7 mm (2.63 in)	214-6641	Socket (3/8 in Drive)
18.0 mm	66.7 mm (2.63 in)	553-1200	Socket (3/8 in Drive)
19.0 mm	66.7 mm (2.63 in)	214-6642	Socket (3/8 in Drive)

Fractional Socket Set, 10 Piece, 1/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



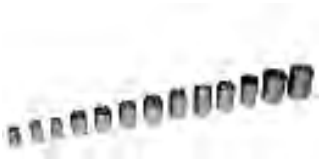
- 6 point
- 1/4 inch square drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	213-9965	Socket Set
Socket Set Consists of:			
3/16 in	50.8 mm (2 in)	213-9967	Socket
7/32 in	50.8 mm (2 in)	213-9968	Socket
1/4 in	50.8 mm (2 in)	213-9969	Socket
9/32 in	50.8 mm (2 in)	213-9970	Socket
5/16 in	50.8 mm (2 in)	213-9971	Socket
11/32 in	50.8 mm (2 in)	213-9972	Socket
3/8 in	50.8 mm (2 in)	213-9974	Socket
7/16 in	50.8 mm (2 in)	213-9978	Socket
1/2 in	50.8 mm (2 in)	213-9980	Socket

Metric Socket Set, 13 Piece, 1/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/4 inch square drive
- Standard length sockets
- Polished chrome finish
- Includes socket bar and clips

Size	Length	Part No.	Description
–	–	200-8413	Metric Socket Set
Socket Set Consists of:			
4.0 mm	22.2 mm (0.87 in)	200-8415	Socket (1/4 in Drive)
5.0 mm	22.2 mm (0.87 in)	200-8417	Socket (1/4 in Drive)
5.5 mm	22.2 mm (0.87 in)	200-8418	Socket (1/4 in Drive)
6.0 mm	22.2 mm (0.87 in)	200-8419	Socket (1/4 in Drive)
7.0 mm	22.2 mm (0.87 in)	200-8420	Socket (1/4 in Drive)
8.0 mm	22.2 mm (0.87 in)	200-8421	Socket (1/4 in Drive)
9.0 mm	22.2 mm (0.87 in)	200-8422	Socket (1/4 in Drive)
10.0 mm	22.2 mm (0.87 in)	200-8423	Socket (1/4 in Drive)
11.0 mm	22.2 mm (0.87 in)	200-8424	Socket (1/4 in Drive)
12.0 mm	22.2 mm (0.87 in)	200-8426	Socket (1/4 in Drive)
13.0 mm	22.2 mm (0.87 in)	200-8427	Socket (1/4 in Drive)
14.0 mm	22.2 mm (0.87 in)	200-8428	Socket (1/4 in Drive)
15.0 mm	23.0 mm (0.91 in)	200-8429	Socket (1/4 in Drive)

Metric Socket Set, 9 Piece, 1/4 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/4 inch square drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips

Size	Length	Part Number	Description
–	–	194-3578	Metric Socket Set
Socket Set Consists of:			
6.0 mm	50.8 mm (2 in)	194-3518	Socket (1/4 in Drive)
7.0 mm	50.8 mm (2 in)	194-3519	Socket (1/4 in Drive)
8.0 mm	50.8 mm (2 in)	194-3521	Socket (1/4 in Drive)
9.0 mm	50.8 mm (2 in)	194-3522	Socket (1/4 in Drive)
10.0 mm	50.8 mm (2 in)	194-3523	Socket (1/4 in Drive)
11.0 mm	50.8 mm (2 in)	194-3527	Socket (1/4 in Drive)
12.0 mm	50.8 mm (2 in)	194-3528	Socket (1/4 in Drive)
13.0 mm	50.8 mm (2 in)	194-3529	Socket (1/4 in Drive)
14.0 mm	50.8 mm (2 in)	194-3530	Socket (1/4 in Drive)

RATCHETS AND SOCKETS

Fractional Socket Set, 12 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Standard length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-6498	Socket Set
Socket Set Consists of:			
1 1/16 in	42.9 mm (1.69 in)	214-6513	Socket
1 1/8 in	44.5 mm (1.75 in)	214-6514	Socket
1 in	39.7 mm (1.56 in)	214-6512	Socket
1/2 in	38.1 mm (1.50 in)	214-6501	Socket
11/16 in	38.1 mm (1.50 in)	214-6506	Socket
13/16 in	38.1 mm (1.50 in)	214-6509	Socket
15/16 in	38.9 mm (1.53 in)	214-6511	Socket
3/4 in	38.1 mm (1.50 in)	214-6507	Socket
5/8 in	38.1 mm (1.50 in)	214-6504	Socket
7/16 in	38.1 mm (1.50 in)	214-6500	Socket
7/8 in	38.1 mm (1.50 in)	214-6510	Socket
9/16 in	38.1 mm (1.50 in)	214-6503	Socket

Fractional Deep Well Socket Set, 9 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Standard length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	2P-5490	Deep Well Socket Set
Deep Well Socket Set Consists of:			
1/2 in	82.6 mm (3.25 in)	2P-5475	Socket
9/16 in	82.6 mm (3.25 in)	2P-5476	Socket
5/8 in	82.6 mm (3.25 in)	2P-5477	Socket
11/16 in	82.6 mm (3.25 in)	2P-5478	Socket
3/4 in	82.6 mm (3.25 in)	2P-5479	Socket
13/16 in	82.6 mm (3.25 in)	2P-5481	Spark Plug Wrench
7/8 in	82.6 mm (3.25 in)	2P-5482	Socket
15/16 in	82.6 mm (3.25 in)	2P-5483	Socket
1 in	82.6 mm (3.25 in)	2P-5484	Socket

Fractional Socket Set, 11 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 1/2 inch square drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-1161	Socket Set
Socket Set Consists of:			
1/2 in	82.6 mm (3.25 in)	214-1162	Socket
9/16 in	82.6 mm (3.25 in)	214-1163	Socket
5/8 in	82.6 mm (3.25 in)	214-1164	Socket
11/16 in	82.6 mm (3.25 in)	214-1165	Socket
3/4 in	82.6 mm (3.25 in)	214-1166	Socket
13/16 in	82.6 mm (3.25 in)	214-1167	Socket
7/8 in	82.6 mm (3.25 in)	214-1168	Socket
15/16 in	82.6 mm (3.25 in)	214-1169	Socket
1 in	82.6 mm (3.25 in)	214-1170	Socket
1 1/16 in	82.6 mm (3.25 in)	214-1171	Socket
1 1/8 in	82.6 mm (3.25 in)	214-1172	Socket

Metric Socket Set, 13 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® See Individual Parts



- 12 point
- 1/2 inch square drive
- Standard length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

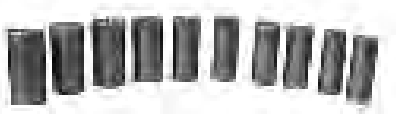
Size	Length	Part Number	Description
–	–	199-6156	Metric Socket Set
Socket Set Consists of:			
12.0 mm	38.1 mm (1.50 in)	199-6149	Socket (1/2 in Drive)
13.0 mm	38.1 mm (1.50 in)	199-6150	Socket (1/2 in Drive)
14.0 mm	38.1 mm (1.50 in)	8T-3041	Socket (1/2 in Drive)
15.0 mm	38.1 mm (1.50 in)	6V-9110	Socket (1/2 in Drive)
16.0 mm	38.1 mm (1.50 in)	6V-9111	Socket (1/2 in Drive)
17.0 mm	38.1 mm (1.50 in)	6V-9112	Socket (1/2 in Drive)
18.0 mm	38.1 mm (1.50 in)	6V-9113	Socket (1/2 in Drive)
19.0 mm	38.1 mm (1.50 in)	6V-9114	Socket (1/2 in Drive)
20.0 mm	38.1 mm (1.50 in)	199-6152	Socket (1/2 in Drive)
21.0 mm	38.1 mm (1.50 in)	6V-9115	Socket (1/2 in Drive)
22.0 mm	38.1 mm (1.50 in)	6V-9116	Socket (1/2 in Drive)
23.0 mm	38.1 mm (1.50 in)	199-6153	Socket (1/2 in Drive)
24.0 mm	38.1 mm (1.50 in)	199-6154	Socket (1/2 in Drive)

RATCHETS AND SOCKETS

Metric Socket Set, 10 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 1/2 inch drive
- Deep length sockets
- Polished chrome finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	194-3576	Metric Socket Set
Socket Set Consists of:			
16.0 mm	82.6 mm (3.25 in)	194-3505	Socket (1/2 in Drive)
17.0 mm	82.6 mm (3.25 in)	194-3506	Socket (1/2 in Drive)
18.0 mm	82.6 mm (3.25 in)	194-3510	Socket (1/2 in Drive)
19.0 mm	82.6 mm (3.25 in)	194-3511	Socket (1/2 in Drive)
20.0 mm	82.6 mm (3.25 in)	194-3512	Socket (1/2 in Drive)
21.0 mm	82.6 mm (3.25 in)	194-3513	Socket (1/2 in Drive)
22.0 mm	82.6 mm (3.25 in)	194-3514	Socket (1/2 in Drive)
24.0 mm	82.6 mm (3.25 in)	194-3515	Socket (1/2 in Drive)
25.0 mm	82.6 mm (3.25 in)	194-3516	Socket (1/2 in Drive)
26.0 mm	82.6 mm (3.25 in)	194-3517	Socket (1/2 in Drive)

Fractional Impact Socket Set, 12 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Standard length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	271-4600	Impact Socket Set
Impact Socket Set Consists of:			
5/16 in	22.2 mm (0.87 in)	271-4601	Socket
3/8 in	23.8 mm (0.94 in)	271-4602	Socket
7/16 in	23.8 mm (0.94 in)	271-4603	Socket
1/2 in	23.8 mm (0.94 in)	271-4604	Socket
9/16 in	23.8 mm (0.94 in)	271-4605	Socket
5/8 in	23.8 mm (0.94 in)	271-4606	Socket
11/16 in	26.2 mm (1.03 in)	271-4607	Socket
3/4 in	26.2 mm (1.03 in)	271-4608	Socket
13/16 in	30.2 mm (1.19 in)	271-4609	Socket
7/8 in	32.5 mm (1.28 in)	271-4610	Socket
15/16 in	33.3 mm (1.31 in)	271-4611	Socket
1 in	25.4 mm (1 in)	271-4612	Socket

Fractional Impact Socket Set, 7 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® See Individual Parts



- 12 point
- 3/8 inch square drive
- Standard length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4613	Impact Socket Set
Impact Socket Set Consists of:			
3/8 in	22.2 mm (0.87 in)	271-4615	Socket
7/16 in	23.8 mm (0.94 in)	271-4616	Socket
1/2 in	23.8 mm (0.94 in)	271-4617	Socket
9/16 in	23.8 mm (0.94 in)	271-4618	Socket
5/8 in	23.8 mm (0.94 in)	271-4619	Socket
11/16 in	26.2 mm (1.03 in)	271-4620	Socket
3/4 in	26.2 mm (1.03 in)	271-4621	Socket

Fractional Impact Socket Set, 12 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Deep length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4669	Impact Socket Set
Impact Socket Set Consists of:			
5/16 in	54.0 mm (2.13 in)	271-4670	Socket
3/8 in	54.0 mm (2.13 in)	271-4671	Socket
7/16 in	54.0 mm (2.13 in)	271-4672	Socket
1/2 in	54.0 mm (2.13 in)	271-4673	Socket
9/16 in	60.3 mm (2.37 in)	271-4674	Socket
5/8 in	60.3 mm (2.37 in)	271-4675	Socket
11/16 in	74.6 mm (2.94 in)	271-4676	Socket
3/4 in	69.9 mm (2.75 in)	271-4677	Socket
13/16 in	69.9 mm (2.75 in)	271-4678	Socket
7/8 in	69.9 mm (2.75 in)	271-4679	Socket
15/16 in	69.9 mm (2.75 in)	271-4680	Socket
1 in	69.9 mm (2.75 in)	271-4681	Socket

RATCHETS AND SOCKETS

Metric Impact Socket Set, 14 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Standard length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4622	Impact Socket Set
Socket Set Consists of:			
8.0 mm	23 mm (0.91 in)	271-4623	Socket (3/8 in Drive)
9.0 mm	23 mm (0.91 in)	271-4624	Socket (3/8 in Drive)
10.0 mm	23 mm (0.91 in)	271-4625	Socket (3/8 in Drive)
11.0 mm	23.8 mm (0.94 in)	271-4626	Socket (3/8 in Drive)
12.0 mm	23.8 mm (0.94 in)	271-4627	Socket (3/8 in Drive)
13.0 mm	24.6 mm (0.97 in)	271-4628	Socket (3/8 in Drive)
14.0 mm	27 mm (1.06 in)	271-4630	Socket (3/8 in Drive)
15.0 mm	27 mm (1.06 in)	271-4631	Socket (3/8 in Drive)
16.0 mm	27.8 mm (1.09 in)	271-4632	Socket (3/8 in Drive)
17.0 mm	28.2 mm (1.11 in)	271-4633	Socket (3/8 in Drive)
18.0 mm	29 mm (1.14 in)	271-4634	Socket (3/8 in Drive)
19.0 mm	30.6 mm (1.20 in)	271-4635	Socket (3/8 in Drive)
21.0 mm	29.5 mm (1.16 in)	271-4636	Socket (3/8 in Drive)
24.0 mm	33 mm (1.30 in)	271-4637	Socket (3/8 in Drive)

Metric Impact Socket Set, 14 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch square drive
- Standard length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4654	Impact Socket Set
Impact Socket Set consists of:			
8.0 mm	23 mm (0.91 in)	271-4655	Socket (3/8 in Drive)
10.0 mm	23 mm (0.91 in)	271-4656	Socket (3/8 in Drive)
11.0 mm	23.8 mm (0.91 in)	271-4657	Socket (3/8 in Drive)
12.0 mm	23.8 mm (0.94 in)	271-4658	Socket (3/8 in Drive)
13.0 mm	23.8 mm (0.94 in)	271-4659	Socket (3/8 in Drive)
14.0 mm	27 mm (1.06 in)	271-4660	Socket (3/8 in Drive)
15.0 mm	27 mm (1.06 in)	271-4661	Socket (3/8 in Drive)
16.0 mm	27.8 mm (1.09 in)	271-4662	Socket (3/8 in Drive)
17.0 mm	28.2 mm (1.11 in)	271-4663	Socket (3/8 in Drive)
18.0 mm	29 mm (1.14 in)	271-4664	Socket (3/8 in Drive)
19.0 mm	30.6 mm (1.20 in)	271-4665	Socket (3/8 in Drive)
20.0 mm	30.9 mm (1.22 in)	271-4666	Socket (3/8 in Drive)
21.0 mm	32.1 mm (1.26 in)	271-4667	Socket (3/8 in Drive)
22.0 mm	32.9 mm (1.30 in)	271-4668	Socket (3/8 in Drive)

Metric Impact Socket Set, 14 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Deep length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4638	Impact Socket Set
Impact Socket Set Consists of:			
8.0 mm	54 mm (2.13 in)	271-4639	Socket (3/8 in Drive)
9.0 mm	54 mm (2.13 in)	271-4640	Socket (3/8 in Drive)
10.0 mm	54 mm (2.13 in)	271-4641	Socket (3/8 in Drive)
11.0 mm	54 mm (2.13 in)	271-4642	Socket (3/8 in Drive)
12.0 mm	54 mm (2.13 in)	271-4643	Socket (3/8 in Drive)
13.0 mm	54 mm (2.13 in)	271-4644	Socket (3/8 in Drive)
14.0 mm	60.3 mm (2.37 in)	271-4645	Socket (3/8 in Drive)
15.0 mm	60.3 mm (2.37 in)	271-4646	Socket (3/8 in Drive)
16.0 mm	60.3 mm (2.37 in)	271-4647	Socket (3/8 in Drive)
17.0 mm	66.7 mm (2.63 in)	271-4648	Socket (3/8 in Drive)
18.0 mm	66.7 mm (2.63 in)	271-4650	Socket (3/8 in Drive)
19.0 mm	66.7 mm (2.63 in)	271-4651	Socket (3/8 in Drive)
21.0 mm	66.7 mm (2.63 in)	271-4652	Socket (3/8 in Drive)
24.0 mm	73 mm (2.87 in)	271-4653	Socket (3/8 in Drive)

Metric Impact Socket Set, 14 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch square drive
- Deep length sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	271-4683	Impact Socket Set
Impact Socket Set Consists of:			
8.0 mm	54 mm (2.13 in)	271-4684	Socket (3/8 in Drive)
9.0 mm	54 mm (2.13 in)	271-4685	Socket (3/8 in Drive)
10.0 mm	54 mm (2.13 in)	271-4686	Socket (3/8 in Drive)
11.0 mm	54 mm (2.13 in)	271-4687	Socket (3/8 in Drive)
12.0 mm	54 mm (2.13 in)	271-4688	Socket (3/8 in Drive)
13.0 mm	54 mm (2.13 in)	271-4689	Socket (3/8 in Drive)
14.0 mm	60.3 mm (2.37 in)	271-4690	Socket (3/8 in Drive)
15.0 mm	60.3 mm (2.37 in)	271-4691	Socket (3/8 in Drive)
16.0 mm	60.3 mm (2.37 in)	271-4692	Socket (3/8 in Drive)
17.0 mm	66.7 mm (2.63 in)	271-4693	Socket (3/8 in Drive)
18.0 mm	66.7 mm (2.63 in)	271-4694	Socket (3/8 in Drive)
19.0 mm	66.7 mm (2.63 in)	271-4695	Socket (3/8 in Drive)
21.0 mm	66.7 mm (2.63 in)	271-4696	Socket (3/8 in Drive)
24.0 mm	73 mm (2.87 in)	271-4697	Socket (3/8 in Drive)

RATCHETS AND SOCKETS

Fractional Impact Socket Set, 11 Piece 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® See Individual Parts



- 6 point
- 1/2 inch square drive
- Standard length sockets
- Black oxide finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	213-3086	Impact Socket Set
Impact Socket Set Consists of:			
1/2 in	38.1 mm (1.50 in)	213-3087	Socket
9/16 in	38.1 mm (1.50 in)	213-3088	Socket
5/8 in	38.1 mm (1.50 in)	213-3089	Socket
11/16 in	38.1 mm (1.50 in)	213-3091	Socket
3/4 in	38.1 mm (1.50 in)	213-3094	Socket
13/16 in	38.1 mm (1.50 in)	213-3099	Socket
7/8 in	38.1 mm (1.50 in)	213-3102	Socket
15/16 in	44.5 mm (1.75 in)	213-3104	Socket
1 in	44.5 mm (1.75 in)	213-3107	Socket
1 1/16 in	50.8 mm (2 in)	213-3109	Socket
1 1/8 in	50.8 mm (2 in)	213-3110	Socket, 1 1/8 in

Fractional Impact Socket Set, 12 Piece 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Deep length sockets
- Black oxide finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	213-3515	Impact Socket Set
Impact Socket Set Consists of:			
7/16 in	82.6 mm (3.25 in)	213-3516	Socket
1/2 in	82.6 mm (3.25 in)	213-3517	Socket
9/16 in	82.6 mm (3.25 in)	213-3518	Socket
5/8 in	82.6 mm (3.25 in)	213-3520	Socket
11/16 in	82.6 mm (3.25 in)	213-3521	Socket
3/4 in	82.6 mm (3.25 in)	213-3522	Socket
13/16 in	82.6 mm (3.25 in)	213-3523	Socket
7/8 in	88.9 mm (3.50 in)	213-3524	Socket
15/16 in	88.9 mm (3.50 in)	213-3525	Socket
1 in	88.9 mm (3.50 in)	213-3526	Socket
1 1/16 in	88.9 mm (3.50 in)	213-3528	Socket
1 1/8 in	88.9 mm (3.50 in)	213-3530	Socket

Metric Impact Socket Set, 12 Piece 1/2 inch Drive

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch drive
- Standard length impact sockets
- Black oxide finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	213-6923	Impact Socket Set
Socket Set Consists of:			
10.0 mm	38.1 mm (1.50 in)	213-6926	Impact Socket (1/2 in Drive)
11.0 mm	38.1 mm (1.50 in)	213-6927	Impact Socket (1/2 in Drive)
12.0 mm	38.1 mm (1.50 in)	213-6928	Impact Socket (1/2 in Drive)
13.0 mm	38.1 mm (1.50 in)	213-6929	Impact Socket (1/2 in Drive)
14.0 mm	38.1 mm (1.50 in)	213-6930	Impact Socket (1/2 in Drive)
15.0 mm	38.1 mm (1.50 in)	213-6932	Impact Socket (1/2 in Drive)
16.0 mm	38.1 mm (1.50 in)	213-6933	Impact Socket (1/2 in Drive)
17.0 mm	38.1 mm (1.50 in)	213-6934	Impact Socket (1/2 in Drive)
18.0 mm	38.1 mm (1.50 in)	213-6935	Impact Socket (1/2 in Drive)
19.0 mm	38.1 mm (1.50 in)	213-6936	Impact Socket (1/2 in Drive)
20.0 mm	38.1 mm (1.50 in)	213-6924	Impact Socket (1/2 in Drive)
21.0 mm	38.1 mm (1.50 in)	213-6937	Impact Socket (1/2 in Drive)

Metric Impact Socket Set, 11 Piece 1/2 inch Drive

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch drive
- Deep length impact sockets
- Black oxide finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part No.	Description
–	–	9U-6547	Impact Socket Set
Impact Socket Set Consists of:			
10.0 mm	82.6 mm (3.25 in)	214-6644	Impact Socket (1/2 in Drive)
11.0 mm	82.6 mm (3.25 in)	214-6645	Impact Socket (1/2 in Drive)
12.0 mm	82.6 mm (3.25 in)	214-6646	Impact Socket (1/2 in Drive)
13.0 mm	82.6 mm (3.25 in)	214-6647	Impact Socket (1/2 in Drive)
14.0 mm	82.6 mm (3.25 in)	214-6648	Impact Socket (1/2 in Drive)
15.0 mm	82.6 mm (3.25 in)	214-6649	Impact Socket (1/2 in Drive)
16.0 mm	82.6 mm (3.25 in)	214-6650	Impact Socket (1/2 in Drive)
17.0 mm	82.6 mm (3.25 in)	214-6651	Impact Socket (1/2 in Drive)
18.0 mm	82.6 mm (3.25 in)	214-6652	Impact Socket (1/2 in Drive)
19.0 mm	82.6 mm (3.25 in)	214-6653	Impact Socket (1/2 in Drive)
20.0 mm	82.6 mm (3.25 in)	214-7346	Impact Socket (1/2 in Drive)

RATCHETS AND SOCKETS

Metric Impact Socket Set, 24 Piece 3/4 inch Drive

Warranty: Caterpillar® Lifetime



- 6 point
- 3/4 inch drive
- Standard length impact sockets
- Black oxide finish
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-6643	Impact Socket Set
Impact Socket Set Consists of:			
17.0 mm	44.5 mm (1.75 in)	9U-6523	Impact Socket
19.0 mm	44.5 mm (1.75 in)	9U-6524	Impact Socket
20.0 mm	44.5 mm (1.75 in)	9U-6525	Impact Socket
21.0 mm	47.8 mm (1.88 in)	9U-6526	Impact Socket
22.0 mm	47.6 mm (1.87 in)	9U-6527	Impact Socket
23.0 mm	47.8 mm (1.88 in)	9U-6528	Impact Socket
24.0 mm	47.6 mm (1.87 in)	9U-6529	Impact Socket
26.0 mm	50.8 mm (2 in)	9U-6530	Impact Socket
27.0 mm	50.8 mm (2 in)	9U-6531	Impact Socket
28.0 mm	53.8 mm (2.12 in)	9U-6532	Impact Socket
30.0 mm	53.8 mm (2.12 in)	9U-6533	Impact Socket
31.0 mm	54 mm (2.13 in)	9U-6534	Impact Socket
32.0 mm	54 mm (2.13 in)	9U-6535	Impact Socket
33.0 mm	53.8 mm (2.12 in)	9U-6536	Impact Socket
34.0 mm	54 mm (2.13 in)	9U-6537	Impact Socket
35.0 mm	57.2 mm (2.25 in)	9U-6538	Impact Socket
36.0 mm	57.2 mm (2.25 in)	9U-6539	Impact Socket
38.0 mm	57.2 mm (2.25 in)	9U-6540	Impact Socket
40.0 mm	66.7 mm (2.63 in)	9U-6541	Impact Socket
41.0 mm	66.5 mm (2.62 in)	9U-6542	Impact Socket
42.0 mm	66.5 mm (2.62 in)	9U-6543	Impact Socket
43.0 mm	66.5 mm (2.62 in)	9U-6544	Impact Socket
46.0 mm	66.7 mm (2.63 in)	9U-6545	Impact Socket
50.0 mm	73.2 mm (2.88 in)	9U-6546	Impact Socket

Fractional Universal Socket Set, 7 Piece, 3/8 inch Drive

Warranty: Caterpillar® Lifetime



- 12 point
- 3/8 inch universal drive
- Polished chrome finish
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	9S-1747	Universal Socket Set
Socket Set Consists of:			
3/8 in	40.1 mm (1.58 in)	8S-2284	Universal Socket
7/16 in	40.1 mm (1.58 in)	8H-8562	Universal Socket
1/2 in	42.1 mm (1.66 in)	8H-8563	Universal Socket
9/16 in	42.8 mm (1.69 in)	8H-8564	Universal Socket
5/8 in	44.5 mm (1.75 in)	8H-8565	Universal Socket
11/16 in	49.6 mm (1.95 in)	9S-1727	Universal Socket
3/4 in	50.4 mm (1.98 in)	8H-8566	Universal Socket

Fractional Universal Socket Set, 7 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	261-8581	Universal Impact Socket Set
Socket Set Consists of:			
3/8 in	50 mm (1.97 in)	261-8583	Socket
7/16 in	50 mm (1.97 in)	261-8585	Socket
1/2 in	54.1 mm (2.13 in)	261-8586	Socket
9/16 in	55.6 mm (2.19 in)	261-8587	Socket
5/8 in	57.2 mm (2.25 in)	261-8589	Socket
11/16 in	64.3 mm (2.53 in)	261-8590	Socket
3/4 in	65.8 mm (2.59 in)	261-8591	Socket

Metric Universal Socket Set, 9 Piece, 3/8 inch Drive

Model Usage: 3066 Engines

Warranty: Caterpillar® Lifetime



SMCS Code: 1251-010, 0601

- 9U-6128 used to remove and install fuel injection pump
- Standard length, 12 point universal socket set
- Specially forged and heat treated for toughness and long life–meets rigid industry standards
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	9U-6124	Universal Metric Socket Set
Metric Socket Set Consists of:			
10.0 mm	43.5 mm (1.71 in)	9U-6125	Socket (3/8 in Drive)
12.0 mm	45.5 mm (1.79 in)	9U-6126	Socket (3/8 in Drive)
13.0 mm	45.5 mm (1.79 in)	9U-6127	Socket (3/8 in Drive)
14.0 mm	47.9 mm (1.89 in)	9U-6128	Socket (3/8 in Drive)
15.0 mm	47.9 mm (1.89 in)	9U-6129	Socket (3/8 in Drive)
16.0 mm	47.9 mm (1.89 in)	9U-6130	Socket (3/8 in Drive)
17.0 mm	50.7 mm (2 in)	9U-6131	Socket (3/8 in Drive)
18.0 mm	50.7 mm (2 in)	9U-6132	Socket (3/8 in Drive)
19.0 mm	52.5 mm (2.07 in)	9U-6133	Socket (3/8 in Drive)

Metric Universal Socket Set, 7 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 3/8 inch square drive
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	261-8572	Metric Swivel Impact Socket Set
Metric Swivel Impact Set Consists of:			
10.0 mm	50.8 mm (2 in)	261-8573	Metric Swivel Impact Socket (3/8 in Drive)
12.0 mm	53.1 mm (2.09 in)	261-8574	Metric Swivel Impact Socket (3/8 in Drive)
13.0 mm	54.1 mm (2.13 in)	261-8575	Metric Swivel Impact Socket (3/8 in Drive)
14.0 mm	55.4 mm (2.18 in)	261-8576	Metric Swivel Impact Socket (3/8 in Drive)
15.0 mm	56.4 mm (2.22 in)	261-8577	Metric Swivel Impact Socket (3/8 in Drive)
17.0 mm	62.2 mm (2.45 in)	261-8578	Metric Swivel Impact Socket (3/8 in Drive)
18.0 mm	64 mm (2.52 in)	261-8579	Metric Swivel Impact Socket (3/8 in Drive)
19.0 mm	52.5 mm (2.07 in)	9U-6133	Socket (3/8 in Drive)

RATCHETS AND SOCKETS

Fractional Universal Impact Socket Set, 5 Piece, 1/2 inch Drive

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Black oxide finish
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	214-6518	Universal Impact Socket Set
Universal Impact Socket Set Consists of:			
1/2 in	73.8 mm (2.91 in)	214-6521	Socket
9/16 in	73.8 mm (2.91 in)	214-6522	Socket
5/8 in	73.8 mm (2.91 in)	214-6523	Socket
11/16 in	77.8 mm (3.06 in)	214-6524	Socket
3/4 in	77.8 mm (3.06 in)	214-6526	Socket
18.0 mm	64 mm (2.52 in)	261-8579	Metric Swivel Impact Socket (3/8 in Drive)
19.0 mm	52.5 mm (2.07 in)	9U-6133	Socket (3/8 in Drive)

Fractional Universal Impact Socket Set, 14 Piece, 1/2 inch Drive

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Black oxide finish
- Standard length impact sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–	–	246-8184	Socket Set
Universal Impact Socket Set Consists of:			
1/2 in	73.8 mm (2.91 in)	214-6521	Socket
9/16 in	73.8 mm (2.91 in)	214-6522	Socket
5/8 in	73.8 mm (2.91 in)	214-6523	Socket
11/16 in	77.8 mm (3.06 in)	214-6524	Socket
3/4 in	77.8 mm (3.06 in)	214-6526	Socket
13/16 in	77.8 mm (3.06 in)	246-8173	Socket
7/8 in	77.8 mm (3.06 in)	246-8175	Socket
15/16 in	77.8 mm (3.06 in)	246-8176	Socket
1 in	77.8 mm (3.06 in)	246-8177	Socket
1 - 1/16 in	80.2 mm (3.16 in)	246-8178	Socket
1 - 1/8 in	84.9 mm (3.34 in)	246-8179	Socket
1 - 3/16 in	84.9 mm (3.34 in)	246-8180	Socket
1 - 1/4 in	86.5 mm (3.41 in)	246-8181	Socket
1 - 5/16 in	86.5 mm (3.41 in)	246-8182	Socket

Metric Universal Impact Socket Set, 10 Piece, 1/2 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- 6 point
- 1/2 inch square drive
- Black oxide finish
- Standard length impact sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Size	Length	Part Number	Description
–		246-8199	Metric Universal Impact Socket Set
Metric Universal Impact Socket Set Consists of:			
10.0 mm	73.7 mm (2.90 in)	246-8185	Universal Impact Socket (1/2 in Drive)
11.0 mm	73.7 mm (2.90 in)	246-8186	Universal Impact Socket (1/2 in Drive)
12.0 mm	73.7 mm (2.90 in)	246-8187	Universal Impact Socket (1/2 in Drive)
13.0 mm	73.7 mm (2.90 in)	246-8188	Universal Impact Socket (1/2 in Drive)
14.0 mm	73.7 mm (2.90 in)	246-8189	Universal Impact Socket (1/2 in Drive)
15.0 mm	73.7 mm (2.90 in)	246-8190	Universal Impact Socket (1/2 in Drive)
16.0 mm	73.7 mm (2.90 in)	246-8191	Universal Impact Socket (1/2 in Drive)
17.0 mm	77.8 mm (3.06 in)	246-8192	Universal Impact Socket (1/2 in Drive)
18.0 mm	77.7 mm (3.06 in)	246-8194	Universal Impact Socket (1/2 in Drive)
19.0 mm	77.7 mm (3.06 in)	246-8197	Universal Impact Socket (1/2 in Drive)
1 - 3/16 in	84.9 mm (3.34 in)	246-8180	Socket
1 - 1/4 in	86.5 mm (3.41 in)	246-8181	Socket
1 - 5/16 in	86.5 mm (3.41 in)	246-8182	Socket

Fractional Twist Socket Set, 13 Piece, 3/8 inch Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- SAE / Metric impact sockets quickly and easily remove damaged or rounded nuts and bolts
- 6 fluted sockets grip onto fastener and tighten as more torque is applied (no hammering required to install socket over fastener)
- Applications include oil pan drain plugs, exhaust manifold nuts, studs, pipe nipples, and corroded marine fasteners
- Shallow depth
- Fits sizes from 10 to 19 mm (3/8 to 3/4 inch)
- 3/8 inch square drive
- Standard length
- Industrial black finish
- Includes plastic tray, socket bar, and clips
- Can be ordered by set or individual

Size	Length	Part Number	Description
–	–	241-0873	Twist Socket Set
Twist Socket Set Consists of:			
1/2 in	31.7 mm (1.25 in)	241-0868	Socket (3/8 in Drive)
10 mm	31.7 mm (1.25 in)	241-0860	Socket (3/8 in Drive)
11 mm	31.7 mm (1.25 in)	241-0867	Socket (3/8 in Drive)
11/16 in	34.9 mm (1.37 in)	241-0871	Socket (3/8 in Drive)
12 mm	31.7 mm (1.25 in)	241-0861	Socket (3/8 in Drive)
13 mm	31.7 mm (1.25 in)	241-0862	Socket (3/8 in Drive)
14 mm	31.7 mm (1.25 in)	241-0863	Socket (3/8 in Drive)
15 mm	31.7 mm (1.25 in)	241-0864	Socket (3/8 in Drive)
16 mm	31.7 mm (1.25 in)	241-0870	Socket (3/8 in Drive)
17 mm	31.7 mm (1.25 in)	-	Socket (3/8 in Drive)
19 mm	34.9 mm (1.37 in)	241-0872	Socket (3/8 in Drive)
3/8 in	31.7 mm (1.25 in)	241-0866	Socket (3/8 in Drive)
9/16 in	31.7 mm (1.25 in)	241-0869	Socket (3/8 in Drive)

RATCHETS AND SOCKETS

Individual Fractional Sockets, 1/4 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1/4 inch Drive, Standard Length Sockets, 12 Point		
3/16 in	22.2 mm (0.87 in)	9S-1711
7/32 in	22.2 mm (0.87 in)	9S-1712
1/4 in	22.2 mm (0.87 in)	9S-1713
9/32 in	22.2 mm (0.87 in)	9S-1714
5/16 in	22.2 mm (0.87 in)	9S-1715
11/32 in	22.2 mm (0.87 in)	9S-1716
3/8 in	22.2 mm (0.87 in)	9S-1717
7/16 in	22.2 mm (0.87 in)	9S-1718
1/2 in	22.2 mm (0.87 in)	9S-1719
1/4 inch Drive, Deep Length Sockets, 6 Point, Chrome		
5/16 in	31.8 mm (1.25 in)	5P-0127
3/16 in	50.8 mm (2 in)	213-9967
7/32 in	50.8 mm (2 in)	213-9968
1/4 in	50.8 mm (2 in)	213-9969
9/32 in	50.8 mm (2 in)	213-9970
5/16 in	50.8 mm (2 in)	213-9971
11/32 in	50.8 mm (2 in)	213-9972
3/8 in	50.8 mm (2 in)	213-9974
7/16 in	50.8 mm (2 in)	213-9978
1/2 in	50.8 mm (2 in)	213-9980
9/16 in	50.8 mm (2 in)	213-9981
1/4 inch Drive, Deep Length Socket, 12 Point		
3/8 in	50.8 mm (2 in)	9S-2573

Individual Fractional Sockets, 3/8 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
3/8 inch Drive, Universal Sockets, 12 Point		
7/16 in	40.1 mm (1.58 in)	8H-8562
3/8 in	40.1 mm (1.58 in)	8S-2284
1/2 in	42.1 mm (1.66 in)	8H-8563
9/16 in	42.8 mm (1.69 in)	8H-8564
5/8 in	44.5 mm (1.75 in)	8H-8565
11/16 in	49.6 mm (1.95 in)	9S-1727
3/4 in	50.4 mm (1.98 in)	8H-8566
3/8 inch Drive, Standard Length Sockets, 12 Point		
1/4 in	23 mm (0.91 in)	266-3738
5/16 in	23 mm (0.91 in)	266-3739
7/16 in	23 mm (0.91 in)	8H-8567
3/8 in	23 mm (0.91 in)	8S-2274
1/2 in	23.8 mm (0.94 in)	8H-8568
9/16 in	24.6 mm (0.97 in)	8H-8569
5/8 in	26.2 mm (1.03 in)	8H-8570
11/16 in	27 mm (1.06 in)	9S-1728
3/4 in	27.8 mm (1.09 in)	8H-8571
1/4 in	31.8 mm (1.25 in)	541-3250 (Shoulder bolt socket 12 point)
5/16 in	31.8 mm (1.25 in)	541-3246 (Shoulder bolt socket 12 point)
3/8 in	38.1 mm (1.50 in)	541-3238
7/16 in	38.1 mm (1.50 in)	8S-1592
3/8 inch Drive, Deep Length Sockets, 12 Point, Chrome		
7/16 in	54 mm (2.13 in)	3P-2210 (Special socket)
3/8 in	54.1 mm (2.13 in)	214-6491
7/16 in	54.1 mm (2.13 in)	214-6492
1/2 in	60.5 mm (2.38 in)	214-6493
9/16 in	60.5 mm (2.38 in)	8S-2357
5/8 in (3)	60.5 mm (2.38 in)	9S-5031 (Comes with insert for removing spark plugs)
11/16 in	66.8 mm (2.63 in)	214-6494
3/4 in	66.8 mm (2.63 in)	214-6495
13/16 in	69.9 mm (2.75 in)	214-6496
3/8 inch Drive, Standard Length Sockets, 6 Point, Chrome		
3/8 in	23.1 mm (0.91 in)	214-1144
7/16 in	23.1 mm (0.91 in)	214-1145
1/2 in	23.9 mm (0.94 in)	214-1146
9/16 in	26.2 mm (1.03 in)	214-1147
5/8 in	27.7 mm (1.09 in)	214-1148
11/16 in	28.7 mm (1.13 in)	214-1149
3/4 in	30.2 mm (1.19 in)	214-1150
3/8 inch Drive, Deep Length Sockets, 6 Point, Chrome		
3/8 in	54 mm (2.13 in)	214-1152
7/16 in	54 mm (2.13 in)	214-1153
1/2 in	60.3 mm (2.37 in)	214-1154
9/16 in	60.3 mm (2.37 in)	214-1155
5/8 in	60.3 mm (2.37 in)	214-1156
11/16 in	66.7 mm (2.63 in)	214-1157
3/4 in	66.7 mm (2.63 in)	214-1158
13/16 in	69.9 mm (2.75 in)	214-1159
7/8 in	69.9 mm (2.75 in)	214-1160

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RATCHETS AND SOCKETS

(CONTINUED) Individual Fractional Sockets, 3/8 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
3/8 inch Drive, Standard Length Impact Sockets, 6 Point		
5/16 in	22.2 mm (0.87 in)	271-4601
3/8 in	23.8 mm (0.94 in)	271-4602
7/16 in	23.8 mm (0.94 in)	271-4603
1/2 in	23.8 mm (0.94 in)	271-4604
9/16 in	23.8 mm (0.94 in)	271-4605
5/8 in	23.8 mm (0.94 in)	271-4606
1 in	25.4 mm (1 in)	271-4612
11/16 in	26.2 mm (1.03 in)	271-4607
3/4 in	26.2 mm (1.03 in)	271-4608
13/16 in	30.2 mm (1.19 in)	271-4609
7/8 in	32.5 mm (1.28 in)	271-4610
15/16 in	33.3 mm (1.31 in)	271-4611
3/8 inch Drive, Deep Length Impact Sockets, 12 Point		
3/8 in	22.2 mm (0.87 in)	271-4615
7/16 in	23.8 mm (0.94 in)	271-4616
1/2 in	23.8 mm (0.94 in)	271-4617
9/16 in	23.8 mm (0.94 in)	271-4618
5/8 in	23.8 mm (0.94 in)	271-4619
11/16 in	26.2 mm (1.03 in)	271-4620
3/4 in	26.2 mm (1.03 in)	271-4621
3/8 inch Drive, Deep Length Impact Sockets, 6 Point		
5/16 in	54 mm (2.13 in)	271-4670
3/8 in	54 mm (2.13 in)	271-4671
7/16 in	54 mm (2.13 in)	271-4672
1/2 in	54 mm (2.13 in)	271-4673
9/16 in	60.3 mm (2.37 in)	271-4674
5/8 in	60.3 mm (2.37 in)	271-4675
3/4 in	69.9 mm (2.75 in)	271-4677
13/16 in	69.9 mm (2.75 in)	271-4678
7/8 in	69.9 mm (2.75 in)	271-4679
15/16 in	69.9 mm (2.75 in)	271-4680
1 in	69.9 mm (2.75 in)	271-4681
11/16 in	74.6 mm (2.94 in)	271-4676

Individual Fractional Sockets, 1/2 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1/2 inch Drive, Standard Length Sockets, 12 Point		
1/2 in	38.1 mm (1.50 in)	1S-0259
7/16 in	38.1 mm (1.50 in)	214-6497
9/16 in	38.1 mm (1.50 in)	8H-8549
5/8 in	38.1 mm (1.50 in)	8H-8550
11/16 in	38.1 mm (1.50 in)	8H-8551
3/4 in	38.1 mm (1.50 in)	8H-8552
13/16 in	38.1 mm (1.50 in)	8H-8553
7/8 in	38.1 mm (1.50 in)	8H-8554
15/16 in	38.1 mm (1.50 in)	8H-8555
1 in	38.1 mm (1.50 in)	8H-8556
1 1/16 in	41.3 mm (1.63 in)	9S-1729
1/2 in	44.5 mm (1.75 in)	541-3236
9/16 in	44.5 mm (1.75 in)	8S-1594

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(CONTINUED) Individual Fractional Sockets, 1/2 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
5/8 in	44.5 mm (1.75 in)	541-3242
11/16 in	44.5 mm (1.75 in)	541-3247
1 1/8 in	44.5 mm (1.75 in)	9S-1730
1 1/4 in	47.6 mm (1.87 in)	9S-1731
1/2 inch Drive, Standard Length Sockets, 6 Point, Chrome		
7/16 in	38.1 mm (1.50 in)	214-6500
1/2 in	38.1 mm (1.50 in)	214-6501
9/16 in	38.1 mm (1.50 in)	214-6503
5/8 in	38.1 mm (1.50 in)	214-6504
11/16 in	38.1 mm (1.50 in)	214-6506
3/4 in	38.1 mm (1.50 in)	214-6507
13/16 in	38.1 mm (1.50 in)	214-6509
7/8 in	38.1 mm (1.50 in)	214-6510
15/16 in	38.9 mm (1.53 in)	214-6511
1 in	39.7 mm (1.56 in)	214-6512
1 11/16 in	42.9 mm (1.69 in)	214-6513
1 1/8 in	44.5 mm (1.75 in)	214-6514
1/2 inch Drive, Deep Length Sockets, 12 Point		
1 in	82.6 mm (3.25 in)	214-1162
9 in	82.6 mm (3.25 in)	214-1163
5 in	82.6 mm (3.25 in)	214-1164
11 in	82.6 mm (3.25 in)	214-1165
3 in	82.6 mm (3.25 in)	214-1166
13 in	82.6 mm (3.25 in)	214-1167
7 in	82.6 mm (3.25 in)	214-1168
15 in	82.6 mm (3.25 in)	214-1169
1 in	82.6 mm (3.25 in)	214-1170
1 1/8 in	82.6 mm (3.25 in)	214-1172
1 11/16 in	82.6 mm (3.25 in)	214-1171
1 1/2 in	133.35 mm (5.25 in)	386-3335
1/2 inch Drive, Deep Length Sockets, 6 Point		
1/2 in	82.6 mm (3.25 in)	2P-5475
9/16 in	82.6 mm (3.25 in)	2P-5476
5/8 in	82.6 mm (3.25 in)	2P-5477
11/16 in	82.6 mm (3.25 in)	2P-5478
3/4 in	82.6 mm (3.25 in)	2P-5479
13/16 in	82.6 mm (3.25 in)	2P-5481
7/8 in	82.6 mm (3.25 in)	2P-5482
15/16 in	82.6 mm (3.25 in)	2P-5483
1 in	82.6 mm (3.25 in)	2P-5484
1/2 inch Drive, Standard Length Impact Sockets, 6 Point, Black		
1/2 in	38.1 mm (1.50 in)	213-3087
9/16 in	38.1 mm (1.50 in)	213-3088
5/8 in	38.1 mm (1.50 in)	213-3089
11/16 in	38.1 mm (1.50 in)	213-3091
3/4 in	38.1 mm (1.50 in)	213-3094
13/16 in	38.1 mm (1.50 in)	213-3099
7/8 in	38.1 mm (1.50 in)	213-3102
15/16 in	44.5 mm (1.75 in)	213-3104
1 in	44.5 mm (1.75 in)	213-3107
1 1/16 in	50.8 mm (2 in)	213-3109
1 1/8 in	50.8 mm (2 in)	213-3110
1 1/18 in	82.6 mm (3.25 in)	323-6267

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RATCHETS AND SOCKETS

(CONTINUED) Individual Fractional Sockets, 1/2 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1/2 inch Drive, Universal Impact Sockets, 6 Point, Black		
1/2 in	73.8 mm (2.91 in)	214-6521
9/16 in	73.8 mm (2.91 in)	214-6522
5/8 in	73.8 mm (2.91 in)	214-6523
11/16 in	77.8 mm (3.06 in)	214-6524
3/4 in	77.8 mm (3.06 in)	214-6526
1/2 inch Drive, Deep Length Impact Sockets, 6 Point, Black		
7/16 in	82.6 mm (3.25 in)	213-3516
1/2 in	82.6 mm (3.25 in)	213-3517
9/16 in	82.6 mm (3.25 in)	213-3518
5/8 in	82.6 mm (3.25 in)	213-3520
11/16 in	82.6 mm (3.25 in)	213-3521
3/4 in	82.6 mm (3.25 in)	213-3522
13/16 in	82.6 mm (3.25 in)	213-3523
1 1/4 in	88.9 mm (3.50 in)	1U-8701
7/8 in	88.9 mm (3.50 in)	213-3524
15/16 in	88.9 mm (3.50 in)	213-3525
1 in	88.9 mm (3.50 in)	213-3526
1 1/16 in	88.9 mm (3.50 in)	213-3528
1 1/8 in	88.9 mm (3.50 in)	213-3530

Individual Fractional Sockets, 3/4 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
3/4 inch Drive, Standard Length Sockets, 12 Point		
1 3/8 in	35 mm (1.38 in)	386-3353
3/4 in	50.8 mm (2 in)	8H-8529
13/16 in	57 mm (2.2 in)	460-9928
7/8 in	50.8 mm (2 in)	8H-8530
15/16 in	50.8 mm (2 in)	8H-8531
1 in	52.4 mm (2.06 in)	8H-8532
1 1/16 in	54 mm (2.13 in)	8H-8533
1 1/8 in	55.5 mm (2.19 in)	8H-8534
1 1/4 in	57.2 mm (2.25 in)	8H-8535
1 3/16 in	57.2 mm (2.25 in)	460-9929
1 in	57.2 mm (2.25 in)	541-3245
1 5/16 in	58.7 mm (2.31 in)	8H-8536
1 3/8 in	63.5 mm (2.5 in)	460-9930
1 1/2 in	63.5 mm (2.50 in)	8H-8537
1 5/8 in	66.7 mm (2.63 in)	8H-8539
1 11/16 in	69.9 mm (2.75 in)	8H-8538
1 3/4 in	69.9 mm (2.75 in)	8H-8540
1 7/8 in	79.4 mm (3.13 in)	8H-8541
2 in	79.4 mm (3.13 in)	8H-8542
5/8 in	82.6 mm (3.25 in)	2P-8276 (Shoulder bolt socket 12 point)
2 1/4 in	82.6 mm (3.25 in)	8H-8504
2 1/8 in	82.6 mm (3.25 in)	8H-8543
2 3/16 in	82.6 mm (3.25 in)	8H-8544
3/4 in	82.6 mm (3.25 in)	541-3244
13/16 in	82.6 mm (3.25 in)	541-3249
7/8 in	82.6 mm (3.25 in)	8S-1599
15/16 in	82.6 mm (3.25 in)	541-3248
2 1/2 in	152.4 mm (6 in)	3P-2230 (Special socket for fast fill fuel adapter)
3/4 inch Drive, Standard Length Impact Sockets, 6 Point, Black		
3/4 in	44.5 mm (1.75 in)	214-6553
13/16 in	47.8 mm (1.88 in)	214-6554
7/8 in	47.8 mm (1.88 in)	214-6556
15/16 in	47.8 mm (1.88 in)	214-6557
1 in	50.8 mm (2 in)	214-6558
1 11/16 in	50.8 mm (2 in)	214-6559
1 1/8 in	54.1 mm (2.13 in)	214-6560
1 3/16 in	54.1 mm (2.13 in)	214-6561
1 1/4 in	54.1 mm (2.13 in)	214-6562
1 5/16 in	57.2 mm (2.25 in)	214-6564
1 3/8 in	57.2 mm (2.25 in)	214-6565
1 7/16 in	57.2 mm (2.25 in)	214-6566
1 1/2 in	57.2 mm (2.25 in)	8T-5182
1 9/16 in	60.5 mm (2.38 in)	214-6567
1 5/8 in	60.5 mm (2.38 in)	214-6568
1 3/4 in	65 mm (2.56 in)	214-6569
1 11/16 in	65 mm (2.56 in)	214-6607
1 13/16 in	66.8 mm (2.63 in)	214-6570
1 7/8 in	69.9 mm (2.75 in)	214-6571
2 1/4 in	70 mm (2.75 in)	386-3266
2 in	73.2 mm (2.88 in)	214-6572
2 3/16 in	81 mm (3.18 in)	386-3267
2 3/8 in	89 mm (3.5 in)	386-3268
3/4 inch Drive, Deep Length Impact Sockets, 6 Point, Black		
1 in	76.2 mm (3 in)	214-6599
1 1/16 in	76.2 mm (3 in)	214-6600
1 1/8 in	76.2 mm (3 in)	214-6601
1 3/16 in	82.6 mm (3.25 in)	214-6602
1 1/4 in	82.6 mm (3.25 in)	214-6603

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RATCHETS AND SOCKETS

(CONTINUED) Individual Fractional Sockets, 3/4 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1 5/16 in	82.6 mm (3.25 in)	214-6604
1 3/8 in	82.6 mm (3.25 in)	214-6605
1 1/2 in	88.9 mm (3.50 in)	1U-5715
1 7/16 in	88.9 mm (3.50 in)	214-6606
1 9/16 in	88.9 mm (3.50 in)	214-6608
1 5/8 in	88.9 mm (3.50 in)	214-6609
1 3/4 in	88.9 mm (3.50 in)	214-6611
1 1/8 in	88.9 mm (3.50 in)	227-4397 (Special use for 3406 Engine head service)
1 11/16 in	88.9 mm (3.50 in)	6V-7874
1 13/16 in	95.3 mm (3.75 in)	214-6612
1 7/8 in	95.3 mm (3.75 in)	214-6613
2 in Hex	95.3 mm (3.75 in)	214-6614
1 3/16 in	101.6 mm (4 in)	5P-3053 (Budd wheel socket)
3/4 inch Drive, Tapered Impact Sockets, 12 Point, Black		
3/4 in	127 mm (5 in)	124-0662
3/4 Inch Drive, Shallow, 12 Point, Black		
1 in	50.8 mm (2 in)	432-8907

Individual Fractional Sockets, 1 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1 inch Drive, Standard Length Sockets, 12 Point		
1 1/2 in	69.9 mm (2.75 in)	6V-0024
1 inch Drive, Standard Length Sockets, 6 Point, Black		
1 3/32 in	57.2 mm (2.25 in)	5P-3579 (Track Bolt Socket, 6 point, Warranty: Six Months)
2 5/8 in	57.2 mm (2.25 in)	5S-6079 (Chrome finish)
29/32 in	57.2 mm (2.25 in)	6V-2002 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 1/8 in	57.2 mm (2.25 in)	9S-6373 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 7/16 in	63.5 mm (2.50 in)	4C-6723
1 9/32 in	63.5 mm (2.50 in)	5P-3580 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 15/32 in	63.5 mm (2.50 in)	5P-3581 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 1/2 in	63.5 mm (2.50 in)	9S-6371 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 5/16 in	63.5 mm (2.50 in)	9S-6372 (Track Bolt Socket, 6 point, Warranty: Six Months)
15/16 in	63.5 mm (2.50 in)	9S-6374 (Thin wall track bolt socket, 6 point, Warranty: Six Months)
1 1/8 in	66.8 mm (2.63 in)	9S-6369 (Thin wall track bolt socket, 6 point, Warranty: Six Months)
1 11/16 in	76.2 mm (3 in)	2P-2334
1 3/4 in	76.2 mm (3 in)	2P-2335
15/16 in	76.2 mm (3 in)	9S-6370 (Track Bolt Socket, 6 point, Warranty: Six Months)
1 7/8 in	82.6 mm (3.25 in)	2P-2336
2 1/4 in	87.1 mm (3.43 in)	5P-1748 (Impact Socket, 6 point, Warranty: Six Months)
7/8 in	88.9 mm (3.50 in)	5P-1745 (Chrome finish)
27/32 in	88.9 mm (3.50 in)	6V-4175
7/8 in	88.9 mm (3.50 in)	9S-6375 (Thin wall track bolt socket, 6 point, Warranty: Six Months)
4 1/4 in	90.4 mm (3.56 in)	5P-1662
2 3/16 in	91.9 mm (3.62 in)	2P-2338
2 3/8 in Hex	98.4 mm (3.87 in)	5S-6077
2 1/2 in	104.8 mm (4.13 in)	5S-6078 (Chrome finish)
2 3/4 in	114.3 mm (4.50 in)	5S-6080 (Chrome finish)
3 in	123.8 mm (4.87 in)	5S-6081 (Chrome finish)
3 1/8 in	127 mm (5 in)	5S-6082 (Chrome finish)
3 1/4 in	127 mm (5 in)	5S-6083 (Chrome finish)
4 in	127 mm (5 in)	5S-6087 (Chrome finish)
3 1/2 in	133.4 mm (5.25 in)	5S-6084 (Chrome finish)
3 5/8 in	133.4 mm (5.25 in)	5S-6085 (Chrome finish)
3 3/4 in	136.5 mm (5.37 in)	5S-6086 (Chrome finish)
1 inch Square Drive Standard Length Impact Sockets, 12 Point, Industrial Finish		
1 1/2 in	66.5 mm (2.62 in)	168-7955
1 inch Square Drive Standard Length Impact Sockets, 12 Point, Black Finish		
1 1/2 in	57.2 mm (2.25 in)	4C-6994
1 inch Square Drive Standard Length Impact Sockets, 6 Point, Industrial Finish		
3/4 in	54 mm (2.13 in)	9U-6548
13/16 in	54 mm (2.13 in)	9U-6549
7/8 in	54 mm (2.13 in)	9U-6550
15/16 in	54 mm (2.13 in)	9U-6551
1 1/4 in	54 mm (2.13 in)	386-3257
1 in	57.2 mm (2.25 in)	9U-6552
1 1/16 in	57.2 mm (2.25 in)	9U-6553
1 1/8 in	57.2 mm (2.25 in)	9U-6554
1 3/16 in	57.2 mm (2.25 in)	9U-6555
3 7/8 in	60 mm (2.36 in)	386-3259
1 5/16 in	63.5 mm (2.50 in)	9U-6557
1 3/8 in	63.5 mm (2.50 in)	9U-6558
1 7/16 in	63.5 mm (2.50 in)	9U-6559
1 1/2 in	66.7 mm (2.63 in)	9U-6560
1 9/16 in	66.7 mm (2.63 in)	9U-6561 (Used on 789 OHT cab support assemblies bolts)
1 1/2 in	69.9 mm (2.75 in)	258-5686
1 5/8 in	69.9 mm (2.75 in)	9U-6562
1 11/16 in	73 mm (2.87 in)	9U-6563
1 3/4 in	73 mm (2.87 in)	9U-6564

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RATCHETS AND SOCKETS

(CONTINUED) Individual Fractional Sockets, 1 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1 13/16 in	**74.6 mm (2.94 in)**	**9U-6565**
1 7/8 in	74.6 mm (2.94 in)	9U-6566
1 15/16 in	74.6 mm (2.94 in)	9U-6567
1 13/16 in	74.6 mm (2.94 in)	386-3258
2 in	82.6 mm (3.25 in)	9U-6568
2 1/16 in	82.6 mm (3.25 in)	9U-6569
2 1/8 in	82.6 mm (3.25 in)	9U-6570
2 3/16 in	84.9 mm (3.34 in)	9U-6571
2 1/4 in	84.9 mm (3.34 in)	9U-6572
2 5/16 in	88.9 mm (3.50 in)	9U-6573
2 3/8 in	92.1 mm (3.63 in)	9U-6574
2 7/16 in	92.1 mm (3.63 in)	9U-6575
2 1/2 in	92.1 mm (3.63 in)	9U-6576
2 9/16 in	95.3 mm (3.75 in)	9U-6577
2 5/8 in	95.3 mm (3.75 in)	9U-6578
2 11/16 in	98.4 mm (3.87 in)	9U-6579
2 3/4 in	98.4 mm (3.87 in)	9U-6580
2 13/16 in	101.6 mm (4 in)	9U-6581
2 7/8 in	101.6 mm (4 in)	9U-6582
3 in	111.1 mm (4.37 in)	9U-6584
2 15/16 in	122.2 mm (4.81 in)	9U-6583
1 inch Square Drive Deep Length Impact Socket, 6 Point, Industrial Finish		
55 mm (2 3/16 in), 1 in drive, deep well, impact	111 mm (4.37 in)	4C-9748
1 3/16 in	111 mm (4.37 in)	4C-9787
4 in	368 mm (3 in)	447-1585
4 1/2 in	470 mm (3.375 in	447-1586

Individual Fractional Sockets, 1 1/2 in Drive

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1 1/2 inch Drive, Track Sockets, Impact Sockets		
1 7/16 in	77 mm (3.03 in)	386-3246
1 1/2 in	78 mm (3.07 in)	9U-6734 (Special for 994 Lift Cylinder)
1 5/8 in	114.3 mm (4.50 in)	1U-8798
1 11/16 in	114.3 mm (4.50 in)	1U-8586
1 3/4 in	83.3 mm (3.28 in)	386-3245
1 13/16 in	84.6 mm (3.33 in)	261-8571
1 7/8 in	85.7 mm (3.38 in)	386-3247
2 in	114.3 mm (4.50 in)	8T-9175
2 1/16 in	114.3 mm (4.50 in)	8T-9174
2 1/4 in	95.2 mm (3.75 in)	386-3225
2 3/8 in	98.4 mm (3.88 in)	386-3226
2 3/16 in	92.87 mm (3.66 in)	386-3249
2 9/16 in	102.4 mm (4.03 in)	132-8743
2 3/4 in	107.1 mm (4.22 in)	136-5190
3 in	112.7 mm (4.44 in)	386-3230
3 1/4 in	118.3 mm (4.66 in)	231-4550 (Special for 797 Off-Highway Truck Ball Studs)
3 1/2 in	124.6 mm (4.91 in)	386-3227
3 3/4 in	130.2 mm (5.13 in)	386-3228
3 7/8 in	133.4 mm (5.25 in)	386-3229
4 in	137.3 mm (5.41 in)	386-3232
4 1/4 in	152.4 mm (6 in)	234-6041 (Special for 797B Off-Highway Truck Steering Linkages)
4 5/8 in	154 mm (6.06 in)	386-3231
5 in	171.5 mm (6.75 in)	386-3234

Individual Metric Sockets, 1/4 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime unless otherwise noted

Size	Length	Part Number
1/4 inch Drive, Standard Length Sockets, 6 Point		
4 mm	22.2 mm (0.87 in)	200-8415
5 mm	22.2 mm (0.87 in)	200-8417
5 mm	22.2 mm (0.87 in)	200-8418
6 mm	22.2 mm (0.87 in)	200-8419
7 mm	22.2 mm (0.87 in)	200-8420
8 mm	22.2 mm (0.87 in)	200-8421
9 mm	22.2 mm (0.87 in)	200-8422
10 mm	22.2 mm (0.87 in)	200-8423
11 mm	22.2 mm (0.87 in)	200-8424
12 mm	22.2 mm (0.87 in)	200-8426
13 mm	22.2 mm (0.87 in)	200-8427
14 mm	22.2 mm (0.87 in)	200-8428
15 mm	23 mm (0.91 in)	200-8429
1/4 inch Drive, Deep Length Sockets, 6 Point		
5.5 mm	12.1 dia x 31.8 mm (0.48 x 1.25 in)	549-6790
6 mm	50.8 mm (2 in)	194-3518
7 mm	50.8 mm (2 in)	194-3519
8 mm	50.8 mm (2 in)	194-3521
9 mm	50.8 mm (2 in)	194-3522
10 mm	50.8 mm (2 in)	194-3523
11 mm	50.8 mm (2 in)	194-3527
12 mm	50.8 mm (2 in)	194-3528
13 mm	50.8 mm (2 in)	194-3529
14 mm	50.8 mm (2 in)	194-3530

Individual Metric Sockets, 3/8 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime unless otherwise noted



Size	Length	Part Number
3/8 inch Drive, Standard Length Sockets, 12 Point		
8 mm	23 mm (0.91 in)	194-3480
9 mm	23 mm (0.91 in)	194-3483
10 mm	23 mm (0.91 in)	194-3488
11 mm	23 mm (0.91 in)	194-3490
12 mm	23.8 mm (0.94 in)	194-3492
18 mm	66.7 mm (2.63 in)	199-9034
19 mm	66.7 mm (2.63 in)	199-9035
3/8 inch Drive, Standard Length Sockets, 6 Point		
8 mm	23 mm (0.91 in)	214-6621
9 mm	23 mm (0.91 in)	214-6623
10 mm	23 mm (0.91 in)	214-6624
11 mm	23 mm (0.91 in)	214-6625
12 mm	23.8 mm (0.94 in)	214-6626
12 mm	54 mm (2.1 in)	532-8964 (Designed and required for sensor removal on 3512B and 3516B engines)
13 mm	24.6 mm (0.97 in)	214-6627
14 mm	26.2 mm (1.03 in)	214-6628
16 mm	27.8 mm (1.09 in)	214-6630
15 mm	27 mm (1.06 in)	214-6629
17 mm	28.6 mm (1.13 in)	214-6631
18 mm	28.6 mm (1.13 in)	214-6632
19 mm	30.2 mm (1.19 in)	214-6633
3/8 inch Drive, Deep Length Sockets, 6 Point		
10 mm	54 mm (2.13 in)	214-6635
11 mm	54 mm (2.13 in)	214-6636
12 mm	54 mm (2.13 in)	214-6637

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RATCHETS AND SOCKETS

(CONTINUED) Individual Metric Sockets, 3/8 in Drive

Warranty: Caterpillar® Lifetime unless otherwise noted

Size	Length	Part Number
13 mm	54 mm (2.13 in)	214-6638
14 mm	60.3 mm (2.37 in)	214-6639
15 mm	60.3 mm (2.37 in)	214-6640
17 mm	66.7 mm (2.63 in)	214-6641
19 mm	66.7 mm (2.63 in)	214-6642
3/8 inch Drive, Universal Standard Length Sockets, 12 Point		
10 mm	43.5 mm (1.71 in)	9U-6125
12 mm	45.5 mm (1.79 in)	9U-6126
13 mm	45.5 mm (1.79 in)	9U-6127
14 mm	47.9 mm (1.89 in)	9U-6128
15 mm	47.9 mm (1.89 in)	9U-6129
16 mm	47.9 mm (1.89 in)	9U-6130
17 mm	50.7 mm (2 in)	9U-6131
18 mm	50.7 mm (2 in)	9U-6132
19 mm	52.5 mm (2.07 in)	9U-6133
3/8 inch Drive, Impact Standard Length Sockets, 12 Point		
8 mm	23 mm (0.91 in)	271-4655
10 mm	23 mm (0.91 in)	271-4656
11 mm	23.8 mm (0.94 in)	271-4657
12 mm	23.8 mm (0.94 in)	271-4658
13 mm	23.8 mm (0.94 in)	271-4659
14 mm	27 mm (1.06 in)	271-4660
15 mm	27 mm (1.06 in)	271-4661
16 mm	27.8 mm (1.09 in)	271-4662
17 mm	28.2 mm (1.11 in)	271-4663
18 mm	29 mm (1.14 in)	271-4664
19 mm	30.6 mm (1.20 in)	271-4665
20 mm	30.9 mm (1.22 in)	271-4666
21 mm	32.1 mm (1.26 in)	271-4667
22 mm	32.9 mm (1.30 in)	271-4668
3/8 inch Drive, Impact Standard Length Sockets, 6 Point		
8 mm	23 mm (0.91 in)	271-4623
9 mm	23 mm (0.91 in)	271-4624
10 mm	23 mm (0.91 in)	271-4625
11 mm	23.8 mm (0.94 in)	271-4626
12 mm	23.8 mm (0.94 in)	271-4627
13 mm	24.6 mm (0.97 in)	271-4628
14 mm	27 mm (1.06 in)	271-4630
15 mm	27 mm (1.06 in)	271-4631
16 mm	27.8 mm (1.09 in)	271-4632
17 mm	28.2 mm (1.11 in)	271-4633
18 mm	29 mm (1.14 in)	271-4634
19 mm	30.6 mm (1.20 in)	271-4635
21 mm	29.5 mm (1.16 in)	271-4636
24 mm	33 mm (1.30 in)	271-4637
3/8 inch Drive, Impact Deep Length Sockets, 12 Point		
8 mm	54 mm (2.13 in)	271-4684
9 mm	54 mm (2.13 in)	271-4685
10 mm	54 mm (2.13 in)	271-4686
11 mm	54 mm (2.13 in)	271-4687
12 mm	54 mm (2.13 in)	271-4688
13 mm	54 mm (2.13 in)	271-4689

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(CONTINUED) Individual Metric Sockets, 3/8 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime unless otherwise noted

Size	Length	Part Number
14 mm	60.3 mm (2.37 in)	271-4690
15 mm	60.3 mm (2.37 in)	271-4691
16 mm	60.3 mm (2.37 in)	271-4692
17 mm	66.7 mm (2.63 in)	271-4693
18 mm	66.7 mm (2.63 in)	271-4694
19 mm	66.7 mm (2.63 in)	271-4695
21 mm	66.7 mm (2.63 in)	271-4696
24 mm	73 mm (2.87 in)	271-4697
3/8 inch Drive, Impact Deep Length Sockets 6 Point		
8 mm	54 mm (2.13 in)	271-4639
9 mm	54 mm (2.13 in)	271-4640
10 mm	54 mm (2.13 in)	271-4641
11 mm	54 mm (2.13 in)	271-4642
12 mm	54 mm (2.13 in)	271-4643
13 mm	54 mm (2.13 in)	271-4644
14 mm	60.3 mm (2.37 in)	271-4645
15 mm	60.3 mm (2.37 in)	271-4646
16 mm	60.3 mm (2.37 in)	271-4647
17 mm	66.7 mm (2.63 in)	271-4648
18 mm	66.7 mm (2.63 in)	271-4650
19 mm	66.7 mm (2.63 in)	271-4651
21 mm	66.7 mm (2.63 in)	271-4652
24 mm	73 mm (2.87 in)	271-4653

Individual Metric Sockets, 1/2 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime unless otherwise



- Heat-treated to optimize service life.
- Flank Drive® wrenching system delivers up to 20% more turning power without slipping or rounding
- Exceeds ANSI® performance standards
- Capable of withstanding repeated cycling loads of impact wrenches
- Made with a proprietary blend of special alloy socket steel that provides long life and great strength

Size	Length	Part Number
1/2 inch Drive, Deep Length Sockets, 6 Point		
36 mm	88.9 mm (3.50 in)	242-0779 (Warranty: Manufacturer, 120 Day)
1/2 inch Drive, Standard Length Sockets, 12 Point		
10 mm	38.1 mm (1.50 in)	460-9924
11 mm	38.1 mm (1.50 in)	460-9925
12 mm	38.1 mm (1.50 in)	199-6149
13 mm	38.1 mm (1.50 in)	199-6150
14 mm	38.1 mm (1.50 in)	8T-3041
15 mm	38.1 mm (1.50 in)	6V-9110
16 mm	38.1 mm (1.50 in)	6V-9111
17 mm	38.1 mm (1.50 in)	6V-9112
18 mm	38.1 mm (1.50 in)	6V-9113
19 mm	38.1 mm (1.50 in)	6V-9114
20 mm	38.1 mm (1.50 in)	199-6152
21 mm	38.1 mm (1.50 in)	6V-9115
22 mm	38.1 mm (1.50 in)	6V-9116
23 mm	38.1 mm (1.50 in)	199-6153
24 mm	38.8 mm (1.53 in)	199-6154
25 mm	38.8 mm (1.53 in)	194-3558
26 mm	41.2 mm (1.62 in)	194-3559
27 mm	42.8 mm (1.69 in)	194-3562
28 mm	44.4 mm (1.75 in)	194-3563

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RATCHETS AND SOCKETS

(CONTINUED) Individual Metric Sockets, 1/2 in Drive

Warranty: Caterpillar® Lifetime unless otherwise noted

29 mm	44.4 mm (1.75 in)	194-3564
30 mm	44.4 mm (1.75 in)	194-3565
31 mm	47.6 mm (1.87 in)	194-3566
32 mm	47.6 mm (1.87 in)	194-3567
1/2 inch Drive, Deep Length Sockets, 12 Point		
16 mm	82.6 mm (3.25 in)	194-3505
17 mm	82.6 mm (3.25 in)	194-3506
18 mm	82.6 mm (3.25 in)	194-3510
19 mm	82.6 mm (3.25 in)	194-3511
20 mm	82.6 mm (3.25 in)	194-3512
21 mm	82.6 mm (3.25 in)	194-3513
22 mm	82.6 mm (3.25 in)	194-3514
24 mm	82.6 mm (3.25 in)	194-3515
25 mm	82.6 mm (3.25 in)	194-3516
26 mm	82.6 mm (3.25 in)	194-3517
33 mm	76.2 mm (3 in)	386-3338
1/2 inch Drive, Standard Length Impact Sockets, 6 Point, Black		
10 mm	38.1 mm (1.50 in)	213-6926
11 mm	38.1 mm (1.50 in)	213-6927
12 mm	38.1 mm (1.50 in)	213-6928
13 mm	38.1 mm (1.50 in)	213-6929
14 mm	38.1 mm (1.50 in)	213-6930
15 mm	38.1 mm (1.50 in)	213-6932
16 mm	38.1 mm (1.50 in)	213-6933
17 mm	38.1 mm (1.50 in)	213-6934
18 mm	38.1 mm (1.50 in)	213-6935
19 mm	38.1 mm (1.50 in)	213-6936
20 mm	38.1 mm (1.50 in)	213-6924
21 mm	38.1 mm (1.50 in)	213-6937
1/2 inch Drive, Deep Length Impact Sockets, 6 Point, Black		
10 mm	82.6 mm (3.25 in)	214-6644
11 mm	82.6 mm (3.25 in)	214-6645
12 mm	82.6 mm (3.25 in)	214-6646
13 mm	82.6 mm (3.25 in)	214-6647
14 mm	82.6 mm (3.25 in)	214-6648
15 mm	82.6 mm (3.25 in)	214-6649
16 mm	82.6 mm (3.25 in)	214-6650
17 mm	82.6 mm (3.25 in)	214-6651
18 mm	82.6 mm (3.25 in)	214-6652
19 mm	82.6 mm (3.25 in)	214-6653
20 mm	82.6 mm (3.25 in)	214-7346
33 mm	76.2 mm (3 in)	386-3337
36 mm	89 mm (3.5 in)	523-5151

Individual Metric Sockets, 3/4 in Drive

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
3/4 inch Drive, Standard Length Sockets, 6 Point		
24 mm	50.8 mm (2 in)	6V-9117
30 mm	57.2 mm (2.25 in)	6V-9118
36 mm	58.7 mm (2.31 in)	6V-9119
46 mm	73 mm (2.87 in)	6V-9120
32 mm	48 mm (1.89 in)	386-3358
3/4 inch Drive, Standard Length Impact Sockets, 12 Point		
20 mm	55.5 mm (2.19 in)	152-1058
3/4 inch Drive, Deep Length Impact Sockets, 6 Point		
36 mm	89 mm (3.50 in)	175-6797
43 mm	88.9 mm (3.50 in)	6V-7874
3/4 inch Drive, Standard Length Impact Sockets, 6 Point, Black		
17 mm	44.5 mm (1.75 in)	9U-6523
19 mm	44.5 mm (1.75 in)	9U-6524
20 mm	44.5 mm (1.75 in)	9U-6525
21 mm	47.8 mm (1.88 in)	9U-6526
22 mm	47.6 mm (1.87 in)	9U-6527
23 mm	47.8 mm (1.88 in)	9U-6528
24 mm	47.6 mm (1.87 in)	9U-6529
26 mm	50.8 mm (2 in)	9U-6530
27 mm	50.8 mm (2 in)	9U-6531
28 mm	53.8 mm (2.12 in)	9U-6532
30 mm	53.8 mm (2.12 in)	9U-6533
31 mm	54 mm (2.13 in)	9U-6534
32 mm	54 mm (2.13 in)	9U-6535
33 mm	53.8 mm (2.12 in)	9U-6536
34 mm	54 mm (2.13 in)	9U-6537
35 mm	57.2 mm (2.25 in)	9U-6538
36 mm	57.2 mm (2.25 in)	9U-6539
38 mm	57.2 mm (2.25 in)	9U-6540
40 mm	66.7 mm (2.63 in)	9U-6541
41 mm	66.5 mm (2.62 in)	9U-6542
42 mm	66.5 mm (2.62 in)	9U-6543
43 mm	66.5 mm (2.62 in)	9U-6544
46 mm	66.7 mm (2.63 in)	9U-6545
50 mm	73.2 mm (2.88 in)	9U-6546

Individual Metric Sockets, 1 in through 2 1/2 in Drive (also No. 5 Spline)

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
1 inch Drive, Standard Length Impact Sockets, 6 Point		
30 mm	54 mm (2.13 in)	386-3261
36 mm	63.5 mm (2.50 in)	9U-5089
46 mm	60 mm (2.38 in)	386-3262
46 mm	73.5 mm (2.9 in)	4C-6724
46 mm	86 mm (3.39 in)	207-8155
1 inch Drive, Deep Length Impact Sockets, 6 Point		
55 mm	111 mm (4.37 in)	4C-8217
1 inch Drive, Standard Length Impact Sockets, 12 Point		
55 mm	83 mm (3.27 in)	386-3318
41 mm	70 mm (2.76 in)	386-3310
60 mm	83 mm (3.27 in)	386-3311
95 mm	100 mm (3.94 in)	386-3312
33 mm	61 mm (2.40 in)	386-3314
36 mm	65 mm (2.56 in)	386-3315

CONTINUED ON NEXT PAGE...

RATCHETS AND SOCKETS

(CONTINUED) Individual Metric Sockets, 1 in through 2 1/2 in Drive (also No. 5 Spline)

Warranty: Caterpillar® Lifetime

Size	Length	Part Number
46 mm	75 mm (2.95 in)	386-3316
50 mm	80 mm (3.15 in)	386-3317
65 mm	86 mm (3.39 in)	386-3319
70 mm	86 mm (3.39 in)	386-3320
75 mm	86 mm (3.39 in)	386-3321
80 mm	90 mm (3.54 in)	386-3322
88 mm	90 mm (3.54 in)	386-3323
1 inch Drive, Tapered Impact Sockets, 6 Point *(Special design for excavator track bolts; not intended for general use)*		
19 mm	89 mm (3.50 in)	1U-7626
22 mm	89 mm (3.50 in)	1U-7627
24 mm	89 mm (3.50 in)	1U-7628
27 mm	89 mm (3.50 in)	1U-7629
30 mm	89 mm (3.50 in)	1U-7630
32 mm	89 mm (3.50 in)	1U-7631
1 1/2 inch Drive, Standard Length Impact Sockets, 6 Point		
55 mm	90.4 mm (3.56 in)	136-5189
65 mm	102.4 mm (4.03 in)	132-8743
70 mm	107.1 mm (4.22 in)	136-5190
46 mm	83 mm (3.27 in)	386-3252
1 1/2 inch Drive, Standard Length Impact Sockets, 12 Point		
36 mm	84 mm (3.31 in)	386-3306
50 mm	87 mm (3.43 in)	386-3307
60 mm	95 mm (3.74 in)	386-3308
75 mm	110 mm (4.33 in)	386-3309
2 1/2 inch Drive, Impact Sockets 12 Point		
95 mm	140 mm (5.51 in)	386-3313
No. 5 Spline, Standard Length Impact Socket, 6 Point		
55 mm	94.5 mm (3.72 in)	159-2833

Fractional Hex Driver Set, 10 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime See Individual Part Number



- Seven 3/8 inch drive hex sockets and three 1/2 inch drive hex sockets
- Includes socket bar and clips
- Can be ordered by set or individually

Part No.	Description	Hex Size	Square Drive	Overall Length	Replacement Bit
214-6142	Hex Driver Set	–	–	–	–
Hex Driver Set Consists of:					
214-7320	Drive Hex Socket	1/2 in	1/2 in	53.18 (2.09 in)	214-7321
214-7327	Drive Hex Socket	9/16 in	1/2 in	53.18 (2.09 in)	1P-3566
214-7328	Drive Hex Socket	5/8 in	1/2 in	53.18 (2.09 in)	214-7331
2P-8263	Drive Hex Socket	1/8 in	3/8 in	52.39 (2.06 in)	2P-8269
2P-8264	Socket	5/32 in	3/8 in	52.39 (2.06 in)	2P-8271
2P-8265	Socket	3/16 in	3/8 in	52.39 (2.06 in)	2P-8272
2P-8266	Drive Hex Socket	1/4 in	3/8 in	52.39 (2.06 in)	2P-8273
2P-8267	Drive Hex Socket	5/16 in	3/8 in	52.39 (2.06 in)	–
2P-8268	Drive Hex Socket	3/8 in	3/8 in	53.18 (2.09 in)	2P-8275
8T-3042	Drive Hex Socket	7/32 in	3/8 in	52.39 (2.06 in)	8T-3043
Individual Socket and Hex Bit					
5P-7253	Socket and Hex Bit	9/64 in	3/8 in	–	–

Fractional Hex Ball Driver Socket Set, 8 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Four 1/4 inch drive hex ball sockets and four 3/8 inch drive hex ball sockets
- Material: steel
- Includes socket bar and clips
- Can be ordered by set or individually

Part No.	Description	Hex Size	Square Drive	Overall Length
246-8499	Hex Ball Driver Socket Set	–	–	–
Hex Ball Driver Socket Set Consists of:				
243-5173	Socket	5/16 in	3/8 in	53.18 mm (2 3/32 in)
243-5174	Socket	3/8 in	3/8 in	53.18 mm (2 3/32 in)
243-5175	Socket	7/32 in	3/8 in	52.39 mm (2 1/16 in)
243-5177	Socket	1/4 in	3/8 in	52.39 mm (2 1/16 in)
243-5178	Socket	1/8 in	1/4 in	47.63 mm (1 7/8 in)
243-5179	Socket	9/64 in	1/4 in	47.63 mm (1 7/8 in)
243-5180	Socket	5/32 in	1/4 in	47.63 mm (1 7/8 in)
243-5181	Socket	3/16 in	1/4 in	49.21 mm (1 15/16 in)

RATCHETS AND SOCKETS

Metric Hex Driver Set, 9 Piece

Warranty: Caterpillar® See Individual Part Number



- Includes socket bar and clips
- Can be ordered by set or individually

Part No.	Description	Hex Size	Drive	Bit Length	Overall Length	Replacement Bit
194-3585	Hex Bit Socket Set (Warranty: Lifetime)	–	–	–	–	–
Set Consists of:						
194-3541	Metric Hex Driver	4.0 mm	3/8 in	25.4 mm	52.3 mm (2.06 in)	–
194-3542	Hex Socket Bit Driver	5.0 mm	3/8 in	25.7 mm	52.6 mm (2.07 in)	–
194-3544	Metric Hex Driver	7.0 mm	3/8 in	25.7 mm	52.6 mm (2.07 in)	–
194-3545	Metric Hex Driver	8.0 mm	3/8 in	25.1 mm	52.1 mm (2.05 in)	–
194-3546	Metric Hex Driver	10.0 mm	3/8 in	25.5 mm	52.5 mm (2.07 in)	–
194-3547	Metric Hex Driver	12.0 mm	1/2 in	–	81 mm (3.19 in)	–
194-3548	Metric Hex Driver	14.0 mm	1/2 in	–	81 mm (3.19 in)	–
194-3549	Metric Hex Driver	17.0 mm	1/2 in	–	93.7 mm (3.69 in)	–
Optional Metric Hex Drivers						
129-4552	Metric Hex Driver	27.0 mm	1 in	72.0 mm	129 mm (5.08 in)	129-4553
140-8780	Metric Hex Driver (Warranty: 6 Months)	24.0 mm	—	50.8 mm (hex bit only)	50.8 mm (2 in)	–
168-8395	Drive Impact Socket	17.0 mm	3/4 in	50.8 mm	61.7 mm (2.43 in)	169-0782
194-3543	Metric Hex Driver	6.0 mm	3/8 in	25.7 mm	52.6 mm (2.07 in)	–
1U-6151	Metric Hex Driver	17.0 mm	3/4 in	47.0 mm	92 mm (3.62 in)	1U-6152
1U-9474	Metric Hex Driver (Warranty: 6 Months)	22.0 mm	1 in	32.0 mm	84 mm (3.31 in)	1U-9476
6V-9086	Metric Hex Driver (Warranty: 6 Months)	14.0 mm	1/2 in	35.0 mm	81 mm (3.19 in)	–
9U-7418	Metric Hex Driver	19.0 mm	3/4 in	47.7 mm	111.3 mm (4.38 in)	1U-7419

Metric Hex Ball Driver Socket Set, 8 Piece

Warranty: Caterpillar® Lifetime



- Four 1/4 inch drive hex ball sockets and four 3/8 inch drive hex ball sockets
- Material: steel
- Includes socket bar and clips
- Can be ordered by set or individually

Hex Size	Part No.	Description	Drive	Bit Length	Overall Length
–	243-5182	Complete Hex Ball Driver Socket Set	–	–	–
Set Consists of:					
3.0 mm	243-5190	Hex Ball Driver	1/4 in	–	47.7 mm (1.88 in)
4.0 mm	243-5184	Hex Ball Driver	1/4 in	–	47.6 mm (1.87 in)
5.0 mm	243-5185	Hex Ball Driver	1/4 in	–	47.9 mm (1.89 in)
6.0 mm	243-5186	Hex Ball Driver	1/4 in	–	47.9 mm (1.89 in)
7.0 mm	243-5187	Hex Ball Driver	3/8 in	25.6 mm	52.5 mm (2.07 in)
8.0 mm	243-5188	Hex Ball Driver	3/8 in	25.6 mm	52.5 mm (2.07 in)
9.0 mm	243-5189	Hex Ball Driver	3/8 in	25.6 mm	52.5 mm (2.07 in)
10.0 mm	243-5183	Hex Ball Driver	3/8 in	25.6 mm	52.5 mm (2.07 in)
Optional Metric Hex Ball Drivers					
4.0 mm	4C-8996	Hex Ball Driver	3/8 in	–	128.3 mm (5.05 in)
10.0 mm	155-3046	Hex Ball Driver	3/8 in	–	128.3 mm (5.05 in)

Individual Fractional Hex Driver Sockets

Warranty: Caterpillar® Lifetime

Part No.	Hex Size	Square Drive	Overall Length
386-3344	9/32"	3/8"	110 mm (4 1/3 in)
386-3336	3/4"	1/2"	114.3 mm (4 1/2 in)
386-3341	3/4"	3/4"	88.9 mm (3 1/2 in)
386-3342	5/8"	3/4"	88.9 mm (3 1/2 in)
386-3343	7/8"	3/4"	88.9 mm (3 1/2 in)

Drivers for TORX Screws

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



Part No.	Description	Size	Use
5P-3038	Socket Assembly	3/8 in square drive	Removal of shaft seal and bearing retainer fasten- ers TORX T-30 on 16G Motor Grader circle drive motor
6V-2123	Socket Assembly	3/8 in square drive	Removal of TORX T-55 screws which retain brake cylinders to support plates on "V" Series Lift Trucks

TORX Driver Set, 10 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime See Individual Parts



- TORXALIGN® design grips TORX fasteners for easier fastener starting (TORX and TORXALIGN are registered trademarks of Camcar, Inc.)
- Ten pieces, 1/4 inch and 3/8 inch square drive
- Includes socket bar and clips
- Can be ordered by set or individually

Torx Size	Part No.	Description	Square Drive	Overall Length
Complete Driver Set				
–	194-3584	Torx Socket Set	–	–
TORXALIGN Bits				
T10	194-3531	Socket, Assembly, T10	1/4 in	39.6 mm (1.56 in)
T15	194-3532	Socket, Assembly, T15	1/4 in	39.6 mm (1.56 in)
T20	194-3533	Socket, Assembly, T20	1/4 in	39.6 mm (1.56 in)
T25	194-3534	Socket, Assembly, T25	1/4 in	39.6 mm (1.56 in)
T30	194-3535	Socket, Assembly, T30	3/8 in	44.5 mm (1.75 in)
T40	194-3536	Socket, Assembly, T40	3/8 in	44.5 mm (1.75 in)
T45	194-3537	Socket, Assembly, T45	3/8 in	52.3 mm (2.06 in)
T50	194-3538	Socket, Assembly, T50	3/8 in	52.3 mm (2.06 in)
T55	194-3539	Socket, Assembly, T55	3/8 in	51.6 mm (2.03 in)
One Piece, 1/4 inch Square Drive TORX Socket included				
E8	194-3540	Square Drive TORX Socket	1/4 in	22.2 mm (0.87 in)

TORX Driver Set, 10 Piece

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- TORX sockets for fuel system maintenance and repair
- Ten piece set, 1/4 inch and 3/8 inch square drive
- Socket teeth provide maximum engagement and increased gripping ability
- Each socket can be ordered separately
- Sockets should not be used with power drivers (air wrenches, etc.)
- Chrome plating prevents corrosion and cleans easily
- Includes socket rail and clips to keep sockets neatly organized
- Can be ordered by set or individually

Torx Size	Square Drive	Part Number	Overall Length
Complete Socket Set			
–	–	227-4383	–
Set Consists of:			
E4	1/4 in	227-4384	22 mm (0.87 in)
E5	1/4 in	227-4385	22 mm (0.87 in)
E6	1/4 in	227-4386	22 mm (0.87 in)
E7	1/4 in	227-4387	22 mm (0.87 in)
E8	1/4 in	227-4388	22 mm (0.87 in)
E10	3/8 in	227-4389	30 mm (1.18 in)
E12	3/8 in	227-4390	30 mm (1.18 in)
E14	3/8 in	227-4391	30 mm (1.18 in)
E16	3/8 in	227-4392	32 mm (1.26 in)
E18	3/8 in	227-4393	33 mm (1.30 in)

RATCHETS AND SOCKETS

Socket Set, Tamper Resistant TORX Plus

Warranty: Manufacturer's
Bosch Service Solutions 507-455-7233



- Made from premium quality tool grade steel
- Manufactured with 2-pc construction for strength
- For use with hand tools
- Includes 1/4 inch drive 8IPR 10IPR 15IPR 20IPR 25IPR 27IPR 30IPR 3/8"drive 40IPR 45IPR 50IPR and 55IPR Tamper-Resistant TORX Plus Sockets

Part No.	Size
475-8767	Socket Set, Tamper Resistant TORX Plus

Hex Socket, 55 mm (Spline Drive)

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Lifetime



- Used to remove and install tires and rims using M36 bolts with 55 mm hex head
- Used with 4C-9813 Extension, 6V-6080 Torque Multiplier, 525-8305 Air Regulated Wrench, and 4C-9814 Reaction Bar
- Black industrial finish
- High-strength, impact socket

Part No.	Hex Size	Drive	Overall Length	Diameter
159-2833	55 mm (2 3/16 in), 12 point	#5 spline	94.5 mm (3.72 in)	78.6 mm (3.09 in)

Stacking Sockets (Metric)

Model Usage: 777, 785, 789, 793, 797 OHT Trucks

Warranty: Caterpillar® Six Months



- Used to tighten brake anchor nuts
- Used with hydraulic wrench systems
- Allows access to limited clearance areas
- Ensures accurately tightened anchor nuts

Part No.	Description	Size
203-5431	Stacking Socket	female 1 5/16, male 36 mm
203-5432	Stacking Socket	female 1 1/2, male 36 mm
203-5433	Stacking Socket	female 36 mm, male 36 mm
203-5434	Stacking Socket	female 46 mm, male 46 mm
203-5435	Stacking Socket	female 55 mm, male 46 mm

Special Large Socket Wrenches

Warranty: Caterpillar® Six Months



Part No.	Description	Hex Size	Usable Depth
		3/4 inch Drive	
1B-4657	Large Socket Wrench	2.75 in	4.50 in
1U-6689	Large Socket Wrench	3.50 in	6.30 in
1U-6691	Large Socket Wrench	5.50 in	7.90 in
1U-6692	Large Socket Wrench	5.75 in	7.90 in
2B-1730	Large Socket Wrench	3.39 in	4.50 in
2B-1731	Large Socket Wrench	3.63 in	4.50 in
3B-6352	Large Socket Wrench	2.63 in	4.50 in
5P-3540	Large Socket Wrench	3.50 in	4.50 in
7M-7809	Large Socket Wrench	2.88 in	7.25 in
		Bar Turn	
9F-9963	Bar Turn	1.46 in	8.38 in

Pin Socket

Warranty: Caterpillar® Lifetime



- Used with 3/8 inch drive speeder handle to remove and install buttons that hold ROPS Cab headliner in position for air conditioning repairs
- Use 3F-4479 Spring Pins as replacements if spring pins (1) become worn or damaged

Part Number	Description
5P-5249	Pin Socket

Lock Removal Socket

Warranty: Caterpillar® Lifetime



- 1/2 inch drive

Part No.	Size
5P-6587	1/2 in Hex
5P-6588	9/16 in Hex
5P-6589	3/4 in Hex

Socket

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Polished chrome nickel alloy steel
- 12-point, ½ in drive

Part No.	Description	Dimensions	Weight
460-9926	Cat® ½ in Drive 1-3/16 Standard Length Socket	1-3/16 in Socket, Length is 44.5 mm (1-¾ in)	0.25 kg (8.8 oz)

Spark Plug Sockets

SMCS Code: 1555-010

Model Usage: G3516B (50 Hz), G3516B (60 Hz), G3520B (50 Hz), and G3500C

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Thin wall design eliminates possible socket interference

Part No.	Description	Size	Length	Application
216-1685	Spark Plug Socket	1/2 in drive, 13/16 in, 6 point hex	103 mm overall length	–
4C-4601	Spark Plug Socket	7/8 inch hex, 1/2 inch square drive, 6 point	103.1 mm (4.06 in) long	Special thin wall for use on G3500 and G3600 Engines

Extra-Deep Socket, 46 mm

Model Usage: C2.4T4F Naturally Aspirated Engines

Warranty: Manufacturer's



- Allows the removal of the fan drive pulley nut
- 3/4 in drive

Part No.	Description	Dimensions	Weight
488-1131	Extra-Deep Socket	63.5 x 101.6 mm (2.5 x 4 in)	0.454 kg (1 lb)

RATCHETS AND SOCKETS

Socket Extensions

Warranty: Caterpillar® Lifetime



Part Number	Drive	Length
9S-1720	1/4 in	50.8 mm (2 in)
9S-1721	1/4 in	101.6 mm (4 in)
8H-8574	3/8 in	76.2 mm (3 in)
8H-8575	3/8 in	152.4 mm (6 in)
3P-2240	3/8 in	304.8 mm (12 in)
271-4722 (Impact)	1/2 in	76.2 mm (3 in)
5P-8676	1/2 in	76.2 mm (3 in)
9S-1732	1/2 in	127.0 mm (5 in)
271-4723 (Impact)	1/2 in	127.0 mm (5 in)
8H-8559	1/2 in	279.0 mm (10.98 in)
271-4724 (Impact)	1/2 in	279.0 mm (10.98 in)
386-3271	3/4 in	76.2 mm (3 in)
8H-8548	3/4 in	203.2 mm (8 in)
8T-9265 (Requires locking pin)	3/4 in	254.0 mm (10 in)
8T-5183 (Requires locking pin)	3/4 in	406.4 mm (16 in)
386-3260	1 in	76.2 mm (3 in)
5S-6076	1 in	203.2 mm (8 in)
158-8723 (Double hole extension, Warranty: Six Months)	1 in	476.0 mm (18.74 in)
386-3253	1 1/2 in	203.2 mm (8 in)

Socket Extension

Warranty: Caterpillar® Six Months



- Proto brand
- Used in hard-to-reach areas where an extended length is required
- Features a pin design to hold on sockets
- Black oxide finish
- 3/8" drive

Part No.	Description	Dimensions	Weight
477-4616	Socket Extension	304.8 mm (12 in)	0.29 kg (10 oz)

Universal Joint Extension Socket

Warranty: Caterpillar® Six Months



- 1/2 inch drive
- 12 point

Part No.	Size	Length
6V-4058	5/8 in	182.6 mm (7.19 in)

Universal Drives

Warranty: Caterpillar® Lifetime



- Used with Cat torque multipliers as well as other applications

5P-1749

- Use with the 5S-6076 Extension, 5P-1748 Socket, and a suitable torque multiplier to loosen and tighten the nuts which retain 8D and 9D Ripper mounting brackets

5P-3534

- Use with a Torque Multiplier in applications such as tightening the nuts which secure the final drive housings to the rear frame and case of Cat Articulated Motor Graders

Drive	Part No.	Torque Capacity	Angular Rotation
3/4 in	5P-3534	1,000 ft lb	30 Degrees
1 in	5P-1749	1,500 ft lb	30 Degrees

Ratchet Adapter

Warranty: Manufacturer's Lifetime



- 3/4 inch female to 3/4 inch male
- Used primarily with the 1P-0850 Torque Multiplier
- Convenient for other applications such as with the 3/4 inch drive 9S-7351 Torque Wrench

Part No.	Capacity
1P-0853	450 lb

Hex Shank

Warranty: Caterpillar® Lifetime

Part No.	O.A.L.	Size
4C-9818	2 3/4 in	7/16 in HEX x 1 1/4 in on one end with 1/2 in square drive (male) with lock button on other end

Universal Joint

Warranty: Manufacturer's



Part No.	O.D.	O.A.L.	Size
4C-9819	1 3/18 in	2 1/2 in	1/2 in square drive (female) with lock button hole

RATCHETS AND SOCKETS

Extra-Deep 24 mm Socket

Model Usage: Three60 POD

Allows nut to be tightened over the extra-long studs that mount the lower unit to the fiberglass hull



Part No.	Description
474-4629	Extra-Deep 24 mm Socket

Socket Drive Adapters

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Part No.	Description	Size	Replacement Bit
213-4437	Socket Adapter	1/4 in Female to 3/8 in male	–
261-0443	Socket Adapter	3/8 in Female to 1/4 in male	261-0446
452-0539	Socket Adapter	1/2 in Female to 3/8 in Male	–
452-0541	Socket Adapter	3/4 in Female to 1/2 in Male	452-0542
261-8569	Socket Adapter	1 in Female to 1 1/2 in Male	–
261-8570	Socket Adapter	1 1/2 in Female to 1 in Male	–
2P-8261	Adapter	3/4 in Female to 1 in Male	–
5P-3588	Socket Adapter	1 in Female to 3/4 in Male	–
8H-8561	Adapter	1/2 in Female to 3/4 in Male	–
8H-8576	Adapter	3/8 in Female to 1/2 in Male	–

Impact Wrench Socket Adapters

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime See Individual Part Number

- Heavy-duty adapter and extensions can be used with 1 1/2 inch drive impact wrenches
- Allows the use of 1 inch drive sockets instead of the higher priced 1 1/2 inch drive sockets



Item	Part No.	Description
1	9S-4028	Extension, 1 in drive both ends, 133.4 mm (5.25 in) long (Warranty: Manufacturer, 30 Day)
2	9S-4026	Adapter, 1 1/2 in to 1 in drive (Warranty: Manufacturer, 30 Day)
3	9S-4027	Extension, 1 in drive both ends, 60.3 mm (2.38 in) long (Warranty: Manufacturer, 30 Day)
Not shown	207-8160	Extension, 1 in drive, 76.2 mm (3 in) long (Warranty: Lifetime)

Universal Joint

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime

Drive	Part Number
1/4 in	9S-1724
3/8 in	6V-0094
1/2 in	8H-8560

Probe Adapter, RAX Sampling Valve

Model Usage: 797F

Warranty: Manufacturer's One Year

- Required for fluid sample extraction with fitting and tube 445-8817



Part No.	Description	Diameter	Weight
506-3635	RAX Sampling Valve Probe Adapter	6.35 x 226.06 mm (0.25 x 8.9 in)	0.027 kg

POWER TOOLS

Cordless Snap-on Impact Wrench, 1/2 in Drive

Warranty: One Year on Wrench and Charger, Two Years on Batteries, Caterpillar® Lifetime on Sockets; Caterpillar Six Months on Tool Bag



UL, CUL, CE marked

- Cordless Impact Wrench, Two 18v Lithium Battery Packs, Charger with USB Port, Six Cat Impact Sockets, Cat Storage Bag
- 600 ft lb (813 Nm) of torque output with 750 ft lb (1,017 Nm) of bolt breakaway torque
- 1,900 RPM free speed with 2,280 blows per minute
- Soft-start trigger
- Uses a sintered rare earth magnet motor to deliver more torque with less battery drain
- Built-in brake stops anvil to prevent thrown fasteners or sockets
- Integrated LED covers work area in super bright light
- Digital microprocessor controlled switch maximizes performance, runtime, and durability
- Integrated battery management prevents battery drain and prolongs tool life
- Charge time 60 minutes/5 amp
- USB port built into charger
- Cat 1/2-inch impact sockets: 13, 19 mm and 1/2, 9/16, 3/4, 7/8 in
- Cat branded bag
- Length 9.2 in (234 mm), height 7.7 in (196 mm)
- Weight 7.3 lb (3.3 kg)
- Charger compatible with 100-240v/50-60 hz

Part No.	Description
463-6821	Cordless Impact Wrench Kit (18v)

Cordless Snap-on Impact Wrench, 3/8 in Drive

Warranty: Manufacturer's One Year on Impact Tool and Charger; Manufacturer's Two Years on Batteries; Caterpillar® Lifetime on Sockets; Caterpillar Six Months on Tool Bag



UL, CUL and CE Marked

- 230 ft lb or torque output with 750 ft lb (1017 Nm) of bolt breakaway torque
- 1900 RPM free speed with 2,280 blows per minute
- Soft-start trigger
- Uses a sintered rare earth magnet motor to deliver more torque with less battery drain
- Built-in brake stops anvil to prevent thrown fasteners or sockets.
- Integrated LED covers work area in super bright light.
- Digital microprocessor-controlled switch maximizes performance, runtime and durability.
- Integrated battery management prevents battery drain and prolongs tool life.
- Charge time 60 minutes/5 amp
- USB built into charger
- Cat® 3/8 in impact sockets: 13 mm, 19 mm, 1/2 in, 9/16 in, 3/4 in and 7/8 in
- Cat bag: 234 x 196 mm (9.2 x 7.7 in)
- 5.93 kg (13 lb)

Contents

- 3/8 in drive cordless Snap-On impact wrench
- Two 18 v lithium batteries
- 100-240 v /50-60 Hz compatible charger
- Six Cat impact sockets
- Cat storage bag

WARRANTY INFORMATION

Send warranty-related questions to global_warranty@cat.com or catwarranty@snapon.com, 262-656-4769

Part No.	Description
512-7546	Cordless Impact Wrench Kit (3/8 in)

JULY 2018 Hand Tools 17-81

POWER TOOLS

Cordless Drill Kit (18v)

Warranty: Manufacturer's 90 Days
Call 262-656-4769 or catwarranty@snapon.com.



- Heavy Duty Gearbox provides higher spindle lock torque – 500 in-lb
- Precision keyless chuck with carbide jaws has external steel sleeve to help withstand abuse
- Heat treated alloy gears provide strength and durability for longer tool life
- Variable speed digital microprocessor switch allows user to accurately control torque
- Glass filled nylon housing is durable and is able to withstand high impact
- Ergonomic over molded cushion grip allows for better tool control with less stress and strain
- Includes an extra battery and a tool bag

Part No.	Description
532-8958	Cordless Drill Kit (18v)

Multi-port Battery Charger, Snap-on®

Warranty: Manufacturer's Two Year Material and Workmanship - 262-656-4769 or catwarranty@snapon.com



CE marked

- High current charging – 5.8 A
- Simultaneously charges three Snap-on® 18V MonsterLithium or 14.4 MicroLithium batteries
- 1 A USB charger
- Low profile
- Fuel gauge indicator
- 500 W output
- Dual voltage (120v – 220v)

Part No.	Description	Dimensions (H x L)	Weight
551-2874	Multi-Port Battery Charger, Snap-on®	102 x 318 mm (4 x 12.5 in)	1.8 kg (4 lb)

JULY 2018 Hand Tools 17-82

Impact Wrench, 3/8 inch

Warranty: Manufacturer's 18 Months



European Union compliant, CE marked

- Reverse bias air motor provides greater power in reverse for extra break away torque
- Molded ergonomic handle grip reduces vibration and operator fatigue
- Built-in power regulator allows power output to be adjusted to operating conditions

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com.

Part No.	Description
222-3048 (Anvil Part Number 280-2681)	Impact Wrench, 3/8 inch
Specifications	
Drive size	3/8 in
Recommended air pressure	620 kPa (90 PSIG)
Air consumption, free speed	14 SCFM (1.9 CFM) [53.8 l/min.]
Air consumption, working	25 SCFM (3.5 CFM) [99.11 l/min.]
Free speed, forward	8000 RPM
Free speed, reverse	9000 RPM
Sound level, free speed	84.6 dBa
Sound level, working	95.6 dBa
Blows per minute	1170
Maximum Torque	251- N·m (185 ft-lb) Forward / 285 N·m (210 ft-lb) Reverse
Air inlet thread size	1/4 in - 18 NPT
Recommended hose size, ID min.	10 mm (3/8 in)
Overall length	159 mm (6.25 in)
Height	179 mm (7 in)
Width	57 mm (2.24 in)
Weight	1.70 kg (3.75 lbs)

Impact Wrenches, 1/2 and 3/4 inch

Warranty: Manufacturer's 18 Months



REPAIR INFORMATION

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European Union compliant, CE marked

- Aluminum housing reduces weight and provides durable long life
- Steel nose front for extra protection, easy service access
- Power speed regulator allows power output to be adjusted to operating conditions
- Variable speed trigger allows operator versatility over wide range of fasteners

Specification	222-3050	540-9478
Drive Size	1/2 in	3/4 in
Recommended air pressure	620 kPa (90 PSIG)	620 kPa (90 PSIG)
Air consumption, free speed	30 SCFM (4.2 CFM) [118.9 l/min.]	7 CFM (198 L/min.]
Free speed forward	8000 RPM	5000 RPM
Free speed reverse	8000 RPM	5000 RPM
Sound level free speed	108 dBa	109 dBa
Maximum torque	578 N·m (425 ft-lb) forward	1490 N·m (1100 ft-lb)
Air inlet thread size	1/4 in - 18 NPT	3/8 in - 18 NPT
Recommended hose size, ID min.	8 mm (5/16 in)	13 mm (1/2 in)
Overall length	185 mm (7.3 in)	229 mm (9 in)
Weight	2.63 kg (5.8 lbs)	5.72 kg (12.6 lb)
Part No.	**Description**	**Anvil Part Number**
222-3050	Impact Wrench, 1/2 in	280-2682
540-9478	Impact Wrench, 3/4 in	540-9498

Accessories

Part No.	Description	Motor Throttle Repair Kit
540-9478	Impact Wrench, 3/4 in	540-9501

PNEUMATIC TOOLS

Impact Wrenches, 1 inch

Warranty: Manufacturer's 18 Months



540-9480



540-9483

European Union compliant, CE marked

- Power speed regulator allows power output to be adjusted to operating conditions
- Variable speed trigger allows operator versatility over wide range of fasteners

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com.

Part No.	540-9480 Pistol Grip	540-9483 D-Handle
Drive size	1 in	1 in
Recommended air pressure	620 kPa (90 PSIG)	620 kPa (90 PSIG)
Air consumption free speed	9.6 CFM (271l/min	10.8 CFM
Free speed forward	4500 RPM	5000 RPM
Free speed reverse	4500 RPM	5000 RPM
Sound level free speed	114 dBa	120 dBa
Maximum torque	2507 N.m (1850 ft lb)	2700 N.m. (2000 ft lb)
Air inlet thread size	1/2 in - 14 NPT	1/2 in - 14 NPT
Recommended hose size, ID min.	19 mm (3/4")	19 mm (3/4")
Overall length	277 mm (10.9")	345 mm (13.6")
Height	274 mm (10.8")	185 mm (7.3")
Width	119 mm (4.7")	121 mm (4.8")
Weight	10.2 kg (22.5#)	10.5 kg (23.1#)
Part Number	**Description**	**Anvil Part No.**
222-3054 (Discontinued)	Discontinued Impact Wrench, 1 in	280-2684
222-3055 (Discontinued)	Discontinued Impact Wrench, 1 in	280-2684

Part No.	Description	Anvil Repair Kit
540-9480	Pistol Grip Impact Wrench, 1 in	540-9504
540-9483	Pistol Grip Impact Wrench, 1 in	540-9508

Part No.	Description	Motor & Throttle Repair Kit
540-9480	Pistol Grip Impact Wrench, 1 in	540-9506
540-9483	D-Handle Impact Wrench, 1 in	540-9510

Impact Wrench Kit, Blue Point 3/8 in Drive with Cat® Tool Bag

Warranty: Impact Wrench: Manufacturer's 18 Months, Contact (262) 656-4769 or catwarranty@snapon.com.

Sockets and Bag: See Individual Parts



European Union compliant, CE marked

- Blue Point ½" drive impact wrench kit includes:
  - 211-0136 Cat® Tool Bag
  - AT370 Blue Point 3/8" Drive Impact Wrench
  - 271-4613 3/8" Drive Deep Length Impact Socket Set
  - 271-4615 – 3/8"
  - 271-4616 – 7/16"
  - 271-4617 – ½"
  - 271-4618 – 9/16"
  - 271-4619 – 5/8"
  - 271-4620 – 11/16"
  - 271-4621 – ¾"
- Durable Cordura Cat tool bag
- Full Set of Cat Deep Length Impact Sockets

Wrench features

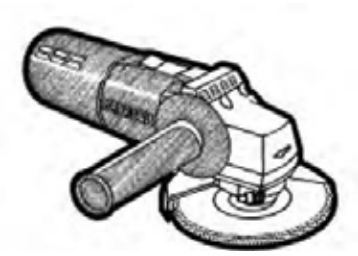
- Shot peen anvils for improved durability
- Reverse Bias motor provides additional breaktorque
- Three position regulator for power control
- One-handed forward/reverse lever for user convenience
- Composite housing amd aluminum nose deliver a durable, lightweight and balanced unit
- Twin hammer impact mechanism delivers hard-hitting blows to quickly remove stubborn fasteners

Part No.	Description	Wrench Dimensions	Kit Weight
542-8114	Impact Wrench Kit, Blue Point 3/8 in Drive	160 mm (6.3 in) OAL	7.1 kg (15.7 lb)

Heavy-Duty Angle Grinder, 11,000 RPM, 4.5 inch

Model Usage: All Cat® Products

Warranty: Caterpillar® Lifetime



- Turns at 11,000 RPM for maximum grinding performance and efficiency
- Vibration-control side handle reduces vibration up to 60%, providing uncompromising comfort for extended periods of work
- AC/DC capability extends the versatility of the tool by working from DC outlets such as welders and generators
- Sealed switch keeps debris out of the switch mechanism and extends switch life
- Service Minder brushes eliminate guesswork, stop the tool when preventative maintenance is required
- Epoxy-coated field windings provide ultimate protection against abrasive dust and metal debris
- 5/8 inch - 11 spindle for mounting most popular accessories
- Tool-free adjustable guard for quick guard installation and adjustments
- Spindle lock for quick wheel changes
- 2-position auxiliary handle specifically designed and angled to a "natural" position for maximum comfort and control
- Double insulated, UL listed, OSHA compliant

Part No.	Power	Motor Amps	No Load Speed (RPM)	Spindle Thread Size	Wheel Size	Length	Net Weight
288-2512	120V AC/DC	7.5	11,000	5/8 in - 11	114.3 mm (4 1/2 in)	285.75 mm (11 1/4 in)	1.95 mm (4.3 lb)

PNEUMATIC TOOLS

Blue Point ½ in Drive Impact Wrench Kit with Cat® Tool Bag

Warranty: Impact Wrench - Manufacturer's 18 Months (262) 656-4769 or catwarranty@snapon.com
Sockets and Bag – See Individual Parts



European Union Compliant, CE marked

- Replaces 266-3736
- Blue Point ½ in drive impact wrench kit includes 211-0136 Cat® Tool Bag and AT570
- Six ½ in Drive Cat Impact Sockets:
  - 213-6929 – 13 mm
  - 213-6936 – 19 mm
  - 213-3087 – ½ in
  - 213-3088 – 9/16 in
  - 213-3094 – ¾ in
  - 213-3102 – 7/8 in

Features & Benefits

- Durable Cordura Cat tool bag
- Six sizes of commonly used Cat impact sockets

Wrench features

- Shot peen anvils for improved durability
- Reverse bias motor provides additional breaktorque
- Three position regulator for power control
- One-handed forward/reverse lever for user convenience
- Composite housing amd aluminum nose deliver a durable, lightweight and balanced unit
- Twin hammer impact mechanism delivers hard-hitting blows to quickly remove stubborn fasteners

Part No.	Description	Dimensions	Weight
549-7506	Blue Point ½ in Drive Impact Wrench Kit	184 mm (7.24 in) OAL	2.8 kg (6.1 lb)

Wrench Specifications

Part No.	Weight
Air Consumption, Free Speed, CFM (SCFM) [l/min]	5.0 (36) [142] (F), 5.3 (38) [150] (R)
Air Inlet Thread Size	1/4"-18 NPT
Anvil Type	Friction Ring
Blows Per Minute, BPM	1,050
Free Speed, RPM	6,900 (F), 7,000 (R)
Maximum Torque, ft-lb (N•m)	570 (773)
Recommended Hose Size, inches (mm)	3/8 (10)
Sound Level dB(A) Pressure	95
Vibration Level, m/s^2	6.08
Weight, lb (kg)	4.08 (1.87 kg)

Sanders and Polishers

Model Usage: All Cat® Products

Warranty: Caterpillar® 18 Months



European Union Compliant, CE marked

- Aluminum housing reduces weight and provides durable long life
- Compact design for easy maneuvering in restricted areas
- Ball bearing mounted air motor reduces vibration and operator fatigue; prolongs motor life
- Full choice of RPM ranges
- 5-inch and 7-inch HD angle, 2-handed vertical and in-line sanders
- 7-inch polisher

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com..

Part No.	Recommended Air Pressure	Free Speed Air Consumption	HP	Free Speed	Sound Level, Free Speed	Spindle Thread Size	Pad/ Disc Size, Diameter	Backing Pad	Air Inlet Thread Size	Recommended Hose Size, ID min.	Overall Length	Height	Weight
Palm Sander, 6 in													
222-3063	620kPa (90 PSIG)	36 SCFM (5 CFM) [141.6 l/min.]	-	10000 RPM	83 dBa	5/16 in - 18 UNC	152 mm (6 in)	231-9464	1/4 in - 18 NPT	8 mm (5/16 in)	122 mm (4.8 in)	-	1.36 kg (3 lb)
7 in Angle Sander													
222-3064	620kPa (90 PSIG)	34 SCFM (4.8 CFM) [135.9 l/min.]	1	5100 RPM	84 dBa	5/8 in - 11 UNC	178 mm (7 in)	231-9465	1/4 in - 18 NPT	8 mm (5/16 in)	410 mm (15.8 in)	102 mm (4 in)	3.09 kg (6.8 lb)
7 in Vertical Sander													
222-3065	620kPa (90 PSIG)	31 SCFM (4.3 CFM) [121.8 l/min.]	-	4500 RPM	83 dBa	5/16 in - 11 UNC	178 mm (7 in)	231-9465	1/4 in - 18 NPT	10 mm (3/8 in)	-	190 mm (7.5 in)	2.72 kg (6 lb)
In-line Sander													
222-3067	620kPa (90 PSIG)	16 SCFM (2.3 CFM) [65.13 l/min.]	-	1800 osc/ min	87 dBa	-	2.75 x 17.5	-	1/4 in - 18 NPT	8 mm (5/16 in)	406 mm (16 in)	121 mm (4.75 in)	-
6 in OASander													
222-3068	410kPa (60 PSIG) (Warranty Six Months)	11 SCFM (2.1 CFM) [59.47 l/min.]	.25	10000 RPM	93 dBa	5/16 in - 18 UNC	150 mm (6 in)	231-9468, 246-7509	1/4 in - 18 NPT	8 mm (5/16 in)	260 mm (10.2 in)	-	2.2 kg (4.9 lb)
5 in Compact Sander													
222-3084	620kPa (90 PSIG)	32 SCFM (4.2 CFM) [118.9 l/min.]	.3	1400 RPM	88 dBa	7/16 in - 20 UNC	127 mm (5 in)	231-9469	1/4 in - 18 NPT	8 mm (5/16 in)	118 mm (4.6 in)	121 mm (4.75 in)	-
7 in Angle Polisher, Air Consumption, working: 31 SCFM (4.3 CFM) [121.8 l/min.]													
222-3069	620kPa (90 PSIG)	34 SCFM (4.8 CFM) [135.9 l/min.]	1	2600 RPM	84 dBa	5/8 in - 11 UNC	178 mm (7 in)	231-9465	1/4 in - 18 NPT	8 mm (5/16 in)	410 mm (15.8 in)	-	-

PNEUMATIC TOOLS

Air Grinders

Warranty: Caterpillar® 18 Months

222-3076



222-3076

European Union Compliant, CE marked

- Aluminum housing reduces weight and provides durable long life
- Compact design for easy maneuvering in restricted areas
- Paddle-style, variable speed throttle safety trigger prevents accidental startup; easy to use, versatile
- Ball bearing mounted air motor reduces vibration and operator fatigue; prolongs motor life
- Powerful .2 horsepower motor
- Angle head zirk grease fitting (right angle only) allows lubrication of gear train, prolongs life of tool

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com..

Part No.	Air Pressure	Air Cons. Free Speed	HP	Sound Level, Free Speed	Air Inlet Thread Size	Hose Size, ID min.	Collet Size	Overall Length	Max Oper. Speed	Wheel Capacity	Weight	Length	Sound Level	Air Cons. Under Load	Spindle Thread Size
7 in Angle Grinder															
222-3071	–	8 l/s (18 cfm)	–	–	–	–	–	–	6,000 RPM	175 mm (7 in)	2.7 kg (5.9 lb)	315 mm (12.4 in)	85 dBa	17 l/s (35 cfm)	5/8 in-11
Medium Mini Die Grinder															
222-3074	620 kPa (90 PSIG)	25 SCFM (3.5 CFM) [99.11 l/min]	0.2	91 dBa	1/4 in - 18 NPT	8 mm (5/16 in)	1/4 in	165 mm (6.5 in)	22,000 RPM	–	1.09 kg (2.4 lb)	–	–	–	–
Right Angle Die Grinder															
222-3076	620 kPa (90 PSIG) (Warranty Six Months)	15 SCFM (2.1 CFM) [59.47 l/min]	0.2	93 dBa	1/4 in - 18 NPT	8 mm (5/16 in)	1/4 in	140 mm (5.5 in)	20,000 RPM	–	.64 kg (1.4 lb)	–	–	–	–
Extended Die Grinder															
222-3077	620 kPa (90 PSIG)	25 SCFM (3.5 CFM) [99.11 l/ min]	0.2	91 dBa	1/4 in - 18 NPT	8 mm (5/16 in)	1/4 in	293 mm (11.5 in)	22,000 RPM	–	1.05 kg (2.5 lb)	–	–	–	–

Air Drills

Model Usage: All Cat® Products

Warranty: Caterpillar® 18 Months



European Union Compliant, CE marked

- Cat® Branded
- Aluminum housing reduces weight and provides durable long life
- Compact design for easy maneuvering in restricted areas
- Contoured button style variable speed trigger is easy to use; versatile
- Ball bearing mounted air motor reduces vibration and operator fatigue; prolongs motor life
- Powerful, reversible .3 horsepower motor

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com..

Part No.	Free Speed Air Cons.	Working Air Cons.	HP	Free Speed	Sound Level, Free Speed	Sound Level, Working	Spindle Thread Size	Torque Range	Air Inlet Thread Size	Recommended Hose Size, ID min.	Recommended air pressure	Overall Length	Weight	Drill Chuck (Key)	Drill Chuck (Keyless)
3/8 in Reversible Air Drill: Chuck Range, Diameter: 1/16 in - 3/8 in															
222-3061	71 SCFM (10 CFM) [283.2 l/min.]	43 SCFM (6 CFM) [169.9 l/min.]	0.3	2000 RPM	92 dBa	104 dBa	3/8 in - 24 UNF	0-4 N•m (0-35 in-lb)	1/4 in - 18 NPT	8 mm (5/16 in)	620 kPa (90 PSIG)	199 mm (7.83 in)	.45 kg (2.85 lb)	243-6496	234-0544
1/2 in Reversible Air Drill															
222-3062	71 SCFM (10 CFM) [283.2 l/min.]	43 SCFM (6 CFM) [169.9 l/min.]	0.3	800 RPM	97 dBa	109 dBa	3/8 in - 24 UNF	0-6.8 N•m (0-60 in lb)	1/4 in - 18 NPT	8 mm (5/16 in)	620 kPa (90 PSIG)	224.8 mm (8.85 in)	1.61 kg (3.55 lb)	243-6495	234-0545

PNEUMATIC TOOLS

Air Hammer

Warranty: Manufacturer's



European Union Compliant, CE marked

- Aluminum housing reduces weight and provides durable long life
- Variable speed trigger is easy to use, versatile
- Air directed exhaust
- Air line fi lter
- Nylon friction plugs
- Long barrel for easier access to hard to reach areas
- Includes Quick-Connect Chuck 536-6465

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com..

Part No.	Recommended Air Pressure	Air Consumption	Sound Level, Free Speed	Blows/Minute	Air Inlet Thread Size	Recom. Hose Size, ID min.	Overall Length	Weight	Quick Connect Couple
Long Air Hammer with Quick-Connect Chuck 536-6465									
222-3080	620 kPa (90 PSIG)	18 SCFM (2.5CFM)	99 DBA	3400	1/4 in - 18 NPT	8 mm (5/16 in) I.D. Min	187 mm (7.4")	2.1 kg (4.6 lb	536-6465

Air Hammer Accessories

Warranty: Caterpillar® Six Months



- Used with 222-3080 Air Hammer
- Material: tungsten carbide steel

Part No.	Description	Width	Length	Shank Diameter	Use
223-4352	Sheet Metal Ripper	5/8 in	5 in	–	–
223-4353	Flat Chisel	3/4 in	7 in	–	–
223-4354	Panel Cutter	3/4 in	6 in	–	Slices bushings, cylinder sleeves, etc.
223-4355	Slitting Chisel	1 in	6 7/8 in	–	Cuts exhaust and tail pipes
223-4356	Weld Breaker	5/8 in	6 3/4 in	–	–
226-0102	Punch, 15 Degree	–	228.6 mm (9 in)	10.18 mm (0.4 in)	–
226-0124	Straight Punch	–	228.6 mm (9 in)	10.18 mm (0.4 in)	–

Punch Tool for Pneumatic Hammer, 57 Degree

Model Usage: PM620, PM622, PM-200, PM-201, PM-102, PM-820, RM500B

Warranty: Caterpillar® Six Months



- New 57-degree punch tool for pneumatic air hammers for better access
- Used to quickly and easily remove 222-7570 bits from the tool holder

Part No.	Description	Dimensions	Weight
541-9315	Punch Tool for Pneumatic Hammer, 57 Degree	Dia 19.3 x 212.2 mm (Dia 0.8 x 8.4 in)	0.19 kg (0.4 lb)

Separator Fork

Warranty: Caterpillar® Six Months



- Used with common air hammers
- Multiple applications
- Pickle fork design used for ball joints and tie rod ends

Part No.	Description	Dimensions	Weight
541-9329	Separator Fork	Length: 187.32 mm (7 3/8 in) Tip (Opening): 20.63 mm (13/16 in)	0.5 kg (1 lb)

Air Ratchet

Model Usage: All Cat® Products

Warranty: Caterpillar® 18 Months



European Union Compliant, CE marked

- Aluminum housing reduces weight and provides durable long life
- Versatile, easy-to-use paddle-style trigger; variable speed trigger
- Ball bearing mounted air motor reduces vibration and operator fatigue; prolongs motor life
- 200 RPM free speed, 250 in-lbs torque output — fast and powerful

REPAIR INFORMATION

The Tool Repair Center can help with questions about repair options, calibration details, or general customer service needs. Call +1(262) 656-4769 worldwide or in North America, toll-free at (855) 351-0926 or send an email to catwarranty@snapon.com..

Part Number	Drive	Recommended Air Pressure	Free Speed Air	Free Speed	Sound Level, Free Speed	Torque Range	Air Inlet Thread Size	Recommended Hose Size	Overall Length	Weight
222-3059	3/8 in	620 kPa (90 PSIG)	22 SCFM (3.0 CFM)	200 RPM	95.1 dBa	7-81 N•m (5-60 ft-lb)	1/4 in - 18 NPT	10 mm (3/8 in)	256 mm (10.43 in)	1.09 kg (2.4 lb)

Shears

Model Usage: All Cat® Products

Warranty: Caterpillar® 18 Months



European Union Compliant, CE marked

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Part No.	Recom. Air Pressure	Average Air Cons.	HP	Sound Level, Free Speed	Sound Level, Working	Cutting Capacity	Cut Width	Cutting Speed	Strokes	Air Inlet Thread Size	Recom. Hose Size, ID min.	Overall Length	Weight
222-3083	620 kPa (90 PSIG)	4 CFM [113.3 l/min.]	0.6	88.1 dBa	99.6 dBa	1.2 mm (3/64 in)	5.6 mm (7/32 in)	4.572 m (15 ft) per/min	2500 per minute	1/4 in - 18 NPT	8 mm (5/16 in)	254 mm (10 in)	1.3 kg (2.8 lb)

Pneumatic Snap Ring Tool

Warranty: Manufacturer's, One Year



- Light weight
- Easy to use
- Ergonomic design
- Handles snap rings 0.25 - 6 inch (0.6 - 15 cm)

Snap Ring Tool	
Replacement Tips (Warranty: Caterpillar Standard Warranty, 6 months)	
Straight	430-4392
45-degree Angle	430-4394
90-degree Angle	

PNEUMATIC TOOLS

Air Engraver

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Punch 3/16 inch diameter starting hole
- Material: tungston carbide steel

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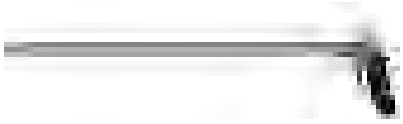
Part No.	Description	Recommended Air Pressure	Average Air Consumption	Free Speed	Sound Level	Air Inlet Thread Size	Recommended Hose Size, ID min.	Hose Length	Overall Length Without Hose	Weight
223-1154	Air Engraver	620 kPa (90 PSIG)	7 SCFM (1.0 CFM)	14000 RPM	90.0 dBa	1/4 in - 18 NPT	10 mm (3/8 in)	"1,511 mm (59.49 in)"	"140 mm (5.5 in)"	.22 kg (.48 lb)
Air Engraver Needles										
223-4357	Needle, Coarse	–	–	–	–	–	–	–	–	–
223-4358	Needle, Medium	–	–	–	–	–	–	–	–	–
223-4359	Needle, Fine	–	–	–	–	–	–	–	–	–

High-Power Extension Air Gun

Warranty: Caterpillar® Six Months



- Versatile tool ideal for cleaning hard-to-reach locations
- Good for cleaning benchtops, workstations, machinery, and equipment
- Venturi tip increases the power and limits static pressure to less than 207 kPa (30 PSI) when tip is blocked
- Includes durable cast aluminum, pistol-style body, aluminum extension, and zinc alloy nozzle
- 1/4 inch FNPT inlet
- Meets OSHA standards

Part No.	Description	Size
156-0930	Safety Air Gun	61 cm (24.0 in)
156-0931	Safety Air Gun	91 cm (36.0 in)
156-0932	Safety Air Gun	122 cm (48.0 in)

Jet Guard Safety Air Gun

Warranty: Manufacturer's One Year



- CE marked, Meets OSHA Standards
- Safety air shield – patented protective air cone protects operator from chip fly-back
- Delivers high thrust with pinpoint accuracy
- Adjustable air volume – from a "blast" to a "whisper"
- Ergonomic, pistol grip handle provides maximum comfort
- Wide comfort trigger
- Built in hanger for easy storage
- Pinned, tamper proof nozzle
- Durable cast aluminum body
- 1/4 inch NPT/BSPT inlet
- Specs at 100 psi (6.9 bar)
- – Operating pressure 40-120 psi (2.8 – 8.3 bar)
- – Output thrust: 0.4 lbs (1.8 N)
- – Noise level: 102 dBA
- – Air usage: 35 cfm (991 l/m)
- – Weight: 0.6 lbs (272 g)

Part No.	Description
441-5255	Jet Guard Safety Air Gun

Jet Guard Safety Air Gun

Warranty: Caterpillar® Six Months



- Meets OSHA Standards
- Patented protective air cone protects operator from chip fly-back
- Delivers high thrust with pinpoint accuracy
- Knurled adjusting nut controls air volume
- Ergonomic pistol grip and trigger reduce hand fatigue
- Good for cleaning machine tools and other production equipment
- Built in hanger for easy storage
- Durable cast aluminum body
- 1/4 inch NPT inlet

Part No.	Description
156-0927	Jet Guard Safety Air Gun

Safety Blow Gun

Warranty: Caterpillar® Six Months



- Supplies non-aspirating, high velocity, sharply defined, collimated air stream particularly suited for cleaning small blind holes and cavities
- Complies with OSHA standard 1910.242(b) for dead-ended nozzle pressure and noise limitation
- For use with inlet pressure up to 150 psig
- Lightweight all metal construction
- 1/4 inch FNPT inlet

Part No.	Description	Test Lab Listing
4C-3302	Air Blow Gun w/Nozzle Assembly	UL/FM
4C-3304	Nozzle w/152 mm (6 in) Extension	—

Gun Vac®

Warranty: Caterpillar® Six Months



- Rugged aluminum construction
- Uses standard shop compressed air
- No motor, wires, or electrical fields
- Creates twice the vacuum suction of conventional electric shop vacuums
- Reusable collection bag
- Includes brush and 23 cm (9 in) crevice tool
- Accepts all 1-1/4 inch vac accessories
- 1/4 inch NPT inlet

Part No.	Description
4C-6774	Gun Vac, 551 x 1034 kPa (80-150 PSI)
4C-6775	Reusable Bag, 190 mm x 343 mm (7 1/2 in x 13 1/2 in)
4C-6776	Extension, 457.2 mm (18 in)

PNEUMATIC TOOLS

Superbolt Angle Nut Runner

Model Usage: 797 Mining Truck

Warranty: Manufacturer's



- Used to aid in reducing operator fatigue when installing Superbolts on 797F front struts
- Wrenches can be set to required torque and stall out when set torque is reached

REPAIRS

Apex Tool Group, www.apextoolgroup.com
1000 Lufkin Road, Apex, NC 27539
919-387-0099 p 919-387-2614 f

Part No.	Description
492-5762	Superbolt Angle Nut Runner Tool Assembly
492-5763	Superbolt Angle Nut Runner Controller

Blow Gun with Air Knife and Regulator Group

Model Usage: D6T and D8T Track Type Tractors

Warranty (Blow Gun with Air Knife): Manufacturer's Five Years against defects in materials or workmanship
More at www.exair.com

Warranty (Regulator Group):
Warranty: Caterpillar® Six Months

- Blow gun with 2" air knife easily cleans D-shaped filter assemblies
- Regulator with adapter regulates air flow to the gun

Part No.	Description	Dimensions	Weight
485-3771	Blow Gun with Air Knife	30" long extension (762 mm)	2.7 kg (6 lb)
485-3769	Regulator with Adapter	Regulator 64 mm long, adapter 37 mm long	1.2 kg (2.7 lb)





Air Comb Filters and Radiator Cleaners

Model Usage: All Models

Warranty: Manufacturer's One Year

485-7788



492-0940



485-7790



485-7791



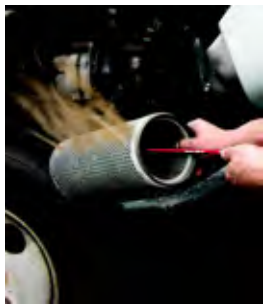
- Special multi-port nozzle maximizes air pressure and volume at a 90 degree angle.
- Thoroughly cleans air filters, condensers and radiators from the inside out
- Focused high-pressure output
- 5x the air volume
- Long-reach 90 degree airflow
- Accesses hard-to-reach areas
- Extends filter life; won't punch holes
- Available in four sizes

WARRANTY INFORMATION

Innovative Products of America, Inc.: 845-679-4500

Part No.	Length	Weight
485-7788	406 mm (16 in), 304 mm (12 in) air comb	0.454 kg (1 lb)
492-0940	711 mm (28 in), 610 mm (24 in) air comb	0.454 kg (1 lb)
485-7790	1016 mm (40 in), 914 mm (36 in) air comb	0.544 kg (1.2 lb)
485-7791	1321 mm (52 in), 1245 mm (49 in) air comb	0.59 kg (1.3 lb)







PNEUMATIC TOOLS

Pneumatic Syphon Spray Gun

Warranty: Caterpillar® Six Months



CE marked

- Ideal for oils, solvents, water, and other liquids
- Ergonomic, rugged, cast aluminum pistol grip designed for heavyduty use
- High vacuum syphon delivers up to 45 L (12 gal) per hour
- 305 mm (12 in) extension for accessing difficult, hard-to-reach areas
- Wide comfort trigger
- Adjustable trigger and nozzle tip control volume and spray pattern
- Brass nozzle tip
- 1/4 inch NPT/BSPT inlet

Specs at 100 psi (6.9 bar)

- Operating pressure 40-120 psi (2.8 – 8.3 bar)
- Flow rate: 16 gph (1 l/m)
- Air usage: 9 cfm (255 l/m)
- Weight: 1.5 lbs (680 g)

Part No.	Description
441-5254	Pneumatic Syphon Spray Gun

Pneumatic Syphon Spray Gun

Warranty: Caterpillar® Six Months



- Ergonomic, rugged, die cast aluminum pistol grip designed for heavy-duty use
- High vacuum syphon delivers up to 45 L (12 gal) per hour
- 304.8 mm (12 in) extension for accessing difficult, hard-to-reach areas
- Adjustable trigger and nozzle tip control volume and spray pattern
- 183 cm (6 ft) 1/4 inch PVC feed
- Brass nozzle tip
- 1/4 inch NPT inlet
- Meets OSHA standards

Part No.	Description
4C-5746	Pneumatic Syphon Spray Gun

Spray Gun Canister

Warranty: Caterpillar® Six Months



- 0.94 L (1 qt) canister attaches to spray gun eliminating feed tubes and buckets
- Increased mobility reduces the risks of spills

Part No.	Description
4C-6778	Spray Gun Canister

Pneumatic Oil Gun

Warranty: Caterpillar® Six Months



- Ergonomic, rugged, die cast aluminum construction pistol grip designed for heavy-duty use
- High vacuum syphon delivers up to 49.2 L (13 gal) per hour
- 304.8 mm (12 in) extension for accessing hard-to-reach areas
- Adjustable trigger and nozzle tip control volume and spray pattern
- 0.95 L (1 qt) steel, reusable dispenser eliminates feed tubes and buckets
- Good for lubricating trucks, automobiles, construction equipment, and machinery
- 1/4 inch NPT inlet
- Meets OSHA standards
- Conforms to MIL-O-14 559C

Part No.	Description
4C-6779	Pneumatic Oil Gun

Torque Wrenches, Cat® Electronic

Warranty: Manufacturer's One Year



CE marked, N.I.S.T. traceable certificate of calibration

- Just the set torque and the wrench will beep and flash a green light when the desired torque is reached
- Torques clockwise and counterclockwise
- Provides torque angle
- Easy-to-read display shows torque in real time
- 15-Degree Flex Ratcheting Head
- Push Button Socket Release
- Remembers last unit and torque setting
- Ergonomically designed molded non-slip rubber grip
- Scales include: foot pounds, inch pounds, kilogram centimeters, or newton meters
- Case included

REPAIR INFORMATION

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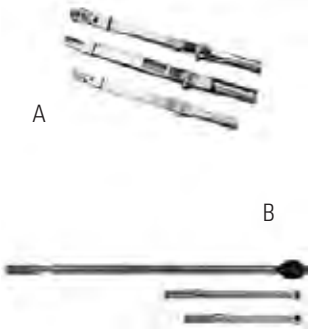
Part No.	Drive	Accuracy	Head Type	Torque Range	Length
384-6821	3/8 in	± 2% CW / ± 3% CCW	Flex Ratchet	13.6 N·m - 135.6 N·m (5 ft-lb - 100 ft-lb)	17 in (43 cm)
384-6822	1/2 in	± 2% CW / ± 3% CCW	Flex Ratchet	33.8 N·m - 338 N·m (25 ft-lb - 250 ft-lb)	27 in (68 cm)

Click-Type Torque Wrenches

Warranty: Manufacturer's 90 Days



Style A

- Work only in the right-hand or clockwise direction, and are guaranteed to be accurate within 4% of setting of the top 80% of the scale
- Easily adjusted by a small calibrated dial along the wrench arm
- Eliminates the need to reduce the torque setting to the low end of the scale for storage in order to retain accuracy
- The 162-8718 Torque Wrench can be disassembled into three components for storage in a tool box
- Includes a certificate of calibration

Style B

- Work in both right and left-hand (clockwise and counter-clockwise) directions
- Micrometer handle style adjustment
- These wrenches are labeled in both ft-lbs and N•m
- Includes a certificate of calibration

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Style	Part No.	Min. Torque Range	Max. Torque Range	Drive	Accuracy	Ratchet Type	Increments	Length	Head Width	Head Depth	Case	Kit Part No.	Kit Part No.
A	162-8718	271 N·m (200 ft-lb)	813.5 N·m (600 ft-lb)	3/4	±4%	Detach	13.6 N·m (10 ft-lb)	1219.2 mm (48 in)	60.32 mm (2 3/8 in)	31.75 mm (1 1/4 in)	No	160-6390 (branded)	260-3766 (non-branded)
A	4C-5492	27.1 N·m (20 ft-lb)	135.6 N·m (100 ft-lb)	3/8	±4%	Flex	2.71 N·m (2 ft-lb)	447.67 mm (17 5/8 in)	28.57 mm (1 1/8 in)	14.28 mm (9/ 16 in)	Yes	4C-5819 (branded)	260-3764 (non-branded)
A	8T-9293	54.5 N·m (40 ft-lb)	341.67 N·m (252 ft-lb)	1/2	±4%	Flex	6.8 N·m (5 ft-lb)	591.97 mm (22 1/8 in)	41.27 mm (1 5/8 in)	19.05 mm (3/4 in)	Yes	5P-7429 (branded)	260-3765 (non-branded)
B	386-3340	1.4 N·m (0.83 ft-lb)	5.4 N·m (4.2 ft-lb)	1/4	±4% CW, ±6% CCW	Fixed	1.35 N·m (1 ft-lb)	258 mm (10.2 in)	–	–	Yes	–	–
B	214-7349	27.1 N·m (20 ft-lb)	203.6 N·m (150 ft-lb)	1/2	±6%	Fixed	1.4 N·m (1 ft-lb)	469.9 mm (18.5 in)	–	–	Yes	214-7350	–
B	9U-5006	40.7 N·m (30 ft-lb)	339.3 N·m (250 ft-lb)	1/2	±6%	Fixed	1.4 N·m (1 ft-lb)	539.6 mm (21.25 in)	–	–	Yes	–	–
B	9U-5007	135.7 N·m (100 ft-lb)	814.2 N·m (601 ft-lb)	3/4	±6%	Fixed	7.0 N·m (5.2 ft-lb)	1092.2 mm (45 in)	–	–	Yes	–	–
B	9U-5019	6.8 N·m (5 ft-lb)	101.8 N·m (75 ft-lb)	3/8	±6%	Fixed	0.7 N·m (0.5 ft-lb)	393.7 mm (15.5 in)	–	–	Yes	–	–
B	9U-5020	13.6 N·m (10 ft-lb)	135.7 N·m (100 ft-lb)	3/8	±6%	Fixed	0.7 N·m (0.5 ft-lb)	393.7 mm (15.5 in)	–	–	Yes	–	–
B	386-3348	271.2 N·m (200 ft-lb)	1355.8 N·m (1000 ft-lb)	1	±4% CW, ±6% CCW	Fixed	6.8 N·m (5 ft-lb)	1753 mm (69 in)	–	–	Yes	–	–

TORQUE TOOLS

Dial-Type Torque Wrenches

Warranty: Manufacturer's Lifetime



- Accuracy within 2% of the reading within the upper 80% of the scale
- Wrenches with follow-up needle use two pointers on the dial which move as one as long as pressure is applied and one remains at the maximum torque reading until reset
- Wrenches with light indicator features a light which comes on when the torque setting is reached
- Work in both right and left-hand (clockwise and counter-clockwise) directions

REPAIR INFORMATION

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Part No.	Torque Range	Drive U.S.	Drive	Accuracy	Metric Graduations	English Increments	Length	Needle Included	Light Indicator Included	Case
9S-7351	800 N·m	600 ft-lb	3/4 in	±2%	20.0 N·m	10 ft-lb	103.9 cm (40.9 in)	–	Yes	No
9S-7352	480 N·m	350 ft-lb	3/4 in	±2%	10.0 N·m	5 ft-lb	75.9 cm (29.9 in)	Yes	–	No
9S-7353	230 N·m	175 ft-lb	1/2 in	±2%	10.0 N·m	2.5 ft-lb	47.6 cm (18.75 in)	Yes	–	No
9S-7354	34 N·m	300 in-lb	3/8 in	±2%	1.0 N·m	5 in-lb	25.2 cm (9.9 in)	Yes	–	No
9U-5017 (warranty 90 days)	35 N·m	300 in-lb	3/8 in	±4%	1.0 N·m	5 in-lb	25.4 cm (10.0 in)	Yes	–	Yes

Heavy-Duty Box Wrenches

Warranty: Manufacturer's Lifetime



- Used for fasteners in inaccessible places, such as track roller guard bolts, where a torque wrench and standard socket cannot be used

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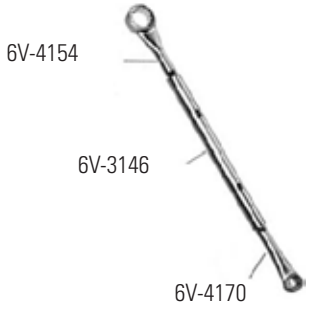
Part No.	Hex Size	Straight/Config.	Offset	Torque
262-2758	20 mm	12 pt	straight	650 ft-lb
262-2759	30 mm	12 pt	straight	650 ft-lb
4C-9563	24 mm	12 pt	straight	650 ft-lb
6V-4165	19 mm	12 pt	straight	650 ft-lb
6V-4166	7/8 in	12 pt	straight	650 ft-lb
6V-4167	15/16 in	12 pt	straight	650 ft-lb
6V-4168	1 1/8 in	12 pt	straight	650 ft-lb
6V-4169	1 5/16 in	12 pt	straight	650 ft-lb
6V-4171	15/16 in	12 pt	15° offset	–
6V-4154 (shown below)	1 1/2 in	12 pt	straight	650 ft-lb

Torque Wrench Extensions

Warranty: Manufacturer's Lifetime



- Has an effective length of 610 mm (24 in) and a capacity up to 884 N•m (650 ft-lb)
- Slide rule-type torque computer

Reference

- Form SEHS7150 to determine the torque wrench dial reading for different extensions

Part Number	Description
6V-3146	Tubular Extension
6V-4154	Heavy-Duty Box Wrench
6V-4170	Adapter, 3/4 inch, Sq. Drive

Adapters and Extensions for Torque Wrenches

Warranty: Manufacturer's Lifetime



- 8S-5131 and 1P-2382 Adapters are used with the 9S-7353 or 9U-5014 Torque Wrench
- 8F-4677 Extension and 8F-4678 Adapter are used with the 9S-7352 or 9U-5015 Wrench to increase the capacity of the wrench

Part No.	Description	Use
156-2568	Adapter, 3/8 inch drive, 10 mm, 12 point box end	–
1P-2382	Adapter (1/2 inch Drive, 3/4 inch 12 Point Box End)	for universal joint bolts on all tractor-scrapers (except 613) and No. 16 Mo- tor Graders
5P-0166	Crowfoot Wrench (3/8 inch Drive, 3/4 inch Hex)	for torquing fuel line nuts on D3 Tractors, 910 Wheel Loaders and 931 Track Loaders
8F-4677	Extension, 3/4 inch Drive, 26 7/8 inch center to center	use to double capacity of 8F-4675 and 9S-7352 Torque Wrenches for torque applications up to 700 ft.lb.
8F-4678	Adapter Driver (3/4 inch Drive)	for use with 8F-4677 Extension
8T-3196	Offset Box Wrench	3/4 inch Drive, 1 7/8 inch Hex, 12 pt
9U-6282	Crankshaft Main Bearing on 3054 and 3056 Engines. 1/2 inch Sq. Drive, 15/16 inch Hex, 12 pt	–
386-3349	Offset Handle	1/2 inch square drive; 375 mm (14.76 in) offset; 559 mm (22 in) long
317-2806	1/2 in Drive Adapter with 5/8 inch Box End	–

Torque Wrench Adapter, Special 15/16 in

Model Usage: 3500B an 3500C Engines

Warranty: Manufacturer's 30 day materials and workmanship

262-656-4769 or catwarranty@snapon.com



- Achieves consistent and accurate 120 Nm torque when used with the 147-2059 torque wrench

Part No.	Description	Dimensions (L x W x H)	Weight
523-4602	Special 15/16 in Torque Wrench Adapter	457 x 48 x 23 mm (18 x 1.9 x 0.9 in)	0 .5 kg (2.2 lb)

Special Torque Wrench Extensions

Warranty: Manufacturer's Lifetime

4V-9451



4V-9454 4V-9455

4V-9456

- Extensions listed below are used with the 6V-9451 Tubular Arm, and the 9S-7352
- Torque Wrench primarily for applications up to 1000 ft-lb (1360 N·m)
- Torque computer (376-4937), can be used to compute the correct torque wrench reading for proper torque application at the fastener

Part No.	Description	Use
6V-9451	Tubular Arm	–
6V-9454	Wrench, 1 7/8 inch	Tighten mounting stud nuts on 55, 56, 57, 58 and 59 Towing Winches.
6V-9455	Wrench, 1 7/8 inch	Tighten mounting stud nuts on 55 and 56 Towing Winches
6V-9456	Wrench, 1 11/16 inch	Tighten steering cylinder tie rod bolt nut on No. 16G Motor Graders.
435-3382	Wrench, 1 1/4 inch	–

Torque Computer

Warranty: Caterpillar® Six Months



- Used for calculating proper torque when using an extension with analog and digital torque wrenches

Part No.	Description
376-4937	Torque Computer

TORQUE TOOLS

Degree Wheel

Warranty: Manufacturer's Lifetime



- Used for measuring torque turn angles
- The nut or bolt does not have to be marked in order to obtain the correct torque

Part No.	Description	Size
8T-3052	Degree Wheel	1/2 in drive; can be used with any standard 1/2 in drive socket

Mechanical Torque Tester

Warranty: Manufacturer's Lifetime



- Torque wrenches can be checked quickly and easily
- Furnished with 3/8 inch, 1/2 inch and 3/4 inch adapters to accommodate Cat torque wrenches
- Certified accuracy is ±1% or one scale division, whichever is greater

Part No.	Description	Torque Range
1P-7460	Mechanical Torque Tester	680.0 N·m (502 ft-lb)

Electronic Torque Testers

Warranty: Manufacturer's 90 Days



European Union Compliant, CE marked

- Accuracy better than 1% of the indicated value in ranges between 10% to 100% of maximum rating
- Maximum overtorque of 120% of full rating
- Reliable "first-peak" mode for tests of click type torque wrenches without the need for manual sensitivity adjustment—a red light and buzzer indicate capture of first torque peak. Other modes include "peak hold" which records the highest reading during a test and "track" which displays continuously during use.
- Equally accurate in clockwise and counter-clockwise directions
- Automatic or manual display reset
- Unique adjustable head moves for easy reading
- Rechargeable battery with 110 V AC adapter included (not available separately)

NOTE: Use 9U-5101 mounting bracket to mount the testers to a bench top. No bracket is required to mount testers to a vertical surfaces.

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Part No.	Torque Range	Drive U.S.	Size
9U-5009	12 to 57 dN·m	10 to 50 in-lb	1/4
9U-5010	57 to 282 dN·m	50 to 250 in-lb	3/8
9U-5011	226 to 1130 dN·m	200 to 1000 in-lb	3/8
9U-5012	68 to 339 N·m	50 to 250 ft-lb	1/2

Grease Fitting Relief Valve

Warranty: Caterpillar® Six Months



- This thumb-operated relief valve is installed between a grease gun and a grease gun hose.
- When a pressure lock situation is created during greasing, the valve expells grease, lowering the pressure, and allows the gun to be safely removed from a grease zerk, without damage to the zerk.
- Improves efficiency during greasing and reduces grease zerk breakage
- For use on any grease gun

Part No.	Description	Dimensions	Weight
493-6894	Grease Fitting Relief Valve	88 x 30 x 15 mm (3.5 x 1.2 x 0.6 in)	0.034 kg (0.08 lb)

GREASE GUNS

Lever Grease Gun, Model Pro "L"

Warranty: Caterpillar® Six Months



- Heavy-duty construction
- Cast iron head equipped with a check valve and an air-bleed valve
- Spring primed
- Two way loading
- Uses standard Cat Grease cartridges (14.5 oz)
- Lever gun will operate with partial lever strokes for use in close quarters
- Zinc plated
- Cat branded
- Maximum operating pressure of assembly: 68,948 kPa (10,000 PSI)

Part Number	Description
8F-9866	Cat Pro "L" Grease Gun
8F-9866 Consists of:	
190-1668	Coupler
190-1669	Hose Assembly, 12 in long
Optional:	
190-5623	Hose Assembly, 18 in long
Service Parts for Noncurrent 8F-9866 (This model is not marked Pro L and uses the 2M-2689 or 190-1670 Coupler with a check valve)	
190-1670	Coupler (valve with steel insert)
2M-2689	Coupler (valve with rubber insert)
9F-2636	Nozzle Assembly (Manufacturer's Warranty 30 Days)
9F-2637	Nipple (part of 9F-2636)

Pistol Grip Grease Gun

Warranty: Manufacturer's One Year



- Heavy-duty construction
- Cast iron head equipped with a check valve and an air-bleed valve
- Spring primed
- Two-way loading
- Uses standard Cat Grease cartridges (14.5 oz)
- Lever gun will operate with partial lever strokes for use in close quarters
- Zinc plated
- Cat branded
- Maximum operating pressure of assembly: 31,026 kPa (4,500 PSI)

Part No.	Description
190-5622	Pistol Grip Grease Gun
Grease Gun Consists of:	
190-1668	Coupler
190-5623	Hose Assembly, 18 in long
Optional:	
190-1669	Hose Assembly, 12 in long

Electric Grease Gun

Warranty: Manufacturer's One Year Contact JERRY.MEEHAN@SKF.COM OR 815-341-1321

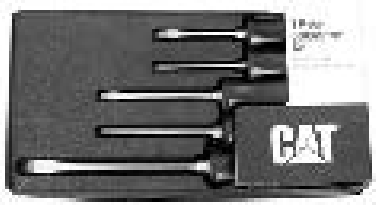


- 20v, 1.5 Ah lithium-ion grease gun
- 10,000 psi maximum
- Two-flow rates: High - 6oz (170g) per minute and Low - 3.2oz (90.7oz) per minute
- Delivers up to 15 cartridges per hour on a single charge
- 70-min battery recharge
- LCD displays:
  - Grease meter in ounces or grams
  - Grease level gauge
  - Battery level gauge
  - Troubleshooting information
- Built-in LED flashlight
- Carrying case

Part Number	Description	Charger Voltage
463-3105	20v, 1.5 Ah lithium-ion grease gun	110v, 60hz
463-3106	20v, 1.5 Ah lithium-ion grease gun	220v, 50hz

Screwdriver Set, 5-Piece

Warranty: Caterpillar® Lifetime



- Exclusive high-tech handle for a more comfortable grip and more powerful performance

Part No.	Size	Description
233-1640	–	Screwdriver Set
	Set Consists of:	
6V-7933	5/16 in tip, 277.11 mm (10.91 in) long	Standard Screwdriver
6V-7934	No. 2 Phillips tip, 213.6 mm (8.41 in) long	Phillips Screwdriver
6V-7935	1/4" tip 213.6 mm (8.41 in) long	Standard Screwdriver
6V-7936	No. 1 Phillips tip, 162.9 mm (6.66 in) long	Phillips Screwdriver
525-8019	3/16 in tip, 260 mm (9.44 in) long	Standard Screwdriver

Screwdriver Set, 2-Piece

Warranty: Caterpillar® Lifetime



- Exclusive high-tech handle for a more comfortable grip and more powerful performance

Part No.	Size	Description
9U-7290	Includes a flat 1/4 in tip and #1 Phillips	Screwdriver Set

Set consists of:

Part No.	Size	Description
6V-7936	163 mm (6.6") long	No. 1 Phillips Tip
525-8019	3/16" Flat tip, 163 mm (6.6") long	Flat Tip

SCREWDRIVERS

Black Plastic Handle Screwdriver Set, 6-Piece

Warranty: Caterpillar® Lifetime



- Includes vinyl pouch

Part No.	Tip Size	Description
162-7804	–	Complete Screwdriver Set
Complete Set Consists of:		
6V-7937	3/16 in	Standard Screwdriver
6V-7935	1/4 in	Standard Screwdriver
6V-7933	5/16 in	Standard Screwdriver
6V-7932	3/8 in	Standard Screwdriver
6V-7936	No. 1	Phillips Screwdriver
6V-7934	No. 2	Phillips Screwdriver

Black Plastic Handle Screwdrivers

Warranty: Caterpillar® Lifetime

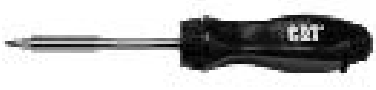


- Nickel/chrome-plated blades with vapor-blasted tips for best possible grip on screws
- Heavy-duty, high impact handle

Part No.	Tip Size	Length
Standard Tip, Round Shank Screwdrivers		
277-8790	1/2 in	469.0 (18.47 in)
6V-7932	3/8 in	342.1 mm (13.50 in)
6V-7933	5/16 in	277.1 mm (10.91 in)
6V-7935	1/4 in	212.8 mm (8.38 in)
6V-7937	3/16 in	239.8 mm (9.44 in)
6V-7938	1/4 in	100.1 mm (3.94 in)
6V-9124	1/8 in	120.7 mm (4.75 in)
Phillips Tip, Round Shank Screwdrivers		
214-7342	No. 3	276.4 mm (10.88 in)
6V-7934	No. 2	213.6 mm (8.41 in)
6V-7936	No. 1	169.2 mm (6.66 in)

Ratcheting Screwdriver, 5 Bits

Warranty: Caterpillar® Lifetime



- Nickel/chrome-plated blades with vapor-blasted tips for best possible grip on screws
- Heavy-duty, high impact handle

Part No.	Description	Size	Length
9U-7291	Ratcheting Screwdriver	3/16 in and 9/32 in flat tips, #1 and #2 Phillips, and #10 Torx stored in hollow handle	"22.25 mm (8 3/4 in) long overall; 96.04 mm (3 25/32 in) stainless steel shank length

Screwdriver

Warranty: Caterpillar® Six Months



- Wide tri-lobe design in the center of the handle and Snap-on® bolstered, special alloy steel blade supply turning power when needed
- Six specially designed curves and flutes with a round neck provides fingertip control, aids in spinning and prevents the tool from rolling on flat surfaces.
- Soft-grip handle provides increased comfort and control while resisting most shop solvents.
- Nickel-chrome plating helps protect against corrosion and promotes easy clean up.
- Tip identifier on the crown helps to quickly identify the needed tool.

Part No.	Description	Length	Weight
460-9913	Snap-on Flat Tip 1/8 in Instinct® Mini-Tip Soft-Grip Red Screwdriver	149 mm (5-7/8 in)	0.23 kg (8 oz)

Screwdriver Bit Set, 32-Piece

Warranty: Caterpillar® Six Months



- Cushion grip handle
- Strong magnetic grip holds bit securely
- Blast finished tip for added grip

Part No.	Adapter	Hex	Tamper	Torq	Torx	Tri-wing
386-3366	1/4 in square to 1/4 in hex	3/32, 7/64, 1/8, 9/64, 5/32, 3/16 in and 2, 2.5, 3, 4, 5 mm	4, 6, 8, 10	6, 8, 10	T7, T8, T10, T15, T20, T25, T27, T30, T40	1, 2, 3, 4

Insulated Screwdriver

Warranty: Caterpillar® Lifetime



- Insulated design with no conductive path to user
- Durable construction with nothing to tear, puncture, or wear away
- Individually tested to protect up to 1,000 volts AC and 1,500 volts DC

Part No.	Description	Sizes
386-3369	Insulated Screwdriver	3 mm Flat
386-3370	Insulated Screwdriver	3 mm Flat

Nutdrivers

Warranty: Caterpillar® Lifetime



- Insulated design with no conductive path to user
- Durable construction with nothing to tear, puncture, or wear away
- Individually tested to protect up to 1,000 volts AC and 1,500 volts DC

Part No.	Description	Sizes
386-3371	Nutdriver (Warranty Six Months)	7/32 in (5.5 mm)
386-3372	Nutdriver	7 mm (0.28 in)

Torx Driver Set

Warranty: Caterpillar® Lifetime



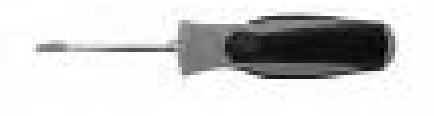
- Ergonomic, durable handles
- Vapor-blasted tips for better grip
- Nut-shaped bolster for hard-to-turn fasteners
- Available as a set or individually

Part Number	Description	Size
431-1522	9-piece Torx Driver Set	–
Individual Drivers		
431-1520	Torx Driver	T8
431-1524	Torx Driver	T10
431-1515	Torx Driver	T15
431-1521	Torx Driver	T20
431-1518	Torx Driver	T25
431-1516	Torx Driver	T27
431-1514	Torx Driver	T30
431-1519	Torx Driver	T40
431-1517	Torx Driver	T45

SCREWDRIVERS

Torx Driver

Warranty: Caterpillar® Lifetime



- Wide tri-lobe design
- Comfortable handle
- Durable nickel chrome plating

Part No.	Description	Sizes
386-3373	Torx Driver	T10

Off-Set Slotted Screwdriver

Warranty: Caterpillar® Lifetime



- Handy for removing slotted screws in areas with limited access

Part No.	Description
5P-0302	Off-Set Slotted Screwdriver

Yellow Grip Pliers Set, 3-Piece

Warranty: Caterpillar® Lifetime



- Hardened cutting edges stay sharper longer and cut with less effort
- Machined cutter heads for matched blades
- Vinyl grip

Part Number	Description	Length
233-1639	Pliers Set	–
Pliers Set Consists of:		
6V-6192	Slip Joint Pliers	208 mm (8 in)
6V-6193	Diagonal Cutting Pliers, 44.45 cm (17 1/2 in)	185.7 mm (7.30 in)
6V-6194	Needle Nose Pliers	181.1 mm (7.13 in)

Pliers Set, Cat® Locking 5-Piece

Warranty: Caterpillar® Lifetime



- Heavy Duty Locking pliers
- Reinforced teeth
- Cat branded

Part No.	Description	Length
316-0707	Locking Pliers Set with rollup pouch	–
Set Components:		
316-0702	Straight jaws - 1 5/32 in (3 cm)	5 in (13 cm)
316-0703	Curved jaws 1 5/8 in (4 cm)	7 in (17 cm)
316-0704	Hose clamping jaws with curved, straight, and clamp sections — 1 5/32 in (3 cm)	10 in (25 cm)
316-0705	Curved jaws with cutter 2 7/16 in (6 cm)	10 in (25 cm)
316-0706	Straight jaws 2-7/16 in (6 cm)	10 in (25 cm)

Pliers

Warranty: Caterpillar® Six Months



- Swivel pads and narrow jaw profile firmly grip tapered surfaces in areas where c-clamps cannot fit.

Part No.	Description	Specifications	Weight
460-9920	Blue Point Locking Clamp, Self-Leveling Jaw Pliers	Max. Jaw Capacity: 100 mm (3 15-16 in) Length: 381 mm (15 in)	0.81 kg (1 lb-13 oz)

Combination and Multiple Position Pliers

Warranty: Caterpillar® Lifetime



Type	Part No.	Description	Length	Finish	Vinyl Grip
A	213-1983	Combination Pliers	159.3 mm (6.30 in)	Chrome	Yes
A	6V-6192	Slip Joint Pliers	190.5 mm (7.50 in)	Black Oxide	Yes
B	214-7347	Multiple Position Pliers	304.8 mm (12.00 in)	Chrome	Yes
B	236-1169	Multiple Position Pliers (Six Month Warranty)	400.0 mm (16.00 in)	Chrome	Yes
B	6V-6195	Interlocking Joint Pliers	235.0 mm (9.30 in)	Black Oxide	Yes
C	6V-6194	Needle Nose Pliers	181.1 mm (7.13 in)	Black Oxide	Yes
D	6V-6193	Diagonal Cutting Pliers, 44.45 cm (17 1/2 in)	185.7 mm (7.30 in)	Black Oxide	Yes

Soft Jaw Pliers

Warranty: Caterpillar® Six Months

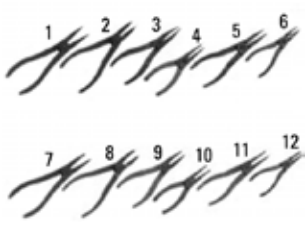


- Soft Jaw Pliers with Urethane Jaw Inserts
- Four pivot positions from 3/4 inch to 2 1/4 inch
- High carbon steel with vinyl grips
- Non marring

Part Number	Description	Length
6V-0006	Soft Jaw Pliers	10 in (254 mm)

Retaining Ring Pliers

Warranty: Caterpillar® Six Months



- Soft Jaw Pliers with Urethane Jaw Inserts
- Four pivot positions from 3/4 inch to 2 1/4 inch
- High carbon steel with vinyl grips
- Non marring

Item	Part Number	No.	Tip Size	Type
Straight Tips				
1	1P-1863	No. 26	0.12 in	External
2	1P-1861	No. 25	0.09 in	Internal
3	1P-1857	No. 23	0.07 in	Internal
4	1P-1855	No. 22	0.04 in	External
5	1P-1859	No. 24	0.07 in	External
6	1P-1853	No. 21	0.04 in	Internal
Right Angle Tips				
7	1P-1864	No. 26-90	0.12 in	External
8	1P-1862	No. 25-90	0.09 in	Internal
9	1P-1858	No. 23-90	0.07 in	Internal
10	1P-1856	No. 22-90	0.04 in	External
11	1P-1860	No. 24-90	0.07 in	External
12	1P-1854	No. 21-90	0.04 in	Internal

SCREWDRIVERS

External Pliers

Warranty: Caterpillar® Six Months



- Use to compress or expand large retaining rings
- A double ratchet locks to hold the handles at any given point without hand pressure
- Gap between the plier tips ranges from 12.7 mm (.50 in) fully closed to 76.0 mm (3.00 in) fully open

Item	Part No.	Description
1	5P-5197	External Pliers
2	136-1452	Internal Pliers Assembly
3 and 4	1U-6728	Tip Set
Not Shown	6V-2062	Tip Set, 90 Degrees

Internal Retaining Ring Pliers

Warranty: Caterpillar® Six Months



- Used to remove and install the large internal retaining rings in power shift transmissions
- Double ratchet lock
- Pliers include 0.15 in (3.8 mm) diameter tips
- Service Part: 1U-8759 Replacement Tips (2 per package)

Part No.	Description	Length
1U-8758	Internal Retaining Ring Pliers	29.00 in (737.0 mm)

Pliers

Warranty: Caterpillar® Six Months



- The hand-held pliers allow accurate assembly and disassembly operations
- The tips of the pliers precisely fit the gripping points on the clamp the integrated spring element keeps the pliers open, thus permitting comfortable and fast working

Part No.	Description
444-6561	Pliers

External Retaining Ring Pliers

Warranty: Caterpillar® Lifetime



- Used to remove and install tempered steel retaining rings used in many applications
- Right angle tips to provide the necessary clearance where the lock ring is accessible only from a perpendicular position

Part No.	Description
2P-8312	External Retaining Ring Pliers

Reversible Wire Twisters

Warranty: Manufacturer's Lifetime, 262-656-4769 or catwarranty@snapon.com



- Simple operation with a one-handed locking function
- Jaw tip designed to hold clipped wire for precision work and hard-to-reach areas
- Ergonomic handle reduces user fatigue.
- Reversible trigger makes it easy to switch between right and left applications with one hand.
- Automatic spring opening
- Commonly used on surface drill and longwall products
- Simplifies lock wire installation
- For use with Ø 0.6 mm to Ø 1.2 mm (0.024 to .047 in) wire

Part No.	Description	Dimensions	Weight
521-0962	Reversible Wire Twisters	OAL 254 mm (10 in)	0.53 kg (1.2 lb)

Slide Sledge® Heavy Equipment Hammers

Warranty: Caterpillar® One Year

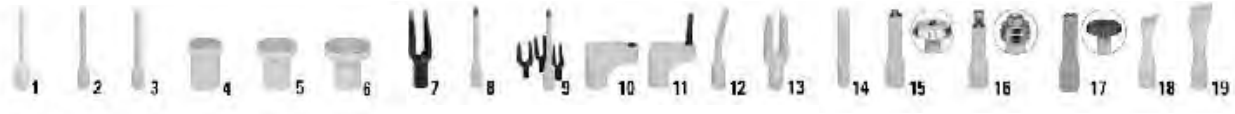


- Safe, easy operation by one person to execute specific jobs with greater accuracy than two people with a hammer and chisel
- Varied sizes and weights available for greater force or accessibility

Part No.	Weight	Length	Description
272-1208	9.00 lb	30.00 in	Slide Sledge w/ 2 in diameter pin driver (272-1237)
272-1212	13.00 lb	46.00 in	Slide Sledge w/ 2 in diameter pin driver (272-1237)
272-1215	14.00 lb	30.00 in	Slide Sledge w/ 2 in diameter pin driver (272-1237)
272-1218	21.00 lb	46.00 in	Slide Sledge w/ 2 in diameter pin driver (272-1237)

Slide Sledge® Heavy Equipment Hammer Tips

Warranty: Caterpillar® 90 Days



Part No.	Description	Use	Picture No.
272-1228	Pin Driver, 1/2 in diameter	Recommended for pins and bolts 1/2 in - 7/8 in diameter	1
272-1230	Pin Driver, 7/8 in diameter	Recommended for pins and bolts 7/8 in - 1-1/4 in diameter	2
272-1233	Pin Driver, 1 1/4 in diameter	Recommended for pins and bolts 1 1/4 in - 2 in diameter	3
272-1237	Pin Driver, 2 in diameter	Recommended for pins and bolts 2 in - 2 1/2 in diameter	4
272-1239	Pin Driver, 2 1/2 in diameter	Recommended for pins and bolts 2 1/2 in - 3 in diameter	5
272-1240	Pin Driver, 3 in diameter	Recommended for pins and bolts 3 in - 4 in diameter	6
272-1224	Tie Rod/Ball Joint Separator Fork, 11/16 in	Used to separate tie rod ends and ball joints	7
272-1225	Tie Rod/Ball Joint Separator Fork, 15/16 in	Used to separate tie rod ends and ball joints	7
272-1227	Tie Rod/Ball Joint Separator Fork, 1- 7/16 in	Used to separate tie rod ends and ball joints	7
272-1223	Tie Rod/Ball Joint Splitter Adapter	Attach all Slide Sledge separator fork and most common forks available	8
272-1222	Tie Rod/Ball Joint Separator 3 Tip Set	Includes a Slide Sledge separator adapter and 11/16 in, 15/16 in and 1-1/8 in forks	9
272-1242	Ripper Tooth Pin Inserter, 3/4 in diameter	For pins as small as 3/4 in up to 1 in with minimum tooth spacing of 4 1/2 in	10
272-1244	Ripper Tooth Pin Inserter, 1/2 in diameter	Use on pins as small as 1/2 in up to 3/4 in with minimum tooth spacing of 3 1/2 in	10
272-1247	Ripper Tooth Pin Inserter, 3/8 in diameter	Use on pins as small as 3/8 in up to 1/2 in with minimum tooth spacing of 2 3/4 in	10
272-1243	Ripper Tooth Pin Remover, 3/4 in diameter	Use on pins as small as 3/4 in up to 1 in with minimum tooth spacing of 4 1/2 in	11
272-1245	Ripper Tooth Remover, 1/2 in diameter	Use on pins as small as 1/2 in up to 3/4 in with minimum tooth spacing of 3 1/2 in	11
272-1246	Ripper Tooth Pin Remover, 3/8 in diameter	Use on pins as small as 3/8 in up to 1/2 in with minimum tooth spacing of 2 3/4 in	11
272-1241	Curved Chisel Tip, 1 3/8 in	For chopping away hardened debris and shearing metal bolts, pins, and rivets up to 3/8 in, grade 8	12
272-1251	Scarifier Tooth Tip	Removes scarifier teeth on most motor graders. The fork design allows the technician to split the trenching arm where the scarifier tooth is forced to fit.	13
272-1252	Utility Wedge Tip	All-purpose impact tool designed to separate parts and straighten steel with maxi- mum force.	14
272-1249	Race/Bearing/Seal Adapter	Adapter driver tip to install races, bearings, and seals. Add drive plates to the end in various combinations. Fits plates with a common 9/16 in center hole, up to 3/4 in high (plates not included)	15
272-1250	Bushing Driver Adapter	Adapter driver tip to properly install bushings easily and quickly. Fits drivers with a common 3/4 in center hole, up to 7/8 in high (drivers not included)	16
272-1248	Bushing/Bearing/Seal Plate Driver Adapter	Adapter driver to install bearings, bushings, and seals. Fits drivers or plates with a 1/ 4 in center hole. (drivers and plates not included)	17
287-2075	Small Tire Bead Breaker, 2 1/4 in head width	Most standard applications	18
287-2076	Large Tire Bead Breaker, 2 7/8 in head width	Ideal for tractor trailers, backhoes, motor graders, and other large equipment	19

HAMMERS AND SLIDE SLEDGES

Slide Sledge® Heavy Equipment Hammer Accessories

Warranty: Manufacturer's, 90 Days



Part No.	Description	Use	Picture No.
272-1253	5 Pound Handle Weight	Increases the Slide Sledge striking force by 5 lbs; works with any of the four tools by threading onto tool handle	1
273-3527	Heavy Nylon Tool Bag	38 in long; For use with the shorter Slide Sledges (272-1208 & 272-1215)	2
273-3528	Heavy Nylon Tool Bag	52 in long; For use with the longer Slide Sledges (272-1212 & 272-1218)	3
331-1264	Display Case for Slide Sledge Tools (Dealer Use)	–	–

Slide Sledge® Heavy Equipment Hammer Repair Parts

Warranty: Manufacturer's, 90 Days



- Various individual repair parts for the Slide Sledge Heavy Equipment Hammer
- Most repair parts are specific to certain sized Slide Sledges (specified in table below)

Part No.	Description	Use	Picture No.
312-0985	Drive Bar	Internal drive bar replacement for 272-1212 Slide Sledge	1
312-0988	Drive Bar	Internal drive bar replacement for 272-1218 Slide Sledge	1
312-0999	Drive Bar Tube	External main body of 272-1208 Slide Sledge	2
312-1002	Drive Bar Tube	External main body of 272-1215 Slide Sledge	2
312-0992	Hand Guard	Connection point of body and handle for 272-1208 & 272-1212 Slide Sledge	3
312-0996	Slide Lock Pin	Pin for locking the handle on all sized Slide Sledges	4
312-1009	Plunger	Plunger on end of Drive Bar where tips are secured for 272-1208 & 272-1212	6
312-1010	Plunger	Plunger on end of Drive Bar where tips are secured for 272-1215 & 272-1218	6
312-7677	Plunger Parts Kit	Housing and spring that go around the Plunger for 272-1208 & 272-1212	7
312-7678	Plunger Parts Kit	Housing and spring that go around the Plunger for 272-1215 & 272-1218	7

Hammers

Warranty: Caterpillar® Lifetime unless otherwise noted



Item	Part No.	Size	Height	Length	Weight	Material
Ball Peen Hammers						
1	1S-0257	1 1/8 in	–	298.5 mm (11.75 in)	340 g (12 oz)	–
2	1B-7810	1 5/32 in	113.5 mm (4.47 in)	406.4 mm (16 in)	680 g (1 1/2 lb)	–
3	8H-8577	1 1/4 in	128.6 mm (5.06 in)	406.4 mm (16 in)	900 g (2 lb)	–
–	386-3351	1 7/8 in	76 mm (3 in)	362 mm (14.25 in)	454 g (1.0 lb)	–
–	386-3363	7/8 in	64 mm (2.5 in)	311 mm (12.25 in)	227 g (0.5 lb)	–
Soft Face Hammers						
4	1S-0258	1 11/16 in	117.5 mm (4.63 in)	330.2 mm (13 in)	900 g (2 lb)	–
Replacement Tips for 1S-0258 (Warranty: Six Months)						
5	3S-0460	–	–	–	–	Medium tip
6	3S-0459	–	–	–	–	Hard tip
Hammer Handles (Warranty: Manufacturer: 120 Day)						
–	263-3817	305 mm (12 in)	–	–	–	Hickory
–	263-3819	407 mm (16 in)(2)	–	–	–	Hickory
–	263-3820	458 mm (18 in)	–	–	–	Hickory

Hammer

Warranty: Caterpillar® Six Months



- For bumping when filing or where metal is covered with sound-proofing material

Part No.	Description	Dimensions	Weight
460-9915	Snap-on Long Spot Pick Hammer	Round Head Size: 1-19/32 in Height: 155.6 mm (6-1/8 in) Length: 330 mm (13 in)	0.42 kg (15 oz)

Hammers, Multiple Use

Warranty: Caterpillar® Lifetime unless otherwise noted



Item	Part No.	Description	Face Diameter	Overall Length	Weight	Size	Material
1	223-1697	Double Face Sledge	47.8	889 mm (35 in)	4.4 kg (9.61 lb)	–	
2	223-1694	Dead Blow Sledge(Warranty: Six Months)	69.8	508 mm (20 in)	2.5 kg (5.51 lb)	–	–
3	223-1693	Hand Drilling (Short Handle) (Warranty: Six Months)	38.1	273 mm (10.75 in)	1.8 kg (4.01 lb)	–	
–	223-1695	Dead Blow Sledge	82.6	914.4 mm (36 in)	5.4 kg (12.02 lb)	–	–
–	223-1698	Double Face Sledge	54	905 mm (35.63 in)	5 kg (10.91 lb)	–	
–	245-9823	Double Face Sledge(Warranty: Manufacturer, 120 Day)	73	914 mm (35.98 in)	7.2 kg (15.98 lb)	–	
Hammer Handles							
–	263-3821	–	–	–	–	762 mm (30 in)(3)	Hickory
–	263-3822	Warranty: Manufacturer, 120 Day	–	–	–	915 mm (36.02 in)	Hickory

Rubber Mallet

Warranty: Caterpillar® Six Months



- Solid rubber head

Part No.	Description	Specifications	Weight
460-9914	Blue Point Rubber Head Mallet	Length: 95 mm (3-3/4 in) Diameter Head: 57 mm (2-1/4 in) Handle Length: 279 mm (11 in)	0.63 kg (1 lb-6 oz)

Handled Tooth Pin Removers

Warranty: Caterpillar® Six Months



- Removes/installs bucket teeth retaining pins
- Small enough to store in toolbox
- Quicker, safer, and easier than a conventional punch

Part No.	Use
196-1168	Replacement Handle for 196-1331 and 203-4290
196-1331	J350, J400, J450, and J460 GET Tips
203-4290	J550 GET tip

CHISELS AND PUNCHES

Handled Tooth Pin Removers

Warranty: Caterpillar® Six Months



- Removes and installs solid or flex pins from bucket teeth
- Small enough to store in toolbox
- Quicker, safer, and easier than a conventional punch

Part No.	Use
143-2459	J200 and J225 GET Tips
143-2460	J250, J300, and J350 GET Tips
207-0631	23 Series Teeth and Diagonal Retention System (DRS)

Pin Punch Set, 7 Piece

Warranty: Caterpillar® Six Months



- Replaces discontinued 1U-7250 Pin Punch Set, 7 Piece
- Individually heat treated for uniform hardness
- Includes pouch

Part No.	Point Size	Length	Description
226-1900	–	–	Pin Punch Set
Pin Punch Set Consists of:			
226-1901	1/16 in	102 mm (4.0 in)	Drive Pin Punch (3/32 in)
226-1902	3/32 in	114 mm (4.5 in)	Punch
226-1903	1/8 in	121 mm (4.75 in)	Punch
226-1904	5/32 in	152 mm (6 in)	Punch
226-1905	3/16 in	127 mm (5 in)	Punch
226-1906	7/32 in	146 mm (5.75 in)	Punch
226-1907	1/4 in	146 mm (5.75 in)	Punch

Drift Punch Set, 5 Piece

Warranty: Caterpillar® Six Months



- Replaces discontinued 1U-7260 Drift Punch Set, 5 Piece
- Material: high carbon steel
- Individually heat treated for uniform hardness
- Includes pouch

Part Number	Point Size	Length	Description
227-3129	–	–	Drift Punch Set
Drift Punch Set Consists of:			
227-3130	1/8 in	203 mm (8 in)	Punch
227-3131	3/16 in	254 mm (10 in)	Punch
227-3132	7/32 in	305 mm (12.0 in)	Punch
227-3133	1/4 in	305 mm (12.0 in)	Punch
227-3134	5/16 in	305 mm (12.0 in)	Punch

Chisel Group, 5 Piece

Warranty: Caterpillar® Six Months



- Individually heat-treated for uniform hardness
- Includes pouch
- Resharpened and polished after blasting for a sharper cutting edge

Part Number	Punch Size	Length	Description
227-3795	–	–	Chisel Group
Chisel Group Consists of:			
227-3796	5/16 in	127 mm (5 in)	Chisel
227-3797	3/8 in	140 mm (5.5 in)	Chisel
227-3798	7/16 in	152 mm (6 in)	Chisel
227-3799	1/2 in	152 mm (6 in)	Chisel
227-3800	5/8 in	165 mm (6.5 in)	Chisel

Chisels and Punch Pieces

Warranty: Caterpillar® Lifetime unless otherwise noted



- Hot-formed from fine alloy steel and heat treated for maximum hardness — they hold their edges and points

Item	Part No.	Punch Size	Length	Type
–	165-3977	4.95 mm (Warranty: Six Months)	154 mm (6.06 in)	Radius Punch
–	452-9936	13/32 in	139.7 mm (5.50 in)	Cold Chisel
–	1U-7296	3/16 in (Warranty: Six Months)	158.8 mm (6.25 in)	Center Punch
–	452-9937	5/32 in	203.2 mm (8.00 in)	Punch
–	8T-0832	1/4 in	142.7 mm (5.63 in)	Cape Chisel
1	8H-8578	3/8 in	241.3 mm (9.50 in)	Punch
2	452-9933	3/4 in	177.8 mm (7.00 in)	Cold Chisel
3	452-9934	3/16 in	152.4 mm (6.00 in)	Center Punch

PRY BARS

Handled Pry Bars

Warranty: Caterpillar® Six Months



- Black chrome striking cap—hit bar without damage to handle
- Available in bar shank lengths of 30, 46, 61 and 91 cm (12, 18, 24 and 36 in)
- Polished tip with black oxide finish
- Ergonomic handle made from a dual durometer composite for user comfort; reduces hand fatigue
- Long-life finish resists rust and wear during use

Part No.	Description	Size
239-4140	Handled Pry Bar Kit includes: 239-4141, 239-4142 and 239-4143	–
239-4141	Handled Pry Bar	12 inch Handled Pry Bar, 30 cm (12 in)
239-4142	Handled Pry Bar	18 inch Handled Pry Bar, 46 cm (18 in)
239-4143	Handled Pry Bar	24 inch Handled Pry Bar, 61 cm (24 in)
239-4255	Handled Pry Bar	36 inch Handled Pry Bar, 91 cm (36 in)

Handled Pry Bar

Warranty: Caterpillar® Six Months



- 12" handled pry bar
- Blade extends through handle to deliver hammering force to the blade tip
- A metal end cap prevents damage to the handle
- Heated treated and precision forged steel
- Square blade
- 5/8" wide tip

Part No.	Description
160-5119	Handles Pry Bar

Pry Bar Display

Warranty: Caterpillar® Six Months



- Eye-catching addition to the sales floor area
- Sturdy display measures only 406.4 mm x 457.2 mm (16 in x 18 in) at the base but its 1625.6 mm (64 in) high for extra visual impact
- Display holds two 1U-7593, two 4C-5742, and one 4C-5647 pry bars.
- Pry bars purchased separately

Part No.	Description	Size
244-0910	Pry Bar Display	406.4 mm x 457.2 mm (16 in x 18 in) at the base; 1625.6 mm (64 in) high

Pry Bars

Warranty: See Individual Parts

Part No.	Description	Size
194-3553	Rolling Head Pry Bar	304.8 mm (12.00 in)
194-3556	Rolling Head Pry Bar	533.4 mm (21.00 in)
1U-7587	Pry Bar, 6 in long (Warranty: Lifetime)	152.4 mm (6.00 in)
1U-7591	Pry Bar	457.2 mm (18.00 in)
1U-7592	Pry Bar	609.6 mm (24.00 in)
1U-7593	Pry Bar	762.0 mm (30.00 in)
4C-5647	Long Pry Bar	1371.6 mm (54.00 in)
4C-5742	Pry Bar	1168.4 mm (46.00 in)
5F-4764	Rolling Head Pry Bar, 40.64 cm (16 in)	406.4 mm (16.00 in)
9U-7968	Angled Push Bar	300 mm (11.8 in)
386-3305	Extra long (6 ft) pry bar (Fiberglass and Iron)	1842 mm (72.5 in)
342-9517	Indexable, Industrial Finish Pry Bar	203 mm (8 in) length
268-1968	Indexable, Industrial Finish Pry Bar	305 mm (12 in) length

Bead Braker Bar

Warranty: Caterpillar® Six Months



- Used to break frozen or rusted beads
- Lightweight and portable
- 30 inches (762 mm)
- 7/8 inch stock

Part No.	Description
4F-5166	Bead Braker Bar

CUTTING TOOLS

Utility Knife, Cat® Branded

Warranty: Caterpillar® Materials and Workmanship for First Owner



- Lightweight aluminum handle with durable anodized finish
- Strong and, stiff stainless steel frame
- Sturdy locking liner ensures blade stays open during use
- Pocket clip for convenient storage

Part No.	Description	Size	Quantity
542-5383	Utility Knife	—	1
4C-4871	Utility Knife Blades	0.635 mm (0.025 in)	100 blades per box

Utility Knife Blades

Warranty: Caterpillar® Six Months

Part No.	Description	Size	Quantity
4C-4871	Utility Knife Blades	0.635 mm (0.025 in)	100 blades per box

Single Edge Razor Blades



- Industrial quality
- Ideal for scraping paint and glass, cutting, and trimming
- Fits all standard razor blade tools
- Gauge: 0.009

Part No.	Description	Quantity
264-4353	Single Edge Razor Blades	100 blades per box

Hacksaws

Warranty: Caterpillar® Lifetime unless otherwise noted



- 2 1/2-inch 420 high carbon stainless steel spear blade
- 2 3/8-inch 1095 carbon steel screwdriver/ insulation cutter/wirescraper blade
- Delrin handle
- Nail mark
- Shackle
- Made in the USA

Specifications

- 4.1 oz (116 g), 6-1/2 inch (16.5 cm)

Part No.	Description	Length	Use	Teeth	Material	Qty.
208-6183	Hacksaw	419.1 mm (16.50 in)	for use with 12 inch blade	–	–	–
			Replacement Hacksaw Blade Sets			
1U-9234	Replacement Hacksaw Blade Sets	305.0 mm (12 in)	–	457 mm (18 in)	Bi-Metal	5
1U-9236	Replacement Hacksaw Blade Sets	305.0 mm (12 in)	–	610 mm (24 in)	Bi-Metal	10
1U-9238	Replacement Hacksaw Blade Sets	305.0 mm (12 in)	–	813 mm (32 in)	Bi-Metal	5

Snips

Warranty: Caterpillar® Six Months



- Maneuverable for angle cutting or pattern configurations
- Cuts up to 18 gage mild steel
- Black oxide finish
- 1-1/8 in cutting edge
- Yellow handle
- Straight cut

Part No.	Description	Length	Weight
460-9919	Snap-on Aviation Snips	241 mm (9.5 in)	0.4 kg (14 oz)

File Set, 8 piece

Warranty: Manufacturer, 120 Day



- Files meet Federal Specification #GGG-F-325B
- Manufactured under ISO 9002 Certification
- Files and wood file handles can be ordered separately
- Material: high carbon steel

Part No.	Description
264-0414	8 piece File Set
264-0414 consists of	
263-9067	Aluminum File, 254 mm (10 in)
263-9069	Half Round Bastard File, 254 mm (10 in)
263-9070	Mill Bastard File, 203.2 mm (8 in)
263-9071	Round File, 4.8 mm (3/16) diameter x 203.2 mm (8 in) long
263-9072	Slim Taper File, 152.4 mm (6 in)
263-9074	Mill Bastard File, 152.4 mm (6 in)
263-9075	Wood File Handle for file lengths between 152.4 mm (6 in) to 203.2 mm (8 in)
263-9076	Wood File Handle for file lengths between 203.2 mm (8 in) to 254 mm (10 in)

Filter Cutter

Warranty: Caterpillar® Six Months



- Used to cut open spin-on filters to inspect filter media for contaminants, a common practice when diagnosing potential machine problems and internal contaminants.
- Aluminum frame construction
- Designed to cut all types of filters, including aircraft-style filters, without repositioning cutting wheels
- Heavy-duty double roller and cutting wheel design eliminates binding of filters
- All wear parts are heat-treated steel for added durability
- Cutting wheels are ground with a double-taper edge for easier cutting

Item	Part Number	Description	Required
–	175-7546	Oil Filter Cutter Group	–
	Replacement Parts		
1	177-0364	Roller	2
2	177-0365	Cutting Wheel	2
3	177-0367	Pin	4
Not shown	177-0366	Spacer	2

Wire and Terminal Removal Tool

Model Usage: All

Warranty: Manufacturer's



- Used to remove wire and terminal from Rear Terminal ATC® Fuse Block (RTA), if replacement is necessary
- Used to service Cat® fuse blocks using mini-fuses (GM style)
- Replaces 197-7876

Part No.	Description	Dimensions	Weight
496-8187	Wire and Terminal Removal Tool	101.6 x 12.7 mm (4 x 0.5 in)	0.130 kg (0.286 lb)

CUTTING TOOLS

Tubing Cutters, Quick Release

Warranty: Caterpillar® Lifetime except part 4C-6979



- Offer the best tracking and easiest cutting available anywhere
- Cut copper, aluminum and steel tubing (not steel pipe)
- With a quick wheel change, they also cut a wide variety of plastic pipe and tubing

Item	Part No.	O.D. Capacity	Length	Weight	Wheel for Copper, Aluminum, Brass, Steel	Wheel for Stainless Steel
1	4C-6977	3.0 mm - 33.0 mm (.13 in - 1.31 in)	152 mm (5.98 in)	0.2 kg (0.44 lb)	4C-6980	4C-6981
2	4C-6978	6.0 mm - 60.0 mm (.25 in - 2.63 in)	203 mm (7.99 in)	0.5 kg (1.10 lb)	4C-6980	4C-6981
3	4C-6979	10.0 mm - 90.0 mm (.38 in - 3.50 in) (Warranty: Six Months)	279 mm (10.98 in)	1.1 kg (2.43 lb)	4C-6982	—

Level, Universal

Warranty: Caterpillar® Six Months



- Made of high-impact ABS
- Has two easy-to-read Plexiglas vials, one a vertical angle dial adjustable from 0° to 180°

Part No.	Description
9U-7329	Level, Universal

Protractor

Warranty: Caterpillar® Six Months



- Quickly find angles
- Determine miter angle layout
- Measure and transfer inside/outside sloped angles
- 6 inches (15 cm) long
- High-strength plastic with brass hardware

Part No.	Description
441-3703	Protractor

Angle Finder and Level

Warranty: Caterpillar® Six Months



- Quickly identifies angles without interference from cold, heat, or magnetic fields
- Demarked 0 to 90 degrees in five quadrants
- Ceramic magnetic base

Part No.	Description
437-4620	Angle Finder and Level

Tape Measures

Warranty: Caterpillar® Six Months



- Ergonomically designed
- Magnetic tip holds tape in place and makes long distance measuring much easier
- Yellow and black plastic
- Auto retract
- Tape lock lever

Part No.	Blade Width	Blade Length	English Graduations	Metric Graduations
1U-9366	19.0 mm (3/4 in)	16 ft (5 m)	1 in, 1/16 in	1.0 cm, 1.0 mm
1U-9367	25.4 mm (1 in)	26 ft (8 m)	1 in, 1/16 in	1.0 cm, 1.0 mm
1U-9368	25.4 mm (1 in)	30 ft (9 m)	1 ft, 1 in, 1/16 in	–
5P-3277	12.7 mm (1/2 in)	10 ft (3 m)	1 in, 1/10 in	1.0 cm, 1.0 mm

Tape Measure, Steel

Warranty: Caterpillar® Six Months



- Heavy-duty vinyl covered welded steel case
- Yellow coated 3/8 inch wide blade, 2-color markings, folded steel hook, folding handle
- Graduation — inches in black, feet and 16 inch centers in red; meters in black, centimeters and millimeters in red
- English on one side, metric on the other side

Part No.	Blade Width	Blade Length	English Graduations	Metric Graduations
1U-9369	3/8 in	50	1 ft 1 in, 1/16 in	1.0 m, 1.0 cm, 1.0 mm

Straight Edge, 1000 mm

Warranty: Caterpillar® Six Months



- 1000 mm dual scale: ½ mm and 1 mm increments
- 40 inch dual scale: 1/32 and 1/64
- Graduation type 36
- Satin chrome finish with black markings

Part No.	Description
386-3364	Straight Edge, 1000 mm

LEVELS, MEASURING TOOLS AND GAUGES

Taper Gauge

Warranty: Caterpillar® Six Months



- Used to quickly and conveniently measure openings for shim packs or spacers
- Used in place of thickness gauges
- Made of quality tool steel
- One side graduated in inches, other side in millimeters

Part No.	Description	Size
4C-8733	Taper Gauge	6.20 in x 0.40 in (160 x 11.0 mm)

Block Magnet

Warranty: Caterpillar® Six Months



- Used to quickly and conveniently measure openings for shim packs or spacers
- Used in place of thickness gauges
- Made of quality tool steel
- One side graduated in inches, other side in millimeters

Part No.	Description	Weight	Size
4C-9798	Block Magnet	0.166 kg (0.366 lbs)	25.0 mm x 25.0 mm x 50.0 mm (1.00 in x 1.00 in x 2.00 in)

O-Ring Measuring Cone

Warranty: Manufacturer's 30 Days



- Find the correct O-ring replacement faster and easier.
- Designed to measure SAE industry standard O-ring dimensions (cross section and dash size). These dimensions are published by the Society of Automotive Engineers (SAE).
- 457.2 mm (18 in) tall, cone shaped
- Material: high-impact, yellow plastic
- Round base with five industry standard O-ring cross section diameters (widths) cut into the edge
- Cone has 65 steps indicating varying inside diameters

Part No.	Description
9U-5155	O-Ring Measuring Cone

Check-A-Thread

Warranty: Caterpillar® Six Months



- Quickly identify the most common size nuts and bolts
- Female threaded holes to identify common bolt sizes
- Male threaded studs to identify nut sizes.
- Mounts to the wall or sits on its built in stand

Measure	Check-A-Thread Part Number
Inch	250-6865
Metric	250-6866

Feeler Gauges

Warranty: Caterpillar® Lifetime



Part No.	Description	Size
1U-7234	Feeler Gauge (Warranty: Six Months)	25 Blade, .0015 in - .040 in
386-3236	Feeler Stock Assortment	32 Blade, .0005 in - .030 in
8H-8581	Feeler Gauge	25 Blade, .0015 in - .025 in

Feeler Gauge Set, Dual Scale, 13-Blade

Warranty: Caterpillar® Lifetime



- Stamped with both Metric and English sizes
- English sizes: 0.001, 0.0015, 0.002, 0.003, 0.004, 0.005, 0.006, 0.007, 0.008, 0.010, 0.012, 0.013, 0.015 inch
- Metric sizes: 0.0254, 0.0381, 0.0508, 0.0762, 0.1016, 0.127, 0.1524, 0.1778, 0.2032, 0.254, 0.3048, 0.3302, 0.0381 mm

Part No.	Description
383-8887	Dual Scale Feeler Gauge Set

Gauges for Checking Clearance

SMCS Code: 1000-082, 0700, 0701, 0714

Models: All Engines or Clearance Between Any Mating Parts

Warranty: Caterpillar® Six Months



- Used to quickly and easily check clearance between mating parts (main rod and bearing clearance, component side clearance, oil pump cover to gear clearance, etc.)
- Plastigage clearance indicator is an extruded plastic thread that crushes when clamped between two mating parts
- Available in four color-coded sizes for easy identification
- Clearance thickness is determined by holding crushed indicator material against paper packaging (refer to illustration)
- Any plastic residue on parts can be quickly removed with component cleaner
- One indicator per package
- Overall length: 30.0 cm (12.00 in)
- Plastic Material

Part No.	Color	Clearance Range
198-9142	Green	0.025 to 0.076 mm (.001 to .003 in)
198-9143	Red	0.051 to 0.152 mm (.002 to .006 in)
198-9144	Blue	0.102 to 0.229 mm (.004 to .009 in)
198-9145	Yellow	0.230 to 0.510 mm (.009 to .020 in)

Hardness Tester

Warranty: Caterpillar® Six Months



- Check crankshaft journal hardness
- Hardened steel ball strikes tested surface without damage
- 15 to 65 Rockwell C Scale
- Height of bounce read as Shore scleroscope reading

Reference

- SEBF8041 Guideline for Reusable Parts

Part No.	Description
6V-6035	Hardness Tester

SEAL PICKS

Thread Pitch Gauges

Warranty: Caterpillar® Six Months



- Quickly measure the pitch or lead of a bolt thread

Part No.	Description	Size
386-3235	Metric	18 Leaves, 0.4 mm - 7.0 mm
386-3237	English	30 Leaves, 4 - 42 TPI (Threads Per Inch)

Seal Pick

Warranty: Caterpillar® Six Months



- Used to remove and install all types of oil seals
- One end of pick is pointed for prying out flexible seals
- Blunt, hook end is used to align seals for installation and to eliminate the twist that occurs when installing O-ring or quad-ring seals
- Both ends of the pick are hardened and provide much greater strength than would normally be expected from a tool this size

Part No.	Description
5P-1720	Seal Pick

Seal Pick Kit

Warranty: Caterpillar® Lifetime



Part No.	Description
5P-7414	Seal Pick Kit

Seal Pick

Model Usage: All Hydraulic Cylinders

Warranty: Caterpillar® Six Months



- Used to remove cylinder rod seals
- Heavy-duty design
- Large size allows faster and easier removal of seals from large hydraulic cylinders
- Length: 262 mm (10 in)

Part No.	Description
195-4609	Seal Pick

Brushes, Scratch

Warranty: Caterpillar® Six Months



- Hand scratch brushes are excellent for removing rust, scale, old paint, chips and dirt, and for cleaning castings and metal parts
- Provide long, effective service at extremely low cost

Part No.	Description	Size
1U-9915	Curved Handle Brush	.014 in (3 x 19 Row)
1U-9916	Curved Handle Brush	.012 in (4 x 19 Row)
1U-9917	Shoe Handle Brush	.014 in (4 x 16 Row)
1U-9918	Inspection Stainless Brush	.006 in (3 x 7 Row)

Brushes, Corner Cleaner Wire

Warranty: Caterpillar® Six Months



- Quickly removes flaking paint, rust, and scale
- Handy small size with pointed end works well in hard to reach areas
- Full size handle with finger grips and thumb rest provides added control and comfort
- Made of tough polypropylene

Part No.	Description	Length
160-0774	Brushes, Corner Cleaner Wire	254.0 mm (10.00 in)

Brushes, Longneck Wire

Warranty: Caterpillar® Six Months



- Quickly removes flaking paint, rust, and scale
- Handy small size with pointed end works well in hard to reach areas
- Full size handle with finger grips and thumb rest provides added control and comfort
- Made of tough polypropylene

Part No.	Description	Dimensions
160-0772	Brushes, Longneck Wire	76.2 x 330.2 mm (3 x 13 in)

Scrubber, Industrial Wire

Warranty: Caterpillar® Six Months



- Quickly removes flaking paint, rust, and scale
- Made of tough polypropylene
- Dual grip design reduces fatigue — grasp either the handle or specially molded block

Part No.	Description	Length
160-0775	Industrial Wire Scrubber	177.8 mm (7.00 in)

Brushes, Parts Cleaning

Warranty: Caterpillar® Six Months





Item	Part No.	Description	Wire Size	Wire Row
1	1U-9920	11 in O.A.L.	Size #10	Black Polypropylene
2	1U-9919	11 in O.A.L.	Size #10	Tampico
3	2B-4317	10 3/4 in O.A.L.	Paint Style 1 1/2 in	Nylon

BRUSHES

Brushes, Paint

Warranty: Manufacturer, 120 Day



- Use with interior or exterior paints, stains, varnishes, and urethanes
- Quantity: one box of 12 brushes
- 262-9752 not available in Australia, New Zealand, Republic of Fiji or Papua New Guinea

Part No.	Width x Length	Material
262-9749	25 mm x 178 mm (1 in x 7 in)	Nylon Brush, Metal Ferrule, Plastic Handle
262-9750	51 mm x 203 mm (2 in x 8 in)	Nylon Brush, Metal Ferrule, Plastic Handle
262-9752	76 mm x 203 mm (3 in x 8 in)	Hog Bristle Brush, Metal Ferrule, Wood Handle

Brushes, Acid

Warranty: Caterpillar® Six Months



- Genuine horsehair bristles, crimped with flat tin handle
- Chemical resistant handle

Part No.	Description	Size
1U-9977	Acid Brush	3/8 in
1U-9978	Acid Brush	1/2 in

Brush, Battery Post

Warranty: Caterpillar® Six Months



- Stiff wire bristles thoroughly clean posts

Part No.	Description
1U-9921	Battery Post Brush

Rivet Sets

Warranty: Caterpillar® Six Months



- Available for either "Star" set rivets or "Roll" set rivets
- "Star" set rivets, identified by a star stamped in the head, should be used only where the clinching is done against a non-metallic surface. To form a good clinch, there should be approximately 3/16 inch of rivet extension before the rivet is set.
- "Roll" set rivets, marked with a circle on the head, should be used when clinching is done against metal. To form a good clinch, there should be approximately 1/8 inch of rivet extension before the rivet is set.

Item	Part No.	Description
–	6V-7013	Roll Set (for 5/32 in rivets)
1	1P-2874	Roll Set (for 1/4 in rivets)
2	6F-6947	Star Set
3	6F-6946	Roll Set (for 3/16 in rivets)

Riveter Kit

SMCS Code: 4054

Model Usage: M312 Wheeled Excavators

Warranty: Caterpillar® Lifetime



- Used for miscellaneous repairs requiring rivets
- Comes with three different nose pieces

Part No.	Description	Length
129-1063	Riveter Kit	53.0 cm (21.0 in)

Shovels and Spades, Nupla Ergo-Power

Warranty: Manufacturer's Limited Lifetime: wendy@jmindsupply.com or 309-546-3323



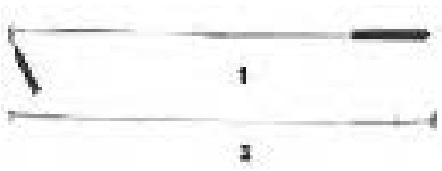
1 2 3 4 5 6 7

- Stronger than wood, built to last
- Industrial grade steel blades
- Mold injected protective covering over a Classic Nuplaglas handle
- Made in USA

Item	Part No.	Description
1	555-7125	Shovel, Round Point with 122 cm (48 in) long handle
2	555-7126	Spade, Drain with 122 cm (48 in) long handle
3	555-7127	Shovel, Square with 122 cm (48 in) long handle
4	555-7128	Scoop, # 12 Aluminum
5	555-7129	Spade, Drain with 69 cm (27 in) D handle
6	555-7130	Shovel, Square Point with 69 cm (27 in) D handle
7	555-7131	Shovel, Round Point with 69 cm (27 in) D handle

Pickup Tools

Warranty: Caterpillar® Lifetime



Item	Part Number	Description
1	1U-7262	Magnet
2	146-2728	Flex Pickup Tool

MISCELLANEOUS TOOLS

Inspection Mirror

Warranty: Caterpillar® Six Months



- The mirror extends to 15 1/4 in long
- The mirror swivels 360 degrees

Part No.	Description
9U-6182	Inspection Mirror

Scraper

Warranty: Caterpillar® Six Months



Part No.	Description
8H-8580	Scraper

Filter and Plug Removal and Installation Tools

Warranty: Caterpillar® Lifetime unless otherwise noted



- Used to remove and install drain and fill plugs
- Most hexagonal plugs can also be removed and installed using the 213-1985 Sliding T-Handle and 8H-8561 Socket

Item	Part No.	Description
1	1S-2475	Wrench, 3/4 in square (Warranty: Six Months)
2	8H-8559	Socket Extension
3	213-1985	Sliding T-Handle
4	212-8145	Drain Plug Socket (Warranty: Six Months)
5	212-8146	Drain Plug Socket, 1/2 in Female, 1 in and 1 1/2 in Hex (Warranty: Six Months)
6	185-3630	Filter Strap Wrench Assm. (Warranty: Six Months)

Cab Glass Installation Tools

Warranty: Caterpillar® Six Months



- For installing the filler strips around the glass in cabs

Part No.	Description
4C-9946	Filler Strip Tool Assembly
5H-4845	Seal Installation Tool Assembly

Caulker, Superior E-Z Thrust

Warranty: Caterpillar® Six Months



- Holds any 12 oz. tube designed for use with a caulking gun
- Recommended for all grades of caulks, sealants and adhesives from heavy to light consistencies

Part No.	Description	Cartridge Size
4C-6922	E-Z Thrust Caulker	0.01 gal

Caulker, Super Ratchet-Type

Warranty: Caterpillar® Six Months



- Designed for the professionals who prefer ratchet guns
- Will outlast, outperform all other ratchet guns
- Engineered to withstand heavy use
- Equipped with ladder hook, built-in spout cutter, seal puncture tool, and convenient "D" ring and wrist strap

Part No.	Description	Cartridge Size
4C-6923	Super Ratchet-Type Caulker	1/10 gal

Saw Blades (BIM)

Warranty: Manufacturer, 120 Day



Part No.	Length	Teeth	Package Qty	Teeth Specs
1U-9234	305.0 mm (12 in)	457 mm (18 in)	5	Raker BIM(All purpose blade, highly flexible, for the most difficult materials)
1U-9236	305.0 mm (12 in)	610 mm (24 in)	10	Wavy BIM
1U-9238	305.0 mm (12 in)	813 mm (32 in)	5	Wavy BIM

Saw Blades, Bi-Metal All-Purpose Tiger

Warranty: Caterpillar® Six Months



Part No.	Length	Teeth/Inch	Package Qty	Recommended Use
4C-9942	152 mm (6 in), flexible	18	5	Heavy gauge (non-ferrous metals) — bar and angle stock-stainless- galvanized pipe-tubing (over 18 ga.)
4C-9943	152 mm (6 in), flexible	14	5	Heavy gauge (non-ferrous metals) — bar and angle stock-cast alumi- num-copper-brass-galvanized
4C-9944	229 mm (9 in)	5/7	5	General roughing-in wood
4C-9945	305 mm (12 in)	6	5	General roughing-in wood

Zip-Tie Gun

Model Usage: All Cat® Products

Warranty: Manufacturer's



- Used to tighten the 204-2281 plastic tie strap tensions cable ties (0.10" to 0.50" wide)
- Padded foam-grip handle
- Handles cable ties up to 250 lb tensile strength
- Replaceable blade available (490-6593)
- For plastic zip ties only

Reference

- NEHS1243-00 Tool Operating Manual

Part No.	Description
326-8203	Zip-Tie Gun

Trim Pad Removal Tool

Warranty: Manufacturer's Lifetime



- Used to remove the plastic clips that hold interior cab panels in place
- This tool allows technicians to easily remove clips and interior panels during service work without damaging clips or panels.

WARRANTY INFORMATION

1-262-656-6168 OR TFR@SNAPON.COM

Part No.	Description	Dimensions	Weight
493-6875	Trim Pad Removal Tool	190 mm (7.5 in) OAL	0.1 kg (3.4 oz)

TOOL BOXES AND CASES

Terminal Tool Group

Warranty: Caterpillar® Six Months



- Tools set for most domestic computer connectors and terminals
- Designed for weather pack and pack-con terminals with flat blade to open connectors and fork for ALDL connectors to access trouble codes
- Individual handles for easy access in tight spaces
- Storage case

Part Number	Description
435-5074	Terminal Tool Group

Kit Includes:

GM C3 System Terminal Tools (red handle)	
Spring Loaded Tube	1/8 x 1 in (3.3 mm x 28 mm)
Square Blade	1/16 x 3/4 in (1.4 x 19 mm)
Flat Blade	1/16 x 1 in (1.5 x 24.75 mm)
Flat Blade	5/64 x 1 in (2 x 23 mm)
Fork Blade	5/16 x 1 in (8 x 24 mm)
Flat Blade Screwdriver	3/16 x 1 in (4.75 x 24 mm)
Wire Terminal Tools (green handle)	
Tube	1/8 x 1 in (3.3 x 28 mm)
Tube	11/64 x 1/2 in (4.3 x 13 mm)
Tube	5/32 x 1/2 in (3.75 x 13 mm)
Tube	1/8 x 1/2 in (3 x 13 mm)
Flat Twin Blade	1/8 in (3 mm)
Twin Blade	1/16 in (1.6 mm)

Steering Wheel Puller and Lock Plate Depressor Set

Warranty: Caterpillar® Lifetime



- Includes a selection of bolts and handle in a plastic storage case
- Adaptors are included for servicing lock plates on vehicles with tilt wheels
- Detachable handle helps hold puller when turning force is applied to pressure screw
- Industrial finish

Part Number	Description
145-5242	Steering Wheel Puller and Lock Plate Depressor Set

Tool Chest, Cat® Heavy-Duty Road Chest and Cover

Warranty: Tool Chest– Manufacturer's Lifetime; Tool Chest Cover– Manufacturer's Free From Defects in Material and Workmanship at the Time of Sale to First User

Contact catwarranty@snapon.com or 855-351-0926.





Cat® Heavy-Duty Road Tool Chest

- Durable black finish
- 10 Drawers
- Load capacity: 204 kg (450 lb)
- Cubic Inches: 8,187 in (134,160 cm)
- Constructed of Class-1 heavy-gauge steel for extra durability
- Wide side walls have additional corner gussets for added strength.
- Heavy-duty hinged front cover provides easy access to tools.
- Deep, narrow drawers and top compartment provide ample storage for power tools and deep sockets.
- Full-width double-wall construction supports loaded drawers.
- Full length, two-point lock rod for added security

Cat® Heavy-Duty Road Tool Chest Cover

- Protects the Cat® heavy-duty road chest from the elements
- Constructed of black, 600D PVC-coated polyester
- Water- and UV-resistant

Part No.	Description	Dimensions (W x D x H)	Weight
483-0652	Cat® Heavy-Duty Road Tool Chest	791 x 548 x 516 (31 x 21 x 20 in)	81 kg (178 lb)
521-7664	Cat® Heavy-Duty Road Tool Chest Cover	838 x 533 x 533 (33 x 21 x 21 in)	0.249 kg (0.55 lb)

Tool Boxes, Cat® Branded

Warranty: Caterpillar® Lifetime





- Ready to work and stand up to every day use.
- High- quality boxes with a lifetime warranty on manufacturing defects
- Double-wall construction
- High security locks
- Full extension slides
- Reinforced bottom channels
- Integrated latch security system on all drawers
- Aluminum protective corners
- Heavy-duty casters
- All drawers have ball bearing slides with the two bottom 6-inch drawers having double slides.
- 12-drawer design with drawer mats

Specifications

- 53 inches long, 43 inches high, and 18 inches deep

Part Number	Description
482-9899	Cat® Tool Box, Red
482-9900	Cat® Tool Box, Black

TOOL BOXES AND CASES

Cat® 55-Inch Tool Box

Warranty: Caterpillar® Lifetime



- Heavy-duty welded construction
- Full-length double walls
- Steel gusset reinforced corners
- Multiple applications of powder coat paint
- Soft, durable wheels reduce vibration and last a lifetime
- Two banks of drawers — 70/30 split
- Long-lasting ball bearing drawer slides
- Lock 'n Roll drawers keeps them secure during movement
- Each drawer holds up to 125 pounds
- Doubled over drawer edges make them smooth and rigid
- Deep, comfortable drawer pulls
- Top drawer of the roller cabinet is a full width drawer with two slides and four welded drawer supports to hold up to 250 pounds
- Bottom drawer of the roller cabinet has two slides to hold up to 250 pounds
- Upgraded drawer pads

55-Inch Roller Cabinets

- 11 Drawers
- Dimensions: 55" W x 24" D x 39" H (140 cm W x 61 cm D x 99 cm H)
- Volume: 25,000 cubic inches (409,675 cm^3)
- Surface Area: 6,300 square inches (40,645 cm^2)
- Capacity: 2,400 lbs (1,089 kg)

Part No.	Description
385-1731	Cat® 55-Inch Tool Box, Black

Tool Boxes, Cat® 40-Inch

Warranty: Caterpillar® Lifetime



- Heavy-duty welded construction
- Full-length double walls
- Steel gusset reinforced corners
- Multiple applications of powder coat paint
- Long-lasting ball bearing drawer slides
- Lock 'n Roll drawers keeps them secure during movement
- Each drawer holds up to 100 pounds
- Doubled over drawer edges make them smooth and rigid
- Deep, comfortable drawer pulls
- Upgraded drawer pads
- Cat branded

40-Inch Top Chests

- 4 Drawers
- 1 Top Storage Compartment
- Dimensions: 40" W x 20" D x 19" H (101 cm W x 51 cm D x 50 cm H)
- Volume: 9,800 cubic inches (160,593 cm^3)
- Surface Area: 3,200 square inches (20,645 cm^2)
- Capacity: 1,400 lbs (635 kg)

40-Inch Roller Cabinets

- 7 Drawers
- Dimensions: 40" W x 20" D x 38" H (101 cm W x 51 cm D x 98 cm H)
- Volume: 15,000 cubic inches (245,805 cm^3)
- Surface Area: 4,250 square inches (27,419 cm^2)
- Capacity: 2,400 lbs (1,089 kg)

Part No.	Description
385-1726	40-Inch Top Chest, Black
385-1727	40-Inch Roller Cabinet, Black
385-1728	40-Inch Top Chest, Red
385-1729	40-Inch Roller Cabinet, Red

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Tool Boxes, Cat® 26-Inch

Warranty: Caterpillar® Lifetime



- Heavy-duty welded construction
- Full length double walls
- Steel gusset reinforced corners
- Multiple applications of powder coat paint
- Long-lasting ball bearing drawer slides
- Lock 'n Roll drawers keeps them secure during movement
- Each drawer holds up to 100 pounds
- Doubled over drawer edges make them smooth and rigid
- Deep, comfortable drawer pulls
- Upgraded drawer pads
- Cat branded

26-Inch Top Chests

- 4 Drawers
- 1 Top Storage Compartment
- Dimensions: 26" W x 20" D x 19" H (66 cm W x 51 cm D x 49 cm H)
- Volume: 6,200 cubic inches (101,599 cm^3)
- Surface Area: 2,000 square inches (12,903 cm^2)
- Capacity: 650 lbs (295 kg)

26-Inch Roller Cabinets

- 7 Drawers
- Dimensions: 26" W x 20" D x 37" H (66 cm W x 51 cm D x 94 cm H)
- Volume: 10,000 cubic inches (163,870 cm^3)
- Surface Area: 2,400 square inches (15,484 cm^2)
- Capacity: 1,100 lbs (499 kg)

Part No.	Description
385-1722	Cat® 26-Inch Top Chest, Black
385-1723	Cat® 26-Inch Roller Cabinet, Black
385-1724	Cat® 26-Inch Top Chest, Red
385-1725	Cat® 26-Inch Roller Cabinet, Red

Tool Chest, Cat® Drop Front

Warranty: Caterpillar® Lifetime



- Heavy-duty welded construction
- Full-length double walls
- Doubled over drawer edges make them smooth and rigid
- Ball bearing drawer slides
- Powder coat paint
- Round key lock
- Locking components welded securely inside box
- Drop down front lid for extra security
- Durable side handles
- Cat Branded

26-inch Drop Front Tool Chest

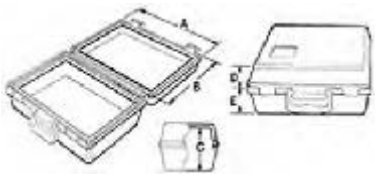
- 5 Drawers
- 1 Top Storage Compartment
- Dimensions: 26" W x 15" D x 17" H(66 cm W x 37 cm D x 44 cm H)
- Volume: 4,452 cubic inches (72,955 cm^3)
- Surface Area: square inches 1,814 (11,703 cm^2)
- Capacity: 650 pounds (295 kg)

Part No.	Description
329-6983	Cat® Drop Front Tool Chest, Black

TOOL BOXES AND CASES

Storage Cases

Warranty: Manufacturer's 60 Days



- Plastic Construction
- Hinged Lid
- Impact-resistant
- Textured surface to prevent scratches

Part No.	Length (A) (exterior, interior)	Length (B) (exterior, interior)	Length (C) (exterior, interior)	Depth (D) (exterior, interior)	Depth (E) (exterior, interior)	Handle Material	Number of Latches	Color
148-5675	216 mm (8.50 in), 192 mm (7.56 in)	198 mm (7.81 in), 149 mm (5.88 in)	90 mm (3.56 in), 83 mm (3.25 in)	20 mm (0.78 in), 17 mm (0.67 in)	70 mm (2.75 in), 66 mm (2.60 in)	No	One	Black
4C-3975	394 mm (15.50 in), 356 mm (14.00 in)	311 mm (12.25 in), 273 mm (10.75 in)	140 mm (5.50 in), 127 mm (5.00 in)	44 mm (1.75 in), 35 mm (1.38 in)	95 mm (3.75 in), 92 mm (3.63 in)	Yes	Two	Black
4C-4730	660mm (26.00 in), 622 mm (24.50 in)	421mm (16.56 in), 330 mm (13.00 in)	114 mm (4.50 in), 102 mm (4.00 in)	23 mm (0.90 in), 20 mm (0.78 in)	84 mm (3.31 in), 79 mm (3.12 in)	Yes	Two	Gray
6V-3072	394 mm (15.50 in), 356 mm (14.00 in)	311 mm (12.25 in), 273 mm (10.75 in)	102 mm (4.00 in), 89 mm (3.50 in)	25 mm (1.00 in), 16 mm (0.63 in)	76 mm (3.00 in), 73 mm (2.63 in)	Yes	Two	Black
6V-3073	311 mm (12.25 in), 289 mm (11.38 in)	224 mm (8.81 in), 178 mm (7.00 in)	99 mm (3.88 in), 90 mm (3.56 in)	30 mm (1.19 in), 24 mm (0.94 in)	68 mm (2.69 in), 65 mm (2.56 in)	Yes	Two	Black
6V-3112	254 mm (10.00 in), 238 mm (9.38 in)	191 mm (7.50 in), 170 mm (6.69 in)	30mm (1.18 in), 24 mm (0.94 in)	–	–	No	None	Black
6V-6045	191 mm (7.50 in), 173 mm (6.81 in)	102 mm (4.00 in), 81 mm (3.19 in)	41 mm (1.63 in), 33 mm (1.31 in)	10 mm(0.38 in), 3 mm (0.13 in)	31 mm (1.25 in), 30 mm (1.19 in)	No	One	Black
6V-7145	470 mm (18.50 in), 432 mm (17.00 in)	395 mm (15.56 in), 330 mm (13.00 in)	127 mm (5.00 in), 114 mm (4.50 in)	43 mm (1.70 in), 35 mm (1.38 in)	84 mm (3.31 in), 79 mm (3.12 in)	Yes	Two	Black
6V-9449	470 mm (18.50 in), 432 mm (17.00 in)	395 mm (15.56 in), 330 mm (13.00 in)	203 mm (8.00 in), 187 mm (7.38 in)	102 mm (4.00 in), 89 mm (3.50 in)	101 mm (3.96 in), 82.5 mm (3.25 in)	Yes	Two	Black
8T-0841	394 mm (15.50 in), 356 mm (14.00 in)	311 mm (12.25 in), 273 mm (10.75 in)	191 mm (7.50 in), 175 mm (6.88 in)	95 mm (3.75 in), 83 mm (3.27 in)	95 mm (3.75 in), 92 mm (3.63 in)	Yes	Two	Black

Storage Case Foam Block

Warranty: Caterpillar® Six Months

Part No.	Length	Width	Thickness	Material	Color	Convoluted
148-5677	165 mm (6.5 in)	200 mm (7.9 in)	38 mm (1.5 in)	Lightweight Etherfoam	Charcoal	No
2P-8289	457.2 mm (18.0 in)	254 mm (10.0 in)	50.8 mm (2.0 in)	General Purpose Esterfoam	Charcoal	Yes
3P-1549	386.08 mm (15.2 in)	279.4 mm (11.0 in)	12.7 mm (.05 in)	Dense Ethafoam	Black	No
6V-4094	279.4 mm (11.0 in)	170.18 mm (6.7 in)	38.1 mm (1.5 in)	General Purpose Esterfoam	Charcoal	Yes
6V-4873	360.68 mm (14.2 in)	279.4 mm (11.0 in)	12.7 mm (0.5 in)	Dense Ethafoam	Black	No
6V-6044	353.06 mm (13.9 in)	264.16 mm (10.4 in)	25.4 mm (1.0 in)	Dense Ethafoam	Black	No
6V-6096	190.5 mm (7.5 in)	149.86 mm (5.9 in)	12.7 mm (0.5 in)	Dense Ethafoam	Black	No
6V-6105	350.52 mm (13.8 in)	254 mm (10.0 in)	12.7 mm (0.5 in)	Lightweight Etherfoam	Charcoal	No
6V-6107	190.5 mm (7.5 in)	149.86 mm (5.9 in)	27.94 mm (1.1 in)	Dense Ethafoam	Black	No
6V-6126	365.76 mm (14.4 in)	276.86 mm (10.9 in)	73.7 mm (2.9 in)	Dense Ethafoam	Black	No
8S-5128	520.7 mm (20.5 in)	223.52 mm (8.8 in)	50.8 mm (2.0 in)	General Purpose Esterfoam	Charcoal	Yes
8T-3153	322.58 mm (12.7 in)	238.76 mm (9.4 in)	10.16 mm (0.4 in)	Dense Ethafoam	Black	No
9S-8105	482.6 mm (19.0 in)	431.8 mm (14.0 in)	38.1 mm (1.5 in)	Dense Ethafoam	Charcoal	Yes

Utility Boxes with Hinged Lids

Warranty: Manufacturer's 60 Days



- Heavy-duty plastic boxes for organizing, storing, and protecting small parts
- Yellow polypropylene material—resistant to oils, solvents and common chemicals
- Rustproof, dentproof, spark proof, and non-conductive

Part No.	Length	Width	Thickness	Color	Number of Compartments	Size
152-7997	470.0 mm (18.5 in)	332 mm (13.07 in)	77 mm (3.03 in)	Yellow	21	–
4C-3722	332.74 mm (13.10 in)	228.60 mm (9.00 in)	58.42 mm (2.30 in)	Yellow	12	50.8 x 104.14 mm (2.00 x 4.1 in)
4C-3723	332.74 mm (13.10 in)	228.60 mm (9.00 in)	58.42 mm (2.30 in)	Yellow	6, 12	50.8 x 101.6 mm (2 x 4.1 in), 50.8 x 50.8 mm (2 x 2 in)
4C-3724	332.74 mm (13.10 in)	228.60 mm (9.00 in)	58.42 mm (2.30 in)	Yellow	24	50.80 x 50.80 mm (2.00 x 2.00 in)
4C-3725	332.74 mm (13.10 in)	228.60 mm (9.00 in)	58.42 mm (2.30 in)	Yellow	3, 6	104.14 x 104.14 mm (4.10 x 4.10 in), 50.80 x 104.14 mm (2.00 x 4.10 in)
4C-4463	332.74 mm (13.10 in)	228.60 mm (9.00 in)	58.42 mm (2.30 in)	Yellow	4, 1, 1	50.80 x 104.14 mm (2.00 x 4.10 in), 104.14 x 104.14 mm (4.10 x 4.10 in), 104.14 x 317.50 mm (4.10 x 12.50 in)
4C-4783	381 mm (15.00 in)	298.5 mm (11.75 in)	63.50 mm (2.50 in)	Gray/See-through Smoke Gray	9-24	15 Removable Dividers
4C-4787	177.80 mm (7.00 in)	95.3 mm (3.75 in)	31.75 mm (1.25 in)	Opaque	8, 1	35.05 x 41.15 mm (1.38 x 1.62 in), 28.45 x 82.55 mm (1.12 x 3.25 in)
4C-4789	209.55 mm (8.25 in)	114.3 mm (8.66 in)	35.05 mm (1.38 in)	Opaque	12	31.75 x 50.80 mm (1.25 x 2.00 in)
6V-3007	332.74 mm (13.10 in) (Warranty: Six Months)	220 mm (8.66 in)	58.42 mm (2.30 in)	Opaque	13, 1, 1, 1	50.80 x 50.80 mm (2.00 x 2.00 in), 50.80 x 158.75 mm (2.00 x 6.25 in), 50.80 x 212.85 mm (2.00 x 8.38 in), 104.65 x 104.65 mm (4.12 x 4.12 in)

Storage Boxes

Warranty: Manufacturer's 90 Days

- Hinged Lids with Socket Trays
- Metal Construction

Part No.	Description	Length	Width	Height	Storage Capacity (in3)	Color
5P-0946	Box	457.2 mm (18.0 in)	254.0 mm (10.0 in)	127.0 mm (5.0 in)	900.0	Orange
5S-6092	Tool Box	788.67 mm (31.06 in)	317.5 mm (22.5 in)	146.05 mm (5.75 in)	–	Red
9S-1725	Case	159.5 mm (6.28 in)	103.1 mm (4.06 in)	25.4 mm (1.0 in)	–	Red

TOOL BOXES AND CASES

Protector Cases - Pelican Line



Warranty: Manufacturer's Lifetime

- Make an excellent lockable storage vault when equipment is not in use - just apply a lock
- Strong, double-throw latches - easier to open with a light pull
- Watertight, airtight, dust proof - Pelican cases feature an exclusive 6.5 mm (1/4 in) neoprene "O" ring, to guarantee a perfect seal. Neither dust nor water can penetrate this barrier to harm your equipment. These cases are so airtight and watertight they float even when loaded. The "O" ring is easily replaced if damaged.
- Purge valve - The exclusive built-in "O" ring purge valve is sealed for pressure allowing for quick equalization after changes in altitude or temperature.Dentproof - The tough, cushioned, protective shell eliminates damage from bumping, jarring, and even airline shipments
- Protect contents inside - Multiple layers of industrial grade photographic foam secure and cushion equipment
- Custom fit for tooling - The "Pick-N'Pluck" center foam section is pre-scored for quick and clean custom fitting.
- The case lid is lined with the same convoluted foam for maximum shock protection
- Lightweight - easy to carry by using the comfortable, molded handle (4C-9650 and 4C-9658 have fold-down handles.)
- All cases are gray

Part No.	Description	Outside Length	Outside Width	Outside Depth	Inside Length	Inside Width	Inside Depth	Weight	Shipping Weight	Replacement Foam Set	Replacement O- Ring
4C-9650	Pelican Mini S Case™ (fold-down handle)	273 mm (10 3/4 in)	247.7 mm (9 3/4 in)	127 mm (5 in)	241 mm (9 1/2 in)	191 mm (7 1/2 in)	114 mm (4 1/2 in)	0.91 kg (2 lb)	1.6 kg (3 lb)	4C-9651, 3 Pc.	4C-9739
4C-9652	Pelican Mini D Case™	273 mm (10 3/4 in)	247.7 mm (9 3/4 in)	177.8 mm (7 in)	241 mm (9 1/2 in)	191 mm (7 1/2 in)	165 mm (6 1/2 in)	1.13 kg (2 1/2 lb)	1.59 kg (3 1/2 lb)	4C-9653, 3 Pc.	–
4C-9654	Pelicase™	343 mm (13 1/2 in)	327 mm (12 7/8 in)	152 mm (6 in)	311 mm (12 1/4 in)	235 mm (9 1/4 in)	133 mm (5 1/4 in)	1.8 kg (4 lb)	2.5 kg (5 1/2 lb)	4C-9655, 3 Pc.	4C-9741
4C-9656	Pelican Case™	470 mm (18 1/2 in)	387 mm (15 1/4 in)	175 mm (6 7/8 in)	432 mm (17 in)	299 mm (11 3/4 in)	152 mm (6 in)	3.2 kg (7 lb)	3.9 kg (8 1/2 lb)	4C-9657, 3 Pc.	4C-9742
4C-9658	Protective Case w/ fold-down handle	521 mm (20 1/2 in)	425 mm (16 3/4 in)	216 mm (8 1/2 in)	483 mm (19 in)	356 mm (14 in)	197 mm (7 /34 in)	4.5 kg (10 lb)	6.2 kg (14 lb)	4C-9659, 4 Pc.	4C-9743
4C-9660	Carry Case	591 mm (23 1/4 in)	527 mm (20 3/4 in)	229 mm (9 in)	559 mm (22 in)	432 mm (17 in)	203 mm (8 in)	6 kg (13 lb)	11.5 kg (17 lb)	–	4C-9744
4C-9662	Instrument Case, 355 x 832 x 115 mm (14.0 x 32.8 x 4.5 in)	940 mm (37 in)	445 mm (17 1/2 in)	152 mm (6 in)	914 mm (36 in)	343 mm (13 1/2 in)	127 mm (5 in)	6.8 kg (15 lb)	7.7 kg (17 lb)	4C-9663, 3 Pc.	4C-9745
4C-9664	Travel Vault (Supplied with regular foam; Pick-N'Pluch is not available)	1321 mm (52 in)	445 mm (17 1/2 in)	152 mm (6 in)	1289 mm (50 3/4 in)	323 mm (13 1/2 in)	127 mm (5 in)	11.8 kg (26 lb)	13 kg (29 lb)	4C-9665, 3 Pc.	4C-9746

Cabinet, Cat® Wall

Warranty: Caterpillar® Lifetime



- 18 gauge SRS steel
- Black power coat finish
- Built-in metal pegboard (1/4 hole diameter)
- Hardware assortment
- Mounted clasp for locking
- Doors lock open
- Dimensions (closed): 36" W x 9.75" D x 36" H (914 mm W x 248 mm D x 914 mm H)
- Dimensions (open): 72" W x 5.75" D x 36" H (1826 mm W x 146 mm D x 914 mm H)

Part No.	Description
471-9317	Cat® Wall Cabinet, Black

Roll Cart, Cat® Multi-Purpose

Warranty: Caterpillar® Lifetime



- Multi-purpose roll cart
- Lockable Drawer
- 32" W x 18" D x 36" H (81 cm W x 46 cm D x 91 cm H)
- 3" (8 cm) deep tray
- 150 lbs (68 kg) load capacity per tray
- Weight capacity: 350 lbs (159 kg)
- Cat branded

Part No.	Description
385-1737	Cat® Multi-Purpose Roll Cart, Black

Roll Cart, All-Purpose

Warranty: Caterpillar® Lifetime



- Rugged all-purpose cart
- Drain hole in top shelf
- 36" W x 24" D x 38" H (91 cm W x 61 cm D x 97 cm H)
- Weight capacity: 500 lbs (227 kg)

Part No.	Description
385-1738	All-Purpose Roll Cart, Black

Tool Bag with Carrying Strap

Warranty: Caterpillar® Six Months



- Nine pockets and ten tool-holding loops on the outside
- Twelve pockets on the inside for holding additional tools
- Material: cloth
- Length: 0.61 m (24 in)

Part No.	Description
248-2283	Cat® Tool Bag with Carrying Strap, Black

TOOL BOXES AND CASES

Tool Box, Heavy Duty Plastic

Warranty: Caterpillar® Six Months



- Heavy duty plastic tool box with tray
- Recessed handle
- Two steel latches
- Padlock eyes
- 23 in W x 10 1/2 in D x 10 in L

Part No.	Description
329-6922	Cat® Heavy Duty Plastic Tool Box, Yellow and Black

Tool Box

Warranty: Caterpillar® Lifetime



- Black, steel construction
- Tote tray included
- 508 x 219.08 x 219.08 mm (20 x 8.63 x 8.63 in)

Part No.	Description
9U-6219	Cat® Steel Tool Box, Black

Lock

Warranty: Caterpillar® Six Months



- Replacement Barrel Lock kit

Part No.	Description
174-9803	Lock with two keys

Replacement Lock

Warranty: Manufacturer's Lifetime
262-656-4769 or catwarranty@snapon.com



European Union Compliant, CE marked

- Cat® tool chest replacement lock (includes two keys)

Part No.	Description	Weight
555-5360	Replacement Lock	0.12 kg (0.27 lb)

Tool Bag, Cordura Cloth

Warranty: Caterpillar® Six Months



- Durable cloth tool bag made of Cordura fabric
- Cat Branded
- 610 x 203 x 159 mm (24 x 8 x 6.25 in)

Part No.	Description
211-0136	Cat® Cordura Cloth Tool Bag, Black

Technical Support, Warranty and Service

For Technical Support, Warranty on Equipment, or Service Needs, contact:

Global Dealer Solutions Network, Parts Technical Support Team

North America (Toll-Free): 1-877-228-2420

International: 1-309-266-4421

Electronic Requests: Send via Product Support Customer Relationship Management (MSCRM)

For Access and Tutorial visit: https://gdsn.cat.com/mscrm

Please provide a basic explanation of the problem, part number, serial number, table values and HMI revisions (found during boot-up on Crimputer.)

Crimputer (Used on CPC 325 and CSC6)

The Crimputer software is a proprietary software developed by Cat® to make crimping quick, easy, and help assure correct crimp dimensions are built into the product the first time. Through a touch screen panel, the user is able to input the key component information including Hose Type, Coupling Series, and Dash Size. From there, the system tells which crimping dies to install and sets machine parameters to correctly crimp the coupling. Verification can be made with a built-in caliper interface which checks crimp dimensions at four locations to confirm crimp diameter is in tolerance.

Updates are made to the Crimputer software as new hoses are released and made available to dealers. The table below shows which crimping machines use the Crimputer. Updates are available on the HIS website: (https://his.cat.com/his/servlet/cat.ld.ma.his.controller.UserIdentificationControllerServlet.) Updates are downloaded to a flash drive from the website and then uploaded to the Crimputer via a USB port. Updates are quick and easy. Verifying that you have the most up-to-date software is as easy as comparing the latest revision shown on the website to the revision information seen while the Crimputer is booting up.

The Crimputer package is available on previous and current versions of the CPC325 and CSC6 as well as the C3-290 via a conversion kit (457-6030) as shown below. The software has been enhanced such that one software version is able to be used on all controllers to provide the updates as new hoses are released.

The older-style CLC290 is no longer supported but the software remains available on the website.

Crimputer Software

The latest software updates are available here: https://dealer.cat.com/en/ps/service-tools/c/crimputer-software.html.

	CPC 325: 423-4361
	CSC6: 533-1146, 533-1147, 533-1148 (Also 358-4532, 457-6037 and 457-6038)
	C3-290 : Crimputer III (457-6030) replacement kit for older-style greased radial crimping CLC290 Machines
	CLC 290: Crimputer II Software (Older style greased radial crimping machines) The last software revision is revision 5.23. No additional revisions will be released.

Crimputer III 290 Kit (Pending Discontinuation)

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- Direct replacement for Crimputer II group, 233-8030
- Used on CLC 290 radial hose machines
- Touch screen
- Built-in electronics (PLC)
- Adjustable viewing position for operator ergonomics
- Easy to use, full color display (menus have embedded help screens)
- Multiple platform software (updatable via USB port)
- Ability to track and store multiple crimp data values
- Password protected for multiple operators
- Die Change Stop and Auto Open features included
- Support for multiple languages
- Kit consists of the following:
  - 457-6031 Crimputer 3
  - 457-6033 Pressure Sensor
  - 423-4373 Caliper
  - 358-4537 Caliper Cable
  - 358-4538 Foot Switch
  - 358-4539 Bracket

References

- NEHS1099, Tool Operating Manual
- NEHS1209, Tool Operating Manual

Overall Dimensions

- Length: 247 mm (9.7 in)
- Width: 228 mm (9 in)
- Thickness: 80 mm (3.2 in)
- Weight: 19 kg (41.9 lb)

Part No.	Description
457-6030	Crimputer III 290 Kit

CPC325 Radial Hose Machine Group

Model Usage: All

Warranty: Manufacturer's



CPC325

European Union Compliant, CE marked

- Used to crimp permanent couplings on Caterpillar low, medium, and high-pressure hoses
- Package will crimp all field serviced hose couplings up to 4".

Hose Machine

- Uses Crimputer III (C3) controller with easy to follow color menus
- Touch screen controller stores values required to crimp a full range of hoses
- Compatible with new XT no-skive hose couplings (XN couplings)
- Compatible with new AC Flat Crimp Couplings
- Lube-less low maintenance radial head design
- Die range 12-121 mm (0.47-4.76 in)
- Shipped without hydraulic oil
- Hose machine includes the following (die group sold seperately):
  - Radial Hose Machine
  - Crimputer III (C3) Controller
  - 8" digital caliper with caliper cable
  - Die-changing Tool
  - Die extraction tool
  - Calibration mandrel
  - Single footswitch (for use with C3 controller)
  - Open/close footswitch to operate hose machine
  - Adapter die (423-4367)

Crimputer III (C3) Controller

- Siemens touch screen
- Adjustable viewing position for operator ergonomics
- Easy to use, full color display (menus have imbedded help screens)
- Multiple platform software (updatable via USB port)
- Ability to track and store multiple crimp data values
- Password protected for multiple operators
- Die Change Stop and Auto Open features included
- Support for multiple languages

Reference

- NEHS1099 Operating Manual

Specifications		Crimping Capabilities
Dimensions	1600 x 600 x 1600 mm	2.0" XT-3 ES 2.0" XT-5 ES 2.0" XT-6 ES 4.0" LMP
Weight	750 kg (1650 lb)	
Oil Capacity	100 l (26.5 gal)	
Opening with dies	215 mm (8.5 in)	
Electrical Requirements	220-480 V, 3 Phase 50/60 Hz (motor 4 kW)	
Die Range	12-121 mm (0.47-4.76 in)	

Part Number	Description
423-4361	Radial Hose Machine Group
526-5494	Die Group

NOTE: Both machine group and die group part numbers must be ordered to crimp hoses.

CPC325 Radial Hose Machine Group (Continued)

526-5494 Die Group (Includes the following items)

Part No.	Diameter	Retention Pin
239L Die Set Series (requires 423-4367 Adapter)		
526-5529	12 mm (.47 in)	330-3951 [b]
526-5530	14 mm (.55 in)	330-3951 [b]
526-5531	17 mm (.67 in)	330-3951 [b]
526-5532	20 mm (.79 in)	330-3951 [b]
526-5533	22 mm (.87 in)	330-3951 [b]
526-5534	24 mm (.94 in)	330-3951 [b]
526-5535	26 mm (1.02 in)	330-3951 [b]
526-5536	28 mm (1.10 in)	330-3951 [b]
526-5537	30 mm (1.18 in)	330-3951 [b]
526-5538	32 mm (1.26 in)	330-3951 [b]
526-5539	36 mm (1.42 in)	330-3951 [b]
526-5540	40 mm (1.57 in)	330-3951 [b]
526-5541	44 mm (1.73 in)	330-3951 [b]
358-4560	47 mm (1.85 in)	330-3951 [b]
358-4561	50 mm (1.97 in)	330-3951 [b]
358-4562	54 mm (2.13 in)	330-3951 [b]
358-4563	57 mm (2.24 in)	330-3951 [b]
358-4564	62 mm (2.44 in)	330-3951 [b]
237L Die Set Series		
423-4365	67.0 mm (2.64 in)	233-8077 [a]
423-4366	71.0 mm (2.80 in)	233-8077 [a]
521-4296	78 mm (3.07 in)	233-8077 [a]
424-1400	84.0 mm (3.31 in)	233-8077 [a]
424-1401	96.0 mm (3.78 in)	233-8077 [a]
424-1402	103.0 mm (4.06 in)	233-8077 [a]
526-5543	121 mm (4.76 in)	233-8077 [a]

a. Sold and Serviced Individually

b. Retention pins should be replaced when they are damaged. Package quantity is eight per package.

CPC325 Radial Hose Machine Group (Continued)

CPC325 Radial Hose Machine Capability

Hose Type	Coupling Type	Dash Size (Hose machine will crimp these coupling sizes)
294	MN	-4, -5, -6, -8, -10, -12, -16, -20, -24, -32, -40, -48
294TG	MN	-4, -6, -8, -10, -12, -16
294CP	MN	-4, -6, -8, -10, -12, -16
	BN	-10
294CPTG	MN	-4, -6
294HT	MN	-32, -40
716	MN	-4, -6, -8, -10, -12, -16, -20, -24, -32
716TG	MN	-4, -6, -8, -10, -12, -16
716CP	MN	-4, -6, -8, -10, -12, -16
844	MN	-12, -16, -20, -24, -32, -40, -56
	SW	-48
844HP	MN	-40, -56
	SW	-48, -64*
XT3ES	TR	-6, -8, -10, -12, -16
	ESA	-10, -12, -16
	S4G	-6, -8, -16, -20, -24, -32
	XN	-6, -8, -10, -12, -16
	XN4	-20*, -24
XT3ESTG	TR	-6, -8, -10, -12, -16
	ESA	-10, -12, -16
	S4G	-6, -8, -16, -20, -24, -32
	XN	-6, -8, -10, -12, -16
	XN4	-20*, -24
XT5ES	PL	-12, -16
	MCSH	-12, -16, -20, -24, -32
	MCSX	-12, -16, -20, -24
	XN	12, -16
	XN6	-20, -24
	XS6	-32
XT5ESTG	PL	-12, -16
	MCSH	-12, -16, -20, -24, -32
	MCSX	-12, -16, -20, -24
	XN	-12, -16
	XN6	-20, -24
XT6ES	IN	-6, -8, -10, -12, -16, -20, -24
	MCSM	-6, -12, -16, -20, -24
	XN	-6, -8, -10, -12, -16
	XN6	-20, -24
	XS6	-32
XT6ESTG	IN	-6, -8, -10, -12, -16, -20, -24
	MCSM	-6, -12, -16, -20, -24
	XN	-6, -8, -10, -12, -16
	XN6	-20, -24
1028	56	-3, -4, -5, -6, -8, -12
CAT A/C FC	A/C	-6, -8, -10, -12, -14
2760	JN	-4, -5, -6, -8
2786	MN	-4, -6, -8, -10, -12, -16
2929	MH	-4, -5, -6, -8
2929TG	MH	-4, -6
743	MH	-4, -5, -6, -8, -10, -12, -16
	JN	-3
945	MH	-4, -6, -8, -12
	JN	-3
662	MN	-6, -8
2771A	JN	-4, -5, -6, -8, -10, -12
4636	MN	-8, -12*
	BN	-10, -16*
4639	MN	-8, -12*
	BN	-10, -16*
4901	MN	-4, -6, -8, -10, -12, -16, -20, -24, -32, -40, -48
5014	MN	-4, -8, -12
5065	DS4	-4, -6

*Not released as of 4-1-18

CSC6 Radial Hose Machine Group

Warranty: Manufacturer's



European Union compliant, CE marked

- Used to crimp permanent couplings on Cat® low, medium, and high-pressure hose
- Crimps field serviced couplings onto hoses ranging from 1/4 to 3 inch I.D.
- Compatible with new XT no-skive hose couplings (XN series couplings)
- Compatible with new AC Flat Crimp Couplings
- Includes adapter die 421-2653

Hose Machine

- CE, CSA, and UL compliant
- Uses Crimputer III (C3) controller with easy to follow color menus
- Touch screen controller stores values required to crimp a full range of hoses
- Die range -12 through 92 mm
- 533-1148 requires 3-Phase, 220 to 480V, 50-60 hz, electrical supply for 4kW motor (The use of manufactured or artificially generated 3-phase power with 533-1148 Hose Machine that is not specially approved by the manufacturer or Caterpillar® will result in voiding the warranty.)
- 533-1146 requires a single-phase 230V, 50Hz electrical supply
- 533-1147 requires a single-phase 230V, 60 Hz electrical supply.
- Designed with lubeless, low-maintenance radial crimp head
- Can be bench mounted or used with optional 358-4545 Universal Table Assembly
- Shipped without hydraulic oil
- Includes radial hose machine, Crimputer III (C3) controller, 8 inch digital calipers with caliper cable, Die changing tool, Die extraction tool, Calibration mandrel, Single foot switch (for use with C3 controller), Open/close foot switch to operate hose machine and adapter die
- Die group sold seperately

358-4535 Crimputer III (C3) Controller Features

- CE, CSA, and UL compliant
- Siemens touch screen
- Adjustable viewing position for operator ergonomics
- Full-color display with embedded help screens
- Multiple platform software (updatable via USB port)
- Track and store multiple crimp data values
- Password protected for multiple operators
- Die change STOP and OPEN feature included
- Support for multiple languages

References

- NEHS1098, Tool Operating Manual
- NEHS1099, Tool Operating Manual

Part No.	Description
533-1146	Single Phase 230 V, 50Hz, Radial Hose Machine
533-1147	Single Phase 230 V, 60Hz, Radial Hose Machine
533-1148	3-Phase Radial Hose Machine Group
358-4545	Universal Table Assembly
526-5493	Die Group

Note: Both machine group and die group part numbers must be ordered to crimp hoses.

Specifications		Crimping Capabilities
Dimensions	1000 x 600 x 700 mm	2.0" XT-3 ES
Weight	260 kg (575 lbs)	1.5" XT-5 ES
Oil Capacity	50 L (53 qt)	1.5" XT-6 ES
Opening without Dies	147 mm (5.8 in)	3.0" LMP
Die Range	12 to 92 mm	

CSC6 Radial Hose Machine Group (Continued)

526-5493 Die Group (Includes the Following Items)

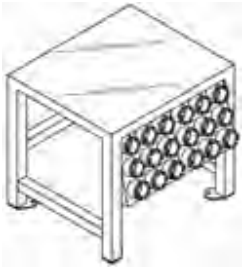
Part Number	Diameter	Retention Pin [a]
239-100 Die Set Series (requires 421-2653 Adapter)		
526-5529	12 mm (.47 in)	330-3951b
526-5530	14 mm (.55 in)	330-3951b
526-5531	17 mm (.67 in)	330-3951b
526-5532	20 mm (.79 in)	330-3951b
526-5533	22 mm (0.86 in)	330-3951b
526-5534	24 mm (.94 in)	330-3951b
526-5535	26 mm (1.02 in)	330-3951b
526-5536	28 mm (1.10 in)	330-3951b
526-5537	30 mm (3.07 in)	330-3951b
526-5538	32 mm (1.26 in)	330-3951b
526-5539	36 mm (1.42 in)	330-3951b
526-5540	40 mm (1.57 in)	330-3951b
526-5541	44 mm (1.73 in)	330-3951b
358-4560	47 mm (1.85 in)	330-3951b
358-4561	50 mm (1.97 in)	330-3951b
358-4562	54 mm (2.13 in)	330-3951b
358-4563	57 mm (2.24 in)	330-3951b
358-4564	62 mm (2.44 in)	330-3951b
266L Die Set Series		
358-4565	67 mm (2.64 in)	233-8077 a
358-4566	71 mm (2.80 in)	233-8077 a
526-5542	78 mm (3.07 in)	233-8077 a
358-4567	84 mm (3.31 in)	233-8077 a
358-4568	92 mm (3.62 in)	233-8077 a

a. Sold and Serviced Individually

b. Retention pins should be replaced when they are damaged. Package quantity is eight per package

Serviceable Parts

Part Number	Part Name
233-8027	Pins for Adapter Dies
233-8045	Calibration Mandrel
330-3951	Pins for 239 Series Dies
358-4536	Electronic Caliper
358-4537	Caliper Cable
358-4538	Switch Assembly — Foot (Single Pedal Enter)
358-4544	Switch Assembly — Foot (Double Pedal Open / Close)
416-6391	Bearing Kit
416-6396	Plunger Kit (Master Die)
416-6401	Retainer Kit
416-6402	Bolt Kit
416-6403	Master Die Assembly
416-6395	Tool Assembly — Extraction (Master Die)
421-2653	Die-Adapter
421-2654	Screw Detent (8 pcs)



358-4545 Universal Table Assembly (optional)

- Heavy-duty table supports 533-1146, 533-1147, 533-1148 Radial Hose Machines at a comfortable working height
- Front-facing, die racks conveniently store up to 18 die sets
- Dimensions (L x W x H): 840 x 815 x 765 mm (33 x 32 x 30 in)
- Requires simple assembly

CSC6 Radial Hose Machine Group Capability

Hose Type	Coupling Type	Dash Size (Hose machine will crimp these coupling sizes)
294	MN	-4, -5, -6, -8, -10, -12, -16, -20, -24. -32, -40, -48
294TG	MN	-4, -6, -8, -10, -12, -16
294CP	MN	-4, -6, -8, -10, -12, -16
	BN	-10
294CPTG	MN	-4, -6
294HT	MN	-32, -40
716	MN	-4, -6, -8, -10, -12, -16, -20, -24, -32
716TG	MN	-4, -6, -8, -10, -12, -16
716CP	MN	-4, -6, -8, -10, -12, -16
844	MN	-12, -16, -20, -24, -32, -40
	SW	-48
844HP	MN	-40
	SW	-48
XT3ES	TR	-6, -8, -10, -12, -16
	ESA	-10, -12, -16
	S4G	-6, -8, -16, -20, -24, -32
	XN	-6, -8, -10, -12, -16
	XN4	-20*, -24
XT3ESTG	TR	-6, -8, -10, -12, -16
	ESA	-10, -12, -16
	S4G	-6, -8, -16, -20, -24, -32
	XN	-6, -8, -10, -12, -16
	XN4	-20*, -24
XT5ES	PL	-12, -16
	MCSH	-12, -16, -20, -24, -32
	MCSX	-12, -16, -20, -24
	XN	-12, -16
	XN6	-20, -24
XT5ESTG	PL	-12, -16
	MCSH	-12, -16, -20, -24
	MCSX	-12, -16, -20, -24
	XN	-12, -16
	XN6	-20, -24
XT6ES	IN	-6, -8, -10, -12, -16, -20, -24
	MCSM	-6, -12, -16, -20, -24
	XN	-6, -8, -10, -12, -16
	XN6	-20, -24
XT6ESTG	IN	-6, -8, -10, -12, -16, -20, -24
	MCSM	-6, -12, -16, -20, -24
	XN	-6, -8, -10, -12, -16
	XN6	-20, -24
1028	56	-3, -4, -5, -6, -8, -12
CAT A/C FC	A/C	-6, -8, -10, -12, -14
2760	JN	-4, -5, -6, -8
2786	MN	-4, -6, -8, -10, -12, -16
2929	MH	-4, -5, -6, -8
2929TG	MH	-4, -6
743	MH	-4, -5, -6, -8, -10, -12, -16
	JN	-3
945	MH	-4, -6, -8, -12
	JN	-3
662	MN	-6, -8
2771A	JN	-4, -5, -6, -8, -10, -12
4636	MN	-8, -12*
	BN	-10, -16*
4639	MN	-8, -12*
	BN	-10, -16*
4901	MN	-4, -6, -8, -10, -12, -16, -20, -24, -32, -40, -48
5014	MN	-4, -8, -12
5065	DS4	-4, -6

*Not released as of 4/1/18

Pressure Sensor and Oil Filter Element

Model Usage: CPC325 (423-4361) and CSC6 (533-1146, 533-1147, 533-1148) Hose Machines

Warranty: Manufacturer's



- 457-6033, Pressure Sensor, can be used on both radial hose press models CPC325 and CSC6 machines
- Oil filter elements (458-2920 and 458-2921) will be used ONLY on radial hose press model CPC325

NOTE: Since there are two possible oil filter elements for CPC325, the Cat part number used will be labeled on the filter cover, attached to the panel. Refer to NEHS1153 for installation details.

Part No.	Description	Dimensions	Weight
457-6033	Pressure Sensor	35 x 75 mm (1.4 x 3 in)	0.09 kg (0.2 lb)
458-2920	Oil Filter Element	45 x 85 mm (1.8 x 3.3 in)	0.11 kg (0.24 lb)
458-2921		45 x 88 mm (1.8 x 3.5 in)	0.14 kg (0.3 lb)

Plunger Kit for Master Dies

Model Usage: CPC 325 Crimper

Warranty: Caterpillar® Six Months



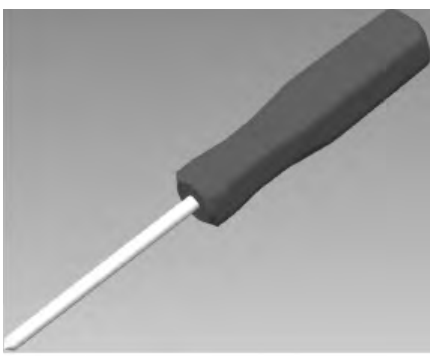
- Repair kit for 423-4361 radial hose machines
- Used to center the gap between crimping dies and die pins
- Ensures that the dies are always seated properly without gaps

Part Number	Length	Diameter	Description
482-4417	136mm	12mm	Plunger Kit

Die Release Tool

Model Usage: All Radial Hose Presses

Warranty: Caterpillar® Six Months



- Used to release adapter dies on radial type hose machines
- Used on all radial hose presses
- Fast and efficient
- Use the red handled die change tool to push in and hold the spring loaded retaining pin in hole

Reference

NEHS1153, Tool Operating Manual

Specifications

- Overall Length: 170 mm (6.7 in)
- Overall Diameter:
  - Head Size: 18.5 mm (.7 in)
  - Shaft OD: 5 mm (.2 in)

Part Number	Description
233-8047	Die Release Tool

Hose-Cutting Machines

- The solid-steel friction blade used in the Cat® EM range of hose cutters provides a clean-cutting operation and reduces the need for fume extraction (compared to alternative abrasive wheel cutters.)
- Each machine is equipped with the standard long-lasting steel-grooved TM G blade. The advanced TM C blade, coated with fine, hardened particles, produces a precise cut leading to an even greater reduction in contaminant and smoke (ordered seperately.)
- All saws except EM115 are designed for on/off use and not designed to run continuously. Cat still offers the abrasive bladed hose saw, part numbers 6V-6015 or 250-6807. This model can cut the full Cat hose product line. Please refer to the Cat Hose Products and Tooling Guide, PECP5030 for more information.
- A fume extraction device including a spark arrester is recommended (533-1184.)

EM115 Hose Saw

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- Target application: large mining machines, high-volume production
- Best match with CPC325

Specifications

- Dimensions: 1210 x 650 x 1650mm (48 x 26 x 65 in)
- Weight: 245 kg (540 lb)

Part No.	Description	Max. Cutting Capability
444-5974	3 PH Multivoltage: 230/380-420V at 50 Hz/26A and 230/380-480V at 60 Hz/15A	2 in XT-5ES / XT-6ES 2 in x XT-3ES 3 in LMP

Servicable Parts

Part No.	Description
533-1165	TM G blade
533-1167	TM C blade

EM6-P Hose Saw

Warranty: Manufacturer's One Year



- Pneumatic operation requires minimum 90 psi/621 kPa with adequate flow.
- Target Application: advanced do-it-yourself customers, standard hose workshops
- Best match with M6 and/or S6 hose crimpers

Specifications

- Dimensions: 785 x 760 x 710mm (31 x 30 x 28 in)
- Weight: 110 kg (242 lb)

Part No.	Power	Max. Cutting Capability
517-2540	3PH, 400V; 50 Hz; 9.5A	1.5 in XT-5ES / XT-6ES 2 in x XT-3ES 3 in LMP
516-9370	3PH, 220V; 50/60 Hz; 15A	

Servicable Parts

Part No.	Description
517-2537	TM G blade
517-2538	TM C blade

EM6-E Hose Saw

Warranty: Manufacturer's One Year



- Target Application: advanced do-it-yourself customers, standard hose workshops
- Best match with M6 hose crimper

Specifications

- Dimensions: 510 x 700 x 720mm (20 x 28 x 28 in)
- Weight: 45 kg (99 lb)

Part No.	Power	Max. Cutting Capability
508-7861	1 PH; 110 V-120V; 50/60 Hz; 15A	1.5 in XT-5ES / XT-6ES 2 in x XT-3ES 2 in LMP
508-7862	1 PH; 220 - 240 V; 50/60 Hz; 9.6A	

Servicable Parts

Part No.	Description
517-2541	TM G blade
517-2542	TM C blade

EM 6 M Hose Saw

Warranty: Manufacturer's One Year



- Target Application: advanced do-it-yourself customers, standard hose workshops
- Best match with M6 and/or S6 hose crimpers

Specifications

- Dimensions: 700 x 745 x 430mm (28 x 29 x 17 in)
- Weight: 75 kg (165 lb)

Part No.	Power	Max. Cutting Capability
517-2539	3PH, 400; 50 Hz; 9.5A	1.5 in XT-5ES / XT-6ES 2 in x XT-3ES 3 in LMP
516-9369	3PH, 220V; 50/60 Hz; 15A	

Servicable Parts

Part No.	Description
517-2537	TM G blade
517-2538	TM C blade

EM3-E Hose Saw

Warranty: Manufacturer's One Year



- Target Application: market entry level, do-it-yourself customers, service trucks and hose vans
- Best match with S2 hose crimper

Specifications

- Dimensions: 400 x 510 x 540 mm (16 x 20 x 21 in)
- Weight: 20 kg (44 lb)

Part No.	Power	Max. Cutting Capability
516-9368	1 PH; 230 V; 50/60 Hz; 8A	1 in XT-6ES / XT-5ES 1.25 in x XT-3ES 1.25 in LMP

Servicable Parts

Part No.	Description
517-2535	TM G blade
517-2536	TM C blade

EM3-DC Hose Saw

Warranty: Manufacturer's One Year



- Target Application: market entry level, do-it-yourself customers, service trucks and hose vans
- Best match with S2 hose crimper

Specifications

- Dimensions: 470 x 567 x 365mm (19 x 22 x 14 in)
- Weight: 29 kg (64 lb)

Part No.	Power	Max. Cutting Capability
517-2531	12V DC; 200A	1 in XT-6ES / XT-5ES 1.25 in x XT-3ES 1.25 in LMP
517-2534	24V DC; 115A	

Servicable Parts

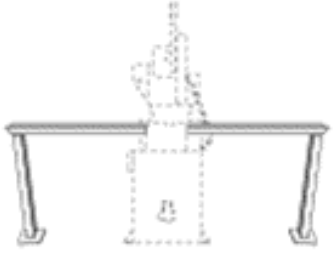
Part No.	Description
517-2532	TM Z blade
517-2533	TM C blade

Hose Cutting Machines

Model Usage: All

Warranty: Caterpillar® Six Months





- Designed to cut hose safely and efficiently
- Rated at 7.5 Horsepower
- Available for different electrical requirements

References

- NEHS0750 Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings
- NEHS0768 General Information for Hose Assembly

NOTE: These machines are not European Union compliant

Part No.	Description
250-6807	460V, 60 Hz, 3 Phase, Min. 10 Amp circuit required
6V-6015	230V, 60 Hz, 3 Phase, Min. 20 Amp circuit required
Replacement Parts for Hose Cutting Machines	
174-8912	Cut-Off Wheel
4C-9621	Belt Set

Hose Cut-off Support Group

Part No.	Description	Remarks
202-8959	Hose Cut-off Support Group	Angle iron guide (mounts to saw to ensure square cut)
202-6602	Hose Marking pen	Gel Pen (draws fine line for accurate marking of skive length) (not shown)

Pressure Test Equipment

Warranty: Manufacturer's One Year



528-5347
P160 Cabinet



528-5349
P160 Cabinet with Extension



528-5351
Test Bench Control Stand



528-5350
P350 Cabinet

- The Cat Hose Assembly Pressure Test Equipment is designed to ensure a safe, reliable hose has been built and is ready for installation. The Cat Hose Pressure Test Equipment was designed to comply with the most strict safety standards available, such as MDG 41 Mine Site Guidelines.
- Cat Hose Assembly Pressure Test Equipment can operate as a stand-alone machine and it can also be integrated with the Cat Hose Crimper and Label Printer to maintain hose build and pressure test data for historical records and improved hose business management.

System features include:

- User identification through login and password
- User-guiding software for improved operation
- Creation of Certification number that is comprised of Facility Location, Work Order Number, Hose Part Number, Batch Count and Date Code.
- Detailed hose label auto print
- The Crimputer or Test Bench datalog can be downloaded at anytime via USB and then uploaded for safe, accurate record keeping
- Standard solution requires manual download of data memory for complete record keeping and hose business management. A networked integration set-up option is also available.
- This solution is ideal for hose shops with multiple hose crimpers and is available upon request. Please contact your local ASR or ASC for more information.

NOTE: Please refer to Dealer Service Tools Catalog PERJ1017 for detailed technical information.

Part No.	Description	Weight	Overall Dimensions
528-5351	Test Bench Control Stand	210 kg	850 x 1390 x 810 mm
528-5347	P160 Cabinet	200 kg	2210 x 950 x 1325 mm
528-5349	P160 Cabinet with Extension	390 kg	4100 x 950 x 1325 mm
528-5350	P350 Cabinet	650 kg	2100 x 2170 x 2650 mm
528-5354	Adapter Kit	85 kg	800 x 600 x 670 mm
528-5353	CV Crimputer. Required for implementation of Integration Software	4 kg	250 x 200 x 50 mm
528-5352	Barcode Scanner. Recommended for use with Integration Software	-	-

Packages

Part No.	Description
528-5359	P160 Test Bench (includes P160 cabinet, control stand, adapter kit)
528-5360	P160 Test Bench w/ Extension Cabinet (includes P160 cabinet with extension, control stand, adapter kit)
528-5361	P350 Test Bench (includes P350 cabinet, control stand, adapter kit)

M6 Hose Crimper

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- Target Application: advanced do-it-yourself customers, service trucks, hose vans and hose workshops
- Micrometer-controlled crimp dimensions
- Required die kit 526-5493 (order separately)

Reference

- AEXQ 2130 Crimp Chart

Click here for crimp chart for S2 and M6 and Crimputer software for S6 and 325.

Specifications

- Dimensions: 508 x 432 x 533 mm (20 x 17 x 21 in)
- Weight: 172 kg (380lb)

NOTE: Individual die sets may also be purchased separately.

Part No.	Power	Max. Crimping Capability
508-7865	12V DC; 150A	1.5 in XT-6ES / XT-5ES 2 in XT-3ES 3 in LMP
508-7866	24V DC; 83A	
508-7867	1PH; 230V; 50/60 Hz, 7.8A at 50 Hz and 5.4A at 60 Hz	
508-7868	1PH; 115V; 50/60 Hz; 15.5A at 50 Hz and 10.8A at 60 Hz	

Servicable Parts

Part No.	Description
526-5493	Die Kit (Must Order Separately)
330-3951	Retention Die Pin for 12-62 mm Die Sets
233-8077	Retention Die Pin for 67-121 mm and the Adapter Die Sets
421-2653	Adapter Die Set (Provided with Machine Assembly)

S2 Hose Crimper

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- Target Application: market entry-level, do-it-yourself customers, service trucks and hose vans
- Micrometer-controlled crimp dimensions
- Required die kit 508-7873 (order separately)

Reference

- AEXQ 2131 Crimp Chart

Click here for crimp chart for S2 and M6 and Crimputer software for S6 and 325.

Specifications

- Dimensions: 450 x 450 x 450 mm (18 x 18 x 18 in)
- Weight: 41 kg (90lb)

NOTE: Individual die sets may also be purchased separately.

Part No.	Power	Max. Crimping Capability
508-7870	1PH; 110V; 60 Hz; 8A	1 in XT-6ES / XT-5ES
508-7871	12V DC; 15.8A	1.25 in x XT-3ES
508-7872	1PH; 230V; 50/60 Hz; 4A	1.25 in LMP

Servicable Parts

Part No.	Description
508-7873	Die Kit (Must Order Separately)

S6 Hose Crimper

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- S6 die package 526-5493 (replaces 476-2901)must be ordered seperately in order for the machine to be functional.
- Target Application: on-site hose containers, customer workshops, Cat® dealer workshops

Click here for crimp chart for S2 and M6 and Crimputer software for S6 and 325.

NOTE: Individual die sets may also be purchased separately.

Part No.	Description	Max. Crimping Capability
533-1148 (Replaces 358-4532)	3 PH Multivoltage; 230/380-420V at 50 Hz/16.8A and 230/380-480V at 60 Hz/9.7A	1.5 in XT-6ES / XT-5ES 2 in XT-3ES 3 in LMP
533-1146 (Replaces 457-6037)	1 PH; 230 V; 50 Hz; 26.5A	
533-1147 (Replaces 457-6038)	1 PH; 230 V; 60 Hz; 26A	

Servicable Parts

Part No.	Description
526-5493	Die Kit (Must Order Separately)
330-3951	Retention Die Pin for 12-62 mm Die Sets
233-8077	Retention Die Pin for 67-121 mm and the Adapter Die Sets
421-2653	Adapter Die Set (Provided with Machine Assembly)

325 Hose Crimper

Warranty: Manufacturer's One Year



European Union Compliant, CE marked

- 325 die package 526-5494 (replaces 424-1403) must be ordered seperately in order for the machine to be functional.
- Target application: large mining machines, high-volume production

Click here for crimp chart for S2 and M6 and Crimputer software for S6 and 325.

Specifications

- 325 Hose Crimper covers full Cat product line.
- Refer to current DST manual for dimensions and weight.

NOTE: Individual die sets may also be purchased separately.

Part No.	Power
423-4361	3 PH Multivoltage: 230/380-420V at 50 Hz/15A and 230/380-480V at 60 Hz/ 8.5A

Servicable Parts

Part No.	Power
526-5494	Die Kit (Must Order Separately)
330-3951	Retention Die Pin for 12-62 mm Diet Sets
233-8077	Retention Die Pin for 67-121 mm and the Adapter Die Sets
423-4367	Adapter Die Set (Provided with Machine Assembly)

Fume Exhausters

Model Usage: All

Warranty: Caterpillar® Six Months



- Optional accessory
- Exhausts fumes and draws dust and debris into cabinet base where it is trapped for later collection
- For best results, use 127 mm (5 in) diameter ducting with a maximum length of 6 m (20 ft)
- 900 CFM capacity

NOTE: These machines are not European Union compliant.

NOTE: Not for use with cut off saws 9U-7319 & 9U-7320. Single Phase fume exhauster is available via special order. Contact Dealer Service Tools sale representative.

NOTE: Ducting no included

Part No.	Description
250-6808	Installed and wired to 250-6807 Hose Cutting Machine, Wired for 460 V, 60 Hz, 3 Phase 900 CFM capacity
251-1207	Installed and wired to 6V-6015 Hose Cutting Machine, Wired for 230 V, 60 Hz, 3 Phase 900 CFM capacity

XT Reusable Press

Model Usage: All

Warranty: Caterpillar® Six Months



CE Compliant

- The XT Reusable Press is used to reclaim the couplings from hose assemblies using reusable couplings. All legacy tooling in the following sections used for reclaiming -6 through -32 size reusable couplings can be used with the new XT Reusable Press. New tooling will be released for the XT Reusable Press which will only support sizes for -16 and larger as the reusable couplings for -12 and smaller series have been discontinued. The XT Reusable Press does not function as a hose crimper similar to the legacy models.
- XT Tooling is required to service reusable couplings
- Each unit comes with pump, motor, press, foot pedal. Tooling purchased separately.
- Available in either 115V or 230V, Single Phase
- Integrated stand securely holds equipment and press
- Tooling kit part numbers are currently being developed to support the new XT Reusable Press for -16 sizes and larger. Existing tooling shown in the legacy press section of this catalog can be used with the new press. Please consult your local Hose Pro and the legacy XT Hose Machine section of this catalog for additional guidance on tooling selection.

Reference

- M0090635 – Assembling Reusable Couplings

Part No.		Description
508-7863	115V, Single Phase	28,000 kPa (1280 bar) 1080 x 1200 x 520 mm 60 Tons Pushing Force, 45 Tons Pulling Force
540-1208	230V, Single Phase	

NOTE: Tooling for reusable press is purchased seperately.

XT Hose Machine (Legacy Machines)

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to service all current sizes of XT hose and reusable couplings
- XT tooling required to service reusable couplings
- 173-9805 is the European Union Compliant, CE marked version of 150-2568
- 173-9805 XT hose assembly machine includes power supply, stand, hydraulic power supply hoses, and all components required to connect the power supply to machine
- When equipped with optional Cat variable crimping bowl assembly and smooth-bore die set, hose machine has capability of crimping many sizes of permanent couplings

Part Number	Description
150-2568*	XT Hose Machine
173-9805*	XT Hose Machine

*The 150-2568 and 173-9805 XT Hose Presses have been replaced by part numbers in the previous section. These two part numbers are no longer supported. Tooling designed for these machines will work in the new machines.

Cat 150-2568/173-9805 XT Hose Machine

Hose Type	Coupling Type	Dash Size
294	MN	-4, -5, -6, -8, -10, -12, -16, -20
294TG	MN	-4, -6, -8, -10, -12, -16
294CP	MN	-4, -6, -8, -10, -12, -16, -20
294CPTG	MN	-4, -6
716	MN	-4, -6, -8, -10, -12, -16, -20
716TG	MN	-4, -6, -8, -10, -12, -16
716CP	MN	-4, -6, -8, -10, -12, -16
844	MN	-12, -16, -20
XT3ES	TR	-6, -8, -10, -12, -16
	ESA	-6, -8, -10, -12, -16
	S4G	-6, -8, -10, -12, -16
	XN	-6, -8
	XN4	-24
XT3ESTG	TR	-6, -8, -10, -12, -16
	ESA	-6, -8, -10, -12, -16
	S4G	-6, -8, -10, -12, -16
	XN	-6, -8
	XN4	-24
XT5ES	PL	-12
	MCSH	-12
	MCSX	-12
	XN	-10, -12
XT5ESTG	PL	-12
	MCSH	-12
	MCSX	-12
	XN	-10, -12
XT6ES	IN	-6, -8, -10
	MCSM	-6
	XN	-6, -8
XT6ESTG	IN	-6, -8, -10
	MCSM	-6
	XN	-6, -8
1028	55	-3, -4, -5, -6, -8, -12
CATACFC	A/C	-6, -8, -10, -12, -14
PARKEAC	A/C	-6, -8, -10, -12, -14
2760	JN	-4, -5, -6, -8
2786	MN	-4, -6, -8, -10, -12, -16
2929	MH	-4, -5, -6, -8
2929TG	MH	-6
	MHT	-4
743	MH	-5, -6, -8, -10, -12, -16
	MHT	-4
	JN	-3
945	MH	-6, -8, -12
	MHT	-4
	JN	-3
662	MN	-6, -8
2771A	JN	-4, -5, -6, -8, -10, -12

XT Hose Machine (Continued)

To Order:

Step 1: Choose the correct machine. Make sure a 173-9805 is ordered if a European Union Compliant machine is required. If 173-9805 is ordered, skip to step 3. The 173-9805 XT hose assembly machine, which is European Union Compliant and CE marked, is fully assembled and comes with a power supply and stand.

Step 2: If 150-2568 (non-European Union Compliant) is ordered, choose the correct power and order the parts to Connect the power supply to the hose assembly machine.

1½ Horsepower (a foot switch is included only with the 1½ HP pumps)		
4C-5080	230V, 60 Hz	Min 15 Amp circuit required

NOTE: All pumps are single phase. 4C-5080 features a quiet, low rpm induction motor.

Additional Parts Necessary to Connect the Power Supply to 150-2568 XT Hose Assembly Machine

Qty.	Part No.	Description
2	8F-0024	Hose
2	135-2535	Fitting
1	136-2060	Fitting
1	136-2061	Fitting
2	136-2068	Fitting
2	1P-2375	Coupler
2	1P-2376	Coupler

NOTE: If you need a gauge, other fittings are required. Use only 68,950 kPa (10,000 PSI) rated fittings.

NOTE: Caterpillar highly recommends using the 1½ horsepower power supply with this hose assembly machine.

Step 3: Choose the related tooling needed to disassemble and assemble XT reusable couplings.

Tooling for Disassembling and Assembling XT Hose and Reusable Couplings (required)

Part No.	Description
215-9673	Accessory Group
171-2528	XT-5 ES and XT-6 Hose Tool Group
4C-9902	XT-3 ES Hose Tool Group
226-7150	Reusable Coupling Hose Gauge Kit
188-2157	XT-6 ES, 1.5 inch Accessory Group
265-5818	XT-6 ES, 2.0 inch Accessory Tool Group
197-5391 [b]	Stem Expander, -12, XT-6, ES
197-5392 [b]	Stem Pusher, -12, XT-6 ES
197-5393 [b]	Pusher Assembly, -12 (use with existing 6V-4961 Mandrel), XT-6 ES
197-5394 [b]	Stem Pusher, -16, XT-6 ES
197-5395 [b]	Pusher Assembly, -16 (used with existing 6V-4963 Mandrel), XT-6 ES
197-5396 [b]	Stem Expander, -16, XT-6 ES

c. Additional individual tooling required to assemble XT-6 ES -12 and -16 size couplings. Also requires tooling from 4C-9902 and 171-2528 Tool Groups.

NOTE: Refer to Reusable Coupling Tooling Groups for a complete list of part numbers included in each group.

Variable Crimp Die Bowl

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Precision internal threads and external barrel scale
- Similar to a micrometer, bowl provides nearly infinite adjustment for the smooth-bore dies
- Easy to adjust thickness by twisting the bowl
- Eliminates the need for spacer rings used with stepped dies
- Fewer smooth-bore dies needed to service the same range of hose and coupling sizes in comparison with stepped dies

Part Number	Description
242-3597*	Variable Crimp Die Bowl

Crimping Bowl Assembly (required)

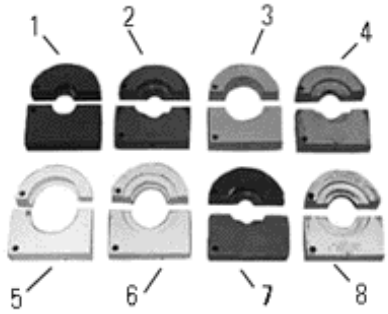
Part No.	Description
133-7362*	Die Rest
135-4561*	Die Separator
140-9360*	Separator Ring
4C-4375*	Spring
4C-4376*	Snap Ring

*The parts in this section support legacy machines 150-2568 and 173-9805 will not work with new XT Press.

XT-3 ES

Model Usage: All

Warranty: Caterpillar® Six Months



- Used with 150-2568 and 173-9805 XT Hose Assembly Machines
- May be ordered as individual parts

Reference

- NEHS0750 Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings

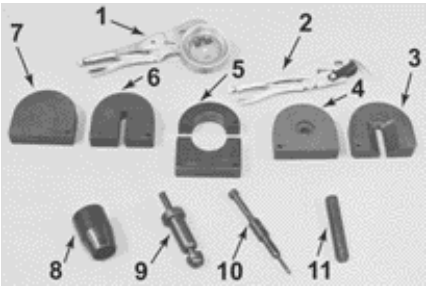
Item	Part No.	Description
1	6V-4886	Collet, Top, 3/8 in (9.53 mm) XT-3 ES Sleeve; 3/4 in (19.05 mm) XT-3 ES Stem
1	6V-4887	Collet, Bottom, 3/8 in (9.53 mm) XT-3 ES Sleeve; 3/4 in (19.05 mm) XT-3 ES Stem
2	9U-6743	Collet, Top 1/2 in (12.7 mm), XT-3 ES Sleeve; 1 in (25.4 mm) XT-3 ES Stem
2	9U-6744	Collet, Bottom 1/2 in (12.7 mm), XT-3 ES Sleeve; 1 in (25.4 mm) XT-3 ES Stem
3	6V-4893	Collet, Top, 1 in (25.4 mm), XT-3 ES Sleeve; 1 1/2 in (38.1 mm), XT-3 ES Stem; 3/4 in (19.05 mm) XT-6 Sleeve
3	6V-4894	Collet, Bottom, 1 in (25.4 mm), XT-3 ES Sleeve; 1 1/2 in (38.1 mm), XT-3 ES Stem; 3/4 in (19.05 mm) XT-6 Sleeve
4	6V-4891	Collet, Top, 3/4 in (19.05 mm), XT-3 ES Sleeve; 1 1/4 in (31.75 mm) XT-3 ES Stem; 1 in (25.4 mm) XT-6 Stem
4	6V-4892	Collet, Bottom, 3/4 in (19.05 mm), XT-3 ES Sleeve; 1 1/4 in (31.75 mm) XT-3 ES Stem; 1 in (25.4 mm) XT-6 Stem
5	6V-4899	Collet, Top 2 in (50.8 mm) XT-3 ES Sleeve
5	6V-4901	Collet, Bottom, 2 in (50.8 mm) XT-3 ES Sleeve
6	6V-4897	Collet, Top, 1 1/2 in (38.1 mm) XT-3 ES Sleeve
6	6V-4898	Collet, Bottom, 1 1/2 in (38.1 mm) XT-3 ES Sleeve
7	6V-4902	Collet, Top, 3/8 in (9.53 mm) XT-3 ES Stem; 1/2 in (12.7 mm) XT-3 ES Stem; 3/8 in (9.53 mm) XT-6 Stem; 1/2 in (12.7 mm) XT-6 Stem
7	6V-4903	Collet, Bottom, 3/8 in (9.53 mm) XT-3 ES Stem; 1/2 in (12.7 mm) XT-3 ES Stem; 3/8 in (9.53 mm) XT-6 Stem; 1/2 in (12.7 mm) XT-6 Stem
8	6V-9069	Collet, Top, 11/4 in (31.75 mm) XT-3 ES Sleeve; 2 in (50.8 mm) XT-3 ES Stem
8	6V-9070	Collet, Bottom, 11/4 in (31.75 mm) XT-3 ES Sleeve; 2 in (50.8 mm) XT-3 ES Stem

Part Number	Description
4C-9902	XT-3ES

Hose Assembly Accessory Group

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- This section provides serviceable reusable coupling tooling group information. This information can be used to order individual parts or to determine if your tooling is current
- Used with 150-2568 and 173-9805 XT Hose Assembly Machines, and with 152-3910 Combination Hose Assembly machines
- May be ordered as individual parts

Reference

- NEHS0750 "Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings"

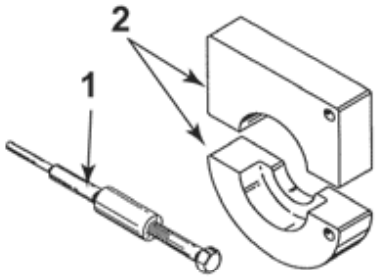
Item No.	Part No.	Description
1	7S-1125	Protractor Group
2	7S-1126	Skiving Group (replaces 1U-9159)
3	4C-6187	Collet
3	4C-6188	Collet
3	8T-3158	Collet
4	4C-5887	Collet, 3/8 in (9.53 mm)
4	4C-5888	Collet, ½ in (12.7 mm)
4	4C-5889	Collet, ¾ in (19.05 mm)
4	4C-5890	Collet, 1 in (25.4 mm)
4	4C-5891	Collet, 1¼ in (31.75 mm)
4	4C-5892	Collet, 1½ in (38.1 mm)
4	4C-5893	Collet, 2 in (50.8 mm)
5	1U-9673	Collet, Top, 3/8 in, ½ in (9.53 mm, 12.7 mm)
5	1U-9674	Collet, Bottom, 3/8 in, ½ in (9.53 mm, 12.7 mm)
5	131-4367	Collet, Top, ¾ in (19.05 mm)
5	131-4368	Collet, Bottom, ¾ in (19.05 mm)
5	1U-9675	Collet, Top, 1 in, 1¼ in (25.4 mm, 31.75 mm)
5	1U-9676	Collet, Bottom, 1 in 1¼ in (25.4 mm, 31.75 mm)
5	1U-9677	Collet, Top, 1½ in (38.1 mm)
5	1U-9678	Collet, Bottom, 1½ in ((38.1 mm)
5	1U-9679	Collet, Top, 2 in (50.8 mm)
5	1U-9680	Collet, Bottom, 2 in (50.8 mm)
6	6V-4913	Plate, Pusher Slotted
7	6V-4912	Plate, Pusher
8	5S-2805	Finger Expander, 3/8 in (9.53 mm)
8	5S-2811	Finger Expander, ½ in (12.7 mm)
8	5S-2823	Finger Expander, ¾ in (19.05 mm)
8	5P-0973	Finger Expander, 1 in (25.4 mm)
8	5S-2837	Finger Expander, 1¼ in (31.75 mm)
8	5S-2843	Finger Expander, 1½ in (38.1 mm)
8	5S-2849	Finger Expander 2 in (50.8 mm)
9	6V-4961	Mandrel, ¾ in (19.05 mm)
9	6V-4962	Pusher As, ¾ in (19.05 mm)
9	6V-4963	Mandrel, 1 in (25.4 mm)
9	6V-4964	Pusher As, 1 in (25.4 mm)
9	8T-3058	Mandrel, 1¼ in (31.75 mm)
9	8T-3059	Pusher As 1¼ in (31.75 mm)
9	8T-3060	Mandrel, 1½ in (38.1 mm)
9	8T-3061	Pusher As, 1½ in (38.1 mm)
9	136-3603	Mandrel, 2 in (50.8 mm)
9	136-3604	Pusher As, 2 in (50.8 mm)
10	170-5688	Stem Expander As, 3/8 in (9.53 mm)
10	170-5690	Stem Expander As, ¾ in (19.05 mm)
10	170-5687	Stem Expander As, ½ in (12.7 mm)
10	170-5689	Stem Expander As 1 in (25.4 mm)
10	5P-5234	Stem Expander As, 1¼ in (31.75 mm)
10	5P-5235	Stem Expander As, 1½ in (38.1 mm)
10	5P-5236	Stem Expander As, 2 in (50.8 mm)
11	5S-2808	Pusher, Stem, 3/8 in (9.53 mm)
11	5S-2814	Pusher, Stem, ½ in (12.7 mm)
11	5S-2826	Pusher, Stem, ¾ in (19.05 mm)
11	5S-2834	Pusher, Stem, 1 in (25.4 mm)
11	5S-2840	Pusher, Stem, 1¼ in (31.75 mm)
11	5S-2846	Pusher, Stem, 1½ in (38.1 mm)
11	5S-2852	Pusher, Stem, 2 in (50.8 mm)

Part Number	Description
215-9673	Accessory Group

XT-6 ES and XT-5 ES Hose Tool Group

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used with 150-2568 and 173-9805 XT Hose Assembly Machine and 152-3910 Combination Hose Assembly Machine
- May be ordered as individual parts
- New collets are designed to better fit XT-5 ES and XT-6 hoses

Collets are heat treated for increased life and durability

Reference

- NEHS0750 "Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings"

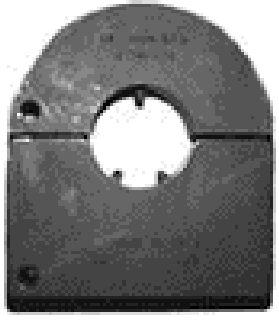
Item	Part No.	Description
1	6V-4972	Expander Assembly, XT-5ES-32 Stem
1	170-5684	Expander Assembly, XT-6-16 Stem
1	170-5683	Expander Assembly, XT-6-12 Stem
2	4C-9422	Collet, Top, 1¼ in (31.75 mm) XT-6 Stem
2	4C-9423	Collet, Bottom, 1¼ in (31.75 mm) XT-6 Stem
2	4C-9433	Collet, Top, 1¼ in (31.75 mm) XT-5ES and XT-6 Sleeve
2	4C-9474	Collet, Bottom, 1¼ in (31.75 mm) XT-5ES and XT-6 Sleeve
2	6V-4915	Collet, Top, ¾ in (19.05 mm) XT-5ES Stem
2	6V-4916	Collet, Bottom, ¾ in (19.05 mm) XT-5ES Stem
2	6V-4917	Collet, Top, ¾ in (19.05 mm) XT-6 Stem and 1 in (25.4 mm) XT-5ES Stem
2	6V-4918	Collet, Bottom, ¾ in (19.05 mm) XT-6 Stem and 1 in (25.4 mm) XT-5ES Stem
2	6V-4919	Collet, Top, ¾ in (19.05 mm) XT-5ES Sleeve
2	6V-4921	Collet, Bottom, ¾ in (19.05 mm) XT-5ES Sleeve
2	6V-4922	Collet, Top, 1 in (25.4 mm) XT-6 Sleeve
2	6V-4923	Collet, Bottom, 1 in (25.4 mm) XT-6 Sleeve
2	6V-4924	Collet, Top, 1½ in (38.1 mm) XT-5ES Sleeve; 2 in (50.8 mm) XT-5ES Stem
2	6V-4925	Collet, Bottom, 1½ in (38.1 mm) XT-5ES Sleeve; 2 in (50.8 mm) XT-5ES Stem
2	442-9651	Collet, Top, 2 in (50.8 mm) XT-5ES Sleeve
2	442-9652	Collet, Bottom, 2 in (50.8 mm) XT-5ES Sleeve
2	8T-0815	Collet, Top, 1 in (25.4 mm) XT-5ES Sleeve and 1½ in (38.1 mm) XT-5ES Stem
2	8T-0816	Collet, Bottom, 1 in (25.4 mm) EX-5ES Sleeve and 1½ in (38.1 mm) XT-5ES Stem
2	122-7321	Collet, Top 1¼ in (31.75 mm) XT-5ES Stem
2	122-7322	Collet, Bottom, 1¼ in (31.75 mm) XT-5ES Stem
3	122-1023	Pusher, Stem, 2 in (50.8 mm) XT-5ES (not shown)

Part Number	Description
171-2528	XT-6 and XT-5 ES Hose Tool Group

XT Hose Reclamation Tooling Group

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to remove XT hose reusable couplings from XT hose assemblies
- Setscrews grip hose for easy removal
- Available for -12 through -32 hose

Reference

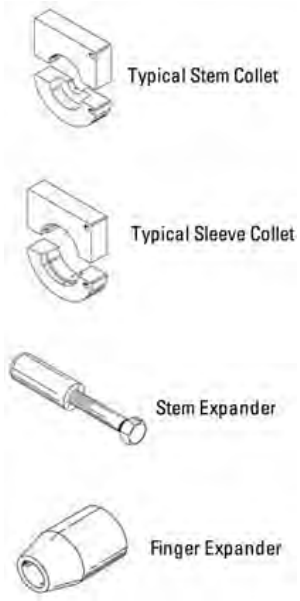
NEHS0750 Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings

Part No.	Description
131-3961	XT Hose Reclamation Tooling Group
Consists:	
127-9924	Collet, Top, 3/4 in (19.0 mm)
127-9926	Collet, Bottom
127-9928	Collet, Top, 1 in (25.4 mm)
127-9929	Collet, Bottom
127-9930	Collet, Top, 1 1/4 in (31.8 mm)
127-9931	Collet, Bottom
127-9933	Collet, Top, 1 1/2 in (38.1 mm)
127-9934	Collet, Bottom
127-9936	Collet, Top, 2 in (50.8 mm)
127-9937	Collet, Bottom
8C-3996	Setscrew-socket (3 required per collet set)

XT-6 ES Accessory Tools

Model Usage: All

Warranty: Caterpillar® Six Months



- Typical Collet and Expander Designs

Reference

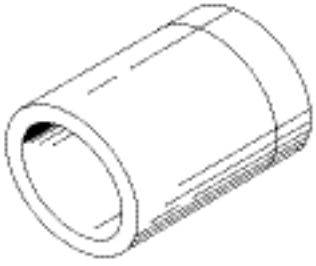
- NEHS0750 Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings

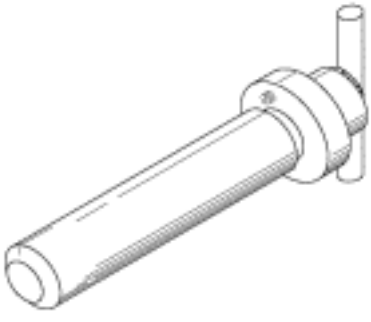
Part Number	Description	Used On
188-2157, XT-6 ES Accessory Group — 1.50 in (38.1 mm)		
188-1590	Collet Top	-24 XT-6 ES Sleeve
188-1591	Collet Bottom	-24 XT-6 ES Sleeve
188-1592	Collet Top	-24 XT-6 ES Stem
188-1593	Collet Bottom	-24 XT-6 ES Stem
188-1594	Stem Expander	-24 XT-6 ES
188-1595	Finger Expander	-24 XT-6 ES (reforms coupling fingers)
265-5818, XT-6 ES Accessory Tool Group — 2.00 in (50.8 mm)		
265-5809	Collet Top	-32 XT-6 ES Sleeve
265-5810	Collet Bottom	-32 XT-6 ES Sleeve
265-5811	Collet Top	-32 XT-6 ES Stem
265-5812	Collet Bottom	-32 XT-6 ES Stem
265-5813	Pusher-Stem	-32 XT-6 ES (to provide additional stroke)
265-5814	Pusher-Plate	-32 XT-6 ES (to provide additional stroke)
265-5815	Pusher-Stem	-32 XT-6 ES (to provide additional stroke)
265-5816	Finger Expander	-32 XT-6 ES (reforms coupling fingers)
265-5817	Stem Expander	-32 XT-6 ES

Hose Gauge Kit — Reusable Coupling

Model Usage: All

Warranty: Caterpillar® Six Months





European Union Compliant, CE marked

Reference

- NEHS0861 Skive Length Chart
- NEHS0750 Comprehensive Tooling List for Assembling and Disassembling Reusable Couplings

Part Number	Description
226-7150	Hose Gauge Kit — Reusable Coupling

Skive Guide

Part No.	Hose Size Identification Color	Description	Use On
226-7141	Yellow	Skive Guide	-6
226-7142	Blue	Skive Guide	-8
226-7143	Orange	Skive Guide	-10
226-7144	Green	Skive Guide	-12
226-7145	Black	Skive Guide	-16
226-7146	White	Skive Guide	-20
226-7147	Red	Skive Guide	-24
226-7148	Green	Skive Guide	-32
226-7149	-	Depth Gauge	-

Typical One-piece Squareness Gauge and Skiving Arbor

Part No.	Hose Size Identification Color	Setscrew Dimension	Used On
209-3320	Yellow	0.762 ± 0.025 mm (.0300 ± .0001 in)	-6, XT-3 ES, XT-5 ES, XT-6 ES
209-3322	Blue	0.762 ± 0.025 mm (.0399 ± .0001 in)	-8, XT-3 ES, XT-5 ES, XT-6 ES
209-3324	Orange	1.016 ± 0.025 mm (.0400 ± .0001 in)	-10, XT-3 ES, XT-5 ES, XT-6 ES
202-3277	Green	1.143 ± 0.025 mm (.0450 ± .0001 in)	-12, XT-3 ES, XT-5 ES, XT-6 ES
202-3278	Black	1.524 ± 0.025 mm (.0600 ± .0001 in)	-16, XT-3 ES, XT-5 ES, XT-6 ES
202-3279	White	2.032 ± 0.025 mm (.0800 ± .0001 in)	-20, XT-3 ES, XT-5 ES, XT-6 ES
202-3280	Red	2.540 ± 0.025 mm (.1000 ± .0001 in)	-24, XT-3 ES, XT-5 ES, XT-6 ES
202-3281	Green	3.175 ± 0.025 mm (.1250 ± .0001 in)	+32, XT-3 ES, XT-5 ES, XT-6 ES

Thermal Transfer Bar Code Printer (Low Volume), Thermal Transfer Bar Code Printer (High Volume)

Warranty: Manufacturer's





European Union Compliant, CE marked

- Low and high volume hose label printers
- Allows enhanced information on label (Part Number, Dealer Name and Telephone Number, Assembly Date, QR code)
- Operates with starter software on a PC or in a standalone mode using optional accessories (not included)
- Includes basic label template for use with software
- Uses self-lamination labels with protective layer
- Operates on Universal Power Supply between 100-240 VAC 50-60hz which connects to a standard PC adapter cable (US PC adapter cable included)
- Optional plug adapters are available to support regional electrical standards

442-0077 Features:

- Small, space saving, low volume printer
- High quality double walled clamshell design
- Economical and suitable for less frequent usage
- Uses industry standard ribbons and media
- Head open sensor
- 8MB SDRAM, 4MB Flash Memory
- Supports Serial and USB 2.0 connectivity, Ethernet optional
- Supports standard industry emulations including Eltron® and Zebra® language support

442-0078 Features:

- Heavy duty die-cast aluminum design
- Delivers high-speed performance
- Supports Ethernet, USB 2.0, serial and parallel connectivity
- 300 dpi and 600 dpi resolution options
- Large LCD display with 6-button menus
- Supports a USB keyboard interface for stand-alone printing
- 8MB Flash and 32MB SDRAM memory
- Uses TSPL-EZ™ firmware for plug-n-play

NOTE: The latest software updates can be found at: https://dealer.cat.com/en/ps/service-tools/c/crimputer-software.html.

TECHNICAL SUPPORT & WARRANTY INFORMATION

DFI, 220 E 50th St, Davenport IA 52806

dficatsupport@dfi-llc.com

Thermal Transfer Bar Code Printer (Low Volume), Thermal Transfer Bar Code Printer (High Volume) (Continued)

Part No.	442-0077 (Low Volume Printer)		442-0078 (High Volume Printer)	
Voltage	100-240 VAC, 1.8A, 50/60 Hz Universal Power Supply		100-240 VAC, 2A, 50/60 Hz Universal Power Supply	
Display	Single Line LCD		Multiple Line LCD	
Label Feed	Continuous Print (for multiple labels)		Continuous Print with Single Step Present and label backing rewind option (for multiple labels)	
Label Stock Options with Protective Cover	Dash 3 to 16 (S) 490 Labels per roll	Dash 20 to 56 (L) 175 Labels per roll	Dash 3 to 16 (S) 900 Labels per roll	Dash 20 to 56 (L) 400 Labels per roll
Ribbon	Maximum 90 meters long		Maximum 600 meters long	
Interface	USB cable provided Standalone with USB Keyboard (not incl.)		USB cable provided Standalone with USB Keyboard (not incl.)	
Dimensions	140 mm (W) X 177 mm (H) X 241 mm (D) (5.51 in X 6.97 in X 9.49 in)		270 mm (W) X 308 mm (H) X 505 mm (D) (10.63 in X 12.13 in X 19.88 in)	
Weight	2.5 kg (5.5 lb)		15 kg (33 lb)	

Consumables

Starter Kit	442-0073	1 Roll 490 Labels (S) 1 Roll 175 Labels (L) 1 Roll 74m Ribbon	442-0069	1 Roll 900 Labels (S) 1 Roll 400 Labels (L) 1 Roll 450m Ribbon
Label Stock	442-0074	3 Rolls of 490 Labels (S)	442-0070	3 Rolls of 900 Labels (S)
	442-0075	3 Rolls of 175 Labels (L)	442-0071	3 Rolls of 400 Labels (L)
Ribbon Stock	442-0076	6 Rolls of 74m Ribbons	442-0072	6 Rolls of 450m Ribbons

Service Parts

Print Head	445-9430	Single Replacement	445-9432	Single Replacement
Platen Assembly	445-9431	Single Replacement	445-9433	Single Replacement

Optional Accessories

European Style Plug Adapter	Australian Style Plug Adapter	UK Style Plug Adapter
270-0578	270-0580	447-8886

Clean Seal Production Heat Shrink Machine, Clean Seal Hand-Held Heat Shrink Tool

Model Usage: All

Warranty: Manufacturer's







417-1321 Clean Seal Production Heat Shrink Machine

European Union Compliant, CE marked

- European plug only
- Used to apply clean seal capsules in place of plastic plugs and caps to keep contamination out of hose assemblies
- Applies heated air to set capsule on fitting end in under two seconds
- Even heat distribution for a perfect capsule shrink-fit
- Accepts clean seal capsules from 20 mm (1 in) — 80 mm (3 in) ID
- Clean seal capsules help protect fitting threads and seals from damage
- Hex sizes from 12 mm (1/2 in) — 78 mm (3 in)
- Oversized shrink tunnel opening allows multiple assembly ends at once
- Heating unit is thermocouple protected against overheating
- Brushless DC blower motor for trouble free operation
- On/Off timer enables hot air heater to always turn off automatically
- Heater timer can be set in one minute increments up to sixty minutes
- Locking 3-wire grounding power main plug NEMA L6-15 for safe 230VAC connection
- White light indicator lets you know when heater is active
- Green light power on/off rocker switch lets you know when power is on
- Shrink tunnel is insulated to help keep heat in
- System is 100% duty cycle rated for 24/7 continuous operation
- Cool air in vent helps keep heating air clean
- Cap seals used in place of plastic plugs and caps to keep contamination out of hose assemblies

417-1322 Clean Seal Hand-Held Heat Shrink Tool

- Includes heat gun with case, flex vacuum pump stand and 95 mm diffuser for 1.5" connection (Case, stand and diffuser not serviced separately)

Part No.	Description	Dimensions	Weight
417-1321	Clean Seal System Heat Shrink Machine	520.7 x 241.3 x 180 mm (20.5 x 9.5 x 7 in)	11.8 kg (26 lbs)
417-1322	Hand-Held Clean Seal System	342.9 x 330.2 x 127 mm (13.5 x 13 x 5 in)	3.1 kg (6.9 lb)

Hose Cleaning Group (Economy)

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to remove waste and contaminants from internal surfaces of tubes, lines, and hoses while machine is at the job site (works great in field service trucks)
- Used with pressurized air or nitrogen gas, existing Caterpillar projectiles and NEEG2955 Projectile Sizing Chart
- Works on 4 mm (0.16 in) through 32 mm (1-1/4 in) or -03 through -20 hoses
- Less expensive alternative to other Caterpillar hose cleaning groups (this group has limited size capabilities, making it less expensive)
- Durable plastic handle with quick-acting threads and internal brass parts
- Clean hydraulic systems (tubes, lines, and hoses) will reduce risk of component failure, increase service life of filters, reduce equipment maintenance costs (less wear), and increase productivity (more time on the job)
- Includes carrying case with foam inserts
- 308-8524 Hose Cleaning Projectile Launcher can also be purchased separately

NOTE: The operating pressure is 550 to 760 kPa (80 to 110 PSI) and should be used with a 13mm (1/2") inside diameter air hose. An in-line air filter and regulator are also recommended.

References

- NEHS0643 "Using the 233-7191, 233-7192, 233-7193 and 265-4959 Hose Cleaning Groups"
- NEHS0634 "Operation Safety Video"
- NEHS0768 "General Information for Hose Assembly"
- NEEG2955 "Projectile Sizing Chart"

Step 1: Order the 233-7191 Hose Cleaner Group

Part No.	Description
233-7191	Hose Cleaning Group (Economy)

233-7191 Hose Cleaner Group

Part No.	Description
215-4585	Nozzle 4 mm (.16 in)
130-6069	Nozzle 6 mm (.24 in)
130-6070	Nozzle 8 mm (.31 in)
130-6071	Nozzle 10 mm (.40 in)
130-6072	Nozzle 13 mm (.51 in)
130-6073	Nozzle 16 mm (.63 in)
130-6074	Nozzle 19 mm (.75 in)
130-6075	Nozzle 25 mm (.98 in)
130-6076	Nozzle 33 mm (1.3 in)
308-8524	Hose Cleaning Projectile Launcher
130-6068	Air Hose Quick Disconnect (1/2 in male hose barb)

Step 2: Order the projectiles for cleaning hose and hose assemblies from the list "Projectile Application Information for Hose Cleaner Groups"

Hose Cleaner Group

Model Usage: All

Warranty: Caterpillar® Six Months



European Union compliant, CE Marked

- Used to remove waste and contaminants from internal surfaces of tubes, lines, and hoses while machine is at the job site (works great in field service trucks)
- Used with pressurized air or nitrogen gas, existing Caterpillar projectiles and NEEG2955 Projectile Sizing Chart
- Works on 4 mm (0.16 in) through 32 mm (1-1/4 in) or -03 through -20 hoses
- Optional nozzles available for use to 50 mm (2 in) or -32 hoses
- 233-7192 Hose Cleaner Group quickly and effectively cleans hose, complete hose assemblies, or other hydraulic lines in order to reduce hydraulic system contamination
- Designed specifically for service vehicle or mobile applications
- Includes a large carrying case with foam inserts
- Fewer nozzles to simplify nozzle and projectile selection
- 233-7190 Hose Cleaning Projectile Launcher can also be purchased separately

NOTE: The operating pressure is 550 to 760 kPa (80 to 110 PSI) and should be used with a 13 mm (1/2") inside diameter air hose. An in-line air filter and regulator are also recommended.

References

- NEHS0643 "Using the 233-7191, 233-7192, 233-7193 and 265-4959 Hose Cleaning Groups"
- NEHS0634 "Operation Safety Video"
- NEHS0768 "General Information for Hose Assembly"
- NEEG2955 "Projectile Sizing Chart"

Step 1: Order the 233-7192 Hose Cleaner Group.

Part No.	Description
233-7192	Hose Cleaner Group

233-7192 Hose Cleaner Group

Part Number	Description	Part Number	Description
215-4585	Nozzle 4 mm (.16 in)	130-6084	Nozzle 8 mm (.31 in)
130-6069	Nozzle 6 mm (.24 in)	130-6085	Nozzle 10 mm (.40 in)
130-6070	Nozzle 8 mm (.31 in)	130-6086	Nozzle 13 mm (.51 in)
130-6071	Nozzle 10 mm (.40 in)	130-6087	Nozzle 16 mm (.63 in)
130-6072	Nozzle 13 mm (.51 in)	130-6088	Nozzle 19 mm (.75 in)
130-6073	Nozzle 16 mm (.63 in)	130-6089	Nozzle 25/22 mm
130-6074	Nozzle 19 mm (.75 in)	130-6090	Nozzle 32/25 mm
130-6075	Nozzle 25 mm (.98 in)	233-7190	Hose Cleaning Projectile Launcher
130-6076	Nozzle 32 mm (1.26 in)	130-6062	Ring-Adapter
130-6083	Nozzle 6 mm (.24 in)	130-6068	Coupling Assembly

Step 2: Order the projectiles for cleaning hose and hose assemblies from the list "Projectile Application Information for Hose Cleaner Groups".

Hose Cleaner Group

Model Usage: All

Warranty: Caterpillar® Six Months



European Union compliant

- Used to remove waste and contaminants from internal surfaces of tubes, lines, hose & couplings
- Designed specifically for the dealer hose assembly area
- Used with pressurized air or nitrogen gas, existing Caterpillar projectiles and NEEG2955 Projectile Sizing Chart
- Works on 4 mm (0.16 in) through 50 mm (2 in) or -03 through -32 hoses
- Clean hydraulic systems (tubes, lines, and hoses) will reduce risk of component failure, increase service life of filters, reduce equipment maintenance costs (less wear), and increase productivity (more time on the job)
- Includes stand for projectile launcher (Hose Cleaning Projectile Launcher) and nozzle rack
- Does not include carrying case
- 233-7190 Hose Cleaning Projectile Launcher can also be purchased separately

NOTE: The operating pressure is 550 to 760 kPa (80 to 110 PSI) and should be used with a 13 mm (1/2") inside diameter air hose. An in-line air filter and regulator are also recommended.

References

- NEHS0643 "Using the 233-7191, 233-7192, 233-7193 and 265-4959 Hose Cleaning Groups"
- NEHS0634 "Operation Safety Video"
- NEHS0768 "General Information for Hose Assembly"
- NEEG2955 "Projectile Sizing Chart"

Step 1: Order the 233-7193 Hose Cleaner Group

Part No.	Description
233-7193	Hose Cleaner Group

233-7193 Hose Cleaner Group

Part No.	Description	Part No.	Description
215-4585	Nozzle 4 mm (.16 in)	130-6091	Nozzle 38 mm (1.50 in)
130-6069	Nozzle 6 mm (.24 in)	130-6092	Nozzle 50 mm (2 in)
130-6070	Nozzle 8 mm (.31 in)	130-6097	Nozzle 38 mm (1.50 in)
130-6071	Nozzle 10 mm (.40 in)	130-6062	Ring-Adapter
130-6072	Nozzle 13 mm (.51 in)	130-6068	Coupling Assembly
130-6073	Nozzle 16 mm (.63 in)	156-0050	Stand-Launcher
130-6074	Nozzle 19 mm (.75 in)	156-0055	Rack-Nozzle Organizer
130-6075	Nozzle 25 mm (.98 in)	233-7190	Hose Cleaning Projectile Launcher
130-6076	Nozzle 32 mm (1.26 in)		

Step 2: Order the projectiles for cleaning hose and hose assemblies from the list "Projectile Application Information for Hose Cleaner Groups".

Hose Cleaning Group

Model Usage: All

Warranty: Caterpillar® Six Months



European Union compliant, CE Marked

- Used to remove waste and contaminants from large bore hose and couplings
- Designed specifically for the dealer hose assembly area
- Used with pressurized air or nitrogen gas, existing Caterpillar projectiles and NEEG2955 Projectile Sizing Chart
- Works on 55 mm (2.13 in) through 90 mm (3.5 in) or -40, -48, and -56 hoses
- Clean hydraulic systems will reduce risk of component failure, increase service life of filters, reduce equipment maintenance costs (less wear), and increase productivity (more time on the job)
- Includes stand for projectile launcher (Hose Cleaning Projectile Launcher) and nozzle rack
- Does not include carrying case
- 265-4958 Launcher can also be purchased separately

NOTE: The operating pressure is 550 to 760 kPa (80 to 110 PSI) and should be used with a 13 mm (1/2") inside diameter air hose. An in-line air filter and regulator are also recommended.

References

- NEHS0643 "Using the 233-7191, 233-7192, 233-7193 and 265-4959 Hose Cleaning Groups"
- NEHS0634 "Operation Safety Video"
- NEHS0768 "General Information for Hose Assembly"
- NEEG2955 "Projectile Sizing Chart"

Step 1: Order the 265-4959 Hose Cleaner Group

Part No.	Description
265-4959	Hose Cleaning Group

265-4959 Hose Cleaner Group

Part No.	Description
267-1527	Nozzle
130-6062	Adapter
—	Adapter
130-6068	Coupling As (8 mm) Airline Disconnect
156-0055	Stand (not shown)
265-4958	Launcher

Step 2: Order the projectiles for cleaning hose and hose assemblies from the list "Projectile Application Information for Hose Cleaner Groups."

Application Charts for Hose Cleaner Groups

Model Usage: All

Warranty: Caterpillar® Six Months

European Union Compliant, CE marked

Hose Nozzles and Projectiles

					Hose Cleaner/Projectile Usage			
Hose Dash Size	Nominal Inch	DM-mm	Cat Nozzle No.	Cat Projectile No.	233-7193	233-7192	233-7191	265-4959 a
-3	3/16"	5	130-6069	215-4565	•	•	•	
-4	1/4"	6	130-6069	215-4568	•	•	•	
-5	5/16"	8	130-6070	215-4569	•	•	•	
-6	3/8"	10	130-6071	215-4570	•	•	•	
-8	1/2"	13	130-6072	215-4572	•	•	•	
-10	5/8"	16	130-6073	215-4574	•	•	•	
-12	3/4"	19	130-6074	215-4575	•	•	•	
-16	1"	25	130-6075	215-4578	•	•	•	
-20	1-1/4"	32	130-6076	215-4580	•	•	•	
-24	1-1/2"	38	130-6091	215-4582	•	•		
-32	2"	50	130-6092	215-4584	•	•		
-40	2-1/2"	63	267-1527	265-4953				•
-48	3"	76	267-1527	265-4955				•
-56	3-1/2"	90	267-1527	265-4957				•

JIC/Pipe Couplings

				Hose Cleaner/Projectile Usage			
Coupling Dash Size	Decimal	Cat Nozzle No.	Cat Projectile No.	233-7193	233-7192	233-7191	265-4959 a
-4	0.250	130-6083	215-4566	•	•	•	
-5	0.312	130-6084	215-4567	•	•	•	
-6	0.375	130-6085	215-4568	•	•	•	
-8	0.500	130-6086	215-4570	•	•	•	
-10	0.625	130-6087	215-4573	•	•	•	
-12	0.750	130-6088	215-4575	•	•	•	
-16	1.000	130-6089	215-4577	•	•	•	
-20	1.250	130-6090	215-4579	•	•	•	
-24	1.500	130-6097	215-4581	•	•		
-32	2.000	130-6098	215-4583	•	•		
-40	2.500	267-1527	265-4952				•
-48	3.000	267-1527	265-4954				•
-56	3.500	267-1527	265-4956				•

O-Ring Face Seal (ORFS) Couplings

				Hose Cleaner/Projectile Usage			
Coupling Dash Size	Decimal	Cat Nozzle No.	Cat Projectile No.	233-7193	233-7192	233-7191	265-4959 a
-4	0.250	215-4585	215-4565	•	•	•	
-6	0.375	130-6069	215-4568	•	•	•	
-8	0.500	130-6071	215-4570	•	•	•	
-10	0.625	130-6072	215-4573	•	•	•	
-12	0.750	130-6073	215-4575	•	•	•	
-16	1.000	130-6074	215-4577	•	•	•	
-20	1.250	130-6075	215-4579	•	•	•	

a. 265-4959 Hose Cleaner Group can clean all sizes if additional nozzles are purchased.

Application Charts for Hose Cleaner Groups (Continued)

Code 61, 62, & Cat Flange Couplings

				Hose Cleaner/Projectile Usage			
Coupling Dash Size	**Decimal**	**Cat Nozzle No.**	**Cat Projectile No.**	**233-7193**	**233-7192**	**233-7191**	**265-4959** (cleans all sizes with optional nozzles)
-8	0.500	130-6071	215-4570	•	•	•	
-10	0.625	130-6072	215-4573	•	•	•	
-12	0.750	130-6073	215-4575	•	•	•	
-16	1.000	130-6074	215-4577	•	•	•	
-20	1.250	130-6075	215-4579	•	•	•	
-24	1.500	130-6076	215-4581	•	•		
-32	2.000	130-6091	215-4583	•	•		
-40	2.500	267-1527	265-4952				•
-48	3.000	267-1527	265-4954				•
-56	3.500	267-1527	265-4956				•

Hydraulic Tubing

			Hose Cleaner/Projectile Usage			
OD x Wall	**Cat Nozzle No.**	**Cat Projectile No.**	**233-7193**	**233-7192**	**233-7191**	265-4959 (cleans all sizes with optional nozzles)
1/4 x 0.035 in (6.35 x .889 mm)	130-6084	215-4567	•	•	•	
1/4 x .049 in (6.35 x 1.24 mm)	130-6084		•	•	•	
1/4 x .065" (6.35 x 1.65 mm)	130-6084	215-4566	•	•	•	
5/16 x 0.035 in (7.9 x .889 mm)	130-6084	215-4568	•	•	•	
3/8 x 0.035 in (9.53 x .889 mm)	130-6095	215-4569	•	•	•	
3/8 x 0.049 (9.53 x 1.24 mm)	130-6095	215-4569	•	•	•	
3/8 x .065 in (9.53 x 1.65 mm)	130-6095	215-4568	•	•	•	
½ x 0.035 in (12.7 x .889 mm)	130-6086	215-4570	•	•	•	
½ x 0.049 in (12.7 x 1.24 mm)	130-6086	215-4570	•	•	•	
½ x 0.065 in (12.7 x 1.65 mm)	130-6086	215-4570	•	•	•	
½ x .083 in (12.7 x 2.10 mm)	130-6086	215-4569	•	•	•	
5/8 x 0.049 in (15.8 x 1.24 mm)	130-6087	215-4573	•	•	•	
5/8 x 0.065 in (15.8 x 1.65 mm)	130-6087	215-4572	•	•	•	
5/8 x 0.083 in (15.8 x 2.10 mm)	130-6087	215-4572	•	•	•	
¾ x 0.049 in (19.05 x 1.24 mm)	130-6088	215-4575	•	•	•	
¾ x 0.065 in (19.05 x 1.65 mm)	130-6088	215-4575	•	•	•	
¾ x 0.095 in (19.05 x 2.41 mm)	130-6088	215-4573	•	•	•	
7/8 x 0.049 in (22.2 x 1.24 mm)	130-6089	215-4577	•	•	•	
7/8 x 0.065 in (22.2 x 1.65 mm)	130-6089	215-4576	•	•	•	
7/8 x 0.095 in (22.2 x 2.41 mm)	130-6073		•	•	•	
1 x 0.065 in (25.4 x 1.65 mm)	130-6090	215-4577	•	•	•	
1" x .083 in (25.4 x 2.10 mm)	130-6090	215-4577	•	•	•	
1 x 0.095 in (25.4 x 2.41 mm)	130-6090	215-4577	•	•	•	
1 x 0.120 in (25.4 x 3.0 mm)	130-6090	215-4576	•	•	•	
1-¼ x 0.065 in (31.75 x 1.65 mm)	130-6096	215-4579	•	•	•	
1- ¼ x .083 in (31.75 x 2.10 mm)	130-6096	215-4579	•	•	•	
1- ¼ x 0.095 in (31.75 x 2.41 mm)	130-6096	215-4579	•	•	•	
1- ¼ x .109 in (31.75 x 2.77 mm)	130-6096	215-4578	•	•	•	
1- ¼ x 0.120 in (31.75 x 3.0 mm)	130-6096	215-4578	•	•	•	
1-½ x 0.065 in (38.1 x 1.65 mm)	130-6097	215-4581	•	•		
1-½ x .083 in (38.1 x .10 mm)	130-6097	215-4581	•	•		
1-½ x 0.095 in (38.1 x 2.41 mm)	130-6097	215-4581	•	•		
1-½ x 0.120 in (38.1 x 3.04 mm)	130-6097	215-4581	•	•		
1-½ x .134 in (38.1 x 3.40 mm)	130-6097	215-4580	•	•		
1-½ x .148 in (38.1 x 3.76 mm)	130-6097	215-4580	•	•		
2 x 0.065 in (50.8 x 1.65 mm)	130-6098	215-4583	•	•		
2 x 0.095 in (50.8 x 2.41 mm)	130-6098	215-4583	•	•		
2 x .109 in (50.8 x 2.77 mm)	130-6098	215-4583	•	•		
2 x 0.120 in (50.8 x 3.04 mm)	130-6098	215-4583	•	•		
2 x 0.134 in (50.8 x 3.40 mm)	130-6098	215-4582	•	•		
2 x .180 in (50.8 x 4.57 mm)	130-6098	215-4582	•	•		
2 x .188 in (50.8 x 4.78 mm)	130-6098	215-4582	•	•		

Application Charts for Hose Cleaner Groups (Continued)

Hydraulic Tubing (Continued)

			Hose Cleaner/Projectile Usage			
	Cat Nozzle No.	**Cat Projectile No.**	**233-7193**	**233-7192**	**233-7191**	**265-4959** (cleans all sizes with optional nozzles)
			SCH40			
1/4 in (6.35 mm)	130-6070	215-4569	•	•	•	
3/8 in (9.53 mm)	130-6072	215-4571	•	•	•	
½ in (12.7 mm)	130-6073	215-4572	•	•	•	
¾ in (19.05 mm)	130-6074	215-4576	•	•	•	
1 in (25.4 mm)	130-6075	215-4578	•	•	•	
1-1/4 in (31.75 mm)	130-6076	215-4580	•	•	•	
1-½ in (38.1 mm)	130-6091	215-4582	•	•	•	
2 in (50.8 mm)	130-6092	215-4584		•	•	
2-½ in (63.5 mm)	267-1527	265-4952		•	•	
3 in (76.2 mm)	267-1527	265-4954		•	•	
3-½ in (88.9 mm)	267-1527	265-4957		•	•	
			SCH 80			
1/4 in (6.35 mm)	130-6069	215-4568	•	•	•	
3/8 in (9.53 mm)	130-6071	215-4570	•	•	•	
½ in (12.7 mm)	130-6072	215-4573	•	•	•	
¾ in (19.05 mm)	130-6073	215-4576	•	•	•	
1 in (25.4 mm)	130-6075	215-4578	•	•	•	
1-1/4 in (31.75 mm)	130-6076	215-4580	•	•	•	
1-½ in (38.1 mm)	130-6091	215-4581	•	•	•	
2 in (50.8 mm)	130-6091	215-4583	•	•	•	
2-½ in (63.5 mm)	130-6092		•	•	•	
3 in (76.2 mm)	267-1527	265-4954	•	•	•	
3-½ in (88.9 mm)	267-1527	265-4957	•	•	•	
			SCH160			
½ in (12.7 mm)	130-6071	215-4570	•	•	•	
¾ in (19.05 mm)	130-6073	215-4572	•	•	•	
1 in (25.4 mm)	130-6074	215-4576	•	•	•	
1-1/4 in (31.75 mm)	130-6075	215-4578	•	•	•	
1-½ in (38.1 mm)	130-6076	215-4580	•	•	•	
2 in (50.8 mm)	130-6091	215-4582	•	•		
2-½ in (63.5 mm)	130-6092	215-4584	•	•		
3 in (76.2 mm)	267-1527	265-4952	•	•		

NOTE: The previous nozzle and projectile charts apply to all coupling styles. For couplings that jump down in size, use the nozzle that fits the head size. For couplings that jump up in size, use the nozzle that fits the hose size.

Projectiles for Hose Cleaner Groups

Reference

NEEG2955, Hose Cleaning Projectile Sizing Chart

Part No.	Dimensions (Diameter x Length)	Pkg. Qty
215-4565	6 x 11 mm (0.24 x 0.43 in)	100
215-4566	7 x 12 mm (0.28 x 0.47 in)	100
215-4567	10 x 14 mm (0.39 x 0.55 in)	100
215-4568	12 x 16 mm (0.47 x 0.63 in)	100
215-4569	14 x 18 mm (0.55 x 0.71 in)	100
215-4570	16 x 20 mm (0.63 x 0.79 in)	100
215-4571	18 x 22 mm (0.71 x 0.87 in)	100
215-4572	20 x 25 mm (0.79 x 0.98 in)	100
215-4573	22 x 25 mm (0.87 x 0.98 in)	100
215-4574	24 x 30 mm (0.94 x 1.18 in)	100
215-4575	26 x 33 mm (1.02 x 1.30 in)	50
215-4576	30 x 36 mm (1.18 x 1.42 in)	40
215-4577	33 x 40 mm (1.30 x 1.57 in)	40
215-4578	36 x 45 mm (1.42 x 1.77 in)	30
215-4579	40 x 50 mm (1.57 x 1.97 in)	30
215-4580	45 x 55 mm (1.77 x 2.16 in)	20
215-4581	50 x 60 mm (1.97 x 2.36 in)	20
215-4582	55 x 65 mm (2.16 x 2.56 in)	15
215-4583	60 x 70 mm (2.36 x 2.75 in)	15
215-4584	65 x 80 mm (2.56 x 3.15 in)	15

Thread Measurement Kit

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Allows for measurement and identification of coupling
- Includes PEGP2007-01 Coupling Identification Guide
- Recommended for all dealer hose assembly areas

8T-0450 Thread Measurement Kit

Part No.	Description
8T-0447	Dial Caliper
8T-0448	Pitch Gauge
8T-0449	Seal Angle Gauge (45° and 37°)
PEGP2007	Coupling Identification Guide

Snap-to-Connect Coupling Wrenches

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Provides wrenches for snap-to-connect couplings

Part Number	Description
279-1218	Wrench (-6)
279-1219	Wrench (-8)
279-1220	Wrench (-10)
279-1221	Wrench (-12)
279-1222	Wrench (-16)

Thermoplastic and Air Conditioning Hose Cutter

Model Usage: All

Warranty: Caterpillar® Six Months



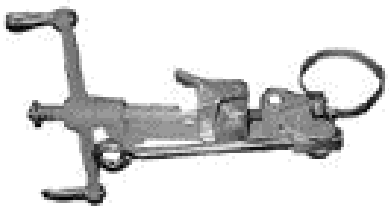
- Used for cutting Thermoplastic Hose (1028), Reduced O.D. Thermoplastic Hose (2760), and Air Conditioning Hose (1543)

Part Number	Description
177-4271	Cutter
177-4272	Blade

Nylon Abrasion Sleeve Band Tool

Model Usage: All

Warranty: Caterpillar® Six Months



- 166-5853 Band-It Tool is used to secure protective covers to hydraulic hose using the following bands

Part Number	Description
166-5853	Nylon Abrasion Sleeve Band Tool
Bands	
384-4127	34.9 mm (1.37 in) I.D.
384-4128	50.4 mm (1.98 in) I.D.
384-4129	76.2 mm (2.99 in) I.D.
460-3311	101.6 mm (3.99 in) I.D.

Chain Wrench

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used during the disassembly of XT hose reusable couplings to break the bond between the hose and coupling
- Can be used for other applications (Example: fuel and oil filters) for diameters from 19.05 mm (3/4 in) through 82.55 mm (3 1/4 in)

Part Number	Description
1U-8760	Wrench-Chain

Skiving Vise

Model Usage: All

Warranty: Caterpillar® Six Months



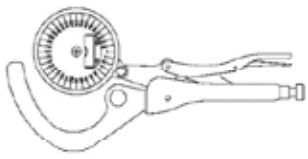
- Allows for easy skiving of hose
- Blocks have rubber pads to prevent damage to hose

Part Number	Description
127-1909	Vise
127-1910	Block Group

Large-Bore Protractor

Model Usage: All

Warranty: Caterpillar® Six Months



- Provides a field tool for the technician to set the angle of orientation for large-bore hose 63.5 to 78.9 mm (2-1/2 to 3-1/2 in)

Part Number	Description
266-7533	Large-Bore Protractor

Containerized Hose Shops

Product Family: Global Mining Products

Model Usage: All

Warranty: Manufacturer's

- Available in Single Wide and Double wide configurations
- A highly advanced onsite hydraulic workshop solution designed to provide the fastest and most reliable hose assembly replacement services
- Ensures minimal machine downtime during a hose failure situation
- This highly versatile portable shop may also be utilized for other repair shop requirements
- Fully insulated with integrated climate control system. Designed to provide a comfortable work environment in temperatures ranging from -20C(-4F) to 48C(118F).
- Integrated exhaust for increased air quality
- Country compliant electrical and lighting systems
- Highly durable work surfaces
- Innovative hardware & software solution that ensures hose assemblies are built to OEM specs
- Please reference Media No. PEHJ0415 to obtain additional information

In addition, extensive information for the Cat Hose Assembly MOBILE WORKSHOP is available at this link.

Part No.	Dimensions	Weight	Description
453-8588	13 x 2.3 x 2.3 m (40'L x 8'W x 8'6"H)	18000 lbs. (8100 kg)	Single Wide, CE Compliant
466-7454	13 x 2.3 x 2.3 m (40'L x 8'W x 8'6"H)	18000 lbs. (8100 kg)	Single Wide
453-8589	13 x 4.6 x 2.3 m (40'L x 16'W x 9'6"H)	42000 lbs. (18900 kg)	Double Wide



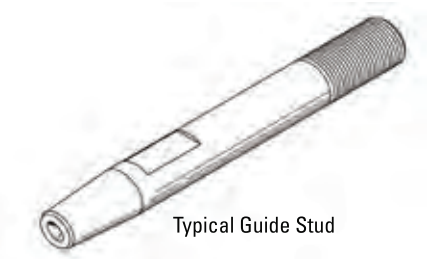
Single



Double



General Purpose Pullers and Attachments Summary

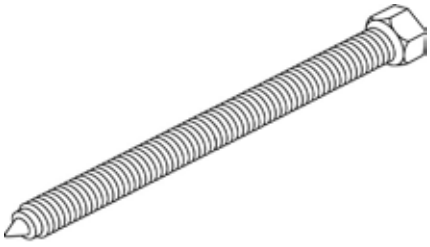


Typical Guide Stud

Guide Studs

Thread Size	Length	Part Number
1/2 -20	127 mm (5 in)	9U-6238
5/8 – 11	305 mm (12.01 in)	1U-9091
5/8 – 11	127 mm (5 in)	9U-6896
M12 x 1.75	70 mm (2.76 in)	9U-6248
M20 x 2.5	300 mm (11.81 in)	310-3992
M20 x 2.5	152 mm (5.98 in)	128-5049
M24 x 3	279 mm (11 in)	1U-9785
M24 x 3	305 mm (12.01 in)	1U-9817
M24 x 3	75 mm (2.95 in)	154-6400
M24 x 3	185 mm (7.28 in)	4C-8352
M24 x 3	254 mm (10 in)	1U-6130
M24 x 3.0	165 mm (6.50 in)	195-0954
M30 x 3.5	220 mm (8.66 in)	174-8986
M36 x 3.5	285 mm (11.22 in)	175-6853

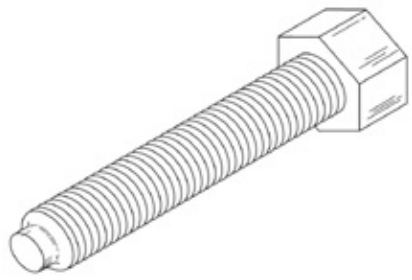
Forcing Screws



Thread Size	Length	Part Number
1 1/2 – 12	17.1 mm (0.67 in)	3H-0470
1 – 14	7.2 mm (0.29 in)	5H-9976
1 – 14	336.6 mm (13.25 in)	5F-7366
1 – 14	660.4 mm (26 in)	8S-6586
1 – 8	19.6 mm (0.77 in)	9S-6074
11/16 – 18	231 mm (9.09 in)	1P-2326
13/16 – 16	11.4 mm (0.45 in)	1P-2328
3/4 – 12	10.2 mm (0.40 in)	4C-5626
5/8 – 18	330.2 mm (13 in)	5F-7345
5/8 – 18	127 mm (5 in)	1U-6693
9/16 – 20	178 mm (7.01 in)	1P-2324

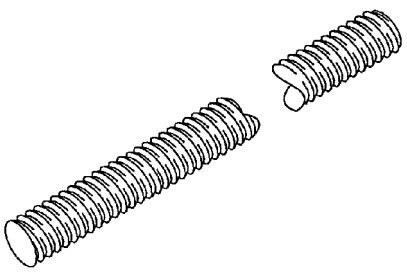
GENERAL PURPOSE PULLERS AND ATTACHMENTS

Forcing Bolts



Thread Size	Length	Part Number
1 1/2 – 12	114 mm (4.49 in)	5P-5264
1 1/4 – 12	13.2 mm (0.52 in)	5P-0256
1 – 14	176.5 mm (6.95 in)	5P-8715
1/2 – 13	127 mm (5 in)	5J-0490
3/4 – 10	88.9 mm (3.50 in)	4B-6208
3/4 – 10	127 mm (5 in)	5J-7910
3/4 – 16	71.4 mm (2.81 in)	6V-7837
3/4 – 16	101.6 mm (4 in)	8S-6470
3/8 – 16	88.9 mm (3.50 in)	5B-4274
3/8 – 16	177.8 mm (7 in)	6L-7283
5/8 – 11	88.9 mm (3.50 in)	1D-1090
5/8 – 11	177.8 mm (7 in)	4M-6957
7/8 – 14	135 mm (5.31 in)	5P-5265
M10 x 1.5	150 mm (5.91 in)	154-6181
M12 x 1.75	150 mm (5.91 in)	154-6182
M16 x 2.0	300 mm (11.81 in)	154-6183
M20 x 2.5	250 mm (9.84 in)	154-6184
M24 x 3	101.6 mm (4 in)	328-4173
M24 x 3	250 mm (9.84 in)	154-6185
M30 x 3.5	165 mm (6.50 in)	196-8520
M30 x 3.5	250 mm (9.84 in)	176-6536
M8 x 1.25	150 mm (5.91 in)	154-6360

Threaded Rod



NOTE: Threaded rod is not to be used with hydraulic cylinders.

Thread Size	Length	Part Number
—	203 mm (7.99 in)	8B-7552
1 – 14	457 mm (17.99 in)	5P-4776
1 1/2 – 12	584 mm (22.99 in)	5F-9893
2 1/2 – 8	600 mm (23.62 in)	6V-6084
5/8 – 11	914 mm (36 in)	376-8697
5/8 – 11	245 mm (9.65 in)	221-9778
7/8 – 14	362 mm (14.25 in)	3H-0460
7/8 – 9	838 mm (32.99 in)	1M-6766
M04 x 0.7	1,000 mm (39.37 in)	4C-8176
M06 x 1.0	1,000 mm (39.37 in)	1U-6340
M08 x 1.25	405 mm (15.94 in)	1U-6341
M10 x 1.5	350 mm (13.78 in)	9T-2240
M10 x 1.5	1,000 mm (39.37 in)	1U-6342
M12 x 1.75	1,000 mm (39.37 in)	1U-6343
M14 x 2.0	1,000 mm (39.37 in)	1U-6344
M16 x 2.0	1,000 mm (39.37 in)	9U-7692
M48 x 5.0	920 mm (36.22 in)	9U-6814

GENERAL PURPOSE PULLERS AND ATTACHMENTS

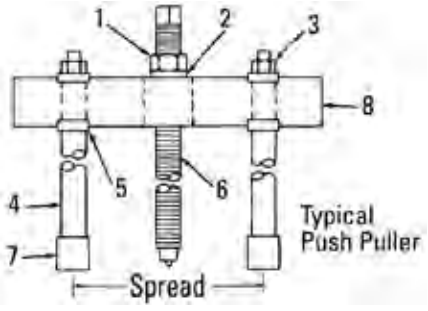
Puller Studs



Thread Size	Length	Part Number	Max. Capacity
1 – 14	380 mm (14.96 in)	6V-2078	55
1 – 14	457 mm (17.99 in)	5P-4776	30
1 – 14	635 mm (25 in)	4C-9633	30
1 – 8	635 mm (25 in)	9U-5267	30
1 ½ - 6	1220 mm (48 in)	546-5742	80
1 1/2 – 12	815 mm (32.09 in)	6V-2074	100
1 1/2 – 12	1,220 mm (48.03 in)	9U-6698	100
1 1/2 – 12	1,500 mm (59.05 in)	289-0013	100
1 1/2 - 12	600 mm (23.62 in)	5P-7273	100
1 1/4 – 12	356 mm (14.02 in)	5P-8714	60
1 1/4 – 12	735 mm (28.94 in)	4C-9634	60
1 1/4 – 12	1,000 mm (39.37 in)	289-0008	60
1 1/4 – 12.2	457 mm (17.99 in)	5P-4184	80
1 1/8 – 12	508 mm (20 in)	1U-7758	31
2 – 12	1,220 mm (48.03 in)	9U-7763	150
M20 x 2.5	350 mm (13.78 in)	123-4370	20
M20 x 2.5	1,000 mm (39.37 in)	259-9239	20
M24 x 3	650 mm (25.59 in)	9U-5343	30
M24 x 3	1,200 mm (47.24 in)	162-4197	30
M30 x 3.5	800 mm (31.50 in)	9U-5344	50
M30 x 3.5	1,980 mm (77.95 in)	137-8460	50
M36 x 4	920 mm (36.22 in)	9U-7998	80
M36 x 4	1,575 mm (62.01 in)	9U-6811	80
M36 x 4	2,000 mm (78.74 in)	220-1776	80
M48 x 5	381 mm (15 in)	9U-6812	100
M48 x 5	508 mm (20 in)	9U-6813	100
M48 x 5	1,575 mm (62.01 in)	9U-6815	100
M48 x 5	2,415 mm (95.08 in)	136-5747	100
M48 x 5.0	920 mm (36.22 in)	9U-6814	100
M64 x 6	2,616 mm (102.99 in)	9U-6702	150
M64 x 6	1,829 mm (72.01 in)	4C-8150	150

Push Pullers

Warranty: Caterpillar® Six Months



- Used alone or in combination with bearing pulling attachments for removal and installation of gears, bearings, shafts, and other press-fitted parts
- Pulling or pushing force can be applied, depending on how the pullers are set up
- Legs of various lengths are available and legs can be joined together with adapters for added reach
- The reversible ratchet with tubular handle is ideal for turning the 1 inch x 12 hex forcing nut on the 8B-7548 Bearing Puller Assembly
- Where more force is required, select an appropriate hydraulic puller

Item A	Part Number	Description
1H-3107 Push Puller, 30 Ton Capacity (Spread 17.78 to 42.55 cm [7 in to 16 1/4 in])		
1	3H-0466	Nut
2	3H-0467	Washer
3	1B-4209	Nut — Full
4	3H-0469	Leg, 20.3 cm (8 in) reach
5	3H-0468	Plate
6	3H-0470	Screw (1 1/2 in – 12 x 17 1/4 in long)
7	5P-4807	Cap
8	1U-9889	Crossblock

GENERAL PURPOSE PULLERS AND ATTACHMENTS

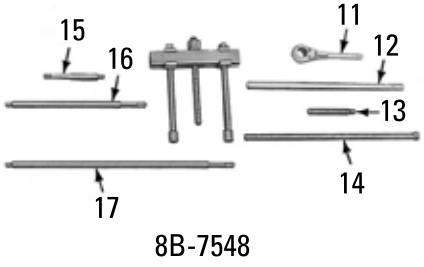
Optional Accessories



Optional Accessories (Sold Separately)

Item	Part Number	Description
9	1H-3108	Leg, 45.7 cm (18 in) reach
10	1H-3109	Leg, 71.1 cm (28 in) reach

Bearing Puller Assembly



Item	Part Number	Description
8B-7548 Bearing Puller Assembly, 17.5 Ton Capacity (Spread 7.94 to 29.85 cm [31/8 to 11 3/4 in])		
1	5B-0637	Nut
2	5F-7353	Thrust Washer
3	1B-4207	Nut
4	5F-7369	Leg, 24.1 cm (9.5 in) reach
5	3H-0465	Puller Plate
6	5F-7366	Screw — Forcing
7	5P-4808	Cap (5/8 — 18)
8	1U-9895	Cross block
Optional Accessories (Sold Separately)		
11	8H-0684	Wrench
12	8B-7563	Handle (for 8H-0684)
13	5H-9976	Screw, 18.4 cm (7.25 in) long
14	8S-6586	Forcing Screw, 1 in
15	8B-7550	Leg, 11.4 cm (4.5 in) reach
16	8B-7549	Leg — Push Puller 16.5 in
17	162-4206	Leg, 57.2 cm (22.5 in) reach

Bearing Puller Assemblies

Model Usage: General Purpose

Warranty: Manufacturer's

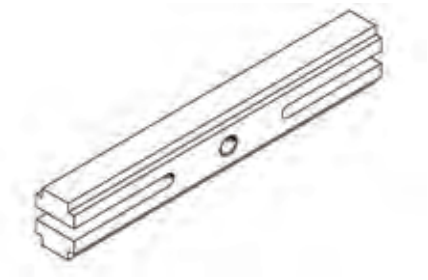


- Used alone or in combination with bearing pulling attachments for removal and installation of gears, bearings, shafts and other press-fitted parts
- Pulling or pushing force can be applied, depending on how the puller is set up
- Legs of various lengths are available and legs can be joined together with adapters for added reach

Part Number	Capacity	Spread Minimum	Spread Maximum	Width	Thread
446-9412	267 kN (30 Ton)	17.018 mm (.67 in)	245.11 mm (9.65 in)	292.1 mm (11.5 in)	1-14 UNS
446-9413	292 kN (50 Ton)	17.018 mm (.67 in)	245.11 mm (9.65 in)	292.1 mm (11.5 in)	1-1/4 – 12 UNF

Cross Block

Warranty: Caterpillar® Six Months

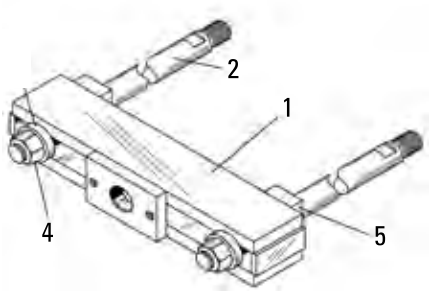


- Used in combination with 8B-7548 Push Puller
- Made from hardened steel

Part Number	Description	Thickness	Width	Length	Center Hole Diameter
150-1782	Cross Block	50.8 mm (2 in)	76.2 mm (3 in)	609.6 mm (24 in)	26 mm (1.02 in)

Puller Assembly, 50 Ton

Warranty: Caterpillar® Six Months



- Used to apply force for pulling or pushing applications
- Used with 3H-0470 Screw (1 1/2-12 x 17.25 long), 3H-0466 Nut, and 3H-0467 Washer or with hydraulic cylinder
- 50 ton capacity
- Assembly includes all items in figure

Specifications

- Spread: 215.9 to 520.7 mm (8.50 to 20.50 in)
- Reach: 609.9 mm (24.0 in)
- Capacity: 50 Ton
- Center hole diameter: 42.9 mm (1.69 in)
- Thread size (push/pull leg): 1.25-12

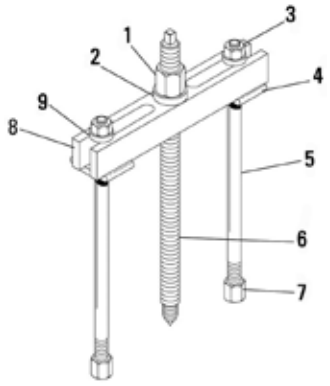
Item	Part Number	Description
—	149-5138	Puller Assembly
1	150-1784	Cross Block
2	150-1785	Push Puller Leg [609.9 mm (24.0 in) reach]
4	7H-7539	Nut – Full, 1 1/4 – 12
5	150-1786	Slide Plate

GENERAL PURPOSE PULLERS AND ATTACHMENTS

Push Puller Assembly

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used to apply up to 13 tons of force for pulling or pushing applications
- Set includes 4 different lengths of extension legs (can be joined together with adapters for additional reach)
- Forcing screw has 1/2 inch square drive
- Assembly includes all items in figure

Specifications

- Capacity: 13 ton
- Spread: 53.8 – 184.2 mm, (2.12 – 7.25 in)
- Square drive: 1/2 in

Item	Part Number	Description
—	126-7175	Push Puller Assembly
1	126-7182	Forcing Screw Nut (3/4 – 16)
2	6V-2360	Hard Washer
3	6B-6684	Full Nut (1/2 – 20)
4	126-7181	Sliding Plate
5	126-7177	Puller Leg, 158.8 mm (6.25 in) reach
5	126-7178	Puller Leg, 209.6 mm (8.25 in) reach
5	126-7179	Puller Leg, 336.6 mm (13.25 in) reach
5	126-7180	Puller Leg, 438.2 mm (17.25 in) reach
7	5P-4808	Cap (5/8 – 18)
8	126-7183	Cross Block
9	2M-0849	Hard Washer

No. 1 General Purpose Puller

Warranty: Caterpillar® Six Months

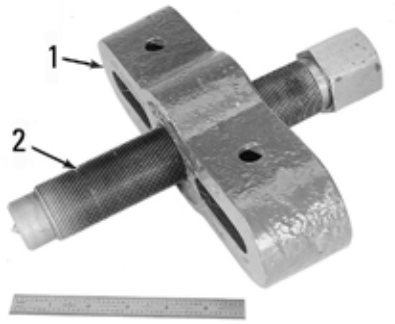


- Small, versatile, and saves time when disassembling machines
- Especially valuable to servicemen who must select only essential tools for work that is to be done away from the shop
- Slots in the yoke accommodate studs, bolts, and cap screws up to 15.88 mm (5/8 in) diameter; holes are provided on the sides of the yoke for puller arms which adapt this tool to a wide range of work

Item	Part Number	Description	Size
1	1B-6449	Yoke	—
2	1A-2701	Screw	5.75 in, 1 in-8 thd

No. 2 General Purpose Puller

Warranty: Caterpillar® Six Months

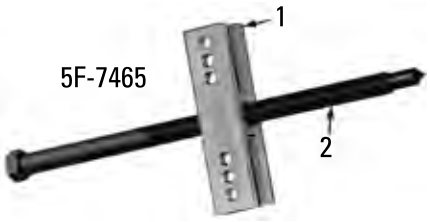


- Used for many pulling operations on older machines
- 2 slots can accommodate studs or bolts up to 22.23 mm (7/8 in) diameter
- 0L-1772 Studs and 1D-4720 Nuts are available for use with this puller

Item	Part Number	Description
2	0L-1772	Stud, 5/8 in – 11 NC, 20.32 cm (8 in) long, (2)
2	1D-4720	Nut
2	2B-1417	Screw, 29.85 cm (11 3/4 in) long, 1 3/4 in – 12 thd

Puller

Warranty: Caterpillar® Six Months



- Easier to use in many applications for removing gears, pulleys, flanges, etc.
- 6V-4871 Reaction Bar not included in 5F-7465 and 6V-3010 Puller Groups but is also available

Part Number	Screw Length	Thread Size	Thread Length	Crossbar Dimensions	Crossbar Length	Crossbar Slot Width
5F-7465	13.00 in	5/8 in-18	7.70 in	1.25 in Square	5.25 in	0.495 in

Item	Part Number	Description
—	5F-7465	Puller
Service/Repair Parts		
1 a	5F-7344	Block
2	5F-7345	Screw

a. Also used on 8B-7554

GENERAL PURPOSE PULLERS AND ATTACHMENTS

Puller Group

Warranty: Caterpillar® Six Months



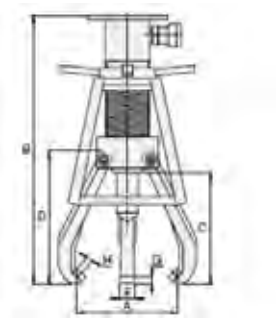
Part Number	Screw Length	Thread Size	Thread Length	Crossbar Dimensions	Crossbar Length	Crossbar Slot Width
6V-3010	11.6 in	3/4 in-16	10.00 in	1.38 in Square	8.25 in	0.54 in

Item	Part Number	Description
—	6V-3010	Puller Group [a]
Service/Repair Parts		
1	6V-4832	Screw
2	6V-3009	Cross Bar

a. Spread range with 1/2 in bolts 50.2 – 196.9 mm (2 – 7 3/4 in)

Puller Group, Sleeve

Warranty: Caterpillar® Six Months



- Used for various pulling operations such as:
  - Removing crankshaft front pulley on 1100 and 3100 Series Engines
  - Water pump disassembly and assembly on D342, D353 and 3406 Engines
  - With an 8S-8375 Sleeve to remove the accessory drive gear on 120.65 mm (4.75 in) bore 2-valve engines
  - In other general purpose applications
- Available separately: 6V-7837 Screw, 2.81 inch, 3/4 inch-16 thd

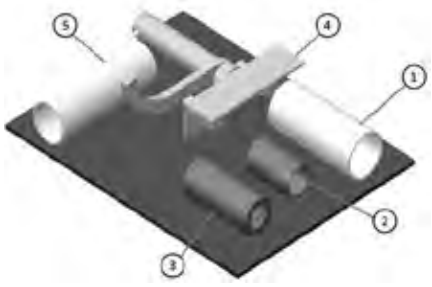
Item	Part Number	Description
—	8S-2264	Puller Group
1 a	8S-8375	Sleeve
2	8S-5133	Plug
3	8S-6470	Screw

a. Not part of 8S-2264 Group

Water Pump Seal Installation Tool Group

Models: 777F, 777G, 785D

Warranty: Caterpillar® Six Months



- Used for impeller removal and installation
- Used to properly install shaft seal during assembly of the water pump

Item	Part Number	Description
456-2111	432 X 330 X 171.5 mm (17 X 13 X 6.8 in)	4.3 kg (9.5 lb)
456-2110	262.4 X 223.8 X 115.4 mm (10.3 X 8.8 X 4.5 in)	2.3 kg (5 lb)
456-2107	Dia 63.5 X 150 mm (2.5 X 5.9 in)	0.1 kg (0.2 lb)
456-2108	Dia 47.6 X 76.2 mm (1.9 X 3 in)	0.3 kg (0.7 lb)
456-2109	Dia 50.4 X 116 mm (2 X 4.6 in)	1.2 kg (2.6 lb)
456-7993	Dia 56.1 X 75.4 mm (2.2 X 3 in)	0.1 kg (0.2 lb)
Service/Repair Parts		
Item	**Part Number**	**Description**
1	456-2107	Tube
2	456-2108	Tube-short
3	456-2109	Shaft-socket
4	456-2110	Tool as
5	456-7993	Tube
6	6V-9449	Case

Flange Puller Group

Warranty: Caterpillar® Six Months

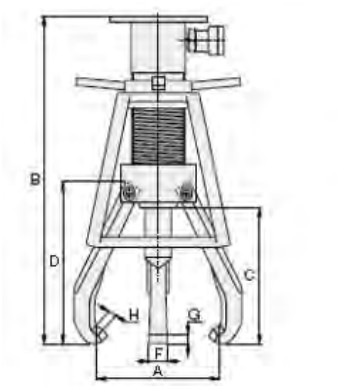


Item	Part Number	Description
—	1U-6671	Flange Puller Group
1	1U-6693	Forcing Screw
4	0S-1619	Bolt
5	6F-7031	Bolt

JAW PULLERS

Hydraulic Puller, 50 Ton

Warranty: Caterpillar® Limited Lifetime



European Union Compliant, CE marked

- Used with attachments for a variety of pulling applications
- "Safety Cage" jaw retention system
- Slim tapered jaws for better gripping in tight spots
- High force hydraulic system for effortless pulling of large components

Part Number 442-8135

- Max Working Pressure: 689 bar (10,000 PSI)
- Max Load Capacity: 445 kN (50 Ton)
- Weight: 91.6 kg (202 lb)
- Cylinder Stroke Length: 336 mm (13.25 in)

Part Number	Unit of Measure	Spread Range (A)	Overall Length (B)	Reach (Max) (C)	Jaw Length (D)	Jaw Width (F)	Tip Clearance (G)	Tip Depth (H)
442-8135	inch	3.0-25.0	36.19	14.00	16.29	1.44	0.60	0.46
	mm	76-635	919.23	355.6	413.77	36.58	15.24	11.68

Service Parts

Part Number	Description
442-8137	Lift Plate — Cylinder
442-2517	Standard Jaw (3 required)
442-8139	50 Ton S/A Hydraulic Cylinder (13 inch stroke)
442-8136	Ram Point Set (diameter x length) a

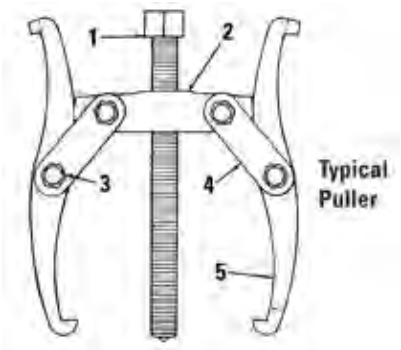
a. Ram Point Adapter (2.75 x 2.25 in)
Tapered Ram Point (2.00 x 375 in)
Tapered Ram Point (2.75 x 3.75 in)
Tapered Ram Point (2.75 x 5.50 in)
Flat Ram Point (2.00 x 3.00 in)
Flat Ram Point (2.75 x 3.00 in)
Flat Ram Point 2.75 x 5.00 in)

Accessories

Part Number	Description
442-8138	Extended Jaw (3 required)
Specifications of 442-8138	
Max Reach	635 mm (25 in)
Spread Range	50.8 – 965 mm (2.0 – 38.0 in)

Combination 2-Jaw or 3-Jaw Pullers

Warranty: Caterpillar® Six Months

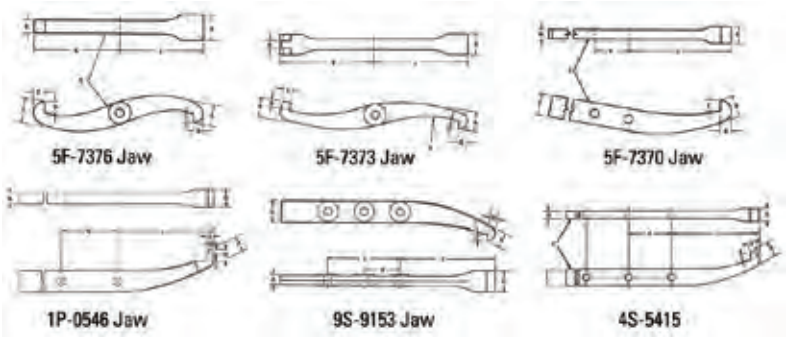




- Double-duty crosshead allows the puller to be converted to either a 2- or 3-jaw operation
- Used alone or in combination with bearing pulling attachments for numerous disassembly operations
- The more pressure that is applied with these pullers, the tighter they grip
- Attachment arms available

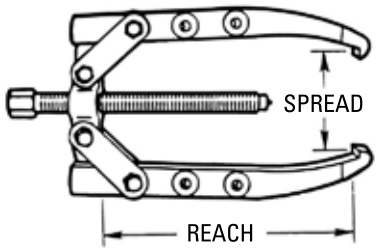
Item	Part Number	Description
—	1P-2320	Jaw Puller Assembly
—	1P-2321	Jaw Puller Assembly
—	1P-2322	Puller
1P-2320 Combination 2- or 3-Jaw Puller, 5-Ton Capacity Service Parts (Maximum Spread 7 in, Maximum Reach 3.25 in)		
1	1P-2324	Screw
2	—	Head
3	3H-0462	Bolt and Nut
4	8H-0698	Strap
5	5F-7376	Jaw
1P-2321 Combination 2- or 3-Jaw Puller, 7-Ton Capacity (Maximum Spread 10.50 in, Maximum Reach 5.0 in)		
1	1P-2326	Screw
2	1P-2325	Head
3	3H-0463	Bolt and Nut
4	8H-0709	Strap
5	5F-7373	Jaw
5	9S-9153	Jaw
1P-2322 Combination 2- or 3-Jaw Puller, 13-Ton Capacity (Maximum Spread 14 in, Maximum Reach 11.00 in)		
1	1P-2328	Screw
2	1P-2327	Head
3	3H-0464	Bolt and Nut
5	1P-0546	Jaw
5	4S-5415	Jaw
5	5F-7370	Jaw

Optional: Puller Straps for 13T 3 jaw puller: 541-9316



JAW PULLERS

Puller Assembly Jaw Dimensions

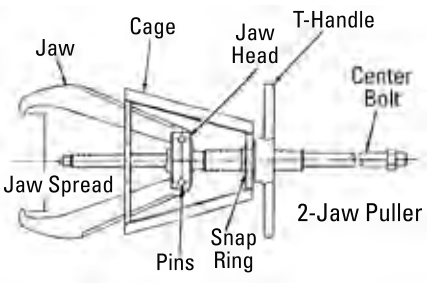


Part Number [a]	A	B	C	D	E	F	G	H	J	K	Reach	Spread
5F-7376	0.62 in	0.25 in	0.22 in	0.25 in	0.38 in	0.75 in	0.75 in	0.34 in	2.13 in	2.13 in	3.25 in	7.00 in
9S-9153	0.75 in	0.38 in	0.32 in	1.00 in	3.50 in	—	1.00 in	0.44 in	4.56 in	1.75 in	—	—
5F-7373	0.75 in	0.34 in	0.32 in	0.44 in	0.25 in	1.00 in	1.00 in	0.38 in	4.25 in	4.25 in	5.00 in	10.50 in
1P-0546	1.00 in	0.25 in	0.25 in	0.62 in	0.38 in	—	1.00 in	0.62 in	5.56 in	3.25 in	—	—
4S-5415	1.13 in	0.56 in	0.56 in	—	—	1.25 in	1.00 in	0.62 in	6.13 in	3.25 in	—	—
5F-7370	1.13 in	0.56 in	0.56 in	—	—	1.25 in	1.00 in	—	5.75 in	2.00 in	11.00 in	14.00 in

a. 4S-5415, 1P-0546, 9S-9153: Optional jaws (sold separately)

Two- and Three-Jaw Puller Family

Warranty: Caterpillar® Six Months



- These pullers with their attachments can be used for a variety of pulling applications such as bearings, bearing cages and gears
- Cage to guide jaws for fast set up, solid contact and superior safety
- Forcing screw threads designed for less effort to apply high torque
- Hardened tip
- Slim tapered jaws allow for easier gripping and better access to tight spots
- Nut recessed to avoid mushrooming and disfiguration from impact
- Cage prevents the jaws from snapping back or flying off during the pulling operation
- Turning the T-handle moves the cage against the jaws and secures them to the component to be pulled
- Restrainer holds the puller in position until the pulling operation has been completed and the puller released
- Protector points are available to prevent damage to the forcing screw points when extreme force is applied
- Extender points are also available for installation on some pullers to give 38 mm (1.5 in) more reach

Part Number	Description [a]
2 — Jaw Puller Serviced Parts	
4C-3082	Puller
4C-3085	Puller
4C-3088	Puller
Puller 4C-3082 Parts	
1U-6397	Point Protector
2M-4287	Snap Ring
9U-6264	Pin
Puller 4C-3085 Parts	
1J-6474	Snap Ring
1U-6398	Point Protector
1U-6401	Pin (need 3)
1U-6412	Center Bolt [c]
Puller 4C-3088 Parts	
1U-6399	Point Protector
8J-8322	Snap Ring

a. All Pullers will need 2 Pins
b. Extends length of forcing screws by 38.1 mm (1.50 in)
c. MAO (Made-As-Ordered) parts

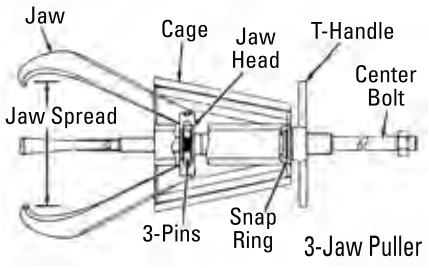
JAW PULLERS

Two-Jaw Puller Specifications

Puller Part No. [a]	Puller Capacity (U.S. Tons)	2-Jaw Reach Maximum	2-Jaw Spread Min. – Max.	Forcing Screw Size Diameter x Length	Tool Weight	Input Maximum Torque
4C-3082	6	152 mm (6 in)	13 to 178 mm (0.5 to 7 in)	323.8 mm (5/8 x 12 3/4 in)	3.2 kg (7 lb)	116 N·m (85 ft-lb)
4C-3085	14	254 mm (10 in)	25 to 381 mm (1 to 15 in)	489.0 mm (3/4 x 19 1/4 in)	6.4 kg (14 lb)	367 N·m (270 ft-lb)
4C-3088	25	330 mm (13 in)	64 to 457 mm (2.5 to 18 in)	660 mm (1 1/8 x 26 in)	13.6 kg (30 lb)	680 N·m (501 ft-lb)

a. Does not include protector or extender points

Three-Jaw Puller Serviced Parts



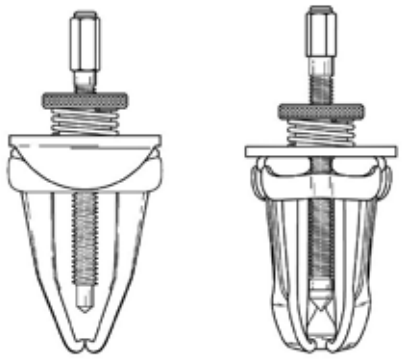
Part Number	Description
1U-6400	Puller Assembly
1U-6405	Puller Assembly
1U-6410	Puller Assembly
1U-6415	Puller Assembly
Puller 1U-6400 Parts	
1U-6397	Point Protector
2M-4287	Snap Ring
9U-6264	Pin
Puller 1U-6405 Parts	
1J-6474	Snap Ring
1U-6398	Point Protector
1U-6401	Pin (need 3)
1U-6412	Center Bolt
Puller 1U-6410 Parts	
1U-6399	Point Protector
8J-8322	Snap Ring
Puller 1U-6415 Parts	
1U-6399	Point Protector
5K-4627	Snap Ring

Three-Jaw Puller Specifications

Puller Part Number	Puller Capacity (Tons)	3-Jaw Reach Maximum	3-Jaw Spread Min. – Max.	Forcing Screw Size Diameter x Length	Total Weight	Input Max. Torque
1U-6400	10	152 mm (6 in)	13 – 178 mm (2 1/2 – 7 in)	323.8 mm (5/8 x 12 3/4 in)	4 kg (9 lb)	175 N·m (129 ft-lb)
1U-6405	20	254 mm (10 in)	25 – 381 mm (1 – 15 in)	489.0 mm (3/4 x 19 1/4 in)	8 kg (17 lb)	410 N·m (302 ft-lb)
1U-6410	30	330 mm (13 in)	64 – 457 mm (2 1/2 – 18 in)	660 mm (1 1/8 x 26 in)	20 kg (45 lb)1	1,090 N·m (804 ft-lb)
1U-6415	40	140.6 mm (6 in)	76 – 635 mm (3 – 25 in)	800.1 mm (1 1/4 x 31 1/2 in)	32 kg (70 lb)	1,350 N·m (996 ft-lb)

Two- and Three-Jaw Pullers

Warranty: Caterpillar® Lifetime



- Anvil head can be tapped with a hammer to jar loose stubborn parts
- Spring-loaded cover plate securely holds jaws in yoke (creates a positive grip, allowing for easier and quicker installation)
- Jaws can be reversed to grip inside or outside diameters
- Forged steel jaws ensure a strong, long lasting puller
- Coarse threads increase life of the pressure screw (also allows for easy chasing of damaged threads)
- Centering adapter centers pushing force (prevents misalignment and provides friction-free turning)

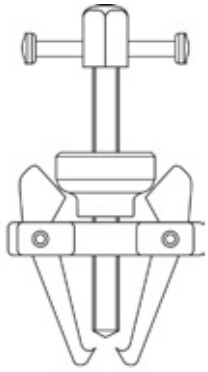
Specifications

- 242-9955:
  - Type: 2 Jaw
  - Capacity: 2 1/2 ton
  - Maximum reach: 140 mm (5.5 in)
  - Maximum spread inside: 20 – 82 mm (0.87 – 3.25 in)
  - Maximum spread outside: 76 mm (3.0 in)
  - Weight: 0.5 kg (1.1 lb)
- 242-9956:
  - Type: 3 Jaw
  - Capacity: 7 1/2 ton
  - Maximum reach: 76 mm (3.0 in)
  - Maximum spread inside: 38 – 89 mm (1.5 – 3.5 in)
  - Maximum spread outside: 114 mm (4.5 in)
  - Weight: 1.4 kg (3.0 lb)

Part Number	Description
242-9955	Jaw Puller
242-9956	Jaw Puller

Impeller Puller Assembly

Warranty: Caterpillar® Six Months



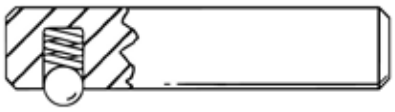
- 3-jaw puller used to remove impeller from sea water pump on marine engines

Part Number	Description
213-1067	Impeller Puller Assembly

JAW PULLERS

Jaw Pins for Two- and Three-Jaw Pullers

Warranty: Caterpillar® Six Months



- Different pin design now used for service repair of all 2- and 3-jaw pullers
- Design incorporates ball and spring design, ensuring pin retention in the puller head and making assembly and disassembly easier (former design relied on a knurled section on the pin to keep it in place)
- Current ball and spring design requires slight modification to the pullers jaw head (modification procedure is packaged with the pins)
- New pin design will retain the existing 1U-6401 part number (former pins are still useable, and only pins of the new design require head modification)
- New shorter pin, 9U-6462, is now available to service the 4C-3082 and 1U-6400 pullers (was previously serviced with the 1U-6401 pin which was longer than required)

Part Number	Description	Diameter	Length	Serviced Pullers
1U-6401	Pin (need 3)	9.5 mm (0.374 in)	44.5 mm (1.752 in)	4C-3085, 1U-6405
9U-6264	Pin	9.5 mm (0.374 in)	35.6 mm (1.402 in)	4C-3082, 1U-6400

Bearing Cup Pulling Attachments

Warranty: Caterpillar® Six Months



1H-3112

- Used in conjunction with push-pullers to provide easy removal of bearing cups, oil seals, and bushings from blind holes without damage

Item	Part Number	Description	Capacity (Tons)	Size
—	1H-3112	Puller Assembly	15	—
1H-3112 Service/Repair Parts				
1	6V-7888 [a]	Leg	—	—
Optional Accessories (Sold Separately)				
2	1P-5551	Screw	—	35.56 cm (14 in) long
3	1P-5546	Cross Block	—	33.02 cm (13 in) long

a. Standard legs

Chain Puller



5P-7311 Chain Puller (can be converted to a bearing cup puller by changing legs to those used on 8B-7554 Puller)

Part Number	Description	Size
5P-7311	Chain Puller Assembly	—
Service/Repair Parts		
5F-7344	Block	—
5P-4750	Screw	—
5P-7341	Jaw	26.67 cm (10.5 in) long

Bearing Cup Puller Attachment



8B-7554

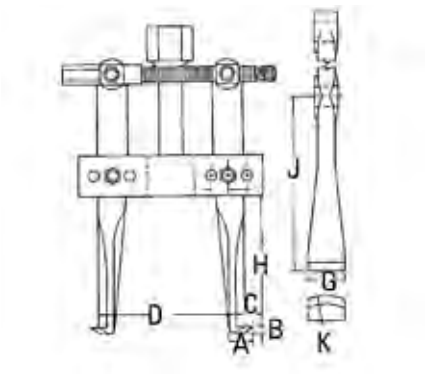
Item	Part Number	Description	Capacity (Tons)	Size
—	8B-7554	Puller Assembly	5.5	—
Service/Repair Parts				
4	8B-7553	Adapter	—	—
5	5F-7344	Block	—	—
6	6V-7887 [a]	Leg	—	—
7	5P-4750	Screw	—	—
Optional Accessories (Sold Separately)				
8	1S-5188 [b]	Leg	—	18.11 cm (7.13 in) long
9	7S-7786 [b]	Leg	—	26.67 cm (10.5 in) long
10	1P-7461 [b]	Leg	—	17.93 cm (7.06 in) long

a. Standard legs

b. Optional legs (sold separately)

BEARING PULLERS

Bearing Cup Pulling Attachment Dimensions



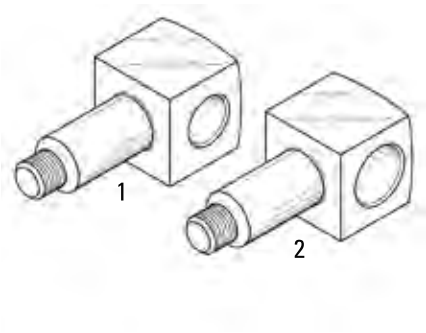
- Used in conjunction with push-pullers to provide easy removal of bearing cups, oil seals, and bushings from blind holes without damage

Part No. [a] for 1S-5188, 7S-7786 and 1P-7461	A	B	C	D (Min.)	D (Max.)	E	F	G	H	J	K
1H-3112 Puller [b]											
6V-7888 [b]	25.4 mm (1.00 in)	6.35 mm (0.25 in)	6.35 mm (0.25 in)	76.2 mm (3.00 in)	228.6 mm (9.00 in)	19.05 mm (0.75 in)	19.05 mm (0.75 in)	50.8 mm (2.00 in)	152.4 mm (6.00 in)	180.85 mm (7.12 in)	63.5 mm (2.50 in)
8B-7554 Puller [b]											
1P-7461 [a]	12.7 mm (0.50 in)	2.79 mm (0.11 in)	2.79 mm (0.11 in)	38.1 mm (1.50 in)	127.0 mm (5.00 in)	12.7 mm (0.50 in)	12.7 mm (0.50 in)	20.57 mm (0.81 in)	74.68 mm (2.94 in)	93.22 mm (3.67 in)	33.27 mm (1.31 in)
1S-5188 [a]	14.22 mm (0.56 in)	4.57 mm (0.18 in)	4.57 mm (0.18 in)	38.1 mm (1.50 in)	127.0 mm (5.00 in)	12.7 mm (0.50 in)	12.7 mm (0.50 in)	20.57 mm (0.81 in)	74.68 mm (2.94 in)	95.25 mm (3.75 in)	25.4 mm (1.00 in)
6V-7887 [b]	15.75 mm (0.62 in)	3.05 mm (0.12 in)	6.35 mm (0.25 in)	38.1 mm (1.50 in)	152.4 mm (6.00 in)	12.7 mm (0.50 in)	12.7 mm (0.50 in)	28.45 mm (1.12 in)	127.0 mm (5.00 in)	146.05 mm (5.75 in)	38.1 mm (1.50 in)
7S-7786 [a]	11.18 mm (0.44 in)	4.57 mm (0.18 in)	4.57 mm (0.18 in)	38.1 mm (1.50 in)	177.8 mm (7.00 in)	12.7 mm (0.50 in)	12.7 mm (0.50 in)	20.57 mm (0.81 in)	155.45 mm (6.12 in)	176.28 mm (6.94 in)	25.4 mm (1.00 in)

a. Optional legs (sold separately)
b. Standard legs

Swivel Nuts

Warranty: Caterpillar® Six Months



- Used on 8B-7554 Bearing Cup Puller Attachment
- Service replacement nuts for 5P-4750 Adjustment Screw Assembly
- Replace worn or damaged parts to extend tool life

Item	Part Number	Description	Use
1	357-2991	Swivel Nut	fits on adjustment end of adjustment screw
2	357-2992	Swivel Nut	fits on stationary end of adjustment screw

Puller Kit

Model Usage: HH44DE Harvester Head

Warranty: Caterpillar® Six Months



380-5712



380-5713



380-5717



380-5718

- 380-5712 used to easily remove and install the drive sprocket on the saw motor
- 380-5713 used to replace piston seals on the feed out cylinder
- 380-5717 used to replace the check valve on the tensioning system
- 380-5718 used to replace the check valve on the chain lubricator

Part No.	Dimensions	Weight
380-5712	431.8 x 76.2 mm (17 x 3 in) — Includes (1) grinder/plate, (2) hex head bolts, (1) nut and (1) puller bolt	1.93 kg (4.25 lb)
380-5713	75 x 50 mm (2.95 x 1.97 in)	.29 kg (.64 lb)
380-5717	57 x 44 mm (2.24 x 1.73 in)	.045 kg (.10 lb)
380-5718	70 x 30 mm (2.75 x 1.18 in)	.004 kg (.009 lb)

Bearing Puller Assembly

Model Usage: 795F AC Large Mining Trucks

Warranty: Caterpillar® Six Months



- Used to remove the bearing retainer 385-9873 and ball bearing 164-9923 on the electric generator group
- Tool fits around the bearing retainer, protecting the sealing ring 385-9189 from damage
- Use with two M30 studs, spaced at 380mm (15") distance
- M8-tapped hole provided for installing lifting eyebolt at the top of the tool

Part No.	Description	Capacity	Diameter	Weight
455-0124	Bearing Puller Assembly	20 T (196 kN)	520 mm (20.5 in)	27 kg (59.52 lb)

Bearing Puller Adapter

Model Usage: 795F AC

Warranty: Caterpillar® Six Months



- Used to remove the bearing 286-8083 from 795F AC rear frame and axle housing

Part No.	Description	Dimensions	Weight
520-1526	Bearing Puller Adapter	Dia 166 X 25 mm (6.5 X 1 in)	4 kg (8.8 lb)

Bearing Adapter

Model Usage: 797F

Warranty: Caterpillar® Six Months



- Used to remove the sleeve bearing 332-7425 of center arm (Tri-link)

Part No.	Description	Dimensions	Weight
525-5122	Bearing Adapter	Dia 132 x 25 mm (Dia 5.2 x 1 in)	2.1 kg (4.6 lb)

BEARING PULLERS

Bearing Puller

Model Usage: 994K

Warranty: Caterpillar® Six Months



526-5522



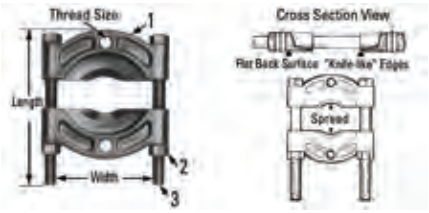
526-5523

- 526-5522 used to remove the bearing 420-5758 (K-pin) in the tilt link of lift arm assembly
- 526-5523 used to remove the bearing 420-5759 (A-pin) in the rear of the lift arm assembly
- Use with M64 threaded rod

Part No.	Dimensions	Weight
526-5522	Dia. 279 x 38.1 mm (11 x1.5 in)	12 kg (26.5 lb)
526-5523	Dia. 259 x 38.1 mm (10.2 x 1.5 in)	13 kg (28 lb)

Bearing Puller Assembly

Warranty: Caterpillar® Six Months



- Used for numerous operations where space does not permit attaching other types of pullers directly on the part to be pulled
- Knife-like edges can be forced behind gears or bearings and used in conjunction with push-pullers, or the forcing screws illustrated

Item	Part No.	Description	Qty.	Capacity	Spread	Length	Width	Thread Size
—	446-9413	Bearing Puller Assembly	—	50	0.67 – 9.65 in	—	11.5	1 1/4 in – 12
—	446-9412	Bearing Puller Assembly	—	30	0.67 – 9.65 in	—	11.5	1 in – 14
—	1H-3110	Bearing Puller Assembly	—	20	0.75 – 13.38 in	20.5	10.25	1 in – 14
—	5F-7343	Puller	—	20	0.625 – 8.00 in	14.38	7.12	1 in – 14
—	8B-7551	Bearing Puller Assembly	—	15	0.50 – 5.25 in	10.5	6.00	5/8 in – 18
—	8H-0663	Bearing Puller Assembly	—	9	0.38 – 4.62 in	8.5	4.25	5/8 in – 18
—	9S-9152	Bearing Puller Assembly	—	4	0.12 – 2.00 in	4.19	2.44	3/8 in – 16
9S-9152 Service/Repair Parts								
2	1B-4204	Nut	2	—	—	—	—	—
3	1P-1430	Bolt	2	—	—	—	—	—
8H-0663 Service/Repair Parts								
2	1B-4206	Nut	4	—	—	—	—	—
3	8B-7552	Stud	2	—	—	—	—	—
8B-7551 Service/Repair Parts								
2	1B-4207	Nut	4	—	—	—	—	—
3	3H-0459	Stud	2	—	—	—	—	—
5F-7343 Service/Repair Parts								
2	1B-4208	Nut	4	—	—	—	—	—
3	3H-0460	Stud	2	—	—	—	—	—
1H-3110 Service/Repair Parts								
2	3S-1356	Nut	4	—	—	—	—	—
3	1U-7758	Stud	2	—	—	—	—	—

Bearing and Seal Driver Group

Warranty: Caterpillar® Six Months



- Contains plate sizes from 7/16 inch to 1 inch diameter (in 1/16 inch increments)
- Particularly useful for work on small components such as oil and water pumps
- Plates in this group are also contained in the 1P-0510 Group
- All bolts have 1/4 inch-20 threads
- Proper installation of bearings, races and seals can be accomplished quickly and easily with these driver tools
- Drive plates can be used in various combinations to install parts flush with a housing or some distance below a housing surface
- Instructions included

Part Number	Description
1P-0500	Bearing and Seal Driver Group
Group Consists of:	
1P-0454	Plate, 0.438 in Diameter
1P-0455	Plate, 0.500 in Diameter
1P-0456	Drive Plate
1P-0457	Plate, 0.625 in Diameter
1P-0458	Plate, 0.687 in Diameter
1P-0459	Plate, 0.750 in Diameter
1P-0460	Plate, 0.812 in Diameter
1P-0461	Plate, 0.875 in Diameter
1P-0462	Plate, 0.937 in Diameter
1P-0463	Plate
1P-0528	Extension Tube
1P-0529	Handle
4L-7124 [a]	Bolt — Hex Socket Head
5L-9018	Bolt, 1 3/4 in long
6B-7225	Wrench, 3/16 in Hex
6J-2819	Bolt, 2 3/4 in long
6L-5551	Bolt
6L-5897	Bolt, 7/8 in long
9S-1725 [b]	Case
9S-9155	Spacer

a. Part of 1P-0520 Driver Group

b. Warranty: Manufacturer, 90 Day

BEARING PULLERS

Bearing and Seal Driver Group

Warranty: Caterpillar® Six Months



- Contains plate sizes from 7/16 inch to 3.00 inch diameter (in 1/16 inch increments)
- All bolts have 1/4 inch-20 threads
- Proper installation of bearings, races and seals can be accomplished quickly and easily
- Drive plates can be used in various combinations to install parts flush with a housing or some distance below a housing surface
- Instructions included

Part Number	Description
1P-0510	Bearing and Seal Driver Group
Consist:	
1P-0454	Plate, 0.438 in Diameter
1P-0455	Plate, 0.500 in Diameter
1P-0456	Drive Plate
1P-0457	Plate, 0.625 in Diameter
1P-0458	Plate, 0.687 in Diameter
1P-0459	Plate, 0.750 in Diameter
1P-0460	Plate, 0.812 in Diameter
1P-0461	Plate, 0.875 in Diameter
1P-0462	Plate, 0.937 in Diameter
1P-0463	Plate
1P-0464	Plate, 1.062 in Diameter
1P-0465	Plate, 1.125 in Diameter
1P-0466	Plate, 1.187 in Diameter
1P-0467	Plate, 1.250 in Diameter
1P-0468	Plate, 1.312 in Diameter
1P-0469	Plate, 1.375 in Diameter
1P-0470	Plate, 1.437 in Diameter
1P-0471	Plate, 1.500 in Diameter
1P-0472	Plate, 1.563 in Diameter
1P-0473	Plate, 1.625 in Diameter
1P-0474	Plate, 1.687 in Diameter
1P-0475	Plate, 1.750 in Diameter
1P-0476	Plate, 1.812 in Diameter
1P-0477	Plate, 1.870 in Diameter
1P-0478	Plate, 1.937 in Diameter
1P-0479	Plate, 2.000 in Diameter
1P-0480	Plate, 2.062 in Diameter
1P-0481	Plate, 2.125 in Diameter
1P-0482	Plate, 2.187 in Diameter
1P-0483	Plate, 2.250 in Diameter
1P-0484	Plate, 2.312 in Diameter
1P-0485	Plate, 2.375 in Diameter
1P-0486	Plate, 2.437 in Diameter
1P-0487	Plate, 2.500 in Diameter
1P-0488	Plate, 2.562 in Diameter
1P-0489	Plate, 2.625 in Diameter
1P-0490	Plate, 2.687 in Diameter
1P-0491	Plate, 2.750 in Diameter
1P-0492	Plate
1P-0493	Plate, 2.875 in Diameter
1P-0494	Plate, 2.937 in Diameter
1P-0495	Plate, 3.000 in Diameter
1P-0528	Extension Tube
1P-0529	Handle
1P-0531 [a]	Handle
4L-7124 [a]	Bolt — Hex Socket Head
5L-9018	Bolt, 1 3/4 in long
6B-7225	Wrench, 3/16 in Hex
6J-2819	Bolt, 2 3/4 in long
6L-5551	Bolt
6L-5897	Bolt, 7/8 in long
9S-9155	Spacer

a. Part of 1P-0520 Driver Group

Bearing and Seal Driver Group

Warranty: Caterpillar® Six Months



- Contains plate sizes from 3 1/16 inch to 6 1/4 inch diameter (in 1/16 inch increments)
- All bolts have 1/4 inch-20 threads
- Proper installation of bearings, races and seals can be accomplished quickly and easily with these driver tools
- Drive plates can be used in various combinations to install parts flush with a housing or some distance below a housing surface
- Instructions included
- Includes: Box Bearing Driver

Part Number	Description
1P-0520	Bearing and Seal Driver Group
Parts in Group	
1P-0496	Plate, 3.062 in Diameter
1P-0497	Plate, 3.125 in Diameter
1P-0498	Plate, 3.187 in Diameter
1P-0499	Plate, 3.250 in Diameter
1P-0501	Plate, 3.312 in Diameter
1P-0502	Plate, 3.375 in Diameter
1P-0503	Plate, 3.437 in Diameter
1P-0504	Plate, 3.500 in Diameter
1P-0505	Plate, 3.562 in Diameter
1P-0506	Plate, 3.625 in Diameter
1P-0507	Plate, 3.687 in Diameter
1P-0508	Plate, 3.750 in Diameter
1P-0509	Plate, 3.812 in Diameter
1P-0511	Plate, 3.875 in Diameter
1P-0512	Plate, 3.937 in Diameter
1P-0513	Plate, 4.000 in Diameter
1P-0514	Plate, 4.062 in Diameter
1P-0515	Plate, 4.125 in Diameter
1P-0516	Plate, 4.187 in Diameter
1P-0517	Plate, 4.250 in Diameter
1P-0518	Plate, 4.312 in Diameter
1P-0519	Plate, 4.375 in Diameter
1P-0521	Plate, 4.437 in Diameter
1P-0522	Plate, 4.500 in Diameter
1P-0523	Plate, 4.750 in Diameter
1P-0524	Plate, 5.000 in Diameter
1P-0525	Plate, 5.500 in Diameter
1P-0526	Plate, 6.000 in Diameter
1P-0527	Plate, 6.250 in Diameter
1P-0531 [a]	Handle
1P-0532 [a]	Handle
4L-7124 [a]	Bolt — Hex Socket Head
5L-9018	Bolt, 1 3/4 in long
6B-7225	Wrench, 3/16 in Hex
6J-2819	Bolt, 2 3/4 in long
6L-5551	Bolt
6L-5897	Bolt, 7/8 in long
9S-9155	Spacer

a. Part of 1P-0520 Driver Group

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Single and Double Acting Puller Cylinder Groups Summary

Warranty: Manufacturer's

Part No.	Maximum Capacity	Stroke	Weight	Overall Length	Overall Cylinder Diameter	Maximum Operating Pressure	Center Hole Diameter	Seal Kits
Double Acting Cylinder Groups								
1U-5197	80	10.16 cm (4 in)	30.07 kg (66.3 lb)	241.3 mm (9.50 in)	165.1 mm (6.5 in)	68,950 kPa (10,000 PSI)	38.6 mm (1.52 in)	6V-0008
316-1489	60	165.1 mm (6.5 in)	35.38 kg (78 lb)	323.8 mm (12.75 in)	158.6 mm (6.25 in)	68,950 kPa (10,000 PSI)	54.1 mm (2.13 in)	316-1500
465-6061	100	152.4 mm (6 in)	52.16 kg (115 lb)	330 mm (13 in)	185 mm (7.2 in)	68,950 kPa (10,000 PSI)	52 mm (2.05 in)	465-6064
465-6062	150	127 mm (4.5 in)	66 kg (145.5 lb)	283 mm (11.1 in)	216 mm (8.5 in)	68,950 kPa (10,000 PSI)	63.5 mm (2.5 in)	316-1501
6V-3160	31	50.8 mm (2 in)	6.80 kg (15 lb)	12.7 mm (0.50 in)	10.16 cm (4 in)	68,950 kPa (10,000 PSI)	29.4 mm (1.16 in)	—
6V-3170	55	12.7 mm (0.5 in)	9.53 kg (21 lb)	88.9 mm (3.50 in)	137.2 mm (5.4 in)	68,950 kPa (10,000 PSI)	33.2 mm (1.31 in)	6V-3168
6V-3175	55	50.8 mm (2 in)	13.15 kg (29 lb)	132.1 mm (5.20 in)	137.2 mm (5.4 in)	68,950 kPa (10,000 PSI)	33.2 mm (1.31 in)	6V-3168
8S-7172	103	355.6 mm (14 in)	71.67 kg (158 lb)	657.9 mm (25.90 in)	160 mm (6.3 in)	68,950 kPa (10,000 PSI)	—	9S-4527
9S-8900	71	177.8 mm (7 in)	49.47 kg (109.1 lb)	454.7 mm (17.90 in)	134.6 mm (5.3 in)	68,950 kPa (10,000 PSI)	—	9S-9080
9S-8901	103	165.1 mm (6.5 in)	72.57 kg (160 lb)	472.4 mm (18.60 in)	160 mm (6.3 in)	68,950 kPa (10,000 PSI)	50.8 mm (2 in)	9S-4527
Single Acting Cylinder Groups								
150-3624	75	155.7 mm (6.13 in)	33.34 kg (73.5 lb)	311.1 mm (12.25 in)	146 mm (5.75 in)	68,950 kPa (10,000 PSI)	—	163-5469
196-0222	100	168.4 mm (6.63 in)	41.28 kg (91 lb)	504.9 mm (19.88 in)	158.7 mm (6.25 in)	68,950 kPa (10,000 PSI)	—	—
316-1493	12	76.2 mm (3 in)	4.44 kg (9.8 lb)	184.2 mm (7.25 in)	69.85 mm (2.75 in)	68,950 kPa (10,000 PSI)	19.6 mm (0.77 in)	316-1504
316-1494	30	155.7 mm (6.13 in)	21.77 kg (48 lb)	330.2 mm (13 in)	114.3 mm (4.5 in)	68,950 kPa (10,000 PSI)	33.3 mm (1.31 in)	316-1505
316-1495	30	63.5 mm (2.5 in)	10.88 kg (24 lb)	178.6 mm (7.03 in)	114.3 mm (4.5 in)	68,950 kPa (10,000 PSI)	33.3 mm (1.31 in)	316-1504
316-1496	20	50.8 mm (2 in)	7.71 kg (17 lb)	162 mm (6.38 in)	98.6 mm (3.88 in)	68,950 kPa (10,000 PSI)	26.9 mm (1.06 in)	316-1507
360-6970	25	50.8 mm (2.0 in)	6.35 kg (14 lb)	165.1 mm (6.50 in)	85.5 mm (3.38 in)	68,950 kPa (10,000 PSI)	—	361-4315
5P-9725	10	257 mm (10.12 in)	0.45 kg (1 lb)	660.4 mm (26 in)	57.2 mm (2.25 in)	68,950 kPa (10,000 PSI)	—	—
Hydraulic Puller Group								
1P-0820	17.5	50.8 mm (2 in)	6.62 kg (14.6 lb)	155.6 mm (6.13 in)	5.75 x 3.75 in	68,950 kPa (10,000 PSI)	27 mm (1.06 in)	—

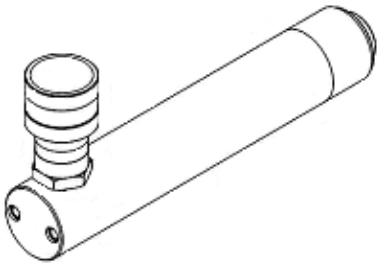
SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Single Acting Hydraulic Pusher Cylinders Summary

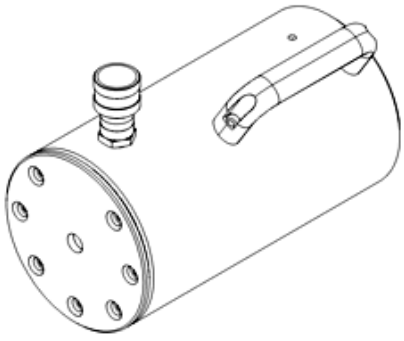
Model Usage: All Models

European Union compliant, CE marked

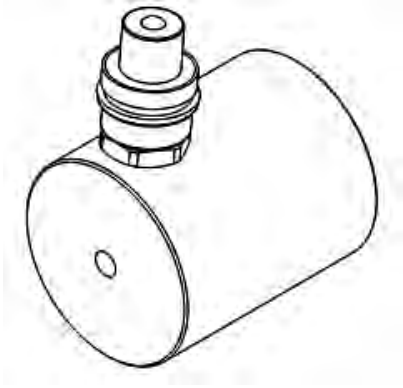
Warranty: Manufacturer's Limited Lifetime



360-6954



360-6962



360-6964

Summary of Single Acting Hydraulic Pusher Cylinders

Part Number	Capacity (Ton)	Stroke	Weight	Retracted Height	Extended	Outside Diameter	Maximum Operating Pressure	Seal Kits
Single Acting Pusher Rams								
360-6953	5	76.2 mm (3.00 in)	1.49 kg (3.3 lb)	165.1 mm (6.50 in)	241.3 mm (9.50 in)	38.1 mm (1.50 in)	68,950 kPa (10,000 PSI)	361-4312
360-6354	5	127 mm (5.00 in)	1.86 kg (4.1 lb)	215.9 mm (8.50 in)	342.9 mm (13.50 in)	38.1 mm (1.50 in)	68,950 kPa (10,000 PSI)	361-4312
360-6955	5	16.0 mm (0.63 in)	.99 kg (2.2 lb)	41.4 mm (1.63 in)	57.2 mm (2.25 in)	58.6 mm (2.31 in)	68,950 kPa (10,000 PSI)	361-4313
360-6956	10	54.1 mm (2.13 in)	2.31 kg (5.1 lb)	121.4 mm (4.78 in)	175.5 mm (6.91 in)	57.2 mm (2.25 in)	68,950 kPa (10,000 PSI)	361-4314
360-6957	10	155.7 mm (6.13 in)	4.45 kg (9.8 lb)	247.7 mm (9.75 in)	403.4 mm (15.88 in)	57.2 mm (2.25 in)	68,950 kPa (10,000 PSI)	361-4314
360-6958	10	257.3 mm (10.13 in)	6.35 kg (14.0 lb)	349.3 mm (13.75 in)	606.6 mm (23.88 in)	57.2 mm (2.25 in)	68,950 kPa (10,000 PSI)	361-4314
360-6959	25	158.8 mm (6.25 in)	9.98 kg (22.0 lb)	273.1 mm (10.75 in)	431.5 mm (17.00 in)	85.9 mm (3.38 in)	68,950 kPa (10,000 PSI)	361-4315
360-6960	50	158.8 mm (6.25 in)	23.13 kg (51.0 lb)	282.7 mm (11.13 in)	441.5 mm (17.38 in)	127.0 mm (5.00 in)	68,950 kPa (10,000 PSI)	361-4316
360-6961	100	168.4 mm (6.63 in)	58.97 kg (130.0 lb)	357.1 mm (14.06 in)	525.3 mm (20.69 in)	177.8 mm (7.00 in)	68,950 kPa (10,000 PSI)	361-4317
Aluminum, Single Acting Pusher Rams								
360-6962	50	152.4 mm (6.00 in)	14.29 kg (31.5 lb)	281.9 mm (11.1 in)	441.7 mm (17.39 in)	149.4 mm (5.88 in)	68,950 kPa (10,000 PSI)	361-4318
360-6963	100	150.1 mm (5.91 in)	21.91 kg (48.3 lb)	321.1 mm (12.64 in)	470.9 mm (18.54 in)	180.1 mm (7.09 in)	68,950 kPa (10,000 PSI)	361-4319
360-6969	50 (Locking)	150.1 mm (5.91 in)	11.88 kg (26.2 lb)	336.0 mm (13.23 in)	485.9 mm (19.13 in)	130.0 mm (5.12 in)	68,950 kPa (10,000 PSI)	361-4325
Shorty, Spring Return Pusher Rams								
360-6964	10	38.1 mm (1.50 in)	4.08 kg (9.0 lb)	88.1 mm (3.47 in)	126.2 mm (4.97 in)	69.9 mm (2.75 in)	68,950 kPa (10,000 PSI)	361-4320
360-6965	20	44.5 mm (1.75 in)	4.99 kg (11.0 lb)	98.6 mm (3.88 in)	143.0 mm (5.63 in)	92.2 mm (3.63 in)	68,950 kPa (10,000 PSI)	361-4321
360-6966	30	61.9 mm (2.44 in)	6.80 kg (15.0 lb)	117.6 mm (4.63 in)	179.3 mm (7.06 in)	101.6 mm (4.00 in)	68,950 kPa (10,000 PSI)	361-4322
360-6967	50	60.5 mm (2.38 in)	10.87 kg (24.0 lb)	122.2 mm (4.81 in)	182.6 mm (7.19 in)	123.9 mm (4.88 in)	68,950 kPa (10,000 PSI)	361-4323
360-6968	100	57.2 mm (2.25 in)	22.68 kg (50.0 lb)	141.2 mm (5.56 in)	198.3 mm (7.81 in)	165.1 mm (6.50 in)	68,950 kPa (10,000 PSI)	361-4324

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Single Acting Hydraulic Lifting Cylinders Summary

Part Number	Capacity (Ton)	Retracted Height	Extended	Outside Diameter	Seal Kit
Spring Return Lifting Rams					
396-9840	25	12.0	20.0	86.36 mm (3.4 in)	419-5743

Double Acting Cylinder Group

Warranty: Caterpillar® Six Months



- Provides a special crosshead which allows the puller to be converted to either a 2- or 3-jaw operation
- Especially well suited for removing final drive sprockets
- Includes 9S-9068 Handle

Specifications

- Overall length : 467 mm (18.6 in)
- Cylinder diameter: 160 mm (6.3 in)
- Stroke: 165 mm (6.5 in)
- Weight: 72.5 kg (160 lb)
- Capacity: 78.9 t (87 tons) rod in, 93.4 t (103 tons) rod out
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Includes: NEEG2098 Decal

Part No.	Description
9S-8901	Cylinder Group
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
2N-1746	Hex Bolt
3B-4506	Lock Washer
6H-4158	Pin
7B-2499	Ring
9S-4522	Piston
9S-4527	Cylinder Repair Kit
9S-9067	Cylinder Rod
9S-9068	Handle

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Double Acting Cylinder Group

Warranty: Caterpillar® Six Months



- Provides a special crosshead which allows the puller to be converted to either a 2- or 3-jaw operation
- Especially well suited for removing final drive sprockets

Specifications

- Overall length: 455 mm (17.9 in)
- Cylinder diameter: 134 mm (5.3 in)
- Stroke: 180 mm (7.1 in)
- Weight: 49.4 kg (109 lb)
- Capacity: 50 t (55 tons) rod in, 64.4 t (71 tons) rod out
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Includes: NEEG2109 Decal

Part No.	Description
9S-8900	Cylinder Group
Service/Repair Parts	
1B-4330	Nut
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
3B-4504	Lock Washer
6H-4158	Pin
7B-2499	Ring
7B-2742	Bolt
8H-3128	Bolt — Hex Socket Head
9S-4528	Bearing
9S-9067	Cylinder Rod
9S-9078	Bolt
9S-9080	Repair Kit

Double Acting Cylinder Group

Warranty: Caterpillar® Six Months



- Used with the 1P-3490 Master Pin Arrangement to remove and install track master pins
- Allows the operation to be accomplished in 1 stroke

Specifications

- Overall length: 65.78 cm (25.9 in)
- Cylinder diameter: 16 cm (6.3 in)
- Stroke: 35.56 cm (14.0 in)
- Weight: 71.66 kg (158 lb)
- Capacity: 78.9 t (87 tons) rod in 93.4 t (103 tons) rod out
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Includes: NEEG2107 Decal

Part Number	Description
8S-7172	Cylinder Group
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
9S-4521	Rod
9S-4522	Piston
9S-4527	Cylinder Repair Kit
9S-4528	Bearing
9S-4920	Bolt

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Double Acting Cylinder Group

Warranty: Manufacturer's Limited Lifetime



- Has a large center hole through which forcing screws or other accessories may be extended for lifting and pulling applications

Specifications

- Overall length: 32.38 cm (12.75 in)
- Cylinder diameter: 15.87 cm (6.25 in)
- Stroke: 16.51 cm (6.5 in)
- Weight : 35.38 kg (78 lb)
- Capacity: 60 tons
- Center hole diameter: 54.10 mm (2.13 in)
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Includes: NEEG2111 Decal

Part Number	Description
316-1489	Cylinder Group (60 Ton)
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
316-1500	Seal Kit

Cylinder Group — 100 Ton

Warranty: Caterpillar® Six Months



- Single-acting, spring-return cylinder
- Equipped with a quick disconnect fitting

Specifications

- Capacity: 100 Ton
- Stroke: 168.3 mm (6.63 in)
- Retracted height: 337.0 mm (13.25 in)
- Extended height: 505.0 mm (19.88 in)
- Outside diameter: 160.0 mm (6.25 in)
- Collar thread: 6 1/4-12
- Collar thread length: 56.0 mm (2.25 in)
- Working pressure: up to 68,950 kPa (10,000 PSI)

Part Number	Description
196-0222	Cylinder Group

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Service Cylinder Attachments

Model Usage: All

Warranty: Manufacturer's

- Cylinder attachments for 5 thru 25 ton cylinders allows more options using standard cylinders for various job applications.

Part No.	Image	Description	Dimensions	Weight
465-4079		Adapter As.-Base (9.07 Metric Ton)	64 x 57 mm (2.5 x 2.2 in)	1 kg (2 lb)
465-4080		Adapter As.-Base (4.54 Metric Ton)	45 x 51 mm (1.8 x 2 in)	0.4 kg (1 lb)
465-4081		Adapter As.-Base (22.68 Metric Ton)	99 x 73 mm (3.9 x 2.9 in)	2.4 kg (5.3 lb)
465-4082		Tube-Extension (4.54 Metric Ton)	27 x 127 mm (1.1 x 5 in)	0.3 kg (1 lb)
465-4083		Tool-Saddle (4.54 Metric Ton)	25.4 x 19 mm (1 x 0.7 in)	0.04 kg (0.1 lb)
465-4084		Adapter-Saddle (9.07 Metric Ton)	42 x 54 mm (1.7 x 2.1 in)	0.4 kg (1 lb)
465-4085		Adapter-Threaded (4.54 Metric Ton)	27 x 40 mm (1.1 x 1.6 in)	0.14 kg (0.3 lb)
465-4086		Tube-Extension (22.68 Metric Ton)	60 x 254 mm (2.4 x 10 in)	4 kg (9 lb)
465-4087		Tube-Extension (22.68 Metric Ton)	61 x 457 mm (2.4 x 18 in)	6 kg (13.2 lb)
465-4088		Tube-Extension (9.07 Metric Ton)	42 x 127 mm (1.7 x 5 in)	1 kg (2 lb)
465-4089		Tube-Extension (9.07 Metric Ton)	42 x 457 mm (1.7 x 18 in)	2 kg (4.4 lb)
465-4090		Tube-Extension (9.07 Metric Ton)	42 x 762 mm (1.7 x 30 in)	3.2 kg (7 lb)
465-4091		Tube-Extension (4.54 Metric Ton)	27 x 457 mm (1.1 x 18 in)	1 kg (2 lb)

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Double Acting Hydraulic Cylinders

Warranty: Caterpillar® Six Months



6V-3160 6V-3170 6V-3175

- Designed with an external relief valve for the rod end of the cylinder
- Valve prevents an increase in pressure at the rod end if there is a restriction of the return oil to the pump
- Relief valve setting is 72,394 kPa (10,500 PSI)
- When there is too much pressure a small amount of oil is released through the relief valve
- 6V-3170 includes piston
- 6V-3175 includes 6V-3173 Piston

Part Number	6V-3170	6V-3160	6V-3175
Overall length	88.9 mm (3.5 in)	12.7 cm (5.0 in)	13.18 cm (5.19 in)
Cylinder diameter	13.81 cm (5.44 in)	10.16 cm (4.0 in)	13.81 cm (5.44 in)
Stroke	12.7 mm (0.5 in)	50.8 mm (2.0 in)	50.8 mm (2.0 in)
Weight	9.52 kg (21 lb)	6.80 kg (15 lb)	6.80 kg (15 lb)
Capacity	50 t (55 tons)	28 t (31 tons)	50 t (55 tons)
Hole diameter	33.27 mm (1.31 in)	29.46 mm (1.16 in)	33.27 mm (1.31 in)
Maximum operating pressure	68,950 kPa (10,000 PSI)	68,950 kPa (10,000 PSI)	68,950 kPa (10,000 PSI)
Decal	NEEG2113	NEEG2112	NEEG2113
Repair Kit	6V-3168	6V-3159	6V-3168

Part Number	Description
6V-3160	Cylinder Group
6V-3170	55 ton Cylinder
6V-3175	Hydraulic Cylinder
6V-3160 Service/Repair Parts [a]	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
6V-3159	Repair Kit
9L-2336	Ring
6V-3170 Service/Repair Parts [a]	
191-6624	Valve, Relief
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
6V-3168	Repair Kit
6V-3172	Head
6V-3175 Service/Repair Parts [a]	
191-6624	Valve, Relief
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
6V-3168	Repair Kit
6V-3172	Head
6V-3173	Piston

a. Includes: NEEG2112 Decal

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

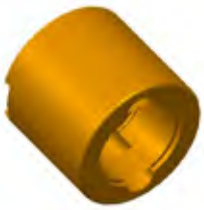
Service Cylinder Attachments

Model Usage: All

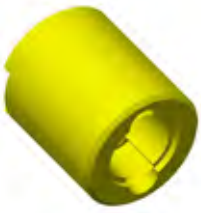
Warranty: Manufacturer's

- Cylinder attachments for 5- thru 25-ton cylinders
- Allows more options using standard cylinders for various job applications

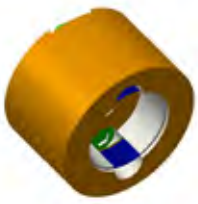
Part No.	Description	Diameter	Weight
465-4079	Adapter Assembly -Base (9.07 metric ton)	64 x 57 mm (2.5 x 2.2 in)	1 kg (2 lb)
465-4080	Adapter Assembly-Base (4.54 metric ton)	45 x 51 mm (2 x 2 in)	0.4 kg (1 lb)
465-4081	Adapter Assembly-Base (22.68 metric ton)	99 x 73 mm (4 x 3 in)	2.4 kg (5.3 lb)
465-4082	Tube-Extension (4.54 metric ton)	27 x 127 mm (1 x 5 in)	0.3 kg (1 lb)
465-4083	Tool-Saddle (4.54 metric ton)	5.4 x 19 mm (1 x 1 in)	0.04 kg (0.1 lb)
465-4084	Adapter-Saddle (9.07 metric ton)	42 x 54 mm (2 x 2 in)	0.4 kg (1 lb)
465-4085	Adapter-Threaded (4.54 metric ton)	27 x 40 mm (1 x 2 in)	0.14 kg (0.3 lb)
465-4086	Tube-Extension (22.68 metric ton)	60 x 254 mm (2.4 x 10 in)	4 kg (9 lb)
465-4087	Tube-Extension (22.68 metric ton)	61 x 457 mm (2.4 x 18 in)	6 kg (13.2 lb)
465-4088	Tube-Extension (9.07 metric ton)	42 x 127 mm (2 x 5 in)	1 kg (2 lb)
465-4089	Tube-Extension (9.07 metric ton)	42 x 457 mm (2 x 18 in)	2 kg (4.4 lb)
465-4090	Tube-Extension (9.07 metric ton)	42 x 762 mm (2 x 30 in)	3.2 kg (7 lb)
465-4091	Tube-Extension (4.54 metric ton)	27 x 457 mm (1 x 18 in)	1 kg (2 lb)



465-4079



465-4080



465-4081



465-4085



465-4089



465-4082



465-4086



465-4090



465-4083



465-4087



465-4091



465-4084



465-4088

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Hydraulic Coupler Bleed Tool Group

Warranty: Manufacturer's



- Used on hydraulic cylinders utilized on service tools
- Allows the technician to relieve trapped hydraulic pressure in couplings designed for 10,000 psi (700 bar) or less with 1-3/16" threads
- Couplers can be either male or female and have either ball or cone check designs
- Following attachment, the cap bolt assembly is turned slowly until contact with check (ball or cone) which then opens and hydraulic pressure is relieved
- Fluid will drain into a suitable container (not provided)
- Aluminum

Specifications

Dimensions 204 X 102 X 21 mm (8 X 4 X 2 in)

Weight 1.2 kg (2.5 lb)

Part Number	Description
466-5302	Hydraulic Coupler Bleed Tool Group

Relief Valve

Warranty: Caterpillar® Six Months



- Used on cylinders without a relief valve
- Can be added to the rod end of any center hole 2-way (double-acting) cylinder, which is rated for 68,950 kPa (10,000 PSI) operation
- Gives extra protection to the service tool
- Prevents an increase in pressure caused by a restriction (blockage) of the return oil to the pump
- Beyond the relief valve setting of 10,500 PSI, the operator will see small amounts of oil released through the valve

Part Number	Description
6V-3176	Valve Assembly
Replacement Parts	
191-6624	Valve, Relief

Inline Hydraulic Components

Warranty: Manufacturer's



Valve Assembly

- Torque to 115-128 Nm (85-95 ft.lb)
- Use loctite no. 242
- Set safety relief valve to 793-862 bar (11,500-12,500 psi)

Gauge

- 1/4 inch npt, max. operating pressure 700 bar (10,000 psi)

Adapter

- Max. operating pressure 700 bar (10,000 psi)
- Connection 1-3/8 inch nptf male, connection 2 - cr-400 coupler
- 45 degree angled gauge improves visibility.
- Maximize controlled load movement
- Glycerin-dampened gauge with dual scale
- High-flow female coupler

Part No.	Description	Dimensions	Weight
515-8204	Valve Assembly (Control Check)	115 x 97 mm (4.5 x 4 in)	1.6 kg (3.5 lb)
515-8205	Gauge	84 x 36 mm (3.3 x 1.4 in)	1.4 kg (3 lb)
515-8206	Adapter Assembly (45 Degree Angled Gauge)	154 x 111 x 62 mm (6 x 4.3 x 2.4 in)	1.4 kg (3 lb)

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Hydraulic Cylinder, Single Acting

Warranty: Caterpillar® Six Months



- Primary use for this hydraulic cylinder is with the 5P-8639 Press Group
- Rod is extended by hydraulic pressure and returned by spring pressure

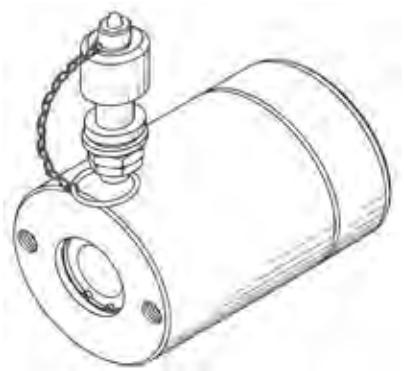
Specifications

- Overall length: 40.33 cm (15.88 in)
- Cylinder diameter: 57.15 mm (2.25 in)
- Stroke: 25.70 cm (10.12 in)
- Weight: 6.35 kg (14 lb)
- Capacity: 10 tons
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Threaded cylinder: 2 1/4 in-14 thd
- Includes: SEES5625 Decal

Part Number	Description
5P-9725	Cylinder Group
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
5P-9724	Repair Kit

Single Acting Hydraulic Cylinder

Warranty: Manufacturer's Limited Lifetime



- Has center hole large enough for 25.4 mm (1 in) puller stud
- Piston is extended by hydraulic pressure and retracted by spring pressure

Specifications

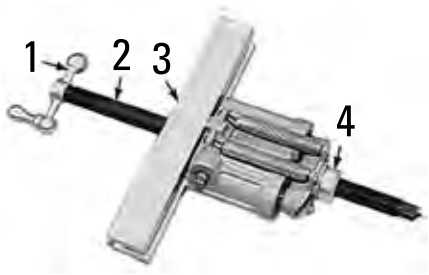
- Overall length: 16.20 cm (6.38 in)
- Cylinder diameter: 98.55 cm (3.88 in)
- Stroke: 50.8 mm (2 in)
- Weight: 7.71 kg (17 lb)
- Capacity: 20 tons
- Center hole diameter: 26.92 mm (1.06 in)
- Maximum operating pressure: 68,950 kPa (10,000 PSI)

Part Number	Description
316-1496	Cylinder
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
316-1507	Repair Kit

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Hydraulic Puller Group

Warranty: Caterpillar® Six Months



- Lightweight and compact
- Can be used to pull or push bearings, gears, shafts, or other press-fitted parts
- Has a 17.5 ton capacity and generally can be used in place of the 8B-7548 Bearing Puller Assembly
- Uses accessories found in 8B-7548

Specifications

- Stroke: 50.8 mm (2.0 in)
- Usable reach: 11 5/8 in
- Capacity: 17.5 tons
- Threaded insert: 1 in-8
- Maximum operating pressure: 68,950 kPa (10,000 PSI)

Item	Description
1	Adjusting Crank
Service/Repair Parts	
SEES5617	Decal Pressure
NEEG2101	Decal

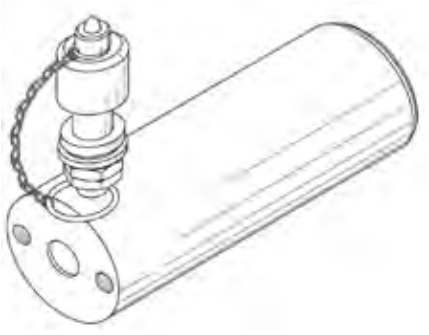
Item	Part Number	Description
—	1P-0820	Puller Group — Hyd
1P-0820 Consists of:		
2	9S-6074	Adjusting Screw
3	9S-7338	Cross Block Group [b]
4 [a]	1P-2329	Threaded Insert
4 [a]	1P-7361	Plain Insert (not part of 1P-0820)

a. Can use either 1P-2329 or 1P-7361

b. Includes plate

Hydraulic Puller

Warranty: Manufacturer's Limited Lifetime



- Especially useful for pulling pins that have up to a 19.56 mm (0.77 in) center tapped hole
- Provides 12 tons pulling force
- Puller ram is extended by hydraulic pressure and returned by spring pressure

Specifications

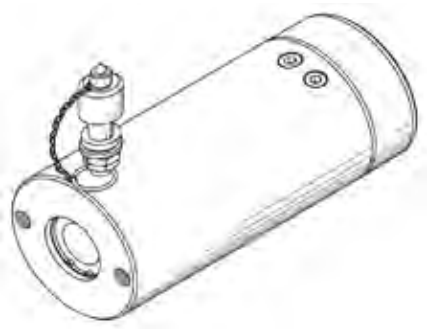
- Overall length: 7.25 in
- Cylinder diameter: 2.75 in
- Stroke: 3.00 in
- Weight : 9.8 lb
- Capacity: 12 tons
- Center hole diameter: 0.77 in
- Maximum operating pressure: 68,950 kPa (10,000 PSI)
- Includes: NEEG2106: Decal

Part Number	Description
316-1493	Hydraulic Puller Group
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
316-1504	Seal Kit

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Cylinder Group

Warranty: Manufacturer's Limited Lifetime



- Single-acting, spring-return 30 Ton cylinder
- Center hole design allows screws, cables, etc. to go straight through ram
- Long stroke design

Specifications

- Capacity: 30 ton
- Center hole diameter: 33.27 mm (1.31 in)
- Retracted height: 33.02 cm (13 in)
- Extended height: 48.59 cm (19.13 in)
- Collar thread: 4 1/2-12

Part Number	Description
316-1494	Cylinder Group
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
316-1505	Seal Repair Kit

Single Acting Hydraulic Cylinder

Warranty: Manufacturer's Limited Lifetime



- Center hole design
- Piston is extended by hydraulic pressure and retracted by spring pressure

Specifications

- Overall length: 17.85 cm (7.03 in)
- Cylinder diameter: 11.43 cm (4.5 in)
- Stroke: 63.5 mm (2.5 in)
- Weight: 10.88 kg (24 lb)
- Capacity: 30 ton
- Maximum operating pressure: 68,950 kPa (10,000 PSI)

Part Number	Description
316-1495	Single Acting Hydraulic Cylinder
Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)
1P-7437	Protective Cap
316-1505	Seal Repair Kit

Hydraulic Multi-stage Cylinder

Model Usage: AD55B & AD45B

Warranty: Manufacturer's Limited Lifetime



European Union Compliant, CE marked

- Low profile, high lift jack used to raise low profile machines
- Double acting cylinder used to reduce cycle time and improve efficiency
- Allows for smaller collapsed weight and greater stroke
- Pilot operated check valve maintains pressure if hoses are disconnected

Specifications

- Outside Diameter: 368.3 mm (14.50 in)
- Weight: 204 kg (450 lb)
- Lifting Capacity: 75 ton
- Collapsed Height: 254.1 mm (10 in)
- Stroke: 368.3 mm (12.85 in)
- Spacers: 25, 50, 75 mm (.98, 1.97, 2.95 in): Qty. 3
- Hoses: 6 m (20 ft) quick disconnects attached: Qty. 2

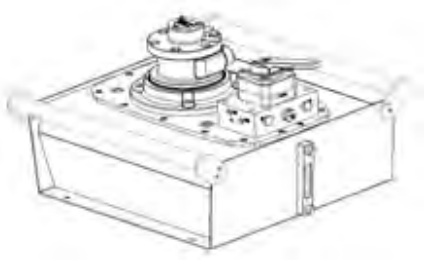
Part Number	Description
417-9063	Hydraulic Multi-stage Cylinder

SINGLE AND DOUBLE ACTING PULLER CYLINDERS

Hydraulic Pump

Model Usage: AD55B & AD45B

Warranty: Manufacturer's Limited Lifetime



- Two speed operation and high by-pass pressure reduces cycle time for improved productivity
- Used with 20,000 PSI double acting cylinders
- ATEX Certified (Ex II 2 GD ck T4)

Specifications

- Dimensions: 446 x 467 x 330 mm (17.55 x 18.4 x 13.0 in)
- Motor: 60-100 PSI Dynamic Air Pressure 20-100 scfm Air Consumption 94-97 dBA Sound Level
- Display: None
- Valve: Manual 4 way — 3 pos
- Flow Rate: 850 in 3/min @ 100 PSI 80 in 3/min @ 10,000 PSI
- Reservoir Capacity: 20 L (5 gal)
- Max Operating Pressure: 10,000 PSI (700 bar)

Part Number	Description
417-9064	Hydraulic Pump

HYDRAULIC PUMPS & PRESSES

All pumps are equipped with an adjustable external relief valve.

Electric Hydraulic Pumps Specifications

Part No.	Voltage	Hz	Reservoir Capacity	Motor HP	Maximum Pressure	Oil Delivery (cu in/min) 10,000 psi	Control Valve	Electronic Control	For Use With
350-7768	115	50-60	7.57 L (2.0 gal)	1.7	68,947 kPa (10,000 PSI)	55	Manual	Toggle Switch run/off/jog and Remote Switch on 6 ft Cord	Double Acting Cylinders
350-7769	220	50-60	7.57 L (2.0 gal)	1.7	68,947 kPa (10,000 PSI)	55	Manual	Toggle Switch run/off/jog and Remote Switch on 6 ft Cord	Double Acting Cylinders
439-5247	115	50-60	2.0 gal (7.6 L)	1.0	68,947 kPa (10,000 PSI)	40	Advance/ Return	4-way/ 3-position footswitch	Double Acting Cylinders
439-5248	220	50-60	2.0 gal (7.6 L)	1.0	68,947 kPa (10,000 PSI)	40	Advance/ Return	4-way/ 3-position footswitch	Double Acting Cylinders
439-5249	115	50-60	1.0 gal (3.8 L)	0.73	68,947 kPa (10,000 PSI)	20	Manual	4 -way/3-position valve	Double Acting Cylinders
439-5250	220	50-60	1.0 gal (3.8 L)	0.73	68,947 kPa (10,000 PSI)	20	Manual	4 -way/3-position valve	Double Acting Cylinders
450-9134	115	50-60	0.5 gal (2L)	0.5	68,947 kPa (10,000 PSI)	15	Manual	3-way/ 2-position	Single Acting Cylinders
451-8702	115	50-60	1.0 gal (3.8 L)	0.73	68,947 kPa (10,000 PSI)	20	Manual	3-Way/ 2-Position	Single Acting Cylinders
452-1079	220	50-60	1.0 gal (3.8 L)	0.73	68,947 kPa (10,000 PSI)	20	Manual	3-Way/ 2-Position	Single Acting Cylinders
461-4388	220	50-60	0.5 gal (2L)	0.5	68,947 kPa (10,000 PSI)	15	Manual	3-way/ 2-position	Single Acting Cylinders

Air Hydraulic Pumps Specifications

Part No.	Max Operating Pressure	Usable Oil Capacity	Dynamic Air Pressure	Air Consumption	Flow Rate			
					700 psi	10,000 psi	Control Valve	For Use With
439-5242	689 bar (10,000 psi)	6.62 L (1.75 gal)	4.13 - 6.89 bar (60 - 100 psi)	0.57 - 2.83 m3/min (20 - 100 scfm)	11,061 cm3/min (675 in3/min)	1,311 cm3/min (80 in3/min)	Manual (ADV/HOLD/RET)	D/A Cylinders
439-5243	689 bar (10,000 psi)	2.08 L (0.55 gal)	2.75 - 8.62 bar (40 - 125 psi)	0.34 m3/min (12 scfm)	983 cm3/min (60 in3/min)	164 cm3/min (10 in3/min)	Manual (ADV/HOLD/RET)	S/A Cylinders
451-7991	689 bar (10,000 psi)	6.62L (1.75 gal)	4.13 - 6.89 bar (60-100 psi)	0.57 - 2.83 m3/min (20 - 100 scfm)	8,193 cm3/min (500 in 3/min)	983 cm3/min (60 in 3/min)	Pendant-Controlled Torque Wrench Valve	Hydraulic Torque Wrenches
451-7995	689 bar (10,000 psi)	2.08 L (0.55 gal)	2.75 - 8.62 bar (40 - 125 psi)	0.34 m3/min (12 scfm)	836 cm3/min (51 in3/min)	98 cm3/min (6 in3/min)	Pendant (ADV/HOLD/RET)	S/A Cylinders
455-6557	207 bar (3,000 psi)	2.08 L (0.55 gal)	2.75 - 8.62 bar (40 - 125 psi)	0.34 m3/min (12 scfm)	983 cm3/min (60 in3/min)	164 cm3/min (10 in3/min)	Manual (ADV/HOLD/RET)	D/A Cylinders

Manual Hydraulic Pumps Specifications

Part No.	Reservoir Capacity	Maximum Operating Pressure	Volume Per Stroke	Control Value	For Use With:
439-5245	0.58 gal (2.2L)	689 bar (10,000 psi)	1 in3 (16.4 cm3) @ 500 psi, 0.15 in3 (2.46 cm3) @ 10,000 psi	-	Single Acting Cylinders
439-5246	0.2 gal (0.77L)	689 bar (10,000 psi)	1.00 in3 (16.4 cm3) @ 500 psi, 0.15 in3 (2.46 cm3) @ 10,000 psi	-	Single Acting Cylinders
451-7994	0.3 gal (1.15L)	689 bar (10,000 psi)	0.91 in3 (14.91 cm3) @ 200 psi, 0.19 in3 (3.11 cm3) @ 10,000 psi	-	Single Acting Cylinders
9U-6600	7.57 kg (2.0 gal)	1st Stage, 1379 kPa (200 PSI) — 2nd Stage, 68,950 kPa (10,000 PSI)	119.46 cc (7.29 cu in) — 4.75 cc (0.290 cu in)	3-Position — 4-Manual	Double Acting Cylinders

NOTE: Hoses sold separately

HYDRAULIC PUMPS & PRESSES

Electric Hydraulic Pump Group

Model Usage: All

Warranty: Manufacturer's Limited Lifetime



European Union Compliant, CE marked

- Features high-efficiency pump design with higher oil flow and bypass pressure and 1.7 HP universal electric motor with high power-to-weight ratio and low voltage operation
- Low voltage pendant provides additional safety for the operator
- High strength, molded composite shroud protects motor and electronics, while providing an ergonomic non-conductive handle
- Shares common components with the newly released hydraulic tensioner pumps for ease of repair and maintenance

Part No.	350-7768	350-7769
Motor	115 VAC, Single Phase, 50/60 Hz	208-240 VAC, Single Phase, 50/60 Hz
Display	No Gauge or LCD	
Power	1.26 kW (1.7 HP)	
Flow Rate	700 in³/min @ 100 PSI and 60 in³/min @ 10,000 PSI	
Reservoir Capacity	8 L (2 gal)	
Valve	4 way/ 3 position manual	
Maximum Operating Pressure	10,000 PSI (700 bar)	
Dimensions	483 x 266 x 520 mm (19.0 x 10.5 x 17.0 in)	
	Comes with skid bar, no oil	
Service Parts		
Breather Plug	346-6159	
Brush Replacement Kit	346-6160	
External Relief Valve	346-6161	
Valve Repair Kit	346-6162	
Pendant	346-6163	
Skid Plate	346-6164	
Accessories		
Roll Cage	346-6163	
Pressure Gauge	186-2613	
Hose — 11 ft — no couplers	6D-7726	
Coupler Assembly & Plug	1P-2376 & 1P-2377	

Attachments

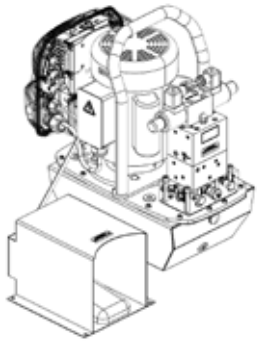
- Higher capacity motors in the 350-7768 and 350-7769 Pumps provide faster ram operation
- Motor operation can be controlled from a switch mounted on pump body or by remote switch attached to a 1.83 m (6 ft) cord.
- Remote switch permits operator to move to the most advantageous position when applying pressure to the tool setup
- Several additional items are required to attach these pumps to a hydraulic cylinder or puller.

Part No.	Description	Quantity	Size
8T-0820	Standard Pressure Gauge (Can use either 8T-5343 or 8T-0820 gauge)	1	—
8T-5343	Pressure Gauge	—	—
135-2532	Bushing	2	—
135-2533	Street Elbow (This fitting may be eliminated. It is used to make both hoses come out in the same direction from the valve on top of the pump assembly. This provides a neater appearance and more usable hose length.)	1	—
1P-2376	Coupler Assembly Quick Connective (Female) (2)	2	—
1P-2377	Plug As — Dust	2	
6D-7726	Hydraulic Hose	2	351 cm (138 in)
8F-0024	Hose Assembly	2	183 cm (72 in)
1U-9903	Valve Repair Kit	—	—
2P-2287	Valve Kit	—	—

Electric Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



- Quiet, fully enclosed motor for indoor and outdoor use
- Heavy duty, IP54 rating delivers performance with superior dust and water protection.
- 4-way/3-position valve for use with double-acting tools operated via foot control
- Ships with no oil

Part No.	439-5247*	439-5248**
Motor	115V, Single-Phase 50/60 Hz	230V, Single-Phase 50/60 Hz
Display	No Gage	
Power	1.0 hp (0.74 kW)	
Flow Rate	450 in3/min @ 100 psi, 40 in3/min @ 10,000 psi	
Usable Oil Capacity	2.0 gal (7.6 L)	
Valve	4-way/3-position footswitch	
Max Operating Pressure	10,000 psi (689 bar)	
Dimensions	241.3 x 513.9 x 512.3 mm (9.5 x 20.2 x 20.2 in)	
Weight	66 kg (145 lb)	

Service Repair Items	
Footswitch Kit	455-6556
Pendant Kit	346-6165
Repair Kit	447-0917
Seal Kit	447-2218
Breather Plug	346-6159

Accessories	
346-6164	Skid Plate Assembly

*Replaces 1U-5555 **Replaces 1U-5565 and 171-5397

Electric Hydraulic Pump – 10,000 psi

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



CE Compliant

- 4 -way/3-position valve for double-acting tools, controlled manually
- Motor-controlled via pendant
- Large easy-carry handle for max. portability
- Hydraulic power supply should be used with 10,000 psi (700 bar) gauges, couplers, adapters, and hoses.
- No gauge or LCD

Specifications

- Power: 0.73 hp (0.54 kW)
- Flow Rate: 200 in^3/min @ 250 psi, 20 in^3/min @ 10,000 psi
- Usable Oil Capacity: 1.0 gal (3.8 L), ships with no oil
- Max Operating Pressure: 10,000 psi (689 bar)
- Dimensions: 309.4 x 368.3 x 371.6 mm (12.2 x 14.5 x 14.6 in)
- Weight: 14.5 kg (32 lbs)

Part No.	Description
439-5249*	Pump Assembly, 115 V Single Phase 50/60 Hz
439-5250**	Pump Assembly, 220 V Single Phase 50/60 Hz
	Service Parts
459-2622	Pump Repair Kit
459-2623	Motor Brush Kit for 115 V
459-2624	Motor Brush Kit for 220 V
459-2625	Shroud Assembly for 115 V
459-2626	Shroud Assembly for 220 V
459-2627	Pendant Kit

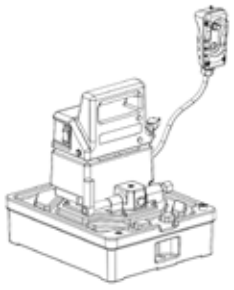
*Replaces 2P-5550 **Replaces 2P-5500

HYDRAULIC PUMPS & PRESSES

Electric Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



- Durable, lightweight pump delivers powerful performance in a basic package.
- Small motor performs, even with poor quality power.
- Motor controlled via pendant
- 3-way/2-position valve for single-acting tools, controlled manually
- Large easy-carry handle for maximum portability
- Ships with no oil

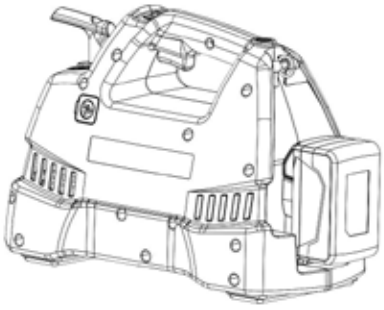
Part No.	451-8702	452-1079
Motor	115V, Single-Phase 50/60 Hz	220V, Single-Phase 50/60 Hz
Display	No Gage or LCD	
Power	0.73 hp (0.54 kW)	
Flow Rate	200 in3/min @ 250 psi, 20 in3/min @ 10,000 psi	
Usable Oil Capacity	1.0 gal (3.8 L)	
Valve	3-Way/2-Position Manual	
Max Operating Pressure	10,000 psi (689 bar)	
Dimensions	309.4 x 368.3 x 373.9 mm (12.2 x 14.5 x 14.7 in)	
Weight	14 kg (30 lb)	

Service Repair Items		
Shroud Assembly	459-2625	459-2626
Motor Brush Kit	459-2623	459-2624
Pump Repair Kit	459-2628	
Pendant Kit	459-2629	

Cordless Electric Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



European Union Compliant, CE marked

- Delivers the power and speed of an electric pump, with the portability of a hand pump
- Powered by a 28V Li-ion battery providing steady, reliable power (two batteries and one charger included)
- Perfect for use in the field or hard-to-reach jobs: no power chords or tripping hazards
- Composite shroud includes carrying handle and shoulder strap for the ultimate in portability

Part No.	450-9134	461-4388	533-1186	533-1185
Motor	28V Permanent Magnet DC	28 V Permanent Magnet DC	28V Permanent Magnet DC	28 V Permanent Magnet DC
Charger (included)	115V	220V	115V	220V
For Use With	Single-Acting Cylinders		Double-Acting Cylinders	
Display	No Gage or LCD			
Power	0.5 hp (0.375 kW)			
Battery	28 VDC Li-Ion			
Flow Rate	125 in3/min @ 250 psi			
15 in3/min @ 10,000 psi	4-way/3-position footswitch			
Usable Oil Capacity	0.5 gal (2L) Bladder			
Valve	3-way/2-position - Manual			
Valve Type	Advance/Return			
Max Operating Pressure	10,000 psi (689 bar)			
Dimensions	208.7 x 421.6 x 294.7 mm (8.2 x 16.6 x 11.6 in)			
Weight	11 kg (24 lb)			

Service Repair Items		
115V Charger for 28V	461-4390	
230V Charger for 28V	461-4391	
Pump Assembly (no battery incl)	453-7292 Single-Acting	533-1178 Double-Acting
28V Battery Pack	461-4389	
Seal Kit	455-6551	
Motor Brush Kit	455-6552	

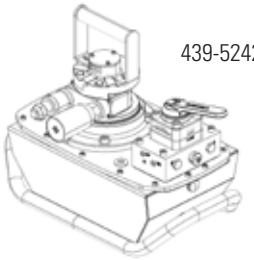
HYDRAULIC PUMPS & PRESSES

Air Hydraulic Pumps

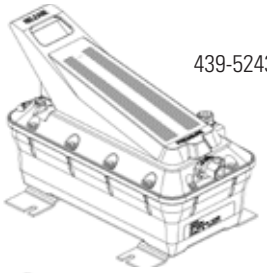
Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's

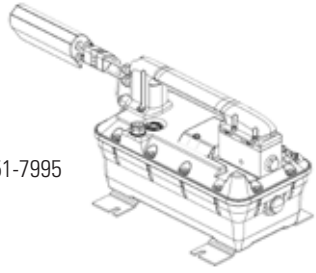
439-5242



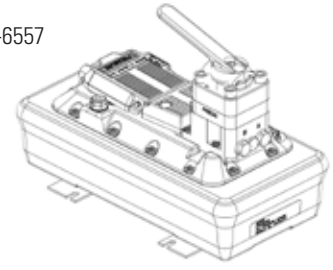
439-5243



451-7995



455-6557



European Union Compliant, CE marked

- This line of pumps offer versatility and portability wherever air-powered tools are preferred.
- High capacity, high flow for larger cylinders to smaller capacity, high flow for smaller cylinders
- The different valve interfaces allow the operators several options to actuate the pump; be it manual, foot, or pendant.
- 439-5243 and 451-7995 have an accessory available that allows for a 3.75L (1 gal) capacity.

Part No.	439-5242	439-5243	451-7995	455-6557*
Max Operating Pressure	689 bar (10,000 psi)	689 bar (10,000 psi)	689 bar (10,000 psi)	207 bar (3,000 psi)
Usable Oil Capacity	6.62 L (1.75 gal)	2.08 L (0.55 gal)	2.08 L (0.55 gal)	2.08 L (0.55 gal)
Flow Rate @ 48 bar (700 psi)	11,061 cm3/min (675 in3/min)	983 cm3/min (60 in3/min)	836 cm3/min (51 in3/min)	983 cm3/min (60 in3/min)
Flow Rate @ 689 bar (10,000 psi)	1,311 cm3/min (80 in3/min)	164 cm3/min (10 in3/min)	98 cm3/min (6 in3/min)	164 cm3/min (10 in3/min)
Dynamic Air Pressure	4.13 - 6.89 bar (60 - 100 psi)	2.75 - 8.62 bar (40 - 125 psi)	2.75 - 8.62 bar (40 - 125 psi)	2.75 - 8.62 bar (40 - 125 psi)
Air Consumption	0.57 - 2.83 m3/min (20 - 100 scfm)	0.34 m3/min (12 scfm)	0.34 m3/min (12 scfm)	0.34 m3/min (12 scfm)
Control Valve	Manual (ADV/HOLD/RET)	Manual / Foot (ADV/HOLD/RET)	Pendant (ADV/HOLD/RET)	Manual (ADV/HOLD/RET)
Used With	D/A Cylinders	S/A Cylinders	S/A Cylinders	D/A Cylinders
Dimensions (L x W x H)	414 x 267 x 381 mm (16.3 x 10.5 x 15 in)	350 x 165 x 216 mm (13.75 x 6.5 x 8.5 in)	318 x 165 x 203 mm (12.5 x 6.5 x 8 in)	324 x 165 x 267 mm (12.75 x 6.5 x 10.5 in)
Weight with Oil	35 kg (77 lb)	8.17 kg (18 lb)	10 kg (22 lb)	10.9 kg (24 lb)

Service Repair Items					
Part No.	**Description**	**439-5242**	**439-5243**	**451-7995**	**455-6557***
447-0917	Pump Seal Kit	X			
455-6558	Air Motor Replacement	X			
455-6562	Pump Repair Kit		X	X	
455-6563	Pump Repair Kit				X
455-6564	Air Motor Replacement		X	X	X
455-6565	Air Hose Replacement			X	
455-6566	Air Pendant Kit			X	

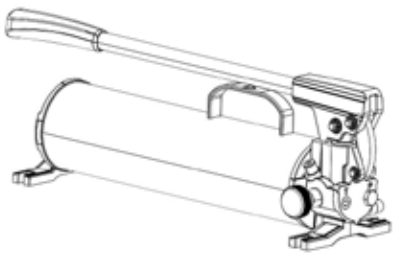
Accessories	
455-6567	3.75L Reservoir Kit, Black (Only for 439-5243, 451-7995)
6D-7726	Hose - 689 bar - 3.6 m (12 ft) Without Couplers
1P-2376	Quick Disconnect - Female
1P-2375	Quick Disconnect - Male

*Replaces 9U-5774

Manual Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



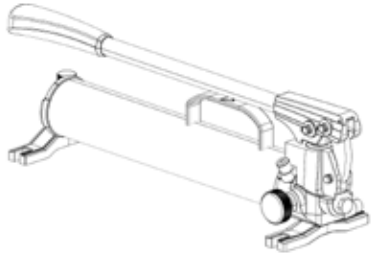
- Reduced handle effort and ergonomic grip for less operator fatigue
- Vent-free reservoir eliminates spills.
- Quick-grip handle allows for easy transportation.
- Durable, all-steel construction and chrome-plated plunger for superior durability
- Ships with no oil

Part No.	439-5245
Oil Displacement per Stroke	1 in3 (16.4 cm3) @ 500 psi, 0.15 in3 (2.46 cm3) @ 10,000 psi
Max Operating Pressure	10,000 psi (689 bar)
Usable Oil Capacity	0.58 gal (2.2L)
Max Handle Effort	28.7 kg (77 lb)
Dimensions	597.2 x 150 x 194.4 mm (23.5 x 5.9 x 7.65 in)
Weight	8.8 kg (23.6 lb)

Manual Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



- Ergonomic grip and reduced handle effort for less operator fatigue
- Vent-free reservoir eliminates spills.
- Quick-grip handle allows for easy transportation.
- Durable, all-steel construction and chrome-plated plunger for superior durability
- Ships with no oil

Part No.	439-5246
Oil Displacement per Stroke	1.00 in3 (16.4 cm3) @ 500 psi, 0.15 in3 (2.46 cm3) @ 10,000 psi
Max Operating Pressure	10,000 psi (689 bar)
Usable Oil Capacity	0.2 gal (0.77L)
Max Handle Effort	40 kg (88 lb)
Dimensions	549.4 x 140 x 162.5 mm (21.63 x 5.51 x 6.40 in)
Weight	7.1 kg (15.6 lb)

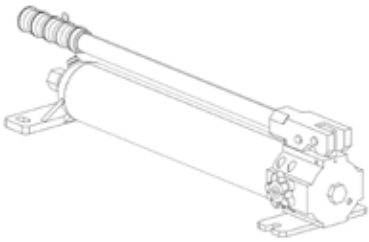
Service Repair Items	
Pump Seals Kit	455-6568
Two-Stage Plunger Kit	455-6569
Release Valve Kit	455-6570

HYDRAULIC PUMPS & PRESSES

Manual Hydraulic Pump

Model Usage: For General Purpose Hydraulic Cylinders

Warranty: Manufacturer's Limited Lifetime



- All-aluminum construction makes these pumps ideal for portability, high heat or welding applications.
- Integrated spring latch provides quick carrying mobility.
- Fine-pitched threads on release valve allow for precise load lowering.
- Ships with no oil

Part No.	451-7994
Oil Displacement per Stroke	0.91 in3 (14.91 cm3) @ 200 psi, 0.19 in3 (3.11 cm3) @ 10,000 psi
Max Operating Pressure	10,000 psi (689 bar)
Usable Oil Capacity	0.3 gal (1.15L)
Dimensions	606.4 x 140 x 131.1 mm (28.87 x 5.51 x 5.16 in)
Weight	5 kg (11 lb)

Hand Pump Group

Warranty: Caterpillar® Six Months



- Replaced discontinued 4C-4865 Hydraulic Hand Pump
- Portable power source for Hydraulic Service Tools
- Square reservoir configuration and slightly larger pumping capacity
- Pump repair parts are explained in the Special Instruction Form SEHS9061 which is supplied with each unit

Specifications

- Reservoir (tank) capacity: 7.9 L (2.1 gal)
- Usable capacity: 7.6 L (2.0 gal)
- Fluid: SAE 10 non-detergent petroleum oil
- Weight (with oil): 26 kg (58 lb)
- Valve port size: 3/8 in NPT
- Approximate size: 308 x 321 x 766 mm (12.12 x 12.64 x 30.16 in)

Specifications	Volume Per Stroke	Pressure
First Pressure Level	119 cc (7.29 cu in)	1380, ± 345 kPa (200, ± 50 PSI)
Second Pressure Level	4.75 cc (0.290 cu in)	69,000, ± 3,450 kPa (10,000, ± 500 PSI)

Part Number	Description
9U-6600	Hand Pump Group (Hoses sold separately)
Service/Repair Parts	
4C-4866	Service Kit
9U-6588	Pump Housing
9U-6589	Pump Link
9U-6590	O-ring Seal
9U-6591	Pivot Disc
9U-6592	Piston
9U-6593	Plunger
9U-6596	Filter
9U-6602	Filter
9U-6603	Tube Assembly
9U-6604	Tube Assembly
9U-6606	Four-way Valve
9U-6607	Service Kit

Service Repair Items	
Pump Seals Kit	455-6571
Release Knob	455-6572
Release Knob Screw	455-6573

Service Repair Items	
Pump Seals Kit	455-6574
Two-Stage Plunger Kit	455-6569
Release Valve Kit	455-6570

Hydraulic Shop Presses

Warranty: Caterpillar® Lifetime

Part No.	OTC No.	Force	Weight	A	B	G	E	Pump	Optional Hydraulic Group
				Height	Outside Width	Inside Width	Max. Working Height		
1U-7459	1850	55 ton	317.1 kg (699 lb)	179.71 cm (70 3/4 in)	120.65 cm (47 1/2 in)	88.9 cm (35 in)	104.46 cm (41 1/8 in)	Manual	1U-7466
1U-7461	1851	55 ton	313.9 kg (692 lb)	179.71 cm (70 3/4 in)	120.65 cm (47 1/2 in)	88.9 cm 35 in)	104.46 cm (41 1/8 in)	Air	1U-7466
1U-7463	1845	55 ton	420 kg (926 lb)	182.88 cm (72 in)	123.19 cm (48 1/2 in)	91.44 cm (36 in)	83.19 cm (32 3/4 in)	Electric	1U-7466
1U-7464	1846	55 ton	417.3 kg (920 lb)	182.88 cm (72 in)	123.19 cm (48 1/2 in)	91.44 cm (36 in)	83.19 cm (32 3/4 in)	Manual	1U-7466
1U-7465	1847	55 ton	415.9 kg (917 lb)	182.88 cm (72 in)	123.19 cm (48 1/2 in)	91.44 cm (36 in)	83.19 cm (32 3/4 in)	Air	1U-7466
1U-7468	1854	100 ton	534.8 kg (1,179 lb)	220.03 cm (86 5/8 in)	120.65 cm (47 1/2 in)	88.90 cm (35 in)	115.57 cm (45 1/2 in)	Electric	—
1U-7471	1858	100 ton	746.2 kg (1,645 lb)	196.22 cm (77 1/4 in)	162.56 cm (64 in)	127.00 cm (50 in)	106.68 cm (42 in)	Electric	—
4C-5639	1867	200 ton	2,020.8 kg (4,455 lb)	313.06 cm (123 1/4 in)	160.66 cm (63 1/4 in)	130.18 cm (51 1/4 in)	162.56 cm (64 in)	Electric	—

Arbor Press (10 Ton)

Model Usage: General Shop Use

Warranty: Manufacturer's



- Used with 10-ton single-acting hydraulic cylinder and any single-acting hydraulic pump (sold separately)
- Holes for horizontal or vertical mounting
- Back is slotted for loading of longer parts.

Part No.	Description	Throat Depth	Dimensions (L x W x H)	Weight
526-5512	Arbor Press (10 Ton)	150 mm from center of cylinder	291 x 151 x 426 mm (11.5 x 6 x 16.8 in)	27 kg (78 lb)

Economy Shop Presses, 55 Ton

Warranty: Caterpillar® Six Months



- Durable steel frame resists buckling or bending and hand operated winch and cable mechanism adjusts lower press bolster

1U-7461

- Same as 1U-7459 except with 1U-7545 Air/ Hydraulic Pump (1U-7545 requires 9 cfm at 689.5 kPa [100 PSI] at the pump)

Part Number	Description	Weight
1U-7459	Economy Shop Presses, 55 Ton	317.06 kg (699 lb)
1U-7461	Economy Shop Presses, 55 Ton	313.89 kg (692 lb)

HYDRAULIC PUMPS & PRESSES

Heavy-Duty Shop Presses, 55 Ton

Warranty: Caterpillar® Six Months



- Larger versions of the 25 ton presses
- Side to side positioning of ram allows full capacity pressing along entire bolster length without buckling or bending
- Single-acting ram has a 33.02 cm (13 in) stroke
- Choice of pumps is available to suit individual needs

1U-7463

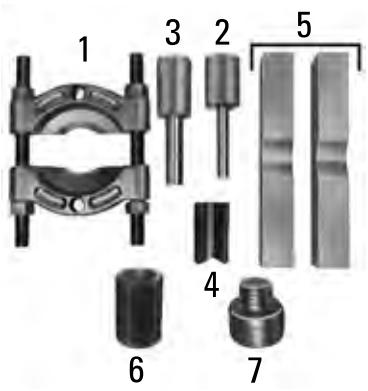
- Includes electric/hydraulic pump, 1U-7547 Hose Gauge (9.53 mm ID x 2.44 m [3/8 in ID x 8 ft]), and pump mounting bracket (Pump: 1/2 HP, single-phase, 115 V/60 Hz)

1U-7465

- Same as 1U-7463 except has an air/hydraulic pump (requires 9 cfm at 689.5 kPa [100 PSI] at the pump) and hose (9.53 mm ID x 3.05 m [3/8 in ID x 10 ft])

Part Number	Description	Weight
1U-7463	Heavy-Duty Shop Press, 55 Ton	420.03 kg (926 lb)
1U-7464	Heavy-Duty Shop Press, 55 Ton	417.31 kg (920 lb)
1U-7465	Heavy-Duty Shop Press, 55 Ton	415.90 kg (917 lb)

Press Accessory Set for 55 Ton Shop Presses



- Use with 55 ton presses
- Weight: 85 lb

Item	Description
1U-7466	Press Accessory Set
Set Includes:	
1	Bearing pulling attachment
2	Ram push adapter with 25.4 mm (1 in) diameter shank
3	Ram pushing adapter with 31.75 mm (1 1/4 in) diameter shank
4	V-push adapter
5	Pair or V-blocks
6	Ram forcing cap
7	Threaded adapter

Economy Shop Press, 100 Ton

Warranty: Caterpillar® Lifetime



- Ready to tackle the tough pressing tasks encountered daily in construction, trucking and agricultural maintenance shops
- Large 88.9 cm (35 in) opening between press uprights allows you to easily handle large gears, shafts, sprockets, etc.
- Hand operated winch and cable mechanism gives operator positive control in adjustment of lower press bolster to any height

1U-7468

- Includes ram with 10 inch stroke, electric/hydraulic pump, 1U-7547 Hose Gauge (6.35 mm ID x 2.44 m [1/4 in ID x 8 ft]), and pump mounting bracket (Pump: 1/2 HP, single-phase, 60 Hz, 115 Volt)

Part Number	Description	Weight
1U-7468	Economy Shop Press, 100 Ton	534.8 kg (1,179 lb)

Heavy-Duty Shop Press, 100 Ton

Warranty: Caterpillar® Lifetime



- Handles all your really tough pressing jobs
- Rugged construction assures that the frame will withstand loads of full-rated capacity across the upper bolster without structural damage
- Wide open uprights (over 30.5 cm [12 in]) allow easy side loading of bars and shafts for bending or straightening
- Ram head glides smoothly along upper bolster on rollers, allowing fast and easy horizontal adjustments
- Upper bolster can be lowered 8 inches for convenient positioning during repetitive jobs
- Double-acting ram with 33.02 cm (13 in) stroke and electric/hydraulic pump and 2 hoses (6.35 mm ID x 3.05 m [1/4 in ID x 10 ft]) (Pump: 3 HP, 3-phase, 230V/460V, 60 Hz, 3450 RPM, 24V controls)

Part Number	Description	Weight
1U-7471	Heavy-Duty Shop Press, 100 Ton	746.2 kg (1,645 lb)

Roll Bed® Shop Presses, 100, 150 and 200 Ton

Warranty: Caterpillar® Lifetime



- Patented Roll Bed feature allows you to roll out press bed to load and unload heavy work with overhead crane
- Choice of hydraulics makes these presses as functional as you need for the biggest pressing jobs
- Movable ram head and 3.05 m (10 ft) remote control combined with large, open working area allows operator to easily view work from all sides
- Heavy-duty, cold-rolled steel construction assures plenty of staying power to withstand full rated capacity loads
- Bearings make bed positioning smooth and easy
- Width adjusts from 10.16 to over 68.58 cm (4 in to over 27 in) and is secured with locking bolts
- Workhead moves on bearings across the upper bolster for off-center pressing jobs
- Has off-center load capacity
- To raise or lower the upper bolster, simply turn a crank handle
- Hydraulic rams meet ANSI B30.1 Standards

4C-5639

- 33.02 cm (13 in) stroke
- 200 ton capacity

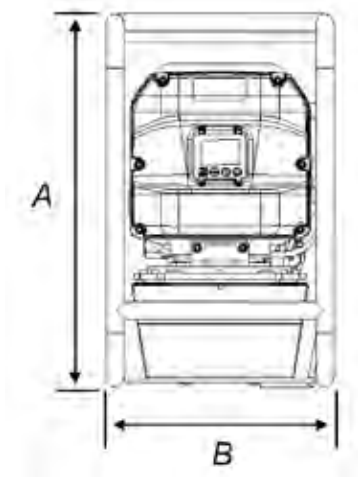
Part Number	Description	Weight
4C-5639	Roll Bed Shop Press, 200 Ton	2,020.8 kg (4,455 lb)

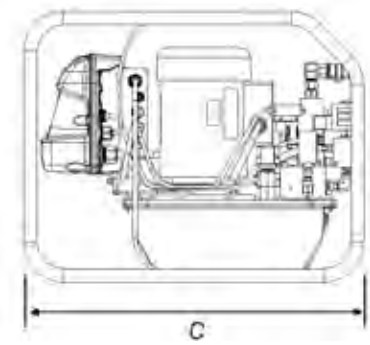
HYDRAULIC PUMPS & PRESSES

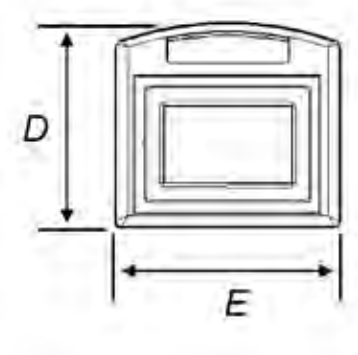
Smart Hydraulic Tensioning Pump

Model Usage: G3600 / 3600 / C280

Warranty: Manufacturer's







European Union Compliant, CE marked

- Smart Hydraulic Tensioning Pumps (498-6540 and 498-6541) require use of 498-6542 Smart Tensioning Group.
- Electronically controlled hydraulic pump for bolt tensioning
- Touchscreen user interface (HMI) with pre-loaded programs for specific tensioning jobs
- Independent hydraulic control interface for safety
- Quality Record creation for job traceability
- Go/No-Go feedback in Program mode to ensure joint quality
- Automatic execution helps ensure joint quality while significantly decreasing time needed to create the bolted joint
- Manual mode allows for the use of non-smart tensioners with the pump
- Pumps includes touchscreen (HMI), HMI case, HMI cable, and HMI mounting group.

Reference

- NEHS1280 Tool Operating Manual

Part No.	Voltage	Freq.	Plug	Max Pressure	Oil Cap.	Weight
498-6540	115v	60 Hz	NEMA 5-15P (USA Style)	1500 BAR	7.5 L	55 kg



498-6541	230v	50/60 Hz	Schuko (Euro Style)	1500 BAR	7.5 L	55 kg

Operating Temperatures

Temperature Range	Hydraulic Oil Required
15 to 60 C (60 to 140 F)	ADV Hydo 10 309-6932 (3.8 L) - 2 gallon required to fill pump (or equivalent)

Service Repair Items

Part No.	Description
466-1821	HMI Mounting Group
466-1822	HMI Travel Case
498-6561	Pump Pressure Relief Valve
498-6562	Hydraulic Pendant Kit
498-6563	HMI (touchscreen)
498-6564	Manifold Valve Filter Kit
498-6565	Mechanical Pressure Gauge Kit (0-200bar)
498-6566	Valve Seal Kit
498-6567	HMI Cable

Product Dimensions

Item	MM	IN
A	520	20.50
B	317	12.50
C	654	25.75
D	246	9.69
E	270	10.63
F	109	4.29

Smart Hydraulic Tensioning Group

Model Usage: G3600 / 3600 / C280

Warranty: Manufacturer's



European Union Compliant, CE marked

- 498-6542 Smart Tensioning Group requires use of either 498-6540 Pump Group (115v) or 498-6541 Pump Group (230v).
- Twin stud design allows tensioning two bolts at one time
- Tensioner design features for improved technician efficiency include nut rotating gearbox, puller sleeve free float and spring loaded nut rotating sockets for inverted operation
- Travel case includes pockets for rod guides for both the Inline and Vee engines
- Tensioners feature a hydraulic cycle counter to help ensure proper maintenance is followed to maintain safe operation of the tools
- Integrated hose assembly features the necessary electrical cables for communication from the tensioner to the pump
- All hydraulic components rated for 1500 bar max pressure
- Group includes everything except smart pump.

Reference

- NEHS1281 Tool Operating Manual

Part No.	Engine	Application	Weight
498-6542	3600 Series	Connecting Rods	41 kg

Tool Group Contents

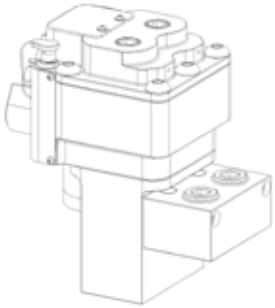
Part No.	Description	Qty.
466-1810	Tool Group Travel Case	1
498-6545	3600 ConRod Hose Group	1
498-6547	3600 ConRod Smart Tensioner	2
498-6551	High Force Socket Group	1
498-6572	Thumbwheel Assm	2
498-6573	Rod Guide Retaining Nut	4

Service Repair Items

Part No.	Description
466-1812	Hose - Pump - 3M Length
498-6546	Cable Junction Box
498-6550	Flow Divider
498-6552	Tensioner Return Spring Kit
498-6553	Tensioner Cover Kit
498-6554	Tensioner Fasteners Kit
498-6555	Tensioner Socket Spring Kit
498-6556	Tensioner Seal Kit
498-6557	Tensioner Relief Valve Kit
498-6558	Tensioner Transducer Kit
498-6559	Tensioner Puller Sleeve Assm Kit
498-6560	Swivel Manifold Assm Kit
498-6568	Transducer Cable - Pump
498-6569	Transducer Cable - Tensioner
498-6570	Chafe Gear - 3M Section
498-6571	Hose - Tensioner - 3M Length
498-6574	Quick Disconnect Group - 90°

HYDRAULIC PUMPS & PRESSES

Smart Hydraulic Tensioner



- Integrated electronics provide automatic feedback to ensure joint quality
- Robust top cap design for puller sleeve retention
- Over stroke protection includes a visual indicator and internal relief valve
- 360° rotation of quick disconnect allows for convenient hose installation
- High pressure design allows for compact tool reducing technician fatigue

Part No.	Max Pressure	Max Load	Max Stroke	Weight
498-6547	1500 BAR	264 kN	8 mm	7.9 kg

Swing Rack Thrust Bolts Torque Wrench Tools

Model Usage: 7495

Warrantv: Manufacturer's



525-7955



525-7956

478-3990



- Specialized torque tools are required to tighten the swing rack thrust rail bolts.
- Allows access to the bolt heads without disassembly of 440-3994 plate
- These tools attach to hydraulic torque wrench 478-3990 to ensure accuracy in bolt torque requirements.

Part No.	Description	Dimensions	Weight
525-7955	S1500 Reaction Roller Assembly	130 x 46 x 107 mm (5.12 x 1.9 x 4.3 in)	1.5 kg (3.3 lb)
525-7956	Torque Link Assembly (3/4 in sq dr x 1 inA/F 12pt)	117 x 18 x 42 mm (4.6 x 0.7 x 1.7 in)	0.5 kg (1.1 lb)

Cat® Ball Stud Breaker Group



Hammer Group 524-5362

- Inverted Cat® hydraulic breaker includes custom-engineered hammer which mounts to upper plate. (Other hammers are not compatible.)
- Hydraulic cylinder and manual hand pump to raise/lower upper platform
- Hand pump bypass feature to prevent excessive force on steering components
- Load-lock mechanism provides positive locking of upper platform with hydraulic cylinder disengaged
- Spring-loaded wheels collapse to allow lower plate to rest solidly on ground (when load is applied)
- Work tool, extensions, adapter configurations accommodate varying under-chassis heights of listed models
- Forklift provision for transport and storage
- Robust tool chest for storing work tools, extensions and adapters
- Interchangeable orifice kit for use with optional Cat 50 hz hydraulic power unit

Specifications

- Dimensions: 400 x 800 x 1,000 mm (16 x 31.5 x 39 in)
- Weight: 454 kg (1,000 lb)

Safety & Regulations

- Globally compliant and CE certified
- Safety guard encloses work tools, extensions and adapters
- Receiving provisions capture impacted surfaces of work tools, extensions and adapters
- Optional hydraulic power unit allows for remote hammer group operation

Hydraulic Power Units (HPU)

Part No.	Hydraulic Power Unit
524-5342	460 Volt / 60 Hz / 3 Phase
524-5343	230 Volt / 60 Hz / 3 Phase
524-5344	415 Volt / 50 Hz / 3 Phase
524-5345	380 Volt / 50 Hz / 3 Phase
524-5346	600 Volt / 60 Hz / 3 Phase

- Optimized for maximum hydraulic flow and pressure
- 162 bar (2,350 psi), 32.2 lpm (8.5 gpm) max flow rate
- Supply and return hydraulic hose
- Remote pendant operation
- Custom-designed mobile cart with forklift provision for transport and storage
- 75.7 L (20 gal) Cat® HYDO™ Advanced 10 or iSO46 Hydraulic Oil

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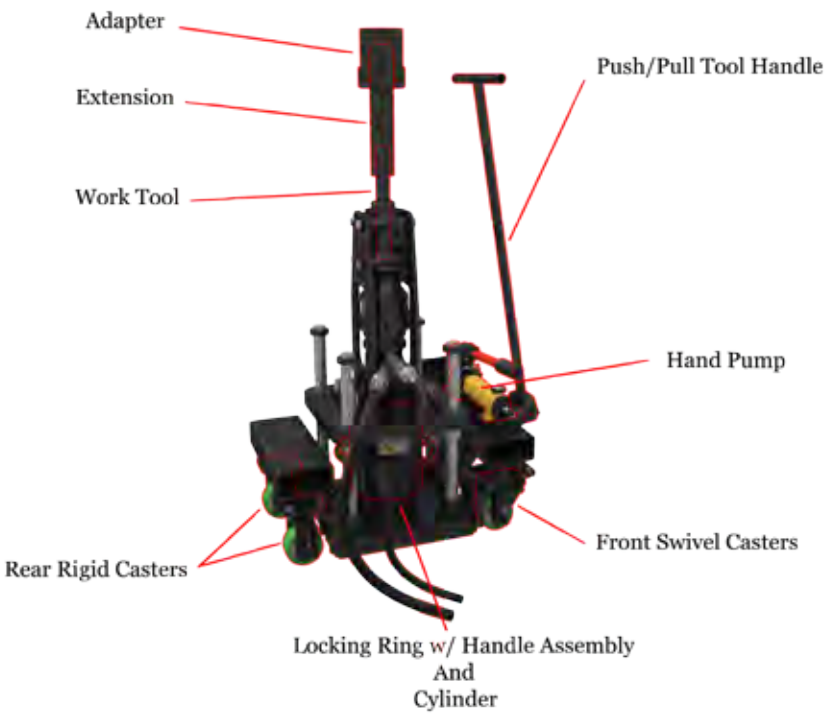
HYDRAULIC PUMPS & PRESSES

Cat® Ball Stud Breaker Group (CONTINUED)



524-5362 Hammer Group Accessories

Ball Stud Thread on Adapters	
524-5368	2¼-12 Thread
524-5369	3¼-12 Thread
524-5374	2¼-12 Thread with Direct Coupler
Extensions	
524-5376	110 mm
524-5370	170 mm
524-5371	260 mm
524-5372	350 mm
Work Tools	
524-5364	303 mm
524-5373	254 mm

524-5362 Hammer Group Serviceable Parts

Hydraulics	
524-5356	Quick Disconnect Kit - 1/2 and 3/4 in
360-6957	Lift Cylinder
524-5378	Lift Cylinder Hose
524-5331	Hand Pump
524-9168	Hand Pump Service Kit
524-5379	Hammer
Additional Parts	
524-5377	Push/Pull Tool Handle
524-5365	Locking Ring with Handle Assembly
524-5366	Hammer Group Swivel Caster
524-5367	Hammer Group Rigid Caster
524-5375	Guard
524-5381	50 Hz Orifice and Dowty Washer Kit
524-5382	60 Hz Orifice and Dowty Washer Kit
524-5380	Tool Chest
524-5383	Tool Chest-Swivel Caster
524-5384	Tool Chest-Rigid Caster

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Cat® Ball Stud Breaker Group (CONTINUED)

Hydraulic Pump Group Dimensions

- 635 x 737 x 1,359 mm (25 x 29 x 53.5 in)
- Weight (empty): 408 kg (900 lb)

Reference

- Hammer Group Tool Operating Manual M0080743
- Pump Group (HPU) Tool Operating Manual M0083627
- Video on Channel 1 (CATU1570)

Hydraulic Power Unit Serviceable Parts

Pump Group Motor Starters	
524-5358	460 V
524-5359	230 V
524-5360	415 V
524-5361	380 V
Universal Pump Group Parts (Regardless of Voltage)	
524-5348	Service Kit
524-5349	Pendant (corded)
524-5355	Quick Disconnect Kit – 1/2 and 3/4 in
524-5350	Valve Assembly
524-5351	Valve-Coil
524-5352	Pump-Gear
524-5353	Pump Group - Rigid Caster
524-5354	Pump Group - Swivel Caster
524-5357	Hose Assembly

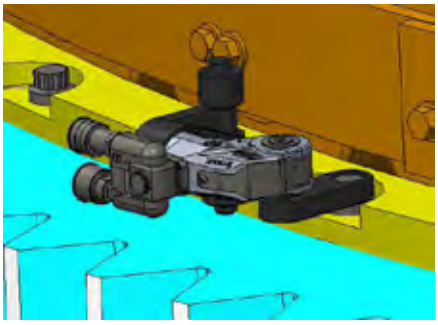


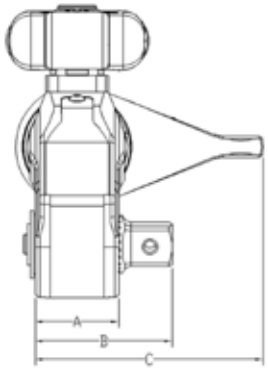
HYDRAULIC WORK TOOLS

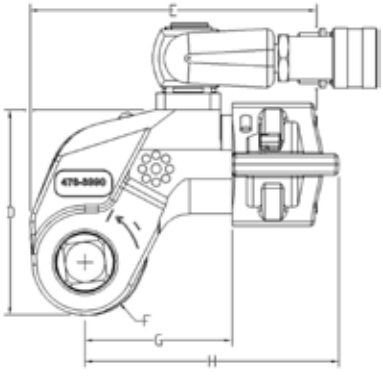
Hydraulic Torque Wrench, Square Drive

Model Usage: All

Warranty: Manufacturer's Limited Lifetime







European Union compliant, CE marked

- Robust new handles provide safe and easy operation.
- Wrench now comes standard with double-swivel manifold for better maneuverability.
- More durable manifold design with recessed sealing face
- Reaction arm now features a larger lever for easier operation.
- Multiple locations for mounting handle around tool
- Easy push button release for quick direction changes
- New etching to be used with option angle of turn indicator
- Traceability: Tools are shipped with a calibration certificate from the factory.
- Compact, high-strength uni-body construction provides a small operating radius without sacrificing endurance.
- Includes interchangeable handle to provide additional maneuverability.
- Includes double swivel manifold to allow correct hose alignment in tight quarters.
- 35° rotation angle and rapid return stroke for fast operation
- Optional angle-of-turn indicator for tracking rotation movement

Part No.	Max. Operating Pressure	Max. Torque Output	Square Drive Size	Weight
478-3990	689 bar (10,000 psi)	1952 Nm (1,440 ft-lb)	3/4 in	3.3 kg (7.25 lb)
478-3993	689 bar (10,000 psi)	4,373 Nm (3,225 ft-lb)	1 in	5.67 kg (12.5 lb)
478-3996	689 bar (10,000 psi)	8,338 Nm (6,150 ft-lb)	1-1/2 in	9.3 kg (20.5 lb)
478-4000	689 bar (10,000 psi)	15,151 Nm (11,175 ft-lb)	1-1/2 in	15.9 kg (35 lb)
478-4003*	689 bar (10,000 psi)	35,455 Nm (26,150 ft-lb)	2-1/2 in	32.3 kg (71.2 lb)

Part No.	Dimensions							
	A	B	C	D	E	F	G	H
478-3990	39 mm (1.54 in)	65 mm (2.56 in)	108 mm (4.25 in)	97 mm (3.82 in)	136 mm (5.35 in)	25 mm (0.98 in)	70 mm (2.76 in)	129 mm (5.08 in)
478-3993	48 mm (1.89 in)	80 mm (3.15 in)	135 mm (5.31 in)	128 mm (5.04 in)	173 mm (6.81 in)	33 mm (1.3 in)	90 mm (3.54 in)	161 mm (6.34 in)
478-3996	55 mm (2.17 in)	92 mm (3.62 in)	169 mm (6.65 in)	157 mm (6.18 in)	192 mm (7.56 in)	40 mm (1.57 in)	110 mm (4.33 in)	188 mm (7.4 in)
478-4000	72 mm (2.83 in)	114 mm (4.49 in)	197 mm (7.76 in)	190 mm (7.48 in)	228 mm (8.98 in)	50 mm (1.95 in)	133 mm (5.24 in)	229 mm (9.02 in)
478-4003*	89 mm (3.5 in)	143 mm (5.63 in)	246 mm (9.69 in)	244 mm (9.61 in)	287 mm (11.3 in)	64 mm (2.52 in)	182 mm (7.17 in)	295 mm (11.61 in)

*Replaces 384-7264

See Accessories On Next Page...

Hydraulic Torque Wrench, Square Drive

Accessories



Style 1 - Reaction Arm



Style 2 - Reaction Arm



Style 3 - Reaction Arm



Angle of Turn Indicator



Twin Line Hose

Square Drive Service Repair Items

Description	478-3990 (Hyd. Wrench)	478-3993 (Hyd. Wrench)	478-3996 (Hyd. Wrench)	478-4000 (Hyd. Wrench)	478-4003 (Hyd. Wrench)
Drive Unit Seal Kit	478-3991	478-3994	478-3997	478-4001	478-4004
Drive Unit Rebuild Kit	384-8913	384-7877	385-8581	385-9416	384-7267
Ratchet Kit	384-8914	385-7912	385-8582	385-9417	384-7268
Drive Shoe Spring Kit	384-8915	384-8915	385-8583	385-8583	385-7913
Square Drive and Retainer Kit	384-8917	385-7915	385-8585	385-9420	384-7271
Ratchet Lever and Pin	384-8918	385-7916	385-8586	385-9421	384-7272
Swivel Manifold Kit	478-4030	478-4030	478-4031	478-4031	478-4032
Double-Swivel Manifold Replacement	478-4028	478-4028	478-4028	478-4028	478-4028
Swivel Manifold Seal Kit	478-4029	478-4029	478-4029	478-4029	478-4029
Standard Reaction Arm	478-3992	478-3995	478-3998	478-4002	478-4005
Male Quick Disconnect	7X-0487	7X-0487	7X-0487	7X-0487	7X-0487
Male QD Adapter	447-4935	447-4935	447-4935	447-4935	447-4935
Female Quick Disconnect	7X-0486	7X-0486	7X-0486	7X-0486	7X-0486

Description	Reaction Arm Style	478-3990 (Hyd. Wrench)	478-3993 (Hyd. Wrench)	478-3996 (Hyd. Wrench)	478-4000 (Hyd. Wrench)	478-4003 (Hyd. Wrench)
Angle-of-Turn Indicator	-	458-9475	458-9476	458-9477	458-9478	458-9479
Reaction Arm - Short	1	466-1796	-	-	-	-
Reaction Arm - 1″	2	466-1797	-	-	-	-
Reaction Arm - 2″	2	466-1798	-	-	-	-
Reaction Arm - 3″	2	466-1799	-	-	-	-
Reaction Arm - 6″	2	-	-	478-3999	-	-
Reaction Arm - Tube Extension	3	-	478-4033	-	-	-
Reaction Arm - 390D Custom	3	-	458-9480	-	-	-
Twin Line Hose - 6m	-	417-9067	417-9067	417-9067	417-9067	417-9067

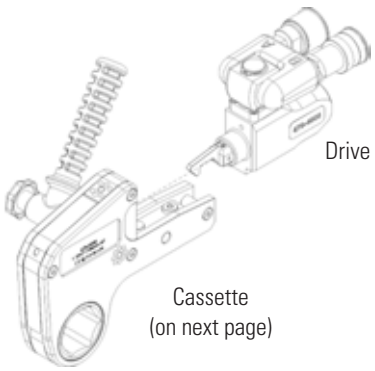
HYDRAULIC WORK TOOLS

Low Profile Cassette Wrench Drive Unit

Model Usage: All

Warranty: Manufacturer's Limited Lifetime

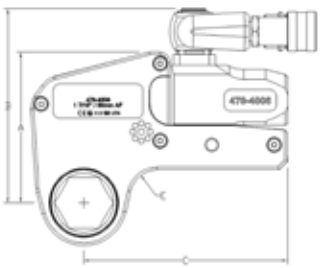




Drive Unit

Cassette
(on next page)





European Union compliant, CE marked

- Robust new handles provide safe and easy operation.
- Wrench now comes standard with double-swivel manifold for better maneuverability.
- More durable manifold design with recessed sealing face
- Fast-release drive unit enables rapid exchange of cassettes; no tools required.
- Multiple locations for mounting handle around tool
- Traceability: Tools are shipped with a calibration certificate from the factory.
- Superior strength to-size ratio provides easy access to difficult reach applications without sacrificing tool life.
- Includes interchangeable handle to provide additional maneuverability.
- Includes double-swivel manifold to allow correct hose alignment in tight quarters
- 30° rotation angle and rapid return stroke for fast operation

	478-4006*	478-4014**	478-4024
Max. Operating Pressure	689 bar (10,000 psi)	689 bar (10,000 psi)	689 bar (10,000 psi)
Max. Torque Output	2,766 Nm (2,040 ft-lb)	5,661 Nm (4,175 ft-lb)	11,484 Nm (8,470 ft-lb)
Cassette A/F Range	30 : 60 mm (1-1/16 in : 2-3/8 in)	36 : 85 mm (1-5/16 in : 3-3/8 in)	50 : 105 mm (1-7/8 in : 4-1/8 in)
Weight	1.4 kg (3.09 lb)	2 kg (4.41 lb)	3 kg (6.61 lb)

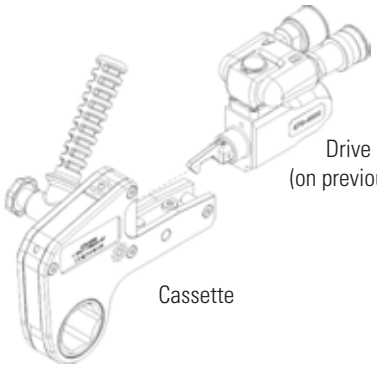
	Dimensions				
	A	B	C	D	E
478-4006*	109 mm (4.29 in)	141 mm (5.55 in)	148 mm (5.83 in)	32 mm (1.26 in)	20 mm (0.79 in)
478-4014	136 mm (5.35 in)	167 mm (6.57 in)	178 mm (7.01 in)	41 mm (1.61 in)	20 mm (0.79 in)
478-4024	172 mm (6.77 in)	205 mm (8.07 in)	208 mm (8.19 in)	53 mm (2.07 in)	25 mm (0.98 in)

Drive Unit Service Repair Items:

Description	478-4006	478-4014**	478-4024
Drive Unit Seal Kit	478-4007	478-4015	478-4025
Drive Unit Rebuild Kit w/ Retract Link	385-3990	385-8469	385-8735
Swivel Manifold Kit	478-4030	478-4030	478-4031
Double Swivel Manifold Replacement	478-4028	478-4028	478-4028
Swivel Manifold Seal Kit	478-4029	478-4029	478-4029
Male Quick Disconnect	7X-0487	7X-0487	7X-0487
Male QD Adapter	447-4935	447-4935	447-4935
Female Quick Disconnect	7X-0486	7X-0486	7X-0486

*Replaces 385-3988 **Replaces 385-8467

Low Profile Wrench Cassettes

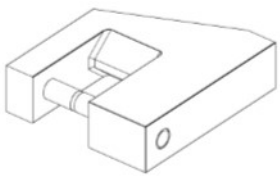


- Cassettes are used in conjunction with the appropriate sized drive unit to create a functioning tool.
- It is common to have one drive unit and multiple cassettes; based on nut sizes being maintained.

Description	478-4008	417-9068*	478-4010	478-4012	478-4016*	478-4018**	478-4020***	478-4022	478-4026
Cassette A/F Size	36 mm (1-7/16 in)	38 mm (1-1/2 in)	41 mm (1-5/8 in)	46 mm (1-13/16 in)	36 mm (1-7/16 in)	46 mm (1-13/16 in)	55 mm (2-3/16 in)	70 mm (2-3/4 in)	65 mm (2-9/16 in)
Used with Drive Unit	478-4006	478-4006	478-4006	478-4006	478-4014	478-4014	478-4014	478-4014	478-4024
Cassette Service Repair Items:									
Ratchet Lever Assm	478-4009	478-4009	478-4011	478-4013	478-4014	478-4019	478-4021	478-4023	478-4027
Ratchet Kit	385-3993	424-3607	385-3998	385-4003	385-8472	385-8477	385-8482	460-7303	385-8738
Drive Shoe Spring Kit	384-8915	384-8915	384-8915	384-8915	384-8915	384-8915	384-8915	384-8915	385-8738
Cassette Spares Kit	385-4010	385-4010	385-4010	385-4010	385-8489	385-8489	385-8489	385-8489	385-8745

*Custom Cassette, only to be used with specific SIS application

*Replaces 385-8471 **Replaces 385-8476 ***Replaces 385-8481



Reaction Paddle



Twin Line Hose

Description	478-4006	478-4014	478-4024
Reaction Paddle*	385-4011	385-8490	-
Twin Line Hose - 6m	417-9067	417-9067	417-9067

** Reaction paddle used for offset reaction points while using cassettes*

HYDRAULIC WORK TOOLS

Electric Hydraulic Torque Wrench Pump





European Union Compliant, CE marked

- Features high efficiency pump design with higher oil flow and bypass pressure 1.7 HP universal electric motor with high power to weight ratio and low voltage operation
- High strength, molded composite shroud protects motor and electrical components with an ergonomic, non-conductive handle
- Low voltage pendant for additional operator safety
- Valve technology reduces oil operating temperatures and withstands contaminants to increase pump reliability

These features only apply to 385-3995 and 385-3996 Pumps

- Digital display with built-in hour meter, pressure and torque display and shows self-diagnostics, cycle count and low voltage warning information
- Equipped with auto cycle operation when advance button is pressed continuously (pump operable with or without auto cycle feature)

Part Number	Pump with standard analog pressure gauge	Pump with LCD Display, Auto-cycle and readings in Torque Values	Pump with LCD Display, Auto-cycle and readings in Torque Values	Pump with standard analog pressure gauge
	384-8916	385-3995	385-3996	385-8479
Motor	208-240 VAC, Single Phase, 50/60 Hz	115 VAC, Single Phase, 50/60 Hz	208-240 VAC, Single Phase, 50/60 Hz	115 VAC, Single Phase, 50/60 Hz
Display	Analog Gauge	LCD	LCD	Analog Gauge
Valve	Standard	Auto Cycle	Auto Cycle	Standard
Power	1.26 kW (1.7 HP)	1.26 kW (1.7 HP)	1.26 kW (1.7 HP)	1.26 kW (1.7 HP)
Flow Rate	60 CU in./min @ 10,000 PSI	60 CU in./min @ 10,000 PSI	60 CU in./min @ 10,000 PSI	60 CU in./min @ 10,000 PSI
Reservoir Capacity	6.62 L (1.75 gal)	6.62 L (1.75 gal)	6.62 L (1.75 gal)	6.62 L (1.75 gal)
Maximum Operating Pressure	10,000 PSI	10,000 PSI	10,000 PSI	10,000 PSI
Dimensions	10.49 x 17.71 x 18.99 in (266.7 x 450 x 482.6 mm)	10.49 x 17.71 x 18.99 in (266.7 x 450 x 482.6 mm)	10.49 x 17.71 x 18.99 in (266.7 x 450 x 482.6 mm)	10.49 x 17.71 x 18.99 in (266.7 x 450 x 482.6 mm)
Comes with fittings and skid bar				

Service Parts	385-3995	385-3996	385-8479	384-8916
115 VAC Valve Assembly	384-8480	—	—	—
230 VAC Valve Assembly	—	384-8919	—	384-8919
Pendant	385-4001	385-4001	385-7917	385-7917
Analog Pressure Gauge Assembly	—	—	385-7914	385-7914
Brush Replacement Kit	346-6160	346-6160	346-6160	346-6160
Breather Plug	346-6159	346-6159	346-6159	346-6159
Roll Cage	346-6163	346-6163	346-6163	346-6163
Skid Plate	346-6164	346-6164	346-6164	346-6164
Relief Valve Repair Kit	385-8584	385-8584	385-8584	385-8584
Valve Repair Kit	385-8587	385-8587	385-8587	385-8587
Repair Kit	385-3991	385-3991	385-3991	385-3991

Accessories

Description	Part No.
Twin Torque Hose Assembly — 19 ft with couplers	417-9067

Air Hydraulic Pumps

Model Usage: For Hydraulic Torque Wrenches

Warranty: Manufacturer's



European Union Compliant, CE marked

- Valve technology reduces oil operating temperatures and withstands contaminants to increase pump reliability.
- Remote pendant control for operation up to 6 m (20 ft) away
- Includes proper quick disconnect couplers used with hydraulic torque wrenches
- Includes user-adjustable relief valve to set the application pressure for increased operator productivity
- Includes filter regulator lubricator mounted within roll cage for decreased setup time

Specifications	
Part No.	**451-7991**
Max Operating Pressure	689 bar (10,000 psi)
Usable Oil Capacity	6.62 L (1.75 gal)
Flow Rate @ 48 bar (700 psi)	8,193 cm3/min (500 in 3/min)
Flow Rate @ 689 bar (10,000 psi)	983 cm3/min (60 in 3/min)
Dynamic Air Pressure	4.13 - 6.89 bar (60 - 100 psi)
Air Consumption	0.57 - 2.83 m3/min (20 - 100 scfm)
Control Valve	Pendant-Controlled Torque Wrench Valve
Used With	Hydraulic Torque Wrenches
Dimensions (L x W x H)	493 x 318 x 533 mm (19.4 x 12.5 x 21 in)
Weight	45 kg (100 lb)

Service Repair Items	
Part No.	**Description**
447-0917	Pump Seal Kit
455-6558	Air Motor Replacement
455-6559	Air Pendant Kit
455-6560	Air Filter / Regulator
455-6561	Air Control Valve

Accessories	
417-9067	Hose - 689 bar - Twin Line - 6 m (20 ft) with Couplers
461-4387	Four-Station Torque Wrench Manifold Connects up to four torque wrenches

HYDRAULIC WORK TOOLS

Hydraulic Bolt Tensioner, Adapter Kit

Product Family: Draglines

Model Usage: 8000, 8200, 8750

Warranty: Manufacturer's



European Union Compliant, CE marked

- Twin Ports for quick connection of multiple tools
- Only one size of bridge per size of load cell
- Detachable and rotational bridge simplifies tool positioning
- Full bridge window
- Piston stroke indicator

Specifications

- 384-8906 Bridge Tensioner
  - Dimensions: 174 x 171 x 141 mm (6.9 x 6.7 x 5.6 in)
  - Bolt Range: 2-2 1/2" (M52-M68)
  - Material: Carbon Steel
- 384-8909 Adapter Kit (2"-4.5 UNC)

Part No.	Description
384-8906	Hydraulic Bolt Tensioner
384-8909	Adapter Kit
Service/Repair Parts	
384-8907	Repair Kit
384-8908	Seal Kit
Accessories	
385-8487	Electric Tensioning Pump – 115V
385-8488	Electric Tensioning Pump – 230V
430-7795	Tensioner Hose – 1m
430-7796	Tensioner Hose – 3m

Large Excavator Pump Removal Adapters

Model Usage: 374D, 374E, 374F, 390D, 390E, 390F

Warranty: Caterpillar® Six Months



Part Number	Description
420-6088	Adapter - Lifting
422-8400	Adapter Assembly- Lifting (C - Frame)

Hydraulic Tensioner Tools

Model Usage: All

Warranty: Manufacturer's



European Union Compliant, CE marked

- 1.7 HP universal electric motor with high power to weight ratio and low voltage operation
- Motor used in multiple DST hydraulic power supplies for lower owner cost and ease of repair
- Angled 6 inch pressure gauge with polycarbonate cover built into a durable steel shroud for improved visibility and protection
- Low voltage pendant for additional operator safety
- Safety relief valve limits output pressure

Part Number	385-8487	385-8488
Motor	115 VAC, Single Phase, 50/60 Hz	208-240 VAC, Single Phase, 50/60 Hz
Display	Analog Gauge	
Power	1.26 kW (1.7 HP)	
Flow Rate	180 CU in/min @ 0 PSI and 8 CU in/min @ 21,750 PSI	
Reservoir Capacity	4 L (1 gal)	
Maximum Operating Pressure	1500 Bar (21,750 PSI)	
Dimensions	495 x 317 x 520 mm (19.5 x 12.5 x 20.5 in)	
	Comes with hydraulic disconnects and roll cage	

Service Parts

Analog Pressure Gauge Assembly	385-8736
Pressure Release Valve Assembly	385-8740
Relief Valve Service Kit	385-8742
Relief Valve Seat & Piston Repair Kit	385-8741
Pendant Assembly	385-8743
Brush Replacement Kit	346-6160
Breather Plug	346-6159

Accessories

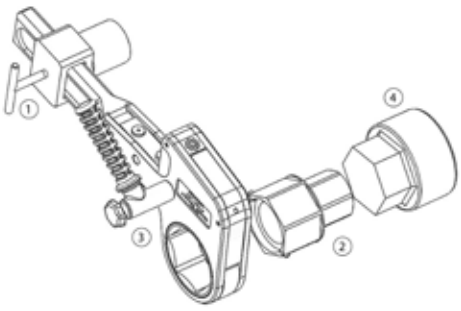
1 m 1500 Bar Hose	1 m (3 ft) 1500 Bar Hydraulic Hose with quick disconnect fittings	430-7795
3 m 1500 Bar Hose	3 m (10 ft) 1500 Bar Hydraulic Hose with quick disconnect fittings	430-7796
Kit Adapter (1500 Bar Qdisc)	Quick Disconnect Coupler Kit 1500 Bar	431-8884

HYDRAULIC WORK TOOLS

Well Service Pump Torque Tooling

Model Usage: WS223, WS223 XD, WS223 SS, WS255, WS255 XD, WS255 SS, WS273 XD, WS305 XD

Warranty: Manufacturer's



- Tool group specifically designed to torque the fluid end nuts and hex caps
- Universally designed to work with pump models listed

Part No.	Description	Max Operating Pressure	Max Torque Output	Weight
453-7288	Valve Assembly (Control Check)	689 BAR (10,000 psi)	5,423 Nm (4,000 ft-lb)	15.42 kg (34 lb)

Part No.	Description
478-4014	Drive Unit - 5,423 Nm
417-9067	Hose - Twin Line - 6 M Length - 689 BAR
385-8479*	Pump - Basic Series - 115v
385-3995*	Pump - Basic Series - 220v
384-8916*	Pump - Pro Series - w/ LCD - 115v
385-3996*	Pump - Pro Series - w/ LCD - 220v
451-7991*	Pump - Air Powered

*Only ONE pump is required; listed are suitable pumps for the operation.

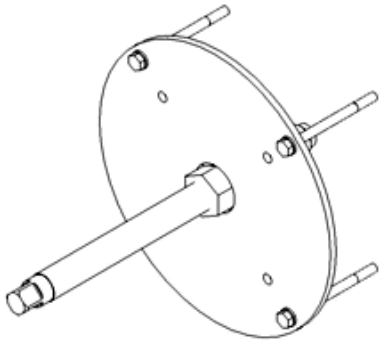
Service Repair Items

Item	Part No.	Description
1	453-7289	Reaction Arm Assembly
2	453-7290	Hex Adapter
3	453-7291	Cassette - 2 3/4 A/F (cannot be used in other applications)
4	466-1820	Socket - Stacked 2 3/4" - 2 15/16"

Installer Group

Model Usage: SR5 Generators

Warranty: Caterpillar® Six Months



- Used to remove armature 1400 frame SR5 Generator
- Used to install rear rotor bearing on Cat® SR5 Generator
- Correctly installs press-fit bearing
- Material: SAE 1020M Steel

Specifications

- Dimensions: 6.4 X 266.7 mm (.250 X 10.5 in)

Serviceable Parts

Part Number	Description	Quantity
—	Plate	1
1A-1935	Nut — Full	1
5F-7366	Screw — Forcing	—
6V-5223	Bolt, M8 x 31.75 mm (1.25 in)	4
9M-1974	Washer — Hard	4

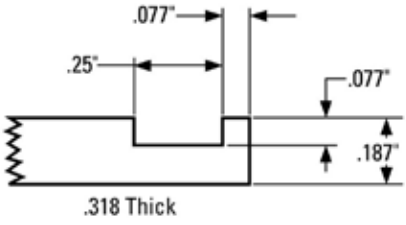
Slide Hammer Puller, 5 Ton Capacity

Warranty: Caterpillar® Six Months



- Equipped with a 2.3 kg (5 lb) hammer and 2- or 3-jaws depending on the application
- Jaws can be reversed to handle inside pulling jobs such as bearing cups as well as regular outside pulling jobs on gears, bearings, etc.

Item	Part Number	Description
—	1P-0074	Slide Hammer Puller
1	1P-0073	Shank
2	1P-0068	Cone
3	1P-0070	Two Jaw Head
4	1P-0069	Three Jaw Head
5	1A-8285	Nut (3)
5	6H-0187	Bolt (3)
6	1P-0071	Jaw (3)
Optional Attachment (not part of 1P-0074 Puller) (Sold Separately)		
7	2P-2312	Leg 4.7 in long, three required to pull seal retainer plates on the input and output shafts of Lift Truck Hydrostatic transmissions



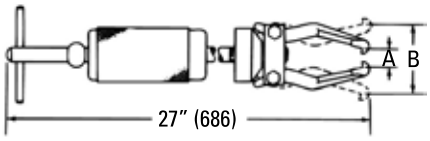
Tip Dimensions for 2P-2312 Leg

Dimensions

Inside A (Min.)	Inside A (Max.)	Outside B (Min.)	Outside B (Max.)
2-Jaw Spread			
31.75 mm (1.25 in)	85.85 mm (3.38 in)	25.40 mm (1.00 in)	114.30 mm (4.50 in)
3-Jaw Spread			
33.27 mm (1.31 in)	120.65 (4.75 in)	38.10 mm (1.50 in)	114.30 mm (4.50 in)

PULLERS/DRIVERS

Slide Hammer Puller, 5 Ton Capacity (Continued)



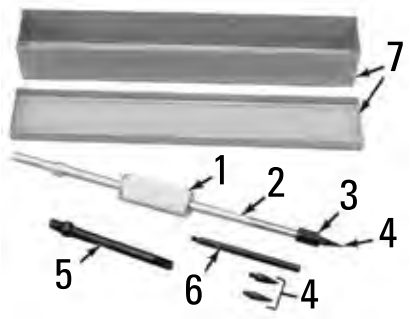
Dimensions

Inside A (Min.)	Inside A (Max.)	Outside B (Min.)	Outside B (Max.)
2-Jaw Spread			
31.75 mm (1.25 in)	85.85 mm (3.38 in)	25.40 mm (1.00 in)	114.30 mm (4.50 in)
3-Jaw Spread			
33.27 mm (1.31 in)	120.65 (4.75 in)	38.10 mm (1.50 in)	114.30 mm (4.50 in)

Slide Hammer Puller Group

Warranty: Caterpillar® Six Months

- Used for pulling lip type seals of all sizes
- Weight of hammer: 1.1 kg (2 1/2 lb)



Item	Description
7	Metal box

Item	Part Number	Description
—	1U-7600	Slide Hammer Puller Group
1	1U-7603	Hammer
2	1U-7601	Rod
3	1U-7602	Adapter
4	1P-3073	Screw Tip (3)
5	1U-7649	Shank
6	1P-2868	Shaft
Optional Accessory (Sold Separately)		
—	5P-6521	Screw Tip — available for removing lip type crankshaft seals with thin metal walls

Threaded Adapter

Warranty: Caterpillar® Six Months

- Used as ends or connectors for Push-Puller legs



Threaded Adapters (Continued)

Part Number	Female End	Male End	Capacity (Tons)	Length	Capacity
Type 1					
135-0482	5/8 in -18	7/8 in -9	18.7	—	—
153-8963	5/8 in -18	5/16 in -18	2.1	—	—
293-6365	5/8 in -11	1 in -14	9.0	—	—
5F-7339	5/8 in -18	3/4 in -16	15.5	—	—
5F-7340	1 in -14	3/4 in -16	15.5	—	—
5F-7341	5/8 in -18	3/4 in -10	13.5	—	—
5F-7342	5/8 in -18	1 in -14	28.5	—	—
5H-1274	5/8 in -18	1 1/4 in -12	— a	—	—
5H-1276	5/8 in -18	7/8 in -14	21.2	—	—
5P-4167	1 in -14	3/4 in -10	13.5	—	—
5P-4768	1 in -14	1 in -8	26.4	—	—
5P-6581	1 in -14	7/8 in -14	21.2	—	—
5P-8677	1 1/4 in -12	1 1/2 in -12	46.7	—	—
8B-7556	5/8 in -18	5/8 in -11	9.1	—	—
8B-7557	5/8 in -18	3/8 in -16	3.1	—	—
8B-7558	5/8 in -18	1/2 in -20	6.6	—	—
8B-7559	5/8 in -18	1/2 in -13	5.7	—	—
8S-6587	1 in -14	1 1/4 in -12	— a	—	—
8T-5270	1 1/2 in -12	2 in -12	— a	—	—
8T-9139	5/8 in -18	7/16 in -14	4.2	—	—
Type 2					
154-6796	1 in -8	1 1/2 in -12	— a	—	—
1H-3111	1 in -14	1 in -14	22.9	—	—
1M-6763	1 1/4 in -7	2 1/8 in -12	— a	—	—
4C-9471	1 1/4 in -7	1 1/2 in -12	— a	—	—
4C-9487	1 1/2 in -12	1 1/2 in -12	70	—	—
5P-8623	1 1/4 in -12	1 1/4 in -12	— a	—	—
6H-1626	1 1/4 in -7	2 3/8 in -12	— a	—	—
6V-3094	1 1/4 in -12	1 3/4 in -12	— a	—	—
8B-7555	5/8 in -18	3/4 in -16	12.3	—	—
8T-7781	2 in -8	2 in -8	116.8	—	—
8T-9140	1/2 in -20	5/8 in -18	5.3	—	—
9H-4072	1 1/4 in -7	2 5/8 in -12	— a	—	—
4C-5648 — Male Metric Adapter Kit — Type 1					
4C-5649	5/8 in -18	M6 x 1.0	—	2 1/4 in	1.1 tons
4C-5650	5/8 in -18	M8 x 1.0	—	2 1/4 in	2.3 tons
4C-5651	5/8 in -18	M8 x 1.25	—	2 1/4 in	2.1 tons
4C-5652	5/8 in -18	M10 x 1.25	—	2 1/4 in	3.9 tons
4C-5653	5/8 in -18	M10 x 1.50	—	2 1/4 in	3.3 tons
4C-5654	5/8 in -18	M12 x 1.25	—	2 1/4 in	5.6 tons
4C-5655	5/8 in -18	M12 x 1.75	—	2 1/4 in	4.9 tons
4C-5656 — Male Metric Adapter Kit — Type 1					
4C-5657	5/8 in -18	M14 x 1.5	—	2 1/4 in	7.5 tons
4C-5658	5/8 in -18	M14 x 2.0	—	2 1/4 in	6.7 tons
4C-5659	5/8 in -18	M16 x 1.5	—	2 3/4 in	10.3 tons
4C-5660	5/8 in -18	M16 x 2.0	—	2 3/4 in	9.3 tons
4C-5661	5/8 in -18	M20 x 1.5	—	2 3/4 in	17.0 tons
4C-5662	5/8 in -18	M20 x 2.5	—	2 3/4 in	14.6 tons
4C-5663 — Female Metric Adapter Kit — Type 1					
4C-5664	5/8 in -18	M6 x 1.0	—	1 5/8 in	0.9 tons
4C-5665	5/8 in -18	M8 x 1.25	—	1 5/8 in	1.7 tons
4C-5667	5/8 in -18	M12 x 1.75	—	1 5/8 in	3.9 tons
4C-5668	5/8 in -18	M14 x 2.0	—	1 5/8 in	5.4 tons
4C-5669	5/8 in -18	M16 x 2.0	—	1 5/8 in	7.5 tons
4C-5670	5/8 in -18	M20 x 2.5	—	1 5/8 in	11.8 tons
4C-5671 — Male Metric Adapter Kit— Type 1					
4C-5672	1 in -14	M16 x 1.5	—	3 in	10.3 tons
4C-5673	1 in -14	M16 x 2.0	—	3 in	9.3 tons
4C-5674	1 in -14	M18 x 1.5	—	3 in	13.4 tons
4C-5675	1 in -14	M20 x 1.5	—	3 in	17.0 tons
4C-5676	1 in -14	M20 x 2.5	—	3 in	14.6 tons
4C-5677	1 in -14	M22 x 1.5	—	3 in	21.0 tons
4C-5678	1 in -14	M24 x 2.0	—	3 in	23.9 tons
4C-5679	1 in -14	M24 x 3.0	—	3 in	21.1 tons

a. Contact Dealer Service Tool Division for capacity. See catalog back cover for numbers and addresses.

PULLERS/DRIVERS

Threaded Adapter

Model Usage: All Models

Warranty: Caterpillar® Six Months

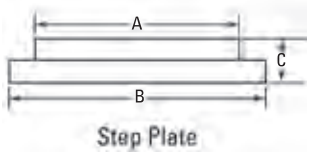


- Used to connect English and Metric threaded rods
- May be used with 8B-7548 Push Puller
- Also used as an adapter to install metric wheel studs

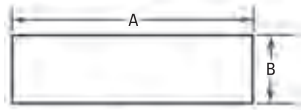
Part No.	Capacity	Thread Size	Thread Size (dia x pitch)	Length	Hex Size
140-2183	27.5 tons	1-14 female	M22 x 1.5 female	76.2 mm (3 in)	38.1 mm (1.50 in)
140-2184	20 tons	1-14 female	M20 x 1.5 female	76.2 mm (3 in)	38.1 mm (1.50 in)
140-2185	15 tons	1-14 female	M18 x 1.5 female	76.2 mm (3 in)	38.1 mm (1.50 in)

Step Plates and Centering Spacers

Warranty: Caterpillar® Six Months



Step Plate



Spacer

- Used to protect shaft centers from distortion when extreme pressures are applied through the puller screw
- Intended to use between the end of the puller screw and a hollow shaft

Step Plate Part Number [a]	Diameter (A)	Diameter (B)	Height (C)
5P-7377	2.70 in	3.75 in	1.20 in
8B-7560	1.25 in	1.63 in	0.75 in
8B-7561	1.38 in	1.75 in	0.75 in
9S-9154	1.62 in	2.0 in	0.75 in

a. Special tools for flywheel housing seal installation

Centering Spacer Part Number	Diameter (A)	Thickness (B)
0L-1774	1.94 in	0.75 in
9S-9155	1.00 in	0.75 in

Wheel Stud Removal Tool

Model Usage: 793 OHTs

Warranty: Caterpillar® Six Months



- Safely removes and installs wheel studs on many of the largest haul trucks in the industry with final drive hubs
- Features 25 tons of hydraulic force to provide fast and effective removal of even the most seized studs
- Requires service crane or similar apparatus and a 10,000 PSI hydraulic pump

SERVICE REPLACEMENT PARTS

Tiger Tool
Web: www.tigertool.com
Phone: 1.800.661.4661

Part No.	Description	Shipping Weight
488-1147	Wheel Stud Removal Tool	54.43 kg (120 lb)

Service Coupler Assemblies

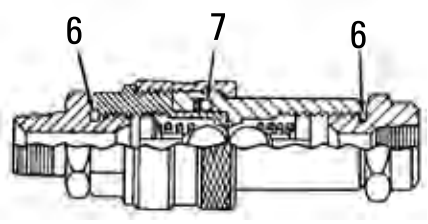
Warranty: Caterpillar® Six Months



- Quick disconnect couplers used on all Cat® Hydraulic Service Tools
- Have a higher disconnected pressure rating for the male half
- Allows additional protection in case of accidental pressurization

Item	Part Number	Description
1	1P-7437	Protective Cap
2	1P-2378	Dust Cap
3	1P-2375	Coupler Assembly Quick Connective (Male)
4	1P-2376	Coupler Assembly Quick Connective (Female)(2)
5	1P-2377	Plug As — Dust

Coupler and Coupler Connected

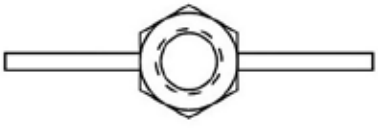


Item	Part Number	Description	Usage
1P-2375 Coupler and 1P-2376 Coupler Connected			
6	4J-5268	Seal	Part of 1P-2375 and 1P-2376
7	2P-5539	Seal	Used on later 1P-2376 Couplers [a]
7	4J-5140	Seal	Used on early 1P-2376 Couplers [a]

a. With the threaded locking collar in extended position, later couplers measure 66.5 mm (2.62 in) and earlier couplers measure 77.7 mm (3.06 in) in length

Fast Runner Nuts

Warranty: Caterpillar® Six Months



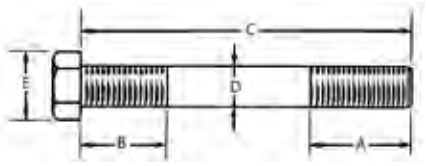


546-5743

Part Number	Description	Size
1P-0543	Fast Runner Nut	1 in – 8
1P-0544	Fast Runner Nut	1 1/4 – 7
9U-5345	Fast Runner Nut Assembly	M24 x 3.0
9U-5346	Fast Runner Nut, M30	M30 x 3.5
9U-6809	Nut — Fast Runner, (M36 x 4)	M36 x 4.0
9U-6810	Nut — Fast Runner (M48 x 5.0)	M48 x 5.0
9U-6832	Speed Nut	1 1/4 in – 12
9U-6833	Fast Runner Nut Assembly, 250 KN (30 Ton)	1 in – 14
Not Shown		
9U-6800	Nut — Speed (M64)	M64
9U-6903	Nut — Speed (M48)	M48 x 5
546-5743	Speed Nut	1 ½ - 6

PULLERS/DRIVERS

Forcing Screws, Puller Bolts and Studs Dimensions



Part Number	Thread Size A	Thread Length A	Thread Size B	Thread Length B	Length C	Diameter D	Head Size E [a]
Dimensions of Inch forcing screws, puller bolts and studs							
165-3790	1 1/4 in-12	60.00 in	—	—	60.00 in	—	—
1M-6766	7/8 in-9	3.00 in	3/4 in-10	1.00 in	33.00 in	0.875 in	—
1P-1430	7/16 in-20	2.70 in	—	—	4.50 in	—	0.620 in H
1P-2324	9/16 in-20	5.90 in	—	—	7.00 in [b]	—	0.620 in H
1P-2326	11/16 in-18	7.90 in	—	—	9.10 in [b]	—	0.750 in H
1P-2328	13/16 in-16	11.40 in	—	—	12.80 in [b]	—	0.880 in H
1U-7758	1 1/8 in-12	Full Length	—	—	20.00 in	—	H
2B-1957	—	—	3/4 in-10	3.30 in	5.50 in	0.594 in	1.100 in
3H-0459	3/4 in-16	Full Length	—	—	10.90 in [b]	—	1.100 in
3H-0460	7/8 in-14	Full Length	—	—	14.30 in [b]	—	H
3H-0470	1 1/4 in-12	—	—	—	17.10 in	—	S
4C-9633	1 in-14	Full Length	—	—	25.00 in	—	—
4C-9634	1 1/4 in-12	Full Length	—	—	28.90 in	—	—
5F-7345	5/8 in-18	—	—	—	13.00 in [b]	—	0.750 in H
5F-7366	1 in-14	—	—	—	11.80 in	—	0.407 in S
5F-7379	1 in-14	7.00 in	—	—	10.80 in	—	1.50 in H
5F-9893	1 1/2 in-6	19.50 in	1 1/2 in-12	1.50 in	23.00 in	—	—
5H-9976	1 in-14	5.80 in	—	—	7.30 in [b]	—	0.680 in S
5P-0256	1 1/4 in-12	11.50 in	—	—	13.20 in [b]	—	1.500 in H
5P-2678	7/8 in-9	2.95 in	7/8 in-9	1.50 in	38.20 in	0.870 in	—
5P-4184	1 1/4 in-12	18.00 in	—	—	18.00 in	—	—
5P-4776	1 in-14	Full Length	—	—	18.00 in	—	—
5P-5207	1 1/2 in-12	—	2 1/2 in-8	—	28.00 in	—	R
5P-5264	1 1/2 in-12	4 3/4 in	—	—	4.50 in	—	—
5P-5265	7/8 in-14	5 3/8 in	—	—	5.30 in	—	1300 in H
5P-7273	1 1/2 in-12	Full Length	—	—	23.60 in	—	—
5P-8714	1 1/4 in-7	8.10 in	1 1/4 in-12	1.30 in	14.00 in	1.250 in	—
5P-8715	1 in-14	6 15/16 in	—	—	6.90 in	—	1.500 in H
6V-2074	1 1/4 in-12	32.09	—	—	32.09	—	—
6V-2078	1 in-14	14.98 in	—	—	14.98 in	0.990 in	—
6V-6084	2 1/2 in-8	5.63 in	2 1/2 in-8	3.94 in	23.62 in	—	—
6V-7837	3/4 in-16	1.50 in	—	—	—	—	—
8S-6470	3/4 in-16	4.50 in	—	—	—	—	—
8S-6586	1 in-14	24.40 in	—	—	26.00 in [b]	—	1.1 in H
9S-6074	1 in-8	10.50 in	—	—	19.70 in	—	0.680 in S
9U-5267	1 in-8	Full Length	—	—	25.00 in	—	—
9U-6698	1 1/4 in-12	Full Length	—	-	48.00 in	—	—
Dimensions of Metric forcing screws, puller bolts and studs: Metric Guide Studs							
128-5049	M20 x 2.5	32 mm	—	—	152 mm	20 mm	—
154-6400	M30 x 3.5	75 mm	M30 x 3.5	75 mm	700 mm	30 mm	—
169-6969	M16 x 2.0	25.4 mm	M16 x 2.0	101.6 mm	435 mm	16 mm	—
174-8986	M30 x 3.5	55 mm	—	—	220 mm	30 mm	—
175-6853	M36 x 3.5	65 mm	—	—	285 mm	36 mm	—
1U-6130	M24 x 3	70 mm	—	—	254 mm	24 mm	—
1U-9767	M24 x 3	70 mm	279 mm	24 mm	—	—	—
1U-9817	M24 x 3	70 mm	—	—	305 mm	24 mm	—
Metric Forcing Bolts							
154-6181	M10 x 1.5	Full	—	—	150 mm [b]	10 mm	16 mm H
154-6182	M12 x 1.75	Full	—	—	150 mm [b]	12 mm	18 mm H
154-6183	M16 x 2.0	Full	—	—	300 mm [b]	16 mm	24 mm H
154-6184	M20 x 2.5	Full	—	—	300 mm [b]	20 mm	30 mm H
154-6185	M24 x 3.0	Full	—	—	250 mm [b]	24 mm	36 mm H
154-6360	M8 x 1.25	Full	—	—	150 mm [b]	8 mm	13 mm H
176-6536	M30 x 3.5	Full	—	—	250 mm [b]	30 mm	46 mm H
325-4173	M24 x 3.0	Full	—	—	101.6 mm [b]	24 mm	36 mm H

a. R-Round Head H-Hex Head S-Square Head

b. Dimensions include bolt head

Metric Threaded Steel Rod

Model Usage: General Use

Warranty: Caterpillar® Six Months



- General usage service tools released for disassembly and assembly of various hydraulic pumps and motors
- Can be used wherever metric thread bolt, forcing screw or puller stud required as long as mechanical limits of rods are not exceeded
- Many components used on Cat® machines contain metric threads; threaded holes are often provided on those components to aid in disassembly and assembly; metric threaded bolts, however, are not always readily available in right size and length; versatile metric threaded rods come in 6 sizes and can be cut to correct length for the job.

Reference

- SENR3358, Service Manual, Disassembly and Assembly (calls for metric threaded rods for pumps and motors used in 205, 206, 211, 212, 213, 214 and 224 Excavators)

Dimensions and Capacities for Metric Puller Studs

Part Number	Metric Thread	Stud Length	Capacity
123-4370	M20 x 2.5	350 mm (14 in)	20 tons
136-5747	M48 x 5.0	—	—
137-8460	M30 x 3.5	1,980 mm (78 in)	—
162-4197	M24 x 3.0	1,200 mm (47 in)	—
169-6969	M16 x 2	435 mm (17 in)	6.8 tons
1U-6340	M6 x 1.0	1,000 mm (39 in)	0.9 tons
1U-6341	M8 x 1.25	1,000 mm (39 in)	1.6 tons
1U-6342	M10 x 1.5	1,000 mm (39 in)	2.5 tons
1U-6343	M12 x 1.75	1,000 mm (39 in)	3.7 tons
1U-6344	M14 x 2	1,000 mm (39 in)	5.1 tons
4C-8150	M64 x 6.0	1,800 mm (71 in)	150 tons
4C-8176	M4 x 0.7	914 mm (36 in)	—
9U-5343	M24 x 3.0	650 mm (26 in)	30 tons
9U-5344	M30 x 3.5	800 mm (31 in)	50 tons
9U-6702	M64 x 6.0	2,600 mm (102 in)	150 tons
9U-6811	M36 x 4.0	1,575 mm (62 in)	80 tons
9U-6812	M48 x 5.0	381 mm (15 in)	100 tons
9U-6813	M48 x 5.0	508 mm (20 in)	100 tons
9U-6814	M48 x 5.0	920 mm (36 in)	100 tons
9U-6815	M48 x 5.0	1,575 mm (62 in)	100 tons
9U-7692	M16 x 2	1,000 mm (39 in)	6.8 tons
9U-7998	M36 x 4.0	920 mm (36 in)	80 tons

Gauges

Warranty: Caterpillar® Six Months

- Capacity 0 to 70,000 kPa (0 to 10,000 PSI)
- Accuracy: Grade A
- Liquid-filled
- 101.6 mm (4 in) diameter face

Part Number	Description	Scales
8T-0820	Standard Pressure Gauge	10,000 PSI, 70,000 kPa
8T-5342	Back mount — Face in PSI and tonnage	10,000 PSI 30, 50, 70, 100 and 150 ton
8T-5343	Pressure Gauge	10,000 PSI 30, 50, 70, 100 and 150 ton

PULLERS/DRIVERS

Hoses

Warranty: Caterpillar® Six Months

NOTE: The service couplers and adapters are for adapting the hoses to Cat® Hydraulic Pumps.

Part Number	Description	Length	Inside Diameter	Pressure Capabilities	Coupling Thread Size
6D-7726	Hydraulic Hose (2)	3.50 m (11 1/2 ft)	6.35 mm (1/4 in)	689.5 kPa (100 PSI)	1/4 in NPTF
8F-0024	Hose Assembly	1.82 m (6 ft)	6.35 mm (1/4 in)	689.5 kPa (100 PSI)	1/4 in NPTF
Optional Accessories (Sold Separately)					
135-2532	Bushing	—	—	—	—
135-2533	Street Elbow	—	—	—	—
1P-2375	Coupler Assembly Quick Connective (Male)	—	—	—	—
1P-2376	Coupler Assembly Quick Connective (Female) (2)	—	—	—	—
1P-2377	Plug As — Dust	—	—	—	—
1P-2378	Dust Cap	—	—	—	—
1P-7437	Protective Cap	—	—	—	—

Puller/Installer Plate

Model Usage: CM210 - CM445 (Continuous Miners) and CM845 (Miner Bolter)

Warranty: Caterpillar® Six Months



- A tool to remove and install all pivot bushings for all Continuous Miners quickly and easily without damaging the brass parts in the process
- Saves time by evenly applying pressure to the brass part and thereby avoiding damage or a wedged situation to occur
- 461-0351 Puller/Installer Plate
  - Used to remove and install the conveyor pivot bushing
  - Helps remove and install the pivot bushing used on Continuous Miners from CM210 to CM240 without causing damage to the brass bushing
- 461-0352 Puller/Installer Plate
  - Used to remove and install the conveyor pivot bushing
  - Helps remove and install the pivot bushing used on Continuous Miners from CM330 to CM445 and the CM845 without causing damage to the brass bushing

Specifications 461-0351

- Dimensions: 222 x 152 x 25 mm (8.8 x 6 x 1 in)
- Weight: 5 kg (10 lb)

Specifications 461-0352

- Dimensions: 298 x 208 x 25 mm (11.7 x 8 x 1 in)
- Weight: 7 kg (15 lb)

Part Number	Description
461-0351	Puller/Installer Plate
461-0352	Puller/Installer Plate

Hydraulic Rock Drill Tool Kit

Product Family: Hydraulic Track Drill

Model Usage: MD5050, MD5075 and MD5090

Warranty: Caterpillar® Six Months



- Used during D&A and general overhaul of the hydraulic rock drills
- Used to make the rebuild process faster and easier
- Used to service the HPR4519 and HPR5123 with one drill rebuild group

Part Number	Description
398-3128	Hydraulic Rock Drill Tool Kit

Bearing Installer

Model Usage: 725/730/735/740/745 Articulated Dump Trucks

Warranty: Caterpillar® Six Months



- Used to install the 507-3007 wear ring on 507-0132 and 507-0130 suspension group

Part No.	Description	Dimensions	Weight
513-8007	Bearing Installer	Dia 118 x 25.4 mm (Dia 4.6 x 1 in)	1.6 kg (3.5 lb)

SPECIALTY MINING TOOLS

Puller Assembly

Model Usage: CM10-240 (Continuous Miner)

Warranty: Caterpillar® Six Months



- Removes traction case sprocket for 200-series Continuous Miner
- Can also be used as lifting device for sprocket shaft after shaft is pulled
- Working load limit: 13 metric tons, pulling (for lifting, refer to lifting eye capacity)
- Components shown not included in kit:
  - (2) 123-4370 Puller Stud
  - (3) 259-9239 Puller Stud
  - (10) 8T-3282 Washer
  - 316-1493 Cylinder
  - 395-1099 Lifting Eye
  - (2) 8T-6922 Bolt
  - (10) 6V-7742 Nut

Reference

- NEHGE2013-343

Part No.	Description	Dimensions	Weight
468-1701	Puller Assembly	1000 x 587 x 400 mm (40 x 34 x 16 in)	70 kg (154 lb)

Hydraulic Rock Drill Tool Kit

Product Family: Hydraulic Track Drill

Model Usage: MD5125 and MD5150

Warranty: Caterpillar® Six Months



- Used during D&A and general overhaul of the hydraulic rock drills
- Used to make the rebuild process faster and easier
- Used to service the HPR5128 and HPR6832 with one drill rebuild group

Part Number	Description
398-3129	Hydraulic Rock Drill Tool Kit

Hydraulic Rock Drill Seal Installation Tools

Product Family: Track Drills

Model Usage: MD5050, MD5075, MD5090, MD5125, MD5150

Warranty: Caterpillar® Six Months





- Prevent damage to rod seals when installing them into small, closed diameter gland openings or deep set rod grooves
- Tool prevents damage to seal caused from using long nose pliers to install

Part No.	Description	Rod Size	Dimensions	Weight
507-2345	Hydraulic Rock Drill Seal Installation Tool	1.5 – 2.0 in	203 x 102 x 25 mm (8 x 4 x 1 in)	0.12kg (0.4 lb)
507-2346	Hydraulic Rock Drill Seal Installation Tool	Larger than 2.0 in	254 x 102 x 25 mm (10 x 4 x 1 in)	0.2 kg (0.4 lb)

Latchfree Dipper Door Trip Arm Tool Group

Product Family: Electric Rope Shovels

Model Usage: 7495

Warranty: Manufacturer's

453-1540



453-1537 and 453-1541



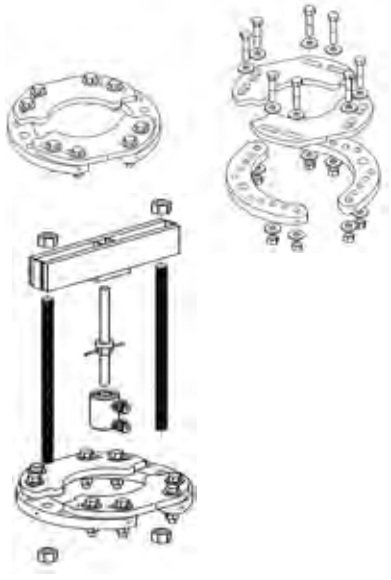
- Used during the R&I of the Latchfree Dipper Door trip arm assembly to eliminate manual effort and assist in the prevention of binding of the splines
- Used with the 453-1537 Alignment Cone and 453-1541 Ring Gauge which help to prevent binding of the splines

Part Number	Description	Dimensions	Weight
453-1540	Latchfree Dipper Door Trip Arm Tool Group		
450-0669	Hydraulic Cylinder	143.8 mm (5.7 in) x 409.5 mm (16.1 in) L	12.5 kg (27 lb)
453-1538	Puller Hub	171.45 mm (6.7 in) OD x 82.6 mm (3.3 in) L	2.459 kg (5.4 lb)
453-1539	Threaded Adapter	50 mm (2 in) OD x 68.3 mm (2.7 in) L	.346 kg (.8 lb)
7X-0350	Bolts (4)	23.8 mm (.9 in) x 100 mm (4 in) x 4 pcs.	.166 kg (.4 lb)
8T-4122	Washers (4)	32 mm (1.3 in) x 3.5 mm (.3 in) x 4 pcs.	.016 kg (.04 lb)
Service/Repair Parts			
450-0670	Seal Kit for the 450-0699 Hydraulic Cylinder	-	-
451-0444	Quick Disconnect Coupler	-	-

Modular Puller Plates for Large Bearings

Model Usage: FB85, FB110, FB140, All Models With Large Bearings

Warranty: Caterpillar® Six Months



- Continuously adjustable puller assembly for diameters 175 - 325 mm (6.9 - 12.8 in)
- 45 metric ton capacity
- Removes bearing races for all feeder breaker shafts (8, 10 and 12 in)
- Modular design allows for alternative puller plates to meet space and size needs.
- 3/8 lifting eye holes enable lift assist.

Part No.	Description	Dimensions	Weight	WLL
494-1921	Modular Puller Plates for Large Bearings	590 x 550 x 132 mm (23.2 x 21.7 x 5.2 in)	68 kg (150 lb)	45,360 kg (50 tons)

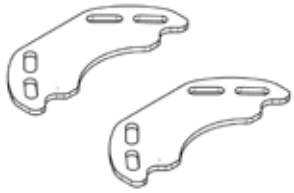
This table lists all tools and quantities needed with the newly released tools highlighted:

Item	Part No.	Quantity	Description
1	395-1099	1	3/8-16 Lift Eye
2	5P-7273	2	Threaded Rod (1 ½ - 12 Thd)
3	8H-3390	4	Nut (1 ½ - 12 Thd)
4	150-1784	1	Cross-Block
5	6V-3175	1	50 ton Hydraulic Cylinder
6	5P-8714	1	Threaded Rod
7	198-4772	1	Washer-Hard
8	1P-0544	1	Fast Runner Nut

Set Plates

Model Usage: PM825

Warranty: Caterpillar® Six Months



- Thin puller plates for 494-1921 modular puller fit in narrow gap to remove bearing from PM825 drum drive gearbox.
- Eliminates the need to cut bearing race for removal
- Includes two plates

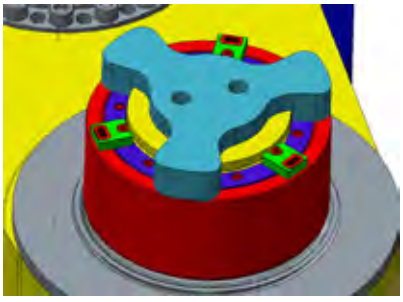
Part No.	Description	Dimensions	Weight	WLL
494-1920	Set Plates (2)	500 x 200 x 12 mm (19.7 x 7.8 x 0.47 in)	7 kg (15.4 lb)	18,144 kg (40,000 lb)

SPECIALTY MINING TOOLS

Latchfree Dipper Door Lower Bearing Installation Tool

Model Usage: 7495

Warranty: Caterpillar® Six Months



- A bearing installation tool is required for the 7495 latchfree link arm eccentric lower bearing assembly.
- This tool provides increased safety and reduces installation time.
- The installation of these bearing and seals requires accurate placement during the installation procedure in order to ensure a longer life cycle of the bearing assembly.

Part No.	Description	Quantity Req.	Dimensions	Weight
485-2106	Latchfree Dipper Door Lower Bearing Installation Tool	1	210 x 45 mm (8.3 x 1.8 in)	2.9 kg 6.4 lb

Bearing Sleeve Installation Tool

Model Usage: 7495 Electric Rope Shovels

Warranty: Manufacturer's



- Used to install the latchfree dipper door link arm eccentric upper bearing assembly
- Ensures accurate installation and alignment of the upper bearing inner sleeve
- Provides approximately 25% service procedure time reduction compared to previous method

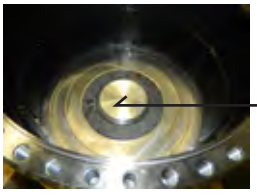
Part No.	Description	Length	Outer Diameter	Weight
486-7022	Bearing Sleeve Installation Tool	109.91 mm (4.33 in)	222.25 mm (8.75 in)	5.49 kg (12.1 lb)

Snubber Thrust Washer Centering Tool

Model Usage: 7495

Warranty: Caterpillar® Six Months





506-3876

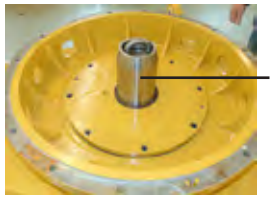
- Tool is utilized to center the snubber brake thrust washer and the disc pack.
- Eliminates the cost of a special lifting device to center the disc pack

Part No.	Description	Dimensions	Weight
506-3876	Snubber Thrust Washer Centering Tool	Diameter: 198 mm (7.8 in), Height: 110 mm (4.3 in)	9.8 kg (21.6 lb)

Lip Seal Installation Tool

Model Usage: 6020B

Warranty: Caterpillar® Six Months



- Protects the lip seal from damage from the splined shaft during the installation of the lid assembly onto the pump drive PTO gearbox
- The service tool slip fits over the splines on the output shaft.
- Designed with a chamfer and smooth finish that enables the lid and lip seal to slide over the tool onto the pump drive PTO gearbox

Part No.	Description	Qty. Req.	Dimensions	Weight
524-4078	Seal Guide	1	108 x 20 mm (4.3 x 4.7 in)	1.4 kg (3.1 lb)

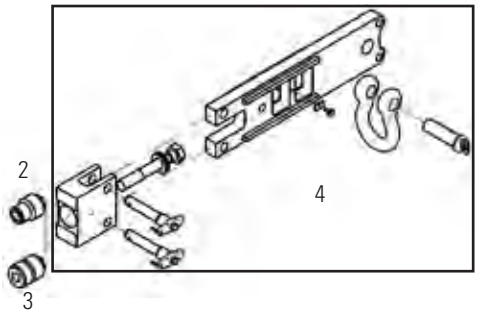
SPECIALTY MINING TOOLS

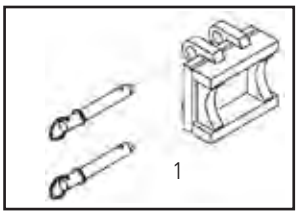
Attachment Pin Puller

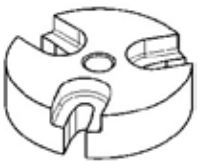
Model Usage: HMS, ERS

Warranty: Caterpillar® Six Months









European Union Compliant, CE marked

- Provides a safe method to remove and install attachment pins under 1.0 m long
- Requires a M30 x 3.5, M48 x 5, or M64 x 6 puller hole
- Accessories adapt to 7/8"-9, 1-1/2"-6 and a 3-hole pattern. Other adapters available upon request.
- Compatible for diameters of all short pins used on hydraulic mining shovels (ø75 – ø400 mm)
- Greatly increases safety by positively retaining the pin during R&I and eliminating the need to sling the pins
- Capable of handling 10 metric tons force for pulling or pushing pin (Force must be provided by other equipment.)

Reference

- Requires C-Frame 226-2380
- M0074394 Tool Operating Manual

Item #	Part No.	Description	Dimensions	Weight	WLL
1	526-5506	Attachment Pin Puller	5.34 x 1.51 x 1.1 m (17.5 x 6.3 x 3.6 ft)	3400 kg (7500 lb)	10 metric tons (22000 lb)
2	526-5507				
3	526-5508				
4	526-5509				

Serviceable Parts

Part No.	Description	Quantity
McMaster Carr #90200A546	Thumb Screw	2
8T-6624, or Fastenal #0122170	Bracket Bolt	1
9X-8258	Washer	2
McMaster Carr #93750A123	Bracket Hitch Pin	2
526-5507	M48 Adapter	1
526-5508	M64 Adapter	1
189-0863	Shackle (12tn)	1

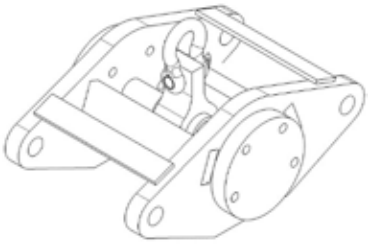
Accessories

Item #	Part No.	Description	Quantity
5	550-9173	Puller Plate (3-Hole Adapter)	1
6 (not shown)	550-9172	7/8"-9 and 1-1/2"-6 Adapter Kit	1

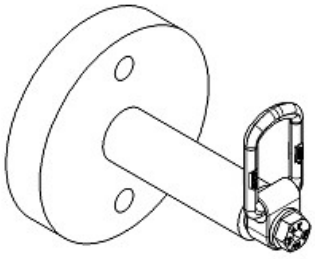
Propel Shaft Counterbalance Tool Assembly

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



512-7870 Counterbalance Tool As.
(Main Lifting As.)



512-7870 Counterbalance Tool As.
(Balance Lift As.)



Lifting Configuration

European Union Compliant, CE marked

- Provides safe method to lift, remove and install 7495 propel shaft
- Requires two 10-ton hydraulic cylinders (360-6957, 360-6958 or equivalent) for propel shaft removal
- Utilizes existing propel shaft as counterbalance weight to remove/install a propel shaft
- Significantly reduces propel shaft removal/install time
- Reduces the number of overhead lift devices necessary for a propel shaft removal/install without a counterbalance weight

Reference

- M0073765

Part No.	Description	Dimensions	Weight	WLL
512-7870	Main Lifting Assembly	609.6 x 860 x 513.4 mm (24 x 33.9 x 20.2 in)	307 kg (677 lb)	4,990 kg (11,000 lb)
	Balance Lift Assembly	Dia 254 x 311.8 (Dia 10 x 12.3 in)	26 kg (57 lb)	2,494 kg (5,500 lb)

SPECIALTY MINING TOOLS

Cutting Head Removal Tools

Model Usage: CM235 (Continuous Miner)

Warranty: Caterpillar® Six Months



- A tool to remove cutter head motor for CM235 quickly and easily without the need to repair puller holes in motor housing
- Saves time by evenly applying pressure to the pilot fit motor using hydraulic cylinder rather than forcing screws
- Proven to save 2 hrs labor in removal process
- Working Load Limit: 45 Metric Tons

Reference

- NEHGE2013-171

451-6797 Stand Assembly

- Reacts against boom while pulling motor

452-9866 Puller Plate

- Mounts to end of motor utilizing clutch pack bolts
- Uses M30 puller rod and nuts to attach motor to cylinder

473-8699 Guide Rod (pair)

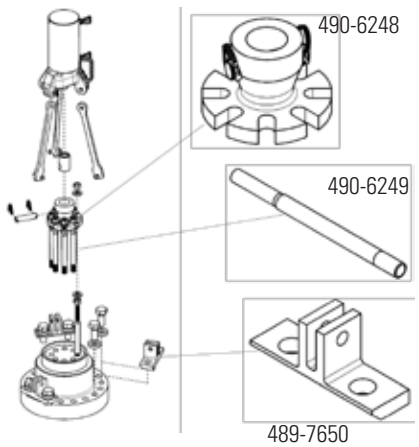
- Supports weight of Stand Assembly while installing hydraulic cylinder

Part No.	Description	Dimensions	Weight
451-6797	Stand Assembly	500 x 500 x 485 mm (19.7 x 19.7 x 19 in)	45 kg (99 lb)
452-9866	Puller Plate	449 x 370 x 170 mm (17.7 x 14.6 x 6.7 in)	25 kg (55 lb)
473-8699	Guide Rod (pair)	143 x 82 x 137 mm (5.6 x 3.2 x 5.4 in)	1 kg (2 lb)
Recommended Components			
9U-5344	Threaded Rod (M30)		
6V-3175	Cylinder (limit to 45 ton max)		

Final Drive Hub Puller Tool Group

Model Usage: MD6640

Warranty: Caterpillar® Six Months



European Union Compliant, CE Marked

- Provides safe way to remove and install the final drive hub
- Removal/installation can be performed vertically or horizontally
- Approximate setup and removal time is 1hr
- Removal is extremely difficult without this tool due to hub being pressed onto spline and cap pressed into hub

Part No.	Description	Qty Included	WLL	Dimensions	Weight
507-1470	Final Drive Hub Puller Tool Group	-	94,000 kg (100 ton)	-	-
489-7650	Adapter	3	32,000 kg (34 ton)	250 x 76 x 110 mm (9.8 x 3.0 x 4.3 in)	4.4 kg (9.7 lb)
490-6248	Push Plate Assembly	1	94,000 kg (100 ton)	200 x 127 mm (7.9 x 5.0 in)	8.7 kg (19.1 lb)
490-6249	Threaded Rod	8	12,000 kg (13 ton)	27 x 385 mm (1.1 x 15.2 in)	1.3 kg (2.9 lb)

Shown but not included in Tool Group:

Part No.	Description	Qty Required
9S-8901	Cylinder	1
5F-9306	Sprocket Arm Puller	3
6H-4158	Pin	6
7B-2499	Snap Ring	12
7M-9774	Coupling Adapter	1
7X-0851	Nut (M24)	16
8T-1482	Washer (M24)	16
160-6513	Bolt (M36)	6
198-4773	Washer (M36)	6

Hoist Gearcase Input Shaft Holding Fixture Tool

Model Usage: 7495 Engines

Warranty: Caterpillar® Six Months



- Required during the removal and installation of the 7495 hoist gear case input shaft bearing
- Enables attachment to the inboard and outboard end of hoist gearcase during removal and installation of the bearing assemblies

Part No.	Description	Quantity Required	Length	Height	Depth	Weight
504-8782	Tool Group Bearing Fixture	1	495 mm (19.5 in)	216 mm (8.5 in)	216 mm (8.5 in)	11.5 kg (25 lb)
Serviceable Parts						
504-8786	Rod-Threaded	4	-	-	-	-
504-8787	Rod-Threaded	1	-	-	-	-
421-5665	Eyebolt Assy	1	-	-	-	-
099-0169	Bolt-Hex Head M16 x 2	4	-	-	-	-
8T-4001	Nut-Hex M24 x 3	2	-	-	-	-
8T-4122	Washer - Hard	8	-	-	-	-
8T-4132	Nut-Hex M16 x2	8	-	-	-	-
8T-5001	Bolt-Hex Head M12 x 1.75	4	-	-	-	-
8T-5361	Washer - Hard	1	-	-	-	-
8T-5878	Bolt-Hex Head M24 x 3	1	-	-	-	-

Hoist Drum Assembly Disassembly and Assembly Tooling

Model Usage: 7495 Machines

Warranty: Caterpillar® Six Months

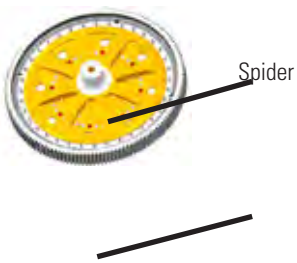


516-9394

518-3854

- Service tools are required to push out (8) press fit bolts to enable the removal of the spider assembly from the hoist drum assembly.
- Uses existing cylinder and H-bar tooling sold separately
- Allows proper alignment with bolts to be removed
- Reduced setup time
- Increased safety with right-sized tooling
- WLL: 25,000 kg (55,115 lb or 25 Tons)

Part No.	Description	Qty. Req.	Dimensions	Weight
149-5138	H-Bar Puller Assembly	1	Spread: 216 - 521 mm (9 - 21 in) Reach: 610 mm (24 in)	-
360-6956	Hydraulic Cylinder	1	Capacity: 10 Tons	2.3 kg (5 lb)
516-9394	Base Plate	1	H x L x W: 30 x 160 x 127 mm (1.2 x 6.3 x 5 in)	4.8 kg (10.6 lb)
518-3854	Saddle Tool	1	D x L: 45 x 140 mm (1.8 x 5.5 in)	1.2 kg (2.7 lb)



Spider



Hoist Drum

SPECIALTY MINING TOOLS

Pin Installation and Removal Tool

Model Usage: 7295 and 7495

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- This tool provides increased safety during the removal and installation of the saddleblock shipper shaft pin assembly.
- Cat® recommends for this tool to be utilized with the pin puller removal and installation tool for pin lengths greater than 1 m (503-9005.

Part No.	Description	Dimensions	Weight	WLL
515-5029	Pin Puller	430 x 215 x 64 mm (17 x 8.5 x 2.5 in)	26 kg (57 lb)	20 t (22 tn)

Serviceable Parts

Part No.	Description	Dimensions	Weight
369-5916	Eyebolt	105 x 75 mm (4.1 x 3.0 in)	0.6 kg (1.3 lb)

HydraCrowd Pump Control and Circulation Valve Tools

Model Usage: 7495

Warranty: Caterpillar® Six Months





- Service tools are required for the removal of (11) B-cone logic valves located in the HydraCrowd circulation valve and in (2) HydraCrowd pump control valves.
- The bearing puller service tools enable the removal of various sized logic valve caps, valve poppets and valve cages without causing damage to these sensitive and precision valve components.

Part No.	Description	Quantity Req.	Dimensions	Weight
525-2951	Hydraulic Pump Control Logic Valves Removal and Installation Tools Kit	1	244 x 432 x 76 mm (9.6 x 17 x 3 in)	3.7 kg (8.2 lb)

Hydracrowd Cylinder Transport and Storage Stand

Model Usage: 7495

Warranty: Manufacturer's

550-9170



550-9171



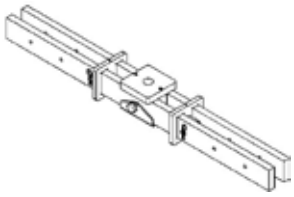
- Provides a safe and stable platform for transport to and from customer site.
- Stand consists of three sections. Two identical end sections and a center cradle section.
- Cradles cylinder tube at five points and both rod eyes to prevent damage during transport.
- Secures rod ends to prevent unwanted extension during transport.
- Due to overall size, requires assembly after delivery.
- Optional four piece Cover As. provides total enclosure for long term weather resistant strorage and transport.
- Made As Ordered (MAO)

Part No.	Description	Dimensions	Weight
550-9170	Stand Assembly	12092 x 1467 x 1065 mm (476 x 58 x 42 in)	2275 kg (5000 lb)
550-9171	Cover Assembly	11979 x 1241 x 1565 mm (472 x 49 x 62 in)	500 kg (1100 lb)

Modular H-Bar

Model Usage: MT4400, CST45, CST65

Warranty: Caterpillar® Six Months



- 1.5 Meter width, 50T WLL H-bar for removal of large bearings and components
- Modular design allows for flexibility of setup to suit many applications
- Made as ordered

Part No.	Description	Dimensions (L x W x H)	Weight	WLL
515-4614	Modular H-Bar	1500 x 174 x 154 mm (59 x 6.9 x 6 in)	93 kg (204 lb)	50 Metric Ton (100,000 lb)

Heavy-Duty Mobile Lifting Crane, 1996 kg (4,400 lb)

Warranty: Caterpillar® Six Months



- Versatile features and rugged construction of OTC heavy-duty crane let you handle just about any lifting job with speed
- Folds into a compact package for storage
- Leg spread adjusts to clear vehicles wheels, other obstacles for close-in work
- Telescoping boom extension gives additional reach
- 2-speed hydraulic hand pump provides fast boom travel (descent of boom is under precise control of operator)
- Equipped with roller-bearing mounted wheels, crane rolls smoothly into position or storage location
- Steering dolly provides easy maneuverability
- Space saving Fold-Away feature

Specifications

- Capacity, boom extracted: 1996 kg (4400 lb)
- Capacity, boom extended: 1497 kg (3300 lb)
- Maximum boom height — Boom extracted: 281.9 cm (111 in)
- Maximum boom height — Boom extended: 309.9 cm (122 in)
- Overall height, boom horizontal: 208.3 cm (82 in)
- Overall length: 226.1 cm (89 in)
- Minimum throat width: 63.5 cm (25 in)
- Inside leg length: 146.1 cm (57 1/2 in)
- Effective boom reach (retracted): 90.22 cm (35 1/2 in)
- Effective boom reach (extended): 128.3 cm (50 1/2 in)
- Inside leg width (3-position): 66.0 – 101.6 cm (26 – 40 in), 133.4 cm (52 1/2 in)
- Leg height: 24.13 cm (9 1/2 in)
- Dolly wheel diameter: 12.7 cm (5 in)
- Wheel diameter: 20.32 cm (8 in)
- Caster diameter: 15.24 cm (6 in)
- Floor space, folded: 78.7 x 106.7 cm (31 x 42 in)
- Height, folder: 218.4 cm (86 in)
- Lifting chain: 46.7 cm (18 3/8 in)
- Weight: 291 kg (642 lb)
- Supplier part no.: 1820

Part Number	Description
1U-7485	Heavy-Duty Mobile Lifting Crane, 1996 kg (4,400 lb)

HOISTS

Mobile Lifting Crane, 2,722 kg (6,000 lb)

Warranty: Manufacturer's Two Year Limited



- Heavyweight, retractable-leg, mobile floor crane equipped with electric/hydraulic (115V) pump with remote motor control
- 3 boom positions give you capacities of 1,814, 2,268 and 2,722 kg (4,000, 5,000 and 6,000 lb) — enough to lift the biggest engines
- Features a boom swivel, and extendable legs
- Vertical and lateral swing
- Equipped with an electric/hydraulic pump with remote control for raising and lowering
- Includes a steering dolly for maneuverability; dolly also acts as a floor lock by lifting the rear wheel off the floor
- Built to take all the hard use you can give it
- Ideal for freeing up an overhead crane, letting you pull engines from any bay in the shop
- Offers greater mobility and versatility than installing and overhead crane or gantry
- Coupled with the 6V-3145 Load Leveler (sold separately) and the 1U-5750 Revolver (sold separately) engine stand this crane gives you a complete set of heavy-duty engine equipment

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization:
https://repairtrack.bosch-automotive.com

Boom Capacity	Ext. 4,000	Center 5,000	Ret. 6,000
Max. boom height	411.16 cm (161 7/8 in)	382.75 cm (150 11/16 in)	354.33 cm (139 1/2 in)
Min. boom height	15.24 cm (6 in)	44.13 cm (17 3/8 in)	73.03 cm (28 3/4 in)
Overall height, boom horizontal	220.98 cm (87 in)	220.98 cm (87 in)	220.98 cm (87 in)
Overall length	327.98 cm (129 in)	289.24 cm (114 in)	249.56 cm (98 in)
Legs in storage position: 807/8 in	(129 1/8 in)	(113 7/8 in)	(98 1/4 in)
Inside leg length	232.89 cm (91 11/16 in)	193.36 cm (76 1/8 in)	109.86 cm (43 1/4 in)
Effective boom horizontal reach	239.40 cm (94 1/4 in)	200.03 cm (78 3/4 in)	160.66 cm (63 1/4 in)
Outside leg width	151.77 cm	146.69 cm	141.61 cm
Legs in storage position: 531/2 in	(59 3/4 in)	(57 3/4 in)	(55 3/4 in)
Boom swing	91.44 cm (36 in)	78.74 cm (31 in)	66.04 cm (26 in)
Inside leg width	—	90.81 cm (35 3/4 in)	—
Leg height	—	23.02 cm (9 1/16 in)	—
Dolly wheel diameter	—	12.70 cm (5 in)	—
Wheel diameter	—	20.32 cm (8 in)	—
Supplier part no.: 1814			

Part Number	Description
1U-7555	Mobile Lifting Crane, 2,722 kg (6,000 lb)

Hand Hoists

Warranty: Manufacturer's Five Year Against Defects In Workmanship

REPAIR INFORMATION

Columbus-McKinnon
Audubon and Sylan Parkway
Amherst, NY 14228
Phone: (800) 888-0985
Fax: (716) 689-5644
Website: www.cmindustrial.com

European CE Compliant

- Standard Load Limiter for simple, automatic overload protection
- Weston-style braking system provides reliable positive load control
- Powder coated finish for corrosion protection
- All internal gears and pinions are heat treated steel for high strength and long life.
- Chain guide and stripper assures load chain alignment
- Fully machined precision 4-pocket liftwheel for better chain fit and reduced wear allowing for accurate movement of the load chain
- Hardened alloy steel load chain assures high strength and long wear life
- Minimal maintenance, easily disassembled, requires no special tools
- Meets ASME B30.16 and European CE Standard

Part Number	Capacity (Tons)	Standard Lift	Approximate Shipping Weight	Shortest Distance Between Hooks	Chain Pull to Lift Load	No. of Chain Falls
398-5484	0.5	3 m (10 ft)	10.4 kg (23 lb)	0.30 m (11.8 in)	44 lb	1
398-5485	1.0	3 m (10 ft)	11.8 kg (26 lb)	0.34 m (13.2 in)	54 lb	1
398-5486	2.0	3 m (10 ft)	20.4 kg (45 lb)	0.40 m (15.6 in)	74 lb	1
398-5487	5.0	3 m (10 ft)	55.3 kg (122 lb)	0.65 m (25.7 in)	76 lb	2
398-5488	10.0	3 m (10 ft)	95.3 kg (210 lb)	0.83 m (32.5 in)	102 lb	3

HOISTS

Electric Chain Hoists

Warranty: Manufacturer's One Year Against Defects In Workmanship



REPAIR INFORMATION

Columbus-McKinnon
Audubon and Sylan Parkway
Amherst, NY 14228
Phone: (800) 888-0985
Fax: (716) 689-5644
Web site: www.cmindustrial.com

- Heavy-duty motors
- Workings are completely enclosed and compact for low headroom
- Safety features include: Lodestar Protector®, a friction clutch assembly designed to stop the hoist when overloading occurs (a dual braking system — heavy-duty magnetic and regenerative — plus upper and lower limit features)
- Snap action control station carries only 115 volts and is completely sealed, weatherproofed and waterproofed
- Gears receive lifetime lubrication at factory

NOTE: Due to various applications, suspension for hoist must be ordered separately. Please see part numbers listed under accessories.

Part Number	Max. Capacity	Lifting Speed/ Min	Maximum Lift	Motor HP	Electrical Requirements
4C-6953	1/2 ton	4.88 m/min (16 fpm)	4.5 m (15 ft)	1/2 HP	115 V/1 Phase/60 Hz
4C-6954	1 ton	4.88 m/min (16 fpm)	4.5 m (15 ft)	1 HP	115 V/1 Phase/60 Hz
4C-6956	2 ton	2.44 m/min (8 fpm)	6.1 m (20 ft)	1 HP	115 V/1 Phase/60 Hz
4C-6959	3 ton	1.68 m/min (5.5 fpm)	6.1 m (20 ft)	1 HP	230/460 V/3 Phase/60 Hz

Accessories

Part Number	Length of Lift	Use with Hoist
Rigid Hook Suspension		
1U-6361	—	1U-9195, 4C-6953
1U-6362	—	1U-9197, 4C-6954
1U-9812	—	4C-6959
Chain Container		
1U-9561	15 ft	1U-9197, 4C-6954
1U-9813	15 ft	4C-6959

Lifting Magnets

Model Usage: 6020B

Warranty: Caterpillar® Six Months



- Compact and powerful Rare Earth Permanent Lift Magnet for use on flat or round surfaces
- Internal on/off release device does not contact or damage the surface of the part.
- Locking on/off handle prevents the handle from being bumped "on" or "off."
- Permanent magnetic lift, eliminates the fear of dropping the load.
- Embedded RFID chip
- Test load feature
- Stationary lift lug(s)
- Heat resistant up to 180°F (82°C)
- 3:1 design factor
- ASME B30.20 BTH-1 Design Category B Service Class

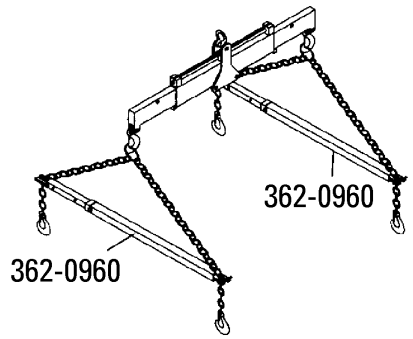
Reference

- NEHG 14-330

Part No.	Description	Capacity	Dimensions	Weight
489-5666	Lifting Magnets	600 lb	178 x 178 x 165.1 mm (7 x 7 x 6.50 in)	9 kg (20 lb)
489-5667	Lifting Magnets	1200 lb	279 x 279 x 166 mm (11 x 11 x 6.50 in)	12 kg (27 lb)

Spreader Bar Assembly

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Requires double chain sling with 12.7 mm (1/2 in) and 6V-3145 Load Leveler (not supplied with tool)
- Adjustable length from 1067 to 1677 mm (42.0 to 66.0 in) in increment of 76 mm (3.0 in)
- Used with a double sling chain to lift cab vertically at attach points, eliminates side loading
- End pin keeps chain from becoming disengaged when device is being used

Specifications

- Lifting Capacity (WLL): 454 kg (1000 lb)
- Adjustable Length: 1067 mm (42.0 in) to 1677 mm (66.0 in)
- Incremental Adjustment: 76 mm (3.0 in)
- Tube Size (External): 44.5 mm (1.75 in)
- Tube Size (Internal): 38.1 mm (1.50 in)

Part Number	Description
362-0960	Spreader Bar Assembly

Load Leveler

Warranty: Caterpillar® Six Months



- Provides a much improved design over the conventional spreader bar
- Carriage on the main support beam is moved by turning the lead screw, which permits fine adjustment of the tilt angle of the component being lifted
- Lead screw can be turned manually or with air-powered tools
- Spreader bar adjustment is secured with locking bolts
- Chain grade 80 (ASTM)

Item	Part Number	Description	Max. Lifting Capacity	Distance Betw. Hooks Minimum	Distance Betw. Hooks Maximum	Chain Grade (ASTM)	Weight
—	6V-3145	Load Leveler (Optional)	2,721 kg (5,998.77 lb)	76.2 cm (30 in)	116.8 cm (46 in)	80	34 kg (74.98 lb)
—	6V-6146	Load Leveler	4,535 kg (9,997.95 lb)	91.4 cm (36 in)	142.2 cm (56 in)	80	43.1 kg (95 lb)
1	6V-3144	Chain a	—	—	—	—	—

a. Use with 6V-3145 and 6V-6146

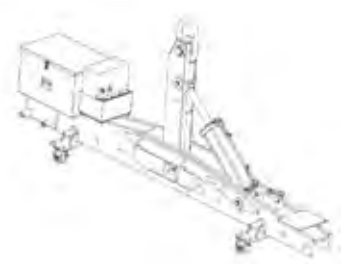
HOISTS

Load Leveling Assembly

Essential Tool

Model Usage: 994 and 994D Wheel loaders with 3512 Engines, Off-Highway Trucks with C175 Engines, Other similar engine lifting applications, 795F AC Off-Highway Truck

Warranty: Manufacturer's Limited Lifetime on Lifting Device, Manufacturer's Limited 6 Month on Chain, Wire Rope, and Hoses



REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

European Union compliant, CE marked

- Replaces canceled 137-4370 Leveling Assembly
- Used to lift, level, and position heavy loads such as 3512 and C175 Engines and can also be used on transmissions or other similar components
- Used with overhead lifting device rated for lifting heavy loads
- Adjust and keep load level during lifting procedures by retracting or extending hydraulic cylinder on leveling beam
- Eliminates constant readjustment (raising and lowering) of lifting device to obtain both stable and level load
- Uses heavy-duty, air-over-hydraulic system to allow for small adjustments so load can be accurately positioned during removal and installation
- Increased load rating over previous design allows tooling to be used on more applications
- Includes remote-operation, air-hydraulic switch with 7.62 m (25.0 ft) air hose
- Removable caster assemblies provide mobility for load leveler
- Removable tool box stores and protects remote switch, air hose, and related components
- 310-7787 Wire Rope Assembly may be purchased as replacement for 309-2794 Chain Assembly

Reference

- NEHS1011, Tool Operating Manual, 309-2793 Load Tilter

Specifications

- Capacity: 22,680 kg (50,000 lb)
- Length: 299.7 cm (118.0 in)
- Width: 29.2 cm (11.5 in)
- Height: 129.5 cm (51.0 in)
- Weight: 544 kg (1,200 lb)

Part Number	Description
309-2793	Load Leveling Assembly
Service/Repair Parts	
309-2794	Chain Assembly
309-2795	Air Hose Group (Remote Switch)
310-7787	Wire Rope Assembly

Aluminum Lever Hoists

Model Usage: All Machines

Warranty: Manufacturer's One Year



- Aluminum alloy construction for strength and durability
- Forged steel upper and lower hooks and latches
- Hoist alloy hardened steel link type load chain provides strength, long wear life and flexibility
- Compact, lightweight, simplified construction for ease of use and service
- Weatherized, automatic friction brake for positive load control
- One-hand control
- Longer replacement chain available

REPAIR INFORMATION

Columbus-McKinnon
Audubon and Sylan Pkwy.
Amherst, NY 14228
Phone: (800) 888-0985
Fax: (716) 689-5644
Web site: www.cmindustrial.com

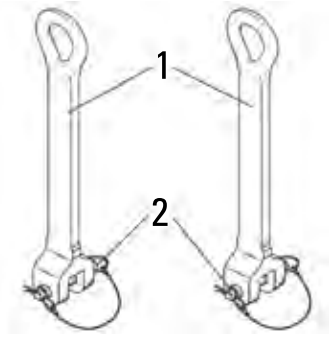
Part No.	Supplier Part No.	Max. Capacity	Standard Lift	Pull on Std. Lever to Lift Full Load	Net Weight	Min. Distance Between Hooks	Lever Length	Hook Throat Openings
1U-9199	4043	3/4 ton	5 ft	58 lb	14 lb	10 3/4	21 1/4 in	1 1/32 in
1U-9200	4060	3/4 ton	10 ft	58 lb	20 lb	10 3/4	21 1/4 in	1 1/32 in
1U-9201	4045	1 1/2 ton	5 ft	83 lb	24 lb	14 1/4 in	21 1/4 in	1 1/8 in
1U-9202	4062	1 1/2 ton	10 ft	83 lb	30 lb	14 1/4 in	21 1/4 in	1 1/8 in
1U-9203	4047	3 ton	5 ft	95 lb	34 lb	17 in	21 1/4 in	1 7/32 in
1U-9204	4065	3 ton	10 ft	95 lb	65 lb	17 in	21 1/4 in	1 7/32 in
1U-9205	4050	6 ton	5 ft	96 lb	65 lb	21 3/8 in	21 1/4 in	1 3/4 in

Lifting Group

Essential Tool

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install C175 Engine Assembly
- Used with 309-2793 Load Leveler
- Sold as complete set — two lifting bars and two 323-1712 Pin Assemblies
- Working Load Limit is stamped into each 323-1146 Lifting Group (Bar)
- Heat-treated for added strength and durability
- 323-1712 Pin Assembly is serviced separately
- Lifting bars are not serviced separately
- Meets the following requirements: ANSI — ASME B30.20:2006, AS 4991:2004, CE Compliant To Machinery Safety Directive 98/37/EC, EN 13155:2003

Reference

- NEHS1040, Tool Operating Manual

Item	Description	Quantity
1	Lifting Group (Bar)	2

Item	Part Number	Description	Working Load Limit	Qty.
—	323-1146	Lifting Group	—	—
2	323-1712	Pin Assembly	11,340 kg (25,000 lb)	2

Air System Lifting Plate, C175-20 High Altitude Arrangement (HAA)

Model Usage: C175-20

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to safely remove and install HAA Air System
- Prevents damage to air handling system during installation and removal

Specifications

- Dimensions: 768 x 691 mm (30 x 27 in)
- Thickness: 31.75 mm (1.25 in)
- Weight: 46 kg (102 lb)
- Working Load Limit (WLL): 3175 kg (7000 lb)
- Material: Steel

Part Number	Description
432-5403	C175-20 High Altitude Arrangement (HAA) Air System Lifting Plate

Fuel Pump Lifting Device, High-Pressure

Model Usage: C175 Engines

Warranty: Caterpillar® Six Months



- Accommodates safe rotation and movement needed during angular installation of HPFP
- Contains (2) position-locking handles
- Contains (2) permanently fixed encapsulated bolt swivel lifting eyes

Part No.	Description	Dimensions	Weight	WLL
487-8643	High-Pressure Fuel Pump Lifting Device	641 x 367 x141 mm (26 x15 x 6 in)	7 kg (16 lb)	227 kg (500 lb)

HOISTS

Lifting Tool Assembly, C175 Main Bearing

Model Usage: C175 16 & 20

Warranty: Caterpillar® Six Months



- Used to remove and install crankshaft main bearing caps

Specifications

- Dimensions: 376 x 313 x 109.35 mm (14.80 x 12.32 x 4.30 in)
- Weight: 3.2 kg (7.0 LB)

Part Number	Description
420-7630	Lifting Tool Assembly, C175 Main Bearing

Lifting Bracket Assembly

Model Usage: Articulated Truck, 735B, 740B, 740B Ejector

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to assist in the loading and off loading of the Articulated Truck during shipping
- Allows it to be attached to mounting bracket located on front bumper of Articulated Truck

Reference

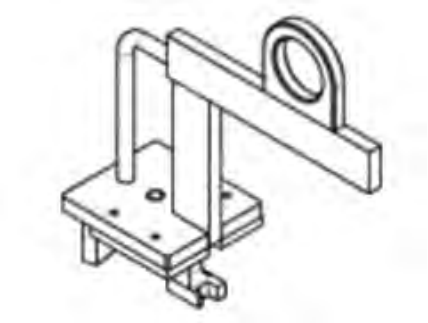
- NEHS1143, Tool Operating Manual

Part number	Description
359-3896	Lifting Bracket Assembly

C175 Cylinder Head Lifting Bracket

Model Usage: C175 16 & 20

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to lift and move cylinder head
- Eliminates the use of hooks or straps
- Provides quick, secure engagement and balanced lift

Specifications

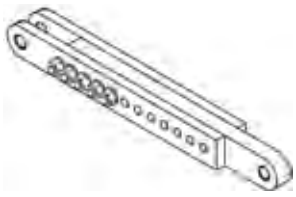
- Dimensions: 304.8 x 285.5 x 101.6 mm (12.0 x 11.2 x 4.0 in)
- Weight: 4.0 kg (8.8 lb)
- Working Load Limit: 91.0kg (200.6 lb)

Part number	Description
423-1743	C175 Cylinder Head Lifting Bracket

Adjustable Lifting Bar

Model Usage: 795F AC Off-Highway Truck, C175 Engine

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install C175 Engine Assembly on 795F AC Off-Highway Truck
- Used in pairs with 309-2793 Load Leveler (attach at outer pin locations on load leveler)
- Working load limit is stamped into each tool
- Adjustable design allows use in many other lifting applications
- Heat-treated for strength and durability
- Meets the following requirements:
  ANSI — ASME B30.20:2006
  AS 4991:2004
  CE Compliant To Machinery Safety Directive 98/37/EC
  EN 13155:2003

Reference

- NEHS1076, Tool Operating Manual

Specifications

- Working load limit: 11340 kg (25,000 lb)
- Weight: 73 kg (161 lb)
- Adjustable length: 86 to 122 cm (34.0 to 48.0 in) in 5 cm (2.0 in) increments

Part Number	Description
336-7250	Adjustable Lifting Bar

Cylinder Block Lifting Device, C175

Model Usage: C175 16 & 20, 3500 Gas and Diesel Engines

Warranty: Caterpillar® Six Months



- Used to lift bare C175 cylinder blocks
- Reduces installation time by eliminating the need to install lifting brackets and associated straps and cables
- Improves quality by eliminating block deck damage from cable ends

Specifications

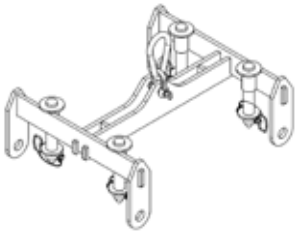
- Dimensions: 838.2 x 863.6 x 177.8 mm (33 x 34 x 7 in)
- Weight: 43.1 kg (95.0 lb)

Part Number	Description
420-9053	C175 Cylinder Block Lifting Device

Low-Profile Lifting Device for Alternator

Model Usage: 795F AC

Warranty: Caterpillar® Six Months



CE Compliant

- Reduces the amount of slack in the chains used to lift the alternator out of the frame while the truck body bed is installed
- Reduces the amount of vertical distance required in the lifting operation

Part Number	Description
421-1012	Low-Profile Lifting Device for Alternator

HOISTS

Tool Group C175 Cam Bearing

Model Usage: C175 16 & 20

Warranty: Caterpillar® Six Months



- Used to remove and install cam bearings in C175 engines
- Aligns the tool for a repeatable, safe and efficient press of the bearing to the proper depth without possible bore damage caused by misalignment
- Removal mandrel (included) allows the bearing to be pressed out with the same alignment to eliminate bore damage
- Eliminates need to assemble tooling for each bearing bore
- Eliminates the use of pullers
- Installs bearings in less than one minute
- Requires 1U-7524 or equivalent power supply

Specifications

- Dimensions: 469 x 320 x 117 mm (18.46 x 12.59 x 4.60 in)
- Weight: 14 kg (31 lb)

Part Number	Description
423-1236	Tool Group C175 Cam Bearing

Load Positioners

Warranty: Manufacturer's Two Year Limited



- Used with a crane or hoist
- Useful for tilting heavy or bulky assemblies in confined areas
- For use with floor cranes only. Not to be used with overhead hoists or cranes.
- 439-3940 Link Bracket (2) is part of 9S-9101 and 9S-9100

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive, Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

Reference

- NEHS0823, Tool Operating Manual

Part No.	Description	Load Capacity	Chain Size	Chain Length	Chain Grade (ASTM)	Gear Ratio	Drive Size
9S-9100	Hoists	907 kg (2000 lb)	6.4 mm (1/4 in)	137.16 cm (54 in)	43	34-1	5/8 in Hex
9S-9101	Sling Assembly	1814 kg (4000 lb)	7.9 mm (5/16 in)	157.48 cm (62 in)	43	82-1	5/8 in Hex

Warning Tag — Load Positioners

Warranty: Caterpillar® Six Months



- Used to warn technician against using load positioner for overhead lifting
- Can be ordered free-of-charge
- Attach tag to all 9S-9100 and 9S-9101 Sling Assemblies (load positioners) currently in use; required because the chain is grade 43

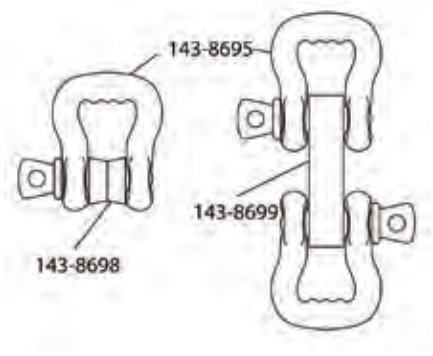
Part Number	Description
205-5688	Warning Tag

Fabric Slings, Protective Sleeve, and Shackles

Model Usage: 769, 773, 777, 785, 789, and 793 Off-Highway Trucks and General Usage

Warranty: Fabric Slings: Manufacturer's Six Months Against Defects In Materials Or Workmanship; Shackle, Spool, and Plate: Six Months





REPAIR INFORMATION

Alloy Slings
1406 175th Street
Hazelcrest, IL 60429
Phone: (708) 647-4900

Dealer Service Tool Catalog

European Union compliant, CE marked (140-7738, 140-7741)

- Used to lift truck bodies or other loads with a hoist or other lifting devices (provides strength of steel without drawbacks of weight, corrosion, or electrical conductivity)
- Reduces number of people required to perform a lift — fiber slings are up to 90% lighter than other rigging materials, can be easily handled by a single person, stored easily, do not require lubrication or reannealing like wire rope or chains, and will not scratch or mar surfaces that they contact
- Helps reduce injuries to mechanics such as hand punctures, pinching, back strain, etc., caused by heavy metal chains and hooks
- Slings provide a high-performance, low-cost method of lifting loads using vertical, basket, and choker-type hitches
- Slings provide the most inspectable lifting device by using double layered, contrasting colors and two types of visible Tell Tail cords to indicate damage
- Added protection can be gained by using a 140-7742 Protective Sleeve when slings are used in severe applications (made of the same bulked nylon material as the outer tubes)
- Sleeves feature velcro closures for easy installation and removal from slings

Construction

- Made from two complete and separate slings (cords), combined into one (provides unique back-up system, in case of failure of either cord)
- Inner load carrying cords are constructed of interwoven high performance fibers which provide excellent chemical resistance and have less than 1% elongation at working load
- Separate inner cords are encased in a double-walled fabric tube — inner tube is made of polyester while outer tube is made of a bulked, abrasion-resistant nylon
- All slings are labeled with model number, serial number, length, load capacities, and warnings

Safety

- 140-7738 and 140-7741 Slings meet all applicable national, international, and industry standards, including, but not limited to: ASME B30.9, ANSI 120.74, and Japanese standards
- 141-0288 and 141-0289 Slings meet all applicable national, international, and industry standards, including, but not limited to: CE Certification and Australian Standards AS4497.1 and AS4497.2
- Contrasting color coded slings provide extra protection and early warning (if red inner tube or cords are visible, the sling should be immediately removed from service and repaired by manufacturer)
- 2 "Tell Tail" cords are used as an indicator of shock or overloading of sling (cords should protrude 13 mm (0.5 in) beyond label tag and if shorter, sling should be returned to manufacturer for evaluation)
- "Fiber Optic Tell Tail" cord is used to determine if inner core fibers are damaged or broken — if light from one end of cord will not shine through to opposite end, the sling is probably damaged and should be returned to manufacturer for evaluation
- All slings are proof-tested to twice their rated capacity

Hardware

- A shackle is used to attach hooks, links, chains, or other lifting systems to fabric slings
- Shackles extra wide contact area gives increased load distribution to sling fabric and allows sling to achieve up to 100% of its rated load lifting capacity
- A spool keeps the loaded hook centered on the shackle pin and spreads lifting load evenly across pin
- A link plate allows attachment of 2 shackles to lifting hook

References

- REHS0033, Special Instruction, 777D Off-Highway Truck
- SEHS9980, Special Instruction, 793C Off-Highway Truck
- SEHS9992, Special Instruction 769D/771D Off-Highway Truck
- SEHS9993, Special Instruction 773D/775D Off-Highway Truck

HOISTS

Fabric Slings, Protective Sleeve, and Shackles (Continued)

Part Number	Description	Length	Width	Vertical	Lifting Capacity Basket	Choker
140-7738 a	Fabric Sling	2.4 m (8.0 ft)	100 mm (4 in)	9,000 kg (2,000 lb)	18,000 kg (40,000 lb)	7,200 kg (16,000 lb)
140-7741 a	Fabric Sling	2.4 m (8.0 ft)	75 mm (3 in)	4,500 kg (10,000 lb)	9,000 kg (20,000 lb)	3,600 kg (8,000 lb)
140-7742 b	Protective Sleeve	600 mm (24.0 in)	250 mm (10 in)	—	—	—
141-0288 c	Fabric Sling	2.4 m (8.0 ft)	100 mm (4 in)	9,000kg (20,000 lb)	18,000 kg (40,000 lb)	7,200 kg (16,000 lb)
141-0289 c	Fabric Sling	2.4 m (8.0 ft)	75 mm (3 in)	4,500 kg (10,000 lb)	9,000 kg (20,000 lb)	3,600 kg (8,000 lb)

a. For use in all markets except Europe and Australia
b. Recommended for use with all Fiber Slings
c. Required for use in Europe and Australia

Specifications

- 143-8695 Shackle (Synthetic Sling Saver):
  - Working load limit: 18,600 kg (41,000 lb)
  - Throat width: 54 mm (2.1 in)
  - Outside length: 248 mm (9.8 in)
  - Maximum sling width: 114 mm (4.5 in)
  - Inside depth: 146 mm (5.8 in)
  - Outside width: 191 mm (7.5 in)
  - Pin diameter: 38 mm (1.5 in)
  - Weight: 8.5 kg (18.7 lb)
  - Material: Alloy steel with threaded screw pin
- 143-8698 Shackle Spool (Synthetic Sling Saver):
  - Outside diameter: 63.5 mm (2.5 in)
  - Width: 47.8 mm (1.88 in)
  - Inside diameter: 41.4 mm (1.63 in)
  - Weight: 1.3 kg (2.8 lb)
  - Material: Alloy steel
- 143-8699 Shackle Link Plate (Synthetic Sling Saver):
  - Working load limit: 18,600 kg (41,000 lb)
  - Thickness: 44.5 mm (1.75 in)
  - Width: 76.2 mm (3.0 in)
  - Length: 177.8 mm (7.0 in)
  - Hole diameter: 41.2 mm (1.62 in)
  - Distance between holes: 95.2 mm (3.75 in)
  - Weight: 4.8 kg (10.6 lb)
  - Material: Alloy steel

Part Number	Description
143-8695	Shackle
143-8698	Shackle Spool (Synthetic Sling Saver)
143-8699	Shackle Link Plate (Synthetic Sling Saver)

Nylon Lifting Slings

Warranty: Caterpillar® Six Months

Part No. [a]	Length	Sling Width	Eye Length	Rated No. Of Body Plys	Capacity Choker	Vertical	Basket
Endless Slings (Type V)							
1U-8221	0.91 m (3 ft)	25.4 mm (1 in)	—	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6200 lb)
1U-8222	1.22 m (4 ft)	25.4 mm (1 in)	—	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6200 lb)
1U-8223	1.83 m (6 ft)	25.4 mm (1 in)	—	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6200 lb)
1U-8224	2.44 m (8 ft)	25.4 mm (1 in)	—	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6200 lb)
1U-8225	1.83 m (6 ft)	50.8 mm (2 in)	—	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8226	2.44 m (8 ft)	50.8 mm (2 in)	—	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8227	3.05 m (10 ft)	50.8 mm (2 in)	—	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8228	1.83 m (6 ft)	76.2 mm (3 in)	—	1	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8229	2.44 m (8 ft)	76.2 mm (3 in)	—	1	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8230	3.05 m (10 ft)	76.2 mm (3 in)	—	1	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8231	2.44 m (8 ft)	10.2 cm (4 in)	—	1	4500 kg (9920 lb)	5625 kg (12400 lb)	11249 kg (24800 lb)
1U-8232	3.05 m (10 ft)	10.2 cm (4 in)	—	1	4500 kg (9920 lb)	5625 kg (12400 lb)	11249 kg (24800 lb)
1U-8233	3.66 m (12 ft)	10.2 cm (4 in)	—	1	4500 kg (9920 lb)	5625 kg (12400 lb)	11249 kg (24800 lb)
Eye and Eye Slings (Type III)							
1U-8234	0.91 m (3 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8235	1.22 m (4 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8236	1.83 m (6 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8237	2.44 m (8 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8238	3.05 m (10 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8239	3.66 m (12 ft)	25.4 mm (1 in)	20.3 cm (8 in)	1	562 kg (1240 lb)	703 kg (1550 lb)	1406 kg (3100 lb)
1U-8240	1.22 m (4 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8241	1.83 m (6 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8242	2.44 m (8 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8243	3.05 m (10 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8244	3.66 m (12 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8245	4.27 m (14 ft)	50.8 mm (2 in)	20.3 cm (8 in)	1	1125 kg (2480 lb)	1406 kg (3100 lb)	2812 kg (6220 lb)
1U-8256	1.83 m (6 ft)	50.8 mm (2 in)	20.3 cm (8 in)	2	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8257	2.44 m (8 ft)	50.8 mm (2 in)	20.3 cm (8 in)	2	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8258	3.05 m (10 ft)	50.8 mm (2 in)	20.3 cm (8 in)	2	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8259	3.66 m (12 ft)	50.8 mm (2 in)	20.3 cm (8 in)	2	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
Eye and Eye Slings (Tapered Eyes) (Type III) 1							
1U-8246	2.44 m (8 ft)	76.2 mm (3 in)	22.9 cm (9 in)	1	1687 kg (3720 lb)	2109 kg (4650 lb)	4218 kg (9300 lb)
1U-8247	3.05 m (10 ft)	76.2 mm (3 in)	22.9 cm (9 in)	1	1687 kg (3720 lb)	2109 kg (4650 lb)	4218 kg (9300 lb)
1U-8248	3.66 m (12 ft)	76.2 mm (3 in)	22.9 cm (9 in)	1	1687 kg (3720 lb)	2109 kg (4650 lb)	4218 kg (9300 lb)
1U-8249	4.27 m (14 ft)	76.2 mm (3 in)	22.9 cm (9 in)	1	1687 kg (3720 lb)	2109 kg (4650 lb)	4218 kg (9300 lb)
1U-8250	4.88 m (16 ft)	76.2 mm (3 in)	22.9 cm (9 in)	1	1687 kg (3720 lb)	2109 kg (4650 lb)	4218 kg (9300 lb)
1U-8251	3.05 m (10 ft)	10.2 cm (4 in)	25.4 cm (10 in)	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8252	3.66 m (12 ft)	10.2 cm (4 in)	25.4 cm (10 in)	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8253	4.27 m (14 ft)	10.2 cm (4 in)	25.4 cm (10 in)	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8254	4.88 m (16 ft)	10.2 cm (4 in)	25.4 cm (10 in)	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8255	5.49 m (18 ft)	10.2 cm (4 in)	25.4 cm (10 in)	1	2250 kg (4960 lb)	2812 kg (6200 lb)	5625 kg (12400 lb)
1U-8260	3.05 m (10 ft)	76.2 mm (3 in)	22.9 cm (9 in)	2	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8261	3.66 m (12 ft)	76.2 mm (3 in)	22.9 cm (9 in)	2	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8262	4.27 m (14 ft)	76.2 mm (3 in)	22.9 cm (9 in)	2	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)
1U-8263	4.88 m (16 ft)	76.2 mm (3 in)	22.9 cm (9 in)	2	3357 kg (7440 lb)	4218 kg (9300 lb)	8437 kg (18600 lb)

a. On wider slings, tapered eyes provide a configuration designed for easier use with chainhooks.

⚠ WARNING

Inspect sling for damage before each use and remove from service if damaged. Do not overload, cut, or expose to temperatures above 82°C (180°F). Use of damaged sling may result in personal injury.

HOISTS

Synthetic Slings

Model Usage: All Models & Machines

Warranty: Manufacturer's





European Union Compliant, CE

Exceeds ANSI 30.9 American Standards

CE built and tested to meet EN1492-1 / -2

AS built and tested to meet AS4497

- Lift loads with a hoist or other lifting devices
- Built to world-wide accepted standards
- Additional lengths may be available. Please contact your Dealer Service Tools Representative for further information.

Round Synthetic Sling

* Regional Standard		Length	WLL	WLL	WLL	Color
AS - (Australian)	CE (Europe)		Vertical	Choker	Basket	
516-9375	529-8332	2 m (7 ft)	250 kg (550 lb)	200 kg (440 lb)	500 kg (1100 lb)	White
516-9395	529-8333	1 m (3 ft)	2 t (4410 lb)	1.6 t (3530 lb)	4 t (8820 lb)	Green
516-9397	529-8334	2 m (7 ft)	2 t (4410 lb)	1.6 t (3530 lb)	4 t (8820 lb)	Green
516-9376	529-8335	3 m (10 ft)	2 t (4410 lb)	1.6 t (3530 lb)	4 t (8820 lb)	Green
516-9399	529-8336	2 m (7 ft)	3 t (6615 lb)	2.4 t (5290 lb)	6 t (13230 lb)	Yellow
516-9401	529-8337	3 m (10 ft)	3 t (6615 lb)	2.4 t (5290 lb)	6 t (13230 lb)	Yellow
516-9377	529-8338	4 m (13 ft)	3 t (6615 lb)	2.4 t (5290 lb)	6 t (13230 lb)	Yellow
516-9406	529-8339	3 m (10 ft)	6 t (13230 lb)	4.8 t (10580 lb)	12 t (26450 lb)	Brown
516-9378	529-8340	6 m (20 ft)	6 t (13230 lb)	4.8 t (10580 lb)	12 t (26450 lb)	Brown

Flat Synthetic Sling

* Regional Standard		Length	Sling Width	Eye Length	WLL	WLL	Color
AS - (Australian)	CE (Europe)				Vertical	Choker	
516-9379	529-8341	1 m (3 ft)	50 mm (2 in)	150 mm (6 in)	1 t (2200 lb)	0.8 t (1760 lb)	Violet
516-9381	529-8342	2 m (7 ft)	50 mm (2 in)	150 mm (6 in)	1 t (2200 lb)	0.8 t (1760 lb)	Violet
516-9383	529-8343	3 m (10 ft)	50 mm (2 in)	150 mm (6 in)	1 t (2200 lb)	0.8 t (1760 lb)	Violet
516-9386	529-8344	2 m (7 ft)	65 mm (3 in)	180 mm (7 in)	2 t (4410 lb)	1.6 t (3530 lb)	Green
516-9388	529-8345	3 m (10 ft)	65 mm (3 in)	180 mm (7 in)	2 t (4410 lb)	1.6 t (3530 lb)	Green
516-9390	529-8346	4 m (13 ft)	65 mm (3 in)	180 mm (7 in)	2 t (4410 lb)	1.6 t (3530 lb)	Green
516-9393	529-8347	3 m (10 ft)	90 mm (4 in)	270 mm (11 in)	3 t (6515 lb)	2.4 t (5290 lb)	Yellow

* Regional Standards require different marking/labeling. Consult local regulations for requirements.

Engine Damper Lifting Device & Guide Pin Assemblies

Model Usage: C175 Engine

Warranty: Caterpillar® Six Months



European Union Compliant, CE

- Accommodates safe removal of engine dampers
- Contains two position-locking rails for different diameter engine dampers
- Contains integrated lifting eye
- Guide pin assemblies contain locking pins to bump against to safely slide engine damper onto

Reference

- M0080735 Tool Operating Manual

Part No.	Description	Dimensions	Weight	WLL
487-8629	Engine Damper Lifting Device	533 x 140 x 101 mm (21 x 5.5 x 4 in)	5 kg (11 lb)	227 kg (500 lb)
487-8630	Guide Pin Assemblies (2)	356 x 76 mm (14 x 3 in) each	1.3 kg (2 lb)	-

HOISTS

Undecking Sling

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Combination nylon and chain sling designed to allow lifting and lowering vehicles, without damaging the front bumper, grille and/or hood

Specifications

- Dimensions: 19.8 x 17.1 x 9.8 in
- Weight: 13.90 kg (30.65 lb)

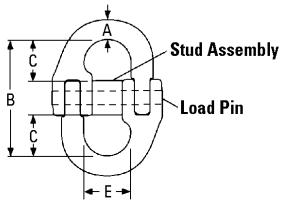
Part Number	Description
372-5265	Undecking Sling

Columbus McKinnon "Herc-Alloy 800" Chain

Warranty: Caterpillar® Six Months

- Manufactured from special alloy steels and engineered for superior combinations of strength, lightness, and durability — qualities that give the "Herc-Alloy 800" system higher working load limits and longer life than conventional alloy chain products, and make it easier to handle
- Embossed approximately every 10 inches with the make (CM) and grade (HA-800) appearing alternately

Part Number	Description	Chain Size	Max. Working Load
4C-6938	Pail, 43.0 m/18.9 L (141 ft/5 gal)	7.14 mm (9/32 in)	1,588 kg (3,501 lb)
4C-6939	Pail, 19.2 m/18.9 L (63 ft/5 gal)	9.52 mm (3/8 in)	3,221 kg (7,101 lb)



Coupling Links

- Dependable and easy to use for fast assembly on the job, for attaching chain to master links and eye type hooks and for installing new body chain in old slings
- CVSA approved

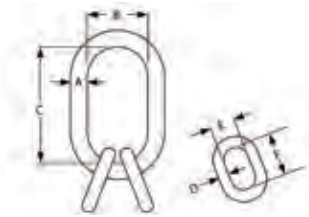
Chain Size	Working Load Limit	Part Number	A	B	C	E [a]	Max. Width	Diameter hole to accept male leg
(1 in)	21,636 kg (47,699 lb)	270-0320	31.75 mm (1 1/4 in)	146.05 mm (5 3/4 in)	55.56 mm (2 3/16 in)	50.80 mm (2 in)	157.16 mm (6 3/16 in)	39.69 mm (1 9/16 in)
(1/2 in)	5,442 kg (11,999 lb)	270-0315	17.46 mm (1 1/16 in)	85.73 mm (3 3/8 in)	30.96 mm (1 7/32 in)	25.40 mm (1 in)	79.38 mm (3 1/8 in)	23.42 mm (59/64 in)
(3/4 in)	12,836 kg (28,300 lb)	270-0316	23.81 mm (15/16 in)	121.46 mm (4 25/32 in)	45.64 mm (1 51/64 in)	38.10 mm (1 1/2 in)	109.54 mm (4 5/16 in)	31.75 mm (1 1/4 in)
(3/8 in)	3,221 kg (7,101 lb)	363-0795	12.70 mm (1/2 in)	61.12 mm (2 13/32 in)	21.03 mm (53/64 in)	19.05 mm (3/4 in)	56.36 mm (2 7/32 in)	18.65 mm (47/64 in)
(9/32 in)	1,588 kg (3,500 lb)	270-0312	7.94 mm (5/16 in)	30.16 mm (1 13/16 in)	15.88 mm (5/8 in)	12.70 mm (1/2 in)	42.86 mm (1 11/16 in)	13.89 mm (3 5/64 in)

a. Diameter of stock of largest master link intended to be used with Hammerlok

⚠ WARNING

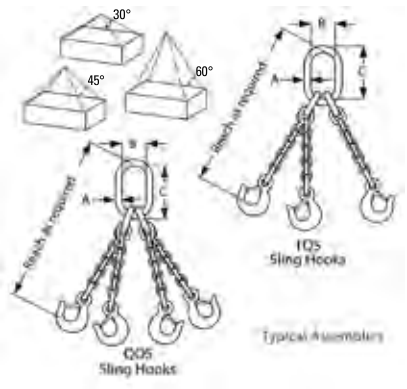
Serious damage to a chain may occur when a force exceeding the maximum working load limit is applied to a chain or chain assembly. These maximum working load limits are not to be exceeded.

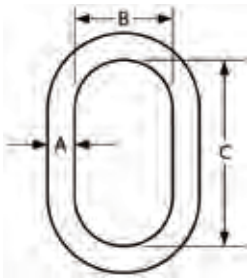
Columbus McKinnon "Herc-Alloy 800" Chain (Continued)



Master Link Sub-Assemblies

Chain Size	Working Load limit			Master Link Sub-Assembly Number	Diameter Material A	Dimensions	
	60 degrees	45 degrees	30 degrees			Inside Width B	Inside Length C
12.70 mm (1/2 in)	14,152 kg (31,200 lb)	11,567 kg (25,500 lb)	8,165 kg (18,000 lb)	4C-3576	19.05 mm (3/4 in)	111.13 mm (4 3/8 in)	222.25 mm (8 3/4 in)
7.14 mm (9/32 in)	4,128 kg (9,100 lb)	3,357 kg (7,400 lb)	2,359 kg (5,200 lb)	4C-3576	19.05 mm (3/4 in)	69.85 mm (2 3/4 in)	139.70 mm (5 1/2 in)
9.52 mm (3/8 in)	8,346 kg (18,400 lb)	6,849 kg (15,100 lb)	4,808 kg (10,600 lb)	4C-3577	25.40 mm (1 in)	88.90 mm (3 1/2 in)	177.80 mm (7 in)





Information to Make Triple and Quad Chain Sling Type

Safety Note:

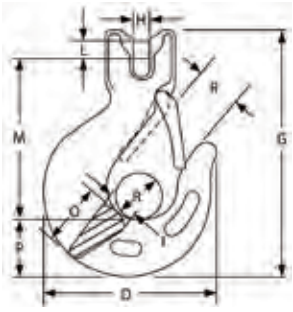
A quad branch chain sling usually does not sustain loads with even distribution to its four branches, especially when loads are of rigid structure. Therefore, maximum working load limits are set at the same values as for triple branch chain slings of equal quality and size and used with branches at the same angle of inclination.

Oblong Master Link

Part Number	Working Load Limit	Link Size			Type and size of chain sling on which used			
		Diameter Material A	Inside Width B	Inside Length C	Single Type S and C	Double Type D	Triple Type T	Quad Type Q
4C-3573	2,767 kg (6,100 lb)	12.70 mm (1/2 in)	63.50 mm (2 1/2 in)	127.00 mm (5 in)	7.14 mm (9/32 in)	7.14 mm (9/32 in)	5.56 mm (7/32 in)	5.56 mm (7/32 in)
4C-3574	5,579 kg (12,300 lb)	19.05 mm (3/4 in)	69.85 mm (2 3/4 in)	139.70 mm (5 1/2 in)	9.53 mm (3/8 in)	9.53 mm (3/8 in)	7.14 mm (9/32 in)	7.14 mm (9/32 in)
4C-3575	9,435 kg (20,800 lb)	25.40 mm (1 in)	88.90 mm (3 1/2 in)	177.80 mm (7 in)	12.70 or 15.88 1/2 or 5/8 in	12.70 mm (1/2 in)	9.53 mm (3/8 in)	9.53 mm (3/8 in)

HOISTS

Columbus McKinnon "Herc-Alloy 800" Chain (Continued)



Clevlok Sling Hook with Latch

Chain Size	Working Load Limit	Part No.	Dimensions									Replacement Latch Kit
			D	G	H	I	L	M	O	P	R	
7.14 mm (9/32 in)	1,588 kg (3,500 lb)	1U-9795	8.90 mm (3.500 in)	130.96 mm (5.156 in)	8.33 mm (0.328 in)	18.64 mm (0.734 in)	9.07 mm (0.357 in)	87.30 mm (3.437 in)	30.56 mm (1.203 in)	26.70 mm (1.051 in)	26.97 mm (1.062 in)	1U-9798
9.53 mm (3/8 in)	3,220 kg (7,100 lb)	1U-9794	110.31 mm (4.343 in)	169.47 mm (6.672 in)	11.51 mm (0.453 in)	24.21 mm (0.953 in.)	12.88 mm (0.507 in)	113.49 mm (4.468 in)	36.91 mm (1.453 in.)	32.54 mm (1.281 in)	33.32 mm (1.312 in)	1U-9797
12.70 mm (1/2 in)	5,443 kg (12,000 lb)	1U-9793	139.70 mm (5.500 in)	203.20 mm (8 in)	15.06 mm (0.593 in)	29.77 mm (1.172 in.)	15.88 mm (0.625 in)	133.73 mm (5.265 in)	49.23 mm (1.938 in.)	42.06 mm (1.656 in)	39.67 mm (1.562 in)	1U-9796



Alloy Eye Hooks — Grab

Part Number	Chain Size	Max. Working Load Limit (lb)
1U-9799	12.70 mm (1/2 in)	5,443 kg (12,000 lb)
1U-9883	7.94 mm (5/16 in)	2,041 kg (4,500 lb)
1U-9884	9.53 mm (3/8 in)	3,221 kg (7,101 lb)
4C-3581	6.35 mm (1/4 in)	1,588 kg (3,500 lb)

Chain Sling Identification Tag

Warranty: Caterpillar® Six Months



- Used to identify size, grade, rated capacity (WLL), and reach of device
- Use a 6.35 or 9.53 mm (1/4 or 3/8 in) stamp to imprint specifications on tag
- Measures 105 x 38 x 4 mm (4.13 x 1.50 x 0.16 in)
- Opening for chain link: 27 mm (1.06 in) diameter
- Slit opening makes tag easy to attach to a link
- Made from carbon steel
- Meets OSHA Specification 1910.184

Part Number	Description
253-9937	Chain Sling Identification Tag

Chain Adjuster, Chain Adjuster (272C)

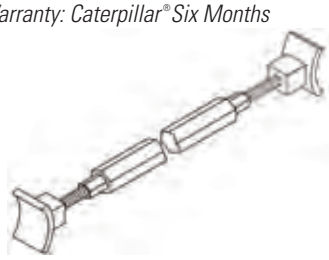
Essential Tool

Model Usage: 216, 226, 228, 236, 246, 248, 252, 252B, 262C, 246C, 256C and 262 Skid Steer Loaders

- Used to adjust drive chain tension

Part Number	Description
159-3337	Chain Adjuster
292-9206	Chain Adjuster (272C)

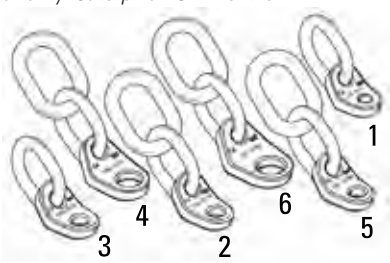
Warranty: Caterpillar® Six Months



Link Brackets

Model Usage: 5000 Series Mining Excavators and General Usage

Warranty: Caterpillar® Six Months



- Used to remove or install large components such as excavator swing gears (provides acceptable method of attaching hoist to component)
- 439-3940 Link Bracket is used specifically to remove and install swing gear and bearing assembly on 5130 and 5230 Mining Excavators
- Bolts directly onto swing bearing/gear or other component (always use Grade 8 bolts to attach link bracket to component)
- Requires less clearance than standard eyebolt and makes placement/alignment of swing gear/bearing much faster and simpler
- All link brackets meet ANSI Standards for lifting devices
- Used for any general purpose lifting where bracket can be attached to component
- 100% proof tested at 2 times the working load limit and complies with the requirements of ANSI/ASME B30.9-1984 as noted on the Certificate of Proof Test contained with each piece

References

- SEHS9721, Special Instruction, Assembly Procedure for Hydraulic Excavator (5130 only)
- NEHS1064 Tool Operating Manual

Item	Part Number	Bolt Size	Working Load Limit	Minimum Bolt Torque
1	439-3938	9.52 mm (3/8 in)	1,000 kg (2,205 lb)	43 N·m (32 ft-lb)
2	439-3939	19.05 mm (3/4 in)	4,000 kg (8,818 lb)	360 N·m (266 ft-lb)
3	439-3940	12.7 mm (1/2 in)	1,800 kg (3,968 lb)	95 N·m (70 ft-lb)
4	439-3941	30 mm (1 1/4 in)	4,000 kg (8,818 lb)	1,300 N·m (959 ft-lb)
5	439-3942	22.225 mm (7/8 in)	4,536 kg (10,000 lb)	620 N·m (457 ft-lb)
6	439-3943	36 mm (1.41 in)	5,448 kg (12,011 lb)	2,700 N·m (1,991 ft-lb)

Cylinder Head Lifting Bracket

Model Usage: CT660 Truck, CT11, CT13

Warranty: Manufacturer's



- Used to remove and install the cylinder head on engine

Specifications

- Dimensions: 279.4 x 233.7 x 14.0 mm (11.0 x 9.2 x 0.5 in)
- Weight: 2.42 kg (5.33 lb)

Part Number	Description
374-6396	Cylinder Head Lifting Bracket

Tow Straps

Warranty: Caterpillar® Six Months



- Ability to take shock — the stretching of the tow strap allows a cushion against sudden shock (nylon strap will stretch 6-8% when loaded at rated capacity and will return to normal length when not loaded)
- Lightweight — tow straps are lightweight, tough, woven nylon that withstand grease, water and multiple folding
- Flexible — tow strap flexibility makes handling in cold weather a snap
- Storage — coiling and storing in vehicle or tool box is simple and easy
- Alloy hooks — tow straps alloy hooks are an integral part of the strap

Part No.	Strap Width	Length	Ply	Breaking Strength	Hook Size
4C-3049	50.8 mm (2 in)	6.10 m (20 ft)	Single	8,890 kg (19,600 lb)	9.53 mm (3/8 in)
4C-3050	50.8 mm (2 in)	7.62 m (25 ft)	2	17,781 kg (39,200 lb)	12.7 mm (1/2 in)

HOISTS

Hoist Rings and Anchor Shackle

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- Used to handle large or heavy components on machines
- Anchor shackle is capable of handling components up to 77 t (85 tons)
- Hoist rings used for lifting differential housing, transmission, spindle group, or axles



Part Number	Description	Load Limit	Bolt Size	Thread Length	Thickness	Width	Inside Diameter	Weight	Material
164-4033	Hoist Ring	7,000 kg (15,432 lb)	M30 x 3.50 x 100 mm (3.9 in) long	45 mm (1.77 in)	—	—	—	—	—
164-4034	Hoist Ring	11, 000 kg (24, 251 lb)	M36 x 4.00 x 150 mm (5.9 in) long	61 mm (2.40 in)	—	—	—	—	—
164-4035	Anchor Shackle	77 t (85 tons)	—	—	92 mm (3.62 in)	127 mm (5 in)	330 mm (13 in)	70 kg (154 lb)	galvanized alloy steel

Lifting Shackles

Model Usage: All Models

Warranty: Manufacturer's One Year Against Defects In Workmanship


Typical Shackle

REPAIR INFORMATION

Crosby Group P.O. Box 3128
Tulsa, OK 74101
Phone: (918) 834-4611
Fax: (918) 832-0940
Email: crosbygroup@earthlink.net
Web site: www.thecrosbygroup.com

NOTE: Be sure to read and understand the limited warranty that covers this product during the first 12 months following transfer of title to the purchaser. The manufacturer reserves the choice to repair, replace, or refund the purchase price of any product they determine to be defective.

European Union compliant, CE marked

- Used for a variety of lifting applications
- Assorted sizes and capacities for multiple shop or field uses
- Forged, quenched, and tempered
- Each shackle includes an alloy steel screw-pin to secure loads
- Working load limit is permanently imprinted on every shackle

Part Number	Description	Working Load Limit
189-0408	Shackle (2 ton)	1,814 kg (4,000 lb)
189-0409	Shackle (3.25 ton)	2,948 kg (6,500 lb)
189-0410	Shackle (4.75 ton)	4,309 kg (9,500 lb)
189-0411	Shackle (8.5 ton)	7,711 kg (17,000 lb)
189-0412	Shackle (9.5 ton)	8,618 kg (19,000 lb)
189-0863	Shackle (12 ton)	10,886 kg (24,000 lb)
193-5474	Shackle (55 ton)	49,895 kg (110,000 lb)
5P-8622	Shackle (6.5 ton)	5,900 kg (13,007 lb)

Mechanical Screw Jacks, 20 and 24 Ton

Warranty: Manufacturer's Unlimited Against Defects In Materials And Workmanship



- To make leveling work easier, as well as exact, the floating cap on the screw jacks reduce operating friction by 88% over jacks not using this principle
- Non-flattening, single chrome-moly ball gives the cap 9° float to automatically level and center load forces
- Floating cap construction also increases safety, by reducing the possibility of load twist-out (to prevent load slippage, the load cap is serrated)
- No maintenance is required. Housings are of malleable iron to prevent breakage and are flared at the base to help assure stability
- Safety peep hole lets you visually inspect the screw position, reducing the possibility of over extension
- These screw jacks have long been accepted as reliable tools (their sturdy, simple design provides safe support for machinery, general rigging, and construction applications)

REPAIR INFORMATION

Templeton-Kenly
2525 Gardner Road
Broadview, IL 60153
Phone: (800) 323-9114
Fax: (708) 865-0894
Web site: www.tksimplex.com

Part Number	Sustaining Capacity	Closed Height	Operable Rise	Effort per Ton	Handle Base Diameter	Weight	Lever Bar Length
20 Ton Series							
1U-9324	18,144 kg (20 ton)	30 cm (11 3/4 in)	13 cm (5 in)	6.8 kg (15 lb)	15 cm (6 in)	7.7 kg (17 lb)	91 cm (36 in)
1U-9325	18,144 kg (20 ton)	35 cm (13 3/4 in)	18 cm (7 in)	6.8 kg (15 lb)	15 cm (6 1/2 in)	9 kg (20 lb)	91 cm (36 in)
24 Ton Series							
1U-9327	21,722 kg (24 ton)	43 cm (17 in)	21 cm (8 1/4 in)	6.8 kg (15 lb)	18 cm (7 1/4 in)	16.8 kg (37 lb)	1 m (42 in)
1U-9328	21,722 kg (24 ton)	58 cm (23 in)	36 cm (14 1/4 in)	6.8 kg (15 lb)	22 cm (8 1/2 in)	23.6 kg (52 lb)	1 m (42 in)

Mechanical Ratchet Lever Jacks, 5 and 10 Ton

Warranty: Manufacturer's Unlimited Against Defects In Materials And Workmanship



5 Ton Series for lowest minimum heights

- Especially suited for moving machinery and for lifting or skidding mine and construction equipment
- Minimum toe height is 44.45 mm (1 3/4 in) on all types of loads; safety speed trigger lets you trip jack instantly when not under load

10 Ton Series for fast, height lifting

- Designed for use with oil and drilling equipment, mining machinery, road building equipment, railroad bolster, and coupler repairs
- Minimum toe heights range from 44.45 mm (1 3/4 in) to 50.8 mm (2 in), with strokes from 24.13 cm (9 1/2 in) to 30.48 cm (12 in); minimum cap heights from 43.18 cm (17 in) to 52.07 cm (20 1/2 in)
- 1U-9322 has a lightweight aluminum alloy housing [weighing just 19.05 kg (42 lb) total] for maximum mobility; malleable-iron cap and large grooved lifting toe [57.15 x 82.55 mm (2 1/4 x 3 1/4 in)] give added safety on all types of loads
- Housings for other models are of malleable iron and include safety speed trigger for tripping jack when not under load

REPAIR INFORMATION

Templeton-Kenly
2525 Gardner Road
Broadview, IL 60153
Phone: (800) 323-9114
Fax: (708) 865-0894
Web site: www.tksimplex.com

Part No.	Capacity	Stroke	Effort per Ton	Handle Capacity Height	Min. Toe Min.	Base Size	Weight	Optional Lever Bar (not included)	Lever Bar Length
5 Ton Series									
1U-9320	4536 kg (5 ton)	33 cm (13 in)	33.1 kg (72.97 lb)	51 cm (20.08 in)	44.45 mm (1 3/4 in)	12.7 x 18.7 cm (5 x 7 3/8 in)	15.8 kg (35 lb)	4C-4034	91 cm (36 in)
10 Ton Series									
1U-9322	9071 kg (10 ton)	30 cm (12 in)	13.6 kg (29.98 lb)	52 cm (20.50 in)	50.8 mm (2 in)	16.5 x 26 cm (6 1/2 x 10 1/4 in)	19 kg (42 lb)	4C-4035	1.5 m (60 in)

Belly Guard Lift Table

Warranty: Caterpillar® Six Months







Basic Specifications

- Lift Table for the installation and removal of dozer belly guards
- Air over hydraulic operation
- Load Capacity –5,000 LBS
- CE compliant
- A maximum working height of 36 in

Key Benefits

- Greater range of weight capacity (5,000 lb from min. to max height.) Other devices do not offer this capability. This was a key dealer requirement during the VOD collection phase.
- Air-powered capability reduces fatigue and improves the cycle time.
- Depending on operator ability and experience, we have seen 15% to 25% improvement in overall cycle time of tool. Due to other factors, this improvement in cycle time of the tool might not translate in to a lower total repair time.

Safety & Regulation

- Safety skirt is fire retardant to provide protection for the user and tool components
- Worldwide compliant
- Dual cylinders provide substantial lifting ability in compact spaces (min. height 8.5 in/max height 36 in)
- Built-in counterbalance valve safety holds load if hydraulic line is damaged

Serviceability & Ergonomics

- Adequately sized tabletop can be pinned in the raised position for ease of service and maintenance
- Ergonomic design includes adjusting locking locater to allow handle to be located at three different heights for user comfort
- Custom rotatable caster with auxiliary bar attachment

Durability

- Heavy duty casters with independent locks and toe guards
- Rugged steel components of the scissor stack provide stable lifting
- Load tested up to a working load limit of 5,000 lb
- Guard plate at bottom protects hydraulic hoses and interior components

Versatile Design

- Hydraulic pump can be manually operated using the handle
- Easily attach air supply for operating air-powered hand tools
- Easy to use simple controls made from sturdy materials
- Lifting points at all four corners to allow ease of transport between facilities
- Designed to fit in the back of the Cat® Service Truck

Reference

- **CLICK:** An application video is available here on Channel 1.
- **CLICK:** Additional pictures and specifications are available here.
- NEHS-1211 Tool Operating Manual

Part No.	Description	Dimensions	Weight
463-3380	Belly Guard Lift Table	1585 x 813 x 216 mm (62.4 x 32 x 8.5 in)	178.7 kg (393.9 lb)

Hydraulic Jack

Model Usage: All Models

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- 1000 kg (2,200 lb) lift capacity
- Multi-purpose jack to be used with various equipment where components are at a low level
- Dual function: works both as a trolley jack (lift up) and a jack stand (keeps the machine lifted)
- Extra large round foot pedal for increased access from any positio
- Lift range: 115-505 mm (4.5-19.8 in)

Part No.	Description	Dimensions	Weight
525-5184	Hydraulic Jack	815 x 600 x 210 mm (32 x 24 x 9 in)	50 kg (110 lb)

JACKS

Ratchet Lever Jack, 20 Ton Support, 15 Ton Lift

Warranty: Manufacturer's Unlimited Against Defects In Materials And Workmanship



- For easier lifting of heavy loads
- Provides needed lifting capacity for repairing equipment used in heavy construction applications
- Can also be used in pairs in place of an overhead crane to load heavy machinery and equipment
- Easy lifting (just 34 lb handle effort per ton) makes this jack exceptionally suited to both light and heavy applications
- Minimum toe height is 57 mm (2 1/4 in), with 457 mm (18 in) stroke
- Minimum cap height is 718 mm (28 1/4 in)
- Supports 20 tons, lifts 15 tons

Part Number	Capacity	Stroke	Handle Effort per Ton	Capacity Min. Height	Toe Min.	Base Size	Weight	Optional Lever Bar [a]	Lever Bar Length
1U-9323	18,144 kg (20 ton)	46 cm (18 in)	5.4 kg (34 lb)	72 cm (28 1/4 in)	57.15 mm (2 1/4 in)	20.32 x 27.94 mm (8 x 11 in)	47.17 kg (104 lb)	—	1.8 m (72 in)

a. Lever Bar not included as part of Mechanical Ratchet Lever Jacks; see Steel Lever Bar chart.

REPAIR INFORMATION

Templeton-Kenly
2525 Gardner Road
Broadview, IL 60153
Phone: (800) 323-9114
Fax: (708) 865-0894
Web site: www.tksimplex.com

Mechanical Ratcheting Screw Jacks

Warranty: Manufacturer's Unlimited Against Defects In Materials And Workmanship



- 35- and 50-ton capacity
- Low profile for fast lifting, support and exact leveling of heavy loads
- Original journal jacks by Templeton, Kenly and Co., are used widely in all industries where powerful; all-position jacks are required
- Beveled-gear construction combines the best principles of ratchet and screw jacks to give fast lifting and exact leveling of heavy loads, with minimal amount of handle effort per ton
- Low minimum height of these Superjacks makes them ideal for low clearance loads
- Low minimum height of these Superjacks makes them ideal for low clearance loads
- Equipped with a fully-enclosed ratchet mechanism, aluminum housings
- Can be lubricated through grease plug, without removing the base

REPAIR INFORMATION

Templeton-Kenly
2525 Gardner Road, Broadview, IL 60153
Phone: (800) 323-9114
Fax: (708) 865-0894
Web site: www.tksimplex.com

Part Number	Capacity	Stroke	Handle Effort per Ton	Min. Height	Base Diameter	Weight	Optional Lever Bar	Lever Bar Length
1U-9330	31,752 kg (35 ton)	13 cm (5 in)	3 kg (7 lb)	26 cm (10 1/4 in)	147 mm (5 1/2 in)	14.5 kg (32 lb)	4C-4034	91.44 cm (36 in)
1U-9331	45,360 kg (50 ton)	10 cm (4 in)	1.8 kg (4 lb)	26 cm (10 5/16 in)	184 mm (7 1/4 in)	27 kg (60 lb)	4C-4039	142.2 cm (56 in)

Steel Lever Bars (Sold Separately)

REPAIR INFORMATION

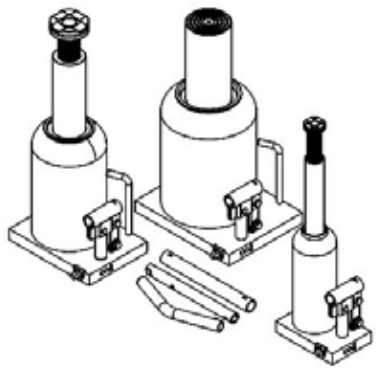
Templeton-Kenly
2525 Gardner Road
Broadview, IL 60153
Phone: (800) 323-9114
Fax: (708) 865-0894
Web site: www.tksimplex.com

Part Number	Length	Weight	For Use With:
4C-4034	91.5 cm (36 in)	3.6 kg (8 lb)	1U-9320 — 5 ton Jack 1U-9330 — 35 ton Jack
4C-4035	15.2 cm (6 in)	7.7 kg (17 lb)	1U-9322 — 10 ton Jack
4C-4039	142.2 cm (56 in)	4.5 kg (10 lb)	1U-9331 — 50 ton Jack

Hydraulic Bottle Jacks

Model Usage: All

Warranty: Caterpillar® Limited Lifetime



European Union Compliant, CE marked

- Used to lift a variety of items
- Lower handle effort reduces operator fatigue
- Safety relief valve to prevent overload
- Automatic by-pass port to prevent overextension
- Meets or exceeds ASME, PALD, and CE standards

Specifications

Part Number	Description	Collapsed Height	Max Height	Screw Height	Base Size	Weight
439-5575	71.25 kN (8 t)	219 mm (8.62 in)	444 mm (17.48 in)	75 mm (2.95 in)	95 x 138 mm (3.74 x 5.43 in)	5.9 kg (13 lb)
439-5576	133.4 kN (15 t)	228 mm (8.98 in)	453 mm (17.83 in)	75 mm (2.95 in)	112 x 163 mm (4.41 x 6.42 in)	9.0 kg (19.8 lb)
439-5577	177.9 kN (20 t)	234 mm (9.21 in)	459 mm (18.07 in)	75 mm (2.95 in)	127 x 171 mm (5.00 x 6.73 in)	12.1 kg (26.7 lb)
440-4777	266.9 kN (30 t)	242 mm (9.53 in)	467 mm (18.39 in)	75 mm (2.95 in)	142 x 196 mm (5.59 x 7.72 in)	15.5 kg (34.2 lb)
439-5578	444.8 kN (50 t)	252 mm (9.92 in)	402 mm (15.83 in)	——	180 x 230 mm (7.09 x 9.06 in)	28.5 kg (62.8 lb)

Serviceable Parts

Part Number	Description
442-1723	Seal Kit — 8.8 Ton
442-1724	Seal Kit — 16.5 Ton
442-1725	Seal Kit — 22 Ton
442-1726	Seal Kit — 33 Ton
442-1727	Seal Kit — 55 Ton
442-1728	Release Valve Kit
442-1729	Handle Replacement Kit

JACKS

Mobile Low Lift Transmission Jack, 2,000 lb

Warranty: Manufacturer's Two Year Limited (Warranty: Six Months — Transmissions Adapters and Mountings)





- Transmission jack and equipment will be direct shipped from Owatana Tool Company
- Permits easy one-man transmission removal and replacement
- Ideal for handling other assemblies, too
- Wide-spaced ball-bearing swivel casters provide exceptional stability and mobility
- Versatile AdjustaGrip mounting arms feature 5-point adjustment, permitting attachment to any unit
- Attachment chains furnished
- Flow control valve slows descent of load
- 3-point screw adjustment allows precise tilting of saddle — essential for proper aligning of transmission with engine
- Saddle rotates 360° for easily servicing transmission after removal from vehicle
- Worldwide reputation for dependability/ reliability
- Includes four 1U-7558 mounting arms

Specifications

- Weight: 134 kg (297 lb)
- Lifting Range: 25.4 — 91.44 cm (10 — 36 in)

REPAIR INFORMATION

Bosch Service Solutions, 755 Eisenhower Drive
Owatonna, MN 55060, Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

Part Number	Description	Weight
1U-7505	Jack	—

Transmissions Adapters and Mountings

Part Number	Description	Weight
1U-7506	Transmission Adapter Kit	4.64 kg (10 15/64 lb)
1U-7558	Transmission Mounting Arm	1.81 kg (4 lb)

Transmission Jack, 1.5 Ton (3,000 lb)

Warranty: Manufacturer's One Year



REPAIR INFORMATION

Meyer Hydraulics Corporation
512-22 W. Burr Oak Street
Centerville, MI 49032
Phone: (800) 253-2076, (269) 467-6302
Fax: (269) 467-6897
Web site: www.meyerhydraulics.com

- Super low clearance — platform can be lowered all the way to the floor
- Smooth rolling — loads move easily on 10.16 cm (4 in) heavy-duty caster wheels
- Convenient hydraulic control — handle can be operated from rear or either side
- Stable lifting platform — 53.34 cm (21 in) wide pivots provide extra stability
- Precise tilt control — adjusts platform in 4 different directions
- Wide base — 78.74 cm (31 in) wide base provides stable support for heavy, bulky loads
- Detachable handle — allows easy movement without limiting access in tight spots
- Adjustable cradles — adapt to different shapes and sizes providing improved stability

Specifications

- Capacity: 1.5 ton (3,000 lb)
- Lift minimum: 8.89 cm (3 1/2 in)
- LIft maximum: 101.6 cm (40 in)
- Pad clearance (width): 59.05 cm (23 1/4 in)
- Side tilt: 9°
- Front and rear tilt: 25°
- Four steel wheel casters: 10.16 cm (4 in)
- Frame length: 114.3 cm (45 in)
- Frame width: 78.74 cm (31 in)
- Frame height: 36.83 cm (14 1/2 in)
- Weight: 133 kg (295 lb)

Part Number	Description
4C-4089	Transmission Jack, 1.5 Ton (3,000 lb)

Drive Train Handler Accessory

Warranty: Manufacturer's One Year



- Accessory from Meyer Hydraulics that adds even more versatility to the transmission jack
- The wide lifting platform on the transmission jack is ideal for handling:
  - Drive shafts
  - Transfer cases
  - Rear differentials
  - Entire axle assemblies
- Attaches to the top of the transmission jack platform to steady the difficult-to-handle components

REPAIR INFORMATION

Meyer Hydraulics Corporation, 512-22 W. Burr Oak Street
Centerville, MI 49032,
Phone: (800) 253-2076, (269) 467-6302
Fax: (269) 467-6897, Web site: www.meyerhydraulics.com

Part Number	Description
4C-4090	Drive Train Handler Accessory

Steering Cylinder Removal and Installation Tooling

Model Usage: 797

Warranty: Manufacturer's Two Years





Component Handler

- Large wheels provide easy maneuvering.
- Independent locking mechanism for safety
- Tow loops front and back
- Head tilt ± 5° and traverse of 101.6 mm (4 in)"
- Air over hydraulic control system
- 2,268 lkg (5,000 lb) capacity
- 254 mm (10 in) retracted height (without adapters)
- 1,117 mm (44 in) raised height (without adapters)

Adapter

- This adapter provides a safe and efficient method of changing out steering cylinders when used with the 509-9679 component handler.
- The final adjustment to the steering cylinder must be made with the hand-actuated bottle jack on the adapter.
- The adapter is equipped with a load-holding strap to secure the steering cylinder through the service operation.

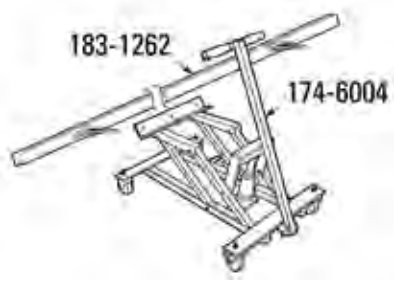
Part No.	Description	Dimensions	WLL	Weight
509-9679	Component Handler	1905 x 1143 x 838.2 mm (75 x 45 x 33 in)	2268 kg (5000 lb)	100 kg (220.5 lb)
509-9680	Adapter	-	-	50 kg (110.3 lb)

JACKS

Blade Lift Jack (Blade Master) and Extension Tube

Model Usage: All Products With Cutting Edges

Warranty: Manufacturer's Two Year Limited



- Used to replace cutting edges on front, wing, and underbody blades in less time and with far less effort
- 1 person can move heavy, awkward cutting edges and comfortably raise them into position
- 183-1262 Extension Tube (sold separately) allows the discontinued 174-6004 Blade Lift Jack to handle up to 3.7 m (12 ft) blades with great stability

Specifications

- Maximum carrying capacity: 113.5 kg (250 lb)
- Blade carrying capacity: 0.92 – 3.66 m (3 – 12 ft) long
- Minimum cradle height: 133 mm (5.3 in)
- Maximum lifting height: 483 mm (19.0 in)
- Overall size: 597 x 1016 mm (23.5 x 40.0 in)
- Weight: 36 kg (80 lb)

Part Number	Description
183-1262	Extension Tube

REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

Dual Wheel Dolly

Warranty: Manufacturer's Two Year Limited



REPAIR INFORMATION

Bosch Service Solutions
755 Eisenhower Drive
Owatonna, MN 55060
Attn: Repair Department
Phone: 800-344-4013

Visit the Bosch Repair Track web link to complete and submit the form for proper authorization: https://repairtrack.bosch-automotive.com

- Allows one man to remove, transport and replace heavy truck dual wheel and tire assemblies without strain or struggle
- Ruggedly built unit
- Handles wheels weighing up to 680 kg (1,500 lb), any tire diameter
- Hydraulic jacking mechanism provides full 12.7 cm (5 in) lift; gives serviceman fingertip control when positioning or lowering lifting arms
- 1.83 m (6 ft) chain provided to hold wheel assembly in place during removal and transport
- Free-rolling swivel casters provide effortless maneuverability

Specifications

- Capacity: 680 kg (1,500 lb)
- Floor space: 114.3 x 104.1 cm (45 x 41 in)
- Lift travel: 12.7 cm (5 in)
- Tilt adjustment: 2°
- Front caster diameter: 88.9 mm (3 1/2 in)
- Rear caster diameter: 10.1 cm (4 in)
- Weight: 79 kg (175 lb)

Part Number	Description
4C-3051	Dual Wheel Dolly

Hydraulic Service Jack, 3.5 Ton

Warranty: Manufacturer's One Year



- Replaces 1U-9744 Hydraulic Service Jack
- Fast acting pump reaches lifting height in less than a pump to allow user to reach a variety of service height situations quickly
- Universal joint release mechanism
- Rolled side frames resist flexing
- Low profile design allows for easy access under vehicles
- Meets ANSI-PALD standards

Specifications

- Capacity, tons (metric ton): 3.5 (3.2)
- Low Height: 3.75 in (95.2 mm)
- Maximum Lift Height: 22.0 in (558.8 mm)
- Net Weight: 103.0 lbs (46.72 kg)
- Saddle Diameter: 4.25 in (107.9 mm)

Part Number	Description
380-5719	Hydraulic Service Jack, 3.5 Ton

JACKS

Manual/Hydraulic Jack (10 Ton Capacity)

Model Usage: Cat Machines

Warranty: Manufacturer's



- Replaces 1U-9745 Hydraulic Jack
- Low start height combined with a high lift height accommodates variety of vehicles
- Heavy duty steel frame design stands up to the most vigorous shop use
- Manual pump feature included
- Large front wheels and long-life heavy duty rear swivel casters allows ease of portability and durability

Specifications

- Capacity: 10 tons (20,000 lb)
- Minimum start height: 177.8 mm (7 in)
- Maximum lift height: 685.8 mm (27 in)
- Weight: 185.97 kg (410 lb)
- Overall Width: 555.62 mm (21 .875 in)
- Overall Length: 2584.45 mm (101.75 in)
- Saddle Diameter: 203.2 mm (8 in)

Part Number	Description
444-0526	Manual/Hydraulic Jack (10 Ton Capacity)

Hydraulic Jack

Warranty: Caterpillar® Six Months



- Replaces discontinued 5P-2385
- Used for quick, easy lift truck service work
- Low initial height, high lifting capacity, small size and weight
- Can be used in shop or field to lift most lift trucks
- Folding handle (when in closed position allows jack to be carried)
- Handle can be locked in vertical position for moving unit across floor

Specifications

- Capacity: 3,630 kg (8,000 lb)
- Minimum height: 57 mm (2.25 in)
- Maximum lift height: 40.6 cm (16 in)
- Weight : 29 kg (63 lb)
- Length (folded): 79 cm (31 in)
- Width: 20 cm (8 in)
- Height: 15.2 cm (6 in)

Part Number	Description	Includes
159-3175	Hydraulic Jack	—
	Service/Repair Parts	
4C-9482	Seal Kit	O-ring (7), Seals (2)
4C-9483	Pump Kit	Pump housing, O-ring, seal, plunger

Support Stand

Warranty: Manufacturer's One Year



- Vehicle support stand
- Sold in pairs, sold separately
- Tabbed bottom to provide superior stability
- Pin hole design provides multiple height positions

Specifications

- Capacity : 7 Tons (each)
- Start Height: 241.3 mm (9 1/2 in)
- Maximum Lift Height: 406.4 mm (16 in)
- Adjustment Increments: 25.4 mm (1 in)
- Shipping Weight per pair: 14.5 kg (32 lb)

Part Number	Description
417-1324	Support Stand

Support Stand

Warranty: Manufacturer's



- Vehicle support stand
- Sold in pairs, sold separately
- Tabbed bottom to provide superior stability
- Pin hole design provides multiple height positions

Specifications

- Capacity: 7 Tons (each)
- Start Height: 304.8 mm (12 in)
- Maximum Lift Height: 508 mm (20 in)
- Adjustment Increments: 25.4 mm (1 in)
- Shipping Weight per pair: 17.2 kg (38 lb)

Part Number	Description
422-8733	Support Stand

Support Stand Group

Warranty: Manufacturer's



- Tabbed bottom to provide superior stability
- Pin hole design provides multiple height positions
- Built-in wheels for ease or portability
- Sold in pairs, sold separately

Specifications

- Capacity: 12 Tons
- Minimum Height: 508mm (20 in)
- Maximum Height: 813mm (32 in)
- Adjustment Increments: 25mm (1 in)
- Shipping Weight Per Pair: 32kg (70 lb)

Part Number	Description
422-2352	Support Stand

Support Stand

Warranty: Manufacturer's



- Tabbed bottom to provide superior stability
- Pin hole design provides multiple height positions
- Built-in wheels for ease or portability
- Sold in pairs, sold separately

Specifications

- Capacity: 12 Tons
- Minimum Height: 762 mm (30 in)
- Maximum Height: 1,321 mm (52 in)
- Adjustment Increments: 25 mm (1 in)
- Shipping Weight Per Pair: 36 kg (80 lb)

Part Number	Description
422-2353	Support Stand

STANDS

Lift Stands, 25, 55 and 100 Ton

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (447-0910 and 447-0911)

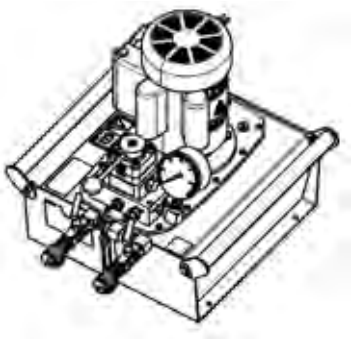
Lift and support your largest equipment with these reliable lift stands designed by Caterpillar® and tested to 3 times rated capacity.

- Sold individually but it is recommended they be purchased in pairs
- Infinitely variable blocking range
- Rolls easily on smooth, hard surface — simple to move with a fork lift truck or on attached 12.7 cm (5 in) wheels
- Rugged construction of steel plate and tubing; critical parts are heat treated for durability
- Hydraulic system has two voltage options: 115 VAC, single-phase, 50/60 Hz (447-0910) and 230 VAC, single-phase, 50/60 Hz (447-0911)
- Hydraulic system, 447-0910 and 447-0911, powers 2 stands at the same time for uniform lifting and lowering
- Tested to 3 times rated capacity — exceeds requirements of ASME/ANSI PALD-4C-1991 — exceeds requirements of Australia Standard AS 2538-1985
- Combines lifting and supporting functions
- Shipped assembled with 6.10 m (20 ft) hose — ready to use
- Completely self storing
- "Flip Over" saddle to match saddle to load point
- Velocity fuse valve prevents sudden dropping of load if pressure loss occurs

Reference

- NEHS0603, Lift Stand Tool Operating Manual for Service/Repair Parts NEHS0943, Hydraulic Pump Group

Item	Part Number	Description	Rated Capacity	Min. Height	Max. Height	Usable Stroke	kPa	PSI	Cylinder effective area	Approx. Weight	Base Contact Area
Cat® Lift Stands (pictured in pairs, back to front)											
1	9U-7489	Lift Stand, 100 Ton	90,800 kg (100 ton)	634 mm (25.87 in)	1600 mm (62.97 in)	241 mm (9.5 in)	66,798	9695	133 cm^2 (20.63 in^2)	390 kg (860 lb)	898 cm^2 (139.2 in^2)
2	9U-7536	Lift Stand, 55 Ton	49,940 kg (55 ton)	660 mm (26.0 in)	1613 mm (63.5 in)	318 mm (12.5 in)	68,590	9955	71 cm^2 (11.05 in^2)	277 kg (610 lb)	898 cm^2 (139.2 in^2)
3	9U-7540	Lift Stand, 25 Ton	22,700 kg (25 ton)	597 mm (23.5 in)	1626 mm (64.0 in)	286 mm (11.25 in)	66,830	9700	33 cm^2 (5.15 in^2)	151 kg (333 lb)	898 cm^2 (139.2 in^2)



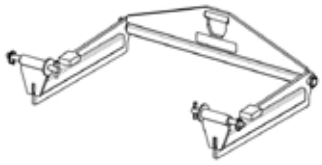
Specifications

Part Number	447-0910	447-0911
Motor	115 VAC, Single-phase, 50/60 Hz, US Plug	230 VAC, Single-phase, 50/60 Hz, Euro Plug
Display	Analog Pressure Gauge	
Power	1.12 kW (1.5 hp)	
Flow Rate	650 in^3/min @ 100 PSI, 60 in^3/min @ 10,000 PSI	
Reservoir Capacity	18.93 L (5.0 gal)	
Valve	3 Way / 3 Pos Tandem Center Manual	
Max Operating Pressure	700 Bar (10,000 PSI)	
Dimensions (H x W x D)	485.4 x 500 x 653.8 mm (19.11 x 19.69 x 25.74 in)	
Includes	Couplers, Needle Valves	
Service Parts		
Valve Assembly Kit	447-0912	
Pressure Gauge (15 kpsi)	447-0914	
Manifold Only Kit	447-0915	
Shear Seal Repair Kit	447-0916	
Seal Repair Kit	447-0917	
Induction Eccentric Kit	447-2217	
MPE Seal Kit	447-2218	
Accessories		
Roll Cage Kit	447-0913	
Hose – 11 ft (no couplers)	6D-7726	

Undecking Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



Used to assure safe and non-destructive undecking of vehicles.

Specifications

- Dimensions: 1048 x 630 x 269 mm
- Weight: 41.3 kg

Part Number	Description
372-5264	Undecking Tool
Serviceable Parts	
388-0422	Frame Assembly
388-0424	Bracket Assembly
388-0426	Pin Assembly
388-0427	Pin Assembly Linch

Tube Stand Groups, 12, 20, and 25 Ton Capacity

Essential Tool

Model Usage: All

Warranty: Caterpillar® Six Months



- Meets stability standards and load capacity for AS/NZS 2538, ANSI, PALD, and CE
- Used to support (block) track-type or rubber tired vehicles
- Tube stand capacity is rated in US tons, not metric tons
- Used with separate lifting device or hydraulic jacks
- Designed to be used in pairs
- Rugged heavy-duty design with welded, all steel construction
- Dual lock-pin design provides 2 load-bearing surfaces
- Adjustable height in 19 mm (0.75 in) increments
- 20 and 25 ton tube stand bases feature retractable spring-loaded casters

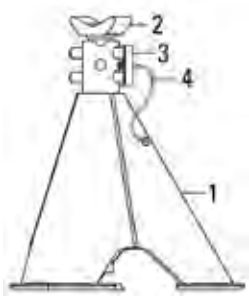
References

- NEHS0967, 286-7889 Jack Stand Group, 12 Ton Capacity
- NEHS0938, 283-1495 and 284-5122 Tube Stand Groups, 20 and 25 Ton Capacity

Part Number	Rated Capacity	Minimum Height	Maximum Height	Base Contact Diameter
286-7889	10,886 kg (23,999 lb)	43.2 cm (17.0 in)	72.0 cm (28.3 in) 111.3 cm (43.8 in) medium tube	46.2 cm (18.2 in)
283-1495	18,144 kg (40,001 lb)	59.9 cm (23.6 in) short tube; 86.6 cm (34.1 in) medium tube a	84.7 cm (33.3 in) short tube; 111.3 cm (43.8 in) medium tube a	65 cm (25.6 in)
284-5122	22,680 kg (50,001 lb)	81.0 cm (31.8 in) short tube; 107.7 cm (42.4 in) medium tube; 125.9 cm (49.5 in) long tube a	105.7 cm (41.6 in) short tube; 132.5 cm (52.1 in) medium tube; 171.6 cm (67.5 in) long tube a	91.5 cm (36 in)

a. Optional283-1498 Saddle adds 44 mm (1.7 in) to height when installed

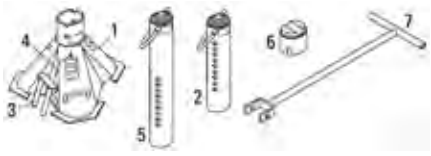
Service/Repair Parts for 286-7889 Jack Stand Group — 12 Ton (US) Capacity



Item	Part Number	Description
—	286-8090	Film Group
1	286-7892	Base
2	286-7895	Tube
3	286-7896	Lock-Pin
4	4C-6709	Lanyard

STANDS

Service/Repair Parts for 283-1495 Tube Stand Group — 20 Ton (US) Capacity



Item	Part Number	Description	Detail
Service/Repair Parts for 283-1495 Tube Stand Group — 20 Ton (US) Capacity			
—	287-2094	Film Group	—
1	283-1470	Base	—
2	283-1478	Tube, 594 mm (23.4 in)	—
3	283-1500	Lock-Pin	—
4	4C-6709	Lanyard	—
Optional Items			
5	283-1482	Tube, 84.1 cm (33.1 in)	Increases height capability of tube stand
6	283-1498	Saddle	Fits over tube and locates load on center of tube stand (adds 44 mm [1.7 in] to height)
7	277-7195	Handle	Attaches for quick and easy positioning of tube stands

Service/Repair Parts for 284-5122 Tube Stand Group — 25 Ton (US) Capacity



Item	Part Number	Description	Detail
Service/Repair Parts for 284-5122 Tube Stand Group — 25 Ton (US) Capacity			
1	283-1480	Base	—
2	283-1478	Tube, 594 mm (23.4 in)	—
3	283-1500	Lock-Pin	—
4	4C-6709	Lanyard	—
Optional Items			
5	283-1482	Tube, 84.1 cm (33.1 in)	Increases height capability of tube stand
6	283-1493	Tube, 128.0 cm (50.4 in)	Increases height capability of tube stand
6	283-1498	Saddle	Fits over tube and locates load on center of tube stand (adds 44 mm [1.7 in] to height)
7	277-7195	Handle	Attaches for quick and easy positioning of tube stands

⚠ WARNING

Do not use 283-1493 Long Tube with 283-1470 Base. This combination of parts can result in an unstable load, which could cause serious injury or death.

Super Structure Stand

Model Usage: Cat MT4400D and Cat MT5300D

Warranty: Caterpillar® Six Months



- Used during initial machine build
- Puts super structure at a workable height
- Aids in installing hand rails on super structure

Specifications

- Dimensions: 838.2 x 838.2 x 1,524 mm (33 x 33 x 60 in)
- Stability Factor*: 7.5
- Weight: 443.5 kg (202 lb)
- Working Load Limit: 12,000 kg (26,455 lb)

Reference

- AS/NZS 2538:2004

Part Number	Description
455-8054	Super Structure Stand

Tube Stands

Warranty: Caterpillar® Six Months



- Used to lift and block track-type or rubber tired vehicles within their specified capacities
- Can also be used with the 9S-0019 Tractor Lifts for blocking after the lifts have raised the tractor
- Chart lists the proper selection of tools that will provide a lifting range from 32.39 to 212.73 cm (12.75 to 83.75 in); lifting capacity is 20 tons for each stand and 25 tons for each cylinder and base combination — using a suitable hydraulic pump with these tools, it is possible to lift and block most vehicles in about five minutes)
- Hydraulic pumps that will efficiently operate these tools must have a maximum output pressure of 69,000 kPa (10,000 PSI)

Item	Part No.	Description	Lifting Only Tool Height		Blocking Only Tool Height		Lifting and Blocking Tool Height		
			32.4 – 69.9 cm (12.75 -27.5 in)	51.4 – 88.9 cm (20.25 – 35.0 in)	49.5 – 77.5 cm (19.50 – 30.5 in)	74.9 – 101.6 cm (29.48 – 40.0 in)	85.1 – 137.8 cm (33.50 – 54.25 in)	121.9 – 174.6 cm (48.00 – 68.75 in)	160.0 – 212.7 cm (63.00 – 83.75 in)
1	8S-7641	Tube	—	—	—	—	—	—	1
2	4C-6486	Stand Assembly	—	—	—	1	1	1	1
-	4C-6562	Pin Assembly							
3	8S-7631	Tube	—	—	—	—	—	1	—
4	8S-7640	Stand Assembly	—	—	1	—	—	—	—
5	8S-7621	Tube	—	—	—	—	1	—	—
6	8S-7620	Base Assembly	—	1	—	—	—	—	—
7	8S-7610	Base Assembly	1	—	—	—	—	—	—
8	8S-7611	Tube	—	—	1	1	—	—	—
9	396-9840	Cylinder	1 c	1	—	—	1 d	1 d	1 d
10	8S-7625	Collar	—	—	—	—	1	1	1
11	8S-8048	Saddle	—	—	1 e	1 e	1 e	1 e	1 e
12	8S-7615	Pin	—	—	1	1	2	2	2
13	8S-7645	Hose Group	1 f	1 f	—	—	—	—	—
Not Shown									
—	1S-8937	Valve — Needle	1	—	—	1	1	1	—
—	9S-1557	Saddle	1 c	1 c	—	—	1 d	1 d	1 d

a. Includes: NEEG2453 Warning Decal and NEEG2001 Cat® Logo Decal

b. Includes: NEEG2025 Warning Decal

c. Lifting capacity of 396-9840 Cylinder used with the 8S-7620 or 8S-7610 Base Assembly is 25 ton (50,000 lb at 10,000 PSI).

d. Lifting capacity of 396-9840 Cylinder used with offset 8S-7640 Stand is 20 ton (40,000 lb at 10,000 PSI).

e. Saddle (8S-8048) is used for lifting against convex surfaces.

f. Hose (8S-7645) required if two cylinders are used with one pump.

Pumps for Use on Double and Single Acting Hydraulic Cylinders (396-9840) Specifications

Electric Operated Pumps

Part No.	Voltage	Line Frequency	Reservoir Capacity	Motor HP	Maximum Pressure	Oil Delivery (cu in/min)			10,000 Valve	Control
						100 PSI	1,000 PSI	5,000 PSI		
350-7758	115	50-60	7.57 L (2.0 gal)	1.7	69,000 kPa (10,000 PSI)	—	—	—	—	Manual
350-7769	230	50-60	7.57 L (2.0 gal)	1.7	69,000 kPa (10,000 PSI)	650	80	70	55	—

Air Operated Pumps

Part Number	Air Requirement	Reservoir Capacity	Motor HP	Maximum Pressure PSI	Oil Delivery (cu in/min)			Control Value
					0 PSI	5,000 PSI	10,000 PSI	
1U-7522	50 cfm at (80 PSI)	7.57 L (2.0 gal)	3	69,000 kPa (10,008 PSI)	465	50	25	3-Position 4-Way

STANDS

Heavy Duty Repair Stand, 907 kg (2,000 lb)

Warranty: Caterpillar® Six Months



- Adjustable universal mounting arms (4) enable you to mount an endless variety of engines, transmissions, torque converters, rear axles and other components, without special adapters being necessary.
- Twin-post design, featuring laterally-adjustable outboard support, provides extremely stable work holding unit
- Component solidly cradled in stand, supported from both sides, just as it is in vehicle
- Gearbox allows full rotation of mounted unit for service, with just a turn of the crank — locks in position
- Mounted on wheels and casters, can be easily maneuvered from storage to work area
- Locking rear wheels anchor the stand at the desired work locations

Part No.	Description	Capacity	Weight
1U-7502	Heavy Duty Repair Stand, 907 kg (2,000 lb)	907 kg (2,000 lb)	127 kg (280 lb)

Transmission Bracket

Model Usage: 950 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to mount constant mesh countershaft transmissions
- Used with 1U-7502 Heavy Duty Repair Stand, 907 kg (2,000 lb)
- Transmission can be rotated 180 degrees for complete disassembly and repair

Part Number	Description
178-8906	Transmission Bracket
1U-7502	Heavy Duty Repair Stand, 907 kg (2,000 lb)

Transmission Adapter Kit

Warranty: Caterpillar® Six Months

- Complete with mounting hardware for use on 1U-9352 and 1U-7502 Engine Stands
- Converts your engine stand into a transmission service stand in a matter of minutes
- Replaces the adjustable arms of the stand to hold and position the transmission for repair or overhaul
- Transmission is held at workbench height with 3 sides fully exposed for working convenience; and it can be rotated a full 360° for complete access to all parts
- Weight: 4.65 kg (10 lb, 4 oz)

Part Number	Description
1U-7506	Transmission Adapter Kit

Phase Module Lifting Device

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install various invertor cabinet component
  - DC Power Bus Capacitor
  - Retarding Contactor Tray Assembly
  - Phase Module
- Used with a suitable overhead lifting device
- Alignment plate secures lower tray to invertor cabinet
- Sliding brackets and threaded holes provide a method of securing components to the lower tray during removal and installation (includes required hardware, stored on the tooling)
- Lifting point turnbuckle allows small height adjustments to align tooling with invertor cabinet compartment
- Lower tray has UHMW pads to allow components to easily slide in and out of invertor cabinet
- Lower tray is designed to separate from tooling to allow phase module to be lifted out of or lowered into shipping container

Reference

- KENR8715, 795F AC Off-Highway Truck, Power Train, Disassembly and Assembly
- NEHS1078, Tool Operating Manual, 319-1845 Phase Module Removal Tool

Part Number	Description
319-1845	Phase Module Lifting Device

MISCELLANOUS

Tractor Lift

Warranty: Caterpillar® Six Months



- Using the tractor lifts illustrated, any track-type vehicle can be raised and blocked by 2 men in 3 to 5 minutes
- Each tractor lift has a curved base 30.48 cm (12 in) wide and has 45.72 cm (18 in) radius which rolls easily on any concrete floor
- Tractor lift consists of four 9S-0027 Lift Assemblies

Also Includes:

Item	Description	Quantity
2	Wheel	2

Item	Part Number	Description	Capacity	Quantity
1	9S-0027	Lift Assembly	30 ton	4

Columbus-McKinnon Drop Forged Load Binder (Overcenter)

Warranty: Manufacturer's One Year Against Defects In Materials And Workmanship



- All steel
- Drop forged
- 360° swivel
- Each binder individually proof tested
- Short reach for maximum take-up
- Tie-down hole in handle
- Special manufacturing permits use with transport grade 70 chain

REPAIR INFORMATION

Columbus-McKinnon
Audubon and Sylan Parkway
Amherst, NY 14228
Phone: (800) 888-0985 Fax: (716) 689-5644
Web site: www.cmindustrial.com

Cat Part No.	Supplier Part Number	Description	Working Load Limit	Chain Size	Take-up	Net Weight
1U-9724	320105	Overcenter Load Binder	2,449 kg (5,400 lb)	7.93 mm (5/16 in) Grade 70, 9.52 mm (3/8 in) Grade 43	10.8 cm (4.25 in)	3.62 kg (8 lb)

⚠ WARNING

Serious damage to a chain may occur when a force exceeding the maximum working load limit is applied to a chain assembly. The maximum working load limits are not to be exceeded.

Lifting Springs

Warranty: Caterpillar® Six Months



- Recommended under all wheels
- Can be used on most jobs, saving drive unit and wheel breakage
- Made in 2 lengths
- Place the lifting spring on pilot and bring the wheel up to speed before grinding

Part Number	Size	Usage
9U-5399	38.1 mm (1 1/2 in)	For use with "SK" Wheels

Lever Hoists

Model Usage: All models

Warranty: Manufacturer's Five Year



European Union compliant, CE marked

- Capacities from 3/4 to 6 tons
- Impact resistant, stamped steel frame, gear case and cover for durability and light weight
- Powder coated finish for added corrosion protection
- Hardened steel load sharing gears
- Double pawl arrangement for assured load control
- Two chain guide rollers for positive chain
- Weston type braking system for positive load control and positioning
- Simple one-handed, free chaining for fast load attachment
- Hardened steel chain for strength and long wear life
- Forged upper and lower hooks with heavy cast steel latches
- Rubber handle grip for added operator comfort
- Minimal maintenance with the special tools required
- Metric rated
- Meets ASME B30.21 — Manually Lever Operated Hoist Standard

REPAIR INFORMATION

Columbus-McKinnon, Amherst, NY 14228
Phone: (800) 888-0985
Web Site: www.cmindustrial.com

Part No.	Max. Rated Capacity	Standard Lift	Pull to Lift Load	Shipping Weight	Min. Distance Between Breaks	Handle Length	Hook Throat Opening
386-6030	3/4 Ton, 1-chain strand	1.5 m (4.99 ft)	15 kg (33.07 lb)	9.1 kg (20 lb)	32.0 cm (12 19/32 in)	28.0 cm (11 in)	28.6 mm (1 1/8 in)
386-6031	3/4 Ton, 1-chain strand	3 m (9.97 ft)	15 kg (33.07 lb)	9.1 kg (20 lb)	32.0 cm (12 19/32 in)	28.0 cm (11 in)	28.6 mm (1 1/8 in)
386-6032	1 1/2 Ton, 1-chain strand	1.5 m (4.99 ft)	23.1 kg (50.93 lb)	13.6 kg (29.98 lb)	37.8 cm (14 7/8 in)	41.3 cm (16.25 in)	31.8 mm (1 1/4 in)
386-6033	1 1/2 Ton, 1-chain strand	3 m (9.97 ft)	23.1 kg (50.93 lb)	15.4 kg (33.95 lb)	37.8 cm (14 7/8 in)	41.3 cm (16.25 in)	31.8 mm (1 1/4 in)
386-6034	3 Ton, 1-chain strand	1.5 m (4.99 ft)	35 kg (77.16 lb)	29.5 kg (65.04 lb)	47.7 cm (18 25/32 in)	41.3 cm (16.25 in)	39.7 mm (1 9/16 in)
386-6035	3 Ton, 1-chain strand	3 m (9.97 ft)	35 kg (77.16 lb)	29.5 kg (65.04 lb)	47.7 cm (18 25/32 in)	41.3 cm (16.25 in)	39.7 mm (1 9/16 in)
386-6036	6 Ton, 2-chain strand	1.5 m (4.99 ft)	35 kg (77.16 lb)	35 kg (77.16 lb)	59.0 cm (23 15/64 in)	41.3 cm (16.25 in)	55.6 mm (2 3/16 in)
456-4371	1/4 Ton, 1-chain strand	3 m (10 ft)	25.4 kg (56 lb)	3.2 kg (7 lb)	24 cm (9.45 in)	16 cm (6.3 in)	21.1 mm (.83 in)

Lift Cart

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to support different components during R&I procedures
- Heavy-duty construction with captured scissor rollers for maximum stability
- High quality casters and wheels for exceptional reliability
- Foot actuated caster brake
- Heavy-duty maintenance scissor lock pin
- Durable powder coated finish
- Superior hydraulic systems feature an integrated pump-cylinder for maximum reliability
- Ergonomic push handle with convenient lowering control
- Lowering control automatically stops when released for added safety

Part Number	Dimensions	Weight	Capacity
418-4567	853.4 x 795 x 449.6 mm (33.6 x 31.3 x 17.7 in)	34.0 kg (75 lb)	150 kg (330 lb)
418-4568	1008.4 x 896.6 x 500.4 mm 39.7 x 35.3 x 19.7 in	90.1 kg (200 lb)	299.4 kg (660 lb)
418-4569	1191.3 x 960.1 x 520.7 mm (46.9 x 37.8 x 20.5 in)	136.1 kg (300 lb)	499 kg (1100 lb)
418-4570	1257.3 x 960.1 x 520.7 mm (49.5 x 37.8 x 20.5 in)	136.1 kg (300 lb)	798.3 kg (1760 lb)

MISCELLANOUS

Hoist Accessories

Part Number	Description	Chain Size	For Use With Lever Hoist
386-6037	Friction Disk	—	386-6030, 386-6031
386-6038	Friction Disk	—	386-6032, 386-6033
386-6039	Friction Disk	—	386-6034, 386-6035, 386-6036
386-6040	Replacement Load Chain x 9.14 m (30 ft)	6 x 18 — T (8)	386-6030, 386-6031
386-6041	Replacement Load Chain x 9.14 m (30 ft)	8 x 24 — T (8)	386-6032, 386-6033
386-6042	Replacement Load Chain x 9.14 m (30 ft)	10 x 30 — T (8)	386-6034, 386-6035, 386-6036
439-5584	Upper Hook	—	386-6030, 386-6031
386-6341	Lower Hook Assembly	—	386-6030, 386-6031
439-5585	Upper Hook	—	386-6032, 386-6033
386-6343	Lower Hook Assembly	—	386-6032, 386-6033
439-5586	Upper Hook	—	386-6034, 386-6035
386-6347	Lower Hook Assembly	—	386-6034, 386-6035
439-5587	Upper Hook	—	386-6036
386-6359	Lower Hook Assembly	—	386-6036

Columbus-McKinnon Ratchet-Type Binder



- All steel
- Heavy-duty
- Short reach for maximum take-up
- Continuous take-up
- Infinite adjustment
- Meets DOT specifications

Cat Part Number	Supplier Part Number	Description	Working Load Limit	Chain Size	Take-up	Net Weight
1U-9722	D48365	Ratchet Binder	2,449 kg (5,399 lb)	7.93 mm (5/16 in) Grade 70, 9.52 mm (3/8 in) Grade 43	20.32 cm (8 in)	5.66 kg (12 1/2 lb)
1U-9723	D48366	Ratchet	4,173 kg (9,200 lb)	9.52 mm (3/8 in) Grade 70, 12.7 mm (1/2 in) Grade 43	20.32 cm (8 in)	5.55 kg (12 1/4 lb)

Load Binder Chain Assembly and Accessories

Cat Part Number	Chain Size	Max. Working Load	Description
1U-9809	9.5 mm (3/8 in)	2,449 kg (5,399 lb)	Grade 43 Load Binder Chain, 6.09 m (20 ft) long with a grab hook at each end (not to be used for lifting chain)
4C-6961	7.9 mm (5/16 in)	2,131 kg (4,698 lb)	Grade 43 Load Binder Chain, 6.09 m (20 ft) long with a grab hook at each end (not to be used for lifting chain)

Ratchet Puller

Warranty: Caterpillar® Six Months



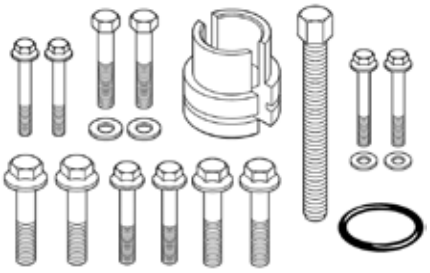
- Used for many pulling operations within their capability
- Capacities are given below

Part No.	Description	Lifting Capacity	Single Line Capacity	Double Line Capacity
8S-9906 Ratchet Puller (used with track tool cart)				
8S-9906	Ratchet As — Puller	510 – 453 kg (1125 – 1000 lb)	—	—
5P-9694 Ratchet Puller				
5P-9694	Hoist — Rachet	—	771 kg (1,700 lb)	1,542 kg (3,400 lb)

Steering Wheel Puller

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to properly remove steering wheel during service

Specifications

- Dimensions: 5.4 x 4.3 x 3.2 in
- Weight: 1 kg

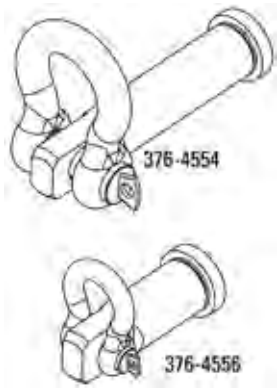
Part Number	Description
372-5261	Steering Wheel Puller

MISCELLANOUS

Truck Body Lifting Pin

Model Usage: All Off-Highway Trucks

Warranty: Caterpillar® Six Months



CE Compliant

- Used to remove and install truck bodies on Off-Highway Trucks
- Available as individual groups
- 376-4554 used on 785, 789, 793, 795, 797
- 376-4556 used on 770 (formerly the 769), 772 (formerly the 771), 773, 775, 777
- Groups consist of 4 pins and 4 shackles
- Pins available separately 376-4553 long replacement pin 376-4555 short replacement pin

Reference

- NEHS1120, Tool Operating Manual

376-4554 Truck Body Lifting Pin

- Working Load Limit: 18000 kg (39683.16 lb)
- Weight (individual): 48.65 kg (107.25 lb)
- Weight (group): 194.6 kg (429 lb)
- Dimensions: 510.9 x 127 mm (20.11 x 5 in)

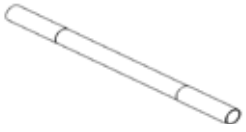
376-4556 Truck Body Lifting Pin

- Working load Limit: 7000 kg (15432.34 lb)
- Weight (individual): 21.61 kg (47.64 lb)
- Weight (group): 86.44 kg (190.5 lb)
- Dimensions: 314.9 x 127 mm (12.39 x 5 in)

Part Number	Description
376-4554	Truck Body Lifting Pin
376-4556	Truck Body Lifting Pin

Dump Body Alignment Tube

Model Usage: MT5300D



- Tool is used to align the dump body bores during initial build up of the dump body
- 98" long tube with specific O.D.s on both ends and smaller O.D. in the middle

Part No.	Description	Outside Diameter	Inside Diameter	Length	Weight
480-7974	Dump Body Alignment Tube	164.78 mm (6.48 inches)	146.1 mm (5.75 inches)	2489.2 mm (98 inches)	79.83 kg (175.6 lbs)

Lift Chain Assembly

Model Usage: Track-Type Machines

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove, install, and position track segments on track-type machines
- Used with suitable overhead lifting device
- Clamping shoes provide a quick, secure method of attaching to track segments
- Large master link joins two lengths of Grade 80 chain and provides attachment point for lifting device
- Versatile design fits a wide range of track segments with various widths

Reference

- NEHS1077, Tool Operating Manual, 260-9412 Lift Chain

Specifications

- Working load limit: 454 kg (1,000 lb)
- Approximate length: 922.5 mm (36.0 in) [a]
- Weight: 5.9 kg (13 lb)
- Master link: 65.3 mm (2.57 in) wide opening with 12.7 mm (.50 in) diameter steel
- Clamping shoe: maximum jaw opening — 25.4 mm (1.0 in) jaw depth — 90 mm (3.6 in)

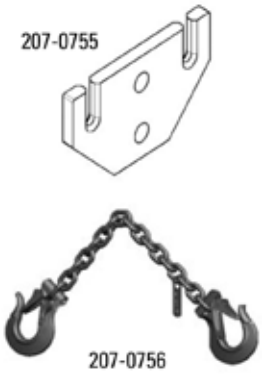
Part Number	Description
260-9412	Lift Chain Assembly

a. Varies with chain angle (spread).

Lifting Plate, Lift Chain Assembly

Model Usage: D6R, D6T

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to safely remove and install C9 engines from machine
- Connects correctly and easily to engine and lifting device
- Use 207-0756 with 142-6893 adjustable C-hook and 207-0755 Lifter Plate

References

- NEHS1094, Tool Operating Manual
- RENR8175, D6R Series III and D6T Track-Type Tractors Engine Supplement
- RENR4253, D6R Series II Track-Type Tractor C9 Engine Supplement
- KENR8563, D6R Track-Type Track Engine Supplement

207-0755

- Working Load Limit: 1588 kg (3500 lb)
- Material: Durable Steel

207-0756

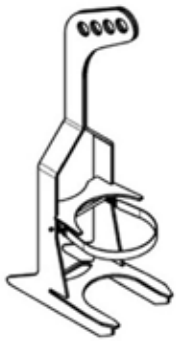
- Working Load Limit: 5443 kg (12,000 lb)
- Material: Grade 800 Steel Chain

Part Number	Description
207-0755	Lifting Plate
207-0756	Lift Chain Assembly
Serviceable Part(s)	
1U-9793	Hook

Rear Suspension Lifting Device

Model Usage: 793 OHT's

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to safely remove and install the rear suspension cylinders on the OHT's
- Includes ratchet strap that securely fasten rear suspension cylinder to tool

Reference

- NEHS1147 Tool Operating Manual

Specifications

- Dimensions: 1875.47 x 768.9 x 460 mm (73.8 x 30.3 x 18.1 in)
- Weight: 88.9 kg (196 lb)
- Working Load Limit: 907.2 kg (2000 lb)

Part Number	Description
385-1152	Rear Suspension Lifting Device

MISCELLANOUS

Tapered-Tip Alloy Hooks for Lifting

Warranty: Caterpillar® Six Months



CE Compliant

- Tapered tip on these hooks makes it easy to insert a hook into holes, eyebolts, rings, and chain links
- Maximum temperature 400° F

Reference

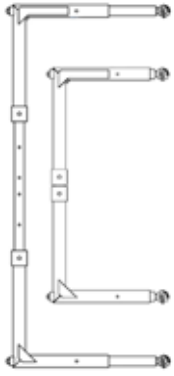
- NEHS0960

Part Number	Description	Working Load Limit	Weight
484-3599	76 X 194 mm	250 lb (113 kg)	0.42 kg
484-3600	123 X 224 mm	500 lb (227 kg)	0.66 kg
484-3601	166 X 294 mm	1300 lb (590 kg)	1.35 kg

Multi-Purpose Lifting C-Frame (Adjustable)

Model Usage: General

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to remove and install various pumps and motors, final drives and other components
- Used with suitable hoist or lifting device
- Adjustable in horizontal and vertical direction
- Top and bottom tubes adjustable in horizontal direction
- Vertical tube adjust to different lengths
- ACME threaded rod allows center of gravity to be changed under load
- Various adjustments allow for maximum versatility
- Horizontal adjustments made using a 7/8" wrench
- Vertical adjustments made manually by detaching nuts and bolts, sliding inner tube to desired location

Part No.	WLL	Dimensions	Weight
420-2048	Expanded, 159 kg (350 lb)	1647.95 x 736.9 mm (64.8 x 29 in)	31 kg (68 lb)
	Contracted, 408 kg (900 lb)	1076 x 538.52 mm (42.4 x 21.2 in)	31 kg (68 lb)

Engine Lifting Assembly

Model Usage: Cat MT4400D and Cat MT5300D

Warranty: Caterpillar® Six Months



417-0486 426-6439

European Union Compliant, CE marked

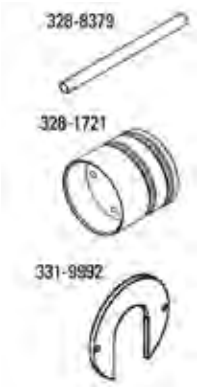
- Used to remove and install the engine and alternator together
- Designed to fit underneath the cross member of the frame assembly
- Shipped with custom turn buckles that are used to support the front of the engine with the alternator

Part Number	Purpose	Working Load Limit
417-0486	Cat MT4400D	13,154 kg (29,000 lb)
426-6439	Cat MT5300D	16,782.92 kg (37,000 lb)

Alternator Rotor Assembly and Disassembly Tools

Model Usage: 795F AC Off-Highway Truck (electric drive)

Warranty: Caterpillar® Six Months



- 328-8379 Tube Assembly and 328-1721 Adapter used to remove and install rotor assembly with alternator in horizontal position
- Tube assembly provides leverage to guide rotor assembly in or out of alternator
- Adapter machined to fit onto output shaft of alternator rotor
- Tube assembly locks onto adapter with four set screws
- 331-9992 Plate is hardened steel used to aid in alternator shaft front bearing removal
- Tooling prevents expensive damage to alternator during disassembly and assembly

Part No.	Description
328-8379	Tube Assembly
328-1721	Adapter
331-9992	Puller Plate

Adapter

Essential Tool

Model Usage: C175 1800 Frame Generators

Warranty: Caterpillar® Six Months



- Used to remove and install rotor assembly with generator in horizontal position
- Used with 328-1720 Tube Assembly (sold separately)
- Four bolts and brass adapter must be removed from 328-1720 Tube Assembly before attaching 330-9910 Adapter
- 330-9910 Adapter is inserted into 328-1720 Tube Assembly
- Four set screws on 328-1720 engage grooves in 330-9910 Adapter to lock it in position

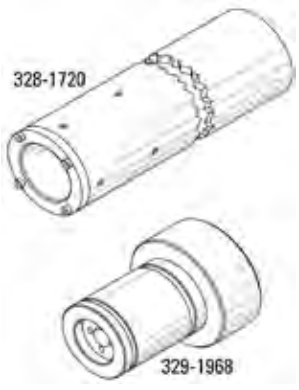
Part Number	Description
330-9910	Adapter

Tube Assembly, Adapter

Essential Tool

Model Usage: SR4, SR5, and C175-16 Generators

Warranty: Caterpillar® Six Months



- Used to remove and install rotor assembly with generator in horizontal position
- Length of 328-1720 Tube Assembly (2083 mm [82 in]) provides leverage to float rotor assembly in or out of generator
- 328-1720 Tube Assembly has brass adapter that directly fits SR4 and SR5 generator rotor shaft
- 4 set screws on 328-1720 Tube Assembly lock tool onto SR4 and SR5 rotor shaft or 329-1968 Adapter
- Brass adapter must be removed from 328-1720 Tube Assembly for use with 329-1968 Adapter and C175-16 generator rotor shaft

Part Number	Description
328-1720	Tube Assembly
329-1968	Adapter
Service/Repair Parts	
9F-6641	Bolt

MISCELLANOUS

Cribbing Block

Model Usage: All Models

Warranty: Manufacturer's (Unless Noted Otherwise)

Part No.	Description	Dimensions	Weight
524-0006	Cribbing Block	304.8 x 152 x 613 mm (12 x 6 x 24.2 in)	23.6 kg (52 lb)
524-0007	Cribbing Block	304.8 x 152.4 x 304.8 mm (12 x 6 x 12 in)	11.8 kg (26 lb)
524-0008	Cribbing Block	609.6 x 152.4 x 177.8 mm (24 x 6 x 7 in)	11.5 kg (25.4 lb)
524-0009	Cribbing Block	457.2 x 101.6 x 101.6 mm (18 x 4 x 4 in)	2.3 kg (5 lb)
524-0010	Cribbing Block Wedge	508 x 101.6 x 101.6 mm (20 x 4 x 4 in)	1.8 kg (3.9 lb)
524-0011	Cribbing Block Wedge	609.6 x 177.8 x 152.4 mm (24 x 7 x 6 in)	5.4 kg (11.9 lb)
524-0012	Cribbing Block	762 x 177.8 x 152.4 mm (30 x 7 x 6 in)	17.5 kg (38.5 lb)
524-0013	Cribbing Block	457.2 x 38.1 x 457.2 mm (18 x 1.5 x 18 in)	6.6 kg (14.5 lb)
524-0014	Cribbing Block	609.6 x 50.8 x 609.6 mm (24 x 2 x 24 in)	17.24 kg (38 lb)
524-0015	Cribbing Block	1828.8 x 101.6 x 101.6 mm (72 x 4 x 4 in)	14 kg (30.9 lb)
524-0016	Cribbing Block	2438.4 x 101.6 x 101.6 mm (96 x 4 x 4 in)	18.6 kg (41 lb)
524-0017	Cribbing Block	2438.4 x 152.4 x 152.4 mm (96 x 6 x 6 in)	36.3 kg (80 lb)
524-0018	Cribbing Block	2438.4 x 203.2 x 152.4 mm (96 x 8 x 6 in)	50 kg (110.3 lb)
524-0019	Cribbing Block	609.6 x 263.5 x 203.2 mm (24 x 10.4 x 8 in)	24.5 kg (54 lb)
524-0020	Cribbing Block Tool Group	includes 524-0006 (18 ct) & 524-0014 (1 ct)	441.8 kg (974 lb)
524-0021	Cribbing Block Tool Group	includes 524-0008 (18 ct) & 524-0014 (1 ct)	221.4 kg (488.1 lb)
524-0022	Cribbing Block Tool Group	includes 524-0012 (18 ct) & 524-0014 (1 ct)	331.6 kg (731 lb)
524-0023	Cribbing Block Tool Group	includes 524-0009 (18 ct) & 524-0013 (1 ct)	55.6 kg (122.6 lb)
524-0025	Forklift Maintenance Tool Grp.	-	66.7 kg (147 lb)


524-0006


524-0007


524-0008


524-0009


524-0010


524-0011


524-0012


524-0013


524-0014


524-0015


524-0016


524-0017


524-0018


524-0019


524-0020


524-0021


524-0022


524-0023


524-0025

Lifting Eyes

Model Usage: All

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Lifts basic components using threaded holes
- Load Ring will rotate 360°
- WLL clearly identified in Metric Tonnes
- Adjustable in pull direction
- Load ring foldable
- Powder Coating permanently changes color to beige to brown to black, if excessive heat is applied — Do not use, if powder coating is beige, brown, or black.
- Surface Pink Powder Coated

Part No.	Size	Thread Engagement		Working Load				Weight	
				Vertical		At 90°			
477-3192	5/16-18 UNC	12 mm	0.47 in	1000 kg	2205 lb	300 kg	661 lb	0.12 kg	0.26 lb
395-1099	3/8-16 UNC	19 mm	0.75 in	1000 kg	2205 lb	400 kg	882 lb	0.12 kg	0.26 lb
477-3193	7/16-14 UNC	15 mm	0.59 in	1000 kg	2205 lb	400 kg	882 lb	0.12 kg	0.26 lb
395-1094	1/2-13 UNC	19 mm	0.75 in	2000 kg	4409 lb	750 kg	1653 lb	0.22 kg	0.49 lb
395-1100	5/8-11 UNC	24 mm	0.94 in	4000 kg	8818 lb	1500 kg	3307 lb	0.33 kg	0.73 lb
395-1098	3/4-10 UNC	29 mm	1.14 in	6000 kg	13228 lb	2300 kg	5071 lb	0.54 kg	1.19 lb
395-1101	7/8-9 UNC	33 mm	1.30 in	6000 kg	13228 lb	2300 kg	5071 lb	0.64 kg	1.41 lb
395-1096	1-8 UNC	38 mm	1.50 in	8000 kg	17637 lb	3200 kg	7055 lb	0.98 kg	2.16 lb
395-1093	1 1/4-7UNC	48 mm	1.89 in	12000 kg	26455 lb	4500 kg	9921 lb	1.82 kg	4.01 lb
395-1092	1 1/2-6 UNC	54 mm	2.13 in	16000 kg	35274 lb	7000 kg	15432 lb	3.60 kg	7.94 lb
395-1095	1 3/4-5 UNC	63 mm	2.48 in	24000 kg	52911 lb	9000 kg	19842 lb	4.95 kg	10.91 lb
395-1097	2-4.5 UNC	72 mm	2.83 in	32000 kg	70548 lb	12000 kg	26455 lb	7.60 kg	16.76 lb
477-3190	M6 x 1	9 mm	0.35 in	500 kg	1102 lb	100 kg	220 lb	0.07 kg	0.15 lb
421-5660	M8 x 1.25	12 mm	0.47 in	1000 kg	2205 lb	400 kg	882 lb	0.12 kg	0.26 lb
421-5661	M10 x 1.5	15 mm	0.59 in	1000 kg	2205 lb	400 kg	882 lb	0.12 kg	0.26 lb
475-4931		25 mm	0.98 in					0.20 kg	0.44 lb
421-5662	M12 x 1.75	18 mm	0.71 in	2000 kg	4409 lb	750 kg	1653 lb	0.20 kg	0.44 lb
475-4932		30 mm	1.18 in					0.33 kg	0.73 lb
477-3191	M14 x 2	18 mm	0.71 in	2000 kg	4409 lb	750 kg	1653 lb	0.20 kg	0.44 lb
421-5663	M16 x 2	24 mm	0.94 in	4000 kg	8818 lb	1500 kg	3307 lb	0.30 kg	0.66 lb
475-4933		40 mm	1.57 in					0.50 kg	1.10 lb
421-5664	M18 x 2.5	24 mm	0.94 in	4000 kg	8818 lb	1500 kg	3307 lb	0.30 kg	0.66 lb
369-5916	M20 x 2.5	30 mm	1.18 in	6000 kg	13228 lb	2300 kg	5071 lb	0.50 kg	1.10 lb
475-4934		50 mm	1.97 in					0.83 kg	1.83 lb
421-5665	M24 x 3	36 mm	1.42 in	8000 kg	17637 lb	3200 kg	7055 lb	0.80 kg	1.76 lb
475-4935		60 mm	2.36 in					1.30 kg	2.87 lb
421-5666	M30 x 3.5	45 mm	1.77 in	12000 kg	26455 lb	4500 kg	9921 lb	1.60 kg	3.53 lb
475-4936		75 mm	2.95 in					2.60 kg	5.73 lb
421-5667	M36 x 4	54 mm	2.13 in	16000 kg	35274 lb	7000 kg	15432 lb	3.50 kg	7.72 lb
421-5668	M42 x 4.5	63 mm	2.48 in	24000 kg	52911 lb	9000 kg	19842 lb	4.90 kg	10.80 lb
421-5669	M48 x 5	72 mm	2.83 in	32000 kg	70548 lb	12000 kg	26455 lb	7.00 kg	15.43 lb



433-2734	M6 x 1	-	-	500 kg	1102 lb	100 kg	220 lb	0.12 kg	0.26 lb
433-2735	M8 x 1.25	-	-	1000 kg	2205 lb	300 kg	661 lb	0.12 kg	0.26 lb
433-2736	M10 x 1.5	-	-	1000 kg	2205 lb	400 kg	882 lb	0.12 kg	0.26 lb
433-2737	M12 x 1.75	-	-	2000 kg	4409 lb	750 kg	1653 lb	0.20 kg	0.44 lb
433-2738	M16 x 2	-	-	4000 kg	8818 lb	1500 kg	3307 lb	0.30 kg	0.66 lb
433-2739	M20 x 2.5	-	-	6000 kg	13228 lb	2300 kg	5071 lb	0.50 kg	1.10 lb
433-2740	M24 x 3	-	-	8000 kg	17637 lb	3200 kg	7055 lb	0.80 kg	1.76 lb
433-2741	M30 x 3.5	-	-	12000 kg	26455 lb	4500 kg	9921 lb	1.60 kg	3.53 lb



384-9657	M10 x 1.5	17 mm	0.67 in	900 kg	1984 lb	450 kg	992 lb	0.30 kg	0.66 lb
384-9658	M12 x 1.75	21 mm	0.83 in	1200 kg	2646 lb	600 kg	1323 lb	0.50 kg	1.10 lb
384-9659	M14 x 2	21 mm	0.83 in	2000 kg	4409 lb	1000 kg	2205 lb	0.60 kg	1.32 lb
384-9660	M16 x 2	25 mm	0.98 in	2600 kg	5732 lb	1300 kg	2866 lb	0.60 kg	1.32 lb
384-9661	M20 x 2.5	33 mm	1.30 in	4000 kg	8818 lb	2000 kg	4409 lb	1.40 kg	3.09 lb
384-9662	M24 x 3	40 mm	1.57 in	7000 kg	15432 lb	3500 kg	7716 lb	2.70 kg	5.95 lb
384-9663	M30 x 3.5	50 mm	1.97 in	10000 kg	22046 lb	5000 kg	11023 lb	5.50 kg	12.13 lb
384-9664	M36 x 4	54 mm	2.13 in	10000 kg	22046 lb	8000 kg	17637 lb	4.80 kg	10.58 lb
384-9665	M48 x 5	68 mm	2.68 in	16000 kg	35274 lb	13000 kg	28660 lb	6.20 kg	13.67 lb
384-9666	M64 x 6	94 mm	3.70 in	25000 kg	55116 lb	16000 kg	35274 lb	9.90 kg	21.83 lb

MISCELLANOUS





523-3856

Part No.	Size	Thread Engagement		Working Load Vertical		Working Load At 90°		Weight	
477-3194	3/8-16 UNC	16 mm	0.63 in	630 kg	1389 lb	630 kg	1389 lb	.30 kg	.67 lb
395-1590	1/2-13 UNC	22 mm	0.87 in	1000 kg	2205 lb	1000 kg	2205 lb	0.33 kg	0.73 lb
395-1591	5/8-11 UNC	24 mm	0.94 in	1500 kg	3307 lb	1500 kg	3307 lb	0.55 kg	1.21 lb
433-3002		34 mm	1.34 in					0.60 kg	1.32 lb
395-1592	3/4-10 UNC	28 mm	1.10 in	2500 kg	5512 lb	2500 kg	5512 lb	1.30 kg	2.87 lb
395-1593	7/8-9 UNC	27 mm	1.06 in	2500 kg	5512 lb	2500 kg	5512 lb	1.30 kg	2.87 lb
395-1594	1-8 UNC	41 mm	1.61 in	4000 kg	8818 lb	4000 kg	8818 lb	1.50 kg	3.31 lb
477-3195	1 1/4-7 UNC	41 mm	1.61 in	5000 kg	11023 lb	5000 kg	11023 lb	2.40 kg	5.29 lb
395-1595	1 1/4-8 UN	41 mm	1.61 in	5000 kg	11023 lb	5000 kg	11023 lb	3.33 kg	7.34 lb
422-5471	M8 x 1.25	11 mm	0.43 in	300 kg	661 lb	300 kg	661 lb	0.30 kg	0.66 lb
477-3137		21 mm	0.83 in					0.30 kg	0.66 lb
477-3138		31 mm	1.22 in					0.31 kg	0.68 lb
422-1780*		76 mm	2.99 in					0.35 kg	0.77 lb
422-5472	M10 x 1.5	16 mm	0.63 in	630 kg	1389 lb	630 kg	1389 lb	0.32 kg	0.71 lb
477-3139		26 mm	1.02 in					0.33 kg	0.73 lb
477-3140		36 mm	1.42 in					0.34 kg	0.75 lb
477-3141		46 mm	1.81 in					0.35 kg	0.77 lb
477-3142		56 mm	2.20 in					0.36 kg	0.79 lb
477-3143		66 mm	2.60 in					0.37 kg	0.82 lb
477-3144		76 mm	2.99 in					0.38 kg	0.84 lb
422-1781*		96 mm	3.78 in					0.39 kg	0.86 lb
422-5473	M12 x 1.75	21 mm	0.83 in	1000 kg	2205 lb	1000 kg	2205 lb	0.33 kg	0.73 lb
477-3145		31 mm	1.22 in					0.34 kg	0.75 lb
477-3146		41 mm	1.61 in					0.35 kg	0.77 lb
477-3147		51 mm	2.01 in					0.36 kg	0.79 lb
477-3148		61 mm	2.40 in					0.37 kg	0.82 lb
477-3149		71 mm	2.80 in					0.38 kg	0.84 lb
422-1782*		116 mm	4.57 in					0.43 kg	0.95 lb
477-3196	M14 x 2	21 mm	0.83 in	1200 kg	2646 lb	1200 kg	2646 lb	0.53 kg	1.17 lb
422-5474	M16 x 2	24 mm	0.94 in	1500 kg	3307 lb	1500 kg	3307 lb	0.55 kg	1.21 lb
477-3150		34 mm	1.34 in					0.57 kg	1.26 lb
477-3151		44 mm	1.73 in					0.58 kg	1.28 lb
477-3152		54 mm	2.13 in					0.60 kg	1.32 lb
477-3153		64 mm	2.52 in					0.61 kg	1.34 lb
477-3154		74 mm	2.91 in					0.63 kg	1.39 lb
477-3155		84 mm	3.31 in					0.64 kg	1.41 lb
523-3856		24 mm	0.94 in					0.68 kg	1.5 lb
422-1783*		149 mm	5.87 in					0.92 kg	2.03 lb
422-5475	M20 x 2.5	32 mm	1.26 in	2500 kg	5512 lb	2500 kg	5512 lb	1.30 kg	2.87 lb
477-3156		42 mm	1.65 in					1.32 kg	2.91 lb
477-3157		52 mm	2.05 in					1.34 kg	2.95 lb
477-3158		62 mm	2.44 in					1.36 kg	3.00 lb
477-3159		72 mm	2.83 in					1.38 kg	3.04 lb
477-3160		82 mm	3.23 in					1.40 kg	3.09 lb
477-3161		127 mm	5.00 in					1.54 kg	3.40 lb
422-1784*		187 mm	7.36 in					1.73 kg	3.81 lb
422-5476	M24 x 3	37 mm	1.46 in	4000 kg	8818 lb	4000 kg	8818 lb	1.50 kg	3.31 lb
477-3162		52 mm	2.05 in					1.55 kg	3.42 lb
477-3163		67 mm	2.64 in					1.60 kg	3.53 lb
422-1785*		222 mm	8.74 in					2.13 kg	4.70 lb
422-5477	M30 x 3.5	49 mm	1.93 in	5000 kg	11023 lb	5000 kg	11023 lb	3.30 kg	7.28 lb
477-3164		79 mm	3.11 in					3.46 kg	7.63 lb
470-6591*		279 mm	10.98 in					4.55 kg	10.03 lb
470-6589	M36 x 4	63 mm	2.48 in	8000 kg	17637 lb	8000 kg	17637 lb	6.00 kg	13.23 lb
477-3165		103 mm	4.06 in					6.31 kg	13.91 lb
470-6590*		223 mm	8.78 in					7.20 kg	15.87 lb

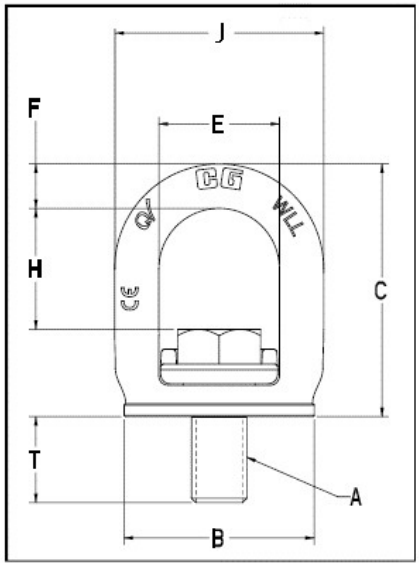
* Max thread engagement available in that particular size. Does include washer and nut for clearance hole applications.

Eyebolt Assemblies

Model Usage: All

Warranty: Manufacturer's





European Union Compliant, CE marked

- Encasulted bolt design Eyebolt Assemblies provide enhanced safety features by ensuring that the technician has the proper bolt and retaining hardware to achieve maximum rated lifting capcity.
- Lower cost options to the current Caterpillar line.
- Bail is forged Alloy Steel – Quenched and Tempered
- Bail swivels 360° degree
- Rated at 100% for 90 degree angle.
- Fatigue rated to 20,000 cycles at 1-1/2 times the working load limit
- Meets the Machinery directive 2006/42/EC guidelines and is marked with CE accordingly.
- Bolt specification for metric bolt is Grade 10.9 alloy cap screw to ISO 898
- Unique locking mechanism makes the lifting point well suited for quick attachment to load surface. No need for tools.
- Features markings on bail to know when device is ready for lift.

Part No.	Dimensions (in) / Bolt Size							Effective Thread Length (T)	Working Load Limit (t)*
	A	B	C	D	E	H	J		
540-1189	3/8 - 16 x 1.0	1.4	2.09	1.1	0.33	1.11	1.77	0.6	0.5
540-1190	1/2 - 13 x 1.25	1.67	2.47	1.3	0.41	1.3	2.13	0.79	0.75
540-1191	5/8 - 11 x 1.625	2.17	2.98	1.46	0.52	1.46	2.5	1.01	1.5
540-1192	3/4 - 10 x 2.0	2.71	3.59	1.72	0.63	1.72	2.98	1.26	2.3
540-1193	7/8 - 9 x 2.5	2.71	3.61	1.72	0.63	1.72	2.98	1.23	2.3
540-1194	1 - 8 x 3	3.25	4.33	2.08	0.76	1.93	3.59	1.59	3.2
	Metric Standard Dimensions (mm)								
540-1195	M10 - 1.5 x 25	35.5	53	28	8.5	27.8	45	14.6	0.5
540-1196	M12 - 1.75 x 30	42.5	62.6	33	10.5	32.9	54	18.3	0.75
540-1197	M16 – 2.0 x 40	55	75.7	37	13.2	37	63.4	24.5	1.5
540-1198	M20 - 2.5 x 50	68.8	91.1	43.9	16	43.6	75.6	31	2.3
540-1199	M24 – 3.0 x 60	82.5	110	52.8	19.2	52.8	91.2	37	3.2

**Ultimate Load = 4 times Working Load Limit*

Truck Lift Assembly

Model Usage: Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used in pairs to lift the rear of the truck frame off the transport trailer during initial machine builds
- Used at the rear location of the truck body mounts on the rear of the frame during initial assembly of truck
- Mounts in the truck body pin bores
- Sold individually
- Painted Safety Orange

Reference

NEHS1177, Tool Operating Manual

Specifications

- Length: 869 mm (34.2 in)
- Height: 430.5 mm (16.9 in)
- Width: 204 mm (8.0 in)
- Working Load Limit:18,144 kg (40,000 lbs)
- Weight: 73 kg (161 lbs)

Part Number	Description
437-5528	Truck Lift Assembly

Tube Support

Model Usage: Multiple Machines & Uses

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used as a supportive beam to span frame rails and attach a lever hoist to lift small components
- Working Load Limit is a function of worst case scenario, which is supported at both ends and load in the center

Specifications

- Dimensions: 50.8 x 50.8 x 6.35 mm (2 x 2 x .25 in)
- Length: 182.9 cm (72 in)
- Weight: 15 kg (33 lb)
- Working Load Limit: 272 kg (600 lb)

Part Number	Description
456-4449	Tube Support

LatchFree Dipper Link Arm Swivel Lift

Model Usage: 7495, 495, 495HR

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used to lift the LatchFree dipper door link arm assembly from the shipping crate up to the dipper for installation purposes
- Provides quick attachment capability plus increased safety and shortens duration of time required to remove and install the latch free dipper door link arm assembly

Specifications

- Dimensions: 350.4 x 204 x 506.1 mm
- (13.8 x 8 x 20 in)
- Weight: 22 kg (48.5 lb)

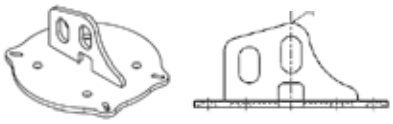
Part Number	Description
458-0899	LatchFree Dipper Link Arm Swivel Lift
Service/Repair Parts	
395-1595	Eyebolt Assembly

SPECIALTY MINING TOOLS

Swing Gearbox Lifting Tool

Model Usage: 6015-6090 Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Provides removal and installation of the swing gearbox with or without the brake housing installed

Reference

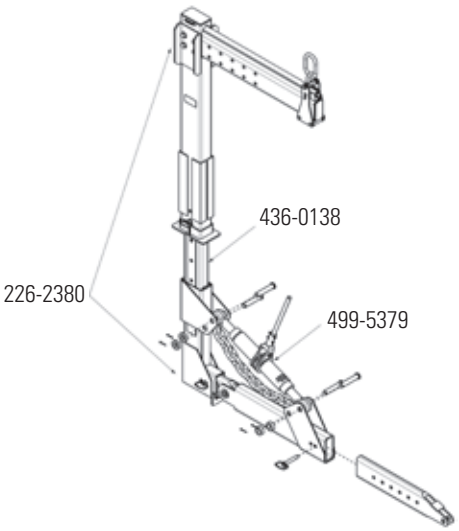
- NEHS1260, Lifting Attachment Assembly for 226-2380 Adjustable C-Frame Tool Operating Manual
- NEHS1259, Swing Gearbox Lifting Tool Operating Manual
- NEHS1184, Adjustable C-Hook Extension Tool Operating Manual
- NEHS0966, Multi-Purpose Lifting Bracket Group Tool Operating Manual

Part No.	Description	Dimensions	Weight	WLL
469-7632	Swing Gearbox Lifting Tool	375 x 375 x 161 mm (14.8 x 14.8 x 6.3 in)	13 kg (28.6 lb)	1362 kg (3000 lb)

Swing Gearbox Removal and Installation Tools

Model Usage: 6030-6090

Warranty: Caterpillar® Six Months



European Union Compliant, CE Marked

- These service tools provide removal and installation of the swing gearbox with or without the brake housing installed.
- These tools are utilized in combination with 469-7632 and 226-2380.
- Provides total time reduction of 3 hours vs. not utilizing these tools during the removal and installation of each swing gearbox assembly.
- The tool's adjustment capability provides increased safety and efficiency during the R&I procedure.

Reference

- NEHS1260, M0068962, NEHS1184, NEHS0966

Part No.	Description	Quantity Required	WLL	Dimensions	Weight
499-5379	Lifting Assembly	1	1814 kg (4000 lb)	1830 x 150 x 780 mm (72 x 6 x 31 in)	122 kg (270 lb)
436-0138	Tube Assembly - Extension	1	1814 kg (4000 lb)	3180 x 290 x 120 mm (125 x 12 x 6 in)	105 kg (230 lb)

Slew Gearbox Cavity Cover Plate

Model Usage: See Chart

Warranty: Caterpillar® Six Months



- The cover plate is installed after the removal of the slew gearbox and prevents built up material and water from entering into the slew ring grease lubrication bath during the cleaning procedure of the cavity.
- Increases life of the slew gear assembly.

Part No.	Model	Quantity Req.	WLL	Diameter (O.D.)	Depth	Weight
501-4325	6030-6090	1	181 kg (400 lb)	585 mm (23 in)	45 mm (1.8 in)	10.3 kg (22.7 lb)
512-7941	6015	1	181 kg (400 lb)	560 mm (22 in)	50 mm (2 in)	8.6 kg (19 lb)
512-7942	6018	2	181 kg (400 lb)	483 kg (19 in)	75 mm (3 in)	7.1 kg (15.7 lb)
512-7943	6020B	2	181 kg (400 lb)	560 mm (22 in)	75 mm (3 in)	9.1 kg (20 lb)

SPECIALTY MINING TOOLS

Bearing Handling Tool

Model Usage: CST45, CST65, and all models with large bearings

Warranty: Manufacturer's



European Union Compliant, CE marked

- Allows safe handling of large bearings used on mining machines
- Improves efficiency by allowing one technician to safely handle bearings using slings and overhead crane
- Bearings can be heated to 120 C with device installed.
- Allows rotation of bearings from horizonal to vertical position
- Handles bearings from 450-650 mm with outer ring width from 60 mm to 270 mm and weight to 500 kg

Part No.	Description	Dimensions	Weight
507-8437	Bearing Handling Tool	1200 x 180 x 80 mm (47 x 7 x 3.2 in)	500 kg (1000 lb)

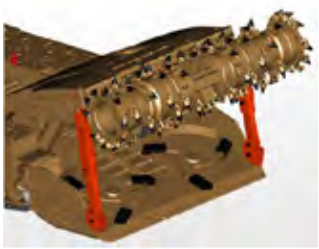
Cutter Head Support Stand

Model Usage: CM340, CM445

Warranty: Caterpillar® Six Months



Collapsed



Extended

European Union Compliant, CE marked

- Used to support cutter head while work is being performed or to lift the gathering head via connection with cutter head
- Telescoping stand with two height positions to allow for adjustability
- Stands are sold individually, but should always be used in pairs.
- Safely and securely supports cutter head providing a safe means of performing work on or near the cutting head or gathering head

Part No.	Description	Dimensions	Weight	Support WLL	Lift WLL
489-4627	Cutter Head Support Stand	1513 x 305 x 185 mm (60 x 12 x 7.3 in)	140 kg (309 lb)	18144 kg (40000 lb)	13608 kg (30000 lb)



Intrinsically Safe Ultrasonic Thickness Gauges

Model Usage: Underground Mining

Warranty: Caterpillar® One Year (see below)



Repair Information: Cygnus Instruments Inc. 1993 Moreland Parkway, Suite 202, Annapolis, MD 21401, Attn: Repairs/Calibrations, Phone 410 267 9771, Fax 410 268 2013

European Union Compliant, CE marked (546-4507)

Compliance CE, British Standard BS EN 15317:2007

Environmental Protection: IPX5 & IPX7

549-4506 CSA for USA & Canada, Class 1 group A,B,C,D division 1

549-4507 ATEX for Europe, EX I M 1 Ex ia I Ma (Ta=0 to 45C). EX II 1 G Ex ia IIC T6 Ga (Ta=0 to 45C)

- Intrinsically safe
- Approved for use in mines
- Sealed IPX5 and IPX7 rated
- Two rechargeable battery packs
- Bright LED display/polarised filter

Specifications

- Measurement Range in Steel:
  - 3 - 250 mm (0.1 - 10.0 in) with 2.25 MHz probe
  - 2 - 150 mm (0.065 - 6.0 in) with 3.5 MHz probe
  - 1 - 50 mm (0.04 - 2.0 in) with 5.0 MHz probe
- Materials: Sound velocities between 2000 and 7000 m/s (0.059 and 0.31 in/microsec) covers virtually all common engineering materials.
- Accuracy: 0.1 mm (0.005 in) when calibrated in accordance with Cygnus Instruments Calibration Procedures
- Selectable Resolution: 0.1 or 0.05 mm (0.005 or 0.002 in)
- Probes: Single crystal soft-faced compression
  - 6 mm (1/4 in) - 5 MHz
  - 13 mm (1/2 in) - 2.25, 3.5 or 5 MHz
  - 19 mm (3/4 in) - 2.25 MHz
  - Lower frequency probes offer better penetration on heavy corrosion/coatings.
- Power: NiMH rechargeable battery pack
- Battery Life: 10 hours of continuous operation
- Display: Large, bright LED display
- Size: 235 x 75 mm (9.252 x 3.0 in)
- Weight: 1040 g (34.7 oz) with remote probe and batteries
- Operating Temp: 14 - 122 F
- Certification:
  - ATEX: {Ex} I M 1 Ex ia I Ma (Ta = 0 to 45 C), {Ex} II 1 G Ex ia IIC T6 Ga (Ta = 0 to 45 C)
  - CSA: Class 1 Group A, B, C & D Division 1

Kit Contents

- Instrument heavy duty remote
- 2.25 MHz x 1/2 in diameter probe
- Nose cone tommy bar, probe locking ring key
- 2 rechargeable batteries, battery charger
- Spare membranes, o-rings, steel test block, calibrator jumper lead, calibration trim tool, hex key, operation manual, carrying case
- Must order couplant separately (505-8671)

Part No.	Description	Dimensions	Weight
549-4506	Intrinsically Safe Ultrasonic Thickness Gauge (CSA)	235 x 75 mm (9.25 x 3.0 in)	1.04 kg (2.17 lb)
549-4507	Intrinsically Safe Ultrasonic Thickness Gauge (ATEX)		

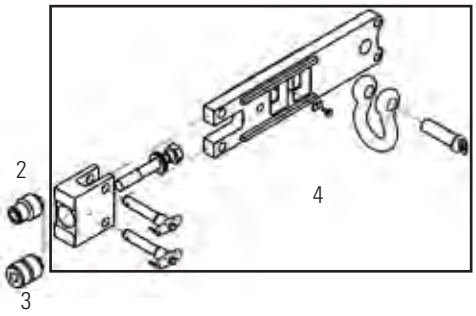
SPECIALTY MINING TOOLS

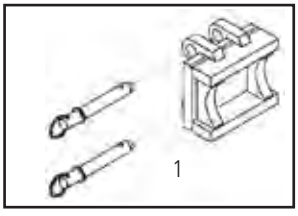
Attachment Pin Puller

Model Usage: HMS, ERS

Warranty: Caterpillar® Six Months









European Union Compliant, CE marked

- Provides a safe method to remove and install attachment pins under 1.0 m long
- Requires a M30 x 3.5, M48 x 5, or M64 x 6 puller hole
- Accessories adapt to 7/8"-9, 1-1/2"-6 and a 3-hole pattern. Other adapters available upon request.
- Compatible for diameters of all short pins used on hydraulic mining shovels (ø75 – ø400 mm)
- Greatly increases safety by positively retaining the pin during R&I and eliminating the need to sling the pins
- Capable of handling 10 metric tons force for pulling or pushing pin (Force must be provided by other equipment.)

Reference

- Requires C-Frame 226-2380
- M0074394 Tool Operating Manual

Item #	Part No.	Description	Dimensions	Weight	WLL
1	526-5506	Attachment Pin Puller	5.34 x 1.51 x 1.1 m (17.5 x 6.3 x 3.6 ft)	3400 kg (7500 lb)	10 metric tons (22000 lb)
2	526-5507				
3	526-5508				
4	526-5509				

Serviceable Parts

Part No.	Description	Quantity
McMaster Carr #90200A546	Thumb Screw	2
8T-6624, or Fastenal #0122170	Bracket Bolt	1
9X-8258	Washer	2
McMaster Carr #93750A123	Bracket Hitch Pin	2
526-5507	M48 Adapter	1
526-5508	M64 Adapter	1
189-0863	Shackle (12tn)	1

Accessories

Item #	Part No.	Description	Quantity
5	550-9173	Puller Plate (3-Hole Adapter)	1
6 (not shown)	550-9172	7/8"-9 and 1-1/2"-6 Adapter Kit	1

Graco Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance or structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

This warranty is exclusive, and is in lieu of any other warranties, express or implied, including but not limited to warranty of merchantability or warranty of fitness for a particular purpose.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. Those items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

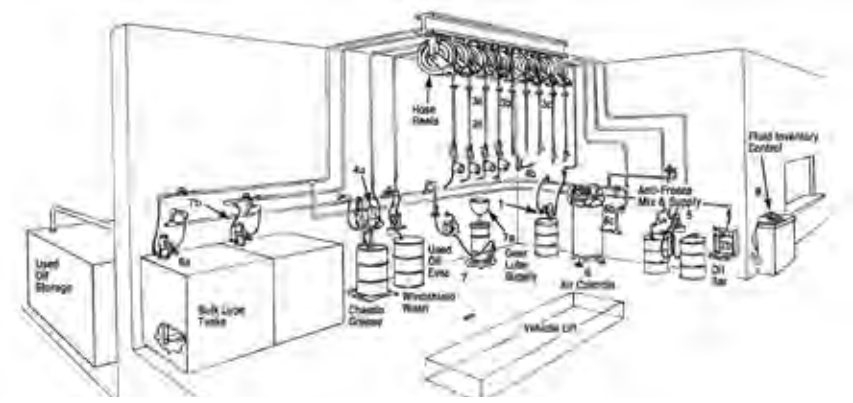
Special Warranties for Lubrication Equipment

Graco offers an extended warranty for the following products at no additional cost. All other terms and conditions of the Graco warranty shall apply.
Fire-Ball 300 Pumps: oil and grease 30 years
Fire-Ball 425 Pumps: grease 30 years
Fire-Ball 425 Pumps: oil 10 years
Fire-Ball 225 Pumps: oil 5 years
Falcon Pumps: grease 5 years
Diaphragm Pumps 15 years air valve center section; 5 years pump
250 & 500 Series Hose Reel 3 years
Electronic Fluid Meters 2 years
Matrix 2 years
These extended warranties reflect Graco's high degree of confidence in the quality and consistency of our products.

For GRACO Canada Customers

The parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaries exécubés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procedures concernées.

Typical Lubrication System



Fire-Ball Pump

- Industry leader for lubrication equipment in fast lubes, car dealerships, and medium-sized fleet and equipment service garages
- Quiet
- Provides the power to supply several remote outlets in stationary installations, yet is economical enough for use with portable lubricators
- 7.6 cm (3 in) air motor
- Available in stubby length for wall mounting or various tube lengths to fit containers from 20 to 1100 L (5 to 275 gal) and larger

President Pump

- Power leader — top choice in large fleet and mass transit service installations
- With a big 10.8 cm (4 1/4 in) air motor, it can supply many outlets for simultaneous use
- 10:1 ratio
- Available in stubby length for wall mounting or various tube lengths to fit containers from 60 to 1100 L (16 to 275 gal) and larger
- Rugged, industrial design
- Valve-in-piston design — only four moving parts
- Balanced differential design
- Hard-coat aluminum construction
- Nonmetallic poppet air valves
- Open-exhaust porting
- Demand-only operation
- Simple in-line design
- Double acting
- Variable volume
- Adjustable throat packing
- Priming piston (grease only)
- Simple design for continuous use
- Provides uniform power on up and down strokes
- Corrosion-resistant — rust-free for longer working life
- Positive sealing even with contaminated air — provides high air flow
- Continuous operation without icing
- No operational costs while pump holds stalled pressure
- Rigid alignment for withstanding abuse
- Positive pump feed even with heavy greases
- Pump adjusts speed to match system demands
- Proven reliability for long life under demanding operating conditions and infrequent maintenance intervals

Item	Description
1	Oil Supply Pumps, also ATF, Gear Lube, and Hydraulic Oil
2a	Oil Valves and Meters
2b	Oil Dispense Bar
3a	Oil Reels
3b	Grease Reels
3c	Air and Water Reels
4a	Grease Pumps
4b	Grease Valve and Swivel
5	Anti-Freeze Supply
6	Air Controls
6a	Regulators
6b	Filters
6c	Lubricators
7	Used Oil Equipment
7a	Drain Funnels
7b	Evac Systems
8	Fluid Inventory Control System
9	Diaphragm Pumps
10	Portable Lube Units

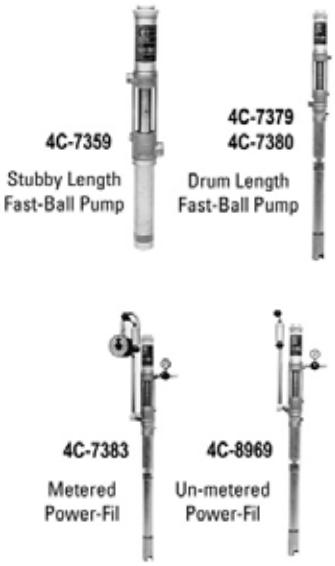
Pump Performance Specifications

	Fast Ball 1:1	Fire Ball 5:1	President 10:1
Air motor size	3.6 cm (1.48 in)	7.6 cm (3 in)	10.8 cm (4.25 in)
Continuous duty flow rate	18.92 lpm (5 gpm)	9.56 lpm (2.5 gpm)	25 lpm (3 gpm)
Free flow	37.85 lpm 10 gpm)	22.71 lpm (6 gpm)	28.39 lpm (7.5 gpm)
Maximum fluid pressure	12 bar (180 PSI)	62 bar (900 PSI)	124 bar (1800 PSI)
Maximum air inlet pressure	12 bar (180 PSI)	12 bar (180 PSI)	7 bar (100 PSI)
Air inlet size	1/4 in NPT(f)	3/8 in NPT(f)	1/2 in NPT(f)
Fluid outlet size	3/4 in NPT(f)	1/2 in NPT(f)	3/4 in NPT(f)
Fluid inlet size	1 1/2 in NPT(f)	1 1/2 in NPT(f)	1 1/2 in NPT
Pump type	Double Ball	Double Ball	Double Ball
Stroke length	101.6 mm (4 in)	76.2 mm (3 in)	101.6 mm (4 in)
Air consumption	.042 m^3/min. (1.5 cfm/gal)	1.35 m^3/min. (7.5 cfm/gal)	6 m^3/min. (13 cfm/gal pumped)
Instruction manual	307-906	306-518	306-726

Part Number	Description
9U-6776	Air Motor Repair Kit

Lubrication Fast-Ball® Drum Pumps

Warranty: Manufacturer's (See The Graco Warranty)



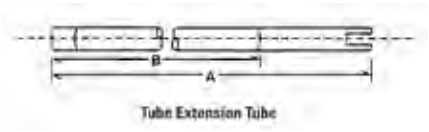
- 1:1 ratio
- 2.8 to 12.6 bar (40 to 180 PSI) air pressure range
- 1/4 inch(f) air inlet
- 3/4 inch(f) fluid outlet
- 15 lpm (5 gpm) maximum delivery

Part No.	Description	Detail
4C-7359	Pump	—
4C-7379	Drum Length Fast-Ball Pump, 208 L (55 gal) Comes with bung adapter for drum mounting	208 L (55 gal), Comes complete with bung adapter for drum mounting
4C-7380	Drum Length Fast-Ball Pump, 1041 L (275 gal) Includes bung adapter for drum mounting	1041 L (275 gal), Comes complete with bung adapter for drum mounting
4C-7383	Metered Power-Fil Consists of Fast-Ball pump (bung mounted) for 208 L (55 gal) drum and metered dispense kit [a]	Consists of Fast-Ball pump (bung mounted) for 208 L (55 gal) drum and metered dispense kit
	Fast-Ball Pump Accessories	
4C-8964	Bung Adapter	Allows direct pump mounting into 50.8 mm (2 in) drum bung
4C-7348	Suction Tube	Tubes can be used with stubby Fast-Ball to provide pump length to fit specific drum sizes
4C-7190	Low Level Cut Off	Prevents air from entering metered dispense valves by closing pump intake when oil supply is exhausted; has 1 1/2 in NPT(f) connection.
4C-7261	Suction Hose Kit	Consists of tube, hose and fittings; use with wall bracket; for use with 208 L (55 gal) drum
4C-7196	Wall Bracket	For wall mounting of stubby Fast-Ball pump
4C-8962	Hose and Fitting Kit, 457.2 mm (18 in)	Comes with 6.4 mm (1/4 in) air hose, 19 mm (3/4 in) fluid
4C-8851	Filter	Prevents pipe scale, rust, etc. from damaging pump. 1/4 in NPT(f)
4C-8852	Air Regulator	Controls air pressure to pump. 0-200 PSI Adjustable range. 1/4 in NPT(f)
4C-8853	Lubricator	Adds controlled amount of lubricant to air supply; prolongs pump life. 1/4 in NPT(f)

a. Power-Fil dispensers include a 0 – 414 kPa (0 – 60 PSI) regulator to minimize splashing during dispensing. Power-Fil dispensers fit any workbench tank having a 889 mm (35 in) height

Suction Tube Extention Tubes

Warranty: Manufacturer's (See The Graco Warranty)



- Used with universal Fire-Ball or President pumps to allow cover or bung mounting

Part Number A	Dim. A	
—	80.79 cm (31.81 in)	
Pump	208 L (55 gal)	1,041 L (275 gal)
Fire-Ball 5:1 Bung Mtd. a	4C-7348	—
President 10:1 Bung Mtd. a	4C-7348	—

a. Also order bung adapter

Part Number	Description	Diameter
	Part Number A	
4C-7348	Suction Tube Extension Tube	71.27 cm (28.06 in)

Bung Adapter



- Allows direct mounting of Fire-Ball 5:1 and President 10:1 pumps into standard 50.8 mm (2 in) drum bung

Part Number	Description
4C-8964	Bung Adapter

Low-Level Cutoff



- Use with pumps supplying metered outlets
- Prevents air from entering pump by closing intake when supply is exhausted
- Connection thread: 1 1/2 inch NPT(f)
- Can be used with suction hose kit or standard suction tube without changing tube length
- Replaces stand-off of suction tube

Part Number	Description
4C-7190	Low Level Cut Off

Oil Dispense Accessories

Warranty: Manufacturer's (See The Graco Warranty)



- Shutoff valves for isolation of oil dispense lines
- Use 4C-7044 for branch lines
- Use 4C-7045 for main header lines
- Both valves rated for 138 bar (2000 PSI) working pressure

Part Number	Description	Detail
4C-7044	Oil Line Shutoff Valve	1/2 in NPT(f)
4C-7045	Oil Line Shutoff Valve	3/8 in NPT(f)

Dispense Pump Hose and Fitting Kits

Warranty: Manufacturer's (See The Graco Warranty)

- Use 18 inch kit for connecting wall mounted pumps to piping
- Use 72 inch kit with drum mounted pumps
- Use 4C-7046 3/8 inch air regulator as required (sold separately)

Reference

- Instruction Form 307-883

Part No.	Description	Size
4C-7362	Air/Fluid Hose Kit for Fire-Ball 5:1	3/8 in diam x 1.83 m (6 ft) L
4C-7101	Union	1/2 in
4C-7102	Union	3/8 in
4C-7334	Hose 3000	1/2 in



- Use 45.72 cm (18 in) kit for connecting wall mounted pumps to piping
- Use 1.83 m (72 in) kit with drum mounted pumps
- Use 4C-7046 3/8 inch air regulator as required (not included, sold separately)

Part No.	Description	Length	Fittings
4C-7364	Hose and Fitting Kit for President 10:1	—	—
12.7 mm (1/2 in) ID — 207 bar (3000 PSI)			
4C-7334	Hose 3000	1.83 m (72 in)	1/2 in M x 1/2 in M
4C-7354	Hose 3000	15.24 m (50 ft)	1/2 in M x 1/2 in M
19.05 mm (3/4 in) ID — 157.5 bar (2250 PSI)			
4C-9019	Suction Hose	304.8 cm (12 in)	3/4 in M x 3/4 in M
Consist [a]			
4C-7101	Union	—	1/2 in
4C-7221	Hose 180	—	1/2 in

a. Includes Instruction Form: 307-883

Air Operated Oil Pumps — Universal Length

Warranty: Manufacturer's (See The Graco Warranty)



- Universal Length Dispense Pumps consist of a short "Stubby" length pump with a threaded inlet, allowing the use of a variety of inlet tubes or hoses
- Can be wall mounted for use with a suction hose kit or add a suction tube to create a drum pump of the length of your choice
- For cover mounting, add only the appropriate suction tube
- For bung mounting, add the appropriate suction tube and a bung adapter
- Does not include hoses or accessories

4C-7195 Universal Fire-Ball 5:1

- The pump of choice for most installations
- Pump free flow is approximately 28.5 lpm (7 1/2 gpm) and will deliver 7.6 to 11.4 lpm (2 to 3 gpm) under typical operating conditions
- Includes instruction form 306-518

4C-7228 Universal Air Pump 10:1

- Use this pump for large installations having long dispense lines where low air pressures would otherwise limit pump performance, or for cold weather operation
- Similar to Fire-Ball 5:1 but uses the President air motor and has a higher ratio
- Pump free flow is approximately 28.5 lpm (7 1/2 gpm) and will deliver 11.4 to 15.2 lpm (3 to 4 gpm) under typical operating conditions
- Includes instruction form 306-726

Part No.	Maximum Air Inlet Pressure	Air Inlet	Fluid Outlet	Fluid Inlet
4C-7195	12.6 bar (180 PSI)	3/8 in NPT(f)	1/2 in NPT(f)	1 1/2 in NPT(f)
4C-7228	12.6 bar (180 PSI)	1/2 in NPT(f)	1 in NPT(f)	1 1/2 in NPT(f)

Air Operated Oil Pumps — Bung-Mounted

Warranty: Manufacturer's (See The Graco Warranty)



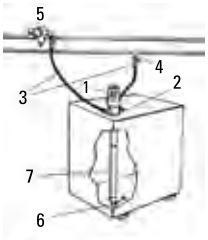
205 Liter (55 Gallon) Drum-Length Pumps

- Pumps are both designed for direct bung mounting in 51 mm (2 in) bung in 205 L (55 gal) closed-head drums
- Order low level cut-off separately for metered dispense systems (sold separately)

Part Number	Description
Fire-Ball 5:1	
4C-7195	Fire-Ball 5:1 pump (Stubby)
4C-7348	Suction Tube
4C-7362	Air/Fluid Hose Kit, 1.8 m (6 ft)
4C-8964	Bung Adapter
President 10:1	
4C-7228	Pump
4C-7348	Suction Tube
4C-7364	Hose and Fitting Kit
4C-8964	Bung Adapter

Bulk Tank Assembly — Air-Operated, Tank-Mounted Pump Assembly

Warranty: Manufacturer's (See The Graco Warranty)

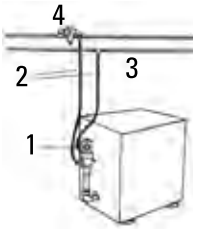


- Order tanks separately

Item	Part Number	Description
1	4C-7195	Fire-Ball 5:1 pump (Stubby)
2	4C-8964	Bung Adapter
3	4C-7362	Air/Fluid Hose Kit, 1.8 m (6 ft)
4	4C-7044	Fluid Ball Valve
5	4C-7046	Regulator
6	4C-7190	Low Level Cut Off
7	—	Pump Tubes

Stubby Mounted Pump Assembly

Warranty: Manufacturer's (See The Graco Warranty)

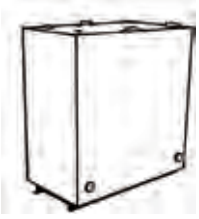


Item	Part Number	Description
For use on 454 to 7,570 L (120 to 2,000 gal) tanks		
1	4C-7195	Fire-Ball 5:1 pump (Stubby)
2	4C-7362	Air/Fluid Hose Kit, 1.8 m (6 ft)
3	4C-7044	Fluid Ball Valve
4	4C-7046	Regulator

Above Ground Storage Tanks

Availability: NACD

Warranty: Manufacturer's (See The Graco Warranty)



- Multi-purpose tanks for storage of lubricants and used oil. Four-inch welded bottom skids keep the tank bottom off the floor.
- Tanks are painted white
- Locking fill cap
- In-tank level gauge provides a means of inventory control
- Single and double wall available
- Portable
- Underwriters Laboratory approved
- 3-year manufacturer's warranty
- Call for quote

Description	Capacity	Length	Width	Height (Add 10.16 cm for skids)
Single-Wall Bulk Tank	456 L (120 gal)	66.04 cm (2 ft 2 in)	76.2 cm (30 in)	91.44 cm (3 ft)
Single-Wall Bulk Tank	1064 L (280 gal)	152.4 cm (5 ft)	76.2 cm (30 in)	91.44 cm (3 ft)
Single-Wall Bulk Tank	1900 L (500 gal)	152.4 cm (5 ft)	81.28 cm (32 in)	152.4 cm (5 ft)
Single-Wall Bulk Tank	2470 L (650 gal)	198.12 cm (6 ft 6 in)	81.28 cm (32 in)	152.4 cm (5 ft)
Single-Wall Bulk Tank	3800 L (1000 gal)	304.8 cm (10 ft)	81.28 cm (32 in)	152.4 cm (5 ft)
Single-Wall Bulk Tank	5700 L (1500 gal)	457.2 cm (15 ft)	81.28 cm (32 in)	152.4 cm (5 ft)
Single-Wall Bulk Tank	7600 L (2000 gal)	548.64 cm (18 ft)	76.2 cm (30 in)	182.88 cm (6 ft)
Description	**Capacity**	**Length**	**Width**	**Height (Add 38.1 mm for skids)**
Double-Wall Bulk Tank	456 L (120 gal)	66.04 cm (2 ft 2 in)	92.71 cm (36 1/2 in)	101.6 cm (3 ft 4 in)
Double-Wall Bulk Tank	1064 L (280 gal)	160.02 cm (5 ft 3 in)	92.71 cm (36 1/2 in)	101.6 cm (3 ft 4 in)
Double-Wall Bulk Tank	1900 L (500 gal)	160.02 cm (5 ft 3 in)	97.79 cm (38 1/2 in)	162.56 cm (5 ft 4 in)
Double-Wall Bulk Tank	2470 L (650 gal)	222.25 cm (7 ft 3 1/2 in)	91.44 cm (36 in)	162.56 cm (5 ft 4 in)
Double-Wall Bulk Tank	3800 L (1000 gal)	328.93 cm (10 ft 9 1/2 in)	91.44 cm (36 in)	162.56 cm (5 ft 4 in)
Double-Wall Bulk Tank	5700 L (1500 gal)	481.33 cm (15 ft 9 1/2 in)	91.44 cm (36 in)	162.56 cm (5 ft 4 in)
Double-Wall Bulk Tank	7600 L (2000 gal)	572.77 cm (18 ft 9 1/2 in)	86.36 cm (34 in)	193.04 cm (6 ft 4 in)

Hand-Lever Diaphragm Pump

Warranty: Manufacturer's (See The Graco Warranty)



- 4C-9710 replaces discontinued 4C-9769 Quartstroke Pump
- Double-action, high volume diaphragm pump — transfers approximately 3.7 L (1 gal) per 9 strokes
- Telescopic suction tube mounts in 2 inch NPT bung opening of 60 or 205 L (16 or 55 gal) drum
- Package includes 1.8 m (6 ft) hose and fitting kit and bung adapter

Part Number	Description
4C-9710	Hand-Lever Diaphragm Pump

Bulk Lube Pump Accessories

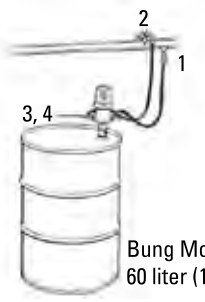
Warranty: Manufacturer's (See The Graco Warranty)



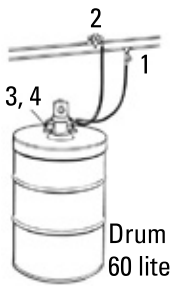
Part Number	Description
4C-7261	Suction Hose Kit (Drum not included)

Remote Drum Pump Assemblies — Air Operated

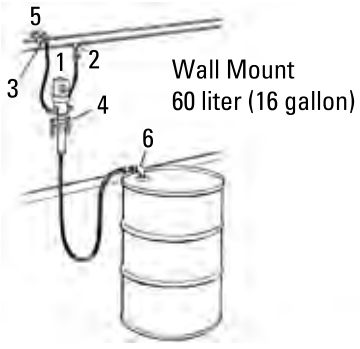
Warranty: Manufacturer's (See The Graco Warranty)



Bung Mount,
60 liter (16 gallon)



Drum Cover Mount
60 liter (16 gallon)



Wall Mount
60 liter (16 gallon)

Item	Part Number	Description	Detail
1	4C-7044	Fluid Ball Valve	—
2	4C-7046	Regulator	—
3	4C-8858	Coupler	Quick Disconnect Coupler 3/8 in(f)
4	4C-7159	Fitting	3/8 in(m)

Item	Part No.	Description	Detail
1	4C-7195	Fire-Ball 5:1 pump (Stubby)	Wall Mounted, 457.2 mm (18 in) Air and Fluid Hoses
2	4C-7044	Fluid Ball Valve	—
3	4C-7046	Regulator	—
4	4C-8858	Coupler	Quick Disconnect Coupler 3/8 in (f)
5	4C-7159	Fitting	3/8 in (m)
6	4C-7261	Suction Hose Kit	—

(Drum not included)

Pump Mounting Accessories

Warranty: Manufacturer's (See The Graco Warranty)

- Drum covers mount any Fire-Ball or President lubrication pumps
- Pail Covers mount Fire-Ball 50:1 pump using friction-type clutch lock and allows use of 31.8 kg length pump with 18.9 kg (35 lb) pail
- Use with 4C-7146 Adapter for cover mounting bung pumps to convert mounting to standard 2 inch NPT bung opening

4C-7166



4C-7209

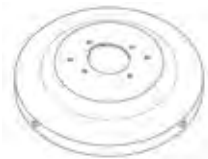


4C-7360



Part No.	Description	Use with
4C-7166	Drum Cover	Open-Head Drums: 181.4 kg/208.2 L (400 lb/55 gal)
4C-7209	Drum Cover	Open-Head Drums: 54.4 kg/60.6 L (120 lb/16 gal) or 31.8 kg/37.9 L (70 lb/10 gal)
4C-7360	Pail Cover	15.9 kg/18.9 L (35 lb/5 gal) pails
4C-7234	Pail Cover	15.9 kg/18.9 L (35 lb/5 gal) pails
4C-7146	Cover to Bung Adapter Plate	208.2 L/181.4 kg (55 gal 400 lb) or 60.6 L/54.4 kg (16 gal/120 lb) drum cover
4C-7196	Universal Wall Bracket	Use with Fast-Ball 1:1, Fire-Ball 5:1, President 10:1 (Clamps onto "Universal" pump tube)

4C-7234



4C-7146



4C-7196



Lubrication Pump



- Used in locations where a large amount of maintenance is performed regularly, such as in a maintenance shop or new machine assembly area
- Pressures corresponding to the pin positions indicated by the arrows can be attained using NLG#1 Grease at a delivery rate of ten strokes per minute

Item	Description
1	351 kg/cm², (5000 PSI) Pin Position
2	281 kg/cm², (4000 PSI) Pin Position
3	175 kg/cm², (2500 PSI) Pin Position
3F-3915	Hook On Coupling Assembly. Part of the 7H-1680 Lubrication Pump

Part Number	Description
7H-1680	Lubrication Pump

Air Quick Disconnect Coupler and Nipple



Part Number	Description	Size
4C-8858	Coupler	3/8 in NPT(f)
4C-7159	Fitting	3/8 in (m)

Portable Bases

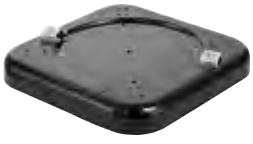
Warranty: Manufacturer's (See Graco Warranty)



- Pail nests inside band ring
- Ring clamps hold pail/drum secure
- Casters provide portability

Part Number	Description	Detail
4C-7216	Band Dolly	for 18.92 L (5 gal) Pail
4C-7199	Band Dolly	for 10/16 gallon Drums

Caster Base — 10/16 gallon Drums



- Drum fits into recess on formed base
- Rim clamps hold drum securely onto base
- Casters provide portability

Part Number	Description	Detail
4C-7187	Caster Base	for 10/16 gallon Drums

Two Wheel Cart — 10/16 gallon Drums



- Drum fits into recess on formed base
- Rim clamps hold drum securely onto base
- Wheels provide portability

Part Number	Description	Detail
4C-7189	Wheel Cart	for 10/16 gallon Drums

Un-metered Dispensing Valves

Warranty: Manufacturer's (See The Graco Warranty)



- In-line style gear lube and A.T.F. mechanical valves for dispensing oil
- Each valve includes non-drip nozzle

Part No.	Description	Flow Rate	Inlet
4C-7241	Un-metered ATF Dispensing Valve	0 – 11.3 lpm (0 – 3 gpm)	1/2 in NPT
4C-7242	Un-metered Oil Dispensing Valve	0 – 11.3 lpm (0 – 3 gpm)	1/2 in NPT
4C-7182	Un-metered Gear Lube Dispensing Valve	0 – 11.3 lpm (0 – 3 gpm)	1/2 in NPT

Electronic Meter Valve, Electronic Preset Meter Automatic Shut-off Valve

Warranty: Manufacturer's (See The Graco Warranty)



European Union compliant, CE marked

- Meter valve dispenses bulk service fluids such as motor oil, gear oil, automatic transmission fluid, hydraulic oil, or antifreeze
- 157-5550 has preset capability to allow "hands-free" operation with automatic shut-off
- Dispenses in pints, quarts, gallons, or liters — change units of measure in seconds
- Other features include protective swivel cover, impact guard, non-drip nozzle, and battery operated internal memory
- Resettable memory totals will track daily or weekly volumes of fluids
- Non-resettable memory for lifetime accumulated total
- Comes with both flexible hose and rigid tube extensions
- FM and CSA approved

Part No.	Max. Flow Rate	Operating Pressure	Weight	Inlet Thread	Outlet Thread	Battery
157-5550	18.5 lpm (5 gpm)	6.9 – 69 bar (10 – 1000 PSI)	1.14 kg (2.5 lb)	1/2 NPT	3/8 NPT	1U-9534, 9V alkaline
157-5548	18.5 lpm (5 gpm)	6.9 – 69 bar (10 – 1000 PSI)	1.14 kg (2.5 lb)	1/2 NPT	3/8 NPT	1U-9534, 9V alkaline

Electronic Grease Meter

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



Specifications

- Inlet/Outlet: 1/8" NPFT
- Metric Current Delivery and Total delivery units: 3% accuracy
- Current Delivery Rate: 0 – 9999 g (0 – 1.3 oz)
- Total Delivery Rate: 0 to 999999 kg (36.13 lb/in^3)
- Batteries: Two 1.5V N size
- Flow Rate: .1 to 2.5 kg/min flow rate
- Max Operating Pressure: 10,000 PSI (700 bar)
- Operating Temperature Range: -10°C (14°F) to 60°C (140°F)
- Dimensions (Approximate): 70 mm x 80 mm x 46 mm (.23 ft x .23 ft x .15 ft)

Part Number	Description
360-9249	Electronic Grease Meter

Metered Dispensing Valve, English or Metric

Warranty: Manufacturer's (See The Graco Warranty)



European Union compliant, CE marked (157-5556)

- Great for applications where up to 45 lpm (12 gpm) is required
- Locking trigger allows hands-free dispensing
- Easy trigger pull for operator comfort
- Electronic meter designed to withstand rugged environment
- Meets CSA and FM approvals

Part No.	Description	Max. Recommended Flow Rate	Maximum Operating Pressure	Operating Temperature Range	Inlet	Outlet
157-5553	Metered Dispensing Valve (English)	45 lpm (12 gpm)	10.5 MPa, 105 bar (1500 PSI)	-20° to 55°C (-4° to 130°F)	3/4 in NPT	1/2 in NPT
157-5556	Metered Dispensing Valve (English)	45 lpm (12 gpm)	10.5 MPa, 105 bar (1500 PSI)	-20° to 55°C (-4° to 130°F)	3/4 in NPT	1/2 in NPT

Dispensing Valve

Warranty: Manufacturer's (See The Graco Warranty)



- Great for applications where up to 45 lpm (12 gpm) is required
- Locking trigger allows hands-free dispensing
- Easy trigger pull for operator comfort
- Meets CSA and FM approvals

Part No.	Description	Maximum Recommended Flow Rate	Maximum Operating Pressure	Weight	Operating Temperature Range	Inlet	Outlet
157-5567	Dispensing Valve	45 lpm (12 gpm)	10.5 MPa, 105 bar (1500 PSI)	0.18 kg (0.4 lb)	-40° to 82°C (-40° to 180°F)	3/4 in NPT	1/2 in NPT

Meter Kit

Warranty: Manufacturer's (See The Graco Warranty)



- Fluid meter can be added to any individual tap by the installation of a meter kit
- Kit includes all necessary mounting hardware (mechanical meter)

Part Number	Description
4C-7330	Meter Kit

Filter Assembly

Warranty: Caterpillar® Six Months



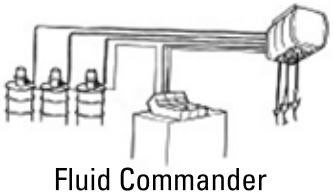
- Used to filter oil in hose reel, drop-lines applications for all oil viscosities
- 3/4 inch NPT female ports makes filter easy to install before a dispensing valve
- 10 micron element filters oils up to 15W40 while 25 micron element filters up to 60 weight oils
- Use 5K-0216 O-ring for filter housing seal replacement, if necessary
- Housing is made from aluminum
- Filter assembly is sold without filter element

Specifications

- Flow Rate: 114 lpm (30 gpm)
- Weight: 0.998 kg (2.2 lb)
- Working Pressure: 10,342 kPa (1,500 PSI)

Part Number	Description	Material	Length	Diameter	Weight	Collapse Pressure
294-2317	Filter Assembly	—	—	—	—	—
294-2320	Filter Element (10 micron)	Synthetic Z-glass filter media with zinc plated-cage and epoxy bedding	113.8 mm (4.48 in)	44.7 mm (1.76 in)	1 kg (2.20 lb)	1034 kPa (150 PSI)
294-3487	Filter Element (25 micron)	Synthetic Z-glass filter media with zinc plated-cage and epoxy bedding	113.8 mm (4.48 in)	44.7 mm (1.76 in)	1 kg (2.20 lb)	1034 kPa (150 PSI)

Inventory Control Systems



Fluid Commander

What it Does...

The Fluid Commander provides the key to making bulk dispensing of lubricants practical. From a centrally-mounted console, a manager can determine when and in what quantity lubricants are dispensed to a specific service location.

- Reduce Product Costs — By purchasing in bulk, product costs are reduced; Fluid Commander allows dispensing from a hose reel or oil bar only in the quantity authorized
- Prevent Theft — A key lock on the control prevents unauthorized dispensing of fluids, even after hours. Eliminates inventory shrinkage
- Eliminate Forgotten Charges — By controlling dispense from a central point, entering charges on a job ticket or fleet record no longer depends on the memory or record-keeping ability of the service technician
- Inventory Management — A digital display on each product module shows the total amount dispensed (allows usage totals to be recorded and bulk tanks to be refilled according to actual demands, eliminating an out-of-stock situation)
- Labor Savings — Dispensing lubricants from bulk eliminates the costly and labor-intensive use of individual cans and containers, allowing the service technician to be more productive

How it Works...

1. The service technician requests a desired quantity of product and gives his service bay number.
2. The manager then enters the type of product, the quantity, and the service location, and then activates a dispense button.
3. A ready light, located on the technician's hose reel or dispense bar, indicates when dispensing can begin.
4. As product is dispensed, the Fluid Commander keeps count of the amount dispensed and shuts off when the preset amount is reached. The system is then closed to further dispensing until again authorized.
   Contact the Dealer Service Tools Division for design of these systems.

Air-Operated Grease Pumps — Fire-Ball and President Pumps

Fire-Ball Pumps

- Heavy-duty quiet Fire-Ball pumps are the industry choice for manufacturing, process and maintenance applications
- The Fire-Ball 50:1 provides the power to supply several remote outlets in stationary installations, yet is economical enough for use with portable lubricators
- The 50:1 pump is available in 3 standard tube lengths to fit 15.8 kg (35 lb), 54.4 kg (120 lb) and 181.4 kg (400 lb) grease containers

President Pumps

- Heavy-duty, high-capacity President 50:1 pump is the top choice for in-plant, construction, mining and railroad maintenance facilities
- Available with tube lengths to fit 54.4 kg (120 lb) or 181.4 kg (400 lb) drums
- With a big 10.1 cm (4 1/4 in) air motor, the President pump can supply grease to many outlets for simultaneous use
- For use in supplying grease to heavy equipment in high volumes

	Fire-Ball 50:1	President 50:1
Flow capacity (grease at 8 lb/gal)		
Free flow	1.8 kg/min (4 lb/min)	5 kg/min (11 lb/min)
60 cycles/min	0.90 kg/min (2 lb/min)	1.8 kg/min (4 lb/min)
Maximum fluid pressure	550 bar (8100 PSI)	510 bar (7500 PSI)
Fluid inlet	Priming piston (slot)	3/8 in NPT(f)
Fluid outlet	1/4 in NPT(f)	3/8 in NPT(f)
Pump design	Priming piston (shovel)	Priming piston (shovel)
Air motor diameter	3 in (7.6 cm)	4 1/4 in (10.1 cm)
Air inlet	3/8 in NPT(f)	1/2 in NPT(f)
Maximum inbound air pressure	10.2 bar (150 PSI)	23.3 bar (180 PSI)
Service kit for pump lower	204-164	206-928
Service kit for air motor	206-728	207-385

Air-operated grease pumps available in the 76.2 mm (3 in) Fire-Ball and 108 mm (4 1/4 in) President, with a variety of tube lengths to fit any size container, from small pails to 181.4 kg (400 lb) drums to bulk tanks. Available as cover mounted, roll-around portable, or with elevators to facilitate drum changing.

⚠ WARNING

Very high pressure. Read instruction manual for safe use of grease pumps.

Drum-Length Pumps

Warranty: Manufacturer's (See The Graco Warranty)



Fire-Ball 50:1

- The pump of choice of most installations
- Free flow is approximately 3.8 lpm (1 gpm), and the pump will provide flow for up to 2 dispense valves, operated simultaneously, although the number of dispense drops is unlimited
- Does not include hoses or accessories

President 50:1 — High-Volume

- The pump of choice for applications where higher flow is necessary
- Free flow is approximately 5.3 lpm (1.4 gpm), and pump will provide flow for up to 4 dispense valves operated simultaneously, although the number of dispense drops is unlimited
- Does not include hoses or accessories

Part No.	Description	Weight	Maximum Air Inlet Pressure	Air Inlet	Fluid Outlet
Fire-Ball 50:1					
4C-7193	Drum-Length Pump, Fire-Ball 50:1	9.26 kg (20.41 lb)	180 PSI	3/8 in NPT(f)	1/4 in NPT(f)
4C-7194	Drum-Length Pump, Fire-Ball 50:1	8.48 kg (18.70 lb)	180 PSI	3/8 in NPT(f)	1/4 in NPT(f)
President 50:1 — High-Volume					
4C-7220	Drum-Length Pump, President 50:1	16.08 kg (35.45 lb)	180 PSI	1/2 in NPT(f)	3/8 in NPT(f)

Air Operated Portable Grease Dispensers

Warranty: Manufacturer's (See The Graco Warranty)



4C-7389 4C-7392 4C-7367

E-Line System

- Caster base of this system provides maximum portability; the pump and cover mount directly on a 54.4 kg (120 lb) product drum
- Exposed drum provides ready product identification
- Includes pump, cover, base, follower plate, holster, 1.8 m (6 ft) dispense kit, instruction form
- Dispenser does not include drum
- Use 4C-7046 3/8 inch Air Regulator as required (not included, sold separately)

System with Cart

- Same as 4C-7389 but has a 2-wheel cart
- Includes pump, cover, cart, follower plate, holster, dispense kit, instruction form
- Use 4C-7046 3/8 inch Air Regulator as required (not included, sold separately)

Pail Dispenser

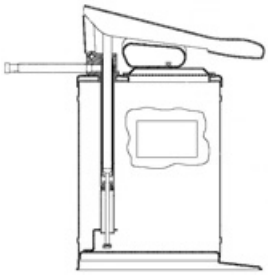
- Hand-portable assembly mounts directly on a 15.9 kg (35 lb) pail and is the best choice for maximum portability
- Includes pump, cover, follower plate, 1.8 m (6 ft) dispense kit, instruction form
- Use 4C-7046 3/8 inch Air Regulator as required (not included, sold separately)

Part Number	Description	Weight
	E-Line System	
4C-7389	Air Operated Portable Grease Dispenser, Fire-Ball 50:1	22.23 kg (49 lb)
	System with Cart	
4C-7392	Air Operated Portable Grease Dispenser, Fire-Ball 50:1	7.26 kg (16 lb)
	Pail Dispenser	
4C-7367	16 kg (35 lb) Pail Dispenser, Fire-Ball 50:1	12.66 kg (27.90 lb)

Volume Compressor

Model Usage: Small stored engines

Warranty: Caterpillar® Six Months



- 331-3626 Volume Compressor is used as a pre-lube pump to pump oil into engines being removed from storage.
- Connector is a 1/8" - 27 NPT Female
- Tool replaces the cancelled 1P-0540

Part Number	Description
331-3626	Volume Compressor

Hand-Operated Portable Grease Dispenser

Warranty: Manufacturer's (See The Graco Warranty)



- Delivers lubricants from 16 kg (35 lb) pail or portable bulk containers. They provide portability to the job site even when no source of power is available.
- This lever operated pump and cover mount directly on a 35 lb (5 gallon) pail
- The pump delivers 0.01 L (0.25 oz) of grease per stroke at pressures to 207 bar (3000 PSI)
- It includes a 1.5 m (5 ft) hose with coupler and 4C-7191 "Hot-Shot" Booster Gun
- The pump can service fittings directly or can be used with a booster gun for more portability and higher pressures

Part No.	Description	Detail	Weight
4C-7414	Pail Dispenser	Buckshot Luber with Booster Gun	5.99 kg (13.2 lb)

Cover-Mounted Grease Pumps, Fire-Ball 50:1

Warranty: Manufacturer's (See Graco Warranty)



181.4 kg (400 lb) System

- Pump, cover, hoses and hardware are ready for direct mounting on 181.4 kg (400 lb) open-head product drum
- Both systems consist of pump, cover, follower plate, 1.8 m (6 ft) hose and fitting kit, instruction kit
- 4C-7391 — use 4C-7046 3/8 inch Air Regulator as required (sold separately)
- 4C-7405 — Use 4C-7033 1/2 inch Air Regulator as required (sold separately)

54.4 kg (120 lb) System

- Pump, cover, hoses and hardware are ready for direct mounting on 181.4 kg (120 lb) open-head product drum
- Includes pump, cover, follower plate, 1.8 m (6 ft) hose and fitting kit, instruction kit
- Use 4C-7046 3/8 inch Air Regulator as required (sold separately)

Part Number	Weight
4C-7391	20.80 kg (45.85 lb)
4C-7405	23.36 kg (51.50 lb)
4C-7390	14.06 kg (31.00 lb)

Follower Plates

Warranty: Manufacturer's (See The Graco Warranty)

4C-7344



- Follower plates ride on the surface of the grease in a drum to reduce aeration and channeling
- The plates have a center rubber grommet to seal around the pump tube and a formed cone to allow the pump to fully empty the drum without uncovering the pump inlet slots

Part Number	Description	Drum Size	Fits Pumps
4C-7198	Follower Plates	181.4 kg (400 lb)	Fire-Ball 50:1 and 15:1
4C-7218	Follower Plates	181.4 kg (400 lb)	President 50:1
4C-7344	Follower Plates [a]	31.7/54.4 kg (70/120 lb)	Fire-Ball 50:1 and 15:1
4C-7343	Follower Plates [a]	16 kg (35 lb)	Fire-Ball 50:1 and 15:1

a. Has flexible lip for use with tapered drums/pails.

Dispense Hose

Warranty: Manufacturer's (See The Graco Warranty)

Dispense Kit for Fire-Ball 50:1

- For use with portable 50:1 Fire powered lubricators
- Use 4C-7046 3/8 inch Air Regulator, as required (not included, sold separately)

72" Hose and Fitting Kit for President 50:1

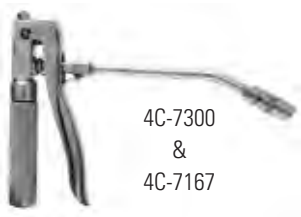
- For use with stationary drum mounted President 50:1 pumps
- Use 4C-7046 3/8 inch Air Regulator, as required (not included, sold separately)

Part Number	Description	Size
Dispense Kit for Fire-Ball 50:1 Consist (307-878 Instruction Form included)		
4C-7300	Grease Dispense Valve	—
4C-7253	Coupling	1/4 in NPT(f)
4C-7159	Fitting	3/8 in (m)
72 inch Hose and Fitting Kit for President 50:1 Consist (307-880 Instruction Form included)		
4C-7221	Hose 180	1/2 x 72 in
4C-7101	Union	1/2 in
4C-7102	Union	3/8 in

Grease Dispense Valves and Accessories

Warranty: Manufacturer's (See Graco Warranty)

A full selection of lubrication accessories to complete a lubrication system includes nozzles, meters, dispense valves, hydraulic couplers, and similar accessories to make all lubrication work easier and faster.



4C-7300
&
4C-7167

- High-pressure grease valve with knurled grip handle for operator comfort
- 545 bar (8,000 PSI) working pressure
- Includes 4C-7167 Nozzle
- Order 4C-7169 Swivel separately

Part Number	Description
4C-7300	Grease Dispense Valve
4C-7167	Nozzle

4C-7171



- Boosts pressure of incoming grease to 1,260 bar (18,000 PSI)
- For use with any high-pressure lubricator or a booster/dispense valve with hose reels
- Has molded rubber grip handle
- Not for use with flexible hose nozzle
- Order 4C-7170 Hose Swivel separately
- Includes 4C-7167 Nozzle

Part Number	Description	Inlet and Outlet	Maximum Inlet Pressure
4C-7171	Power-Shot Booster Gun	1/8 in NPT(f)	560 bar (8,000 PSI)

4C-7174



- 1/2 inch NPT(f) ported valve for drop-line isolation
- Needle valve construction rated for 345 bar (5,000 PSI)

Part Number	Description
4C-7174	Grease Dispense Line Shut-Off Valve



4C-7191

- For portable operation without continuous connection to grease supply
- Has 0.12 L (4 oz) self-contained grease reservoir in handle capable of servicing up to 100 fittings before recharge
- Has grease fitting for recharge from manually- or air-powered luber
- Single-hand operation squeeze handle develops up to 700 bar (10,000 PSI)
- Includes standard taper nose hydraulic coupler

Part Number	Description
4C-7191	Hot-Shot Booster Gun

4C-7169
&
4C-7170



- Three way Z-type hose swivel
- For use with 4C-7300 Valve
- High pressure ball bearing pivots 360° — prevents hose tangling and allows free movement of grease valves

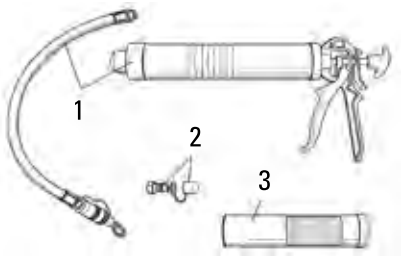
Part Number	Description	Size
4C-7169	NPT Coupling	1/4 inch NPT(m) x 1/4 inch NPT(f)
4C-7170	Swivel	1/8 inch NPT(m) x 1/4 inch NPT(f)
	Used With	
4C-7300	Grease Dispense Valve	—

Grease Dispensing Hand-Pump

Essential Tool

Model Usage: Articulated Trucks and Wheel Loaders with autolube system

Warranty: Manufacturer's



- Used for quick filling of Groeneveld Autolube systems on Cat® machines
- Used with 5P-0960 Grease Cartridge; sold separately
- Includes one 317-6530 Male Quick Connect Coupler which replaces standard filling coupling on machine
- Additional 317-6530 Male Quick Connect Couplers can be purchased so hand-pump can be used on multiple machines
- Used when air-powered greasing system is not available
- Pumps grease at a much higher rate than conventional hand-operated grease pumps
- Refilling an empty reservoir will require nine 5P-0960 Grease Cartridges

Reference

- RENR6739; Service Manual; 725, 730, 730 Ejector, 735, 740 and 740 Ejector Articulated Trucks Automatic Lubrication System

Item	Part No.	Description	Detail
1	317-6529	Grease Gun (Auto lube)	—
2	317-6530	Coupler — Grease (Auto lube) (One included in kit. Order additional adapters for multiple machines)	—
3	5P-0960	Grease — A3M (order seperately)	397g (14 oz)

Hand Held Adhesive Applicator, Bell Inlet Static Mixer

Model Usage: Asphalt Pavers & Screeds

Warranty: Manufacturer's



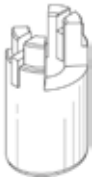
- Hand held applicator and mixer are used in REHS1612-02, "Installation Procedure for the Bushings on the Height Adjusters and the Extenders"

Part Number	Description
450-1081	Hand Held 2-Part Manual Applicator, 1-1 or 2-1
450-1082	Disposable Mixer with Bell Inlet, (3/8 inch x 24)

Spanner Wrench Assembly

Model Usage: Various Cat® Machines

Warranty: Caterpillar® Six Months



- Allows easy access to remove and install 106-8186 Ecology Drain Valve to replace 077-3241 O-ring Seal
- Used with 1/2 inch square drive wrench

Part Number	Description
290-5686	Spanner Wrench Assembly

Lock-On Grease Coupler

Model Usage: All Models

Warranty: Manufacturer's



- This tool replaces 482-7548.
- Fits any standard grease gun
- Does not leak
- Easy to connect and disconnect
- Up to 10,000 psi
- Built-in relief valve allows easy disconnect of zerk in high pressure applications.
- When a pressure lock situation is created during greasing, the valve expells grease, lowering the pressure, and allows the gun to be safely removed from a grease zerk, without damage to the zerk.
- Improves efficiency during greasing and reduces grease zerk breakage

Part No.	Description	Diameter	Weight
514-3534	Lock-On Grease Coupler	25 x 60 mm (0.984 x 2.362 in)	0.113 kg (0.249 lb)

Grease Nozzles

Warranty: Manufacturer's (See The Graco Warranty)



4C-7167

- Provided as standard with most grease dispense valves
- Has 1/8 inch NPT(m)
- 15.24 cm (6 in) extension tube to reach out-of-the-way fittings and taper nose coupler

Part Number	Description
4C-7167	Standard Grease Nozzle



4C-7197
&
4C-7212

- Nozzles have straight 1/8 inch NPT(m), 17.78 cm (7 in) or 35.56 cm (14 in) extension tubes and taper nose coupler
- Coupler has 360° swivel adapter for maximum adaptability

Part Number	Description	Size
4C-7197	Swivel Grease Nozzle	17.78 cm (7 in)
4C-7212	Swivel Grease Nozzle	35.56 cm (14 in)



4C-7201
&
4C-7185

- 30.48 cm (12 in) flex hose provides ability to reach difficult-to-reach fittings
- Nozzles include taper nose coupler
- 4C-7201 has 1/8 inch NPT(m) inlet
- 4C-7185 includes lock sleeve connector for quick connection to any grease nozzle having taper nose coupler
- Warning: Potential injection hazard. Not for use above 345 bar (5000 PSI)

Part Number	Description
4C-7201	Hose Nozzle
4C-7185	Hose Nozzle with Lock Sleeve Connector



4C-7065

- 76.2 cm (30 in) flex hose having 1/8 inch NPT(m) both ends
- Use as alternate for rigid nozzle
- Use with taper nose coupler
- Warning: Potential injection hazard. Not for use above 345 bar (5000 PSI)

Part Number	Description	Size
4C-7065	Hose Nozzle (Less Coupler)	76.2 cm (30 in)

Air-Operated Diaphragm Pumps

Warranty: Manufacturer's (See The Graco Warranty)



4C-7342



4C-8971

- With acetal plastic construction, Buna-N seals, and stainless steel trim, this 1:1 diaphragm pump is ideally suited for handling antifreeze and water or windshield wash solvent and water
- It can also be used for short distance transfer of light oils such as ATF and 10 wt. motor oil
- Permits 4C-7342 pump to be wall mounted using 1.82 m (6 ft) suction tube with a stainless steel filter

Part No.	Description	Detail	Size
4C-7342	Air-Operated Diaphragm Pump	1:1 Husky	62 lpm (16 gpm)
Accessories			
4C-8971	Suction Hose	with Filter	1.82 m (6 ft), 12.7 mm (1/2 in)

Hydraulic Couplers

Warranty: Manufacturer's (See The Graco Warranty)

- Gives fast, positive seal on buttonhead fittings
- Choice of two sizes for standard or giant buttonhead fittings

Part Number	Description	Inlet
4C-7162	Standard Buttonhead Hydraulic Coupler	1/8 in NPT(f)
4C-7163	Giant Buttonhead Hydraulic Coupler	1/8 in NPT(f)

Grease Coupler (Lock-On)

Model Usage: All

Warranty: Manufacturer's



- Fits any standard grease gun
- Does not leak
- Easy to connect and disconnect
- Up to 10,000 psi

Specifications

- Dimensions: 20 x 40 mm (0.78 x 1.77 in)
- Weight: 0.05 kg (0.11 lb)

Part No.	Description
482-7548	Grease Coupler (Lock-On)

Diaphragm Pump, 1:1 Husky — 114 lpm (30 gpm)



- Cast aluminum construction and Buna-N seals for use in high volume transfer of light oils and service fluids such as ATF, 10 wt. motor oil, antifreeze or windshield wash solvent
- Can also be used in oil evacuation systems
- CE, UL Compliant
- 369-7513 Diaphragm Repair Kit available
- 369-8144 Air Valve Repair Kit available

Part No.	Description	Maximum Free Flow Delivery	Max. Free Flow Air Consumption	Air Pressure Operating Range	Max.Suction Lift Wet	Max.Suction Lift Dry	Air Inlet Size	Fluid Inlet Size	Fluid Outlet
369-7510	Husky Diaphragm Pump	114 lpm (30 gpm)	67 scfm	1.4 — 7.0 bar (20-100 PSI)	7.62 m (25 ft)	4.87 m (16 ft)	1/2 in NPT (f)	1 in NPT (f)	1 in NPT (f)

Diaphragm Pump, 1:1 Husky — 55 lpm (145 gpm)



- Cast aluminum construction and Buna-N diaphragm seals for use in high volume lubricant fluid transfer

Specifications

- Gallons/cycle: 3.02 L (0.8 gal)
- Fluid inlet size: 2 in NPT(f)
- Fluid outlet size: 2 in NPT(f)
- Air pressure operating range: .7 – 8.4 bar (10 – 120 PSI)
- Maximum fluid pressure: 8.4 bar (120 PSI)
- Maximum fluid temperature: 100°C (212°F)
- Maximum pumpable solid size: 6.35 mm (1/4 in)
- Maximum recommended viscosity: 20,000 cps
- Maximum suction lift wet: 6.096 m (20 ft)
- Maximum suction lift dry: 4.572 m (15 ft)
- Air inlet size: 3/4 in NPT(f)
- Maximum decibel level: 90 dBA
- Mounting hole layout: 26.41 x 33.78 cm (10.4 x 13.3 in)

Part No.	Description	Maximum Free Flow Delivery	Weight	Size (H x W x D)
4C-6786	Pump (complete)	55 lpm (145 gpm)	Aluminum 33 kg (72.7 lb)	55.88 x 45.72 x 35.56 cm (22 x 18 x 14 in)

Drum-Mounted, Portable Fluid Evacuation System

Warranty: Manufacturer's (See The Graco Warranty)



- Nothing is faster than the evacuation system for routine used fluid disposal — hydraulic oil, motor oil, cutting oils, and coolants
- Drum-mounted, portable fluid evacuation system utilizing UL approved, air-powered double diaphragm pump
- Designed to empty used fluids from hard-to-reach reservoirs on many types of machinery and equipment
- Portable so you can move it wherever on the plant floor is convenient for you and your operation
- No installation required; just connect the air supply
- Use 4C-8854 Filter-Regulator-Lubricator and 9U-6038 Mounting Bracket (not included, sold separately)
- Mounts on a user-supplied 205 L (55 gal) closed head drum
- System includes a pump, hoses, dolly with casters and handle, and a 12.7 x 812.8 mm (1/2 x 32 in) OD nylon wand

Part No.	Description
9U-6037	Drum-Mounted, Portable Fluid Evacuation System

Suction Wand Kits for Fas-Vac

Warranty: Manufacturer's (See The Graco Warranty)



- All tubes are nylon unless otherwise specified
- 4-wand kit with 121.92 cm (48 in) tubes — OD 4.76 mm (3/16 in), 6.35 mm (1/4 in), 9.525 mm (3/8 in), 12.7 mm (1/2 in)

Part No.	Description
9U-6042	Suction Wand Kits for Fas-Vac

QuickEvac Service Kit

Essential Tool

Model Usage: Most Cat® Off-Highway Trucks

Warranty: Manufacturer's (See RPM Industries Warranty)

- Saves time on engine oil changes (removes and fills engines with oil)
- Evacuates most engine oil sumps in less than one minute
- Provides environmentally safe oil changes (minimizes oil spillage by pumping oil directly to PM truck or waste container)
- Contributes to increased profit margins
- Quick and easy connections (Flush Faced Quick Disconnects) to machine and/or containers
- Purging tool virtually eliminates oil spillage by removing trapped oil from filter elements and/or oil coolers
- Can be retrofitted to most machines
- Equipped with Deutsch electrical connectors
- Used on machines that have QuickEvac installed on machine

Part No.	Description
187-1458	QuickEvac Service Kit

Oil Drain Cart

Warranty: Caterpillar® Six Months



- Low profile and caster mounting
- Can be conveniently positioned under any machine
- Easily transports waste oil from machine to receptacle
- 45 gallon capacity; provided with baffles to prevent sloshing

Item	Part Number	Description
—	1P-2850	Oil Drain Cart
Parts for Oil Drain Cart		
1	8S-9574	Caster
2	5B-7666	Street Elbow 90°
3	8S-9573	Caster (2)

Oil Receiver

Warranty: Manufacturer's 1 year



- 25 gallon polyethylene tank
- Includes used filter tray, tool holder, and sight gauge
- Provides oversized rear wheels for easy portability
- Front wheels provide swivel casters for mobility
- Color: Black

Part No.	Description
148-6740	Oil Receiver

Lubrication Hose

Warranty: Manufacturer's (See The Graco Warranty)

- Wire reinforced hose
- Use with oils, greases, and undercoating material
- Color: black

Part Number	Length	Fittings
6.35 mm (1/4 in) ID — 345 bar (5000 PSI)		
4C-7062	0.48 cm (12 in)	3.175 mm (1/8 in) M x 3.175 mm (1/8 in) M (with Bend Restrictor)
4C-7065	76.2 cm (30 in)	3.175 mm (1/8 in) M x 3.175 mm (1/8 in) M (with Bend Restrictor)
9.525 mm (3/8 in) ID — 276 bar (4000 PSI)		
4C-7074	30.48 cm (12 in)	6.35 mm (1/4 in) F x 12.7 mm (1/2 in) M
4C-7075	60.96 cm (24 in)	9.525 mm (3/8 in) M x 9.525 mm (3/8 in) M
12.7 mm (1/2 in) ID — 207 bar (3000 PSI)		
4C-7354	15.24 m (50 ft)	1/2 in M x 1/2 in M
4C-7334	1.83 m (72 in)	1/2 in M x 1/2 in M
Suction Hose		
4C-9019	304.8 cm (12 in)	3/4 in M x 3/4 in M

Hydraulic Cylinder Repair Stands — 40.8 and 54.4 kN·m (30,000 and 40,000 ft-lb) Torque

Model Usage: Cat® Hydraulic Cylinders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- All machines require 3-phase power supply; customer must specify 50 Hz or 60 Hz and required voltage when ordering.
- Used to remove and install threaded barrel caps and piston retaining nuts of hydraulic cylinders being overhauled
- Repair stand is operated from 1 side (saves valuable floor space by installing unit next to wall)
- Hydraulic nut runner, conical mounting bushings (small and medium included), double acting torque head, indexing cylinder
- Adjustable tailstock for various cylinder lengths
- Fast and powerful rod extension and retraction
- Conical rod eye adapters make cylinder installation, with various rod eye diameters, much faster and easier (no need to search for just the right size adapter)
- Heavy-duty pendant control provides on/off, torque/detorque, screw/unscrew, and extend/retract functions at operators finger tips (pendant uses a 8 m [25 ft] cable for operator convenience and safety)
- Designed to use a waste barrel to capture hydraulic fluid during overhaul procedures
- Adjustable support stand provides vertical, horizontal, and diagonal adjustment to prevent seal damage during assembly due to misalignment
- Eye-level torque gauge gives operator applied torque and break-away torque readings (assures factory torque specifications are met during assembly)
- Unit is completely wired and ready for installation (comes complete with mounting hardware and installation instructions)
- Hydraulic power supply and hoses
- Handheld, pendant-mounted controls
- Headstock chuck wing, which supports the cylinder eye, and the tailstock chuck wing, which supports the rod eye, are standard size
- Small and medium sets of conical bushings
- Universal high torque wrench handles piston nuts from 50.8 to 127 mm (2 to 5 in)
- Universal spanner wrench loosens the threaded glands or crown heads
- Rod support uses a wooden cradle to protect the chromium-plated rod and includes horizontal and vertical adjustments
- Cylinder barrel support includes both horizontal and vertical adjustments
- Portable oil basin and dolly collects oil from the cylinder during the honing process
- Mounting hardware
- Manual valve package switches between the torque cylinder and the nut runner without disconnecting and reconnecting the hydraulic hoses
- Low torque monitor displays the break away and the applied torque below 415 kg m (3000 lb ft) while the high torque monitor displays the applied torque above 415 kg m (3000 lb ft)

Reference

- PEHJ0135

Specifications

- Cylinder extension: 244 cm (8.0 ft) in less than 1 minute
- Head nut runner capacity: 5440 N·m (4000 ft-lb)
- Head nut runner speed: 6 RPM
- Indexing cylinder travel: 122 cm (4.0 ft)
- Small and medium size conical adapters: 25 mm (1.0 in) – 146 mm (5.75 in) diameters
- Large size conical adapter (optional): 152 mm (6.0 in) – 203 mm (8.0 in) diameters
- Electric motor: 5 HP
- Hydraulic tank capacity: 38 L (10 gal)

Part No.	Description	Torque Capacity	Extended Cylinder Length Capacity	Cylinder Diameter Capacity
152-4249	HCS-30 CE	30,000 ft-lb (40.7 kN·m)	30 cm (1.0 ft) – 5.9 m (19.4 ft)	300 mm (15 in)
152-4251	HCS-40 CE	40,000 ft-lb (54.2 kN·m)	30 cm (1.0 ft) – 7.9 m (26.0 ft)	560.0 mm (22 in)
263-9036	Adapter, Spline 30 and 40	—	—	—
263-9037	Pan Kit, Telescopic Drip	(Made for the 30, but will work on the 40 with a 3 foot gap at the end)		
263-9038	Crown Wrench Group	—	—	—
263-9039	Wing Group, Offset Chuck	—	—	—
263-9040	Wing Group — D11 Chuck	—	—	—
263-9041	Adapter — D11	—	—	—
263-9042	Bushing Kit, Larger Conical	—	—	—
4C-4296	Ball Joint Chuck Adapter	—	—	—
4C-4299	Blank Chuck Adapter	—	—	—
4C-4301	V Block Chuck Wings	—	—	—
4C-4305	Square Drive Adapter	—	—	—
4C-4306	Square Drive Adapter	—	—	—
4C-4307	Square Drive Adapter	—	—	—
4C-4308	Square Drive Adapter	—	—	—
4C-8092	Extra Large Adjustable Torque Wrench	—	—	—
4C-9309	Spanner Pin Group	—	—	—

HYDRAULIC CYLINDER SERVICE

Hydraulic Cylinder Repair Stands — 60,000 ft-lb (81.6 kN·m) Torque

Model Usage: Cat® Hydraulic Cylinders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (152-4252)

- Small, medium, large conical bushing set
- Hydraulic power supply and hoses
- Handheld, pendant-mounted contols
- Headstock chuck wing, which supports the cylinder eye, and the tailstock chuck wing, which supports the rod eye, are standard size
- Universal high torque wrench handles piston nuts from 50.8 to 127 mm (2 to 5 in)
- Universal spanner wrench loosens the threaded glands or crown heads
- Rod support uses a wooden cradle to protect the chromium-plated rod and includes horizontal and vertical adjustments
- Cylinder barrel support includes both horizontal and vertical adjustments
- Portable oil basin and dolly collects oil from the cylinder during the honing process
- Mounting hardware
- Manual valve package switches between the torque cylinder and the nut runner without disconnecting and reconnecting the hydraulic hoses
- Low torque monitor displays the break away and the applied torque below 415 kg m (3000 lb ft) while the high torque monitor displays the applied torque above 415 kg m (3000 lb ft)
- All machines require 3-phase power supply; customer must specify 50 Hz or 60 Hz and required voltage when ordering.
- Used to remove and install threaded or bolt-on barrel caps and piston retaining nuts of hydraulic cylinders being overhauled
- Unit includes universal spanner and high-torque wrench (eliminates buying expensive conventional sockets)
- Repair stand is operated from one side (saves valuable floor space by installing unit next to wall)
- Hydraulic workstation moves automatically between work position and park position (also has gauge that reads and records applied torque)
- Conical mounting bushings, double acting torque head, indexing cylinder
- Adjustable tailstock for various cylinder lengths
- Fast and powerful rod extension and retraction
- Conical rod eye adapters make cylinder installation, with various rod eye diameters, much faster and easier (no need to search for just the right size adapter)
- Heavy-duty pendant control provides on/off, torque/detorque, screw/unscrew, and extend/retract functions at operators finger tips (pendant uses a 8 m (25 ft) cable for operator convenience and safety)
- Eye-level torque gauge gives operator applied torque and break-away torque readings (assures that factory torque specifications are met during assembly)
- Unit is completely wired and ready for installation (comes complete with mounting hardware and installation instructions)

Reference

- NEDG6005

Specifications

- Head nut runner capacity: 5440 N·m (4000 ft-lb)
- Head nut runner speed: 6 RPM
- Indexing cylinder travel: 122 cm (4.0 ft)
- Conical adapters: 38 mm (1.5 in) to 203 mm (8.0 in) diameters
- Electric motor: 7.5 HP
- Hydraulic tank capacity: 19 L (5 gal)

HYDRAULIC CYLINDER SERVICE

Part No.	Description	Torque Capacity	Extended Cylinder Length Capacity	Cylinder Diameter Capacity
152-4252	HCS-60 CE	60,000 ft-lb (81.6 kN·m)	7.3 m (24 ft)	508 mm / 762 mm (20.0 in / 30.0 in)
152-4255	HCS-60-L CE	60,000 ft-lb (81.6 kN·m)	10.4 m (34 ft)	508 mm / 762 mm (20.0 in / 30.0 in)
263-9038	Crown Wrench Group	—	—	—
263-9039	Wing Group, Offset Chuck	—	—	—
263-9040	Wing Group — D11 Chuck	—	—	—
263-9041	Adapter — D11	—	—	—
263-9043	Adapter, Deep Socket	—	—	—
263-9044	Insert, 5 in hex	—	—	—
263-9045	Insert, 5.5 in hex	—	—	—
263-9046	Insert, 6 in hex	—	—	—
263-9047	Insert, 6.5 in hex	—	—	—
263-9048	Insert, 7 in hex	—	—	—
263-9049	Insert, 7.5 in hex	—	—	—
263-9050	Insert, 8 in hex	—	—	—
263-9051	Insert, 8.6 in hex	—	—	—
263-9052	Insert, 130 mm square	—	—	—
263-9053	Insert, 130 mm hex	—	—	—
263-9054	Insert, 135 mm hex	—	—	—
263-9055	Insert, 145 mm hex	—	—	—
263-9056	Insert, 145 mm square	—	—	—
263-9057	Insert, 155 mm square	—	—	—
263-9058	Insert, 170 mm hex	—	—	—
263-9059	Adapter, Spline 60	—	—	—
4C-4297	Ball Joint Chuck Adapter	—	—	—
4C-4300	Blank Chuck Adapter	—	—	—
4C-4301	V Block Chuck Wings	—	—	—
4C-4305	Square Drive Adapter	—	—	—
4C-4306	Square Drive Adapter	—	—	—
4C-4307	Square Drive Adapter	—	—	—
4C-4308	Square Drive Adapter	—	—	—
4C-4309	Spanner Pin Group	—	—	—
4C-8092	Extra Large Adjustable Torque Wrench	—	—	—

HYDRAULIC CYLINDER SERVICE

Manual Hone Components

Model Usage: Hydraulic Cylinders

Warranty: Caterpillar® Six Months



- Manual hone components need to be ordered separately.

Manual Hone

- Less expensive alternative when reconditioning cylinders (no longer necessary to send cylinders to outside suppliers)
- Unit works best in low production shops
- Honing ensures a quality, long-lasting repair by renewing the bore surface and removing irregularities or other cylinder damage
- Power for hone is supplied by a 4-speed electric drill
- Capable of honing 3.6 m (12 ft) long cylinders with diameters ranging from 63.5 to 406 mm (2.50 to 16 in)
- A drill coupler absorbs forward and reverse thrust, removing direct force from drill gears and making drills last longer by reducing wear
- Used with a specially formulated honing oil
- Can be upgraded to an automatic hone as production demands increase

Reference

- SEHS9538, Tool Operating Manual

Part No.	Description	Electrical Requirements	Size
Manual Hone (order for a complete unit)			
1U-9031	Drain Tank and Pump	220 V, 50/60 Hz, single-phase	—
245-4787	Thrust Coupler	—	—
9U-6463	Hone Group	—	—
9U-6476	Drill Support Stand Group	—	—
9U-6477	Barrel Cradle Stand Group	—	—
9U-6759	Drain Tank and Pump [b]	110 V, 60 Hz, single-phase	—
Service/Repair Parts for Manual or Semi-Automatic Hone			
6V-7865	Finish Stone Set	—	68 – 104 mm (2.7 – 4.1 in)
6V-7866	Finish Stone Set	—	63 – 68 mm (2.5 – 2.7 in)
9U-6478	Finish Stone Set	—	119 – 381 mm (4.7 – 15.0 in)
9U-6479	Rough Stone Set	—	119 – 381 mm (4.7 – 15.0 in)
9U-6480	Rough Stone Set	—	89 – 140 mm (3.5 – 5.5 in)
9U-6481	Finish Stone Set	—	89 – 140 mm (3.5 – 5.5 in)
9U-6483	Rough Stone Set	—	68 – 104 mm (2.7 – 4.1 in)
9U-6484	Honing Oil	—	—
9U-6746	Rough Stone Set	—	63 – 68 mm (2.5 – 2.7 in)
9U-6748	Dressing Stick	—	—
9U-6749	Master Holder Set	—	203 – 304 mm (8.0 – 12.0 in)

b. Can use Drain Tank and Pump part number 9U-6759 or 1U-9031.

HTA4100 Sunnen Hone

Model Usage: Hydraulic Cylinders

Warranty: Caterpillar® Six Months



REPAIR INFORMATION

Sunnen Products Company
World Headquarters
St Louis, MO — USA
Phone: (314) 781-2100
Fax: (314) 781-2268
Email: sunnen@sunnen.com
Web site: www.sunnen.com

For additional information, please contact your Dealer Service Tools Representative or visit the Key Supplier Relationship section on the Dealer Service Tools website.

- Used to recondition hydraulic cylinders, ideal for resurfacing and repair work where light-duty stock removal up to 0.76 mm (.030 in) is needed to oversize deeply scored actuator bores
- Equipped with electromechanical stroker and a powerful 2.24 kW (3 HP spindle unit)
- An all-electric machine with no hydraulics means less noise, no leaks, better control, and more accuracy during bore reversals
- Quiet and precise operation is achieved using a servo motor with belt drive
- An auto tensioning system has a programmable tool feed or manual feed is available when needed
- A separate coolant filtration unit (coolant cart) is mounted on casters for mobility and neatly stores under the main frame
- Modular workpiece support allows cylinders weighing up to 3630 kg (8000 lb) to be reconditioned
- A flexible, modular work-holding system allows rapid setups of a wide variety of workpieces, 2 fixtures standard
- All machine features are controlled through a touchscreen PLC controlled operator station, meaning no hydraulic valves to adjust or limit switches to move
- Operator station swivels for ease of setup and operation
- A joystick control enables operator to easily move honing tool over entire stroke length to set ends of stroke
- Load meter indicates location of tight spots within cylinder bore
- Stroke control override allows short stroking in any part of bore to clean up tight spots
- Easy-to-remove standard guards (not CE compliant) — guards cover each end of cylinder to control coolant splash
- Optional work holding configurations, CE guarding, and transformer configurations to accommodate voltage/frequency combinations beyond 400 VAC 50 Hz / 460 VAC 60 Hz
- Longer machines available in 6/8/10 meter stroke lengths

HTA4100 Specifications

- Spindle speed: 20 – 300 RPM
- Spindle power: 2.24 kW (3 HP)
- Stroke power: 1.12 kW (1.5 HP)
- Stroke range: Up to 4 m (13.12 ft)
- Stroke speed range: 1.52 to 2.74 m/minute (5 to 90 ft/minute)
- Bore diameter range [a]: 64 to 533 mm (2.5 to 21 inches)
- Stock removal rate (approximate) [b]: 131 cubic cm/hr (8 cubic in/hour)
- Electrical power supply [c]: 400/460 Volt, 50/60 Hz, 3 phase, 15 amp
- Weight (including coolant cart): 1815 kg (4000 lb)

HTA4100 Coolant Cart Specifications

- Coolant capacity: 208 L (55 gal)
- Filtration: Paper bed filter media
- Hose connections: Quick disconnect
- Mobility: Four heavy-duty casters
- Coolant level: Sight glass
- Power: Centrifugal pump
- Flow: 55 Lpm (15 gpm)

a. For diameter sizes below 64 mm (2.5 in) contact the Sunnen representative.
b. Actual stock removal rates will vary, depending on application.
c. Optional transformer configurations also available.

HYDRAULIC CYLINDER SERVICE

Cylinder Washer Tank Group

Model Usage: Hydraulic Cylinders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Replaces canceled 120-9143 and 232-4686 Cylinder Washer Tank Groups
- Meets criteria for cleaning 6015-6040 Hydraulic Mining Shovel Cylinders
- Used to clean honing oil and metal particles from inside of reconditioned cylinders (provides quick and efficient cleaning method)
- Operates completely by air pressure (no electricity)
- Cleans cylinders ranging from 101 to 343 mm (4.0 to 13.5 in) diameter and 1.8 to 3.6 m (5.9 to 11.8 ft) in length (attachment sold separately)
- Unit can be positioned at end of manual or automatic hone group (allows cylinders to remain clamped in hone group during cleaning procedure)
- Washer uses an air powered drill (sold separately) to rotate cleaning brushes (sold separately) while a pump supplies cleaning solvent to brush head
- Uses disposable filter bags to capture contaminants (keeps fluid clean and makes cleanup and disposal easier)
- 3-step process to filter cleaning solution
  1. 2 magnet assemblies catch large ferrous materials
  2. Dual filter bags capture particles 25 microns and larger
  3. Final synthetic, spin on filter cleans fluid before it is pumped to cleaning brush assembly

Cylinder Cleaning and Storage

When cleaning a hydraulic cylinder — especially important after honing — the primary objective is to remove harmful contaminants. Testing has shown that this is best accomplished by the scrubbing action of rotating brushes, used with a cleaning solution that flushes the contamination out of the cylinder. Caterpillar® offers a cylinder washer, tooling, and an effective water-based cleaning chemical for cleaning honed cylinders.

After the cylinder is clean, it is important to keep rust from forming on the bare metal surface of the bore. The recommended Cat® cleaning chemical provides mild rust protection. However, if the cylinder will not be assembled into a group for an extended period of time, depending on the environment, oxidation of the smooth surface can be a problem.

Options to deal with this include arranging the process so that cylinders are assembled within a few days of being washed, or taking additional storage precautions with additional rust inhibitors that can provide longer term protection. Spraying the bore with a light, clean oil may be sufficient to extend the rust protection. Other stronger products could also be used. The amount of protection required depends on several factors such as storage time, ambient conditions, other packaging, etc. If a cylinder is to be sealed on the ends, it must be completely dry and in a dry environment.

Reference

- NEHS0927-02, Tool Operating Manual, Procedures for Using the 250-6597 Cylinder Washer Tank Group

Part Number	Description	Detail	Quantity
250-6597	Cylinder Washer Tank Group	—	—
Additional Tooling (Sold Separately) for Complete Cylinder Tube Cleaning System			
120-9144	Rotating Valve Group	—	1
120-9146	Brush Assembly	Including Spray Nozzle	1
120-9147	Brush	152 mm (6.0 in), used for 190 – 343 mm (7.5 – 13.5 in) diameter cylinder bores	6
120-9148	Brush	76 mm (3.0 in), used for 100 – 190 mm (4.0 – 7.5 in) diameter cylinder bores	6
120-9152	Arbor Tube	3.6 m (12.0 ft)	1
120-9153	Arbor Tube	3 m (10.0 ft)	1
120-9154	Arbor Tube	1.8 m (6.0 ft)	1
135-7643	Nozzle Adapter	Optional	1
Service/Repair Parts			
184-2319	Filter Bag	25 micron	1
198-3188	Element, 2-micron	2 micron	1
9U-5870	Element — Filter, 10-Micron	10 micron	1
9U-6983	Filter Element, 5-Micron	5 micron	1

Cylinder Washer Head Adapter

Model Usage: Expanded Mining Product HMS

Warranty: Caterpillar® Six Months



- Used as an extension on the 120-9146 Brush Holder Assembly and attaches in brush grooves with set screws
- For use with cylinders greater than 345 mm (13.5 in) up to 482 mm (19 in) bore diameter
- Accepts standard 120-9147 and 120-9148 brushes
- Two are required

Reference

- NEHS0927-02, Tool Operating Manual, Procedures for Using the 250-6597 Cylinder Washer Tank Group

Specifications

Dimensions: 203 mm (8 in) Dia X 38 mm (1.5 in)

Weight: 0.46 kg (1 lb)

Part Number	Description
463-6240	Cylinder Washer Head Adapter

Cylinder Testers

Model Usage: Hydraulic Cylinders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (188-3926)

- Used to test hydraulic cylinders after reconditioning or repair (ensures that cylinders perform to correct specifications)
- Provides an efficient and simple method of testing cylinders
- Pressures can be regulated between 2,067 and 20,670 kPa (300 and 3,000 PSI)
- Remote controlled, pressure-compensated pump provides fast cycling of cylinders
- Large hydraulic reservoir allows unit to test Cat® cylinders including 6015-6030 Hydraulic Mining Shovel and most other double-acting cylinders
- Control panel simplifies testing and gauges are large and easy to read
- After cylinder has been tested, oil is removed by using shop air pressure
- Unit is equipped with low-friction caster wheels
- Part number 9U-6803 operates on 440 volt, 3-phase power (can be customer-adapted to 220 volt, 3-phase)
- Part number 188-3926 is CE marked European Union compliant and operates on 380 volt, 50 Hz, 3-phase

Reference

- NEHS0595, Tool Operating Manual, Cylinder Tester

Part Number	Description	Pump Capacity	Reservoir
188-3926 (CE)	Cylinder Tester	80 lpm (21 gpm)	227 L (60 gal)
9U-6803	Cylinder Tester	80 lpm (21 gpm)	227 L (60 gal)

Chain Wrench

Model Usage: D6H, D7H and motor graders prior to April 1987 G-Series production

Warranty: Caterpillar® Six Months



- Used to remove and install threaded crowns on hydraulic cylinders
- Can be used on threaded crowns up to 203.0 mm (8.0 in) in diameter
- Can be used with breaker bars, ratchets, and torque wrenches
- Grips cylindrical objects for assembly or disassembly
- Black oxide finish, high carbon steel
- 3/4 inch square drive
- Rated capacity: 1360 N·m (1000 ft-lb)

Specifications

- Head length: 114.3 mm (4.50 in)
- Head width: 54.0 mm (2.13 in)
- Head thickness: 34.9 mm (1.38 in)
- Chain length: 711.2 mm (28.00 in)
- Weight: 0.86 kg (1.90 lb)

Part Number	Description
1U-7608	Chain Wrench

HYDRAULIC CYLINDER SERVICE

Flange Adapters

Model Usage: All Models

Warranty: Caterpillar® Six Months





- Used to aid mechanic in flow testing of various hydraulic systems — specifically used when flange-type XT3 and XT5 adapters are needed
- Straight, 45° and 90° fittings available to orientate test hoses for easier accessibility to vehicles hydraulic components
- Longer length for faster/easier installation (allows use of conventional socket wrenches rather than flat wrenches used on former short adapters)
- Used with existing high pressure adapters and quick disconnects for flow testing on-vehicle or in shop
- Features 9/16-18 thread diagnostic "T" port for pressure testing operating systems

References

- NEHT5000, Test Procedures
- NEHT6000 through NEHT6045, Test Procedures

	Working pressure	Fitting end	Nominal size flange
XT3 Fittings	27,560 kPa (4,000 PSI)	1 in NPT female thread	1/2 – 1 1/2 in
XT5 Fittings	41,340 kPa (6,000 PSI)	1 5/16 in STOR male thread	3/4 – 1 1/2 in

Item	Part Number	Name	Detail
1	1P-4574	Flange	1/2 in Split Flange
1	1P-4576	Flange	3/4 in Split Flange
1	1P-4577	Flange	1 in Split Flange
1	1P-4578	Flange	1 1/4 in Split Flange
1	1P-4579	Flange	1 1/2 in Split Flange
1	4J-0520	Seal	O-ring
1	4J-0522	Seal (not shown)	O-ring
1	4J-0524	Seal	O-ring
1	4J-5140	Seal	O-ring
1	4J-5267	Seal	O-ring
1	7M-8485	O-ring Seal	O-ring for 16 Stor Threads
1	9U-7442	Adapter	1/2 in Flange Adapter
1	9U-7443	Adapter	3/4 in Flange Adapter
1	9U-7444	Adapter	1 in Flange Adapter
1	9U-7445	Adapter	1 1/4 in Flange Adapter
1	9U-7446	Adapter	1 1/2 in Flange Adapter
2	1U-8300	Fitting	1 in Pipe to 16 Stor Port – Straight
3	1U-8304	Fitting	1 in Pipe to 16 Stor Port – 45°
4	1U-8301	Fitting	1 in Pipe to 16 Stor Port – 90°
5	8C-7544	Coupler	1 in NPT female non-valved QD
6	7X-7646	Nipple Assembly	1 in NPT female QD (Not shown)
6	8C-7545	Nipple	1 in NPT female non-valved QD (Not shown)
7	1P-3702	Seal	O-ring
7	1P-3703	Seal, 38.66 mm (1.52 in) outside diameter	—
7	1P-3704	Seal, 44.75 mm (1.76 in) outside diameter	—
7	1P-3705	Seal	—
7	1P-5765	Flange	3/4 in Split Flange
7	1P-5766	Flange	1 in Split Flange
7	1P-5767	Flange	1 1/4 in Split Flange
7	5P-8077	Flange	1 1/2 in Split Flange
7	9U-7438	Adapter	3/4 in Flange Adapter
7	9U-7439	Flange	1 in Flange Adapter
7	9U-7440	Adapter	1 1/4 in Flange Adapter
7	9U-7441	Adapter	1 1/2 in Flange Adapter
8	1U-8302	Fitting	-16 Stor Port – 16 Stor Thread – Straight
9	1U-8305	Fitting	-16 Stor Port – 16 Stor Thread – 45°
10	1U-8303	Fitting	-16 Stor Port – 16 Stor Thread – 90°
11	8C-9032	Nipple Assembly	-16 Stor non-valved QD

Large Hydraulic Test Centers Specifications



FOR REFERENCE ONLY

Horse Power	Long Description	Cat Direct Ship #	081000000 DATA ACQUISI-TION SYSTEM CATERPILLAR	081000005 DATA ACQUISI-TION SYSTEM, 797 Cat	082000000 MULTIPORT SIGNAL MANIFOLD, Cat	082000001 ADDITIONAL 3in SUCTION SUPPLY MANIFOLD, Cat	082000002 HTC, OIL MIST COLLECTOR, Cat	082006030 797 SUPPORT TOOLING FOR TRANS-MISSION AND TORQUE CONVER	82006040 1000 gal FLOW-SCAVENGE SYSTEM 380-415V, 50/60HZ, Cat	082004040 1000 gal FLOW-SCAVENGE SYSTEM 440-480V, 60HZ, Cat	082007040 1000 gal FLOW-SCAVENGE SYSTEM 575-600V,60HZ, Cat	082006041 1000 gal FLOW-SCAVENGE SYSTEM 380-415V, 50/60HZ, Cat, REMOTE	082004041 1000 gal FLOW-SCAVENGE SYSTEM 440-480V, Cat, REMOTE	082007041 1000 gal FLOW-SCAVENGE SYSTEM 575-600V, Cat, REMOTE
Cat Part Numbers for Options			**457-0820**	**457-0822**	**459-1886**	**319-6497**	**457-0825**	**457-0828**	**457-0829**	**457-0826**	**457-0831**	**457-0830**	**457-0827**	**457-0832**
					Not Direct Ship	Not Direct Ship								
200HP	380 415VAC, 50/60HZ	450-8255	option		option	option	option							
200HP	440 480V, 60HZ	450-8256	option		option	option	option							
200HP	575 600V, 60HZ	457-0852	option		option	option	option							
300HP	380 415VAC, 50/60HZ	457-0851	option		option	option	option							
300HP	440 480V, 60HZ	457-0850	option		option	option	option							
300HP	575 600V, 60HZ	457-0849	option		option	option	option							
400HP	380 415VAC, 50/60HZ	457-0848	option		option	option	option							
400HP	440 480V, 60HZ	457-0836	option		option	option	option							
400HP	575 600V, 60HZ	457-0846	Note A	Note A	option	option	option	option	option					
450HP	380 415V, 50/60HZ	457-0845	Note A	Note A	option	option	option	option		option				
450HP	440 480VAC, 60HZ	450-8259	Note A	Note A	option	option	option	option			option			
200HP	REMOTE 380 415VAC, 50/60HZ	457-0843	Note B		option	option	option							
200HP	REMOTE 440 480VAC, 60HZ	457-0841	Note B		option	option	option							
200HP	REMOTE 575 600VAC, 60HZ	457-0840	Note B		option	option	option							
300HP	REMOTE 380 415VAC, 50/60HZ	450-8257	Note B		option	option	option							
300HP	REMOTE 440 480VAC, 60HZ	457-0839	Note B		option	option	option							

NOTE A: 450HP local bench can have a choice of standard or 797 data acquisition

NOTE B: Remote HTCs 200, 300 and 400 HP come with standard data acquisition

HYDRAULIC CYLINDER SERVICE

Test Bench Filter Elements

Model Usage: All

Warranty: Manufacturer's Warranty

- Used to filter hydraulic circuits on Large Hydraulic Test Bench

Part No.	Description	Dimensions
425-6333	5 Micron Element	462.3 x 97.3 mm (18.2 x 3.8 in)
425-6334	10 Micron Element	324.1 x 78.7 mm (12.8 x 3.1 in)
425-6335	5 Micron Element	208.8 x 78.7 mm (8.2 x 3.1 in)
477-6346	3 Micron Element	119.4 x 44.5 mm (4.7 x 1.75 in)

Small Hydraulic Test Benches

Model Usage: All Models

Warranty: Caterpillar® Six Months



Available in 230/380/415/460/575 Volt, 50/60 Hertz, 3-Phase electrical, 125 or 150 HP

- Tests hydraulic pumps, motors, cylinders, and transmissions (including some hydrostatic)
- Economical option for testing components within 125 or 150 HP range limit
- "Mini" bench with many same features as a larger hydraulic test center including elevated component oil tank, full instrumentation, full filtration (down to 5-micron) with control panel indicator lights, 2 pressure oil supplies and large low-profile testing bed
- Additional features: 2 digital flow meters, connection for external flow meters, digital flow/temperature readouts, automatic heating and cooling of testing oil supply, automatic oil level control of work table sump, built-in protection circuits, and digital RPM readout
- Direct competitive replacement for 100/125 HP class test benches

Specifications

- Reduced voltage soft-start motor starter:
  - Horsepower: 125 or 150
  - Maximum drive output: 2600 RPM
  - Gravity feed oil supply (flooded suction): 102 mm (4.0 in) diameter
  - Adjustable hydraulic supply #1: 189 lpm at 20,670 kPa (50.0 gpm at 3000 PSI)
  - Adjustable hydraulic supply #2: 19 lpm at 2756 kPa (5.0 gpm at 400 PSI)
  - Two flow meters: 484 lpm (125 gpm)
  - External flow meter connections pressure: Up to 46,850 kPa (6800 PSI) with flow rates of 8 – 800 lpm (2 – 210 gpm)
  - Indicator lights for all filters

Small Hydraulic Test Benches

Model Usage: All Models

Warranty: Caterpillar® Six Months



Available in 230/380/415/460/575 Volt, 50/60 Hertz, 3-Phase electrical, 125 or 150 HP

- Used to test hydraulic pumps, motors, cylinders, and transmissions (including some hydrostatic)
- Designed as an economical option for testing current and future components within the 125 or 150 HP range limit
- A "mini" bench having many of the same features as a larger hydraulic test center including elevated component oil tank, full instrumentation, full filtration (down to 5-micron) with control panel indicator lights, 2 pressure oil supplies, and large, low-profile testing bed
- Additional features: 2 digital flow meters, connection for external flow meters, digital flow and temperature readouts, automatic heating and cooling of testing oil supply, automatic oil level control of work table sump, built-in protection circuits, and digital RPM readout
- Cat® test benches are direct competitive replacements for 100/125 HP class test benches.

Ordering Information

Contact the Dealer Service Tools Division for quotations, specifications and recommended tooling. The small hydraulic test bench is purchased outside of the Cat® parts network via a purchase order.

Specifications

- Reduced voltage soft-start motor starter:
  - Horsepower: 125 or 150
  - Maximum drive output: 2600 RPM
  - Gravity feed oil supply (flooded suction): 102 mm (4.0 in) diameter
  - Adjustable hydraulic supply #1: 189 lpm at 20,670 kPa (50.0 gpm at 3000 PSI)
  - Adjustable hydraulic supply #2: 19 lpm at 2756 kPa (5.0 gpm at 400 PSI)
  - Two flow meters: 484 lpm (125 gpm)
  - External flow meter connections pressure: Up to 46,850 kPa (6800 PSI) with flow rates of 8 – 800 lpm (2 – 210 gpm)
  - Indicator lights for all filters

Part No.	Specifications
445-2567	380V/50Hz
462-9262	460V/60Hz
462-9265	415V/50Hz
462-9266	208V/60Hz

HYDRAULIC CYLINDER SERVICE

Motor Stall Adapters

Models: Most Cat® Models

Warranty: Caterpillar® Six Months



- Used to stall test hydraulic fluid motors

Part No.	Spline
4C-4680	19T-16/32 Internal

Mounting and Drive Hardware for Hydraulic Pump and Motor Testing

Model Usage: Cat® Pumps, Motors and Transmissions

Warranty: Caterpillar® Six Months



Adapter Assembly



Pump and Motor Drive Adapter

- Used for hydraulic pump and motor testing
- Mounting plates used with 1U-9130 Mounting Stand
- Drive adapters work with any size 27 drive shaft, standard on Aidco, Wolff and Schroder benches; drive adapters also work with 1U-9359 Adapter and can be used with size 55 drive shaft on Cat® Hydraulic Test Center
- Drive adapters used to mount 250 cc and 355 cc hydraulic pumps and motors for bench testing
- Drive adapters attach to pump/motor splines and to enable attachment to 1U-9130 Stand Assembly, becoming integral part of stand and creating sturdy free-standing fixture

Part Number	Spline Data	Remarks
	Adapter Assembly	
1U-9359	—	For large drive shaft
	Pump and Motor Drive Adapters	
128-0794	27T-16/32	SPL
131-6452	N30X2X30X14X9g	DIN5480 — 14T
131-6456	17T-10/20	—
131-8620	N60X2X30X28X9g	DIN 5480 — 28T
133-2329	21T-16/32	—
136-3602	1 3/4 taper	Keyed shaft
1U-6433	N50X2X30X24X9g	DIN 5480 — 24T
1U-9394	17T-12/24	—
1U-9833	13T-1632	—
1U-9834	14T-12/24	—
1U-9835	13T-8/16	—
1U-9841	14T-10/20	—
1U-9842	19T-16/32	—
1U-9844	1 1/4 SAE B	Keyed shaft
1U-9845	1 3/4 SAE B	Keyed shaft
1U-9846	1 taper	Keyed shaft
246-1588	18T-8/16	—
326-4012	W28X1.25X30X21X9h	DIN 5480 — 21
4C-4088	15T-16/32	—
4C-4385	19T-24/48136-3648	20T-8/16
4C-4703	32T-16/32	External Spline
4C-4705	30T-16/32	—
9U-5230	20T-B40X36X30 DEG	DIN 5482 MDL 1.75
9U-5275	N40X2X30X18X9g	DIN 5480 — 18T
9U-5277	N45X2X30X21X9g	DIN 5480 — 21T
9U-5744	15T-12/24	—
9U-5745	20T-12/24	—
9U-5747	14T-20 DEG	JIS
9U-5748	17T-20 DEG JIS	—
9U-7063	16T-20 DEG	JIS
9U-7519	15T-8/16	—
9U-7521	17T-8/16	—
453-5309	R80 x 3 x 25 x 9g	DIN 5480
450-5310	R90 x 3 x 28 x 9g	DIN 5480
456-4369	R35 x 2 x 30 x 16 x 9g	DIN 5480
457-2326	R70 x 3 x 22 x 9g	DIN5480

Adapter Plates and Stand Assembly

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



1U-9130

- Adapter plates and stand assembly used to mount hydraulic pumps and motors for bench testing; eliminates use of clamps, chains, and turnbuckles to secure test component to test bench bed
- Adapter plates slide into 1U-9130 Stand Assembly, becoming integral part of stand and creating sturdy free-standing fixture
- 1U-9130 Stand Assembly can be used on any test bench bed with mounting rail centerline width of 95.25 cm (37.5 in) and minimum rail slot width of 19.05 mm (3/4 in)
- Tooling designed to accommodate any horsepower rated pump or motor that Cat® has in current production
- Adapter plate assemblies hold pumps and motors that have SAE-style mounting flanges, and either 2- or 4-hole mountings
- Safe, quick way to mount pumps and motors having standard SAE A, B, C, D, E and F style mounting configurations
- Adapter plates and stand assembly used to mount 250 CC and 355 CC hydraulic pumps and motors for bench testing

Part Number	SAE Flywheel Adapter Plates	Mounting Configuration	Pilot Diameter
1U-5738	44.78 cm (17.630 in)	SAE No. 2	—
4C-4622	40.96 cm (16.125 in)	SAE No. 3	—
4C-4623	36.20 cm (14.250 in)	SAE No. 4	—
9U-5750	51.12 cm (20.125 in)	SAE No. 1	—
Mounting Adapter Plates Used with 1U-9130 Mounting Stand			
128-0929	—	—	22.30 cm (8.780 in)
131-8477	—	—	19.50 cm (7.677 in) and 28.03 cm (11.033 in)
1U-9126	—	SAE-A	84.15 mm (3.313 in)
1U-9127	—	SAE-B	10.36 cm (4.079 in)
1U-9128	—	SAE-C	12.86 cm (5.061 in)
1U-9129	—	SAE-D-E-F	18.05 cm (7.106 in)
328-1483	—	—	113 mm (4.449 in)
4C-4702	—	—	19.10 cm (7.720 in)
453-5311	6060, RH170, 6040	—	320 mm (12.598 in)
453-5312	6050, RH340, 6090	—	405 mm (15.945 in)
457-2325	—	—	245 mm (9.646 in)

CVT Variator Pump Test Bench Fixture Tooling

Model Usage: 966, 972K

Warranty: Caterpillar® Six Months

European Union Compliant, CE Marked

- Allows the CVT pump to be mounted to the test bench

Part No.	Description	Dimensions	Weight
506-7493	Bushing	65 x 46 mm (2.55 x 1.81 in)	0.5 kg (1.1 lb)
506-7494	Adapter Assembly Plate	610 x 359 x 110 mm (24 x 14.13 x 4.33 in)	42 kg (93 lb)
506-7495	Adapter Assembly Plate	610 x 370 x 110 mm (24 x 14.56 x 4.33 in)	44 kg (97 lb)
506-7496	Splined Drive Adapter	98 x 90 mm (4 x 3.54 in)	3 kg (6.6 lb)
506-7497	Adapter	75 x 28 x 75 mm (3 x 1.1 x 3 in)	1 kg (2.2 lb)
506-7498	Fitting	45 x 25 x 34 mm (1.8 x 1 x 1.33 in)	0.11 kg (0.24 lb)
506-7499	Sleeve	19.5 x 27.5 mm (0.8 x 1.08 in)	0.03 kg (0.06 lb)



506-7493



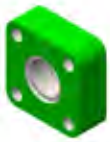
506-7494



506-7495



506-7496



506-7497



506-7498



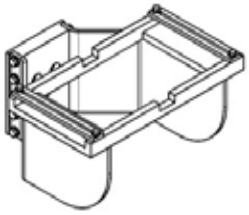
506-7499

HYDRAULIC CYLINDER SERVICE

Assembly Fixture

Model Usage: All Cat Machines

Warranty: Caterpillar® Six Months



- Adapts different pumps and motors to the 1U-5750 (6000 lb) rollover stand
- Accepts the mounting plates used on the 1U-9130 Pump Stand

Specifications

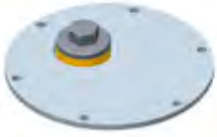
- Dimensions: 660 x 376 x 574 mm (25.98 x 14.80 x 22.59 in)
- Weight: 49.89 kg (110 lb)

Part Number	Description
437-3776	Assembly Fixture

CC for Hydraulic Tank

Model Usage: 336E L Hybrid

Warranty: Caterpillar® Six Months



- Used to connect kidney looping cart to hydraulic tank for proper cleaning
- Used with 188-3242 oil filter cart

Specifications

- Diameter: 230 x 58 mm
- Weight: 3 kg

Part No.	Description
467-0289	CC for Hydraulic Tank

Drive Shaft

Models: Most Cat® Models

Warranty: Manufacturer's Six Months



- Universal Drive Shaft Size 27 (Aidco, Wolff, Schroder Standard Shaft)
- Also allows Caterpillar® large test bench owners to run smaller components with small drive shaft (requires 4C-4336 Adapter)

Reference

- NEHT5000, Bench Testing Hydraulic Components — complete listing of general test bench tooling

REPAIR INFORMATION

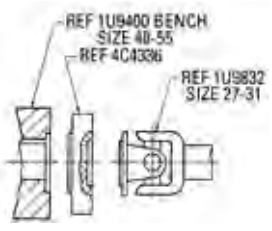
Parrish Power Products Inc., P.O. Box 955
Toledo, OH 43697-0955, Phone: (419) 729-1601

Part Number	Description
1U-9832	Drive Shaft

Drive Shaft Adapter

Models: Most Cat® Models

Warranty: Caterpillar® Six Months



- When bench testing small pumps and motors on large hydraulic test centers, a smaller drive shaft is required due to the mass of standard drive shaft; if any misalignment occurs during pump installation, large shaft could overwhelm small component splined shaft causing vibration and severely loading component shaft bearing; smaller, optional 1U-9832 Drive Shaft corrects this situation but 4C-4336 Adapter plate must be used to couple it with large hydraulic test center
- Allows large hydraulic test center owners to install optional 1U-9832 Drive Shaft to drive hub on test center
- Plate adapts from SAE size 55 drive shaft configuration to SAE size 27 pattern

Part Number	Description
4C-4336	Drive Shaft Adapter

Bench Testing Hydraulic Components Fittings and Drive Connections

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

- General oil connection fittings used while testing hydraulic pumps, motors, and transmissions
- Used when testing variety of Cat® and competitive hydraulic components
- Good low to medium pressure base to support test bench needs

Item	Part Number	Description	Detail
Item 1: 2-Bolt Flanges (BHC = Bolt Hole Center)			
1	1U-9849	Flange	1/2 in Pipe x 1 7/8 in BHC
1	1U-9850	Flange	1 in Pipe x 2 1/2 in BHC
1	1U-9851	Flange	1 in Pipe x 1 in BHC
1	1U-9852	Flange	1 in Pipe x 2 1/2 in BHC
1	1U-9853	Flange	1 in Pipe x 2 5/8 in BHC
1	1U-9854	Flange	1 in Pipe x 2 3/4 in BHC
1	1U-9855	Flange	1 in Pipe x 2 7/8 in BHC
1	1U-9856	Flange	1 in Pipe x 3 in BHC
1	1U-9857	Flange	1 in 1/2 Pipe x 3 in BHC
1	1U-9858	Flange	1 in Pipe x 3 1/4 in BHC
1	1U-9859	Flange	1 in Pipe x 3 3/7 in BHC
1	1U-9860	Flange	1 in Pipe x 3 5/8 in BHC
1	1U-9861	Flange	2 in Pipe x 3 5/8 in BHC
1	1U-9862	Flange	1 in Pipe x 3 3/4 in BHC
1	1U-9863	Flang	2 in Pipe x 4 in BHC
1	1U-9865	Flange	2 1/2 in Pipe x 4 1/2 in BHC
Item 2: 4-Bolt Flanges			
2	1U-9866	Flange	3 in Pipe
2	1U-9867	Flange	3 1/2 in Pipe
2	1U-9868	Flange	4 in Pipe
2	1U-9869	Flange	1 1/4 in Pipe
2	1U-9870	Flange	1 1/2 in Pipe
2	1U-9871	Flange	3/4 in Pipe
2	1U-9872	Flange	1 in Pipe
2	1U-9873	Flange	2 in Pipe
2	1U-9874	Flange	2 1/2 in Pipe
Item 3: Camstyle Fittings			
3	1U-9879	Adapter	3 in x 3 in FPT Adapter
3	1U-9880	Adapter	4 in x 4 in FPT Adapter
Item 4: Suction Hose and Fittings			
4	1U-9875	Coupler	3 in x 3 in Hose Barb
4	1U-9876	Coupler	4 in x 4 in Hose Barb
4	1U-9881	Hose	3 in ID x 12 ft (not shown)
4	1U-9882	Hose	4 in ID x 12 ft (not shown)
Item 5: Camstyle Fittings			
5	1U-9877	Adapter	3 in Coupler x 4 in NIP
5	1U-9878	Adapter	3 in NIP. x 4 in Coupler (not shown)

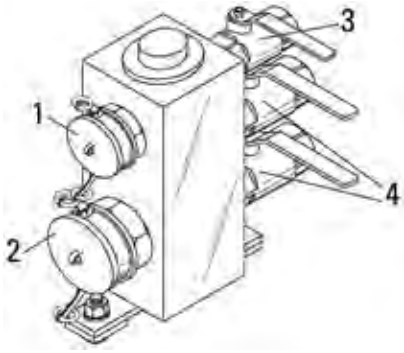


HYDRAULIC CYLINDER SERVICE

Manifold Group

Model Usage: Small and Large Test Benches

Warranty: Caterpillar® Six Months



- Used to split pump suction into multiple sources
- Necessary for tandem pump testing
- Designed to clamp onto rails of test bench
- Two camlok and three threaded ball-valve ports provide versatility
- Material: aluminum

Item	Description	Specification
1	Camlok Fitting with Cap	76.2 mm (3.0 in)
2	Camlok Fitting with Cap	101.6 mm (4.0 in)

Item	Part Number	Description	Specification
—	319-6497	Manifold Group	—
Service/Repair Parts			
3	1C-4060	Lever Ball-Valve	1 1/2 in x 11 1/2 NPT(f)
4	133-6596	Lever Ball-Valve	2 in x 11 1/2 NPT(f)

Load Sensing Valve

Models: All Current Motor Graders; D4H, D5H, D6H, D7H and D8H Crawler Tractors; All Backhoe Loader implement circuits

Warranty: Caterpillar® Six Months



4C-3582 shown with flow and pressure fittings installed

- Used in testing and adjusting high pressure cutout and margin pressures on load sensing pumps
- Compact, high pressure manifold containing flow control, relief valve, gauge and flow ports; flow control simulates control valve on vehicle; relief valve simulates load condition of implement circuit
- Flow capacity of test block is 227 lpm (60 gpm) with adjustable pressure range of approximately 345 to 41369 kPa (50 to 6000 PSI)
- Sense line pressure taken from port marked "Sense Line" and should be connected to sense port on test pump compensator valve; test pump outlet flow is connected to "In" port and "Out" port oil is then routed through flowmeter; flow ports have been designed to accept 25.4 mm (1 in) SAE O-ring style fittings and will mate with Cat® XT-5 quick disconnect fittings mentioned in February 15, 1988 Service Magazine article
- Margin pressure read by connecting 1U-5796 Differential Pressure Gauge to manifold gauge ports marked HI and LOW
- Can be used in the field with 8T-0454 Flowmeter (Headland) or with hydraulic test bench; if used with test bench, only bench flowmeter should be used
- Cat® large hydraulic test centers have load sensing system incorporated in their hydraulics and do not require 4C-3582 valve

Reference

- NEHT5000, Bench Testing Hydraulic Components (under procedures for testing load sensing pumps)

Part Number	Description
4C-3582	Load Sensing Valve

Tool Group

Model Usage: Challenger 65, 65B and 75

Warranty: Caterpillar® Six Months



- Used on Hydraulic Test Bench
- Multi-pilot manifold divides the pilot supply of the test bench into 5 circuits
- Manifold rated at 3000 PSI (207 Bar)

Specificatons

- Dimensions: 482 X 172 X 180 mm (19 X 7 X 7 in)
- Weight: 5.3 kg (11.6 lb)

Part Number	Description
459-1886	Tool Group

Heat Exchanger, Relief Valve Cartridge, Flow Straightener Block

Model Usage: Challenger 65, 65B and 75

Warranty: Caterpillar® Six Months



9U-5893



9U-5902

- Used to test pump on any test bench
- Heat exchanger supplies cooled oil for easier and more accurate testing and adjusting (prevents overheating oil and burning pump)
- Flow straightener block eliminates improperly connected hoses and allows reversing pump direction without changing hoses

Reference

- NEHT6041, Test Procedure

Part Number	Description
9U-5893	Heat Exchanger
9U-5902	Flow Straightener Block

Pressure Reducing Valve

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Used to regulate pilot or control pressures when bench testing compensating hydraulic pumps
- Valuable for testing the following pumps: 3G-3287, 8J-2344, 8J-4380, 8J-8723, 8J-9362, 9T-5187, 9T-4731, 9T-4732, 9T-6713, and 9T-6714; these pumps are used on a variety of Cat® equipment but are most commonly found on excavators
- These pumps may require more horsepower than what most dealer test benches can deliver; Aidco, Wolff and Schroder test benches with 125 HP or smaller electric motor need pressure reducing valve to complete proper pump test and adjustment; Cat® Hydraulic Test Center does not need this valve
- In the past dealers have used needle valve assembly identified as item D in Special Instruction Bench Testing Hydraulic Components (SEHS7972); this assembly sends a signal pressure to pump, which de-strokes pump output flow and reduces horsepower demand; valve arrangement is difficult to set and requires constant adjustment to maintain signal pressure during test
- 1U-6392 performs same function as former needle valve arrangement, but is much easier and quicker to set, and will automatically maintain specified signal pressure throughout test; this will save time and improve quality of test
- Used with desired length hoses, valve will remotely control signal pressure to pump
- Pressure-compensating, cartridge-type, pressure-reducing valve; has a locking hand knob to adjust outlet port pressure and manifold with 2 test ports for reading inlet (supply) and outlet (regulated) pressures

Specifications

- Operating range: 517 – 10,334 kPa (75 – 1,500 PSI)
- Rated flow: 18.9 lpm (5.6 gpm)
- Port sizes
  - Tank: 3/4 -16 SAE port
  - Inlet and test: 9/16-18 SAE port

Part Number	Description
1U-6392	Pressure Reducing Valve

HYDRAULIC CYLINDER SERVICE

Hose Assemblies and Quick Disconnects

Warranty: Caterpillar® Six Months



- Can be used when pressure testing hydraulic systems with pressures up to 41,500 kPa (6,000 PSI); 6D-7726 used for signal pressure source for load sensing pumps. 68,900 kPa (10,000 PSI) pressure rating
- The new hose assemblies have the same end connections and hose lengths as the existing hoses, but have a smaller inside diameter, 2 mm (0.080 in) versus 3.18 mm (0.125 in).
- The smaller inside (and outside) diameter makes the hose lighter, more flexible, able to be bundled in a tighter coil, stored in a smaller area, and easier to handle.
- The end connections allow the hose to be used with various existing adapters, fittings, and quick disconnects.

Item	Part Number	Description	Inner Diameter	Length	Connection
1	6V-3965	Nipple Assembly	—	—	9/16 in SAE male-valved
1	6V-3966	Pressure Test Valve, 1/4 in- 18 NPTF external	—	—	1/4 in NPT male-valved
1	6V-3989	Plain Nipple, Internal, 1/4 in NPT	—	—	1/8 in NPT female non-valved
2	6V-4143	Coupler Assembly	—	—	1/8 in NPT female-valved
2	6V-4144	Coupler Assembly (For 42000 kPa)	—	—	1/4 in NPT female-valved
3	6D-7726	Hydraulic Hose (2)	6 mm (0.236 in)	3050 mm (10 ft)	1/4 in NPT male
4	1P-2375	Coupler Assembly Quick Connective (Male)	—	—	1/4 in NPT male-valved (68,900 kPa)
5	1P-2376	Coupler Assembly Quick Connective (Female) (2)	—	—	1/4 in NPT female-valved (68,900 kPa)
6	177-7860	Hose Assembly	3.2 mm (0.12 in)	3050 mm (10 ft)	1/8 in NPT male both ends
6	177-7861	Hose Assembly	3.2 mm (0.12 in)	4270 mm (14 ft)	1/8 in NPT both ends
6	177-7862	Hose Assembly	3.2 mm (0.12 in)	5486 mm (18 ft)	1/8 in NPT both ends
6	1U-5757	Hose Assembly	2 mm (0.080 in)	1830 mm (6 ft)	1/8 in NPT by 7/16-20 x 37° JIC (not shown)

Test Port Adapters

Model Usage: Paving Products, Work Tools, and Many Other Cat® Models



- Used to convert different sizes of metric DIN 3852 ports to SAE No. 6 (9/16 inch – 18 thread) port
- Used with 6V-3965 Valved Quick Disconnect Nipple, making connection of test equipment much easier
- Each adapter requires a corresponding seal
- DIN 3852 metric ports can be found on 215B and 225 Excavator hydraulic pumps with part numbers 9T-4731 and 9T-4732 as well as many other products

Part Number	Corresponding Seal Part No.	Description
367-9110	3E-4296	M8 X 1 Thread to SAE No. 6 (9/16 in – 18 Thread) Port
8C-6862	8C-5199	M10 x 1 Thread to SAE No. 6 (9/16 in – 18 Thread) Port
8C-6863	8C-5200	M12 x 1.5 Thread to SAE No. 6 (9/16 in – 18 Thread) Port
8C-6864	8C-5201	M14 x 1.5 Thread to SAE No. 6 (9/16 in – 18 Thread) Port

BORING BAR

Hydratight 2250P Boring Bar Kit

Model Usage: All Cat® Machines with Linkage Assemblies

Warranty: Manufacturer's

Hydraulic Motor





CE compliant

- Repair bores 1.5 to 27 inches (38.1-685.8 mm)
- Facing/Grooving up to 21" Diameter
- Axial Stroke Std. 12", Optional 24" & 36"
- Covers an impressive range from 2.5" to 24" diameter in lengths up to 12 ft.
- This highly portable machine produces best-in-class torque and is available with electric, hydraulic and pneumatic drive options.
- Additional accessories are available including: facing attachments, intermediate supports and bore welding equipment as well as a multitude of bar support configurations.
- Kits are also available to support 1.25" and 1.75" bar configurations for smaller bores.
- Two standard kit ranges available from .08 in. to 14 in. and from .08 in. to 27 in.
- Kits come equipped with all the components necessary for welding in bores
- Pass-through drive system features telescoping, reversible torch extension with precision lead-screw
- Both systems are easily adapted to existing MIG wire feeders and power supplies
- Both kits come in a heavy duty aluminum carrying/storage case

Rotational Drive Unit

- 5:1 worm gear ratio - 25% more torque than any machine in its class
- Repositionable Lifting Handle - Ease of handling and increased safety
- 3-position axial feed screw adaptor - Adaptable to all applications

Axial Feed Assembly

- Feed per Revolution Gauge - reduces cutting time improves finish by eliminating guessing
- The feed rate can be adjusted on the fly
- Reduces cutting time & improves surface finish
- 32.5LBS - Rigid design but capable of being handled by one person

Bearing Supports

- Heavy duty spherical bearing mount - Allows for up to 5° misalignment
- One and two arm support brackets - Increased rigidity, accuracy , finish flexibility

Boring Heads

- Built-in precision tool adjustment - easy to set radial depth of cut without loosening tool
- 2.5 in. to 24 in. range covered with three boring heads

Boring Bars

- Boring bars are chrome plated with tooling slots every 6"
- Tool slots begin and end 1/2" from bar ends to allow for blind boring
- Replace the entire lineup of boring and welding equipment

Mining Solutions and Services Available:

- Provide tooling for repairs larger than 27" diameter
- Repair Tooling
- Cutter sharpening and exchange program
- Tooling Rental
- Provide contracting of man power and equipment on" site
- Training on equipment and processes
  - Trainees are tested and receive certificate of qualification
- On" site Engineering Solutions and Services
  - Specialized on" site field machining
  - Portable boring
  - Pre" heating equipment for welding
  - Post" weld stress relieving
- Bolted Joint Solutions

Reference

- PEDJ0211 Brochure

Part No.	Description
477-3166	Portable Boring Bar

Magnetic Base Drill

Product Family: Draglines

Model Usage: 8000, 8200, 8750

Warranty: Manufacturer's



European Union Compliant, CE marked

- Used for drilling and tapping on machines during site assembly or service support
- 1800W motor with 4-speed mechanical gearbox produces torque through gear reduction in low speeds
- Overload warning light
- Metal carry case with cutter arbor, guard & safety strapAccepts #3 Morse taper bits and 19mm drill chuck and arbor

Specifications

- Dimensions: 287 Wide X 402 Depth mm (11.3 X 15.8 in) Height: 585 min. -800 mm max. (23 X 31.49 in)
- Weight: 33.0 kg (72.8 lb)
- Diameter Capacity: 102mm (4.02 in)
- Depth Capacity: 75mm (2.95 in)
- Twist Drill Capacity: #3 Morse Taper 32mm (1.26 in)

Part Number	Description
385-1177	Magnetic Base Drill

Auxiliary Power Units

Model Usage: Off-Highway Trucks, 784B, 784C, Off-Highway Tractors

Warranty: None





- Replaces discontinued 1U-5000 Auxiliary Power Unit (APU)
- Used to provide DC electric and hydraulic power to recover (tow) disabled truck or tractor — provides auxiliary hydraulic power for steering and brake modulation and to actuate hoist cylinders for dumping loads on disabled machines
- Used with 1U-5525 Attachment Group (contains hydraulic fittings, hoses, and electrical cables needed to connect tractor or truck to APU)
- Used as a portable 24 Volt, 35 Amp battery charger
- Integrated lift points for easy attachment to lifting device
- Electric start and easy to use controls
- Large units feature full enclosure for extended outdoor use

D25S12-22-S Auxiliary Power Unit

- Power Supply: Lombardini Diesel, 25 HP
- Electrical Output (alternator): 24 Volt, 35 Amp
- Hydraulic Output (pump): 38 lpm (10 gpm) at 17236 kPa (2500 PSI)

Reference

- Manufacturers Operating Manual
- SEHS8880, Special Instruction, Using the 1U-5525 Attachment Group

D60S09-F7-S Auxiliary Power Unit

- Power Supply: Cat® Turbocharged Diesel, 60 HP
- Electrical Output (alternator): 24 Volt, 35 Amp
- Hydraulic Output (pump): 38 lpm (10 gpm) at 24821 kPa (3600 PSI)

REPAIR INFORMATION

For Quotation, Order Processing and Repair Info Please contact PortaCo Inc.
1805 2nd Avenue North, Moorhead, MN 56560-2310
Phone: (218) 236-0223, Fax: (218) 233-5281
Email: info@portaco.com

NOTE: These products are purchased outside of the Cat® Parts System.

GAS CUTTING/WELDING EQUIPMENT

Heavy-Duty Oxy-Propane Deluxe Kit — Vac Pac

Warranty: Caterpillar® Six Months



- Cuts to 25.4 mm (1 in) metal (to 152.4 mm [6 in] with optional tips)
- Heating output at 30,000 to 100,000 BTU/hour
- Display box not included

Kit Includes:

- Welding Handle
- Cutting Attachment (Propane)
- HD Oxygen Regulator
- HD Propane Regulator
- Striker
- Cover Goggles
- Twin T-Hose, 6.35 mm x 6.1 m (1/4 in x 20 ft)
- Instruction Manual

Part Number	Description	Metal Thickness (Inches)	Oxygen Pressure (PSIG)	Propane Pressure (oz)	Tip Size	Oxygen PSI	Fuel Gas PSI
Optional Tips							
4C-4113	Heavy-Duty Oxy-Propane Deluxe Kit – Vac Pac	—	—	—	—	—	—
Cutting Tips							
4C-4114	Cutting Tip	3/8 – 5/8	30 – 40	4 – 7	—	—	—
4C-4115	Cutting Tip	5/8 – 1	35 – 50	4 – 7	—	—	—
4C-4116	Cutting Tip	1 – 2	40 – 55	4 – 7	—	—	—
4C-4117	Cutting Tip	2 – 3	45 – 60	4 – 7	—	—	—
4C-4118	Cutting Tip	3 – 6	50 – 75	4 – 7	—	—	—
Brazing Tips							
9U-6715	Brazing Tip	—	—	—	4N	20	4 oz
9U-6716	Brazing Tip	—	—	—	6N	25	4 oz – 2 lb
Replacement Parts							
4C-5833	Mixer	—	—	—	—	—	—

MIG/TIG Flowmeter Regulators

Warranty: Caterpillar® Six Months



- Construction incorporates regulator and flowmeter into one compact unit
- Flow to 70 SCFH
- Strong easy-to-read Lexan flow tube and cover
- Flow tube is easily changed for different gases
- Dual calibration on argon/carbon dioxide flow tube
- Regulator is pre-set at 50 PSIG
- Flowmeter is not affected by downstream pressure variations
- Sensitive needle valve for fingertip control
- UL listed

Gas	Part Number	Flow Capacity (SCFH)	Cylinder Connection	Delivery Rate (SCFH)
Argon	4C-4125	0-70	580	70
Carbon Dioxide	4C-4126	0-70	320	70

Twin Welding Hose

Warranty: Caterpillar® Six Months



Part Number	Dimensions
1U-8217	6.35 mm x 6.1 m (1/4 in x 20 ft)
1U-8218	6.35 mm x 15.25 m (1/4 in x 50 ft)

GAS CUTTING/WELDING EQUIPMENT

Circle Cutting Attachment

Warranty: Caterpillar® Six Months

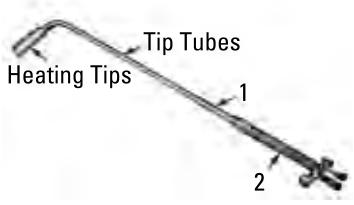


- For cutting circles up to 762 mm (30 in) in diameter as well as straight line burning
- Swivel nut permits circle cutting without tangling hoses
- Wheels are adjustable for individual torch height
- Makes better quality cuts possible with hand torches

Part Number	Description
1U-6573	Circle Cutting Attachment

Heating and Flame Cleaning Equipment

Warranty: Manufacturer's Six Months



Item	Part Number	Description
1	4C-5830	Mixer
2	4C-5823	Handle

REPAIR INFORMATION

Harris Calorific Division
The Lincoln Electric Company
2345 Murphy Boulevard
Gainesville, GA 30504
Phone: (770) 536-8801
Fax: (770) 535-0544

Tip Tubes

Warranty: None



Part Number	Description	Length
	Tip Tubes	
4C-5831	Tip Tube	914.4 mm (36 in)
4C-5832	Tip Tube	381 mm (15 in)
9U-6718	Tip Tube	711.2 mm (28 in)

Heating Tips

Warranty: None



Part Number	Oxygen Pressure (PSIG)	Flow (CFH)	Propane Pressure (PSIG)	Flow (CFH)	Heat Output (BTU/hr)
4C-4160	10; 25	160; 320	4; 12	40; 80	101,200; 202,404
4C-4161	1; 45	220; 520	7; 22	55; 130	139,150; 328,900
4C-4162	25; 70	340; 920	8; 25	85; 230	215,050; 581,900
4C-4163	50; 110	640; 1300	10; 30	160; 325	404,800; 822,250
4C-4164	60; 135	720; 1600	14; 40	180; 400	455,400; 1,012,000

Plasma Arc Cutting

Warranty: None

Before plasma cutting came into existence, service shops wanting to cut steel, stainless steel, or aluminum typically used several different methods. For example, they would use oxygen fuel flame cutting for steel and mechanical means such as shears or power saws for stainless steel and aluminum. With plasma arc cutting (PAC) these shops can now cut all common or exotic metals that conduct electricity.

Plasma arc cutting (PAC) with air uses electricity to create a super-heater gas (called plasma) to melt metal and blow it away. The temperature at the nozzle opening of the cutting torch can reach 33,315.6°C (60,000°F). As a result, the arc melts and removes small portions of metal quickly, leaving behind a smooth, clean cut and a narrow heat affected zone (the area near the cut in which metallurgical changes often occur).

Plasma Arc Cutting Benefits

- Cost savings — Even though the initial cost of PAC equipment can be higher than with other cutting methods, the payback per cut can be better with PAC. For example, with faster cutting speeds, and because air and consumables are relatively inexpensive with PAC compared to the cost of gases for oxy-fuel, the payback per cut is less expensive with PAC than with oxyfuel.
- Cutting speed — PAC can cut much faster than oxy-fuel, especially on a thickness of less than one inch (see chart below). Besides faster cutting speeds, PAC requires no preheating of the metal, as does oxy-fuel.
- Versatile cutting capability — Besides mild steel, PAC does an excellent job of cutting stainless steel and aluminum. It will also do a good job on stacked material.
- Precision cuts — Because the faster cutting speeds (along with no preheating) produces a narrow heat-affected zone, metal distortion is minimal. It also causes a very clean cut which means PAC can eliminate the secondary operations needed of other cutting methods.
- Air versus other gases — The main advantage of cutting with air is, of course, the availability of air. Where air and power is available, PAC can be easily moved because of its portable design. Using air is inexpensive and safe compared to other cutting gases such as CO2. PAC, because it uses air, requires no mixing controls. Low volume compressed air is preferred (i.e., 70 PSI at 300 ft^3hr).
- Ease of use — PAC requires minimum training and is an easy process to use.

Speed Comparison Using Mild Steel (inches per minute — IPM)

Steel Thickness	PAC IPM	Oxy-Fuel
3 mm (1/8 in)	80 – 120	20 – 30
6.4 mm (1/4 in)	34 – 60	18 – 20
10 mm (3/8 in)	18 – 40	16 – 18

NOTE: The speed of the cut varies and is determined by the output of the PAC equipment and the thickness of material being cut.

Dominator® Mechanics Service Trucks From Iowa Mold Tooling Co., Inc. (IMT)

Model Usage: Dominator Mechanic Trucks

Warranty: Manufacturer's



The Dominator® mechanics service trucks are used by construction machinery dealers, railroads, municipal fleets, general contractors, implement dealers, and rental companies.

Standard features on the Dominator series bodies include:

- Enhanced strength and stability for higher crane load
- Patent-pending energy-absorbing boom support
- Multiplex electrical system with programmable logic
- High-intensity light package (optional)
- Maximum compartment storage capabilities

Model	Body Rating	Recommended Crane	Chassis Requirements
DOMCS	12,000 ft-lb (1.7 tm)	Up to, and including, 3203i	11,000 lb – 19,500 GVW
DSC12	12,000 ft-lb (1.7 tm)	Up to, and including, 3203i	10,500 GVW (single rear wheel)
DSC12S	12,000 ft-lb (1.7 tm)	Up to, and including, 3203i	11,030 lb GVW (Sprinter)
DSC20	20,000 ft-lb (2.8 tm)	Up to, and including, 2020	11,000 lb – 19,500 GVW
Dominator I	52,000 ft-lb (7.3 tm)	Up to, and including, 7500	11,000 lb – 26,000 GVW
Dominator II	75,000 ft-lb (10.4 tm)	Up to, and including, 10000	26,000 lb – 33,000 GVW
Dominator III	80,000 ft-lb (11.1 tm)	Up to, and including, 12000	33,000 lb GVW
Dominator IV	95,000 ft-lb (13.3 tm)	Up to, and including, 14000	33,000 lb GVW (single axle); Larger Chassis for Tandem Axel

Options on all Dominator mechanics trucks include:

FOR MORE INFORMATION, CONTACT:

Iowa Mold Tooling Company, Inc.
500 Highway 18 West
P.O. Box 189
Garner, Iowa 50438-0189
Phone: 1-800-247-5958
Email: catdealer@imt.com
www.imt.com

- Drawers and drawer sets
- Standard adjustable shelves
- 3"H (7.6 cm) divided adjustable shelves
- Crane Stabilizer — manual and hydraulic
- Workbench vises and vise plates
- Work lights and incandescent compartment lights
- Compartment pressurization system
- Compressed Air System / Welder / Generator
- Air compressors ranging from 35 cfm @ 100 PSI (6.8 bar) to 110 cfm @ 150 PSI (10.3 bar)

Tire Manipulators From Iowa Mold Tooling Co., Inc. (IMT)

Model Usage: TireHandler®

Warranty: Manufacturer's



- Installs and rotates the massive tires on mining and construction equipment
- Available in loader or forklift truck-mounted options
- Accommodates tires up to 25,000 lb
- Includes lateral shifting capability
- Optional quick-coupler attachments and multiple-site vehicle packages available
- Features 390° of body rotation, giving the operator flexibility and control from the security of its integrated control console

Tirehand Model	Maximum Lift Capacity	Clamping Span	Tirehand Weight
1449	5000 lb (2267 kg)	55" (1397 mm) to 115" (2921 mm)	2020 lb (916 kg), 3093 lb (1403 kg) with side shift
2551	10,000 (4535 kg)	52" (1321 mm) to 142" (3607 mm)	7865 lb (3568 kg), 9400 lb (4264 kg) with side shift
2557	13,000 lb (5987 kg)	50" (1270 mm) to 160" (4064 mm)	8680 lb (3937 kg), 9,670 lb (4386 kg) with side shift
3565	25,000 lb (11,340 kg)	39" (981 mm) to 162" (4119 mm)	14,951 lb (6781 kg), 19,921 lb (9036 kg) with side shift

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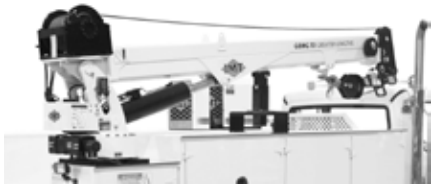
Material Handling From Iowa Mold Tooling Co., Inc. (IMT)

Model Usage: Telescopic Cranes, Articulating Cranes

Warranty: Manufacturer's



IMT Telescopic cranes feature:

- Cycle times designed for maximum productivity
- Lifting capacities up to 14,000 lb (6350 kg)
- Various winch speeds
- Anti-two-block protection
- Overload shutdown systems
- Cylinder holding valves

Models 2003i – 2020 come standard with tethered remote controls

Models 7500 – 14000 come standard with a fully proportional radio remote control

Models	Crane Rating Range	Maximum Lift Capacity Range	Maximum Horizontal Reach Range	Maximum Horizontal Reach Capacity Range
2003i	8000 ft-lb (1.1 tm)	2000 lb (907 kg)	78" (198 cm)	2000 lb (907 kg)
3203i	12,000 ft-lb (1.6 tm)	4000 lb (1815 kg)	15' (4.6 m)	730 lb (330 kg)
4004i	18,000 ft-lb (2.5 tm)	4000 lb (1814 kg)	16' 0" (4.9 m)	1080 lb (490 kg)
5005i	30,000 ft-lb (4.1 tm)	5000 lb (2268 kg)	20' 0" (6.1 m)	1260 lb (570 kg)
6006i	38,000 ft-lb (5.3 tm)	6000 lb (2722 kg)	22' 0" (6.7 m)	1660 lb (755 kg)
1015	10,500 ft-lb (1.4 tm)	3200 lb (1450 kg)	15' 0" (4.6 m)	650 lb (295 kg)
2020	20,000 ft-lb (2.8 tm)	5000 lb (2268 kg)	20' 0" (6.1 m)	800 lb (362 kg)
2820	28,000 ft-lb (3.9 tm)	5000 lb (2268 kg)	20' 6" (6.3 m)	1270 lb (576 kg)
7500	52,000 ft-lb (7.3 tm)	7500 lb (3402 kg)	30' 10" (6.9 m)	1350 lb (615 kg)
8600	60,000 ft-lb (8.4 tm)	8600 lb (3901 kg)	30' 10" (9.4 m)	1575 lb (715 kg)
9500	68,000 ft-lb (9.5 tm)	9500 lb (4309 kg)	30' 10" (9.4 m)	1800 lb (815 kg)
10000	75,000 ft-lb (10.4 tm)	10,000 lb (4536 kg)	30' 10" (9.4 m)	2030 lb (920 kg)
12000	79,000 ft-lb (11.1 tm)	12,000 lb (5443 kg)	31' 0" (9.4 m)	2200 lb (1000 kg)
14000	97,000 ft-lb (13.5 tm)	14,000 lb (6350 kg)	31' 0" (9.4 m)	2600 lb (1180 kg)

IMT Articulating Cranes



- Easily load and unload materials
- Stow within themselves, freeing up payload space for additional materials
- 35 models with capacities ranging from 18,085 ft-lb to 320,000 ft-lb
- Boom reach options to match lift requirements

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Articulating Crane Model Ranges	Maximum Crane Rating Range	Maximum Lift Capacity	Maximum Horizontal Reach	Maximum Horizontal Reach Capacity
Articulating Cranes Models 2.5 tm – 15 tm	18,085 ft-lb – 104,880 ft-lb (2.5 tm – 14.5 tm)	1740 lb – 13,470 lb (790 kg – 6110 kg)	23	715 lb – 1060 lb (325 kg – 480 kg)
Articulating Cranes Models 17tm – 80tm	116,450 ft-lb – 557,665 ft-lb (16.1 tm – 77.1 tm)	12,785 lb –- 38,185 lb (5800 kg – 17,320 kg)	56	1280 lb – 6285 lb (580 kg – 2850 kg)

SERVICE TRUCK BODIES

SiteStar® Lube Equipment From Iowa Mold Tooling Co., Inc. (IMT)

Model Usage: Open Lube Truck, Enclosed Lube Truck, Lube Skid

Warranty: Manufacturer's



Open Lube Truck

The IMT SiteStar open lube truck features:

- Additional 70 cubic feet of storage
- Polyethylene tanks that reduce overall vehicle weight
- 260 possible tank configurations

Model	Available Poly Tank Sizes	Available Elliptical Fuel Tanks	Available Rectangle Steel Fuel Tanks	Available Fluid Systems
SiteStar Open Lube Truck with fuel	75 – 350 gal (284 – 1325 L)	1000 – 2000 gal (3785 – 7570 L)	480 – 800 gal (1817 – 3028 L)	Oil, Anti-Freeze, Water, Oil Salvage, Anti-Freeze Salvage, Grease, and Fuel
SiteStar Open Lube Truck without fuel	75 – 350 gal (284 – 1325 L)	N/A	480 – 800 gal (1817 – 3028 L)	Oil, Anti-Freeze, Water, Oil Salvage, Anti-Freeze Salvage and Grease

Enclosed Lube Truck

The IMT Site Star enclosed lube truck:

- Shields product tanks and workers from the elements
- Comes in a 13-foot or a 17-foot body
- Uses polyethylene product tanks rather than steel, which means an 80 percent reduction in tank weight. Poly tanks also include cleaner fluid storage, easier tank replacement, and contamination control.

Model	Available Poly Tank Sizes	Available Rectangle Steel Fuel Tanks	Available Fluid Systems	Body Weight	Body Height
13' SiteStar Enclosed Lube Truck	75 – 350 gallon (284 – 1325 L)	480 – 800 gallon (1817 – 3028 L)	Oil, Fuel, Anti-Freeze, Salvage, Anti-Freeze Salvage and Grease	6625 lb (3005 kg)	121" (307.3 cm)
17' SiteStar Enclosed Lube Truck	75 – 350 gallon (284 – 1325 L)	480 – 800 gallon (1817 – 3028 L)	Oil, Fuel, Anti-Freeze, Salvage, Grease	8059 lb (3655.5 kg)	121" (307.3 cm)

Lube Skid

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www.imt.com

The lightweight IMT SiteStar lube skid easily attaches to and detaches from mechanics truck, giving a flexible selection of lube products to provide lube truck services for fleets.

Model	Weight	Height	Width	Length	Capacity
Lube Skid	3362 lb at full capacity (1525 kg)	54" (137.2 cm)	48" (121.9 cm)	7' 4" (2.3 m)	220 gal (832.8 L) (4 – 55 gallon polyethylene product tanks)

Rear Final Drive, Brake and Wheel Assembly and Disassembly System

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months





Disassembly Silo
Work Station





Assembly Silo
Work Station

European Union Compliant, CE marked

- Reduces assembly time of Wheel Stations by eliminating movement of components to different areas.
- Reduces the overhead hook height requirement
- Allows single technician to complete all assembly, adjustments, and testing in one location.
- Provides a safe floor level work environment and eliminates the need for technician to work above floor level.
- Improves technicians ability to manipulate and access critical components during assembly by allowing the components to be moved both with an overhead crane or by moving previously assembled components into position during assembly and disassembly.
- Improves quality by providing effective way of testing DuoCone seal integrity through air decay test before shipping.
- Designed to provide highest possible accuracy of preload application when used with Bearing Preload Gps. (as seen in KENR8372 or similar).
- Available in all standard three phase electrical power configurations.

Reference

- (NEHS1172 Tool Operating Manual, KENR8372 Final Drive, Brake and Wheel (Rear) Assemble)
- See the next two pages for part numbers.

Assembly Table

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



- Clamp and mounting system secures spindle flange and provides stable platform for assembly of brake, wheel and final drive components.
- Adjustable for 777-797 Wheel Stations.
- Provides rotation to allow for safe and accurate setting bearing preload.
- Additional 432-2327 Hydraulic Power supply provides hydraulic power for rotation, brake release pressure and duo cone seal air decay testing.
- May be installed at floor level or in a work silo (with additional components)

Part No.	Description
432-2315	Assembly Table

Specifications	
Capacity	18,180 kg (40,000 lb)
Wheel Station Range	777-797
Rotation Speed	0-5 rpm (adjustable)
Drive System	(2) 250 cc Hydraulic Motor
Gear Reduction	8:1
Max Pressure	27,560 kPa (4,000 psi)
Max Torque	17,627 Nm (13,000 lb/ft)
Dimensions	2032 x 2032 x 971 (80 in x 80 in x 38 in)
Weight	3881 kg (8540 lb)

Disassembly Fixture

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



- Clamp and mounting system secures spindle flange and provides stable platform for disassembly of brake, wheel and final drive components.
- Adjustable for 777-797 Wheel Stations

Part No.	Description
432-2321	Disassembly Fixture

Specifications	
Capacity	18,180 kg (40,000 lb)
Wheel Station Range	777-797
Dimensions	1625 x 1625 x 488 (64 in x 64 in x 19 in)
Weight	1756 kg (3863 lb)

Lift Column Group

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



- 18,180 lb (40,000 lb) capacity system allows for wheel station positioning when installed in a work silo.
- Mechanical lock mechanism eliminates load position drift.
- Hydraulic velocity fuse prevents load from dropping in the event of a hydraulic malfunction.
- For use with 432-2315 Assembly Table, 432-2323 Assembly Riser and 432-2327 Hydraulic Power Unit for Assembly work silo configuration.
- For use with 432-2321 Disassembly Fixture and 432-2324 Disassembly Riser for Disassembly work silo configuration.

Part No.	Description
432-2322	Lift Column Group

Specifications	
Capacity	18,180 Kg (40,000 lb)
Wheel Station Range	777-797
Travel	1,828 mm (72 in)
Raise Time	70 Sec
Power	7.4 kW (10 hp) 230/480/380v/50-60hz/3ph
Max Pressure	20,600 kPa (3,000 psi)
Reservoir Capacity	76 L (20 gal)
Dimensions (Column)	3937mm ext/3092 mm ret (155 in ext/ 120 in ret)
Overall Weight	2727 kg (6,000 lb) columns and power unit

Riser Assembly

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



- Required for work silo configuration
- Used to connect the 432-2315 Assembly Table to the 432-2322 Lift Column Gp.
- Positions the table to proper height in the work silo for floor level access.
- Distributes weight and forces equally between Lift Columns.

Part No.	Description
432-2323	Riser Assembly

Specifications	
Capacity	18,180 Kg (40,000 lb)
Wheel Station Range	777-797
Dimensions	2159 x 2032 x 667 (85 in x 80 in x 26 in)
Weight	1170 kg (2574 lb)

Riser Assembly (Disassembly)

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



- Required for work silo configuration
- Used to connect the 432-2321 Disassembly Table to the 432-2322 Lift Column Gp.
- Positions the table to proper height in the work silo for floor level access.
- Distributes weight and forces equally between Lift Columns.

Part No.	Description
432-2324	Riser Assembly (Disassembly)

Specifications	
Capacity	18,180 Kg (40,000 lb)
Wheel Station Range	777-797
Dimensions	2159 x 2032 x 667 (85 in x 80 in x 26 in)
Weight	1170 kg (2574 lb)

Hydraulic Power Unit

Model Usage: 777 - 797

Warranty: Caterpillar® Six Months



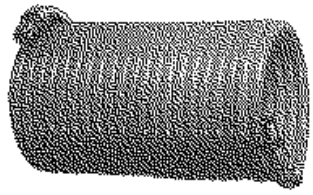
- Used to provide hydraulic power for 432-2315 Assembly Table.
- Dual reservoirs.
- Secondary reservoir provides filtered brake release circuit.
- Duo cone seal air decay test circuit with desiccant filter and regulator
- Integrated Dual Hose reels for brake release fluid and air.
- Pre-programmed PLC controller with user interface.
- Optional 432-2328 2.4 Ghz wireless remote with rotate/brake/air functions (not shown)

Part No.	Description
432-2327	Hydraulic Power Unit

Specifications	
Rotation Reservoir Capacity	76 L (20 gal)
Power	7.4 kW (10 hp) 230/480/380v/50-60hz/3ph
Hydraulic Pump	16 L/m (4.5 g/m)
Pressure	27,560 kpa (4000 psi) adjustable with flow control
Secondary Reservoir Capacity	76 L (20 gal)
Power	.74 kW (1 hp) 230/480/380v/50-60hz/3ph
Hydraulic Pump	5 L/m (1.3 g/m)
Brake Supply Filtration	6 micron with Kidney Loop Function
Dimensions	1500 x 780 x 1130(59 in x 31 in x 44 in)
Weight	3881 kg (8540 lb)

Air Hose Assembly Coiled

Warranty: Manufacturer's



- Designed for service only
- Ideal air hose for blow guns, nut setters, etc
- Constructed of lightweight fungus-resistant, oil-and water-impervious nylon
- Spring-wound hose extends over 20 times its stored length with permanent memory
- 360° swivel couplings at both ends

Specifications

- Maximum burst pressure: 4960.8 kPa (720 PSI)
- Maximum working pressure: 1240.2 kPa (180 PSI)
- Operating temperature range: -6.7° to 65.6°C (20° to 150°F)

Part Number	Length	Hose I.D.	Male NPT Each End
1U-7714	3.66 m (12 ft)	9.525 mm (0.375 in)	9.525 mm (3/8 in)
1U-7715	7.62 m (25 ft)	9.525 mm (0.375 in)	9.525 mm (3/8 in)
1U-7716	15.24 m (50 ft)	9.525 mm (0.375 in)	9.525 mm (3/8 in)
4C-4506	3.66 m (12 ft)	6.35 mm (0.25 in)	6.35 mm (1/4 in)
4C-4507	7.62 m (25 ft)	6.35 mm (0.25 in)	6.35 mm (1/4 in)
4C-4508	3.66 m (12 ft)	12.7 mm (0.5 in)	12.7 mm (1/2 in)
4C-4509	7.62 m (25 ft)	12.7 mm (0.5 in)	12.7 mm (1/2 in)
4C-4510	15.24 m (50 ft)	12.7 mm (0.5 in)	12.7 mm (1/2 in)

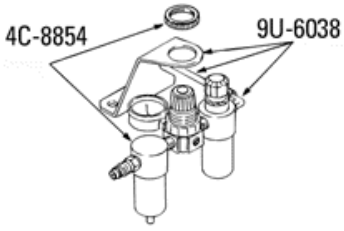
Extra Heavy-Duty Quick-Detach Air Couplers and Connectors

Warranty: Caterpillar® Six Months

Part Number	Description	NPTF Size	Pressure Drop @100 PSI	Air Volume
Standard Type				
1U-7717	Connector	1/4 in (f)	10 PSI (68.9 kPa)	30 cfm
Volume Type				
1U-7718	Coupler	1/2 in (f)	20.67 kPa (3 PSI)	80 cfm
1U-7719	Coupler	3/4 in (f)	20.67 kPa (3 PSI)	80 cfm
1U-7720	Connector	1/2 in (m)	20.67 kPa (3 PSI)	80 cfm
1U-7722	Connector	3/4 in (m)	20.67 kPa (3 PSI)	80 cfm

Filter Regulator Lubricator Kit

Warranty: Caterpillar® Six Months



- Requires 9U-6038 Mounting Kit if mounted directly on the pump

Specifications

- Max. inlet pressure: 21 bar (300 PSI)
- Regulated range: 0 – 12.4 bar (0 – 180 PSI)
- Inlet and outlet: 1/4 in NPT(f)
- Gauge port (gauge included): 1/8 in
- Capacity for filter and lubricator: 1 oz and 20 micron

Part No.	Description	Overall Width	Overall Height	Overall Depth
4C-8854	Filter Regulator Hose and Fitting Kit	130 mm (5.1 in)	130 mm (5.1 in)	40 mm (1.6 in)

Filter Regulator Mounting Kit

Warranty: Caterpillar® Six Months

- Includes mounting Bracket, two 90° air fittings, air line

Part Number	Description
9U-6038	Filter Regulator Mounting Kit

Hose and Fitting Kits

Warranty: Caterpillar® Six Months

4C-7362 72-inch Hose and Fitting Kit for 5:1 Fire-Ball

- For use with drum-mounted 5:1 Fire-Ball pumps
- Use 4C-7046 3/8 inch Air Regulator as required (not included, sold separately)
- Includes 307-883: Instruction Form

4C-7364 72-inch Hose and Fitting Kit for 10:1 President

- For use with drum mounted 10:1 President pumps
- Use 4C-7033 1/2 inch Air Regulator as required (not included, sold separately)
- Includes 307-883: Instruction Form

Part Number	Description	Size
4C-7362	Hose and Fitting Kit	—
4C-7364	Hose and Fitting Kit	—
	4C-7362 Consist	
4C-7101	Union	1/2 in
4C-7102	Union	3/8 in
4C-7334	Hose 3000	1/2 in
	4C-7364 Consist	
4C-7101	Union	1/2 in
4C-7221	Hose 180	1/2 x 72 in

Quick-Connect Coupler

Warranty: Caterpillar® Six Months



- Fast, convenient air hose attachment
- Maximum working pressure: 13 bar (180 PSI)
- Female thread allows easy attachment to air hoses

Part Number	Description	Size
4C-7253	Coupling	1/4 in NPT(f)
4C-8858	Coupler	3/8 in NPT(f)
4C-8859	Coupling	1/2 in NPT(f)
4C-8860	Coupling	3/4 in NPT(f)

Air Pressure Gauge

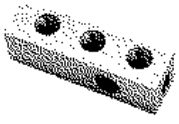


- Allows visual check of air pressure being supplied to pump
- Rated to 14 bar (200 PSI)
- Includes 1/4 inch NPT(m) ports

Part Number	Description
4C-9017	Air Pressure Gauge

Manifolds — Air Supply Line

Warranty: Caterpillar® Six Months



- Supply several pumps from a common air supply line
- Maximum working pressure: 13 bar (180 PSI)
- Air inlet port is larger than delivery ports to ensure adequate air flow to all pumps

Part No.	Description	Size with Two Inlet Ports	Size with Four Outlet Ports
4C-7138	Manifold	1/2 in NPT(f)	3/8 in NPT(f)

Air Supply Accessories

Air Filters

Warranty: Caterpillar® Six Months



- Centrifugal action and 40 micron element remove water and foreign particles from plant air supply
- Maximum working pressure: 13 bar (180 PSI)

Part No.	Description	Air Inlet	Working Pressure	Bowl Capacity	Filter Micron	Maximum scfm
4C-8851	Filter	1/4 in NPT(f)	21 bar (300 PSI)	30 ml (1 fl oz)	20	22
4C-7041	Filter	3/8 in NPT(f)	17.5 bar (250 PSI)	150 ml (5 fl oz)	20	77
4C-7042	Filter	1/2 NPT(f)	17.5 bar (250 PSI)	240 ml (8 fl oz)	20	106
4C-7043	Filter	3/4 in NPT(f)	17.5 bar (250 PSI)	480 ml (16 fl oz)	40	250

Air Regulators



- Precision control of outlet air pressure
- Maximum working pressure: 21 bar (300 PSI)
- Feedback principle allows constant pressure to pump regardless of air demand rate and fluctuations in supply pressure

Part No.	Description	Air Inlet	Maximum scfm	Pressure Range
4C-8852	Regulator	1/4 in NPT	15	0 – 12.4 bar (0 – 180 PSI)
4C-7046	Regulator	3/8 in NPT(f) with gauge	90	0 – 17.24 bar (0 – 250 PSI)
4C-7033	Regulator	1/2 in NPT(f)	90	0 – 17.24 bar (0 – 250 PSI)
4C-7248	Regulator	3/4 in NPT(f)	380	0 – 8.62 bar (0 – 125 PSI)

Air Lubricator

Warranty: Caterpillar® Six Months

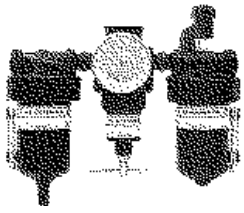


- Extends life of pump and smooths pump movement by applying measured lubricant to all moving parts within the pump air motor
- Control knob and sight window allow adjustment of lubricant dispensed
- Maximum working pressure: 13 bar (180 PSI)

Part No.	Description	Air Inlet	Max. scfm	Max. Pressure	Bowl Capacity
4C-8853	Lubricator	1/4 in NPT(f)	12	21 bar (300 PSI)	30 ml (1 fl oz)
4C-7266	Lubricator	3/8 in NPT(f)	88	17.5 bar (250 PSI)	150 ml (5 fl oz)
4C-7267	Lubricator	1/2 in NPT(f)	127	17.5 bar (250 PSI)	240 ml (8 fl oz)

Air Supply Combination Units

Warranty: Caterpillar® Six Months

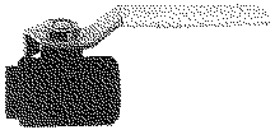


- Easy-to-install combination units include filter, regulator, pressure gauge, lubricator, and connection fittings
- Complete, convenient
- Maximum working pressure: 13 bar (180 PSI)

Part No.	Description	Air Inlet	Working Pressure
4C-7272	Lubricator	1/2 in NPT(f)	17.5 bar (250 PSI)
4C-8854	Lubricator	1/4 in NPT(f)	21 bar (300 PSI)
4C-7273	Lubricator	3/4 in NPT(f)	17.5 bar (250 PSI)
4C-8855	Lubricator	3/8 in NPT(f)	17.5 bar (250 PSI)
9U-6038	Filter Regulator Mounting Kit for all of the above		

Shutoff Valve

Warranty: Caterpillar® Six Months

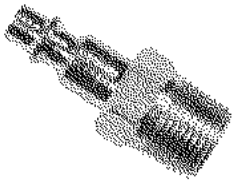


- Closes air inlet to pump and relieves trapped air pressure
- Recommended for each pump drop line
- Maximum working pressure: 13 bar (180 PSI)

Part Number	Description	Air Inlet
4C-7090	Valve	1/4 in NPT(f)
4C-7091	Valve	3/8 in NPT(f)
4C-7093	Valve	3/4 in NPT(f)

Quick-Connect Nipple

Warranty: Caterpillar® Six Months



- Easy attachment to air motor inlet
- Maximum working pressure: 13 bar (180 PSI)
- Male fitting allows threading directly into air motors

Part Number	Description	Size
4C-7156	Quick Disconnect Nipple, 1/4 NPT Female	1/4 in (f)
4C-7158	Fitting	1/4 in (m)
4C-7159	Fitting	3/8 in (m)
4C-8856	Fitting	1/2 in (m)
4C-8857	Fitting	3/4 in (m)

Tire Chuck



- Durable, full volume tool for maintaining, adding or relieving air pressure
- Maximum working pressure: 13 bar (180 PSI)

Part Number	Description
4C-9018	Tire Chuck

Tire Chuck

Warranty: Caterpillar® Six Months

- Tire chuck with Quick-Disconnect coupler-nipple
- Use on air reel
- Maximum working pressure: 13 bar (180 PSI)

Part Number	Description
4C-8953	Tire Chuck

Lockout Valves

Essential Tool

Warranty: Caterpillar® Six Months



- Used to prevent air flow to a tool or equipment (lock out)
- When yellow plastic slide is open, air flow is unrestricted
- When slide is closed, air supply is shut off and a padlock can be used to prevent accidental opening of air valve
- Fits 1/2 and 3/4 inch NPT pipe

Part No.	Inlet and Outlet Ports	Size (L x W x H)	Maximum Inlet Pressure	Max. Temperature	Padlock Hole Diameter
239-5429	1/2 in female NPT	54 x 38 x 58 mm (2.1 x 1.5 x 2.3 in)	17 bar (250 PSIG)	150°F (65°C)	7.62 mm (0.30 in)
239-5430	3/4 in female NPT	70 x 35 x 63 mm (2.8 x 1.4 x 2.5 in)	17 bar (250 PSIG)	150°F (65°C)	7.62 mm (0.30 in)

Air/Water Hose

Warranty: Caterpillar® Six Months

- Fabric reinforced general-purpose hose
- Color: red
- Use with air or water, antifreeze, and windshield wash

Part Number	Length	Fittings
9.52 mm (3/8 in) ID — 12.6 bar (180 PSI) also Includes:		
4C-7058 (second size, first size in the table below)	9.144 m (30 ft)	9.52 mm (3/8 in) M x 12.7 mm (1/2 in) M
9.52 mm (3/8 in) ID — 12.6 bar (180 PSI)		
4C-7056	121.92 cm (48 in)	9.52 mm (3/8 in) M x 9.52 mm (3/8 in) M
4C-7057	3.048 m (10 ft)	9.52 mm (3/8 in) M x 9.52 mm (3/8 in) M
4C-7058	7.62 m (25 ft)	9.52 mm (3/8 in) M x 12.7 mm (1/2 in) M
4C-7061	18.288 m (60 ft)	9.52 mm (3/8 in) M x 12.7 mm (1/2 in) M
12.7 mm (1/2 in) ID — 12.6 bar (180 PSI)		
4C-7221	—	1/2 in
4C-7254	12.192 m (40 ft)	12.7 mm (1/2 in) M x 12.7 mm (1/2 in) M
19.05 mm (3/4 in) ID — 12.6 bar (180 PSI)		
4C-7256	7.62 m (25 ft)	19.05 mm (3/4 in) M x 19.05 mm (3/4 in) M

Lock Ring Tool

Model Usage: 785, 789, 793, 795, 797

Warranty: Caterpillar® Six Months



- Used with the Topy Quick change rim where lock rings have drilled and tapped holes at each end to safely remove tension in lock rings
- Tool bolts adjust outward to slowly release tension in lock rings
- Used during installation process adjusts inward to apply tension to lock ring
- Used to safely remove tension in lock rings and to safely install lock rings during tire assembly

Part No.	Description	Dimensions	Weight
416-0313	Lock Ring Tool	386 x 105 x 70 mm (15.2 x 4.1 x 2.8 in)	3.9 kg (8.5)

Hybrid Polymer Hoses

Warranty: Manufacturer's



476-2903



476-2904



476-2905

- All-weather flexibility rated – 40° to 140° C
- Lays flat, no memory
- Max working pressure 300 psi at 70 degrees
- Premium hybrid polymer
- Black bend restrictor with white CAT logo meets California prop 65 regs

476-2903 (Hose and Reel)

- Levelwind air hose reel with 3/8 x 50 ft hose
- UV-stabilized polypropylene reel case
- 5-ft lead in hose

476-2904 (Hose and Reel)

- Open-faced hose reel with 3/8 x 50 ft hose
- Steel reel case
- 3-ft lead in hose

476-2905 (Hose Only)

- Air hose : 3/8 x 50 ft

Part Number	Replaces Part Number	Description
476-2903	231-0041	Hybrid Polymer Hose and Polypropylene Reel Case
476-2904	231-0042	Hybrid Polymer Hose and Steel Reel Case
476-2905	231-0039	Hybrid Polymer Hose

Pneumatic Wrench Groups



- Allows controlled output torque from 286 N·m (200 ft lbs) to 4125 N·m (3000 ft lbs)
- Output torque is set by adjusting air pressure regulator (part of 194-7591 Regulator Group)
- • All wrench groups have standard 1 inch square drive
- Requires 689 kPa (100 PSI) air pressure to achieve maximum torque
- Mininmum pressure 103 kPa (15 PSI)
- Wrench group works well in applications requiring different torque specifications (readjust torque setting by simply adjusting air pressure)
- Regulator group includes cage, hose, pressure gauge, and filter assembly — filter assembly is equipped with air filter, pressure regulator, and automatic oiling system
- Requires 4C-8856 Fitting and 8T-9568 Oil (not included)

REPAIR INFORMATION

195-3500 and 195-3501 Wrench Assemblies must be sent to the address below for repair. The wrench must be accompanied with a Return Material Authorization Number before shipping to the OEM.

Maxpro Corporation, 208 Fairhill St.
Willow Grove PA 19090, Phone: (888) 315-0175

Part No.	Description	Torque Range	Air Consumption
194-7586	Pneumatic Wrench Group (RAD 2000)	571 to 2857 N·m (400 to 2000 ft lb)	20 cfm
Service Parts:			
	194-7589 Pneumatic Wrench Group:		
195-7592	Raction Arm		
194-7607	Snap Ring Kit		
	194-7591 Pneumatic Regulator Group:		
194-7609	Hose Assembly		
194-7610	Cage Assembly		
194-7611	Filter Assembly		
194-7612	Gauge Pressure		

Part No.	Description	Torque Range	Air Consumption
194-7582	Pneumatic Wrench Group (RAD 25)	1143 to 4285 N·m (800 to 3000 ft lb)	32 cfm
Service Parts:			
194-7605	Raction Arm		
194-7608	Snap Ring Kit		
195-3501	Wrench Assembly		
	194-7591 Pneumatic Regulator Group:		
194-7609	Hose Assembly		
194-7610	Cage Assembly		
194-7611	Filter Assembly		
194-7612	Gauge Pressure		
262-6726	(Reaction Blank Available, not included)		

Pipe Fittings — 345 bar (5000 PSI), NPT Bushing — Reducing, Standard, and Reducing

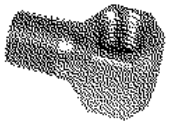
Warranty: Caterpillar® Six Months



Part No.	Description	Thread Size, Male x Female
3B-7722	Bushing-Pipe-Reducing 3/8 in-18 NPTF to 1/4 in-18 NPTF	3/8 in x 1/4 in
4C-7000	NPT Bushing	1/4 in x 1/8 in
4C-7003	NPT Bushing	1/2 in x 3/8 in
4C-7005	NPT Bushing	1/2 in x 1/4 in
4C-7009	NPT Bushing	3/4 in x 3/8 in
4C-7010	NPT Bushing	3/4 in x 1/4 in
4C-7020	NPT Bushing	3/4 in x 1/2 in
4C-7096	NPT Bushing	1/8 in x 1/8 in
4C-7097	NPT Bushing	3/8 in x 3/8 in
4C-7098	NPT Bushing	1/4 in x 3/8 in
4C-7111	NPT Bushing	3/8 in x 1/2 in
4C-7116	NPT Bushing	1/8 in x 3/8 in
4C-7136	NPT Bushing	1 in x 3/4 in
4C-7142	NPT Bushing	1/8 in x 1/4 in
4C-7143	NPT Bushing	1/4 in x 1/2 in
4C-7154	NPT Bushing	1/2 in x 3/4 in

Street Elbow — Pipe Fittings

Warranty: Caterpillar® Six Months



Part Number	Description	Thread Size, Male x Female
4C-7016	Street Elbow	1/4 in x 1/4 in
4C-7109	Street Elbow	3/8 in x 3/8 in
4C-7161	Street Elbow	3/4 in x 3/4 in
8T-6756	Street Elbow	1/2 in x 1/2 in

NPT Coupling — Standard

Warranty: Caterpillar® Six Months



Part Number	Description	Thread Size
4C-7006	NPT Coupling	3/4 in
4C-7007	NPT Coupling	1/8 in
4C-7008	NPT Coupling	1 in
4C-7135	NPT Coupling	1/2 in
4C-7150	NPT Coupling	3/8 in
4C-7169	NPT Coupling	1/4 in

NPT Hex Nipple — Standard and Reducing

Warranty: Caterpillar® Six Months



Part Number	Description	Thread Size, Male x Female
4C-7099	Hex Nipple, 1/4 x 1/8 NPT	1/4 in x 1/8 in
4C-7115	NPT Hex Nipple	3/8 in x 1/8 in
4C-7120	NPT Hex Nipple	3/8 in x 3/8 in
4C-7121	NPT Hex Nipple	1/4 in x 1/4 in
4C-7122	NPT Hex Nipple	3/4 in x 1/2 in
4C-7133	NPT Hex Nipple	1/2 in x 1/2 in
4C-7134	NPT Hex Nipple	1 in x 3/4 in
4C-7140	NPT Hex Nipple	1/2 in x 3/8 in
4C-7151	NPT Hex Nipple	1/2 in x 1/4 in
4C-7153	NPT Hex Nipple	3/8 in x 1/4 in
4C-7160	NPT Hex Nipple	3/4 in x 3/4 in

NPT Square — Head Plug

Warranty: Caterpillar® Six Months



Part Number	Description	Thread Size
4C-7001	NPT Square-Head Plug	3/8 in
4C-7011	NPT Square-Head Plug	1/2 in
4C-7032	NPT Square-Head Plug	1/4 in
4C-7039	NPT Square-Head Plug	3/4 in

Pipe Swivels — 345 bar (5000 PSI)

Warranty: Caterpillar® Six Months



NPT Swivel Adapter — Male x Female — Straight

Part Number	Description	Rigid Thread x Swivel Thread
4C-7107	NPT Swivel Adapter	3/8 in x 3/8 in
4C-7125	NPT Swivel Adapter	1/4 in x 3/8 in
4C-7129	NPT Swivel Adapter	3/4 in x 3/4 in
4C-7144	NPT Swivel Adapter	1 in x 1 in
4C-7152	NPT Swivel Adapter	3/8 in x 1/2 in
4C-7175	NPT Swivel Adapter	1 in x 3/4 in
4C-7252	NPT Swivel Adapter	1/8 in x 1/4 in

NPT Swivel Adapter — Female x Female — 90°

Warranty: Caterpillar® Six Months



Part Number	Description	Rigid Thread x Swivel Thread
4C-7108	NPT Swivel Adapter	3/8 in x 3/8 in
4C-7123	NPT Swivel Adapter	1/2 in x 1/2 in
4C-7124	NPT Swivel Adapter	1/4 in x 1/4 in

NPT Swivel Adapter — Female x Female — Straight

Warranty: Caterpillar® Six Months



Part Number	Description	Rigid Thread x Swivel Thread
4C-7105	NPT Swivel Adapter	1/4 in x 1/4 in
4C-7106	NPT Swivel Adapter	1/2 in x 1/4 in
4C-7112	NPT Swivel Adapter	3/4 in x 3/4 in
4C-7113	NPT Swivel Adapter	3/8 in x 3/8 in
4C-7139	NPT Swivel Adapter	3/8 in x 1/4 in
4C-7148	NPT Swivel Adapter	1/2 in x 3/8 in

NPT Swivel Adapter — Male x Female — 90°



Part Number	Description	Rigid Thread x Swivel Thread
4C-7101	Union	1/2 in x 1/2 in
4C-7102	Union	3/8 in x 3/8 in
4C-7103	NPT Swivel Adapter	3/8 in x 1/4 in
4C-7104	NPT Swivel Adapter	1/4 in x 1/4 in

NPT Swivel Adapter — Male x Female — 45°

Warranty: Caterpillar® Six Months



Part Number	Description	Rigid Thread x Swivel Thread
4C-7040	NPT Swivel Adapter	3/4 in x 3/4 in
4C-7149	NPT Swivel Adapter	3/8 in x 3/8 in

Open Reels

Warranty: Manufacturer's

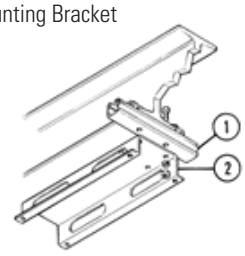


Open Dispense Reels

- 500 Series is an extreme duty reel for very heavy-duty installations such as mining, construction or bus/truck fleets
- Heavy construction features such as double pedestal arms and double roller arms provide the industry's most rigid reel support, eliminating the need for external bracing
- The larger, heavier design provides for a reel capacity of 60 ft of 3/8 inch air/water hose, 18.28 m (50 ft) of 12.7 mm (1/2 in) oil dispense hose, or 18.28 m (50 ft) of 9.5 mm (3/8 in) high pressure grease hose

Service	Part No.	Hose Size	Valve Number
Grease, 276 bar (4000 PSI)	4C-7277	9.5 mm x 12.19 m (3/8 in x 40 ft)	None (Select correct grease valve)
Grease, 345 bar (5000 PSI)	4C-7278	6.35 mm x 15.24 m (1/4 in x 50 ft)	None
Motor Oil, A.T.F., Gear Lube Hydraulic Fluids 126 bar (1800 PSI)	4C-7285	12.7 mm x 15.24 m (1/2 in x 50 ft)	None (Select correct grease valve)
Replacement Hose	4C-7354	12.7 mm x 15.24 m (1/2 in x 50 ft)	—
Air/Water, 12.6 bar (180 PSI)	4C-7295	9.5 mm x 18.28 m (3/8 in x 60 ft)	None

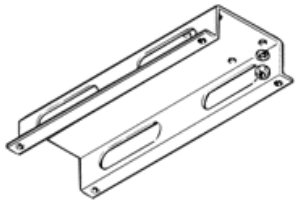
Mounting Bracket



There's no drilling or welding required to hang 500 series reels. Predrilled and threaded brackets allow bolt-together assembly. It's as easy as 1-2-3.

1. Attach channel-mounting bracket (1) to "I" beam. Bolts and clamps included with bracket
2. Bolt 1 to 6 reel-mounting channels (2) to mounting brackets; Channel is pre-threaded
3. Then just bolt the reels to the mounting channel — "Keyhole" slots eliminate lifting of reels while trying to engage a bolt, a definite plus when working on ladders or scaffolding

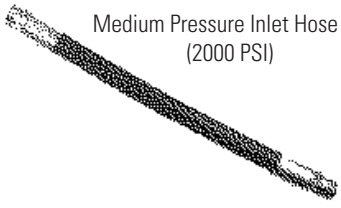
Reel Mounting Channel



- For mounting of from one to three open reels in a bank
- Channel is predrilled to allow individual mounting of reels
- For reel banks over three, use multiple channels

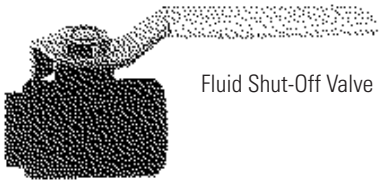
Part Number	Description
4C-7321	Reel Mounting Channel

Medium Pressure Inlet Hose Kit (2000 PSI)



- Inlet hose must be ordered separately for 500-series reels

Part No.	Description	Bar Rating	Size
4C-7304	Medium Pressure Inlet Hose Kit (2000 PSI)	138 Bar Rating	12.7 x 609.6 mm (1/2 x 24 in)
4C-7305	High Pressure Inlet Hose Kit (4000PSI)	276 Bar Rating	9.5 x 609.6 mm (3/8 x 24 in)



Fluid Shut-Off Valve

Part Number	Description	Size
4C-7044	Fluid Ball Valve	12.7 mm (1/2 in)

Open Reels

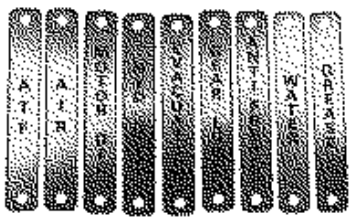


Grease Dispense Line Shut-Off Valve

- 1/2 inch NPT(f) ported valve for drop-line isolation
- Needle valve construction rated for 345 bar (5000 PSI)

Part Number	Description
4C-7174	Grease Dispense Line Shut-Off Valve

Service Label Kits — Reels



Service Label Kits 19.05 x 107.95 mm (3/4 x 4 1/4 in) metal labels and mounting hardware

Part Number	Description
4C-7311	Motor Oil
4C-7312	Grease
4C-7313	Gear Lube
4C-7314	ATF
4C-7315	Hydraulic Oil
4C-7316	Air
4C-7317	Water
4C-7318	Anti-Freeze
4C-7319	Evacuation

Hose Reels

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- ISO 9001 approved
- Compact hose reels can be used for air tools, fleet maintenance facilities, wash-down bays, service trucks, utility trucks, agricultural, industrial, mining, and many other applications
- Compact reel holds more hose and has greater reliability than conventional reels
- Weighs up to 35% less than conventional reels of the same size
- Base and guide arms are designed to prevent metal flexing and nearly eliminate guide arm bending when hose is pulled laterally
- Guide arm assembly is easily adjustable for floor, wall, ceiling, pit, or truck mounting positions
- Full-flow ball bearing swivel provides maximum working pressure with minimum spring retraction resistance
- Main shaft support assembly includes permanently lubricated and sealed ball bearings for smooth, long lasting, and trouble-free performance
- Unitized design eliminates possibility of seal leakage while providing precise alignment and structural integrity
- Drive springs are made from scaleless, blue-tempered spring steel for long life and durability

Specifications

- Overall size: 609.6 x 266.7 x 644.7 mm (24.00 x 10.50 x 25.38 in)
- Inlet: 1/2 in or 3/4 in NPTF(F) or 3/4 in BSPT
- Outlet: 1/2 in or 3/4 in NPTF(F) or 3/4 in BSPT
- Mounting holes: 12.7 mm (0.50 in), 4 holes
- Mounting hole spacing: 153 x 254 mm (6 x 10 in)

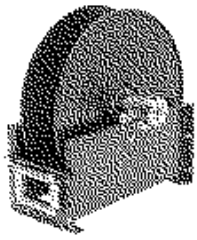
Part No.	Weight	Max. Temp. Rating	Pressure Rating	Hose Type	Hose I.D.	Hose O.D.	Hose Length
191-2278	40 kg (88 lb)	99°C (210°F)	27579 kPa, (4000 PSI), 275 bar	PVC	9.525 mm (0.375 in)	16.3 mm (0.640 in)	23 m (75 ft)
191-2282	46 kg (101 lb)	99°C (210°F)	10342 kPa, (2325 PSI), 103 bar	SAE 100 R1T (1 wire braid)	12.7 mm (0.50 in)	20.701 mm (0.815 in)	23 m (75 ft)
191-2283	43 kg (95 lb)	65°C (150°F)	2068 kPa, (9300 PSI), 21 bar	SAE 100 R2T (2 wire braid)	12.7 mm (0.50 in)	21.463 mm (0.845 in)	23 m (75 ft)

⚠ WARNING

These hose reels should only be used for their intended compressed air or fluid applications. Not following this warning could be dangerous. — DO NOT convert compressed air hoses for use with oxygen. A hose contaminated with an oil coating could react explosively when oxygen is used, resulting in personal injury or death.

Heavy-Duty High Capacity Hose Reels

Warranty: Caterpillar® Six Months



- Twin pedestal reels for high volume air-water requirements
- Reel inlet: 1 inch NPTF(f)
- Ideal for portable service trucks as well as permanent service or plant work areas
- Maximum temperature: 98.9°C (210°F)

Part No.	Description	Weight	Working Pressure	Hose Assembly Capacity		
				I.D.	O.D.	Length
191-2283	Reel — Hose	43 kg (95 lb)	2068 kPa, (9300 PSI), 21 bar	12.7 mm (0.5 in)	21.463 mm (0.845 in)	23 m (75 ft)

Medium Pressure Hose Reel — Air, Water, and Oil

- Furnished standard with S.A.E. 100 R1 T 1-wire braid hose suitable for air, water, oil
- Maximum temperature: 98.9°C (210°F)
- Reel inlet: 1 inch NPTF(f)

Part Number	Description	Weight	Working Pressure	Hose Assembly Capacity		
				Inner Diameter	Outer Diameter	Length
191-2282	Reel — Hose	46 kg (101 lb)	10342 kPa, (2325 PSI), 103 bar	12.5 mm (0.5 in)	20.701 mm (0.815 in)	23 m (75 ft)

High Pressure Reel — Grease

- Furnished with SAE 100 R2 T 2-wire braid hose
- Reel Inlet: 1/2 inch NPTF(f)
- Do not use for anything but grease without factory approval

Part Number	Description	Weight	Working Pressure	Hose Assembly Capacity		
				Inner Diameter	Outer Diameter	Length
191-2278	Reel — Hose	40 kg (88 lb)	27579 kPa, (4000 PSI), 275 bar	9.525 mm (0.375 in)	16.3 mm (0.640 in)	23 m (75 ft)

Reelcraft Heavy-Duty Low Pressure Hose Reel

Warranty: Caterpillar® Six Months



- All steel construction, heavy-duty reels
- More compact reel for applications with critical space requirements
- Maximum temperature: 98.9°C (210°F)
- Reel inlet: 1/2 inch NPTF(f)
- Incorporates contemporary engineering and manufacturing techniques to give trouble-free performance at a price competitive with less durable reels

Low Pressure Hose Reel — Air and Water

Part Number	Description	Weight	Working Pressure	Hose Assembly Capacity			
				Inner Diameter	Outer Diameter	Length	Used with
1U-7741	Heavy-Duty Low Pressure Hose Reel	12.7 kg (28 lb)	2068 kPa (300 PSI)	9.5 mm (3/8 in)	17.5 mm (0.689 in)	10 m (35 ft)	9U-6286

Transmission Disassembly and Assembly Tools

Model Usage: Challenger 35, 45, and 55

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble transmission

1U-9089 Clutch Spring Compressor

- Used to compress clutch springs (Belleville washers) to remove retaining ring during transmission removal and assembly
- Used with hydraulic press to compress the springs
- Designed to easily access retaining ring when compressor is in place

1U-9091 Guide Stud

- Used to guide rear and center housings during removal and installation (2 required)
- Installs into threaded holes in front housing
- Also helps align gaskets during installation procedure

Reference

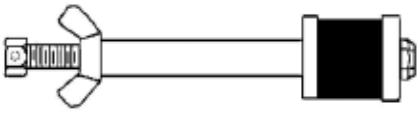
- SENR8305, Service Manual, Transmission Disassembly and Assembly

Item	Part Number	Description
1	1U-9089	Clutch Spring Compressor
5	1U-9091	Guide Stud (2 required)

CX31 Clutch Pack Retaining Plug

Model Usage: CX31 Transmission

Warranty: Caterpillar® Six Months



- Retains piston to housing during the disassembly and assembly procedure.

Reference

- UENR0125 CX31 On-Highway Transmission Disassembly and Assembly

Specifications

- Size: 181 mm (7.13 in) x 16 mm (.63 in) diameter
- Weight: .7 kg (1.54 lbs)
- Material: Steel and Rubber

Part Number	Description
376-1570	CX31 Clutch Pack Retaining Plug

FLYWHEEL CLUTCH AND DIRECT DRIVE TRANSMISSION

Lip Seal Installer

Essential Tool

Model Usage: TH48-E80 Transmission

Warranty: Caterpillar® Six Months



- Used to install output lip seal on TH48-E80 Transmission
- Used with four 0S-1608 Bolts (not included)
- Seal installer and lip seal are placed on journal of flange and longer installer bolts draw seal into transmission
- Prevents misalignment and damage during installation
- Durable plastic construction

Reference

- NEHS0891, Tool Operating Manual, Lip-Type Seal Installers for Transmissions and Torque Convertors

Part Number	Description
318-6539	Lip Seal Installer

Alignment Fixture Assembly

Model Usage: 789B, 793D, 793F, 793C, 785D, 789D, 785C, 793B, 784C, 784B, 785B, 789C

Warranty: Caterpillar® Six Months



- Used to align the 9U-9857 tube assembly during transmission planetary rebuild

Specifications

- Dimensions: 743 x 414 x 200 mm (29.25 x 16.29 x 7.87 in)
- Weight: 11.74 kg (25.82 lb)
- Material: Aluminum (large components)
- Material: Steel (precision components) Black Oxide Coated

Part Number	Description
435-1290	Alignment Fixture Assembly

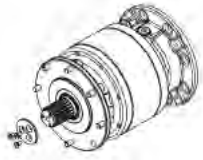
Torque Multiplier Group, Torque Multiplier Assembly, Reaction Flange, Nut Adapter, Pin

Model Usage: CW34

Warranty: Manufacturer's



461-4394



461-5218



461-5219



461-5220



461-5222

- Used during the disassembly of the transmission
- Allows for easy disassembly of the transmission to remove the ring nut during replacement of the Duo-cone seals
- Allows for a safe and effective way to install the ring nut on the transmission
- Enables a 3500±100 Nm torque to be applied to the ring nut during assembly of the transmission

Part Number	Description	Dimension (Diameter x Width)	Weight
461-4394	Torque Multiplier Group	210 x 329.5 mm Overall Length (8.3 x 13 in)	36.2 kg Overall Weight (79.8 lb)
461-5218	Torque Multiplier Assembly	200 x 325 mm (7.9 x 12.8 in)	29.3 kg (64.6 lb)
461-5219	Reaction Flange	147 x 55 mm (5.8 x 2.2 in)	1.5 kg (3.3 lb)
461-5220	Nut Adapter	210 x 63 mm (8.3 x 2.5 in)	5 kg (11 lb)
461-5222	Pin	8 x 22 mm (.3 x .9 in)	10 g (.4 oz)

Lifting Bracket

Model Usage: 776, 777, 777B, 785

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Replaces 5P-7376 Lifting Bracket
- Used with 143-5455 Lifting Bracket to remove and install 6P-1814 Torque Converter
- For convenience of dealers, 5P-7376 Bracket replaced FT1323 Lifting Bracket.

Specifications

- Safe working load: 999 kg (2200 lb)
- Grade 8 bolt: used to fasten bracket to 143-5455 Bracket

Part Number	Description
143-5454	Lifting Bracket

Lifting Bracket Assembly

Model Usage: 773G, 775G, 777G Off-Highway Truck

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used with 143-5455 lifting bracket to remove and install torque converter on 773G, 775G, 777G OHT's
- Provides single lifting point on top of torque converter
- Requires 6K-0137 bolt, 6K-0138 bolt, (2) 5P-8247 washers to fasten tool to top of torque converter

Specifications

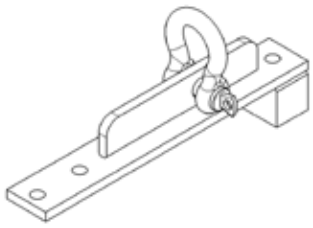
- Dimensions: 433.2 x 171.4 x 60 mm (17.1 x 6.8 x 2.4 in)
- Working Load Limit: 999 kg (2200 lb)
- Weight: 4035 kg (8896 lb)

Part Number	Description
366-5091	Lifting Bracket Assembly

Lifting Bracket

Model Usage: 785G OHT

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to aid in removing and installing the torque converter by providing a single point lift on top of the torque converter

Specifications

- Length 428 mm (16.9 in)
- Width 63.5 mm (2.5 in)
- Height 119.2 mm (4.6 in)
- Working Load Limit 907 kg (2,000 lb)
- Weight 6 kg (13 lb)

Part Number	Description
451-4587	Lifting Bracket

Dolly

Model Usage: All Cat Products

Warranty: Caterpillar® Six Months



- Used to pull components from underneath machines where ground clearance is a concern
- Specifically designed to allow 777G Off-Highway Truck torque converter to be lowered to ground level and pulled out from underneath truck
- Equipped with hard casters
- Has 4 attachment points, which allow for mechanically assistance
- Can handle 10,000 lbs of weight
- Powder coated for durability

Specifications

- Dimensions: 1962 x 1026 x 448 mm (77.2 x 40.1 x 17.6 in)
- Ground Clearance: 82.6 mm (3.3 in)
- Working Load Limit: 4536 kg (10,000 lb)

Part Number	Description
366-6003	Dolly

TORQUE CONVERTER, DIVIDER AND RETARDER

Seal Installer

Essential Tool

Model Usage: 789 and 793C Off-Highway Truck, Transmission and Torque Converter 990 and 992 Wheel Loader, Transmission Output and Axle Housing 994 Wheel Loader, Torque Converter and Axle Housing 740 Articulated Truck, Output Transfer Gear D11R Track Type Tractor, Torque Converter

Warranty: Caterpillar® Six Months



- Installs lip seals in various components by using the tool and machine yoke and bolt to draw the lip seal into the cage assembly
- Durable plastic to keep yoke surface free of scratches/dents during installation of lip seal
- Makes seal installation faster and easier by allowing the repair to be done in-chassis

References

- Service Magazine Article 3250-0013-2001
- NEHS0891, Tool Operating Manual

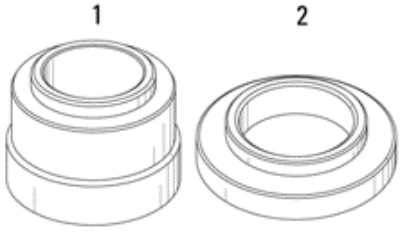
Part Number	Description
208-0810	Seal Installer

Lip Seal Installers for Off-Highway Truck Torque Converters and Transmissions

Essential Tool

Model Usage: 777B, 777C, 777D, 777F, 785B, 785C, 789, 793B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install lip-type seals in torque converters and transmissions
- For in- or out-of-chassis seal installation
- Prevents misalignment
- Made of durable plastic (helps prevent seal lip damage during installation)
- Plastic material also prevents damage (nicks and dents) to face of yoke assembly
- In-chassis installation is possible on some models using seal installer, a bolt, and yoke assembly

References

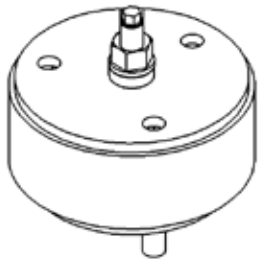
- Service Manual, Power Train Disassembly and Assembly
- NEHS0891, Tool Operating Manual

Item	Part No.	Description	Use	In
1	285-8041	Lip Seal Installer	install 223-9743 Lip-Type Seal	torque converter of 785B and 785C OHTs
2	285-8042	Lip Seal Installer	with 1D-4588 Bolt to install seals, with 0T-0857 Bolt to install seals	torque converter: 777B, 777C, 777D, 777F OHTs, transmission of 777B, 777C, 777D, 777F, 785B, 785C, 789, and 793B OHTs

Crankshaft Seal Installer

Model Usage: 3508, 3508B, 3508C, 3512, 3512B, 3512C, 3516, 3516B, 3516C, 777D, 785C, 785D, 789C, 793C, 793D, 992G, 994F, D11R, G3512, G3512E, G3516, G3516B, G3516C, G3516E, G3520C, G3520E, PM3516, SPF343C

Warranty: Caterpillar® Six Months



- Replaces discontinued 447-6264 seal installer
- Used to install front and rear crankshaft seals
- Specifically designed to install the following crankshaft seals:
  - 436-1478 Crankshaft Seal (Clockwise Rotation)
  - 436-1479 Crankshaft Seal (Counter-Clockwise Rotation)
- Consists of a pilot, driver, three (3) cap screws, flange nut and bearing

Reference

- Media Number: TEBE3184-00
- Program Number: PI7-0565
- Program Title: Product Improvement Program For Removing all 447-6264 Tool Assemblies (Crankshaft Seal Installers) from Dealer Inventory

Part No.	Dimensions (h x dia)	Weight	Description
484-7863	226.5 x 272.3 mm (8.9 x 10.7 in)	34 kg (75.0 lb)	Crankshaft Seal Installer

Seal Installer

Model Usage: CW34

Warranty: Manufacturer's



- Prevents toric seal from rolling or twisting, making installation faster and easier (rubber toric rings hold steel rings parallel and concentric while maintaining correct face contact pressure)
- Provides fast and easy installation
- Prevents seal rolling and twisting

Specifications

- Dimensions: 252 X 25 mm (9.9 X 1 in)
- Weight: 1.5 kg (3.3 lb)

Part Number	Description
464-2734	Seal Installer

Face Seal Installation Tools

Model Usage: Wheel Motors MT6300

Warranty: Manufacturer's

- Used to install inboard and outboard face seals for the wheel motors

Part No.	Description	Dimensions	Weight
509-3824	Inboard Face Seal H-147	609 x 609 x 101 mm (24 x 24 x 4 in)	1 kg (2.2 lb)
509-3825	Outboard Face Seal H-156	609 x 609 x 101 mm (24 x 24 x 4 in)	1 kg (2.2 lb)



509-3824



509-3825

Lip Seal and Wear Sleeve Inst

Model Usage: 797 OHTs, CX38 Transmissions



- Used to install the 365-3180 rock guard and 365-3179 lip seal

Part No.	Description
466-7458	Lip Seal
466-8474	Wear Sleeve

TORQUE CONVERTER, DIVIDER AND RETARDER

Lifting Bracket

Model Usage: 773, 776 and 777 Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and support torque converter assembly
- Used with 143-5454 Lifting Bracket for removal and installation of torque converter on 776 and 777 series trucks

References

- SENR5606, 776C Tractor and 777C Truck Power Train Disassembly and Assembly
- SENR3145, 776B Tractor and 777B Truck Power Train Disassembly and Assembly
- SENR2971, 776 Tractor and 777 Truck Power Train Disassembly and Assembly

Specifications

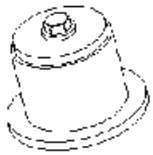
- Load limit: 1000 kg (2200 lb)
- Overall length: 1708 mm (67.2 in)
- Throat depth: 404 mm (15.9 in)
- Material: steel

Part Number	Description
143-5455	Lifting Bracket

Torque Converter Output Shaft Seal Installer

Model Usage: 777G

Warranty: Caterpillar® Six Months



- Used for new style seal at the output shaft of the torque converter that requires a cupped seal installer for installation.

Specifications

- Length: 139.7 mm dia. x 103 mm long (.5 ft x .34 ft)
- Weight: 2.28 kg (5.03 lbs)
- Material: Steel

Part Number	Description
366-6065	Torque Converter Output Shaft Seal Installer

Torque Converter Seal Guide

Model Usage: 725, 730, 735 Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to guide and protect separator plate lip seal while installing separator plate over the drive gear during assembly
- Protects seal from scraping against drive gear (located on the basic converter)

Reference

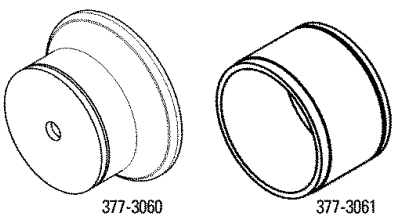
- RENR3448, Disassembly and Assembly of Torque Converter Assembly

Part Number	Description
217-9911	Torque Converter Seal Guide

Seal Installer, Wear Sleeve Installer

Model Usage: 777G Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install the two piece lip seal design on the 777G Off-Highway Truck Transfer Groups
- 377-3060 used to install seal into transfer group
- 377-3061 used to install wear sleeve onto the yoke assembly of the transfer group
- Both tools are black oxide coated to prevent corrosion
- Material: Steel

Part No.	Description	Diameter	Weight	Height
377-3060	Seal Installer	152.4 mm (5.99 in)	2.21 kg (4.87 lb)	75.14 mm (2.96 in)
377-3061	Wear Sleeve Installer	127 mm (4.99 in)	2.00 kg (4.41 lb)	81 mm (3.19 in)

LMT Lip Seal / Wear Ring Installation Tooling

Model Usage: 777, 785C, 785D, 785G, 789D, 793B, 793C, 793D, 793F

Warranty: Caterpillar® Six Months

- Install seals and wear rings onto the transmissions and torque converters

509-3262



509-3263



509-3264



509-3265



Install Tool	Seal	Transmission	Torque Converter	Model
509-3262	361-7171	9G-6972		777
		6Y-5643		785C
		6Y-5643		785D
		6Y-5643		793B
			151-2709	777
			450-8144	785G
			151-2711	785C
			151-2711	785D
509-3263	459-0683	449-0846		785G
		244-0454		789D
		244-0454		793D
		279-2530		793F
		359-6202		793F
			116-5810	789C
			116-5808	793C
			299-0725	789D
			245-2715	793D
			279-2519	793F
509-3265	361-7172	158-0425		777
		481-8208		785C
		481-8208		785D
		481-8208		793B
			158-0425	777
			437-5514	785G
			485-0030	785C
			485-0030	785D
509-3264	459-0686	476-8753		785G
		476-8753		789D
		476-8753		793D
		481-7680		793F
			194-2220	789C
			194-2220	793C
			476-8753	789D
			476-8753	793D
			481-7680	793F

TORQUE CONVERTER, DIVIDER AND RETARDER

Rod Assembly and Alignment Plate

Essential Tool

Model Usage: 769D Off-Highway Truck (OHT)



- Aligns drive shaft yokes between torque converter and transfer gear group
- Also used to align engine/torque converter or install transmission/transfer gear group
- Allows use of dial indicator for precise alignment

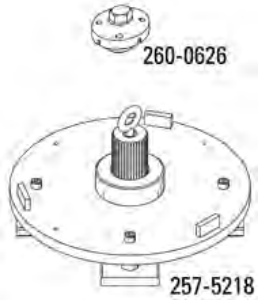
Item	Part Number	Description
1	1P-2721	Rod
2	0S-1629	Bolt

Torque Convertor Tools

Essential Tool

Model Usage: D9T and D10T Track-Type Tractors

Warranty: Caterpillar® Six Months



260-0626 Spanner Socket Assembly

- Used to remove 1T-0229 High Torque Locknut from torque convertor
- Used with 38 mm socket with 1" square drive
- Also used with a 194-7586 Pneumatic Wrench Group or 6V-6080 Torque Multiplier and torque wrench
- Removes special locknut without damage
- Heat-treated for added strength and durability

257-5218 Holding Fixture

- Used to securely hold torque convertor during disassembly and assembly

References

- RENR7471, D9T Torque Convertor Assembly and Disassembly
- RENR8166, D10T Torque Convertor Assembly and Disassembly

Specifications

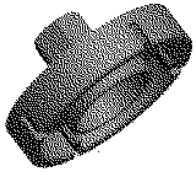
- Overall length: 109.7 mm (4.32 in)
- Inside diameter: 127 mm (5.0 in)
- Number of teeth: 4
- Tooth width: 8.00 mm (0.315 in)
- Distance between teeth: 119.0 mm (4.68 in)
- Hex drive: 38 mm
- Locknut torque: 985 N·m (726 ft-lb)

Part Number	Description
257-5218	Holding Fixture
260-0626	Spanner Socket Assembly

Spanner Socket

Model Usage: D9T & D10T

Warranty: Caterpillar® Six Months



- Used to remove and install 1T-0229 nut, for quickly and easily disassembling and assembling Torque Converter assembly on D9T quipped with 205-4189 flange assembly

Specifications

- Dimensions:
  - O.D. 146.1 mm (5.74 in)
  - I.D. 127.0 mm (4.99 in)
- Height: 70.1 mm (2.75 in)
- Tooth Width:
  - 119.0 mm (4.68 in)
- Number of teeth: (4)
- Hex Drive: 38.1 mm (1.5 in)
- Material: Steel and black oxide coated

Part Number	Description
378-4529	Spanner Socket

Torque Multipliers

Warranty: Manufacturer's





- Used to apply torques above the capability of torque wrenches with an accuracy of ±5%
- The 6V-6080 Multiplier has a maximum torque capacity of 4335 N·m (3200 ft-lb)
- The 6V-7820 Multiplier has a maximum capacity of 1620 N·m (1200 ft-lb)
- Both multipliers are designed for use with a 1/2 inch square drive torque wrench
- The 6V-6080 Multiplier features a directional clutch which holds the windup and provides ratcheting action so that the multiplier is usable in close quarters where movement of the input wrench is limited
- Both multipliers are designed to provide 360° continuous rotation in both directions
- They also have an angle of turn protractor which measures the angle of rotation in 5° increments for torque turn specifications
- Overload protection is provided by the square output drive which shears at a torque slightly above the maximum output rating
- Decals providing torque input and output values are located on the multiplier

Part No.	Square Input	Square Output	Power Ratio	Rated Input Capacity	Maximum Rated Output	Weight
6V-7820	1/2 in	3/4 in	6 to 1	271 N·m (200 ft-lb)	1620 N·m (1200 ft-lb)	4 kg (9 lb)
6V-6080	1/2 in	1.0 in	18.5 to 1	240 N·m (177 ft-lb)	4335 N·m (3200 ft-lb)	8.2 kg (18 lb)

Part Number	Description
6v-7820	Torque Multiplier
6v-7820 Includes:	
2N-2213	Bearing
6V-4079	Drive Assembly
8H-0707	Bolt
6V-4081	Pinion
3B-3911	Bearing
6V-4083	Gear
6V-6134	Protractor

Part Number	Description
6v-6080	Torque Multiplier
6v-6080 Includes:	
6L-4082	Race
6V-6135	Gear
6V-6136	Pinion
6V-9137	Pinion
6V-9136	Gear
6V-6134	Protractor
5P-4115	Washer
6V-6137	Dowl
6V-9135	Pin
6V-6139	Pin
6V-6762	Race
2M-1672	Bearing
2H-2213	Bearing
8T-0893	Screw
8T-5181	Input End Assembly
8T-0894	Hardware Kit

TORQUE CONVERTER, DIVIDER AND RETARDER

Torque Multiplier

Model Usage: All Models

Warranty: Manufacturer's



European Union Compliant, CE marked

- The Torque Multiplier has a torque ratio of 6.5:1 and a maximum output of 1,200 ft-lbs torque. It has a 1/2" square female input and two 3/4" male output drives.
- The Torque Multiplier has 360 degree continuous rotation in either clockwise or counter clockwise direction. An integral, two-directional input torque holding device inhibits accidental torque wind-up release.
- The torque multiplier has two output drives. One turns at 6.5:1 (1/6.5 the speed of the input wrench) to provide a high torque for torque breakaway. The other output turns at 1:1 (the same speed as the input wrench) to provide rapid tightening and loosening of fasteners.

Part No.	Description	Dimensions	Weight
1U-7293	Torque Multiplier	197 x 205 x 225 mm (7.75 x 8 x 9in)	5.9 kg (13 lb)

Specifications	UOM	8202-290
Output direct drive (1:1)	in-lbs	2,256
	ft-lbs	188
	Nm	255
Output reduced speed drive (6.5:1)	in-lbs	15,060
	ft-lbs	1,255
	Nm	1,661
Weight		
8202-45 torque multiplier	lbs	13
	kg	5.9

Degree Wheel

Model Usage: D9T & D10T

Warranty: Caterpillar® Six Months



- Used for measuring torque turn angles
- The nut or bolt does not have to be marked in order to obtain the correct torque
- 1/2 inch drive and can be used with any standard 1/2 inch drive socket

Part Number	Description
8T-3052	Degree Wheel

Electronic Torque Testers



European Union Compliant, CE marked

- Accuracy better than 1% of the indicated value in ranges between 10% to 100% of maximum rating
- Maximum overtorque of 120% of full rating
- Reliable "first-peak" mode for tests of click type torque wrenches without the need for manual sensitivity adjustment—A red light and buzzer indicate capture of first torque peak. Other modes include "peak hold" which records the highest reading during a test and "track" which displays continuously during use.
- Equally accurate in clockwise and counter-clockwise directions
- Automatic or manual display reset
- Unique adjustable head moves for easy reading
- Rechargeable battery with 110 V AC adapter included (not available separately)

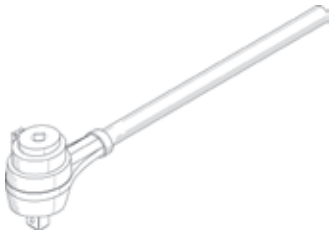
NOTE: NOTE: Use 9U-5101 mounting bracket to mount the testers to a bench top. No bracket is required to mount testers to a vertical surfaces.

Part No.	Description	Torque Range Metric	Drive U.S.	Size
9U-5010	Electronic Torque Tester	57 to 282 N·m	50 to 250 in-lb	3/8
9U-5011	Electronic Torque Tester	226 to 1130 N·m	200 to 1000 in-lb	3/8
9U-5012	Electronic Torque Tester	68 to 339 N·m	50 to 250 ft-lb	1/2

TORQUE CONVERTER, DIVIDER AND RETARDER

Torque Multiplier

Warranty: Manufacturer's



- Used to apply torque greater than capability of torque wrench with an accuracy of ±5%
- Specifically used to install and remove counterweight bolts on 5230B Front Shovels or other similar applications
- Designed for use with 1 inch square drive torque wrench
- Provides 360° continuous rotation in both directions
- Built-in, angle-of-turn protractor measures angle of rotation in 5° increments for torque turn specifications
- Overload protection is provided by square output drive which shears at a torque slightly above maximum output rating
- Decals located on multiplier provide torque input and output values
- Allows use of dial indicator for precise alignment

Specifications

- Square drive (input): 1 inch
- Square drive (output): 1 1/2 inch
- Power ratio: 4.33 to 1
- Rated input capacity: 1,470 N·m (1,081 ft-lb)
- Maximum output capacity: 5,440 N·m (4,000 ft-lb)
- Overall length: 76 mm (30.0 in)

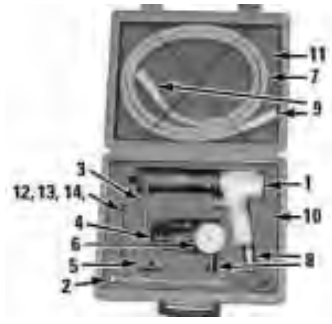
References

- RENR3379 Service Manual, Disassembly and Assembly

Part Number	Description
206-8796	Torque Multiplier

Torque Wrench Set, Air-Regulated

Warranty: Manufacturer's



- Allows controlled output torque in a range of 34 to 300 N·m (25 to 220 ft-lb)
- Readily adapts to 6V-7820 or 6V-6080 Torque Multipliers which provide controlled torque values between 300 to 4350 N·m (220 to 3200 ft-lb)
- Output torque of the wrench can be set by adjusting the air supply at the regulator
- Regulator air gauge is calibrated in kPa and PSI
- Air pressure of 620 kPa (90 PSI) is required for the maximum torque setting
- 1/2 inch drive and rotation is reversible
- Most effective where there are several hardware items that require the same torque; for example, when tightening the wheel nuts or front strut mounting bolts on off-highway trucks

Item	Part No.	Description
1	8T-5190	Wrench Group (When the 8T-5190 Wrench Set is ordered separately, the 8T-5192 Bar is assembled on the wrench. The 8T-5191 Bar is then supplied as a loose part.)
4	8T-5193	Regulator
5	8T-5194	Block (Spacer)
6	8T-5224	Gauge
7	8T-5225	Hose
8	8T-5226	Nipple (two)
9	8T-5227	Coupler (two)
10	8T-5228	Block (base)
11	6V-6105	Block (lid)
12	0T-0065	Bolt, 64 mm (2 1/2 in) long
13	1A-5964	Bolt, 89 mm (3 1/4 in) long
14	5M-2894	Washer (two)
Not shown:		
1U-5809		Grommet
1U-5748		Output spindle
8T-5321		Seal Kit

Engine and Transmission Shipping Stand

Model Usage: D10

Warranty: Caterpillar® Six Months



- Universal stand that meets need for shipping or storing Cat® 4-, 6-, and 8-cylinder engines and transmission arrangements
- Designed to be picked up from any side with fork lift truck — provides quick transportation
- Eases operations where it is necessary to ship engines or transmissions for rebuild
- Eliminates need for wood pallets or other stands constructed to fit particular need
- Built with rugged steel angle and box sections, stand has very stable mounting with low center of gravity
- Engine supports adjustable from front to rear and side to side to provide easy adjustment and maximum adaptability
- Hold-down chains tightened with adjustable load binders keep engine or transmission firmly fixed to stand while in transit

Item	Part Number	Description	Qty.
1	6D-5356	Knob	12
—	3D-6627	Stud	4
—	5P-3000	Engine and Transmission Shipping Stand	—

Transmission Repair Stand

Model Usage: Track-type Tractors, Traxcavator, Wheel Loaders, Wheel Tractors, Motor Graders, 769 and 773 Trucks

Warranty: Caterpillar® Six Months



- Accommodates power shift or range transmissions from track-type tractors, Traxcavator, wheel loaders, wheel tractors, motor graders and the 769 and 773 Trucks
- Such versatility made possible by 4 swivel mounting shoes which can be slid from center into 4 quadrants on top of stand
- Transmissions mounted in vertical position for disassembly and assembly
- Can also be used as supporting fixture for disassembly of other small transmissions such as those in D5 Tractors, 922, 944, 950 and 966 Wheel Loaders and 955H, 955K and 977H Traxcavator, as well as direct drive transmissions, torque converters, and flywheel clutches

Item	Part Number	Description
1	1P-2420	Repair Stand

Transmission Support Group, Lift Bracket Assembly

Essential Tool

Model Usage: 994, 994D, and 994F Wheel Loader

Warranty: Caterpillar® Six Months

European Union compliant, CE marked (176-5528)

- Used to remove and install transmission case and planetary
- Makes transmission removal faster and easier

Transmission Support Group

- Supports and moves transmission forward (in chassis)
- Used with lift bracket assembly
- Fastens to output transfer gear box
- Guide bolts in Support Group align transmission during removal and installation
- English fasteners for 994/994D Wheel Loader
- Metric fasteners for 994F Wheel Loader

Lift Bracket Assembly

- Used to lift transmission from or into support group
- Used with lift truck having at least 3632 kg (8000 lb) capacity
- Attaches to transmission with hardware provided

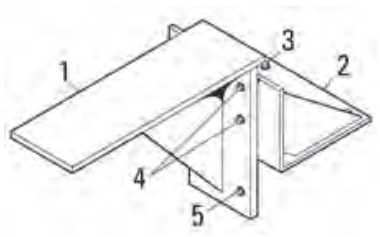
Reference

- RENR2034, 994D Wheel Loader Power Train Disassembly and Assembly

Part Number	Description	Max. Capacity	Weight
172-3928	Transmission Support Group	1589 kg (3500 lb)	32 kg (70 lb)
176-5528	Lift Bracket Assembly	1589 kg (3500 lb)	34 kg (75 lb)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Transmission Support Group



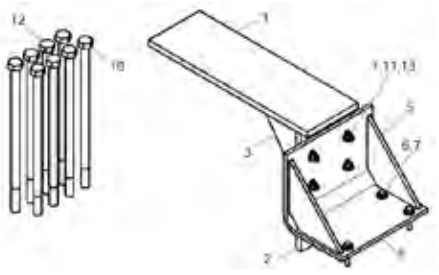
Item	Description
1	Support Assembly
2	Bracket Assembly

Item	Part Number	Description	Requires
172-3928 Transmission Support Group			
3	0S-1590	Bolt (English)	4
3	5P-1075	Hard Washer	4
3	8T-4121	Washer (M10)	4
3	8T-4185	Bolt (Metric)	4
4	0S-1571	Bolt (English)	4
4	9S-8752	Nut — Full (3/8 — 16)	4
5	5P-8245	Hard Washer	2
5	7B-3235	Bolt (English)	2
5	8T-4223	Washer — Hard M12	2
5	8T-4956	Bolt (Metric)	2
Not Shown			
—	098-6000	Bolt (Metric)	4
—	8K-1493	Bolt (English)	4

Transmission Support Assembly

Model Usage: 994H / 994K Wheel Loader

Warranty: Caterpillar® Six Months



- Supports and moves transmission forward in chassis
- Used with lift bracket assembly
- Fastens to output transfer gear box
- Guide bolts in support group align transmission during removal/installation
- Includes both English and Metric fasteners

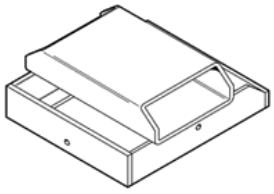
Specifications

- Weight of Transmission Support Assembly (excluding guide bolts) = 29.6 Kg
- Dimensions: 664 x 270 x 320 mm

Item	Part No.	Description	Quantity	Notes
-	455-0125	Transmission Support Assembly	-	-
1	-	01-Plate	1	-
2	-	02-Plate	1	-
3	-	03-Plate	1	-
4	-	04-Plate	1	-
5	-	05-Plate	1	-
6	0S-1590	Bolt 3/8-16	4	Shipped Loose
7	5P-1075	Hard Washer	12	Shipped Loose
8	5P-8245	Hard Washer	2	Shipped Loose
9	7B-3235	Hex Head Bolt 1/2-13	2	Shipped Loose
10	8K-1493	Bolt 3/4-10	4	Shipped Loose
11	9S-8752	Full Nut 3/8-16	4	-
12	098-6000	Hex Head Bolt M20X2.5	4	Shipped Loose
13	165-3931	Hex Head Bolt 3/8-16	4	-

Lift Bracket Assembly

Model Usage: 994, 994D, and 994F Wheel Loader



Part Number	Description	Requires	Use
176-5528 Lift Bracket Assembly			
5P-8247	Hard Washer	4	—
8T-0357	Bolt	4	Use as required per application
9X-8882	Bolt	4	Use as required per application

Spindle Hub Adapter, Drive Adapter, Torque Converter Support

Model Usage: 789 and 793 Trucks

Warranty: Caterpillar® Six Months



- Used to support torque converters on hydraulic test benches (makes testing faster and easier)
- Securely and rigidly holds converter on test bench during testing
- Spindle holds converter on center (helps eliminate damage to seals and bearings)
- Spindle and drive adapters allow converter to be rotated with less vibration

Reference

- NEHT6043, Test Procedure, 789 and 793 Torque Converter Test Procedure

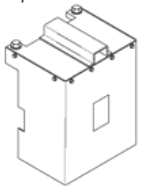
Part Number	Description
9U-5963	Spindle Hub Adapter
9U-5964	Drive Adapter

Restraint Group

Essential Tool

Model Usage: TH31 and TH35 Transmissions (OEM)

Warranty: Caterpillar® Six Months



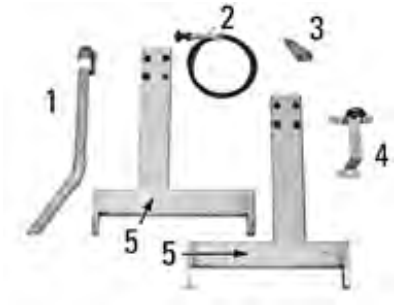
- Used to securely lock output shaft when using transmissions autocalibrate feature
- 288-7353 Shear Bolt available for service replacement as needed

Part Number	Description
284-0837	Restraint Group

Hydrostatic Transmission Tools

Model Usage: 963 and 973 Track-Type Loaders

Warranty: Caterpillar® Six Months



- Used to lift, support, and test hydrostatic transmissions
- Using the proper hardware simplifies installation onto the test bed
- Reduces time spent securing transmission to test center
- Lifting bracket allows transmission to be lifted in a level position, making installation of support brackets much easier
- Transmission supports will rigidly secure transmission to test bed or store it after testing
- Control cable allows test operator to control transmission from a distance
- Overflow assembly directs oil into test bed, preventing it from splashing onto the floor
- All parts, with exception of overflow tube, can also be used to test hydrostatic transmissions on 945 and 953 Track-Type Loader

References

- NEHT6037, Test Procedure (973)
- NEHT6040, Test Procedure (963)

Item	Part Number	Description
1	4C-6179	Overflow Assembly (Not serviced)
5	9U-5214	Transmission Support

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Spanner Wrench Assembly

Essential Tool

Model Usage: TH48FT-E80, FRT1-Up Transmission; TH48FT-E70, KSH1-Up Transmission

Warranty: Caterpillar® Six Months



- Used to remove and install torque convertor ring nut
- Used with 1/2 inch square drive torque wrench or breaker bar
- Heat-treated to provide long service life

References

- RENR9664, Disassembly and Assembly Manual, TH48FT — E80 Transmission, Torque Converter Disassembly and Assembly
- KENR6061, Disassembly and Assembly Manual, TH48FT — E70 Transmission, Torque Converter Disassembly and Assembly

Part Number	Description
276-6863	Spanner Wrench Assembly

Engine Support Bar Assembly

Model Usage: 416C, 416D, 416E, 416F, 420D, 420E, 420F, 424D, 424E, 426C, 426D, 426E, 428C, 428D, 428E, 430D, 430E, 430F, 436C, 436D, 436E, 438C, 438D, 438E, 442D, 442E, and 442F Backhoe Loaders

Warranty: None



- Used to support rear of engine during transmission removal/installation
- Mounts to existing holes in frame rails
- Cover plate (1) mounts to existing holes in engine flywheel housing
- Provides unobstructed access to remove and install transmission
- Adjustable set screw allows weight of transmission to be transferred from transmission mounting brackets (makes removal much easier)
- Provides a safer method of supporting rear of engine during transmission removal/installation
- Material for fabricated parts: SAE 1020 steel

Item	Description
1	Cover plate
2	Spacer(2 required)
3	Channel
6	Channel

Item	Part Number	Description
4	8T-4223	Washer — Hard M12
5	8T-4176	Hex Head Bolt
7	4B-3584	Square Head Setscrew
8	6V-8188	Nut — Full

Hose Assembly, Bulkhead Fitting Group

Model Usage: 1U-5481 Pressure Gauge Group

Warranty: Caterpillar® Six Months



- Repair parts for 1U-5481 Pressure Gauge Group; when replacing any of the pressure gauges, 20.32 cm (8 in) length of diagnostic hose is often damaged
- 4C-5560 Hose Assembly has 1/8 inch NPT pipe fittings on both ends — fits current gauge groups

Part Number	Description
4C-5560	Hose Assembly

Spin-on Thread Adapter

Warranty: Caterpillar® Six Months



- Can be used with 129.54 mm (5.10 in) diameter elements
- 1 1/4 inch NPT male to 1 1/2 – 16 thd

Part Number	Description
9U-6707	Spin-on Thread Adapter

Seal Installer

Model Usage: 14/16M Motor Graders

Warranty: Caterpillar® Six Months



- Used to press on the 415-1706 seal during transmission rebuilds
- Tool is required to reduce the risk of rolling, twisting, or overstretching the seal during installation
- Material: Dupont Delrin Acetal Resin

Specifications

- O.D.:169.63 mm (6.67 inches)
- Length: 138 mm (5.4 inches)
- Weight: 1.94 kg (4.26 lbs)

Part No.	Description
426-2786	Seal Installer

Spin-on Heads

Warranty: Caterpillar® Six Months

- Heads and elements sold separately
- Heads accept spin-on elements of 93.98 mm (3.7 in) diameter, 1 inch-12 thd
- Typical uses: 4C-9475 Transfer Cart, 115 VAC, 60 Hz 169-7159 Transfer Cart, 220 VAC, 50 Hz

Heads

Nominal	Working Pressure	Ports	No. of Elements	DEB PSID [a]	DEI [b]	Part Number
25 gpm (95 lpm)	1,034 kPa (150 PSI)	1 1/16 in SAE	1	25	No	9U-6988
25 gpm (95 lpm)	1,034 kPa (150 PSI)	3/4 in NPT	1	25	No	9U-6987

a. Dirty Element Bypass Cracking Pressure
b. Dirty Element Indicator (pop-up style)

Elements

Elements for Heads of 3.7 in diameter and 1 in-12 thd

Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height	Part Number
5	Synthetic	15 g (0.53 oz)	140 mm (5.5 in)	9U-6978
8.5	Synthetic	15 g (0.53 oz)	140 mm (5.5 in)	9U-6980
18	Synthetic	23 g (0.81 oz)	140 mm (5.5 in)	9U-6981
25	Synthetic/Cellulose	Water – 170 g (6 oz)	140 mm (5.5 in)	180-9549
149	Wire Mesh	—	140 mm (5.5 in)	9U-6982

Pressure Gauge Group, Pressure Adapter Group

Model Usage: All Cat Power Shift Transmissions and Other Hydraulic Systems

Warranty: Caterpillar® Six Months



- Used to test all Cat® power shift transmissions and other hydraulic systems
- Improvements to 1U-5482 include increased number of fittings for usage on all applicable equipment and smaller diameter diagnostic hoses for easier handling
- Both 1U-5481 and 1U-5482 required to replace discontinued 6V-4160 Transmission Hydraulic Test Group

Reference

- REG00452, Power Shift Transmission Testing and Adjusting manual

Item	Description
1	Form NEEG2220 Decal
	Form NEEG2224 Decal
2	Form NEEG2222 Decal (Adapter Case Inside Lid)
	Form NEEG2221 Decal

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Pressure Gauge Group, Pressure Adapter Group (Continued)

Part No.	Description	Size	Qty.
		Item (1)	
003-8747	Pipe Elbow	—	8
1U-5481	Pressure Gauge Group	—	—
3J-1907	O-ring	8	—
6V-3965	Adapter — STR Quick Disconnect	—	8
8T-0841	Case	—	—
8T-0846	Pressure Gauge	0 – 1000 kPa (0 – 145 PSI)	—
8T-0848	Pressure Gauge	0 – 400 kPa (0 – 58 PSI)	—
8T-0849	Pressure Gauge	0 – 2000 kPa (0 – 290 PSI)	—
8T-0850	Pressure Gauge	0 – 3400 kPa (0 – 580 PSI)	3
8T-0851	Pressure Gauge	0 – 15850 kPa (0 – 2300 PSI)	—
8T-0852	Pressure Gauge	0 – 39960 kPa (0 – 5800 PSI)	—
		Item (2)	
177-7861	Hose Assembly	—	8
1J-9671	O-ring	—	2
1U-5482	Pressure Adapter Group	—	—
3B-6552	Elbow Pipe	90° 1/8 in NPT Ext and Int Thd	2
3D-8884	Elbow	90° 1/4 in NPT Ext and Int Thd	2
3J-1907	O-ring	—	8
3J-7354	O-ring	—	4
3K-0360	O-ring	—	2
4C-3723	Box (Yellow Plastic for Fittings)	—	—
5P-2937	Adapter	7/16 in SAE Ext Thd x 1/4 in NPT Int Thd	4
5P-3501	Adapter	9/16 in SAE Ext Thd x 1/4 in NPT Int Thd	6
5P-4674	Adapter	3/4 in SAE Ext Thd x 1/2 in NPT Int Thd	2
5P-4675	Adapter	1/2 in SAE Ext Thd x 1/4 in NPT Int Thd	2
6V-0404	Bonded Seal	—	2
6V-0405	Bonded Seal	—	2
6V-0406	Bonded Seal	—	2
6V-0407	Bonded Seal	—	2
6V-3965	Adapter — STR Quick Disconnect	—	8
6V-3966	Valved Nipple	1/4 in NPT Ext Thd	8
6V-3989	Unvalved Nipple	1/4 in NPT Int Thd	2
6V-4142	Unvalved Nipple	1/8 in Int Thd	—
6V-4143	Coupler As	—	16
6V-6560	O-ring	—	2
6V-8926	Adapter	M10 x 1.5 Ext Thd x 9/16 in SAE Int Thd	2
6V-9028	O-ring	—	2
7M-8489	Adapter Assembly	90° 9/16 in SAE Ext Thd x 1/4 in NPT Int Thd	2
8C-7574	Adapter	1/4 in NPT x 6 in Ext Nipple	1
8C-7575	Adapter	1/8 in NPT x 1 1/2 Ext Nipple	3
8C-7576	Adapter	1/8 in NPT x 3 in Ext Nipple	3
8T-0841	Case	—	—
8T-7860	Connector	M12 x 1.5 Ext Thd x 7/16 in SAE Int Thd	2
8T-7861	Connector	M14 x 1.5 Ext Thd x 9/16 in SAE Int Thd	2
8T-7876	O-ring	—	2
8T-7908	Adapter	1/8 in – 28 BSPP Ext Thd x 7/16 in SAE Int Thd	2
8T-7909	Adapter	1/4 in – 19 BSPP Ext Thd x 7/16 in SAE Int Thd	2
8T-7911	Adapter	3/8 in – 19 BSPP Ext Thd x 9/16 in SAE Int Thd	2
8T-7913	Adapter	1/2 in – 14 BSPP Ext Thd x 3/4 in SAE Int Thd	2

Filter Elements

Model Usage: All Cat Hydraulic Filter Units and Carts

Warranty: Caterpillar® Six Months



- Used to remove water from a hydraulic oil tank
- Economical alternative for water removal
- Fits on standard, low-pressure, spin-on, filter head
- Aluminum body with cellulose media
- Working pressure: 1035 kPa (150 PSI)
- Particle filtration size: 25-micron

Item	Part No.	Length	Diameter	Weight	Flow Rate	Water Removal
1	180-9549	132.3 mm (5.21 in)	93.7 mm (3.69 in)	0.54 kg (1.2 lb)	95 lpm (25 gpm)	170 mL (10.3 cu in) @ 20 PSI differential
2	188-7027	289.3 mm (11.39 in)	129.5 mm (5.10 in)	1.44 kg (3.2 lb)	227 lpm (60 gpm)	700 mL (42.4 cu in) @ 20 PSI differential

Filter Heads, 1-, 2-, and 4- Filter

Model Usage: Cat Hydraulic System or Vehicle

Warranty: Caterpillar® Six Months



- Used to filter oil in 300 lpm (80 gpm) to 450 lpm (120 gpm) applications
- Attaches to a variety of filtering tools using either pipe threads or 4-bolt flanges
- Can be permanently attached to system/ vehicle or fitted with currently available, quick-disconnect fittings
- Made of lightweight, cast aluminum for strength and durability
- Some filter heads have visual dirty element indicator to show when to change element
- Typical uses: 188-3242 HD Air Filter Cart
  127-8781 Filter Cart, 110 Volt/60 Hz
  169-7159 Filter Cart, 220 Volt/50 Hz
  174-9158 Compressed Air Filter Cart

Part No.	Bypass Pressure	Working Pressure	Maximum Flow	Ports	Indicator
Single Filter Heads					
229-7259	None	552 kPa (80 PSI)	300 lpm (80 gpm)	1 1/2 in NPT	no
275-8688	None	1034 kPa (150 PSI)	265 lpm (70 gpm)	1 1/4 in NPT	yes
9U-6989	170 kPa (25 PSI)	1034 kPa (150 PSI)	300 lpm (80 gpm)	1 1/2 in NPT	no
Two Filter Heads					
140-7971	170 kPa (25 PSI)	1034 kPa (150 PSI)	450 lpm (120 gpm)	1 1/2 in NPT and 2 in, 4-bolt flange	yes
229-7260	None	552 kPa (80 PSI)	450 lpm (120 gpm)	1 1/2 in NPT and 2 in, 4-bolt flange	yes
9U-6991	170 kPa (25 PSI)	1034 kPa (150 PSI)	450 lpm (120 gpm)	1 7/8 in SAE and 1 1/2 in NPT	no
Four Filter Heads					
229-7261	None	552 kPa (80 PSI)	450 lpm (120 gpm)	1 1/2 in NPT	yes
9U-5970	170 kPa (25 PSI)	1034 kPa (150 PSI)	450 lpm (120 gpm)	1 1/2 in NPT	yes

Filter Head Elements



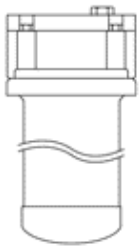
Filter Elements for 1-, 2-, and 4-Filter Heads (single head shown)
(Elements fit heads of 5.1 in diameter and 1 1/2 in-12 thd)

Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height	Part Number
2	Synthetic	—	289.3 mm (11.39 in)	198-3188
5	Synthetic	64 g (2.26 oz)	289.3 mm (11.39 in)	9U-6983
10	Synthetic	64 g (2.26 oz)	270.8 mm (10.66 in)	9U-5870
18	Synthetic	90 g (3.17 oz)	270.8 mm (10.66 in)	9U-6984
18	Synthetic/Cellulose	Water -0.57 g (20 oz)	270.8 mm (10.66 in)	188-7027
149	Cellulose/Wire Mesh	—	289.3 mm (11.39 in)	9U-6985

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Filter Assembly

Warranty: Caterpillar® Six Months



- Filters oil in low pressure, high volume applications
- Small and lightweight
- Comes standard with a 205-7380 Synthetic Filter Element, 3 micron
- 205-7381 Filter Elements, 5-micron, also available
- Internal 2 bar (30 PSI) bypass has orange pop up indicator (requires manual reset) on 205-7379; 229-1463 has differential pressure switch, 240 volt AC, 1-phase, for panel readout or light
- Die cast aluminum with a steel body
- For use on hydraulic test benches or other systems needing kidney looping

Specifications

- Overall height: 810.0 mm (31.9 in)
- Width and depth of head: 159.0 mm (6.26 in)
- Canister diameter: 119.0 mm (4.7 in)
- Ports (in/out): 1 1/2 in NPT
- Bypass (cracking) pressure: 2 bar (30 PSI)
- Flow rate (maximum): 379 lpm (100 gpm)

Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height and Diameter	Description	Part No.
—	—	—	—	Filter Assembly	205-7379
—	—	—	—	Filter Assembly	229-1463
Cartridge Elements for 205-7379 and 229-1463 Filter Groups					
3	Synthetic	345 grams	685.8 mm (27.0 in), 101.6 mm (4.0 in)	—	205-7380
5	Synthetic	258 grams	685.8 mm (27.0 in), 101.6 mm (4.0 in)	—	205-7381

Two Micron Filter Element

Model Usage: All Cat bulk hydraulic fluid storage tanks

Warranty: Caterpillar® Six Months



- Used to remove contamination from fluids held in bulk storage tanks
- Use in high-volume applications
- Two micron filtration capability
- Can be used with the following filter carts:
  188-3242 HD Air Filter Cart 127-8781
  110 Volt / 60 Hz Filter Cart 169-7159
  220 Volt / 50 Hz Filter Cart 174-9158
  Compressed Air Filter Cart
- Large dirt holding capacity
- Water absorption style filter media

Specifications

- Overall size: 289 x 129 mm (11.4 x 5.1 in)
- Filter media: synthetic
- Weight: 1.44 kg (3.2 lb)
- Body style: spin-on
- Pressure rating: 1034 kPa (150 PSI)

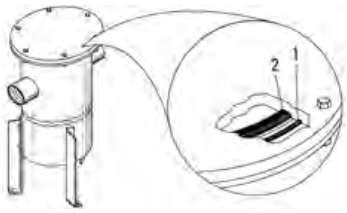
Part Number	Description
198-3188	Element, 2-micron

Filter Group

MCS Code: 5068-070

Model Usage: All Cat hydraulic fluids

Warranty: Caterpillar® Six Months



- For high-volume filtering of petroleum fluids on a mobile truck or trailer and/or in the shop
- Equipped with a standard 25-micron filter element (optional elements are also available)
- NPT ports for easy hose connections
- Uses optional 218-8445 Delta Pressure Gauge
- Multiple outlets for hookup versatility configuration

Specifications

- Inlet port (on bottom of housing): 2 1/2 NPT
- Outlet ports (on opposite sides): 2 1/2 NPT
- Drain and/or pressure gauge ports (2 in bottom of housing): 3/8 NPT
- Max. operating pressure: 689 kPa (100 PSI)
- Internal bypass: None
- Material: Steel
- Dry weight: 43 kg (95 lb)
- Size: 78.7 cm (31.0 in) H x 39.4 cm (15.5 in) W x 33.0 cm (13.0 in) cover diameter
- Flow rate: Up to 2271 lpm (600 gpm)

Item	Part Number	Description
1	6Y-8134	O-ring Replacement Seal
2	8J-8879	O-ring Replacement Seal
—	212-7768	Filter Group

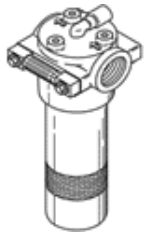
Elements for 212-7768 Filter Group

Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height and Diameter	Part No.
2	—	660 g (1.46 lb)	559 mm (22 in), 109 mm (7.5 in)	212-7125
5	Synthetic	311 g (0.69 lb)	559 mm (22 in), 109 mm (7.5 in)	188-7020
8	Synthetic	430 g (0.95 lb)	559 mm (22 in), 109 mm (7.5 in)	192-1560
23	Cellulose	450 g (0.99 lb)	559 mm (22 in), 109 mm (7.5 in)	185-1375

High-Pressure Filter Group

Model Usage: All Cat bulk hydraulic fluid storage tanks with pneumatic pumps

Warranty: Caterpillar® Six Months



- Used to filter oil in high-volume applications
- For extended time between element changes
- Uses synthetic fiber filter elements
- Especially suited in the output line from 4C-7195 Dispersing Pump and 4C-7228 Dispersing Pump
- Visual dirty element indicator shows when to change element
- Increased dirt-holding capacity over a conventional filter
- Filter head is made of cast aluminum and bowl is made of impact-extruded aluminum for strength and durability

Specifications

- Length: 29.2 cm (11.5 in)
- Diameter: 89 mm (3.5 in)
- Weight: 2.49 kg (5.5 lb)
- Ports: 3/4 in SAE O-ring
- Bypass: 345 kPa (50 PSI)
- Working pressure: 13,790 kPa (2000 PSI)
- Maximum flow rate: 75 lpm (20 gpm)
- Operating temperature: -29° to 121°C (-20° to 250°F)

Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height and Diameter	Description	Part No.
—	—	—	—	High Pressure Filter Group	185-1154
Cartridge Elements for 185-1154 Filter Group					
18	Synthetic	9 g (0.31 oz)	206.2 mm (8.12 in), 63.5 mm (2.5 in)	—	185-1379
5	Synthetic	4 g (0.14 oz)	206.2 mm (8.12 in), 63.5 mm (2.5 in)	—	185-1378

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Hydraulic Transmission Test Group Hardware



Hardware

Item	Part No. [a]	Description	Detail	Qty
1	1S-2432	Tachometer Drive Cable Assembly	—	—
2 [b]	6V-4142	Nipple, Unvalved (for 42000 kPa)	—	8
2 [b]	6V-4143	Coupler Assembly	—	8
2 [b]	177-7861	Hose Assembly	—	8
3	3B-7740	Nipple — Pipe	152.4 long (1/4 in NPT x 6 in)	—
4	3B-7734	Adapter STR	76.2 long (1/8 in NPT x 3 in)	3
5	3B-7263	Nipple — Pipe	51 long (1/8 in-27 NPT x 2 in)	—
6	3B-7733	Nipple — Pipe	38.1 long (1/8 in NPT x 1.5 in)	2
7	8M-1052	Bearing	—	—
9	8M-8622	Cover	—	—
10	8M-5135	Gear Assembly	—	—
11	6V-3966	Pressure Test Valve, 1/4 in-18 NPTF	External, 1/4 in NPT	8
12	6V-3965	Nipple Assembly	External, 9/16 in SAE Thread	2
13	3J-1907	O-ring Seal for 5P-9617 Adapter	Also part of 7M-8489 (2), Item 15 below	6
13	5P-3501	Adapter, 9/16 in-18 SAE external to 1/4 in-18 NPTF internal	9/16 in-18 Ext. Thread, 1/4 in-18 NPT Int. Thread	6
14	3J-7354	Seal — O-ring — STOR for 8C-3446 (not pictured)	O-ring Seal for 8C-3446 Valve	3
14	5P-2937	Adapter — O-ring to Pipe	7/16 in-20 Ext. Thread, 1/4 in-18 NPT Int. Thread	3
15	7M-8489	Adapter Assembly, 90° elbow 9/16 in-18 SAE external to 1/4 in-18 internal	90 degree, 9/16 in-18 Ext. Thread, 1/4 in-18 NPT Int. Thread	2
16	6V-3989	Plain Nipple, Internal, 1/4 in NPT	1/4 in NPT Internal	2
17	5K-5068	Nipple — Pipe Hexagon	1/8 in-27 NPTF Thread — Attach to 6V-4142	2
18	6V-4142	Nipple, 1/8 in NPT Internal	—	2 with 5K-5068
19	3D-2675	Adapter	—	2
20	3D-8884	Elbow (90°)	90 degree, 1/4 in NPT	—
21	3K-0360	Seal, O-ring — STOR (SAE 3/4 — 16)	—	2
21	5P-4674	Adapter — Straight Thread — O-ring	3/4 in-16 Ext. Thread, 1/2 in-20 Internal Thread	2
22	1J-9671	Seal	—	2
22	5P-4675	Adapter — STR	1/2 in-20 Ext. Thread, 1/4 in-18 NPT Int. Thread	2
23	3B-6552	Elbow — 90° Pipe	90 degree, 1/8 in-27 NPTF	2

a. All part numbers in the table have a six month warranty

b. Included in Hose Group

Transmission Test Cover

Model Usage: 16G, 14G

Warranty: Caterpillar® Six Months



- Used for visual inspection and easier testing of articulated motor grader transmissions
- Transparent plastic sheets bonded to flat, rigid steel frames; construction allows them to be used on transmissions having components protruding outside case which occurs on articulated motor grader transmissions

If replacement is necessary, the plastic sheet material can be ordered from:
Cope Plastics
1710 W. Detweiller Drive
Peoria, IL 61614

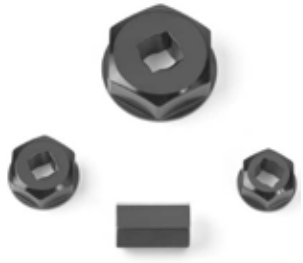
When ordering, request MP1880 Elastomer, 0.5 mm (0.02 in) thick in the size needed. Use proper adhesive to bond the new plastic to the steel frame or repair the bond. Bonding instructions are provided with the adhesive.

Part Number	Description
5P-5260	Transmission Test Cover

Adapter Wrench

Model Usage: 725/730/735 D-Series Trucks

Warranty: Manufacturer's



- Specialized tool that connects/disconnects cooling lines on the transmission on the new 725/730/735 D-series articulated trucks

Part No.	Description	Dimensions	Weight
512-7231	Adapter Wrench For Cooler Line Removal in Articulated Trucks	Flange Head Size: 6126 or 6224, Hexagon Drive Size: 1-5/16 in, Wrench Drive Size: 1/2 in square	0.5 kg (1.1 lb)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Nut Spanner Wrench

Model Usage: 65, D4E Tractor, 941B and 951C Track Loaders

Warranty: Caterpillar® Six Months



- Either of these 3/4 inch drive wrenches can be used to remove and install bearing locknut in transfer gear

Part Number	Description
6V-4041	Nut Spanner Wrench
6V-4070	Nut Spanner Wrench

Electrical Connector Removal and Crimp Tools

Model Usage: Models with CE-Series Electrical Connectors

Warranty: Caterpillar® Six Months



- Required to service "CE" (Cat® Environmental) series electrical connectors; "CE" connectors replace VE (Vehicle Environmental) connectors which are used in harnesses where high temperatures, a large number of contacts, or higher current capacity contacts are needed
- Enable repair to be made without replacing complete wiring harness
- Removal tool needed to remove contacts without damaging connector retaining clips
- Crimping necessary when replacing "CE" contacts
- Solder will not make a good bond with contact material

Reference

- SEHS9065, Special Instruction

Item	Part No.	Description
1	4C-4071	Removal Tool, 4 – 6 Gauge
1	4C-4072	Removal Tool, 8 – 10 Gauge
1	4C-4073	Removal Tool, 12 – 14 Gauge
1	4C-4074	Removal Tool, 16 – 18 Gauge
1	8T-5319	Connector Tool Group
2	4C-4075	Crimp Tool, 4 – 10 Gauge
2	4C-4076	Retainer Assembly, 4 – 6 Gauge – right and left sides
2	4C-4077	Retainer Assembly, 8 – 10 Gauge – right and left sides
2	4C-4078	Jaw Assembly (1)
3	1U-5804	Crimp Tool, 12 - 18 Gauge

Nut Spanner Wrench

Model Usage: D4E, IT28, 926E, 6V-4074 — 16G and 14G, 6V-4070 — 12G

Warranty: Caterpillar® Six Months



- Used to remove and install transmission input gear retainer nut in transfer gear case
- Either former, or later improved wrenches, can be used

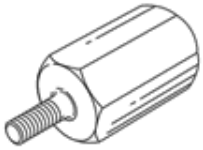
Part Number	Description
6V-4070	Nut Spanner Wrench
6V-4074	Nut Spanner Wrench

Threaded Adapter

Essential Tool

Model Usage: TH103 Telehandler

Warranty: Caterpillar® Six Months



- Removes oil baffle plate from transmission
- Used with 5P-0074 Slide Hammer Puller
- Also for other general pulling applications

Reference

- SENR1242, Disassembly and Assembly TH103 Telehandler Transmission

Specifications

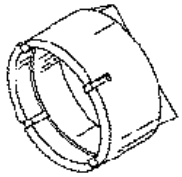
- Capacity: 1814.4 kg (2 tons)
- Male thread: 5/16 – 18
- Female thread: 5/8 – 18
- Hex size: 25.4 mm (1.00 in)
- Overall length: 57.2 mm (2.25 in)

Part Number	Description
153-8963	Threaded Adapter

Locknut Spanner Wrench

Model Usage: CP-563 and CS-563 Compactor

Warranty: Caterpillar® Six Months



- Removes/installs locknut on 1G-8830 Gearbox
- Used with 3/4" square drive ratchet or torque wrench to correctly set preload on bearing
- Makes removal and installation faster and easier (also reduces damage to nut)

Reference

- June 1992, After Failure Service Letter

Specifications

- Inside diameter: 106.0 mm (4.17 in)
- Wall thickness: 12.7 mm (0.50 in)
- Length: 76 mm (3.0 in)
- No. teeth: 4
- Tooth inside diameter: 101.8 mm (4.00 in)
- Tooth width: 9.02 mm (0.355 in)

Part Number	Description
9U-6237	Locknut Spanner Wrench

Socket for Loop Pressure Sensor

Model Usage: 966K

Warranty: Caterpillar® Six Months



- Used to remove and install the transmission loop pressure sensor (366-8978)
- 6 point Impact Socket-1/2 Inch drive

Specifications

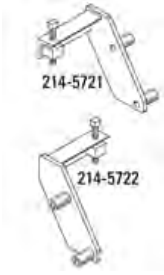
- Dimensions: 170 mm (6.7 in)
- Weight:
  - Head Size: 18.5 mm (.7 in)

Part Number	Description
457-6146	Socket for Loop Pressure Sensor

Engine Support Bracket Assembly (Right Side), Engine Support Bracket Assembly (Left Side)

Model Usage: 824G Wheel Dozer (Emissions Update) with 3406E Engine

Warranty: Caterpillar® Six Months



- Used to support rear of engine during and after transmission removal (brackets serve as temporary engine supports since transmission contains rear engine/transmission mounts)
- Adjustable square head set screws (5/8 — 11) allow rear of engine to be raised or lowered (helps align transmission during installation)
- Attaches to engine flywheel
- Service Part: 2H-3897 Square Head Setscrew

Reference

- RENR4373, Disassembly and Assembly, 824G Wheel Dozer, 825G Soil Compactor and 826G Landfill Compactor, Machine Systems

Part Number	Description
214-5721	Engine Support Bracket Assembly (Right Side)
214-5722	Engine Support Bracket Assembly (Left Side)

Engine Support Bracket Assembly (Right Side), Engine Support Bracket Assembly (Left Side)

Model Usage: 824K, 825K, and 826K Wheel Compactors

Warranty: Caterpillar® Six Months



- Used to support the rear of the engine during and after transmission removal (brackets serve as temporary engine supports since transmission contains rear engine/transmission mounts)
- Adjustable square head set screws (5/8 - 11) allow rear of engine to be raised or lowered (helps align transmission during installation)
- Attaches to engine flywheel housing group
- Service Part: 2H-3897 Square Head Setscrew

Specifications (identical for both part numbers)

- Length: 381 mm (15 in)
- Height: 249 mm (9.8 in)
- Width: 191 mm (7.5 in)
- Weight: 6.56 kg (14.5 lb)

Part Number	Description
460-0846	Engine Support Bracket Assembly (Right Side)
460-0847	Engine Support Bracket Assembly (Left Side)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Engine Support Group

Essential Tool

Model Usage: M-Series Motor Graders

Warranty: Caterpillar® Six Months



- Used to support rear of engine during removal and installation of transmission on all M-Series Motor Graders
- Used with eight 8T-6430 Bolts (M20-2.5 x 50 mm) and eight 7X-3383 Washers (M20) (not included)
- Support assemblies attach to flywheel housing on both sides of engine
- Engine weight is supported on frame rails
- Detent pin and lock-bolt allow fast, easy set-up
- Base plate bolt provides engine height adjustment during transmission installation (helps properly align engine and transmission)

References

- Service Manual, M-Series Motor Grader Disassembly and Assembly
- NEHS1014, Tool Operating Manual, 311-5882 Engine Support Group

Part Number	Description
311-5882	Engine Support Group

⚠ WARNING

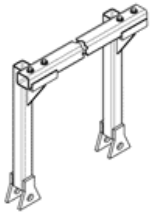
To avoid personal injury or death, always use engine supports in pairs, one on each side of the engine.

Engine Transmission Support Group, Ring Spacer

Essential Tool

Model Usage: All Articulated Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Supports rear of engine during transmission removal/installation or front of transmission during engine removal/installation
- Used with a come-along and/or overhead hoist to adjust position of engine/transmission during removal/installation
- Provides unobstructed access to remove or install transmission/engine
- 207-8158 Ring Spacer prevents rubber ROPS mount from collapsing (2 required; not included in 211-1635)
- Mounts directly to existing ROPS structure using ROPS pins

References

- RENR3446, 725/730 Engine Supplement
- RENR3448, 725/730 Power Train
- RENR5137, 735/740 Engine Supplement
- RENR5138, 735 Power Train
- RENR5139, 740 Power Train

Specification

- Maximum load limit: 1815 kg (4000 lb)

Part Number	Description
207-8158	Ring Spacer
211-1635	Engine Transmission Support Group
Service/Repair Parts	
1D-4569	Bolt
1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)
207-8157	Bracket Assembly
208-5040	Engine Support Tube
5P-8245	Hard Washer

Engine Support Brackets

Essential Tool

Model Usage: 980G and 980G Series II Wheel Loaders

Warranty: Caterpillar® Six Months



- Supports rear of engine during and after transmission removal (brackets serve as temporary engine supports since transmission contains rear engine/transmission mounts)
- Bolts to flywheel housing
- Brackets have adjustable 4B-3626 Square Head Set Screws allowing rear of engine to be raised or lowered (helps align transmission during installation)

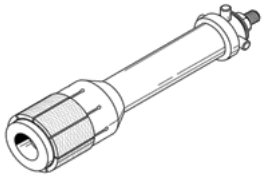
Part Number	Description
205-7844	Engine Support Bracket (Left Side)
206-8846	Engine Support Bracket (Right Side)

End Play Measurement Tool

Essential Tool

Model Usage: 793C Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to measure end play in transfer gear group (only acceptable method)
- Expands in gear bore providing means for accurate end play measurements
- Tool can be used on other components with same size bore
- Hardened and spring tempered for long durable life

Reference

- SENR5691, Service Manual, 793B Truck Power Train

Specifications

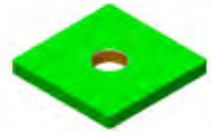
- Outside diameter (knurled end): 85.6 mm (3.37 in)
- Overall length: 381 mm (15.0 in)

Part Number	Description
149-7211	End Play Measurement Tool
4K-0367	Hex Nut
5P-8247	Hard Washer

Base Plate

Model Usage: 627, 637K and 627H using 315-4718 Gear Group

Warranty: Caterpillar® Six Months



- Used for properly measuring gear backlash in the machines listed
- Allows for proper shim selection by passing a depth micrometer through the holes of the bearing cage and onto the plate
- Plate provides a solid platform to take measurements from and provides a solid repeatable base for measurements.
- Refer to Transfer Gears-Assembly-Scraper for more information.

Part No.	Description	Dimensions (W x L x H)	Weight
525-7951	Base Plate	350 x 350 x 35 mm (13.8 x 13.8 x 1.4 in)	31.8 kg (70 lb)

Tool Torque

Model Usage: TA19 Transmission

Warranty: Caterpillar® Six Months



- Used at the pump drive location to rotate shaft
- Allows bearings to be properly seated prior to checking the end play

Reference

- KENR8170, TA19 Transmission Disassembly and Assembly

Specification

- Dimensions: 41.3 x 31.8 mm (1.66 x 1.25 in)

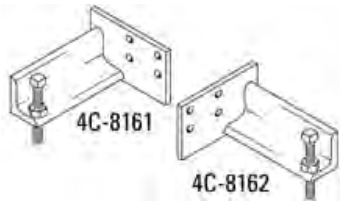
Part Number	Description
380-3894	Tool Torque

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Engine Support Bracket Assembly

Model Usage: 120H, 135H, 140H, 143H, 160H, and 163H Motor Graders

Warranty: Caterpillar® Six Months




Typical installation of support bracket

- Used to support rear of engine during and after transmission removal (brackets serve as temporary engine supports since transmission contains rear engine/transmission mounts)
- Brackets attach to rear of engine as shown in photo
  Square head setscrew: 2H-3897
- Full nut: 4K-0367
- Brackets have adjustable square head set screws which allow rear of engine to be raised or lowered (helps align transmission during installation)

Reference

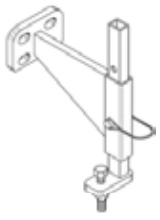
- Service Manual Module

Part Number	Description	Application
4C-8161	Engine Support Bracket Assembly (left side) 3306 Engine	3306 Engines in 140H, 143H, 160H, and 163H Motor Graders
4C-8162	Engine Support Bracket Assembly (right side) 3306 Engine	3306 Engines in 140H, 143H, 160H, and 163H Motor Graders

Engine Support Assembly

Model Usage: 120H Serial # ALZ, 135H Serial # AMX, 12H Serial # AMZ, 140H Serial # APM, 143H Serial # APN, 160H Serial # ASD, 163H Serial # ARL, 14H Serial # ASE, 16H Serial # ATS

Warranty: Caterpillar® Six Months



- Used to support rear of engine during removal and installation of transmission (required since transmission contains rear engine/transmission mounts)
- Versatile tool — works on all motor grader models with emissions update (except 24H)
- Bracket bolts to flywheel housing (mounting bolts not included)
- Adjustable bolt and locknut allows rear engine height adjustment during transmission installation (helps with alignment)
- 2 required

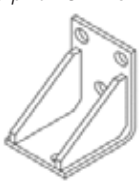
Part Number	Description
209-8351	Engine Support Assembly
Service/Repair Parts	
164-4538	Hex Bolt
4K-0367	Nut — Full

Engine Bracket Assembly

Essential Tool

Model Usage: 5130 Mass Excavator and Front Shovel

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to provide additional engine support when removing or installing pump drive (2 required)
- Correctly supports engine without damaging vehicle
- Easy installation provides faster service
- Height x length x width: 226.0 x 200.0 x 160.0 mm (8.9 x 7.9 x 6.3 in)

Reference

- SENR1472, Disassembly and Assembly 5130B Excavator Machine Systems

Part Number	Description
158-2282	Engine Bracket Assembly

Transmission Test Group

Model Usage: 943, 953, 963, 973

Warranty: Caterpillar® Six Months



- Replaces 6V-3015 Test Group
- Used during troubleshooting of transmission
- Pressures can be checked at 12 locations in hydrostatic drive system

Reference

- Service Manuals

Item	Part No.	Description	Detail	Qty.
—	6V-4157	Transmission Test Group	—	—
1	2P-8289	Holder Block	Block (not shown)	—
1	9U-6219	Tool Box	—	—
2	0S-1614	Bolt	Part of 6V-3024	4
2	6V-3024	Bar Group	—	—
2	6V-3966	Pressure Test Valve, 1/4 in-18 NPTF external	Valved External Nipple, 1/4 in NPT	9
2	8T-0855	Gauge — Pressure	4,000 kPa (580 PSI)	5
2	8T-0861	Gauge — Pressure	60,000 kPa (8700 PSI)	2
2	8T-0863	Gauge — Pressure	250 kPa (36 PSI)	2
3	177-7860	Hose Assembly	—	9
3	3B-6552	Elbow — 90° Pipe	—	9
3	6V-4143	Coupler Assembly	—	18

Tools for Adjusting Mechanical Valve Linkage

Model Usage: 943, 953, 963, 973

Warranty: Caterpillar® Six Months



- Used to move underspeed valve to maximum height for linkage adjustment

Item	Part Number	Description
—	6V-2067	Underspeed Raising Tool Group
Service/Repair for 6V-2067		
1	1D-4718	Nut
2	4B-4279	Washer

Fixture Assembly



- Used to position underspeed linkage when centering pilot valve

Part Number	Description
6V-3085	Fixture Assembly

Protractor Group



- Used to determine center and full speed, forward and reverse positions of servo valve

Item	Part No.	Description	Qty.
—	6V-2155	Protractor Group	—
Service/Repair Parts for 6V-2155			
2	3K-6881	Screw	2
3	4B-4276	Flat Washer	2
5	9L-6074	Grommet	1
6	6V-2153	Pointer	1

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Synchronizing Adjustment Bar



- Used to synchronize right and left servo valves

Item	Description
1	Indicator, part of 8T-5096 Dial Indicator Group

Item	Part Number	Description
2	6V-2060	Adjustment Bar

Puller Group



- Used to remove control valve venturi from transmission

Part Number	Description	Qty.
156-7100	Puller Group	1
Parts Serviced in 156-7100		
6V-2166	Slide Hammer	1

Underspeed Cut-In Tool Group/Bracket

Model Usage: 943, 953, 963, 973

Warranty: Caterpillar® Six Months



- 6V-6183 replaces discontinued 6V-4056 Bracket
- Used to determine underspeed cut-in and proper overspeed adjustment on hydrostatic transmissions
- 6V-6183 Bracket used to position 6V-2070 Tool Group on transmission on 943 and 953

Item	Part Number	Description
—	6V-2070	Underspeed Cut-In Tool Group
Parts Serviced in 6V-2070 Group		
1	1D-5120	Nut
2	5B-9079	Nut

Reference

943, 953, 963 and 973 Service Manual



Part Number	Description
Parts Serviced in 6V-2070 Group	
6V-6183	Bracket

Clutch Retainer Nut Spanner Wrench

Model Usage: 120G, 130G, 140G; 6V-4072-16G and 14G

Warranty: Caterpillar® Six Months



- Used in transfer case gear group to remove and install directional clutch retainer nut on 16G and 14G Motor Graders
- Either former or later improved wrenches can be used

Part Number	Description
6V-4072	Clutch Retainer Nut Spanner Wrench

Transmission Test Cover Assembly

Model Usage: 657E Tractor-Scrapers; 768C, 772B, 776 Tractors; 769C, 773B, 777 Trucks

Warranty: Caterpillar® Six Months



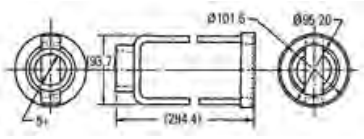
- Used when checking clutch pressures
- Cover helps prevent oil from splashing out and contaminants from falling into transmission during tests
- Cover made of 2 steel plates with rubber sheet laminated between; has holes that allow it to be bolted to transmission housing; holes in rubber sheet allow access to pressure taps

Part Number	Description
6V-6064	Transmission Test Cover Assembly

Clutch Spring Compressor Assembly

Model Usage: 508 Skidder; 416, 426, 428, 436, 438 and 446 Backhoe Loaders; and future product using Cat® countershaft transmission

Warranty: Caterpillar® Six Months



- Replaces 3 assemblies
- Guide collar attached to top of tools U-shaped bar provides positive locator for arbor press plunger during spring compression
- Used to compress transmission clutch springs so retaining ring can be removed or installed
- Increased versatility enables it to be used to service all versions of Funk, Turner-Spicer and Cat® countershaft transmissions

Part Number	Description
4C-3652	Compressor As — Clutch Spring

Relief Valve Spanner Wrench, Spring Compressors

Model Usage: TH62, TH63, TH82, TH83, and TH103 Telescopic Material Handler

Warranty: Caterpillar® Six Months 126-0413 Relief Valve Spanner Wrench and 127-0899 Spring Compressor



126-0413 Relief Valve Spanner Wrench

- Used to remove and install pressure regulator valve in T12000 Transmissions used in TH62, TH63, TH82, and TH83
- Spanner has pins to engage holes in pressure regulator
- Wrench design prevents damage to pressure regulator during removal and installation

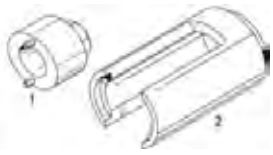
127-0899 Spring Compressor

- Used to compress clutch spring for removal and installation of spring retaining ring on T18000 Transmission used in TH103 Telescopic Material Handler
- Used with shop arbor press for safer and easier removal of clutch spring retainer

Part Number	Description
126-0413	Relief Valve Spanner Wrench
127-0899	Spring Compressor

Reference

SENR5840, Disassembly and Assembly, TH62, TH63, TH82, and TH83 Telehandlers, Power Train



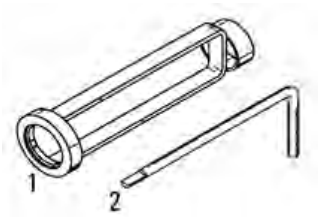
Item	Part Number	Description	Outside Diameter	Inside Diameter	Drive Size	Pin Diameter	Distance Between Centers of Pin	Pin	Length	Counter Bore Diameter	Compressor Reach
1	126-0413	Relief Valve Spanner Wrench	50.8 mm (2.00 in)	28 mm (1.1 in)	1 1/8 in hex	4.74 mm (0.187 in)	40.00 mm (1.575 in)	0L-0626 Bearing Shim Dowel	—	—	—
2	127-0899	Spring Compressor	92.0 mm (3.62 in)	66.5 mm (2.62 in)	—	—	—	—	161.5 mm (6.36 in)	79.6 mm (3.13 in)	152.0 mm (5.98 in)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Spring Compressor

Model Usage: 416C, 426C, 428C, 436C, and 438C Backhoe Loaders

Warranty: Caterpillar® Six Months



137-8102 Spring Compressor Assembly

- Used to compress transmission clutch spring to remove or install retaining ring
- Used with a shop arbor press
- Provides a safer and faster method to remove and install retaining ring (also helps reduce damage to retaining ring or piston)
- Designed to provide mechanic with easy access to retaining ring
- Guide collar attaches to top of fork providing positive location for arbor press while compressing the spring

137-8103 Spring Compressor

- Used to compress detent spring and ball to assemble shift fork shaft into transmission housing
- Provides a positive means of positioning detent ball, allowing shift fork shaft to be installed simultaneously
- L-shaped handle provides a positive grip and ensures correct orientation of tool during assembly

Reference

- SENR1206, Service Manual, Disassembly and Assembly, 416C, 426C, 428C, 436C, and 438C Backhoe Loaders Power Train

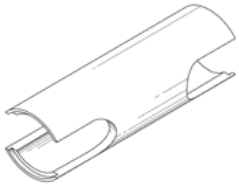
Item	Part No.	Description	Overall Length	Outside Diameter of Base	Inside Diameter of Top Collar	Rod Diameter
1	137-8102	Spring Compressor Assembly	318.0 mm (12.5 in)	88.9 mm (3.50 in)	53.9 mm (2.12 in)	—
2	137-8103	Spring Compressor	255.5 mm (10.00 in)	—	—	11.11 mm (0.437 in)

Spring Compressor

Essential Tool

Model Usage: 236B, 246B, 252B, and 262B Skid Steer Loaders; 416C, 426C, 428C, 436C, and 438C Backhoe Loaders with optional Power Shift Transmission

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble the transmission clutch shaft assemblies
- Used to compress transmission clutch spring to remove and install retaining ring
- Use with shop arbor press
- Provides a method to remove and install retaining ring
- Designed to provide access to easily remove and install the retaining ring
- To aide in the assembly procedures of the piston motors in skid steer loaders

318-1358 Driver

- Used to support the end in the service press

Reference

- SENR1206, Disassembly and Assembly, 416C, 426C, 436C, 428C, and 438C Backhoe Loaders Power Train

Part Number	Description	Outside Diameter	Inside Diameter	O.A.L.
318-1478	Spring Compressor	88.9 mm (3.50 in)	73.0 mm (2.87 in)	254.0 mm (10.00 in)

Countershaft Transmission Disassembly and Assembly Tooling

Model Usage: 446, 910E, IT12B, IT14B; future product using Cat countershaft transmission

Warranty: Caterpillar® Six Months



- Used in disassembly and assembly of 1, 2 or all 3 versions of the first generation of 135 mm (5.31 in) (clutch diameter) countershaft transmissions
- Provide simplest, most effective way to assemble and disassemble the 135 mm (5.31 in) clutch diameter countershaft transmission
- Disassembly and Assembly without these tools may result in improper assembly and damage to components, and will require considerably more time
- Bearing installers (or 4C-6137 Installer with spacers) required to install drawn cup needle bearings; bearing installers have 15° back angle to prevent damage to bearings thin-walled cup; provide positive stop to ensure bearings installed to proper depth to prevent damage to bearings if driven too far and become seated against a shoulder

NOTICE:

- Installation of drawn cup needle bearings without these tools may lead to bearing damage and failure.
- 4C-3652 (6) and 4C-6399 (11) Compressor Assemblies required during disassembly and assembly of clutch; used with shop arbor press to compress clutch spring for easy access to remove snap ring
- 4C-6143 Clutch Piston Installer (7) used during clutch reassembly; clutch pistons contain 2 lip seals that must be centered and inserted into their bores almost simultaneously; extremely difficult to do without this tool and could result in seal damage or improper installation
- 4C-6136 Lifting Bracket (9) used with overhead hoist to remove and install shaft assemblies; quickly and easily slips into grooves between sealing rings on end of shafts; shaft assemblies weigh 18 to 50 kg (40 to 110 lb) and, when oily, are difficult to hold by hand; safer to use lifting bracket
- 4C-6172 Socket (14) used to remove solenoid valves on countershaft transmissions which are recessed in spot face and have very thin hex body; regular 1 1/8 inch sockets, with larger socket OD and inside chamber, will not properly remove valves; lightweight, 1/2 inch drive, deep well socket made of 12-gauge steel, capable of torques needed
- Spanner wrench (18) required to adjust, remove and install differential bearing retainers
- Discs (19) and gauge block (20) used with 1P-0066 Pinion Depth Gauge Group to set pinion in relation to bevel gear; provide quick, accurate method of determining pinion shimming requirements during reassembly
- 1P-0531 Handle (15) used with 4C-6137 Bearing Installer (8), bearing installer (5); attaches to installers with a 1/4-20 hex head cap screw; handle included in 1P-0510 Driver Group or can be ordered separately
- 4C-6402 Expander Tool Group (13) required to install plugs in end of countershaft transmission shafts; plugs not usually removed, but in extreme cases where oil port plugging has occurred or is suspected, they can be removed for cleaning and inspection; tool can service 8 to 12.5 mm (0.31 to 0.49 in) plugs and comes with operating and plug installation instructions; service parts below



Tool Usage by Model

Item	Part Number	Description	910E, IT12B, 446	IT14B
2	4C-6140	Spacer	X	—
6	4C-3652	Compressor As — Clutch Spring	X	X
7	4C-6143	Clutch Piston Installer	X	X
8	4C-6137	Bearing Installer	X	X
9	4C-6136	Lifting Bracket	X	X
11	4C-6399	Compressor Assembly	—	X
12	4C-6142	Spacer	—	X
13	4C-6402	Expander Tool Group	X	X
14	4C-6172 [a]	Socket 1 — 1/8	X	X
15	1P-0531	Handle [b]	X	X

a. Special for removal of solenoid valves on counter shaft transmission

b. Part of 1P-0520 Driver Group

Service/Repair Parts for 4C-6402 Expander Tool Group

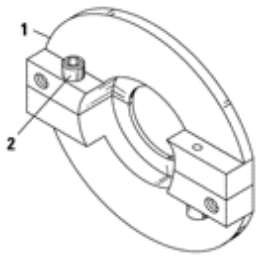
Item	Part No.	Description	Size
2	1U-7560	Allen Wrench	2 mm
5	7T-6726	Spring	—

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Challenger Bearing Tools

Model Usage: Challenger 35, 45, and 55 Agricultural Tractors

Warranty: Caterpillar® Six Months



128-5041 Bearing Puller

- Used to remove bearings from shafts in clutch assembly (works on tapered or straight roller bearings)
- Used with two 5/8 — 18 threaded rods (puller legs) or jaw-type pullers
- Provides pulling contact to bearings inner race, unlike standard pullers which pull on outer race (prevents damage to bearing rollers and cage and allows undamaged bearings to be used again)
- Offset puller face allows removal of recessed bearing in clutch plate housing
- Heat-treated for added durability

128-5042 Bearing/Gear Puller

- Used to remove various press fit bearings and gears from transmission and power train components
- Used with two 5/8 — 18 threaded rods (puller legs) or jaw-type pullers
- Heat-treated for added durability

128-5043, 128-5044, 128-5045, and 128-5046 Bearing Drivers

- Used to assemble press fit bearing onto shaft (helps prevent damage that can occur when using other more traditional methods of bearing installation)
- Driver uses shaft as pilot (tool design prevents slipping and applies force to inner race, exactly where required)
- Provides adequate length to properly seat bearing without using additional spacers or other tooling
- Heat-treated for added durability

128-5048 Indicator Base

- Used as an indicator base for measuring shaft end play (sits in counterbore around shaft)
- Used with 3P-1565 Collet, 369-2607 Indicator, 5P-4162 Point, and 6V-2030 Extension

128-5049 Guide Stud

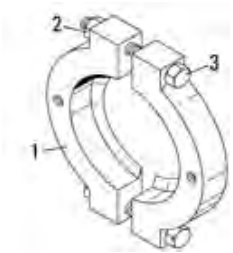
- Used to guide frame rails while separating and joining transmission housing (two required)
- Installs into M20 x 2.5 threaded holes in transmission housing
- Wrench flats provide easy installation and removal
- Heat-treated for added durability

References

- SENR8305, Service Manual, Challenger 35, 45, and 55 Agricultural Tractor Transmission Disassembly and Assembly
- SENR8308, Service Manual, Challenger 35, 45, and 55 Agricultural TractorPower Train Disassembly and Assembly

Item	Part No.	Description	Size	Puller Holes	Overall Diameter
1	128-5041	Bearing Puller	—	5/8 – 18	200 mm (7.9 in)
2	5S-2586	Bolt — Hex Socket Head	3/8 – 16 x 44.5 mm (1.75 in)	—	—

Bearing Parts



Item	Part Number	Description	Size
1	128-5042	Bearing/Gear Puller	-
2	6V-8188	Nut — Full	1/2-13
3	8S-9089	Hex Head Bolt	1/2 — 13 x 114 mm (4.5 in)

Bearing Driver

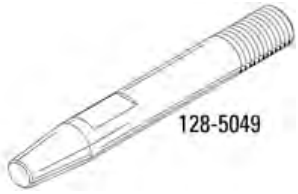
Bearing Drivers	Inside Diameter
128-5043	55.6 mm (2.19 in)
128-5044	55.6 mm (2.19 in)
128-5045	50.7 mm (2.00 in)
128-5046	45.7 mm (1.80 in)

Indicator Base



Part Number	Description	Inside Diameter	Threaded Hole
128-5048	Indicator Base	44.45 mm (1.75 in)	3/8 — 32

Guide Stud

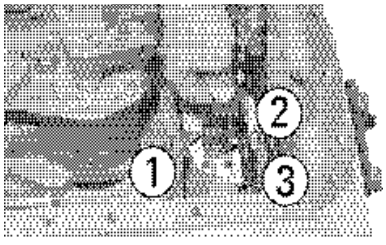


Part Number	Description	Thread	Overall Length	Wrench Flat
128-5049	Guide Stud	M20 x 2.5	152 mm (6.0 in)	5/8 in

Retainer Tool

Model Usage: 943, 953, 963, 973 Track-Type Loaders

Warranty: Caterpillar® Six Months



- Aids in removal and installation of servo piston retaining ring found in hydrostatic transmissions
- Retaining ring virtually inaccessible to pliers, screwdrivers or any other hand tool; attempting removal or installation without this special tool risks dropping retaining ring inside transmission where retrieval could require extensive disassembly and extend repair time by one hour or more
- To remove or install the retaining ring on the pin, the ring must be nested between the tangs on the 1U-5752 exactly as shown
- For installation, slide the inner tangs of the 1U-5752 through the pin ring groove to guide the ring into place
- For ring removal, the tangs must also pass through the pin groove while forcing the ring out of the groove
- Apply an upward force against the bottom pin boss with the 1U-5752 to keep the ring captured between the tool and boss during both installation and removal

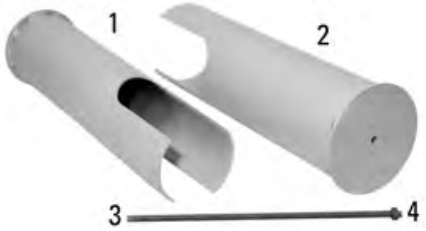
Item	Part Number	Description
1	1U-5752	Retainer Tool
2		Retaining Ring
3		Servo Piston Pin

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Compressing Tubes and Clutch Aligning Tools

Model Usage: IT28F Integrated Toolcarriers; 928F and 938F Wheel Loaders; 520C and 522C Skidders

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble clutches in countershaft transmissions — provides simplest, most effective method
- Improper assembly or damage to components can result from not using these tools
- Makes assembly less difficult — saves time and money

9U-7479 and 9U-7480 Compressing Tubes

- 9U-7479 used for 190.0 mm (7.48 in) diameter first gear clutch; 9U-7480 used for other five 160.0 mm (6.30 in) diameter speed and directional clutches
- Compresses clutch spring to allow removal of retaining ring
- Compressing force produced by threaded rod extending through tube and into clutch shaft (eliminates need for arbor press)
- Large access windows in tube provide ample room to remove retaining ring

9U-7482 and 9U-7491 Clutch Aligning Tools

- 9U-7491 used for 190.0 mm (7.48 in) diameter first gear clutch; 9U-7482 used for other five 160.0 mm (6.30 in) diameter speed and directional clutches
- Used to quickly and properly align and center clutch friction discs and plates during assembly
- Extremely difficult to align plates and discs — tool greatly decreases time to assemble

References

- SENR5995, Service Manual; 928F Wheel Loader Power Train Disassembly and Assembly
- SENR5976, Service Manual; IT28F Integrated Toolcarrier Power Train Disassembly and Assembly

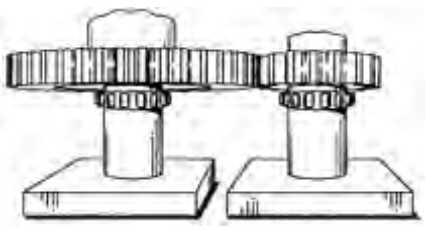
Item	Part No.	Description	Detail	Inside Diameter	Wall Thickness	Overall Length	Access Windows	Bolt Clearance Hole
1	9U-7480	Compressing Tube	—	101.6 mm (4.00 in)	3.20 mm (0.125 in)	425 mm (16.75 in)	76 x 120 mm (3.0 x 4.8 in)	9.5 mm (0.38 in); 1 end
2	9U-7479	Compressing Tube	—	120.6 mm (4.75 in)	3.20 mm (0.125 in)	425 mm (16.75 in)	76 x 120 mm (3.0 x 4.8 in) (2)	9.5 mm (0.38 in)
3	1U-6341	Rod	(modified), M8 x 1.25 cut to 305 mm (12.0 in) long	—	—	—	—	—
4	5P-7970	Nut	M8 x 1.25	—	—	—	—	—

Clutch Aligning Tools



Item	Part No.	Description	Inside Diameter	External Spline	Overall Length
5	9U-7491	Clutch Aligning Tool	79 mm (3.11 in)	mating spline for 6Y-7932 Friction Disc and 6Y-5632 Clutch Plate	126.5 mm (5.00 in)
6	9U-7482	Clutch Aligning Tool	65 mm (2.56 in)	mating spline for 6Y-7922 Friction Disc and 6Y-8512 Clutch Plate	112.5 mm (4.43 in)

Holding Fixture



Part Number	Description	Overall Size	Inside Diameter of Support Shaft
4C-8157	Fixture	203 x 203 x 127 mm (8.0 x 8.0 x 5.0 in)	63.5 mm (2.5 in)

Ag Tractor Transmission and Final Drive Tools

Model Usage: MT835, MT845, MT855, and MT865 Ag Tractors

Warranty: Caterpillar® Six Months



Part No.	Description	Use
224-8943	Spring Compressor Assembly	Correctly remove and install transmission clutch shaft spring retainers
224-8958	Spanner Wrench	Remove and install discontinued 179-9478 Locknut on all final drives
224-8960	Torque Bar Group	Check and set rolling torque of final drive assembly

Battery Charger, 55 AMP

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Clean power supply for maintaining batteries during service or on the showroom floor
- Allows for vehicles to be displayed with all electrical features and accessories activated
- Provides a constant clean power supply for using scan tools and reprogramming of ECM's without discharging battery
- Automatically maintains the battery when performing complex mechanical service
- Advanced switch-mode design provides a cleaner, more reliable power source than a standard charger
- Regulated DC output prevents overcharging
- Precise control to maintain necessary battery voltage during complex service and reflash
- Quiet, compact, portable design includes heavy-duty internal components to ensure years of continuous use
- Multiple protection features for long, trouble-free life: reverse battery polarity protection via replaceable fuses, brownout input protection, over-current
- Unique proportional fan control aligns fan speed to the converter's internal ambient temperature, allowing the fan to turn on and off slowly minimizing fan startup noise
- High quality, 6 ft detachable cables for easy field service

Specifications

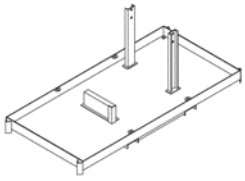
- Power Supply Voltage Regulation: 13.6 V
- Max. Amps Output at Regulated Voltage: 55 A
- Weight: 4.1 kg (9 lb)
- Measurements: 11 x 8 x 8 in

Part Number	Description
372-5277	55 AMP Battery Charger

Pan Support Group

Model Usage: CX31 On-Highway Transmissions

Warranty: Caterpillar® Six Months



- Used to locate and support CX31 On-Highway Transmission on hydraulic test center during bench testing procedure
- Fastens to hydraulic test center work sump
- Steel pan collects (isolates) transmission fluid to prevent contamination of test center oil
- Integral drain plug for easy fluid removal after testing is complete
- Also used with optional 325-9486 Bracket Assembly for bench testing CX28 On-Highway Transmissions

Reference

- REHS3184, Bench Test Procedure

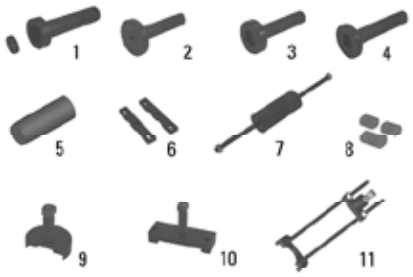
Part Number	Description
296-3645	Pan Support Group

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Transmission Maintenance Tool Group

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Maintenance tools used for servicing transmission
- All tools shipped as one unit: 5 boxes per pallet
- Total pallet shipping weight: 120.95 lbs (54.86 kg)

No.	Drivers	Weight	Length	Width	Height
		Box No. 1			
1	Input Shaft Bearing Driver	11 lbs (4.9 kg)	14.5 in (368.3 mm)	4.25 in (107.95 mm)	4.25 in (107.95 mm)
2	Countershaft Front Bearing Driver	6 lbs (2.72 kg)	7.5 in (190.5 mm)	4 in (101.6 mm)	4 in (101.6 mm)
3	Countershaft Rear Bearing Driver	6 lbs (2.72 kg)	7.75 in (196.85 mm)	3.45 in (87.63 mm)	3.45 in (87.63 mm)
4	Countershaft Front/Rear Driver-FRO Series	6 lbs (2.72 kg)	8.3 in (210.82 mm)	3.5 in (88.9 mm)	3.5 in (88.9 mm)
5	Trans. Bearing Driver	6.5 lbs (2.9 kg)	8.4 in (213.36 mm)	4 in (101.6 mm)	4 in (101.6 mm)
	Driver Total Weight:	35.5 lbs (16.10 kg)			

No.	Pullers	Weight	Length	Width	Height
		Box No. 2			
6	Aux. C/S Support Strap	1.5 lbs (.68 kg)	6 in (152.4 mm)	1 in (25.4 mm)	0.5 in (12.7 mm)
7	Slide Hammer	6 lbs (2.72 kg)	16 in (406.4 mm)	2.25 in (57.15 mm)	2.25 in (57.15 mm)
8	Slide Hammer Adapters	1 lb (.45 kg)	2.75 in (69.85 mm)	1.5 in (38.1 mm)	0.5 in (12.7 mm)
9	Countershaft Bearing Puller	2.25 lb (1.02 kg)	3 in (76.2 mm)	4.5 in (114.3 mm)	4 in (101.6 mm)
10	Countershaft Pusher	3.25 lbs (1.5 kg)	2 in (50.8 mm)	6 in (152.4 mm)	4 in (101.6 mm)
11	Input Shaft Bearing Puller	12.5 lbs (5.7 kg)	16 in (406.4 mm)	4 in (101.6 mm)	4 in (101.6 mm)
	Puller Total Weight:	26.5 lbs (12.02 kg)			

Part Number	Description
377-3036	Transmission Maintenance Tool Group

Pinion Seal Installation Tool

Model Usage: CT660

Warranty: Manufacturer's



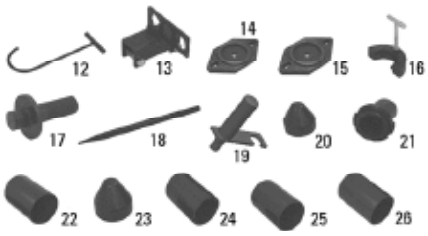
- Installs the rear axle pinion seal
- Installs the seal to the correct depth without damaging the seal

Specifications

- Overall Diameter: 76.2 mm (3 in)
- Overall Length: 178 mm (7 in)
- Weight: 3.5 kg (7.7 lb)

Part Number	Description
458-7373	Pinion Seal Installation Tool

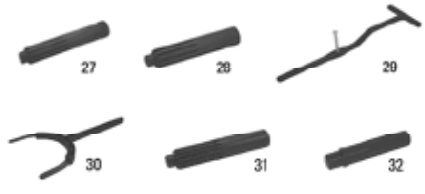
Tool Group Box No. 3 — No. 4



No.	Misc.	Weight	Length	Width	Height
		Box No. 3			
12	Mainshaft/Countershaft Hook Tool	1 lb (.45 kg)	12 in (304.8 mm)	4 in (101.6 mm)	0.6 in (15.24 mm)
13	Aux. Section Lifting Bracket	1 lb (.45 kg)	3.5 in (88.9 mm)	3.5 in (88.9 mm)	3 in (76.2 mm)
14	Aux. Countershaft Taper Bearing Shim Gauge (.100 in)	2 lbs (.90 kg)	6.25 in (158.75 mm)	3.5 in (88.9 mm)	0.63 in (16.0 mm)
15	Aux. Countershaft Taper Bearing Shim Gauge (.125 in)	2 lbs (.90 kg)	6.25 in (158.75 mm)	3.5 in (88.9 mm)	0.63 in (16.0 mm)
16	Universal Timing Block	1.5 lbs (.68 kg)	2 in (50.8 mm)	3.8 in (96.52 mm)	4.5 in (114.3 mm)
17	Soft Maul	10 lbs (4.5 kg)	8 in (203.2 mm)	4.75 in (120.65 mm)	4.75 in (120.65 mm)
18	Soft Bar	4.25 lbs (1.92 kg)	21 in (533.4 mm)	1 in (25.4 mm)	1 in (25.4 mm)
19	Trans. Counter-Shaft Timing Tool	1 lb (.45 kg)	4 in (101.6 mm)	4.25 in (107.95 mm)	1 in (25.4 mm)
	Misc. Total Weight:	22.75 lbs (10.32 kg)			

No.	Output Shaft Seal Driver	Weight	Length	Width	Height
		Box No. 4			
20	Driver Slinger	1 lb (.45 kg)	4 in (101.6 mm)	4 in (101.6 mm)	3 in (76.2 mm)
21	Driver	1 lb (.45 kg)	5.125 in (130.18 mm)	5.125 in (130.18 mm)	7 in (177.8 mm)
22	Reducer	1 lb (.45 kg)	2.75 in (69.85 mm)	2.75 in (69.85 mm)	4.25 in (107.95 mm)
23	Driver Slinger	1 lb (.45 kg)	4.25 in (107.95 mm)	4.25 in (107.95 mm)	4 in (101.6 mm)
24	Reducer	1 lb (.45 kg)	2.75 in (69.85 mm)	2.75 in (69.85 mm)	4.25 in (107.95 mm)
25	Reducer	1 lb (.45 kg)	2.75 in (69.85 mm)	2.75 in (69.85 mm)	4.25 in (107.95 mm)
26	Reducer	1 lb (.45 kg)	2.75 in (69.85 mm)	2.75 in (69.85 mm)	4.25 in (107.95 mm)
	Seal Driver Total Weight:	7 lbs (3.18 kg)			

Tool Group Box No. 5



No.	Clutch Tools	Weight	Length	Width	Height
		Box No. 5			
27	1 3/4" Alignment Shaft	6.25 lbs (2.83 kg)	10.1 in (256.54 mm)	1.75 in (44.45 mm)	1.75 in (44.45 mm)
28	2" Alignment Shaft	8.25 lbs (3.74 kg)	10.33 in (262.38 mm)	2 in (50.8 mm)	2 in (50.8 mm)
29	Clutch Release Tool 2" Alignment Shaft	3 lbs (1.36 kg)	15 in (381 mm)	5.5 in (139.7 mm)	2.65 in (67.31 mm)
30	Clutch Measurement Tool	2 lbs (.91 kg)	14 in (355.6 mm)	6 in (152.4 mm)	0.5 in (12.7 mm)
31	2" 14 Spline Alignment Shaft	8 lbs (3.63 kg)	10.33 in (262.38 mm)	2 in (50.8 mm)	2 in (50.8 mm)
32	Alignment Shaft	1.7 lbs (.77 kg)	6 in (152.4 mm)	1 in (25.4 mm)	1 in (25.4 mm)
	Clutch Tools Total Weight:	29.20 lbs (13.24 kg)	—	—	—
	Total Pallet Shipping Weight:	120.95 lbs (54.86 kg)	—	—	—

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Spindle Adapter Assembly

Model Usage: 966K XE

Warranty: Caterpillar® Six Months



- Used along with other tooling to enable transmission to be connected to hydraulic test bench
- Used to bench test LVT145 transmission

Specifications

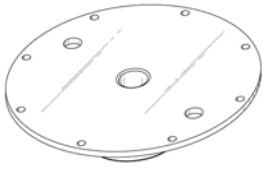
- Dimensions: 800 x 200 mm (31.5 x 9.8 in)
- Weight: 111.1 kg (245 lb)

Part Number	Description
450-1083	Spindle Adapter Assembly

Drive Adapter

Model Usage: CX31 On-Highway Transmissions

Warranty: Caterpillar® Six Months



- Used for connecting CX31 On-Highway Transmission to Hydraulic Test Center
- Used with 4C-4701 Spindle Assembly Adapter, 1U-5999 Spindle Assembly, 1U-6721 Adapter, 1U-9359 Drive Adapter, and 1U-9131 Drive Adapter to connect CX31 Transmission to test center driveshaft
- Replaces flywheel during bench testing

Reference

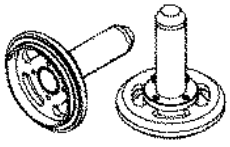
- REHS3184, Bench Test Procedure

Part Number	Description
289-0219	Drive Adapter

Lip Seal Installer

Model Usage: CX31, CX35, On-Highway and Petroleum Transmission

Warranty: Caterpillar® Six Months



- Used to properly install 363-2112 Lip Seal in torque converter housing
- Ensures accurate installation depth each time
- Works with old and new lip seals
- Heat-treated for added durability

References

- KENR5091, CX31 On-Highway Transmission, Disassembly and Assembly, Torque Converter Housing — Install
- KENR6060, CX35 On-Highway Transmission, Disassembly and Assembly, Torque Converter Housing — Install
- KENR8152, CX31-P600 Petroleum Transmission Well Servicing Disassembly and Assembly
- UENR0125, CX31 On-Highway Transmission, Disassembly and Assembly
- KENR8128, Petroleum Transmission and Petroleum Power Train Packages

Specifications

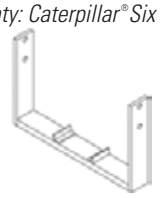
- Dimensions: 228.6 x 270.3 mm (9 x 10.6 in)
- Weight: 8.2 kg (18.1 lb)

Part Number	Description
385-4000	Lip Seal Installer

Bracket Assembly

Model Usage: CX28 On-Highway Transmissions

Warranty: Caterpillar® Six Months



- Used to locate and support CX28 On-Highway Transmission during bench testing on Hydraulic Test Center
- Used with 296-3645 Pan Support Group on hydraulic test center work sump
- Welded steel construction

Reference

- REHS3485, Bench Test Procedure

Part Number	Description
325-9486	Bracket Assembly

Transmission Tooling

Model Usage: Cx38 Transmission

Warranty: Caterpillar® Six Months

Part No.	Description	Use	Dimensions	Weight	Image
469-7618	Driver Assembly	For installing the 353-4911 bearing into the 382-7513 CL1/3 housing	82 x 160 mm (3.2 x 6.3 in)	4.1 kg (9 lb)	
469-7619	Driver	For installing the 353-4913 bearing into the 353-4944 CL2 hub	25 x 100 mm (1 x 3.9 in)	1.4 kg (3 lb)	
469-7620	Driver	For installing the 353-4912 bearing into the 353-4944 CL2 hub	66 x 152 mm (2.6 x 6 in)	2.3 kg (5 lb)	
469-7621	Driver	For installing the 353-4910 bearing into the 367-9374 Tr1 Sun Gear	50 x 138 mm (2 x 5.4 in)	3.6 kg (8 lb)	
469-7622	Driver	For installing the 353-4914 bearing into the 367-9372 Tr2 carrier	25 x 100 mm (1 x 3.9 in)	1.4 kg (3 lb)	
469-7623	Driver	For installing the 353-4915 bearing into the 367-9373 Tr3 carrier	31 x 140 mm (1.2 x 5.5 in)	3.2 kg (7 lb)	
469-7624	Spacer Assembly	Elevation tool for lifting the 382-7511 hub to install four retaining rings	19 x 127 x 252 mm (0.7 x 5 x 9.9 in)	1.4 kg (3 lb)	
469-7625	Compressor Assembly	Compressor for installing the retaining ring for the 353-3938 piston	185 x 420 x 358 mm (7.3 x 16.5 x 14.1 in)	10 kg (22 lb)	
485-2879	Driver Handle	Handle used for the various drivers	65 x 170 mm (2.6 x 6.7 in)	1.4 kg (3 lb)	
501-1553	Carrier Seal Installer	For installing the 353-4871 Carrier	179 x 220 x 150 mm	5 kg	
466-7458	Lip Seal Installer	Used to install the 365-3179 lip seal	78 x 200 mm (3 x 7.9 in)	6.3 kg (2.8 lb)	
466-8474	Wear Sleeve Installer	Used to install the 365-3180 rock guard	190 x 75 mm (7.5 x 3 in)	7.7 kg (3.5 lb)	
480-0074	Harness for Bench Testing	Used to connect transmission to test bench	76 x 254 mm (3 x 10 in)	0.25 kg (0.5 lb)	

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Transmission Lifting Plate

Model Usage: D9R and D9T Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to remove transmission assembly from machine without draining hydraulic system on ripper attachment
- Used with 142-6893 Hook Assembly
- Tool is NOT used to remove bevel gears and case from main frame case
- Plate height x width: 283.0 x 508.0 mm (11.1 x 20.0 in)
- Plate thickness: 9.5 mm (0.38 in)

Part Number	Description
434-4634	Plate

Tools to Support and Connect Transmissions to Hydraulic Test Center

Model Usage: 508 Skidder

Warranty: Caterpillar® Six Months



- Used to support and connect transmissions to hydraulic test center (provides simple, effective means of support)
- Used with 1U-5999 Spindle and large hydraulic test center

Reference

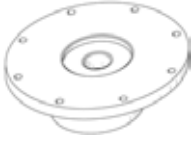
- NEHT6033, Test Procedure

Part Number	Description
4C-6174	Adapter Ring
Also Included:	
Front Support	

Drive Adapter

Model Usage: CX28 On-Highway Transmissions

Warranty: Caterpillar® Six Months



- Connects CX28 Transmission to Hydraulic Test Center driveshaft for bench testing
- Used with eigh 8T-4186 Bolts and 8T-4121 Washers (dealer supplied)
- Replaces flywheel during bench testing

Reference

- REHS3485, Bench Test Procedure

Part Number	Description
325-9487	Drive Adapter

Spindle Ring Adapter

Model Usage: 651E, 657E, and 657G Transmissions

Warranty: Caterpillar® Six Months



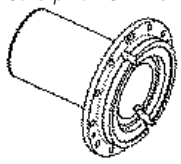
- New ring-spindle adapter replaces discontinued 4C-4698
- Used for bench testing transmissions

Part No.	Description	Dimensions	Weight
550-9175	Spindle Ring Adapter	Dia 509 x 50 mm (Dia 20 x 2 in)	21.5 kg (47.3 lb)

Drive Adapter

Model Usage: TH55-E70, TH55-E90 Transmission

Warranty: Caterpillar® Six Months



- Used to bench test TH55-E70 and TH55-E90 transmissions
- Enables safe operation/testing of component
- Replaces flywheel pilot during bench testing
- Durable welded construction

Specifications

- Dimensions: 271 x 257.2 mm (10.67 x 10.13 in)
- Weight: 17.24 kg (38 lbs)

Part Number	Description
395-0089	Drive Adapter

Bench Testing D9N and D10N Transmissions

Model Usage: D9N (discontinued arrangement 7W-7667) and D10N (arrangement 7T-5802) Transmissions

Warranty: Caterpillar® Six Months



- Adapters and support legs provide way to connect transmission to test bench oil supply, flowmeters and drive shaft, in addition to supporting transmission during bench test
- Required for bench testing D9N (discontinued arrangement 7W-7667) and D10N (arrangement 7T-5802) Transmissions

Reference

- NEHT6016, Test Procedure

Part Number	Description
1U-9885	Adapter Block

Drive Adapter, Plate, Rail Assembly

Model Usage: CX48 Transmission

Warranty: Caterpillar® Six Months



- Tests CX48 transmissions on the test bench
- Used with 1U-5999 spindle group to connect test bench driveshaft to transmission
- 439-5589: operator drives the transmission
- 439-5591 — used to support transmission on work table during operational testing
- 439-5592 — supports transmission on benches with worktable recessed in floor

Part Number	Dimensions
439-5589	460.0 x 196.9 mm (18.1 x 7.7 mm)
439-5591	619.8 x 88.9 x 25.0 mm (24.4 x 3.5 x 1.0 in)
439-5592	1612.9 x 152.4 x 349.3 mm (63.5 x 6.0 x 13.7 in)

Tube Assembly Mounting, Adapter, Drive Spacer

Model Usage: 966K XE

Warranty: Caterpillar® Six Months



- Enables dealers to connect to the Hydraulic Test Bench/test transmissions after rebuild
- 451-1481 Supports transmission on worktable
- 451-1482 hydraulic fitting adapter enables plumbing
- 451-5676 used as adapter to space drive line

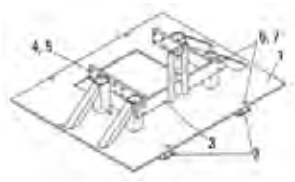
Part Number	Description	Dimensions
451-1481	Tube Assembly Mounting	17.22 kg (37.96 lb)
451-1482	Adapter	1.93 kg (4.25 lb)
451-5676	Drive Spacer	4.58 kg (10.1 lb)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Stand Group

Model Usage: 994D (153-7520 Transmission Arrangement) and 994F (239-8137 Transmission Arrangement)

Warranty: Caterpillar® Six Months



- Used to support 153-7520 and 239-8137 Transmission Arrangements on Hydraulic Test Center during bench test
- Fastens securely to test center work sump using dealer supplied hardware
- Includes hardware required to secure transmission to stand
- Welded steel construction

Reference

- REHS3490, Bench Test Procedure

Item	Description	Quantity
1	Base Assembly [a]	1
2	Rail Assembly [a]	2
3	Support Assembly [a]	1

a. Not serviced separately

Item	Part No.	Description	Size	Qty.
4	6V-5845	Transmission Mounting Bolt	M20 x 2.50 x 70 mm long	16
5	8T-3282	Washer — Hard	M20	16
6	1A-8063	Bolt	3/4-10 x 2.50 inches long	10
7	5P-8248	Hard Washer	3/4 inch	10
—	312-4124	Stand Group	—	—

Plate Assembly Adapter

Model Usage: D6N

Warranty: Caterpillar® Six Months



- New supports for D6N transmission for test bench procedure
- Longer plates properly support the transmission for testing

Part No.	Description	Dimensions	Weight
554-5066	Plate Assembly Adapter	541.4 x 350.8 x 25.4 mm (21.3 x 13.8 x 1 in)	15.5 kg (34 lb)

Drive Adapter

Model Usage: 994D (124-5570) and 994F (180-0567) Torque Convertor

Warranty: Caterpillar® Six Months



- Bench tests Torque Convertors on Hydraulic Test Center
- Used with 294-0308 Test Fixture and 1U-5999 Spindle Group to connect torque convertor to test center driveshaft
- Replaces flywheel pilot during bench testing
- Durable, welded steel construction

Reference

- REHS3453, Bench Test Procedures

Part Number	Description
311-2918	Drive Adapter

Bench Testing D4H and D5H Transmissions

Model Usage: D4H (arrangement 3T-8315) and D5H (arrangement 3T-8274) Transmissions

Warranty: Caterpillar® Six Months



- Adapters, linkages and support legs provide way to connect transmission to hydraulic test center oil supply, flowmeters and drive shaft, in addition to supporting transmission during bench test
- Required for bench testing D4H (arrangement 3T-8315) and D5H (arrangement 3T-8274) Transmissions

Reference

- NEHT6017, Test Procedure

Item	Part Number	Description
1	1U-9768	Front Support
2	1U-9767	Lube Adapter Block
4	1U-9769	Adapter Block
5	2R-4139	Lever
5	5T-8097	Lever

Tools to Support Transmission During Bench Testing

Model Usage: See Model Usage Below

Warranty: Caterpillar® Six Months





- Supports transmissions during bench testing
- Can be used to store and transport transmissions with lift trucks
- 4C-9998 used with the following Crossmember Assemblies (sold separately)
  - 9U-6001 — 985C, 966L
  - 9U-6002 — 980C
  - 1U-6232 — 910E, 910F, 918F, 924F, IT12E, IT12F, IT14B, IT14F, IT18F, IT24F
  - 1U-9035 — 928F, 938F, 938G, IT28F, IT38F, IT38G
  - 127-8477 — CH45
  - 136-6575 — D250E, D300E
  - 141-9992 — D400E
  - 159-0747 — 980C, 988, 988B, 824C, 825C, 826C, 834B, 836B, 24H
- Requires two each of the 4C-9998 Bracket Assembly, one each of the above listed Crossmember Assemblies, and the following hardware (sold separately):
  - 7F-5227 Bolt (4 pcs)
  - 1D-4616 Bolt (4 pcs)
  - 2S-0115 Washer (12 pcs)
  - 2J-3506 Nut (4 pcs)
  - 440-5341 Shim (966L)
  - 440-5342 Shim (966L)
  - 462-1279 Shim (535D)
  - 462-1280 Shim (535D)

Reference

- REH2298 Bench Test Procedure

Part Number	Description
4C-9998	Bracket Assembly
439-5588	Support Assembly
Crossmember Assemblies	
127-8477	CH45
136-6575	D250E, D300E
141-9992	D400E
159-0747	980C, 988B, 824C, 825C, 826C, 834B, 836B, 24H
1U-6232	910E, 910F, 918F, 924F, IT12E, IT12F, IT14B, IT14F, IT18F, IT24F
1U-9035	928F, 938F, 938G, IT28F, IT38F, IT38G
9U-6001	950C, 966L
9U-6002	980C
Required Hardware	
1D-4616	Bolt (4 pcs)
2J-3506	Nut (4 pcs)
2S-0115	Washer (12 pcs)
7F-5227	Bolt (4 pcs)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Pinion Nut Spanner Wrench

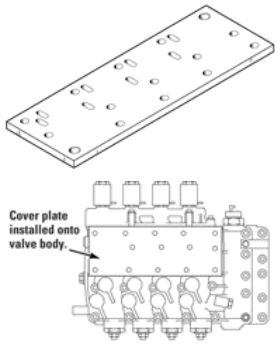


Part Number	Description	Use
1U-8306	Pinion Nut Spanner Wrench	Removal and Installation of nut on winch pinion shaft and input clutch shaft

Cover Plate

Model Usage: All "H" Series Motor Graders

Warranty: Caterpillar® Six Months



- Enables mechanic to check and adjust initial transmission pressures
- Reduces time required to perform initial pressure adjustment as removal of control valve is not recommended or necessary
- To remove cover: (1) Remove bolts from control valve cover, EXCEPT for 3 bolts across top; (2) Loosen 3 top bolts only enough to lift cover and slide cover plate into place; (3) Tighten bolts as recommended in Service Manual
- Uses bolts from 8E-9474
- Must be installed on transmission valve group in place of existing 8E-9474 Cover prior to initial pressure test — initial pressures cannot be tested properly without installing cover plate
- Machined with oil porting slots on bottom side of plate that properly direct oil to appropriate locations in valve body
- Overall size: 108.0 x 286.0 x 7.0 mm (42.5 x 11.3 x 0.3 in)

Reference

- Service Manual Module

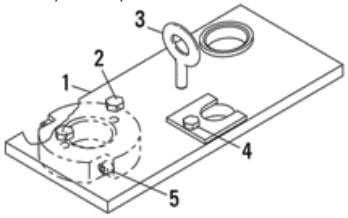
Part Number	Description
139-7050	Cover Plate

Transmission Shaft Handler Base Assembly

Essential Tool

Model Usage: All Backhoe Loader Models with Power Shift Transmission (except 446B)

Warranty: Caterpillar® Six Months



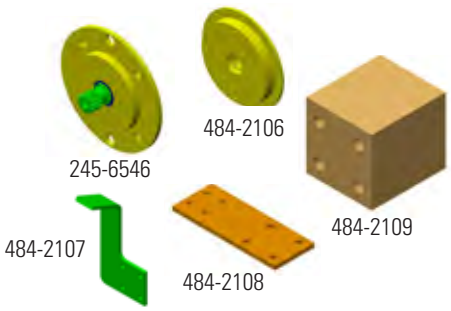
European Union compliant, CE marked

- Used to correctly and safely remove and install power shift transmission shafts
- Provides simultaneous handling of three transmission shafts
- Used to remove and reinstall shafts, gears, and bearings as an assembly

Item	Part Number	Description	Size
1	152-7085	Transmission Shaft Handler Base Assembly	—
2	0S-1588	Bolt	3/8 – 16
3	1P-7407	Eyebolt (1/2 — 13)	1/2 – 13
4	8T-9364	Bolt	1/4 – 20
5	1T-0284	Bolt — Hex Socket Head	5/16 – 18

Bench Test Tooling for Transmissions

Model Usage: 415F Backhoe Loader



- Enables mounting and driving 415F backhoe loader transmissions when testing on benches

Part No.	Description
245-6546	Bench Test Tooling Group for Transmissions
484-2106	Adapter Plate
484-2107	Bracket - Right Side
484-2108	Bracket - Left Side
484-2109	Support Block - Left Side

Brackets

Model Usage: TL1055D, TL1255D

Warranty: Caterpillar® Six Months



- Used to safely support transmission during testing
- Properly aligns the input drive and allows for clearance of the output drive case.
- Securely mounts transmission to existing tooling.

Reference

- M0078020 Bench Testing Procedure for TL1055D/1255D Telehandler Transmission

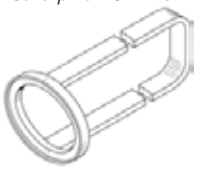
Part No.	Description	Dimensions	Weight
526-5496	Bracket-Left	392 x 152 x 13 mm (15.4 x 6 x 0.5 in)	4.5 kg (10 lb)
526-5497	Bracket-Right	394 x 152 x 13 mm (15.5 x 6 x 0.5 in)	4.5 kg (10 lb)

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Transmission Clutch Spring Compressor

Model Usage: All Models MT700 Series GEN 111 Ag Tractors

Warranty: Caterpillar® Six Months



- Used to remove clutch spring on the transmission shaft assembly

Reference

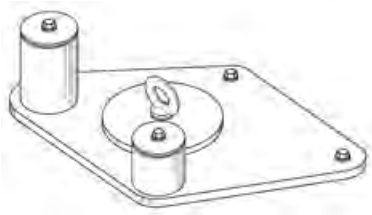
- RENR1867, MT700 Disassembly and Assembly Service Manual

Part Number	Description
207-8153	Transmission Clutch Spring Compressor

Lifting Bracket Assembly

Model Usage: MT700 Series GEN 111 Tractors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to efficiently remove and install MT700 transmission shaft assemblies from transmission case
- Holds all four shaft assemblies in alignment
- Designed to vertically balance shaft assemblies for easier installation

Reference

- NEHS0991, 203-5581 or 203-5582 Lifting Bracket Assembly

Specifications

- Maximum load: 356 kg (784 lb)

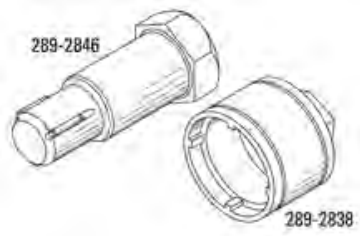
Part Number	Description	Size
4C-8359	Metric Eyebolt	M12 x 1.75
6V-1820	Bolt	M10 x 1.5
6V-5839	Washer	M10

CX31 On-Highway Truck Transmission Pump Tooling

Essential Tool

Model Usage: CX-31 OEM On-Highway Truck Transmission

Warranty: Caterpillar® Six Months



Reference

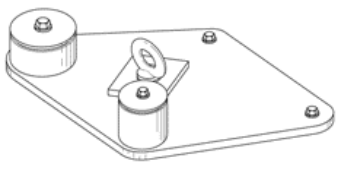
- KENR5091, On-Highway OEM Disassemble and Assemble Manual

Part No.	Description	Use
289-2838	Spanner Wrench Assembly	Remove and install auxiliary pump drive gear
289-2846	Rotating Adapter Assembly	Measure proper rolling torque during assembly

Lifting Bracket Assembly

Model Usage: MT800 Series Ag Tractors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to correctly install and remove MT800 transmission shaft assemblies from transmission case
- Used with an overhead lifting device
- Removes all four shaft assemblies at 1 time (makes installation and removal much faster and easier)

Reference

- NEHS0991, 203-5581 or 203-5582 Lifting Bracket Assembly

Specifications

- Maximum load: 535 kg (1179 lb)

Part Number	Description	Size
	Service/Repair Parts	
3E-3880	Eyebolt	M20 x 2.5
6V-1820	Bolt	M10 x 1.5
6V-5839	Washer	M10

Alignment Group

Essential Tool

Model Usage: 14M and 16M Motor Graders with Monarch transmissions

Warranty: None



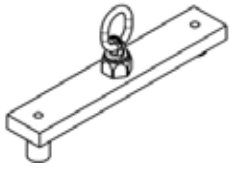
- Used to properly align friction discs in transmission
- Allows for easy and accurate disassembly and assembly of transmission friction disc packs

Part Number	Description
271-2911	Alignment Group
271-2922	Alignment Group
Service/Repair Part	
191-8921	M6 Socket Head Bolt

Lifting Fixture

Model Usage: Motor Graders 12M, 12K, 12H, 120M, 120K, 120H, 14M 140M, 140K, 140H, 143H, 16M, 160M, 160K, 160H, 163H, and 135H

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to easily remove and install number four (first/third) shaft assemblies (shaft/clutch assemblies must be removed together)
- Can also be used to remove number five output shaft
- Fixture bolts to top of each shaft assembly
- Reduces component damage

Specifications

- Dimensions: 138 x 292 mm (5.43 x 11.5 in)
- Working Load Limit (WLL): 227 kg (500 lb)
- Weight: 3 kg (7 lb)

Part Number	Description
425-0720	Lifting Fixture
Service/Repair Parts	
384-9657	Lifting Eyebolt Assembly

Clutch Piston Installation Sleeves

Essential Tool

Model Usage: See Chart

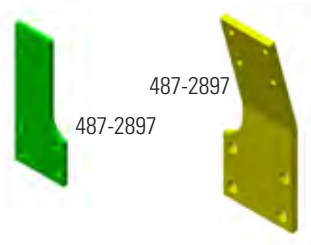


- Used for proper assembly of 3P-2768, 3P-2792, and 1P-9261 Clutch Pistons into various transmissions
- Heat-treated for added durability

Item	Part No.	Description	Model
1	305-3013	Piston Installation Sleeve	24H, 24M Motor Grader; 824G, 824G Series II, 824H Wheel Dozers; 825G, 825G Series II, 825H, 826G, 826G Series II, 826H Wheel Compactors; 980G, 980G Series II, 980H, 988G, 988H Wheel Loaders: R2900 and AD30 Mine Trucks
2	306-4092	Sleeve	D9R and D9T Track-Type Tractors
3	306-4093	Sleeve	D10R and D10T Track-Type Tractors

Transmission Test Tooling

Model Usage: 1055D and 1255D Telehandler



- Enables testing on 1055D and 1255D Telehandler transmissions on test benches after rebuild
- Used with 484-2106 drive adapter

Part No.	Description
487-2897	Bracket, Left
487-2898	Bracket, Right

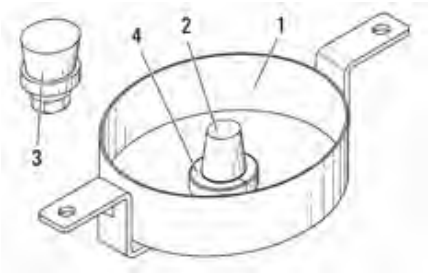
POWER SHIFT AND HYDROSTATIC TRANSMISSION

Cover Assembly

Essential Tool

Model Usage: M-Series Motor Grader

Warranty: Caterpillar® Six Months



- Holds drive shaft yoke in place during transmission test procedure
- Rubber bumper presses against yoke to prevent dislodging and oil leakage
- Ball bearing assembly allows bumper to rotate with yoke during testing
- Attaches to transmission cover plate using existing bolt holes
- Removable collar allows changing assemblies for various transmission arrangements

References

- RENR8454, 120M, 12M, 140M, and 160M Motor Grader Power Train
- RENR8482, 14M and 16M Motor Grader Power Train

Item	Description
1	Plate Assembly
2	Bumper Assembly, 50.8 mm (2.00 in) long tapered bumper
	Used with 253-8405 and 331-5225 Transmission Arrangement
3	Bumper Assembly, 25.4 mm (1.00 in) long tapered bumper
	Used with 253-8407 Transmission Arrangement
4	Collar Assembly

Part Number	Description
326-8026	Cover Assembly

Lifting Plate

Model Usage: D6R and D7R Track-Type Tractor

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Removes and installs 207-2375 Transmission
- Used with 142-1664 Adjustable Lifting Bracket Group
- Attaches to lifting bracket with two user supplied bolts
- Heat-treated for added durability

Reference

- NEHS1117, Tool Operating Manual

Specifications

- Working Load Limit: 907 kg (2000 lb)
- Overall size: 28 x 46 cm (11 x 18 in)
- Weight: 16 kg (37 lb)

Part Number	Description
369-6017	Lifting Plate

Tube Assembly

Model Usage: D6 through D11, 583R

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Safely and effectively removes transmission and bevel gear as a unit from the machine
- Easy to install
- Made of steel

Specifications

- Dimensions: 482x175 mm (18.98x6.89 in)
- Weight: 3.7 kg (8 lb)
- Working Load Limit (WLL): 862 kg (1900 lb)

Part Number	Description
396-6461	Tube Assembly
415-9477	Axle Removal Tool Assembly

Tube Assembly

Model Usage: D6T and D8T

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

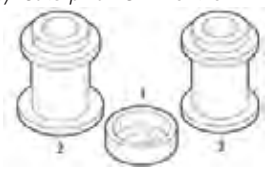
- Safely and effectively removes transmission and bevel gear as a unit from the machine
- Easy to install
- Made of steel
- Longer design of the tool allows the hoist mechanism to properly clear components on the back of the machine and the cab.

Part No.	Description	Dimensions	Weight	WLL
520-1527	Tube Assembly	175 x 682 mm (7 x 27 in)	10 kg (22 lb)	862 kg (1900 lb)

Seal Driver Kit

Model Usage: CX28 Transmission for Combat and Tactical Vehicles

Warranty: Caterpillar® Six Months



- Used to install seals in transmission
- Material: nylon

Reference

- KENR5098 Power Train Disassemble & Assembly

Item	Overall Size	Diameter (Seal Surface)	Weight
1	111.25 (4.382 in) dia, x 32.5 mm (1.28 in) thick	92.58 mm (3.64 in)	0.76 kg (1.66 lb)
2	120.7 mm (4.72 in) dia, x 152.4 mm (6.0 in) long	88.9 mm (3.5 in)	0.2 kg (0.44 lb)
3	120.7 mm (4.72 in) dia, x 152.4 mm (6.0 in) long	90.08 mm (3.63 in)	0.86 kg (1.90 lb)

Part Number	Description
370-2238	Seal Driver Kit

POWER SHIFT AND HYDROSTATIC TRANSMISSION

Transmission Disassembly and Assembly Tools

Model Usage: CVT 145 Transmission

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble transmission components

368-8610 and 368-8611 Coupler Nuts

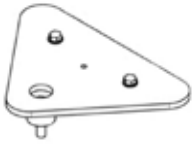
- Used to lift transmission gear sets
- 368-8611 is a 21 mm hex coupling with an M16 x 2 internal thread
- 368-8610 is a 25 mm hex coupling with an M20 x 2.5 internal thread

Item	Part Number	Description
1	368-8610	Coupler Nut
2	368-8611	Coupler Nut
3	369-5916	Lifting Eyebolt Assembly
4	370-0551	Ring Adapter

Lifting Plate

Model Usage: 966K Wheel Loader

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to lift three (3) shafts together during disassembly & assembly
- Allows removal and installation of all three (3) shafts located in the CVT transmission
- ½-13 thread hole located in the center of gravity when tool is bolted to shafts, which allows for a level lift
- 395-1094 lifting eye to be used with 442-2494 lifting plate

Reference

- NEHS1155, Tool Operating Manual

Specifications

- Dimensions: 488 x 338 x 72.9 mm (19.21 x 13.3 x 2.87 in)
- Weight: 14 kg (31 lb)
- Working Load Limit: 1088.6 kg (2400 lb)

Part Number	Description
422-2494	Lifting Plate

Lifting Eyebolt Assembly

- Used to lift components with an M20 x 2.5 threaded lifting hole
- Eyebolt is European Union compliant, CE marked
- Eyebolt swivels to direction of pull preventing side loading during a lift
- Hex shaped locking key can be inserted into eyebolt to prevent swiveling, if necessary
- Requires an M12 Hex Bit to tighten eyebolt to 115 N·m (85 lb ft) torque (allows eyebolt to remain tightened to workpiece while still allowing it to swivel)

Specifications

- Working load limit: 2.3 t (5070 lb) at a 90 degree lifting angle
- Eye opening: 40 mm (1.57 in)

Part Number	Description
369-5916	Lifting Eyebolt Assembly

Ring Adapter

- Used to mount transmission onto repair stand
- Used with 1P-2420 Transmission Repair Stand

Specifications

- Outside diameter: 66 cm (30 in)
- Inside diameter: 44 cm (17.75 in)
- Thickness: 1.2 cm (0.5 in)

Part Number	Description
370-0551	Ring Adapter

Adapter Plate

Model Usage: 950M and 962M Wheel Loaders, 525D, 535D, 545D, 555D Skidders

Warranty: Caterpillar® Six Months



- Adapts the large 6,000 lb engine rollover stand to the transmissions installed on the 950M and 962M Medium Wheel Loaders and 525D, 535D, 545D and 555D Skidders
- Used to aid in Transmission Rebuilds
- M16 Clearance holes for the Wheel Loaders
- M12 Clearance holes for the Skidders
- Used with the 1U-5750 Engine Stand
- 5/8-11 thread hole on top to aid in lifting plate into position (lifting device not included)

Specifications

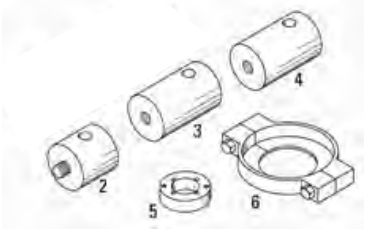
- Dimensions: 220 x 325 mm (8.7 x 12.8 in)
- Weight: 27 kg (59.5 lb)

Part Number	Description
452-8984	Adapter Plate

Hydraulic Service Tool Attachments

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used for steering clutch and brake operations on models of machines listed below

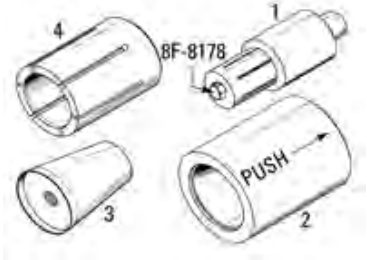
Item	Part No.	Description	Use	Model
2	8M-9008	Spacer	Steering Clutch Hub removal and installation	D6C, D7E
3	6V-3094	Adapter	Steering Clutch Hub installation	D7G
4	4C-9471	Adapter	Steering Clutch Hub installation	D6C
5	1M-6764	Puller	Steering Clutch Hub removal	D8H and 583H
6	8M-4857	Puller	Steering Clutch Hub removal	D9G and 594
7	8M-9011	Puller (1)	Steering Clutch Hub removal	D6C, D7E, D7F, 571A, 572E

Seal Installer Group

Essential Tool

Model Usage: 777, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Installs two-piece seal assembly into 205-0561 Piston Assembly (part of slack adjuster)
- Used with 205-0567 Piston Kit (contains seals)
- Reduces chance of damage during seal and piston installation
- Made from durable nylon
- Three pieces can be assembled for easy storage using an 8F-8178 Bolt

Installation procedure

1. Place 207-3440 Loading Mandrel over small piston.
2. Place inner portion of two-piece seal onto mandrel and push onto piston using 207-3442 Ring Pusher. Repeat for outer portion of seal.
3. With both sets of seals installed, push piston assembly into 207-3444 Seal Sizer.
4. Allow seals to compress for one minute and then install small piston into large piston.

Reference

- NEHS0844, Tool Operating Manual

Item	Part Number	Description
1	209-6381	Seal Installer Group
2	207-3444	Seal Sizer
3	207-3440	Loading Mandrel
4	207-3442	Ring Pusher

Clutch Aligning Tool

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Quickly and properly aligns/centers clutch

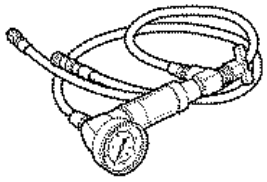
Part Number	Dimensions	Weight	Description
372-5220	17.8 x 33.0 x 27.9 mm (0.7 x 1.3 x 1.1 in.)	.32 kg (.7 lb)	Clutch Aligning Tool

STEERING CLUTCH AND BRAKE

Power Steering Analyzer

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to troubleshoot problem components in a heavy-duty power steering system using both flow and pressure readings
- Measures both: 1 to 10 gallons oil flow and up to 3,000 PSI of pressure.

Specifications

- Dimensions: 469.9 x 480.1 x 137.2 mm (18.5 x 18.9 x 5.4 in)
- Weight: 5 kg (11.0 lb)

Part Number	Description
372-5248	Power Steering Analyzer

Compressor Plates

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Appropriate plate and shim assembly used to compress steering clutch springs

Part No.	Model
5F-5034	D5, D6, D6B, 561B, 561C, D7, D7E, D7F, 571A, 572E, D8H, 583H, D9, 951B, 977, 983
5F-5039	D6C, D7, D8, 977K
5F-5096	R2, D2, D6C, 561C, D7, D7F, 571A, 572E, D8H, D9, 933, 977K, 983

Tube Expander (Tool Assembly), Mechanical Joining (Tool Assembly)

Model Usage: 793F AC, 795F AC, MT4400D and MT5300D

Warranty: Caterpillar® Six Months



- Used to expand the assembly joints on the tubes that run inside the spindle groups (309-4488 and 309-4500) on the rear wheel stations in the 793F AC, 795F AC, MT4400D and MT5300D
- Tube part numbers for 793F AC and MT4400D are 367-1975, 367-1976, 367-1977, 367-1978
- Tube part numbers for 795F AC and MT5300D are 340-6054, 340-6058, 340-6059 and 340-6060

453-1591 Specifications

- Length: 181.0 mm (7.1 in)
- Outer Diameter: 46.8 mm (1.8 in)
- Weight (total for both parts): 1.1 kg (2.5 lb)

453-1592 Specifications

- Length: 174.6 mm (6.9 in)
- Outer Diameter: 46.8 mm (1.8 in)
- Weight (total for both parts): 1.1 kg (2.5 lb)

Part Number	Description
453-1591	Tube Expander (Tool Assembly)
453-1592	Mechanical Joining (Tool Assembly)

Extender Pin

Essential Tool

Model Usage: 993K Wheel Loader

Warranty: Caterpillar® Six Months



- Used to properly install steering cylinder pins
- Used with other tooling to pull pin into steering cylinder spherical bearing and machine brackets
- Tapered end helps align components
- Works on both ends of steering cylinders

Reference

- KENR5832, 993K Wheel Loader Machine Systems, Disassembly and Assembly, Steering Cylinder Remove and Install

Part No.	Description	Size	Qty.
338-8646	Extender Pin	—	—
	Other Required Tooling		
350-7768	Pump Group — Hydraulic (115V)	—	—
6V-3175	Hydraulic Cylinder	—	1
8T-1583	Nut	M30 x 3.50	2
9U-5344	Puller Stud	M30 x 3.50 cut to a length of 432 mm (17.0 inch)	2
9X-8399	Washer	—	2

Tube Expanders for 797 Off-Highway Truck Axle Housing

Essential Tool

Model Usage: 797 (5YW1-UP), 797B (JSM1-UP) and 797F (LAJ, WSP) Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to mechanically expand tubing joints in 196-1406 Housing Assembly and 189-2560 Rear Axle Housing Assembly

Reference

- NEHS1202, Tool Operating Manual, Procedure for Using the Tube Expanders on 797/797B Off-Highway Trucks

Item	Part Number	Tubing Outer Diameter
1	256-7298	—
2	456-0176	—
3	456-0175	—
4	256-7301	—
Tube Part Numbers for 256-7298		
—	193-1087	31.75 mm (1.250 in)
—	193-1088	31.80 mm (1.252 in)
—	193-1089	31.75 mm (1.250 in)
—	193-1090	31.75 mm (1.250 in)
—	194-4506	31.80 mm (1.252 in)
—	207-4614	31.80 mm (1.252 in)
Tube Part Numbers for 456-0176		
—	155-4722	63.50 mm (2.500 in)
—	197-4853	63.50 mm (2.500 in)
Tube Part Number for 456-0175		
—	193-1091	25.40 mm (1.000 in)
Tube Part Numbers for 256-7301		
—	193-1092	19.05 mm (0.750 in)
—	195-8813	19.05 mm (0.750 in)

Bolt

Model Usage: D6, D7, No. 6, 572, 977

Warranty: Caterpillar® Six Months



- Used with other tools for compressing steering clutch springs when disassembling steering clutches in field

Part Number	Description
9S-1373	Bolt

Steering Clutch Assembly Installation Tools

Model Usage: D4C, D4D, D5, D6B Tractors, 955 and 977 Traxcavator and 562B Pipelayer

Warranty: Caterpillar® Six Months



- Used to install steering clutch assemblies on bevel gear shafts
- Also used to install final drive pinion flanges

Item	Part Number	Description
1	7B-8364	Bolt
2	7M-7237	Adapter
3	7M-7238	Sleeve
4	7B-8363	Bolt

STEERING CLUTCH AND BRAKE

STOR Plug Assembly

Essential Tool

Model Usage: D3500E, D3500E



- Used to install brake piston retainer O-rings
- Provides safe, easy O-ring installation
- Requires 4 plug assemblies for procedure

Application Procedure

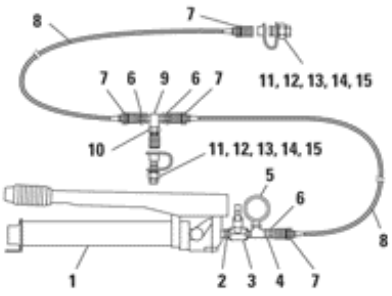
1. To install ADT disc brake piston retainer spring, insert four 134-2562 Guides and Springs as an assembly into brake group anchor exterior holes where 9S-9334 Plugs are normally located.
2. Insert four 174-5354 Plug Assemblies into exterior holes and finger tighten.
3. Screw in attached bolts until guide noses protrude through brake piston.
4. Insert Pin into each guide hole and remove bolts and plugs.
5. Insert four 9S-9334 Plugs into vacated holes.

Part Number	Description
174-5354	STOR Plug Assembly

Brake Release Hose Group

Model Usage: 24H Motor Grader

Warranty: None



- Used to release service brakes for towing a disabled motor grader
- Used with 9U-6600 Hand Pump Group
- Releases brakes on both left and right tandem wheels at the same time
- Pump group must supply 2756 kPa (400 PSI) pressure to release service brakes
- Easily adapted to motor graders brake system
- Made of commonly available parts
- Maximum working pressure: 2756 kPa (400 PSI)

Reference

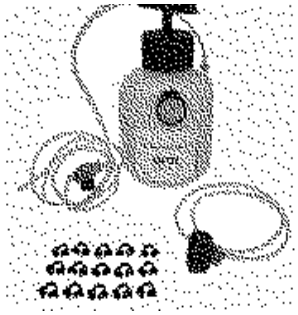
- SENR9000, Service Manual

Item	Part No.	Description	Qty.
2	5S-2403	Fitting — Reducing Nipple	1
4	177-7860	Hose Assembly	2
4	2D-7325	Tee — Pipe	1
6	6V-3966	Pressure Test Valve, 1/4 in-18 NPTF external	1
7	1S-8937	Valve — Needle	1
9	3S-6115	Tee	1
10	3J-1907	O-ring Seal for 5P-9617 Adapter	2
10	3K-0360	Seal — O-ring — STOR (SAE 3/4 — 16)	2
10	5P-6944	Adapter	2
10	6V-3965	Nipple Assembly	2
10	6V-4143	Coupler Assembly	2
10	6V-4144	Coupler Assembly (For 42000 kPa)	1
11	6V-0852	Dust Cap (Blank) (not pictured)	2
11	8T-0855	Gauge — Pressure	1

Hydraulic Clutch Bleeder

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Used to properly bleed hydraulic clutch system
- Includes cap adapter, tank and 15 disposable line clamps

Specifications

- Capacity: 1.9 liter (0.5 gal)
- Weight: 1.4 kg (3.0 lb)

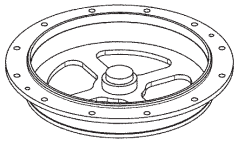
Part Number	Description
377-5251	Hydraulic Clutch Bleeder

DRIVE LINE AND AXLE

Speed Sensor Alignment Tools

Model Usage: 793F

Warranty: Caterpillar® Six Months



- Used to rework existing machines to enable front wheel speed sensor to be installed properly

Part Number	Description	Dimensions	Weight
385-0034	Speed Sensor Alignment Tool - Extended Life Powertrain	520 x 86 mm (20.5 x 3.4 in)	24.72 kg (54.4 lb)
467-9250	Speed Sensor Alignment Tool - Standard Wheels	431 x 86 mm (16.9 x 3.4 in)	18.34 kg (40.34 lb)

Tube Expanders

Model Usage: 793F OHT

Warranty: Caterpillar® Six Months

466-5299



466-5300



- Used to retrofit the older wheel assemblies with the new style wheel assemblies that are equipped with speed sensors
- Can be used to rebuild wheel assemblies that have speed sensors installed

Reference

- 453-1591 Tube Expander (Tool Assembly)
- 453-1592 Mechanical Joining (Tool Assembly)

Part Number	466-5299	466-5300
Length	304.8 mm (12 in)	304.8 mm (12 in)
Diameter	46.8 mm (1.8 in)	46.8 mm (1.8 in)
Guard Length	107 mm (4.2 in)	85.5 mm (3.4 in)
Weight	1.4 kg (3 lb)	1.2 kg (2.7 lb)

Nut Driver

Essential Tool

Model Usage: 993K Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install 273-1867 Nut on differential
- Used with 1 inch square drive wrench
- Not to be used with impact air tools
- Welded steel construction
- 6-point hex fits 155 mm nut

Part Number	Description
328-2047	Nut Driver

DRIVE LINE AND AXLE

Transfer Box Bracket Assembly

Model Usage: D350D and D400D Articulated Dump Truck or Trucks having discontinued 7U-7490 or discontinued 7U-6042 Gear Case

Warranty: Caterpillar® Six Months



- For removal and installation of transfer gear box
- Makes removal and installation easier, safer; less likely to damage parts
- Provides required height to attach gear box to frame, and clearance to roll it out from under frame in lowered position — can't remove and install gear box from above (located up and in between rear frame)
- Base plate of jack tilts in all directions to assist with alignment

References

- D400D Service Manual Module SENR8202, Power Train Disassembly and Assembly SEBE4636, Service Letter, 7/9/91

Item	Part No.	Description	Minimum Pick Up Height	Maximum Lift Height
1	9U-5126	Bracket Assembly	—	—

Lifting Bracket

Model Usage: D25C, D30C, D35C, D350C

Warranty: Caterpillar® Six Months

- Used to remove and install transmission and transfer drive
- Used in disassembly and assembly of drive line components on articulated dump trucks
- Save time and effort — formerly available as fabricated tools
- Improve efficiency and quality of component removal and installation

Reference

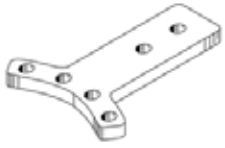
- SENR8190, Service Manual Disassembly and Assembly

Part Number	Description
4C-4170	Lifting Bracket

Lifting Bracket

Model Usage: 24H Motorgrader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove differential assembly from machine without removing axle and tandems (makes removal and installation of differential assembly easier and safer)
- Used with 142-6893 Hook Assembly
- Using bracket and hook keeps differential assembly level and aligned with mating components

Specifications

- Overall size: 270 x 325 x 25.4 mm (10.6 x 12.8 x 1.00 in)
- Hole diameter: 26 mm (1.0 in)
- Load lift capacity: 1010 kg (2225 lb)

Part Number	Description
143-7597	Lifting Bracket (24H)

Pinion Nut Spanner Wrench

Model Usage: 120G, 130G, 16G, 988B, 613, 941, 951, 955K and 955L Tractor Loader, D4D Tractors

Warranty: Caterpillar® Six Months



- Used for turning pinion bearing adjustment nut when adjusting differential pinion bearings of 988B Wheel Loader
- Can also be used to tighten and loosen wheel bearing retainer nuts on 613 Tractor-Scrapers
- Used to remove and install retaining nut for clutch release bearing

Part Number	Description
5P-6153	Pinion Nut Spanner Wrench

Modified Hook Spanner Wrenches

Model Usage: All models with power train components

Warranty: Caterpillar® Six Months



- Used to properly tighten slotted retainer nuts without requiring spanner sockets
- Used with 9U-5006 Torque Wrench
- Maximum torque 340 N·m (250 ft-lb)
- A slide rule type torque computer, Form SEHS7150, is available to determine torque wrench dial reading for different center-to-center distances
- One wrench fits several sizes of retainer nuts
- Center-to-center distance must be measured from center of square drive to center of retainer nut when wrench is in place

Reference

- SEHS7150, Torque Computer

Part Number	Square Drive	Retainer Nut Diameter Range
280-2059	1/2 in	31.8 – 76.2 mm (1.25 – 3.00 in)
280-2060	1/2 in	50.8 – 120.7 mm (2.00 – 4.75 in)
280-2061	1/2 in	114.3 – 158.8 mm (4.50 – 6.25 in)

Spanner Wrench

Model Usage: 910E Wheel Loader, IT12 and IT14 Integrated Toolcarriers

Warranty: Caterpillar® Six Months



- Required for disassembly and assembly of front and rear axle and differential groups
- 4C-6369 Spanner Wrench fits 9C-6353 Bearing Nuts, part of axle housing groups; nuts retain axle shafts in housing

Part Number	Square Drive Size	O.D.	Number of Teeth	Tooth ID	Tooth Width	Effective Inside Depth
4C-6369	3/4 in	127 mm (5.0 in)	4	103 mm (4.06 in)	9.52 mm (0.38 in)	127 mm (5.0 in)

Spanner Wrench Assembly

Essential Tool

Model Usage: M315C Wheeled Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install 246-6871 Nut on differential
- Used with 1 inch square drive wrench
- 6-tooth design fits special 130 mm nut
- Not to be used with impact air tools
- Welded steel construction
- Hardened (RKW C35-41) for long service life
- Black oxide coating to resist corrosion

Specifications

- Square drive: 1 inch
- Number of teeth: 6
- Tooth ID: 122.50 mm (4.83 in)
- Tooth OD: 133.35 mm (5.25 in)
- Tooth width: 10.25 mm (.40 in)

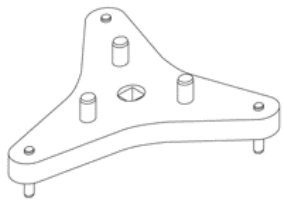
Part Number	Description
338-3941	Spanner Wrench Assembly

DRIVE LINE AND AXLE

Spanner Wrench Assembly

Model Usage: PL61 Pipelayer

Warranty: Caterpillar® Six Months



- Used to remove and install 297-6401 Accumulator on PL61 Pipelayer
- Used with 1/2" square drive ratchet wrench
- Dual-purpose tool can also be used to set bevel gear backlash on D250/725 Articulated Dump Trucks (can be used to replace 149-5167 Spanner Wrench)
- Positive engagement (three pins) reduces risk of damage to accumulator
- Black oxide coated to resist corrosion
- Use 4F-2954 Pin and 8E-8439 Dowel to replace damaged parts

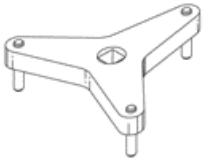
Part Number	Description
335-3395	Spanner Wrench Assembly

Adjusting Ring Spanner Wrench

Essential Tool

Model Usage: D250E, D300E, D350E, and D400E Series II 725, 730, 735 and 740 Articulated Dump Truck (ADT)

Warranty: Caterpillar® Six Months



- Used to turn adjusting ring to set bevel gear backlash (engages holes in adjusting ring)
- Used with 1/2 inch square drive wrench for versatility
- Positive engagement reduces risk of damage to adjusting ring

Specifications

- Plate thickness: 12.7 mm (0.50 in)
- Pin diameter: 4.76 mm (0.188 in)
- Pin: 8E-8439
- Pin orientation: 120°
- Pin centerline diameter: 150.0 mm (5.91 in)
- Drive: 1/2 in
- Fits: 138-3624 Nut
- Model Usage: D300/D350/D400/730/735/740

Part Number	Description
149-5168	Adjusting Ring Spanner Wrench

Differential Spanner Wrench

Model Usage: 725C- LFB, TFB, 730C- LFF, TFF, LFH, TFH, 735B- T4P, L4D, 740B- T4R, T4S, L4E, L4F Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to turn adjusting ring to set bevel gear backlash (engages holes in adjusting ring)
- Used with 1/2 inch square drive wrench for versatility
- Positive engagement reduces risk of damage to adjusting ring
- Used on differentials 356-4662, 356-4663 and 356-4664 that are used in some articulated trucks

Specifications

- Plate Thickness: 12.7 mm (0.5 in)
- Pin 8E-8439 Pin Orientation: 120°
- Pin Centerline Diameter: 150 mm (5.91 in)
- Drive: 1/2 in (fits 138-3624 nut model 725C/730C/735B/740B)

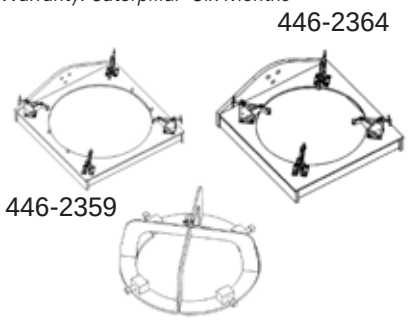
Part No.	Description	Pin Diameter	Weight
469-7615	Differential Spanner Wrench	4.76 mm (0.188 in)	2.396 kg (5.28 lb)

Differential & Bevel Gear Fixture

Essential Tool

Model Usage: 789C OHT

Warranty: Caterpillar® Six Months



- Used to aid in the disassembly and assembly of the Differential and Bevel Gear on the 789C OHT
- Lifting device is rated for 100 kg (220 lb) and used to lift the pinion assemblies and spider as a complete unit
- Fixtures are used with the 1U-5750 Engine Rollover Stand

Reference

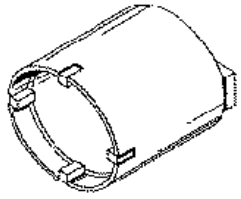
SENR1524, 789C Off-Highway Truck Power Train – Differential and Bevel Gear D&A

Specifications			
Part No.	446-2359	446-2364	446-2361
Description	Differential & Bevel Gear Fixture	Differential Fixture	Differential Lifting Assembly
Dimensions	1000 X 1025 X 312 mm (39.4 X 40.6 X 12.3 in)	865 X 890 X 312 mm (34 X 35 X 12.3 in)	500 mm diameter X 253 mm (19.7 X 10 in)
Weight	123 kg (271.2 lb)	105 kg (231.5 lb)	12 kg (26.5 lb)

Retaining Nut Spanner Wrench

Model Usage: 914G and 924F Wheel Loader, IT14G and IT24F Integrated Tool Carrier

Warranty: Caterpillar® Six Months



- Used to remove and install 110-5425 Nut retaining axle shaft in housing (914G) and 8R-2532 Nut (924F) — required tool to properly make repairs and adjustments
- Used with 3/4 inch square drive ratchet or torque wrench
- Designed to reach nut inside of axle housing
- Pilots around axle shaft to provide positive engagement
- Wrench provides means to correctly tighten nut to obtain proper rolling torque on the bearing
- Hardened for added strength and durability
- Using other tools to install or remove nut may destroy nut or damage threaded portion of axle shaft

Specifications

- Square drive: 3/4 in
- Outside diameter: 127 mm (5.0 in)
- Inside diameter: 116.5 mm (4.59 in)
- Length: 200 mm (7.9 in)
- Teeth: four equally spaced
- Tooth width: 7.5 mm (0.30 in)
- Distance between teeth: 103.5 mm (4.07 in)

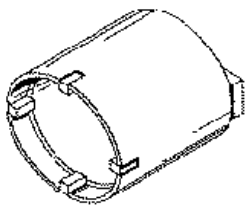
Part Number	Description
125-4634	Retaining Nut Spanner Wrench

Retaining Nut Spanner Wrench

Essential Tool

Model Usage: 950F, 950G, 960F, 962G Wheel Loader and IT62G Integrated Tool Carrier

Warranty: Caterpillar® Six Months



- Used to remove and install 9C-8419 Nut retaining the axle shaft in housing (required tool to properly make repairs and adjustments)
- Designed to reach nut inside of axle housing
- Pilots around axle shaft to provide positive engagement
- Provides means to correctly tighten nut to obtain proper rolling torque on the bearing
- Hardened for added strength and durability
- Using other tools to install or remove nut may destroy nut or damage threaded portion of axle shaft

Specifications

- Square drive: 3/4 in
- Outside diameter: 152.4 mm (6.0 in)
- Inside diameter: 139.7 mm (5.5 in)
- Length: 319.05 mm (12.6 in)
- Teeth: 4 equally spaced
- Tooth width: 11.0 mm (0.43 in)
- Distance between teeth: 134 mm (5.28 in)

Part Number	Description
120-9877	Retaining Nut Spanner Wrench

DRIVE LINE AND AXLE

Spanner Wrench Assembly

Essential Tool

Model Usage: CB112E, CB14, CB114E Compactors

Warranty: Caterpillar® Six Months



- Used to remove and install 292-3981 Rubber Drum Mounts
- Used with 1/2 inch square drive wrench or torque wrench
- Provides means to tighten drum mount to correct torque specification
- Not for use with impact wrench
- Hardened for added strength and durability

Specifications

- Square drive: 1/2 inch
- Number of slots: 6, equally spaced
- Slot width: 9 mm (.35 in)
- Inside diameter: 118.5 mm (4.66 in)
- Outside diameter: 130 mm (5.12 in)
- Length: 107.7 mm (4.24 in)

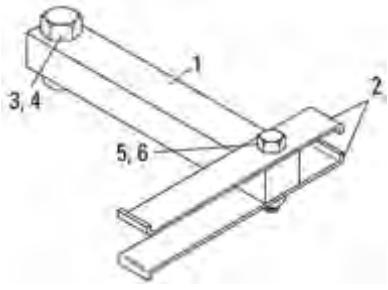
Part Number	Description
305-2745	Spanner Wrench Assembly

Differential Adjustment Group

Essential Tool

Model Usage: 914G Wheel Loader and IT14G Integrated Tool Carrier

Warranty: None



- Used to compress clutch pack to determine correct shim adjustment
- Used with torque wrench and dial indicator
- Allows measurement to be taken directly from indicator during assembly
- Made from common steel and Cat® hardware
- Faster assembly by eliminating additional measurements and calculations

Reference

- SENR5785, Disassembly and Assembly Limited Slip Differential Supplement for Wheel Loaders and Integrated Tool Carriers

Item	Description	Size	Material	Qty.
1	Bar	25.4 x 25.4 x 205.0 mm (1.00 x 1.00 x 8.07 in)	SAE1045 steel	1
2	Plate	2.77 x 25.4 x 153 mm (0.109 x 1.00 x 6.02 in)	SAE1018 steel	2

Item	Part Number	Description	Size
3	5P-2566	Hex Head Bolt	1/2-13 x 38.10 mm (1.50 in)
4	6V-8188	Nut — Full	1/2-13
5	5P-2675	Hex Head Bolt	1/4 – 20 x 44.45 mm (1.75 in)
6	7H-8909	Locknut	1/4 – 20

Locknut Spanner Wrench

Essential Tool

Model Usage: D3C, D4C, and D5C Track-Type Tractor, Hystat Drive

Warranty: Caterpillar® Six Months



- Used to remove and install 2H-3777 Locknut on yoke shaft
- Required for disassembly and assembly of power takeoff (PTO) Drive Group
- Extends over yoke shaft to reach locknut inside housing counter bore
- Provides positive engagement
- Makes removal and installation of locknut easier

Reference

SENR1251, Disassembly and Assembly D3C, D4C, D5C Track-Type Tractor Power Train

Specifications

- Outside diameter: 63.5 mm (2.50 in)
- Overall length: 89.2 mm (3.51 in)
- Key width: 3.5 mm (0.14 in)
- Span (between keys): 48.9 mm (1.93 in)
- Key spacing: 4, equally spaced
- Square drive: 1/2 in

Part Number	Description
140-3073	Locknut Spanner Wrench

Alignment Tool

Model Usage: 621B, 45P-2214-Up; 623B, 46P-1298-Up; 627B, 14S861-Up and 627 P.P., 15S-1168-Up

Warranty: Caterpillar® Six Months



- Used to align engine with driveshaft during servicing
- Later machines (see models above) have solid driveshaft arrangement; exact alignment of engine with driveshaft is necessary or severed drive line damage will occur

Reference

- SMHS7589, Special Instruction

Part Number	Description
6V-0188	Alignment Tool

Wrench

Model Usage: 951B Traxcavator

Warranty: Caterpillar® Six Months



- Used to adjust bevel gear bearings
- Replaces discontinued 7M-7239 Wrench used on all previous machines

Part Number	Description
8S-8303	Wrench

Differential Pinion Bearing Assembly Tools

Model Usage: 630, 631, 632, 633, 637, 641, 650, 651, 657, 660, and 666 Wheel Tractors

Warranty: Caterpillar® Six Months



- Used for assembly of differentials having tapered roller, pinion bearings
- Bearing retainer, bearing, and pinion are assembled over 5P-1730 Holding Fixture which is designed to be clamped in a vise; use 5P-0964 Spanner Wrench to tighten spanner nut which retains bearing

Item	Part Number	Description
1	5P-1730	Holding Fixture
2	5P-0964	Spanner Wrench

Socket Wrench

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used to remove and install differential pinion shaft nut
- Make it easier and faster to remove and install "stake-type" differential pinion shaft nuts
- All have 3/4 inch square drive

Part No.	Use
1U-6689	For 3.5 in 9V-6563 Stake Nut on D25C (9YC455-Up), D35C (2GD87-Up), D35HP (3FD67-Up), D350C (8XC170-Up), D400 (1MD105-Up) Articulated Dump Trucks; 528 Skidders; 613, 613B, 613C Scrapers; 814B Wheel Tractors; 815B, 816B Compactors; 950B, 950E, 966D, 966E Wheel Loaders
1U-6690	For 4.0 in 6W-4750 Stake Nut on D44B, D550B Articulated Dump Trucks; 824C, 834B Wheel Tractors; 980C, 988B Wheel Loaders
1U-6691	For 5.5 in stake nut on 992C Wheel Loaders (49Z-1093-Up)
1U-6692	For 5.75 in stake nut on 992C Wheel Loaders (49Z1-49Z-1092)
292-4949	For 4 5/8 in 201-8481 Stake Nut on 120, 140, 160M Monarch Motorgraders

DRIVE LINE AND AXLE

Spanner Wrench

Essential Tool

Model Usage: 120M, 140M, 160M Monarch Motor Graders

Warranty: Caterpillar® Six Months



- Used to remove spanner nut located inside 287-1893 All Wheel Drive Piston Motor (nut is part of 312-5544 Flushing Valve Assembly)
- Used with 1 1/2 inch wrench or socket
- Allows easy removal and installation of nut
- For proper torque during assembly
- Nut is installed with thread lock which increases difficulty of removal without proper tooling

Reference

- Disassembly and Assembly Manuals AWD Motor Graders

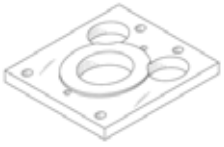
Part Number	Description
317-3804	Spanner Wrench

Measuring Plate

Essential Tool

Model Usage: 120M, 140M, and 160M Monarch Motor Graders

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 287-1893 All Wheel Drive Piston Motor

Compression Function

- Used as a compression plate
- Attaches with four bolts to compress piston into pump during disassembly and assembly

Reference

120M, 140M, 160M Disassembly and Assembly Service Manuals

Measuring Function

- Used as a measuring plate during assembly
- Measurements taken from plate to top of pump oil tubes
- Provides essential oil tube shim calculations for proper pump assembly

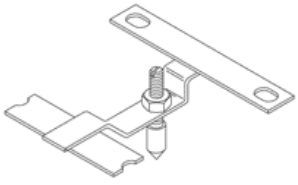
Part Number	Description
317-5303	Measuring Plate

Support Bracket Assembly

Essential Tool

Model Usage: D250E, D300E, D350E, and D400E Series II Articulated Dump Truck (ADT)

Warranty: Caterpillar® Six Months



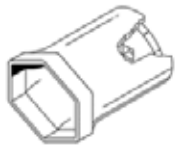
- Used to hold pinion shaft in position during disassembly and assembly
- Bolts to bearing cap mounting face on differential carrier
- Allows rotation of differential with pinion shaft held in place
- Makes overhaul procedure easier and faster
- Overall size: 309 x 360 mm (12.2 x 14.2 in)

Part Number	Description
150-0361	Support Bracket Assembly

Socket Wrench Assembly

Model Usage: 988F Wheel Loader, 834B Wheel Tractor, 836 Landfill Compactor

Warranty: Caterpillar® Six Months



- Used to remove and install 8R-0052 Stake Nut on differential pinion shaft
- Used with 3/4 inch square drive socket wrench
- Makes removal and installation of "stake-type" pinion shaft nuts easier and faster

Specifications

- Overall length: 170.2 mm (6.70 in)
- Hex opening: 115.1 mm (4.53 in)
- Hex depth: 25.4 mm (1.00 in)
- Square drive size: 3/4 in

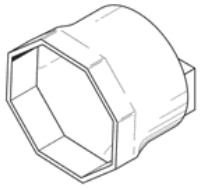
Part Number	Description
125-5723	Socket Wrench Assembly

Spanner Socket

Essential Tool

Model Usage: RM350 Road Reclaimer/Soil Stabilizer

Warranty: Caterpillar® Six Months



- Used to remove and install axle retaining nut in order to set torque
- Steel construction for long life
- Used with 3/4 inch square drive torque wrench or breaker bar

Specifications

- Length: 88.9 mm (3.50 in)
- Socket size: 106 mm
- Square drive: 3/4 in

Part Number	Description
268-2866	Spanner Socket

Locknut Spanner Wrench

Model Usage: 14G Motor Grader

Warranty: Caterpillar® Six Months



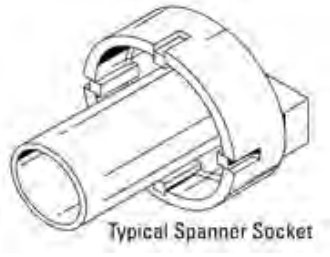
- Used with 3P-1535 Chain Wrench to remove and install differential pinion bearing locknut

Part Number	Description
5P-4727	Locknut Spanner Wrench

Spanner Socket

Model Usage: D10R and D11R Track-Type Tractor

Warranty: Caterpillar® Six Months



Typical Spanner Socket

- Used to remove and install bearing nut
- Required for disassembly and assembly of bevel and transfer gear group
- Pilots off of inside diameter of shaft providing positive engagement of nut
- Reduces damage to nut caused by using improper removal and assembly tooling

References

- SENR8422, Service Manual, Disassembly and Assembly D10R Tractor, Power Train
- SENR3287, Service Manual, Disassembly and Assembly D11R Tractor, Power Train

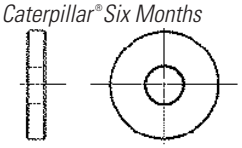
Part Number	Model	Bearing Nut	Length	Outside Diameter	Bearing Nut Torque	Square Drive
129-3253	D10R	121-9871	177.9 mm (7 in)	165.1 mm (6.50 in)	2375 N·m (1758 ft-lb)	1 in
129-3254	D11R	119-3711	178.9 mm (7.04 in)	177.8 mm (7 in)	2375 N·m (1758 ft-lb)	1 in

DRIVE LINE AND AXLE

Plate

Model Usage: 446 Backhoe Loader

Warranty: Caterpillar® Six Months



- Used on drive axle to quickly and easily determine accurate shim thickness to obtain correct contact pattern
- 2 plates needed; used with the 1U-5847 Shaft

Reference

- SENR3970, Service Manual

Part Number	Description
4C-6808	Plate

Front Axle Tooling

Model Usage: 416C, 426C, 428C, 436C, and 438C Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to disassemble axle without damaging components and to assemble components to correct specifications (these tools are essential to service the machine)
- Used with other common shop tools to make disassembly and assembly easier and faster (helps eliminate damage caused by using improper tools)

Reference

- SENR1206, Service Manual, Disassembly and Assembly, 416C, 426C, 428C, 436C, and 438C Backhoe Loaders Power Train

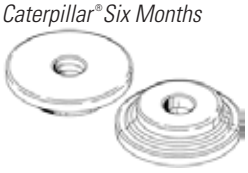
Item	Part No.	Description	Supplier Part No.	Use
Service Tools for D and A of C-Series BHL Front Axle (AWD)				
3	140-0164	Seal Driver	5870-048-155	Install shaft seal to correct depth in steering knuckle
4	140-0165	Internal Puller	5870-300-005	Remove sleeve from axle housing bore
4	140-0169	Internal Puller	5870-300-007	Remove bearing seals and races from axle housing
7	140-0168	Two Leg Puller	5870-300-003	Remove miscellaneous seals, races, and sleeves from axle housing
8	140-0170	Measuring Ring	5870-340-034	Determine sleeve length in order to acquire correct rolling torque of pinion bearings

Seal Driver

Essential Tool

Model Usage: D1-Series Back Hoe Loaders

Warranty: Caterpillar® Six Months



- Used to properly install pivot shaft seals on front axle
- Seals will not remain seated if improperly installed

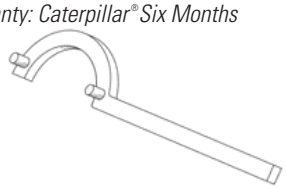
Part Number	Description
247-4298	Seal Driver

Pinion Wrench

Essential Tool

Model Usage: All Wheel Drive D-Series Backhoe Loaders produced after 15 Aug 2003

Warranty: Caterpillar® Six Months



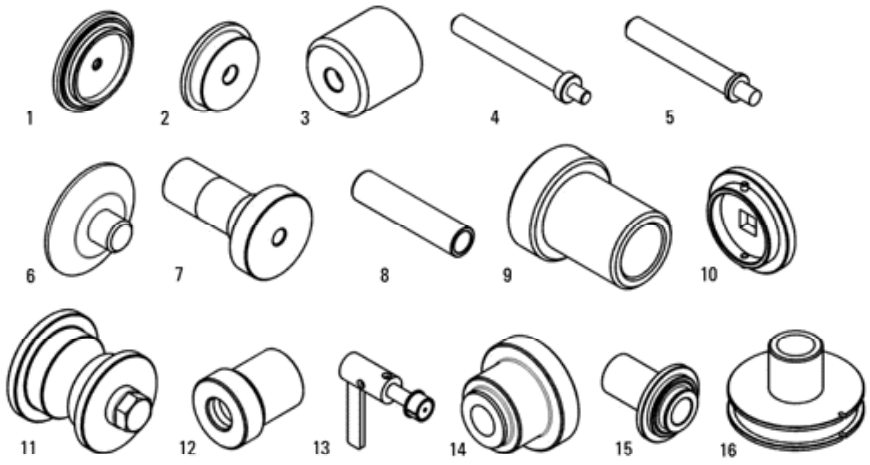
- Used to set pinion shim height (pinion depth setting) on differentials

Part Number	Description
235-2785	Pinion Wrench

Backhoe Loader Rear Axle Tooling

Model Usage: 424B India

Warranty: Caterpillar® Six Months



- Used for disassembly and assembly of rear axle assembly
- The drivers used to assembly the seals, bearings and bushings use interchangeable handle, 387-1057

Item	Part No.	Description
1	441-3584	Seal Driver
2	441-3585	Bearing Cup Driver
3	441-3586	Bearing Cone Driver
4	441-3587	Pin Driver
5	441-3588	Split Pin Driver
6	441-3589	Brake Piston Driver
7	441-3590	False Pinion
8	441-3591	Bearing Cone Driver
9	441-3592	Bushing Driver
10	441-3593	Ring Nut Wrench
11	441-3594	Bearing Cup Driver
12	441-3595	Bushing Driver
13	441-3596	Pinion Nut Tool
14	441-3597	Seal Driver
15	441-3598	Seal Driver
16	441-3599	Bearing Preload Tool

False Pinion Group

Essential Tool

Model Usage: 434E (FSH1-Up) and 444E (LBE1-Up) Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to set pinion shim height (pinion depth setting) on differentials
- Allows for shim height measurement before final assembly
- Components not serviced separately
- 46 mm nut with M30 x 3.5 thread

Reference

- RENR6475, Service Manual; 416E, 420E, 422E, 428E, 430E, 432E, 434E, 442E, 444E Backhoe Loaders Power Train, Disassembly and Assembly

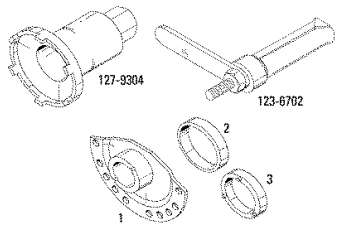
Part Number	Description
294-1081	False Pinion Group

DRIVE LINE AND AXLE

Axle Repair Tools

Model Usage: 438B Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble all wheel steer rear axle (ZF APL-2075) (tools are essential for correct removal and assembly of parts)

127-9304 Nut Spanner

- Removes slotted nut inside final drive without damaging spanner nut and mating parts
- Used with spring scale to obtain correct rolling torque

123-6702 Clamping Segment

- Used to positively measure backlash between ring and pinion gear
- Used with 127-9305 Measuring Cover and 8T-5096 Gauge Group

Measuring Tools

- 127-9305 Measuring Cover Group used to determine shim pack and obtain correct backlash between pinion and bevel gear (with measuring ring and 1U-5847 Measuring Shaft)
- Measuring cover group is also used with 123-6702 Clamping Segment
- Measuring ring used to determine thickness of shim pack when assembling pinion gear into housing

Drivers

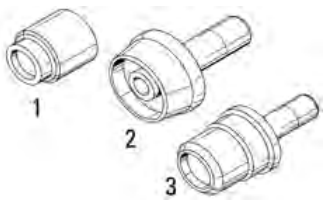
- Seal driver used to install pinion seal into differential housing (correctly positions seal)
- Bearing driver used to install bearing race into upper and lower steering knuckle bore
- 127-9310 Sleeve Driver used to install sleeve into center bore of axle housing and center bore of steering knuckle hull

Reference

- SENR5820, Service Manual Module, Disassembly and Assembly, 438B Backhoe Loader All Wheel Steer Attachment

Item	Part Number	Description
1	127-9305	Measuring Cover Group
—	123-6702	Clamping Segment
—	127-9304	Nut Spanner

Axle Repair Tools



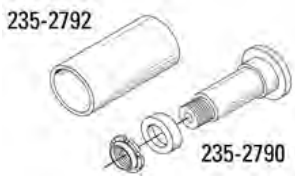
Item	Part Number	Description
3	127-9310	Seal Driver

False Pinion, False Differential

Essential Tool

Model Usage: 424D Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to properly set pinion depth and shim height during differential repair procedure
- Used on 168-7447 Axles

Part Number	Description
235-2790	False Pinion
235-2792	False Differential

Axle Repair Tools

Model Usage: 904H Wheel Loaders

Warranty: Caterpillar® Six Months

- Used to disassemble and reassemble axles on the 904H Wheel Loader
- Includes bearing installers, seal installers, false pinion, false differential, and a universal handle used with different sized drivers
- Tools are sold individually

Reference

- KENR7636-01, 904H Compact Wheel Loader Power Train

Part No.	Description	Weight
387-1057	Driver Handle — universal handle used with drivers 387-1058, 387-1059, 387-1061, 387-1062, 387-1064, 387-1066, 387-1067, 387-1075, 387-1076, 387-1077, 387-1078	0.90 kg (1.98 lb)
387-1058	Driver — installs lip seal	1.10 kg (2.42 lb)
387-1059	Driver — installs seal ring into trunnion	2.27 kg (4.99 lb)
387-1060	Driver — installs seal ring into trunnion	2.36 kg (5.19 lb)
387-1061	Driver — installs seal ring into flange	1.20 kg (2.64 lb)
387-1062	Driver — installs bearing into housing	0.67 kg (1.47 lb)
387-1063	Installer Tool — Installs bearing in housing	3.38 kg (7.44 lb)
387-1064	Driver — installs bearing in housing	1.23 kg (2.71 lb)
387-1065	Installer Tool — installs bearing in housing.	2.27 kg (4.99 lb)
387-1066	Driver — installs bearing cup into differential housing	0.90 kg (1.98 lb)
387-1067	Driver — installs bearing cup into differential	1.00 kg (2.20 lb)
387-1068	Tube (differential housing) — measures distance between the centerline of the differential housing supports.	2.97 kg (6.53 lb)
387-1069	Dummy Pinion — measures distance between the centerline of the differential housing supports	1.32 kg (2.90 lb)
387-1070	Wrench Assembly — used to tighten retaining nut	1.42 kg (3.12 lb)
387-1071	Socket — used to tighten retaining nut	0.88 kg (1.94 lb)
387-1072	Handle — used to guide the differential assemble onto the axle housing	0.40 kg (0.88 lb)
387-1073	Installer Tool -0 installs bearing cup onto pinion gear	1.02 kg (2.24 lb)
387-1075	Driver — used to install lip seal	3.00 kg (6.60 lb)
387-1076	Driver — used to install bearing	0.25 kg (0.55 lb)
387-1077	Driver — installs bearing cup into differential housing	0.75 kg (1.65 lb)
387-1078	Driver — used to install lip seal	0.44 kg (0.97 lb)
387-1079	Gauge — used to measure preload	1.40 kg (3.08 lb)
387-1080	Installer Tool — used to remove bevel gear from differential	0.71 kg (1.56 lb)
387-1081	Installer Tool — used to instal bevel gear onto differential	0.43 kg (0.94 lb)
387-1082	Spanner Wrench — used to install adjuster rings into differential assembly	0.59 kg (1.29 lb)

Rear Axle Tools for 450E Backhoe Loader

Essential Tool

Model Usage: 450E Backhoe Loader

Warranty: Caterpillar® Six Months



- Used for the disassembly and assembly of rear axle assembly

References

- Service Manual, 450E Drive Train KENR5485, Axle Disassembly and Assembly

Item	Part No.	Description	Use
1	299-4758	Driver Handle Assembly	Used with 299-4759
2	299-4759	Driver Plate	Used to install lip seal into rear axle
3	299-4760	Spanner Wrench Assembly	Removes/installs outer wheel bearing retaining nut
4	299-4761	Brake Adjuster Driver Group	Used to install brake piston seals
5	308-8452	False Differential	Used to set pinion shim height on differentials

DRIVE LINE AND AXLE

Steel Retaining Ring Installer

Model Usage: 450E

Warranty: Caterpillar® Six Months



- Used to install the 288-7237 retaining rings onto the 288-7234 bushing
- Tool is tapered which expands retaining rings and drives them on the bushing
- Capable of installing all four rings at once
- Rings can be pre-aligned before installation on cone-shaped tool
- Prevents excessive ring expansion during installation
- Material: Steel

Part Number	Description
421-9086	Steel Retaining Ring Installer

Steel Retaining Ring Installer

Model Usage: D11R, T

Warranty: Caterpillar® Six Months



- Used to install 383-7597 retaining ring
- Tool is tapered which expands retaining rings and drives them onto 6Y-0724
- Prevents excessive ring expansion during installation
- Made of steel

Item Number	Description	Overall Length	Outside Diameter	Inside Diameter	Weight
1	Tube	51 mm (2 in)	20 mm (0.79 in)	13.25 mm (0.52 in)	0.041 kg (0.09 lb)
2	Cone	43 mm (1.7 in)	12.9 mm (0.5 in)	—	0.0567 kg (0.125 lb)

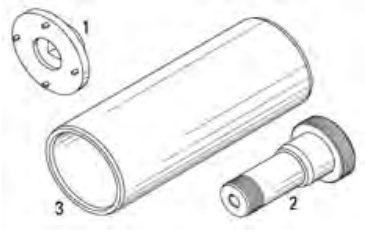
Part Number	Description
446-5933	Steel Retaining Ring Installer

Differential Backlash Setting Tools for CS-663E, CP-663E, and CS-683E

Essential Tool

Model Usage: CS 663E (ASB1- Up, DAG1-Up), CP-663E (ASF1- Up, DAF1-Up), and CS -683E (ASG1-Up, DAD1-Up) Vibratory Soil Compactor

Warranty: Caterpillar® Six Months



- Used to set pinion shim height on differentials
- Required for setting backlash of ring and pinion gears
- 283-3581 Spanner Wrench (3/4 inch square drive) used for disassembly and assembly without damage to components
- 283-3582 False Pinion used with nut and washer from differential

Reference

- KENR3654, Disassembly and Assembly, CP-663E, CS-663E, and CS683E Vibratory Compactors Machine Systems

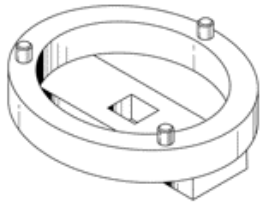
Item	Part Number	Description
1	283-3581	Spanner
2	283-3582	False Pinion
3	283-3583	False Differential

Pinion Nut Wrenches and False Pinion

Essential Tool

Model Usage: CS-533E (DAK, ASL, BZE), CP533E (ASM, DAM, BZG) CS- 563E (CNG, ASA), CP-563E (CNT, BWE) CS-573E (CNN, CEB) CS-583E (CNX, DAJ) Vibratory Compactors

Warranty: Caterpillar® Six Months



263-2152 Spline Wrench

- Used to prevent axle from rotating during pinion nut removal
- Used with 263-2153 Spanner Wrench

263-2153 Spanner Wrench

- Used to loosen and remove the pinion nut
- Used with 263-2152 Spline Wrench

263-2154 False Pinion

- Used to set bevel gear to pinion backlash

Reference

- KENR3604, Vibratory Compactor, Machine Systems, Disassembly and Assembly

Part Number	Description
263-2152	Spline Wrench
263-2153	Spanner Wrench
263-2154	False Pinion

Spanner Wrench, Pinion Wrench

Essential Tool

Model Usage: 902, 906, 908 Compact Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to install and remove drive axle bearing nut
- Use pinion wrench to prevent axle from rotating and tighten/loosen bearing nut using spanner wrench

Reference

- 902, 906, 908 Power Train Disassembly and Assembly Manuals

Part Number	Description
220-8428	Spanner Wrench
220-8430	Pinion Wrench

Alignment Group

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Alignment groups required for proper engine to transmission alignment, essential for reliable unishaft and component performance
- Single drive shaft (unishaft) is replacing multi-piece drive shafts (and couplings) on some tractor scraper models; unishaft has fewer parts and offers improved reliability and lower repair costs
- Lightweight, accurate and quick and easy to use
- Ensure trouble-free operation of components without damage
- 4C-4562 Alignment Group: 621E (6AB, 2PD), 623E (6CB, 6YF), 627E (6EB, 6GB)
- 4C-4566 Alignment Group: 631E (1AB 750 — UP), 637E (1FB 351 — UP, 1JB 557 — UP)
- The following models require 4C-4566 Alignment Group if drive shafts have been updated to include unishaft drive line; update detailed in SEHS8813-01 Special Instruction (12/88), 631D (24W), 631E (1AB1 — 749, 1NB, 3ND), 633D (25W), 637D (26W, 27W), 637E (1FB1 — 350, 1JB1 — 556), 639D (99X)

Item	Part Number	Description
1	4C-4567	Adapter
—	4C-4566	Alignment Group

DRIVE LINE AND AXLE

Alignment Tool

Model Usage: 621B Tractor, 45P-2134 and 35V-1074; 623B Tractor, 46P-1234; 627B Tractor, 14S838 and 15S-1122

Warranty: Caterpillar® Six Months



- Used in assembly of drive shaft clutch
- Used with appropriate spider gear to align clutch discs before installation of output housing

Part Number	Description
6V-3069	Alignment Tool

Reference

EHS9138, Special Instruction

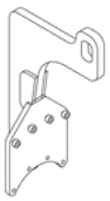


Item	Part Number	Description
1	4C-4563	Adapter
2	4C-4565	Shaft
3	4C-4564	Sleeve
—	4C-4562	Alignment Group

Differential Lifting Bracket

Model Usage: 772B, 773

Warranty: Caterpillar® Six Months



- Used to remove and install differential and carrier assembly without disturbing brake lines

Specification

- Capacity: 2043 kg (4500 lb)

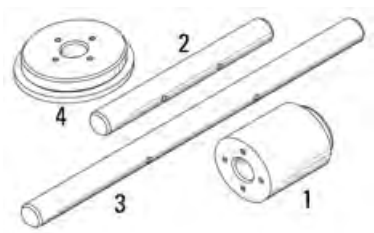
Part Number	Description
183-4807	Differential Lifting Bracket

Engine and Transmission Alignment Group

Essential Tool

Model Usage: 657G Wheel Tractor Scraper

Warranty: Caterpillar® Six Months



- Used to properly align engine to transmission
- Easy to use, lightweight unit allows quick and accurate alignment
- Short shaft is used for front engine/ transmission
- Long shaft is used for rear engine/ transmission

Reference

- RENR9714, Service Manual, 657G WTS Power Train Disassembly and Assembly, Remove and Install Engine.

Item	Part Number	Description
—	297-8326	Engine and Transmission Alignment Group
	Service/Repair Parts	
1	297-8327	Pilot Sleeve
2	297-8328	Pilot Shaft
3	297-8329	Pilot Shaft
4	297-8330	Pilot Adapter

Gauge Assembly, Ring Gear Installer

Model Usage: 416, 426, 428, 436

Warranty: Caterpillar® Six Months



Ring Gear Installer



1U-8814

- Used in disassembly and assembly of rear drive axle
- 8T-3111 Ring Gear Installer provides clean, stable way to remove axle planetary ring gear from axle housing and a flat surface to ensure proper installation of ring gear in axle housing
- 1U-8814 Gauge Assembly makes it possible to accurately measure gap between axle housing flange and inner brake housing to establish shim thickness for desired differential preload; without 1U-8814, accurate measurements very difficult to obtain, possibly impacting on quality of rebuild

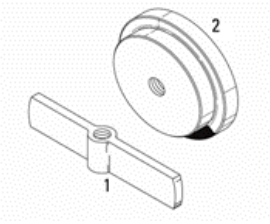
Part Number	Description
1U-8814	Gauge Assembly
8T-3111	Ring Gear Installer

DRIVE LINE AND AXLE

Puller Crossarm

Model Usage: Challenger 35, 45, and 55 Agricultural Tractors

Warranty: Caterpillar® Six Months



- Used to remove various bearings and gears from countershaft transmission
- Used with 4C-5613 Puller Group (can be added to 4C-5613 as optional two-leg crossarm)
- Can be used for any general pulling application

References

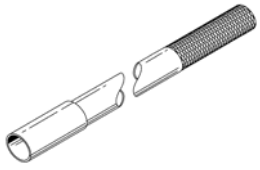
- SENR8305, Service Manual; Challenger 35, 45, and 55 Agricultural Tractor Transmission Disassembly and Assembly
- SENR8308, Service Manual; Challenger 35, 45, and 55 Agricultural Tractor Power Train Disassembly and Assembly

Part No.	Description	Length	Height	Thread Size
129-8122	Puller Crossarm	279 mm (11.0 in)	41 mm (1.6 in)	3/4 -12 ACME

Axle Installer

Model Usage: 666B Tractor-Scraper; 769B, 773 and 777 Trucks; 992B Wheel Loader; 631D Tractor-Scraper

Warranty: Caterpillar® Six Months



- Makes axle installation much easier
- Slides over end of any axle [not exceeding 82.6 mm (3.25 in) diameter] and lifts inboard end to engage differential output spline

Part Number	Description
5P-7373	Axle Installer

Hub Bearing Spacer Set



- Used to maintain position of duo-cone seal between drive wheel hub and reaction arm hub when removing undercarriage (one set of two required for this procedure)
- Used with two cable ties to hold spacer set in position
- Provides fast and effective way to prevent misalignment of seal which results in leakage of bearing lubricant

Specification

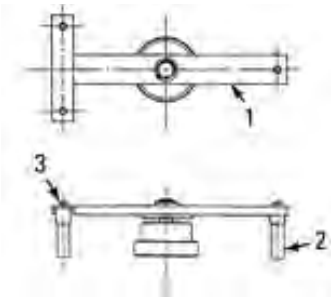
- Inside diameter: 257 mm (10.1 in)

Part Number	Description
131-1710	Hub Bearing Spacer Set

Spacer Legs

Model Usage: 446 Backhoe Loader

Warranty: Caterpillar® Six Months



- Used with 1U-8814 Gauge Assembly for disassembly and assembly of rear drive axle
- 1U-8814 Gauge Assembly is current tool for 416, 426, 428, 436, and 438 Backhoe rear axle bearing adjustment; installing three 4C-3391 Spacer Legs using three 1H-5514 Bolts to 1U-8814 Gauge Assembly will satisfy Model 446 Backhoe requirements
- 1U-8814 with attached 4C-3391 Spacer Legs is essential tool to properly adjust Model 446 Backhoe Loader rear axle bearings

Reference

- 446 Service Manual

Item	Part Number	Description	Detail
1	1U-8814	Gauge Assembly	—
2 [b]	4C-3391	Spacer Leg	—
3 [b]	1H-5514	Bolt	5/16 — 18 thread

a. Not included with 1U-8814

Locknut Spanner Wrench

Model Usage: 992C Wheel Loader

Warranty: Caterpillar® Six Months



- 12.7 mm (0.50 in) square drive tool used to remove and install 5L-8079 Locknuts in both front and rear bevel gear groups; locknuts retain bevel gear within its bearings

Part Number	Description
6V-0005	Locknut Spanner Wrench

DRIVE LINE AND AXLE

Axle Installation Tool

Model Usage: 777D Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to make removal and installation of axle shafts easier and also helps prevent accidental hand pinching by keeping technicians hands out of planet carrier assembly
- Tool has a knurled handle for better gripping
- Can be used on other axles that have 1/2 — 13 threaded hole

Specifications

- Overall length: 945.7 mm (37.2 in)
- Diameter: 76.2 mm (3.00 in)
- Thread size: 1/2 — 13

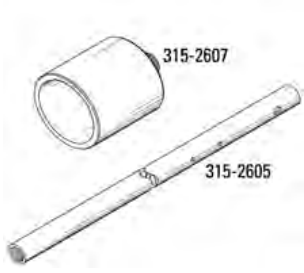
Part Number	Description
142-1813	Axle Installation Tool

Axle Handle, Adapter Assemblies

Essential Tool

Model Usage: 793F AC, 795F AC Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install axle shaft on drive axle
- Used with suitable overhead lifting device to support axle shaft
- Adapter slips over outer splines of axle shaft
- Internal allen head bolt threads into end of axle shaft to secure adapter
- Internal allen head bolt is captured in adapter with a retaining ring to prevent loss
- Handle threads onto adapter boss to provide a lifting point for supporting axle and provide leverage to guide axle shaft during removal and installation
- Through holes in handle allow a bar to be inserted to remove or install adapter
- Handle holes also allow a bar to be inserted so tooling can be used to rotate axle shaft and align splines during assembly

Reference

- KENR8715, 793F AC, 795F AC Off-Highway Truck, Disassembly and Assembly, Power Train, Axle Shaft Remove and Install
- KENR8591, Power Train Disassembly and Assembly

Part Number	Description	Length	Outside Diameter	Internal Threads	External Threads	Internal Shoulder Bolt	Teeth
315-2605	Axle Handle	1825 mm (71.8 in)	63.5 mm (2.50 in)	2-12	-	-	-
315-2606	Adapter Assembly	146 mm (5.75 in)	140 mm (5.5 in)	-	2 -12	1/2 - 13	8
315-2607	Adapter Assembly	214 mm (8.4 in)	178 mm (7.0 in)	-	2-12	1/2-13	10

Axle Shaft Adapter

Model Usage: 994K

Warranty: Caterpillar® Six Months



- Used to aid in the removal and installation of the axle shafts by utilizing either the original 1U-8848 or the newer 315-2605
- Made of steel
- Threaded to allow use with the 1U-8848 Axle Installation Handle

Specifications

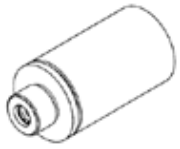
- Overall length: 201 mm (7.9 in)
- Diameter: 132 mm (5.2 in)
- Weight: 11 kg (24.3 lb)

Part Number	Description
447-6595	Axle Shaft Adapter

Adapter Assembly

Model Usage: 993K

Warranty: Caterpillar® Six Months



- Used to remove and install axle shaft
- Adapter slips over outer splines of axle shaft
- Socket head bolt is secured to adapter with a retaining ring
- Handle threads onto adapter boss to provide a lifting point for supporting axle and provide leverage to guide axle shaft Through holes in handle allow a bar to be inserted to remove or install adapter
- Handle holes also allow a bar to be inserted so tooling can be used to rotate axle shaft and align splines during assembly
- Handle (315-2605) is sold separately

Specifications

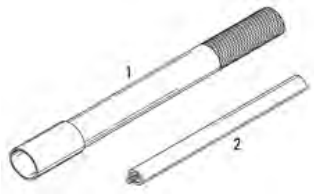
- Overall Length: 198 mm (7.8 in)
- Outside Diameter: 95.25 mm (3.75 in)

Part Number	Description
326-9423	Adapter Assembly

Axle Installer, Axle Support

Model Usage: 990 Wheel Loader

Warranty: Caterpillar® Six Months



4C-8154 Axle Installer

- Used to install drive axles into final drive assembly
- Tool slides over end of axle [not to exceed 92.5 mm (3.64 in)] and helps lift inboard end to engage drive spline
- Knurled hand grip provides better control

4C-6408 Axle Support

- Used to support axle when removing or installing sun gear in final drive
- Used with hoist and sling, if necessary, to support tool and axle

Item	Part Number	Description	Overall Length	Inside Diameter	Outside Diameter	Thread
1	4C-8154	Axle Installer	800 mm (31.5 in)	88.9 mm (3.50 in)	—	—
2	4C-6408	Axle Support	610 mm (24.0 in)	—	50.8 mm (2.00 in)	1/2 — 13

Step Plates

Model Usage: 777 Truck, 776 Tractor

Warranty: Caterpillar® Six Months



- Used in disassembly and assembly of 2G-0135 Differential and Bevel Gear Group

Item	Part Number	Description	Use
1	5P-7377	Step Plate	Input pinion front bearing cone removal
3	5P-7379	Step Installer	Input pinion phenolic oil seal installation

Pinion Nut Spanner Wrench

Model Usage: 776, 777, 777B, 793

Warranty: Caterpillar® Six Months



- Used to remove and install 2F-9064 Nut on differential pinion

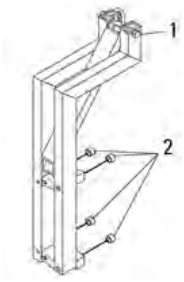
Part Number	Description
8T-2843	Pinion Nut Spanner Wrench

DRIVE LINE AND AXLE

Lifting Bracket Assembly

Model Usage: 777 Truck

Warranty: Caterpillar® Six Months



- Bolted to face of input pinion bearing cage by replacing 4 bolts which fasten bearing cage to carrier assembly with four longer 8F-8804 Bolts and four 4B-4280 Washers (both required)
- Used in removal and installation of 104-9410 Differential and Bevel Gear Group (also requires four 311-0034 Adapters)
- Used in removal and installation of current 5T-4282 Differential and Bevel Gear Group and previous 9D-2315 Differential and Bevel Gear Group
- Spacers come with newly purchased kit but are serviced separately for updating older tooling
- When using the lifting bracket assembly with the adapters you must use four 7X-0340 bolts

Specification

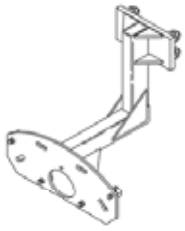
- Working load limit: 1,814 kg (4000 lb)

Item	Part Number	Description	Quantity
1	5D-9514	Bolt	1
2	311-0034	Adapter	4
—	132-1203	Lifting Bracket Assembly	—
Not Shown			
—	3K-2889	Locknut	—

Adapter Lifting Bracket Assembly

Model Usage: 769 Through 777 Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install planet carrier assembly while rear wheel station is in the horizontal orientation (even when attached to truck)
- Used with 128-4775 Lifting Bracket Assembly
- Multiple hole patterns make tool versatile enough to use on 769 through 777 series trucks

References

- SENR3145, 776C Tractor and 777C Truck Power Train
- SENR6858, 772B Tractor and 773B Truck and 775B Truck Power Train
- SENR6853, 768C Tractor and 769C Truck Power Train

Specification

- Working load limit: 363 kg (800 lb)

Part Number	Description
143-4987	Adapter Lifting Bracket Assembly

Lifting Bracket

Model Usage: All "H" Series Motor Graders, Except 14H and 16H

Warranty: Caterpillar® Six Months



- Used to remove and install differential (two different types of lifting brackets allow user to choose method that best fits their need or preferred method)
- Differential removal and installation without one of these lifting devices is very difficult and could result in damage to differential and surrounding components
- Using proper tooling will reduce the potential of injury to the mechanic rather than using unsafe alternative removal and installation methods

125-9612 Lifting Bracket

- Used to remove and install differential from above (preferred method for field service applications or when floor or ground surface will not permit use of a floor jack)

Used with an overhead hoist

- Hoist can be attached in one of five lifting holes to obtain the best center of gravity
- Lifting bracket is secured to differential with 9S-1374 Bolt (1/2-13) and 5P-8245 Washer for 8W-5575 Differential on 120H and 135H Motor Graders
- Lifting bracket is secured to differential with 1B-7709 Bolt (5/8-11) and 5P-8247 Washer for 8W-5430 Differential on 12H, 140H, and 160H Motor Graders

Reference

- Service Manual Module

Part No.	Description	Max. Capacity	Tube Diameter	Width	Height	Hole for Hoist Attachment	Pin	Lock Pin
125-9612	Lifting Bracket	227 kg (500 lb)	76.2 mm (3 in)	813 mm (32.0 in)	1804 mm (71.0 in)	25 mm (1.0 in) diameter	9K-4257	8S-6377

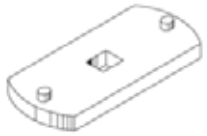
DRIVE LINE AND AXLE

Gear and Pinion Spanner Wrench

Essential Tool

Model Usage: TH103

Warranty: Caterpillar® Six Months



- Used to adjust backlash on differential ring gear and pinion
- Used with 1/2 inch square drive ratchet
- Provides positive engagement with adjusting nut
- Makes adjustment procedure easier
- Center distance between pins: 81 mm (3.19 in)
- Pin diameter: 6.35 mm (0.250 in)

Part Number	Description
202-7965	Gear and Pinion Spanner Wrench

Adjusting Ring Spanner Wrench

Model Usage: 834B Wheel Tractor, 836 Landfill Compactor, and 988F Wheel Loader

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 5K-3559, 8R-2857, and 8R-2861 Adjusting Rings
- Adjustment of rings can be difficult and time consuming without proper tools — spanner wrench provides positive engagement for this operation

Wrenches have 33.34 mm (1 5/16 in) hex for rotating and measuring torque

Reference

- SENR5729, Service Manual, 988F Vehicle Systems Disassembly and Assembly

Part No.	Pilot	Adjusting Ring	Model
9U-7398	126 mm (4.96 in)	8R-2857	834B, 836, and 988F models
9U-7399	147 mm (5.79 in)	8R-2861	834B, 836, and 988F models

Wheel Loader, 994, Tools

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months

- Used to remove and install axle, remove and install fender/cab/platform, disassemble and assemble transaxle/support, disassemble and assemble differential, general usage

References

- SENR4740, 994 Service Manual
- SENR4747, 994 Power Train Disassembly and Assembly
- SENR4755, 994 Vehicle Systems Disassembly and Assembly
- SEHS9272, 994 Field Assembly

Angle Assembly Support

Model Usage: 725, 730, 735, 735B, 740, 740B

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to support dump body while removing the center axle

References

- KENR9831, RENR3448 725/730 Power Train
- RENR3447, 725/730 Machine Systems
- RENR5140, 735/740 Machine Systems
- UENR0207, 735B/740B Power Train
- RENR5138, 735 Power Train
- KENR8195, 735/740 Machine Systems
- KENR8194, 735/740 Power Train
- RENR5139, 740 Power Train

Specifications

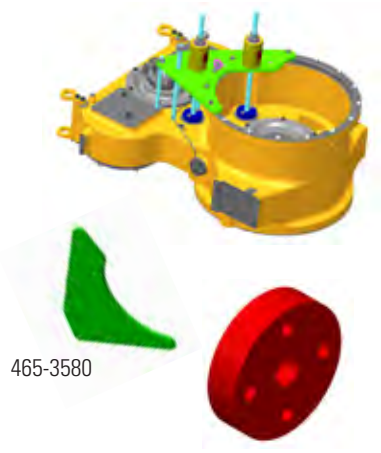
- Dimensions: 2240 x 222.2 x 213.9 mm (88.2 x 8.8 x 84 in)
- Working Load Limit: 701 kg (1546 lb)
- Weight: 35 kg (77 lb)

Part Number	Description
389-5758	Angle Assembly Support

Pump Drive Pin Tools

Model Usage: 994K

Warranty: Caterpillar® Six Months



465-3580

465-3581

- Fixture assembly will both remove and install the planetary pins using hydraulics in the pump drive.

Part No.	Description	Dimensions	Weight
465-3580	Plate	683 x 541 x 20 mm (27 x 22 x 0.80 in)	26 kg (57 lb)
465-3581	Adapter	Dia: 102 x 25 mm (4.0 x 1.0 in)	1.47 kg (3.24 lb)

Additional Tools Required:

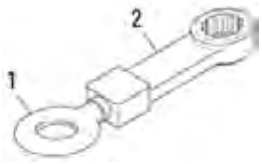
Part No.	Description	Quantity Required
316-1496	Cylinder	1
350-7768	Hydraulic Pump Group (or equivalent)	1
9U-5343	Puller Rod	3
5P-8250	Washer	5
2M-5656	Nut	5
123-4370	Threaded Rod	1
8T-4131	Nut	1
6V-5841	Washer	1
8T-8919	Bolt	6
8T-4223	Washer	6
6V-5843	Bolt	4
6V-5839	Washer	4

DRIVE LINE AND AXLE

Wrench Assembly

Model Usage: 994D Wheel Loader

Warranty: None



- Used to remove and install engine mount bolts
- Fits into limited clearance around bolt heads where sockets and other tools will not fit
- Made from standard Cat® parts
- Socket: 1 1/2 inch, 12 point
- Overall length: 280 mm (11 in)

Reference

- RENR2018, Disassembly and Assembly for 994D Wheel Loader, Engine Supplement

Item	Part No.	Description
1	3L-9168	Eyebolt
2	5P-7320	Wrench

Seal Alignment Guide

Model Usage: 789C and 793C Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to guide bearing cage assembly onto pinion shaft
- Protects edges of 9X-7397 Seal Assembly during assembly

Reference

- Service Manual, Disassembly and Assembly, 793C and 789C Off-Highway Truck Power Train, Differential, and Bevel Gear Assembly

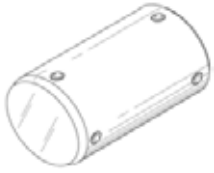
Part Number	Description
220-0196	Seal Alignment Guide

Alignment Pin Assembly

Essential Tool

Model Usage: 770, BZZ1-Up, 772, RLB1-Up, 773F, EED1-Up, 775F DLS1-Up Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to align A-frame to frame assembly prior to positioning A-frame pin
- Eight spring-loaded balls secure pin in position
- Pin diameter: 99.9 mm (3.93 in)
- Material: lightweight nylon

Reference

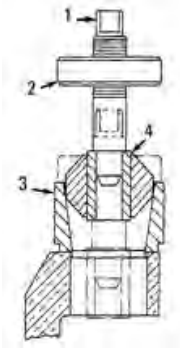
- Service Manuals, Disassembly and Assembly 770, 772, 773F, 775F Off-Highway Truck

Part Number	Description
294-2619	Alignment Pin Assembly

Installer Group

Model Usage: 657E Scrapers and Coal Haulers

Warranty: Caterpillar® Six Months



- Using this tool, drive shafts on 657E Scrapers and Coal Haulers with worn or damaged shock mounts can be repaired instead of being replaced
- 1U-6682 used to press new 9D-5494 Shock Mounts into drive shaft flange
- Repair can be done for about 25% of cost of replacing drive shaft
- There are 8 shock mounts installed in flanges at both ends of 8W-3161 Shaft, part of 8W-3160 Shaft Assembly; shock mounts should be lubricated with Rubber Lubricant at installation; threaded 1U-6542 Collar can be adjusted to position shock mounts at proper depth inside flange; force of approximately 4450 N (1000 lb) necessary to press 9D-5494 into 8W-3161 flange

Item	Part Number	Description
2	1U-6542	Adjustable Collar
4	9D-5494	Shock Mount
—	1U-6682	Installer Group

Torque Adapter Wrenches and Socket



4C-9565, 262-2759 and 4C-9563 Torque Adapter Wrenches

- Used to torque bolts in locations that are difficult or impossible to access with socket and torque multiplier
- Used with the torque wrench extension set shown in Torquing Tools section
- Heavy-duty 12-point box end
- Capacity: 884 N·m (650 ft-lb)

NOTICE:

These wrenches assure that the mounting bolts are properly torqued during assembly. Improperly torqued bolts can work loose, causing loss or damage of components.

Item	Part No.	Description	Size	Use
1	4C-9565	Torque Adapter Wrench	36 mm	Rear cab resilient mounts
2	262-2759	Torque Adapter Wrench	30 mm	Rear fender mounting bolts
3	4C-9563	Torque Adapter Wrench	24 mm	With various cab, rails and platform mountings on 994
Not shown	4C-9748	Socket	55 mm (2 3/16 in), 1 in drive, deep well, impact	Front axle mounting bolts

Special Torque Wrench Extensions



- Extensions listed below are used with the 6V-9452 Adapter, 6V-9451 Tubular Arm, and the 9S-7352 Torque Wrench primarily for applications up to 1000 ft-lb (1360 N·m)
- The Torque Computer, Form SEHS7150, can be used to compute the correct torque wrench reading for proper torque application at the fastener

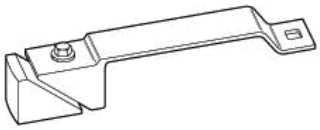
Part No.	Description	Use
6V-9451	Tubular Arm	Rear fender mounting bolts
6V-9454	Wrench, 17⁄8 inch	Tighten mounting stud nuts on 55, 56, 57, 58 and 59 Towing Winches.
6V-9456	Wrench, 111⁄16 inch	Tighten steering cylinder tie rod bolt nut on No. 16G Motor Graders.
6V-9455	Wrench, 17⁄8 inch	Tighten mounting stud nuts on 55 and 56 Towing Winches
9U-7375 (not shown)	Wrench 46 mm (113⁄16 in) Offset — 40 mm (1.56 in)	Remove and install rear axle housing, pivot joint cap bolts on 789 and 793

DRIVE LINE AND AXLE

Pinion Lock Assembly

Model Usage: 785 and 789 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to simplify backlash adjustment of differential bevel gears
- Adjustment easily made by one serviceman with 1U-5716 holding pinion stationary
- Sliding block end clamps internal spline portion of pinion; fastening 1U-5716 arm to mounting flange stud on differential housing secures pinion in place

Part Number	Description
1U-5716	Pinion Lock Assembly

Pinion Tools

Model Usage: TH62, TH63, TH82, and TH83 Telescopic Material Handler

Warranty: Caterpillar® Six Months

Pinion Depth and Preload Setting Tool

- Adjusts preload and set pinion depth
- Essential to correctly set the differential
- Included in tool group are 5P-4907 Socket Head Set Screw (qty. 1), 5L-8894 Socket Head Cap Screw (qty. 1), and 1T-0131 Bolt (qty. 2)

Pinion Nut Spanner Wrench

- Used to remove and install pinion ring nut
- 4 teeth engage in slots of nut for positive location. Prevents damage caused by slippage
- Heat-treated for added strength and durability

Spline Wrench (Pinion Shaft)

- Used to prevent rotation of pinion shaft while removing or installing pinion ring nut (spline damage may be caused if other conventional hand tools are used to hold shaft in place)
- Has 3/4 inch square drive
- Designed to engage spline of pinion shaft

Ring Nut Spanner Wrench

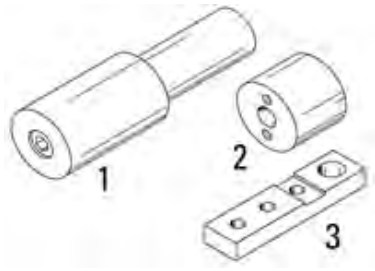
- Used to quickly and easily remove, install, or adjust ring nut
- Has 15/16 inch square drive
- Allows ring nut to be adjusted to achieve correct rolling torque/backlash adjustments
- 4-tooth design ensures positive engagement on ring nut (helps prevent slipping and possible damage to nut or other components)
- Pilot engages shaft to maintain alignment

References

- SENR5840, Disassembly and Assembly, TH62, TH63, TH82, \TH83 Telehandlers Power Train
- SENR5839, Specifications, Systems Operation, Testing and Adjusting, TH62, TH63, TH82, and TH83 Telehandlers Power Train July 29, 1986 Service Magazine, Procedure for Setting Up Differential Groups, RT50, RT60, RT80, RT100, TH62, TH82, and TH83 Telehandlers

Part Number	Description
125-9786	Pinion Depth and Preload Setting Tool
125-9787	Pinion Nut Spanner Wrench
125-9789	Spline Wrench (Pinion Shaft)
150-1716	Ring Nut Spanner Wrench

Pinion Depth and Preload Setting Tools

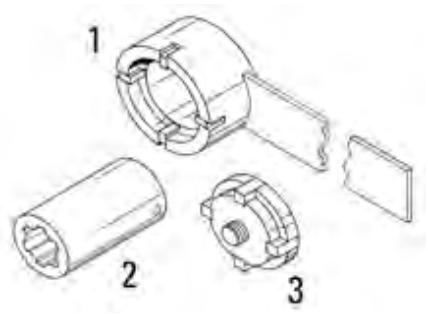


125-9786 Setting Tools

- Arbor (Item 1):
  - Overall length
  - 196 mm (7.7 in)
  - Large outside diameter: 60.3 mm (2.40 in)
  - Small outside diameter: 41.2 mm (1.62 in)
- Cap (Item 2):
  - Length: 50 mm (2.0 in)
  - Diameter: 60.3 mm (2.40 in)
  - Threaded holes: 3/8-16 for 1T-0131 Bolts
  - Center hole: Used with 5L-8894 Screw
- Datum Bar (Item 3):
  - Length: 130 mm (5.1 in)
  - Width: 31.75 mm (1.250 in)
  - Thickness: 17.5 mm (0.69 in)

Part Number	Description
125-9786	Pinion Depth and Preload Setting Tool

Pinion Nut Spanner Wrench, Spline Wrench, Ring Nut Spanner Wrench



Pinion Nut Spanner Wrench

- Overall length: 381 mm (15.0 in)
- Handle width: 50 mm (2.0 in)
- Socket inside diameter: 50.3 mm (1.98 in)
- Number of teeth: 4
- Tooth width: 6.35 mm (0.25 in)
- Distance between teeth: 60.0 mm (2.36 in)

Spline Wrench

- Overall length: 89 mm (3.5 in)
- Outside diameter: 49 mm (1.9 in)
- Socket depth: 70 mm (2.75 in)
- Number of spline teeth: 6
- Larger spline diameter: 34.5 mm (1.36 in)
- Small spline diameter: 28.5 mm (1.12 in)
- Spline tooth width: 7.50 mm (0.295 in)
- Square drive: 3/4 in

Ring Nut Spanner Wrench

- Overall Length : 62 mm (2.44 in)
- Outside diameter: 69.85 mm (2.75 in)
- Number of teeth: 4
- Tooth width: 9.53 mm (0.375 in)
- Distance between teeth: 49.96 mm (1.967 in)
- Square drive: 1 3/4 in

Item	Part Number	Description
1	125-9787	Pinion Nut Spanner Wrench
2	125-9789	Spline Wrench
3	150-1716	Ring Nut Spanner Wrench

Reamers and Drill

Model Usage: See Below

Warranty: Caterpillar® Six Months

- Installation of new differential case or bevel gear requires line reaming dowel pin holes through case flange and gear to ensure alignment and proper dowel pin installation

Reference

- SMHS7872, Special Instruction

Model	Serial No. Prefex	Reamers
619	61F, 62F	143-5025
621	23H, 15U	143-5025
623	52U	143-5025
627	54K, 68M	143-5025
627	50K, 69M, 37V, 38V	1U-6729
630	52F, 14G	143-5025
631	51F, 13G, 67M1-67M-4418	143-5025
632	14G	143-5025
633	44J, 66M1-66M727	143-5025
637	64M, 65M1-65M386, 91N, 92N, 79P1-79P429, 26R	143-5025
657	19G, 53K1-53K778, 47M1-47M205	143-5025
666	20G1-20G268	143-5025
768	79S	143-5025
769	99F	143-5025
797	All	190-6107
824	29G, 36H	143-5025
825	43N	143-5025
826B	58U	143-5025
834	43E	143-5025
835	44N	143-5025
980	42H, 89P	143-5025
988	87A	143-5025
992	25K	143-5025

Part No.	Size	Use	Model
143-5025	0.8640 in	Installation of new differential cases	619, 621, 623, 630, 631, 632, 633, 637, 657 and 666 Scapers, 768 Tractors, 769 Trucks
190-6107	0.7980 in	Installation of bevel gears/pinions	797 Trucks
1U-6729	0.6158 in	Installation of new differential cases	Some 627 Scrapers

DRIVE LINE AND AXLE

Spanner Wrench

Essential Tool

Model Usage: Telehandler TH -B series and D1Series AWD Backhoe Loaders

Warranty: Caterpillar® Six Months



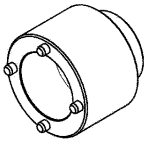
- Used to remove and install 229-5080 Final Drive Spanner Nut on limited production axles
- Used with 3/4 inch square drive ratchet or spanner wrench

Part Number	Description
246-5254	Spanner Wrench

Spanner Wrench

Model Usage: AP555E, BG555E, AP500E, BG500E

Warranty: Caterpillar® Six Months



- Used to remove and install Spanner Nut on 352-6009 Planetary Group
- Used with 3/4 inch square drive ratchet or spanner wrench
- Heat treated steel for added strength and durability
- Black Oxide Coating

Specifications

- Overall Length: 60 mm (2.4 in)
- Outside Diameter: 68 mm (2.68 in)
- Number of Pins: 4
- Pin Diameter: 6.4 mm (0.25 in)
- Weight: .44 kg (1.0 lb)

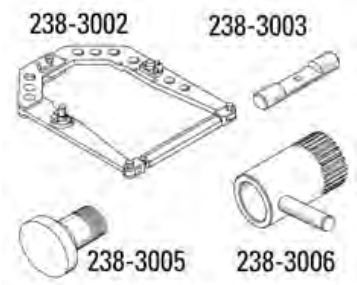
Part Number	Description
364-2858	Spanner Wrench

Tools for Setting Differential Backlash on CP/CS323C Compactor

Essential Tool

Model Usage: CP/CS323C Compactor

Warranty: Caterpillar® Six Months



- Used to set bearing preload and backlash

Reference

- KENR2783, Service Manual

Part Number	Description
238-3002	Retractor
238-3003	Shaft
238-3005	False Pinion
238-3006	Pinion Lock Wrench

Spanner Wrench Assembly (M90)

Essential Tool

Model Usage: TH103, TH210, TH215 Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install 226-4366 Final Drive/Bearing Retainer Spanner Nut
- Used to remove and install wheel bearing nut
- Four teeth engage slots of nut for positive grip (helps prevent damage caused by tool slippage)
- Heat-treated for added strength and durability

Specifications

- Overall length: 108 mm (4.25 in)
- Inside diameter: 121.5 mm (4.78 in)
- Number of teeth: 4
- Tooth width: 10.9 mm (0.42 in)
- Distance between teeth: 113.0 mm (4.45 in)

Part Number	Description
230-7923	Spanner Wrench Assembly (M90)

Spanner Wrench Assembly

Essential Tool

Model Usage: TH460B, TH560B, TH580B

Warranty: Caterpillar® Six Months



- Used to remove and install 253-5007 Spanner Nut
- 4 teeth engage slots of nut for positive grip (helps prevent damage caused by tool slippage)
- Heat-treated for added strength and durability

Specifications

- Overall length: 117.6 mm (4.63 in)
- Inside diameter: 120.65 mm (4.750 in)
- Number of teeth: 4
- Tooth width: 10.9 mm (0.42 in)
- Distance between teeth: 121.0 mm (4.76 in)

Part Number	Description
202-0453	Spanner Wrench Assembly

Spanner Wrench Assembly

Essential Tool

Model Usage: 725, 730, 735 Articulated Trucks; 725: S/N B1L1404-UP, 730: S/N B1M1294-UP, 730 Ejector: S/N B1W262-UP, 735 Rear Axle: S/N B1N830-UP

Warranty: Caterpillar® Six Months



- Used to remove and install spanner nut that retains outer pinion bearing on differential
- Used on differentials with outer pinion bearings that have a slip fit
- Used with 3/4 inch drive ratchet wrench, breaker bar, or torque wrench
- 4 teeth engage slots of nut for positive grip (helps prevent damage caused by tool slippage)
- Allows for proper adjustment of spanner nut torque
- Heat-treated for added strength and durability

References

- SEPD0877-00, Service Magazine
- REBE1048-02, Service Letter

Specifications

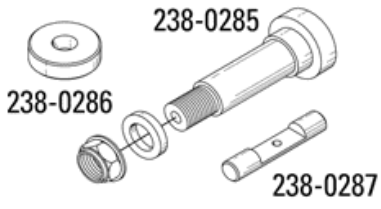
- Overall length: 82.6 mm (3.25 in)
- Inside diameter: 87 mm (3.43 in)
- Number of teeth: 4, equally spaced
- Tooth width: 5.8 mm (0.23 in)
- Distance between teeth: 80.5 mm (3.17 in)
- Square drive: 3/4 in

Part Number	Description
313-9019	Spanner Wrench Assembly

Setting Pinion Shim Height in Telehandler Rear Axle

Essential Tool

Model Usage: TH460B, TH560B TeleHandler



- Used to set pinion shim height in rear axle differential

Part Number	Description
238-0285	False Pinion
238-0286	Disc
238-0287	Shaft

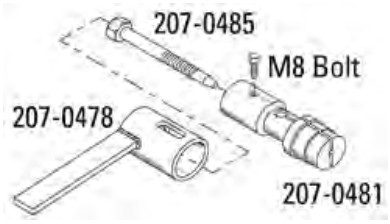
DRIVE LINE AND AXLE

Crown Wheel Backlash Tools

Essential Tool

Model Usage: TH103 Telehandler

Warranty: Caterpillar® Six Months



- Used to measure crown wheel backlash after assembly of bevel and pinion gear
- Tooling expands into differential bushing, allowing technician to rotate bevel gear back and forth to measure backlash
- Essential tool to correctly set crown wheel backlash
- Tightener rod is heat treated for added strength and durability
- Uses standard M8 bolt to hold axle socket to assembly socket
- Requires a 17 mm socket to tighten 207-0485 Tightener Rod

Reference

- TH103 Telescopic Material Handler Service Manual

207-0478 Socket Assembly

- Overall length: 215 mm (8.5 in)
- Handle width: 25.4 mm (1.0 in)

207-0481 Socket-Axle

- Overall length: 123 mm (4.8 in)
- Outside diameter: 40 mm (1.6 in)

207-0485 Rod Tightener

- Overall length: 140 mm (5.5 in)
- Thread size: M12 x 1.25
- Head size: 17 mm

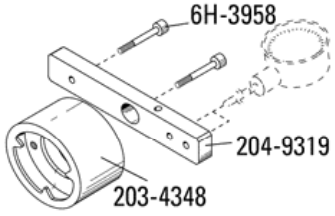
Part Number	Description
207-0478	Socket Assembly
207-0481	Socket-Axle
207-0485	Rod Tightener

Gauge Group

Essential Tool

Model Usage: TH103 Telescopic Material Handler

Warranty: Caterpillar® Six Months



- Used to adjust pinion bearing preload and set pinion depth on both front and rear axles
- Used with 6V-6106 Dial Indicator Group, 3P-1565 Collet Clamp, 5P-4156 Indicator Base, 5P-4162 Contact Point (98 mm), and 3S-3269 Contact Point
- Group includes 203-4348 Pinion Gauge Assembly, 204-9319 Gauge Bar Assembly, two 6H-3958 Socket Head Bolts, 6V-3073 Protective Case, and NEEG2939 Decal

203-4348 Pinion Gauge Assembly

- Designed to sit on top of pinion shims (only way to accurately measure distance from top of shim to housing)
- 204-9319 Gauge Bar Assembly bolts onto pinion gauge (provides correct spacing for setting pinion height)

204-9319 Gauge Bar Assembly

- Bolts onto 203-4348 Pinion Gauge Assembly using two 6H-3958 Socket Head Bolts
- Provides a stable indicator platform for taking front and rear axle measurements
- 2 preset depth holes allows dial indicator to be quickly and accurately set to 20 or 98 mm

Reference

- Service Manual, TH103 Telescopic Material Handler

203-4348

- Overall length: 89 mm (3.5 in)
- Outside diameter: 111.0 mm (4.37 in)
- Inside diameter: 99.0 mm (3.90 in)

6H-3958

- Thread size: 1/4 — 20
- Length: 69.9 mm (2.75 in)

204-9319

- Length: 228.5 mm (9.00 in)
- Width: 38 mm (1.5 in)

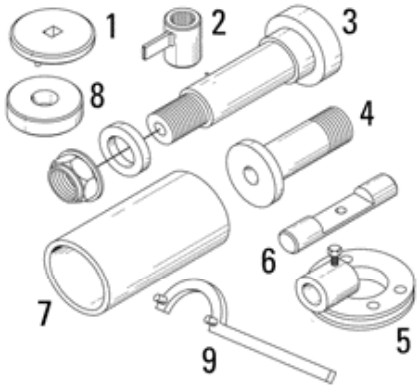
Part Number	Description
208-5526	Gauge Group
Consists:	
203-4348	Pinion Gauge Assembly
204-9319	Gauge Bar Assembly
6H-3958	Screw

Axle Repair Tooling

Essential Tool

Model Usage: 416D, 420D, 424D, 428D, 430D, 432D, 435D, 442D Backhoe Loaders; TH210, TH215, TH350B, and TH360B Telehandlers

Warranty: Caterpillar® Six Months



Item	Part No.	Description	Used on Models	Use
1	235-2797	Spanner Wrench	210/215/350B/360B Front and Rear Axle	Adjust differential bevel gear backlash
3	235-2788	False Pinion	350B/360B Front Axle	Set pinion shim height on front and rear axle differentials
3	235-2789	False Pinion	350B/360B Rear Axle; 416D, 420D, 424D, 428D, 430D, 432D, 435D, 442D Backhoe Loader Front Axle	—
3	235-2790	False Pinion	460B Front Axle	—
3	238-0285	False Pinion	460B Rear Axle	—
4	235-2787	False Pinion	210/215 Rear Axle	—
5	235-2784	Pinion Wrench	350B/360B Front and Rear Axle	Remove and install pinion nut
6	235-2796	Shaft	210/215/350B/360B Rear Axle	Set pinion shim height on rear axle differentials
6	238-0287	Shaft	460B Rear Axle	—
7	235-2792	False Differential	460B Front Axle	Set pinion shim height on front axle differentials
7	235-2793	False Differential	350B/360B Front Axle	—
8	235-2795	Disc	210/215/350B/360B Rear Axle	Set pinion shim height on rear axle differentials
8	238-0286	Disc	460B Rear Axle	—
9	235-2785	Pinion Wrench	416D, 420D, 424D, 428D, 430D, 432D, 435D, 442D Backhoe Loader Front Axle	Set Pinion and shim height

Special 90° Gear Reducer Tools

Model Usage: CS553 and CP553 Vibratory Soil Compactors

Warranty: Caterpillar® Six Months



- Special tools required to correctly disassemble and assemble 90° gear reducer

References

- KELR2134, Service Manual, CS553 Vibratory Soil Compactors-Smooth Drum
- KELR2135, Service Manual, CP553 Vibratory Soil Compactors-Padded Drum

Part No.	Description	Use
1U-5847	Measuring Shaft	Adjust gears and bearings
1U-5933	Seal Installer	Install Duo-cone seals

Ejector Clearance, Go No-Go Tool

Model Usage: 621H, 627H

Warranty: Caterpillar® Six Months



- Used to check the clearance between the cap bolts on the rollers and the rear differential

Specifications

- Dimensions: 250.4 x 5.0 x 3.5 mm (9.9 x 0.2 x 0.1 in)

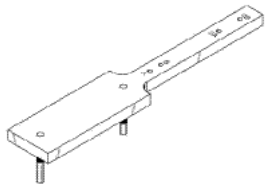
Part Number	Description
439-4533	Ejector Clearance, Go No-Go Tool

DRIVE LINE AND AXLE

Backlash Gauge

Model Usage: 12H, 120H, 135H, 140H, 143H, 160H, and 163H Motor Graders

Warranty: Caterpillar® Six Months

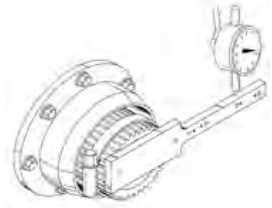


- Used to measure and check differential backlash
- Used with dial indicator
- Replaces current method of measuring backlash on pitch diameter of bevel gear tooth surface
- Gauge offers advantage of checking backlash by simply removing drive shaft and yoke (offers a quick troubleshooting check)
- Tooling is designed to check backlash with differential in or out of axle housing
- Changes in backlash settings, after differential is mounted into axle housing, can also be quickly and easily determined
- Backlash gauge is attached by simply sliding tool over end of pinion shaft and clamping it in place (a simple band clamp will work)
- Pins of backlash gauge slide between splines on pinion providing a positive attachment
- Backlash gauge has four punch marks (A, B, 2A, and 2B) on it representing given pitch diameters of differentials (punch marks are also a guide for placement of dial indicator tip)
- Backlash is determined by setting up a dial indicator (outside of the differential case) and measuring movement at the appropriate mark on the gauge

Part Number	Description
127-8072	Backlash Gauge

Reference

Service Manual Module



Using the backlash gauge with a dial indicator

Specifications

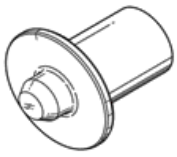
- Backlash specifications for marks A and B: 0.25 ± 0.05 mm (0.010 ± 0.002 in)
- Backlash specifications for marks 2A and 2B: 0.51 ± 0.10 mm (0.020 ± 0.004 in)
- Pitch diameter A: for 120H and 135H Motor Graders
- Pitch diameter 2A: 2 times pitch diameter for 120H and 135H Motor Graders
- Pitch diameter B: for 12H, 140H, 143H, 160H, and 163H Motor Graders
- Pitch diameter 2B: 2 times pitch diameter for 12H, 140H, 143H, 160H and 163H Motor Graders

Bearing Driver

Essential Tool

Model Usage: 216, 226, and 228 Skid Steer Loader

Warranty: Caterpillar® Six Months



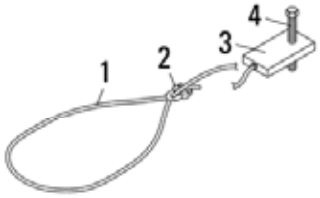
- Used to install bearing cone into axle assembly
- Provides fast, accurate installation
- Made of tool steel for long life — heat-treated for added durability
- Hardness: Rc 37 to 42

Part Number	Description
173-0984	Bearing Driver

Chain Puller

Model Usage: 550, 570, and 580 Harvesters (with Chain Drives)

Warranty: None



- Used to install drive chains
- Provides safe method of installation and reduces installation time
- Threads over sprocket before inserting chain
- Cable is galvanized steel with a vinyl jacket
- Join cable loop with clip or weld into position
- Can be made of suitable equivalent materials

Item	Description	Grainger Part No.	Material
1	Cable	4KH26	—
2	Clip	4KH30	—
3	Block	—	SAE4140

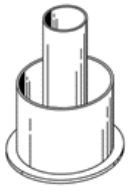
Item	Part Number	Description
4	1B-2714	Bolt

Bearing Press Tool

Essential Tool

Model Usage: 216, 226, and 228 Skid Steer Loaders

Warranty: Caterpillar® Six Monthss



- Used to install wheel bearings onto the axle spindle
- Quickly and accurately installs cone using any type or size of shop press

Specifications

- Weight: 4 kg (6 lb)
- Round base: 175 mm (6.9 in)
- Height: 253.35 mm (9.97 in)

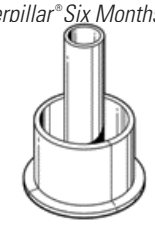
Part Number	Description
159-3285	Bearing Press Tool

Bearing Installer

Essential Tool

Model Usage: 236, 246, 248, 252, and 262 Skid Steer Loader

Warranty: Caterpillar® Six Months



- Used to install 155-9010 Bearing Cone onto 142-9024 Spindle or into 142-9058 Axle Group
- Provides fast, accurate installation using any type and size of shop press
- Weight: 4 kg (6 lb)

Part Number	Description
179-4348	Bearing Installer

Torque Adapter, 16mm

Model Usage: C7.1 Marine Engines

Warranty: Manufacturer's



- Provides the ability to properly torque the turbocharger mounting nuts
- Allows access to the mounting nuts where a conventional socket/torque wrench will not fit
- Used with a conventional 3/8 inch drive torque wrench

Specifications

- Dimensions: 40 x 22 x 11 mm (1.57 x 0.87 x 0.43 in)
- Weight: 0.136 kg (0.299 lb)

Part Number	Description
485-1624	Torque Adapter, 16 mm

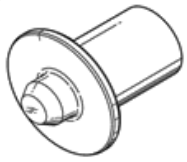
DRIVE LINE AND AXLE

Bearing Driver

Essential Tool

Model Usage: 236, 246, 248, 252, and 262 Skid Steer Loader

Warranty: Caterpillar® Six Months



- Used to install 155-9432 Bearing Cone into 142-9085 Axle Group
- Provides fast, accurate installation using any type and size of shop press
- Made of tool steel for long life — heat-treated for added durability
- Hardness: Rc 37 to 42

Part Number	Description
179-4350	Bearing Driver

Seal Driver

Essential Tool

Model Usage: 216, 226, and 228 Skid Steer Loader

Warranty: Caterpillar® Six Months



- Used to install grease seals into axle assembly
- Provides fast, accurate installation
- Made of tool steel for long life — heat-treated for added durability
- Hardness: Rc 37 to 42

Part Number	Description
174-1535	Seal Driver

Seal Driver

Essential Tool

Model Usage: 236, 246, 248, 252, and 262 Skid Steer Loader

Warranty: Caterpillar® Six Months



- Used to install 155-5652 and 169-1679 Grease Seals into 142-9058 Axle Group
- Provides fast, accurate installation using a hammer or any type and size of shop press
- Made of tool steel for long life — heat-treated for added durability
- Hardness: Rc 37 to 42

Part Number	Description
179-4353	Seal Driver

Pinion Nut Socket

Model Usage: MT735, MT745, MT755, and MT765 Ag Tractors

Warranty: Caterpillar® Six Months



- Used to remove and install pinion locknut
- Used with a 12.7 mm (1/2 in) torque wrench
- Heat-treated for strength and wear resistance

Part Number	Description	Teeth	Square Drive
207-0757	Pinion Nut Socket	4 evenly spaced	1/2 in

Spanner Wrench Assembly

Model Usage: MT835, MT845, MT855, and MT865 Ag Tractors

Warranty: Caterpillar® Six Months



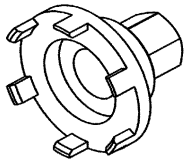
- Used to remove and install final drive locknut
- Used with a 25.4 mm (1 in) torque wrench
- Heat-treated for strength and wear resistance

Part Number	Description	Teeth	Square Drive
225-4125	Spanner Wrench Assembly	4 evenly spaced	1 in

Spanner Wrench

Model Usage: 938K Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install 365-1291 nut
- Used during the disassembly and assembly of certain axle housings

Specifications

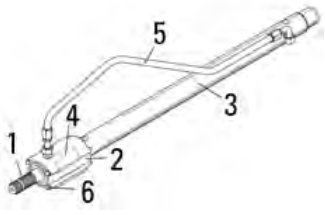
- Outside Diameter: 79.8 mm (3.14 in)
- Tooth Inside diameter: 71.7 mm (2.82 in)
- Tooth Width: 10.5 mm (.41 in)
- Tooth Height: 12.3 mm (.48 in)
- Number of Teeth: 6
- Hex Size: 30 mm (1.18 in)

Part Number	Description
383-4270	Spanner Wrench

Dyno Tooling Group

Model Usage: MT835, MT845, MT855, and MT865 Ag Tractors

Warranty: Caterpillar® Six Months



- Used to hook up and test tractors on engine dyno service tooling

Reference

- REHS1333, Special Instruction

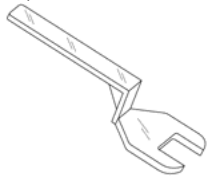
Item	Part No.	Description
—	210-1461	Dyno Tooling Group
	Service/Repair Parts	
1	210-1462	Shaft
2	210-1463	Housing
3	210-1465	Shaft Assembly
4	210-1466	Coupling
5	116-9896	Hose Assembly
6	7X-0474	Bolt (4 required)

Wrench

Essential Tool

Model Usage: 277C (JWF1-UP), 287C (MAS1-UP), 297C (GCP1-UP) Multi-Terrain Loaders

Warranty: Caterpillar® Six Months



- Used to position torsion axle
- Allows removal and installation of C-series track roller frame
- Unique offset design works where standard tools will not
- Wrench opening is 77.8 mm (3.06 in)

Part Number	Description
305-6884	Wrench

Set Ring

Essential Tool

Model Usage: D9R and D9T Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to check and establish correct backlash of bevel and transfer gear
- Used before final assembly
- Used in place of tapered bearing

Reference

- RENR7471, Service Manual, D9T Track-Type Tractor Power Train Bevel and Transfer Gears

Part Number	Description
264-4529	Set Ring

MARINE GEAR

Pre-Load Tool Kit

Model Usage: 793F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to assemble the differential on the 793F Off-Highway Truck
- Black Oxide coating to increase corrosion resistance
- Used with 316-1495 hydraulic ram (not part of kit)

Specifications

- Height: 300 mm (11.81 in)
- Outside Diameter: 519 mm (20.43 in)
- Weight: 20.86 kg (46 lbs)

Part Number	Description
352-0433	Pre-Load Tool Kit

Spanner Wrench Assembly

Essential Tool

Model Usage: M315C Wheeled Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install 246-6871 Nut on differential
- Used with 1 inch square drive wrench
- 6-tooth design fits special 130 mm nut
- Not to be used with impact air tools
- Welded steel construction
- Hardened (RKW C35-41) for long service life
- Black oxide coating to resist corrosion

Part Number	Description	Square Drive	No. of Teeth	Tooth Inside Diameter	Tooth Outside Diameter	Tooth Width
338-3941	Spanner Wrench Assembly	1 inch	6	122.50 mm (4.83 in)	133.35 mm (5.25 in)	10.25 mm (.40 in)

Alignment Yoke, Alignment Bar

Model Usage: Most Cat Marine Gears

Warranty: Caterpillar® Six Months



- Used to mount dial indicator when checking engine generator alignment or alignment of marine gear output shaft to propeller shaft

Reference

- SEHS7456, Special Instruction

Part Number	Description
6V-2042	Alignment Yoke
6V-2043	Alignment Bar

Seal Installer, Sealer Remover

Model Usage: All Marine Applications Using Jabsco Water Pumps as the Auxiliary Pump

Warranty: Caterpillar® Six Months



- Used to remove and install new 205-3108 seal assembly in Jabsco Water Pumps
- Quickly removes and installs existing seal and washer from water pump shaft
- Steel, black oxide finish

Part No.	Dimensions
389-9062	62.5 x 38.1 mm (2.5 x 1.5 in)
389-9064	180 x 34 mm (7.1 x 1.3 in)

Service Tools for Reintjes Marine Gears

Model Usage: See Chart

Warranty: Caterpillar® Six Months

- Required for complete disassembly and assembly of Reintjes Marine Gear Models
- Chart A for: WAF240, WVS233, WAF242, WAF260, WAF262, WAF340, WAF360, WVF233, WAF440 and WAF460
- Chart B for: WAF540, WAF560, WAF640, WAF660, WAF740, WAF760, WAF840, WAF860, WAF1140, WAF1160, WAF1540, WAF1560 and WAF1590
- Numbers shown in the chart are quantity of tools needed to service marine gear model shown at the top of the column — if no quantity shown, tool not applicable for that model
- For tools that are common to more than one model, avoid unnecessary duplication by ordering maximum quantity specified for any one of models you intend to service

NOTE: Some tools listed in the chart are not stocked in the Caterpillar® parts system and will be sourced from the supplier as orders are placed. Tool orders should be placed at least two months before the date of anticipated need if at all possible. However, if a short lead time situation exists, an emergency order should be placed

Reference

- SENR3775, Service Repair Reference for Reintjes Marine Gears

Reintjes Marine Gear Tooling

Part No.	Description	Reintjes Part No.	WAF240	WVS233	WAF242	WAF260	WAF262	WAF340	WAF360	WVS333	WAF440	WAF460
1H-3107	Puller	395722	—	—	—	—	—	—	—	—	—	—
1P-2322	Puller	318205	—	—	—	—	—	—	—	—	—	—
1P-2375	Coupler Assembly Quick Connective (Male)	—	1	1	1	1	1	1	1	1	1	1
1P-2376	Coupler Assembly Quick Connective (Female) (2)	—	1	1	1	1	1	1	1	1	1	1
5F-7343	Puller	395722	—	—	—	—	—	—	—	—	—	—
5P-7970	Nut	12556	—	—	—	—	—	—	—	—	—	—
5P-8247	Hard Washer	12122	—	—	—	—	—	—	8	8	8	8
6V-3160	Cylinder Group	200913 [a]	1	1	1	1	1	1	1	1	1	1
6V-7742	Nut — Full	12610	—	—	—	—	—	—	—	—	—	—
6V-8178	Washer	12106	4	—	—	8	8	8	—	—	—	—
6V-8495	Washer	12092	—	12	12	—	—	—	—	—	—	—
8B-7548	Puller Assembly — Bearing	404195	1	1	1	1	1	1	1	1	1	1
8B-7551	Bearing Puller Assembly	404195	1	1	1	1	1	1	1	1	1	1
8F-0024	Hose Assembly	—	1	1	1	1	1	1	1	1	1	1
8T-1757	Nut	12599	—	—	—	—	—	—	8	8	8	8
8T-3282	Washer — Hard	12149	—	—	—	—	—	—	—	—	—	—
8T-4133	Nut (M10)	12564	—	12	12	—	—	—	—	—	—	—
8T-4137	Bolt	10804	—	—	—	—	—	—	—	—	—	—
8T-8443	Bolt	9180	—	—	—	—	—	6	—	—	—	—
9M-1974	Washer	12084	—	—	—	—	—	—	—	—	—	—

a. 200913 Hydraulic Press includes the Pump Group, Hose Assembly and Coupler Assemblies

Tools for 7231 and 7241 Marine Gears

Model Usage: 7231 and 7241 Marine Gear

Warranty: Caterpillar® Six Months



- Used to assemble ahead clutch shaft and astern drive shaft

Item	Part Number	Description	Model
1	6V-3133	Spanner Wrench	7241
3	6V-3134	Spanner Wrench	7241

FINAL DRIVE

Final Drive Sprocket, Gear and Support Removal Tools



Final Drive Sprocket, Gear and Support Removal Tools

Item	Part No.	Description	Weight	Use
1	8M-4843	Adapter Assembly	100 ton	Sprocket installation, D8H, 583H
5	1S-6645	Puller Sleeve Assembly	100 ton	Sprocket installation, D7E, D7F, 572E, 983, D8H, 583H, D9G, DD9G, 594
5	9H-3992	Head	100 ton	Sprocket installation, D7E, D7F, 572E, 983, D8H, 583H, D9G, DD9G, 594
9	5F-7693	Spacer Assembly	70 ton	—
12	7F-6068	Sleeve Assembly	70 ton	Sprocket installation, D2, D3, 931
13	1M-6756	Sleeve Assembly	100 ton	Final Drive Outer Bearing Support installation, D8H, 583H
15	8M-9010	Sleeve	100 ton	Sprocket installation, 955K, D6C, 561C, D7E, 572E
17	5P-2180	Puller	—	—
Item 6, Pusher Group (70 ton) Consists of:				
6	7F-5283	Head	—	Sprocket installation, D4, D4C, D4D, 941, 951, D5, D6, D6B, 561C
Sprocket and Final Drive Unit removal, D7E (Not Shown)				
—	1U-8236	Sling	—	—
—	439-3940	Bracket — Link	—	—

Final Drive Bearing Removal Tools

Model Usage: Refer to Chart

Warranty: Caterpillar® Six Months

Part No.	Description	Quantity	Use	Model
0L-1169	Bolt	3	—	—
1D-4720	Nut	3	—	—
1U-6415	Puller Assembly	Final drive bearing cage holder removal	D7E, D7F, 571E, 571F, 572E, 572F, 983	—
1U-6415 Puller Assembly Includes:				
0S-1587	Bolt	—	—	—
1B-4331	Nut	—	—	—
1D-4593	Bolt	—	—	—
1D-4719	Nut	—	—	—
1D-4720	Nut	3	—	—
2A-1538	Bolt	—	—	—
4B-4280	Washer	2	—	950, 966C
4B-4281	Washer	2	—	988
4B-4283	Washer	2	—	—

Sprocket Hub Outer Bearing Removal Tool

Model Usage: Refer to chart that follows

Warranty: Caterpillar® Six Months



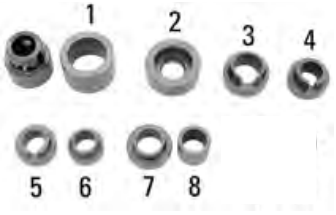
- Yoke used for sprocket hub outer bearing removal
- To determine what machine yoke is used on, refer to Sprocket and Final Drive Hub Removal Tool Chart that follows

Part Number	Description
1F-7057	Yoke

Sprocket Removal and Installation Tools

Model Usage: Refer to Chart

Warranty: Caterpillar® Six Months



- Adapters and spacers that provide support for tooling at all times and keep final drive components tight and in alignment

Reference

- SMHS6903, Special Instruction

Item	Part Number	Description	Model
1	1P-5582	Adapter	D9G, D9H, 594
2	1P-5585	Adapter	D8H, 583H
3	1P-5591	Adapter	D7E, D7F, 983
4	1P-5590	Adapter	D6C, 561C
6	1P-5583	Adapter	D4, D4D, 941, 951
7	1P-5579	Adapter	977K
8	1P-5581	Spacer	977K

Part Number	Description	D7E, F, G, 572E, F, G, 571A, F, G, 983 Remove Install	D8H, K, 583H, H Remove Install	D9G, H, DD9G, H, 594 Remove Install
1P-5591	Adapter	R-1, I-1 [a]	—	—
5P-5207	Stud	R-1, I-1	R-1, I-1	R-1, I-1
5P-5208	Nut	I-1	R-1, I-1	I-1
5P-5209	Adapter Assembly	—	—	R-1, I-1
5P-5212	Plate Assembly	R-1, I-1	R-1, I-1	I-1
5P-5214	Sleeve	—	R-1	—
5P-5215	Adapter	R-1, I-1 [b] [c]	R-1	R-1 [d]
5P-6220	Sleeve Assembly	I-1	—	—
5P-6222	Adapter	R-1, I-1 [e]	—	—
5P-8837	Lock	R-1 [a]	—	—
6V-3123	Adapter	R-3	R-3	R-3
6V-3124	Nut	R- [a] [e]	R-3	R-3
6V-3125	Arm	R-3	R-3	R-3
6V-3126	Pin	R-6	R-6	R-6
6V-4000	Head	R-1	R-1	R-1

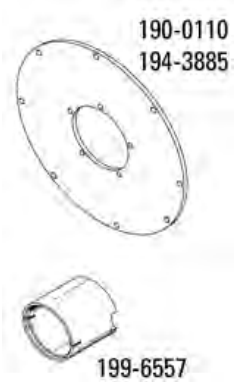
a. 983 only
b. R-1: 983 and D7 only
c. I-1: 983 only
d. 594 only
e. D7, 571 and 572 only

Spanner Socket, Adapter Ring

Essential Tool

Model Usage: 541, 322B, 325B, and 330B Forest Machines

Warranty: Caterpillar® Six Months



- Used to service final drive (properly tightens final drive bearing locknut)
- Used with 127-8458 Final Drive Disassembly and Assembly Bench

Spanner Socket

- Designed to correctly fit locknut and transmit tightening force
- Capable of withstanding high torque required for final drives

Adapter Ring

- Used to properly locate final drive in center of bench
- 190-0110 (330B, 541TFB)
- 194-3885 (322B, 325B)

References

- RENR2908, 541 Feller Buncher Machine System Disassembly and Assembly
- NEHS0673, Tool Operating Manual, 127-8458 Final Drive Disassembly and Assembly Bench

Part Number	Description
190-0110	Adapter Ring
194-3885	Adapter Ring
199-6557	Spanner Socket

FINAL DRIVE

Sprocket Removal

Part No.	Description	D3, D3B, 931, 931B	D4, D4C, D4D, D4E, 941, 951	D5, D5B, D6, D6B, 561B, 561D	D6, 561C	D6D	955K, 955L	977K	977L
5F-9884	Adapter	1	—	—	—	—	—	—	—
7B-2499	Ring	—	—	—	—	6	1	—	1 [a]
5F-9879	Shaft Adapter — Sprocket	—	—	—	1	—	1	1	—
5F-9882	Shaft Adapter — Sprocket	1	—	—	—	—	—	—	—
5F-9885	Shaft Adapter — Sprocket	—	—	1	—	—	—	—	—
5F-9888	Adapter Coupling	1	1	1	1	—	1	1	—
6F-8343	Adapter — Rear Axle Shaft	1	—	—	—	—	—	—	—
5H-9909	Pin Assembly	3	3	6	—	—	3	3	—
6H-4158	Pin	—	—	—	3	3	—	—	6
7M-9772	Coupling Pin	—	—	—	—	1	—	—	1
7M-9774	Adapter Coupling	—	—	—	—	1	—	—	1
1P-5579	Adapter	—	—	—	—	—	—	1	1
1P-5581	Spacer	—	—	—	—	—	—	1	1
1P-5583	Adapter	—	1	—	—	—	—	—	—
1P-5590	Adapter	—	—	—	1	1	—	—	—
3P-2248	Adapter (70 ton)	1	—	—	—	—	—	—	—
5P-2421	Adapter	—	3	3 [a]	3 [a]	—	3 [a]	3 [a]	—
5P-4183	Shaft Adapter (100 ton)	—	—	—	—	1	—	—	1
9S-8900	Cylinder Group	1	1	1	—	1	1	—	—
9S-8901	Cylinder Group	—	—	1	1	—	1	—	—

a. Spoke-type Sprockets only

Final Drive Hub Outer Bearing and/or Cage Holder Removal

Part No.	Description	D4, D4C, D4D, D4E, 941, 951, 955K	D5, D6, D6B, 561B	D6C, 561C	D5B, 561D	D6D	955L	977K, 977L
1F-7057	Yoke	—	—	1	—	1	—	—
1H-3112	Puller Assembly	—	—	—	—	1	—	—
1P-0492	Plate	—	—	—	—	1	—	—
1P-2322	Puller	1	1	1	1	1	—	1
2P-8261	Adapter	—	—	—	—	—	1	—
5F-7345	Screw	—	—	—	1	—	—	—
5F-7379	Bolt	—	—	—	—	1	—	—
5F-9693	Wrench	1	—	—	—	—	—	—
5S-6079	Socket	—	—	—	—	—	1	—
7B-2499	Ring	—	—	—	—	—	1	—
7F-9306	Wrench	1	1	1	1	1	1	1
8B-7548	Puller Assembly — Bearing	—	—	—	1	1	1	—
8B-7554	Puller Assembly	—	—	—	1	1	1	—
8B-7559	Adapter	—	—	—	—	—	1	—
8B-7560	Step Plate	—	1	1	1	1	—	1
8H-0684	Wrench	—	—	—	1	—	—	—

Description	D3, D3B, 931, 931B	D4, D4C, D4D, D4E, 941, 951	D5, D6, D6B, 561B	D6C, 561C	D5B, 561D	D6D	955K	955L	977K	977L
Electric-Hydraulic Pump [a]	a	a	a	a	a	a	a	a	a	a

a. Alternate pumps may be used

Final Drive Hub Outer Bearing and/or Cage Holder Removal (Continued)

Part No.	Description	D3, D3B, 931, 931B	D4, D4C, D4D, D4E, 941, 951	D5, D6, D6B, 561B	D6C, 561C	D5B, 561D	D6D	955K	955L	977K	977L
1P-5579	Adapter	—	—	—	—	—	—	—	—	1	1
1P-5581	Spacer	—	—	—	—	—	—	—	—	1	1
1P-5583	Adapter	—	1	—	—	—	—	—	—	—	—
5F-9879	Shaft Adapter	—	—	—	1	—	—	1	1	1	—
5F-9884	Shaft Adapter	—	1	—	—	—	—	—	—	—	—
5F-9885	Shaft Adapter	—	—	1	—	1	—	—	—	—	—
5F-9888	Adapter Coupling	1	1	1	1	1	—	1	1	1	—
5P-4183	Shaft Adapter (100 ton)	—	—	—	—	—	1	—	—	—	—
6F-8343	Shaft Adapter	1	—	—	—	—	—	—	—	—	—
6H-4158	Pin	—	—	—	—	2	—	—	2	—	2
7B-2499	Ring	—	—	—	—	—	—	—	4	—	4
7F-5283	Head	—	—	—	1	—	1	1	1	—	—
7F-6068	Sleeve Assembly	1	—	—	—	—	—	—	—	—	—
7F-9306	Wrench	—	—	—	—	1	1	—	—	—	1
7M-9772	Coupling Pin	—	—	—	—	—	1	—	—	—	1
7M-9774	Adapter Coupling	—	—	—	—	—	1	—	—	—	1
8M-9010	Sleeve	—	—	—	1	—	1	1	—	—	1
9H-3992	Head	—	—	—	—	—	—	—	—	—	1
9S-8900	Cylinder Group	1	1	1	1	1	—	1	1	1	—
9S-8901	Cylinder Group	—	—	—	—	—	1	—	—	—	1

Sleeve Pusher

Model Usage: LC5000, LC6000, LC7000 Series Generator

Warranty: Caterpillar® Six Months



- Used to install exciter
- Used to remove loader bearings in 955L & 983 TTL
- Used to install final drive sprockets on D4's 941, 951 D5, D6, and 561C's

Specifications

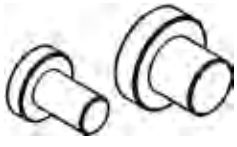
- Dimensions: 330.2 x 165.1/127
- Weight: 10.43 kg (23 lb)

Part Number	Description
437-7717	Sleeve Pusher

Final Drive Button

Model Usage: 336E and 374 Excavators

Warranty: Caterpillar® Six Months



- Used as support adapter during D&A process
- Made of plastic
- Holds the planetary gears in place for safe removal and towing of planetary gear cluster

Part No.	Description	Length	Diameter	Weight
473-7086	Final Drive Button for 336E	102 x 47 mm (4 x 1.9 in)	85.6 mm (3.4 in)	0.291 kg (0.64 lb)
473-7089	Final Drive Button for 374	130.5 x 92.5 mm (5.1 x 3.6 in)	154 mm (6.1 in)	1.507 kg (3.32 lb)

FINAL DRIVE

Spacer

Essential Tool

Model Usage: D5M (3CR1-Up, 3DR1-Up, 4BR1-Up, 4JS1-Up, 5ES1-Up, 5FS1-Up, 6AS1-Up, 6GN1-Up, 7LR1-Up), D5N (AGG1-Up, AKD1-Up, CFH1-Up, CKT1-Up), D6M (2RN1-Up, 2YS1-Up, 4GS1-Up, 5WR1-Up, 9ZM1-Up), D6N (AKM1-Up, ALH1-Up, ALR1-Up, ALY1-Up, CBF1-Up, CBJ1-Up, CBL1-Up, CCG1-Up, CCK1-Up, CCS1-Up)

Warranty: Caterpillar® Six Months



- Used to install bearing in final drive

References

- RENR5257-01, D6N Track-Type Tractor Power Train, Disassembly and Assembly
- SENR8487-02, D5M Track-Type Tractor Power Train, Disassembly and Assembly
- SENR9467-02, D5M Track-Type Tractor Power Train, Disassembly and Assembly

Part Number	Description
8T-3225	Spacer

Spacer

Essential Tool

Model Usage: D6M (3WN1-Up, 4HS1-Up, 4JN1-Up, 5NR1-Up, 6LR1-Up) Track-Type Tractor, 517 (5WW1-Up, 6PW1-Up) Track Skidder

Warranty: Caterpillar® Six Months



References

- RENR2027, 517 Track-Type Skidder Power Train Disassembly and Assembly
- SENR8387, D6M Track-Type Tractor Power Train Disassembly and Assembly

Part Number	Description
8T-5289	Spacer

Chain Puller Assembly

Model Usage: "G" Series Motor Graders

Warranty: Caterpillar® Six Months



- Used to assemble tandem drive chains
- Replaces 5P-4751 Chain Puller
- Puller jaws hooked into each end of chain to pull ends together for installation of master or cotter pin assembled connecting link

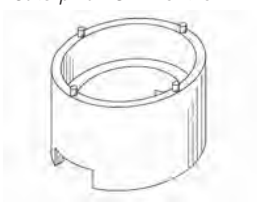
Item	Part Number	Description	Quantity
1	5B-9079	Nut	4
2	5P-4750	Screw	—
3	0T-0924	Bolt	2
4	5F-7344	Block	—
5	5P-7341	Jaw	2
—	5P-7311	Chain Puller Assembly	—

Spanner Wrench Assembly

Essential Tool

Model Usage: RM300 and RM500 Road Reclaimers

Warranty: Caterpillar® Six Months



- Removes and installs final drive retainer nut
- 127-8468 Reaction Bar transmits force from bench to socket
- Used with 127-8458 Final Drive Bench
- Designed to correctly fit locknut and transmit tightening force
- Capable of withstanding high torque required for final drive retaining nut
- M10 threaded holes allow socket to be positioned using an overhead hoist

References

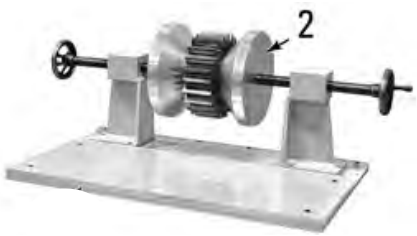
- KENR3135, Service Manual, RM 500 Final Drive Disassembly and Assembly
- KENR3145, Service Manual, RM 300 Final Drive Disassembly and Assembly
- NEHS0673, Tool Operating Manual, 170-5903 Gear Inspection Stand Group

Part Number	Description
292-8544	Spanner Wrench Assembly

Gear Inspection Stand Group

Model Usage: 777, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to make complete and accurate inspection of gears to determine reusability
- Fits large final drive sun and planet gears
- Mounting cones (2 required) will not damage gear surfaces
- Large base plate has space for a lighted magnifier

Reference

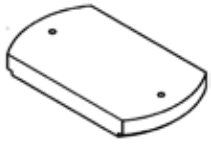
- SEBF8193-01, Guideline for Gear Analysis and Assessment

Item	Part Number	Description
2	172-5077	Gear Cone Group
-	170-5903	Gear Inspection Stand Group

Final Drive Brake Press Tool

Model Usage: HMS 6030

Warranty: Caterpillar® Six Months



- Allows technician to safely depress spring on brake to remove/install snap ring
- Uses hydraulic cylinder and H-Bar to apply force to spring

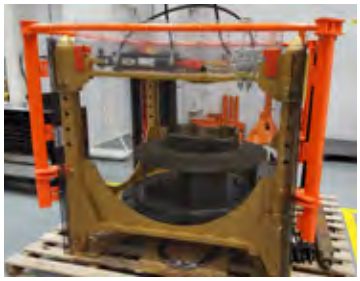
Part No.	Description	Dimensions	Weight	WLL
516-9340	Final Drive Brake Press Tool	100 x 170 x 19 mm (4 x 6.7 x 0.75 in)	2.3 kg (5 lb)	20T

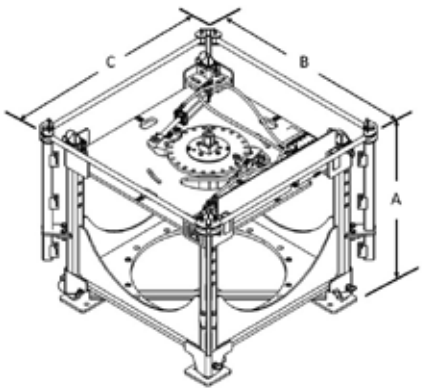
FINAL DRIVE

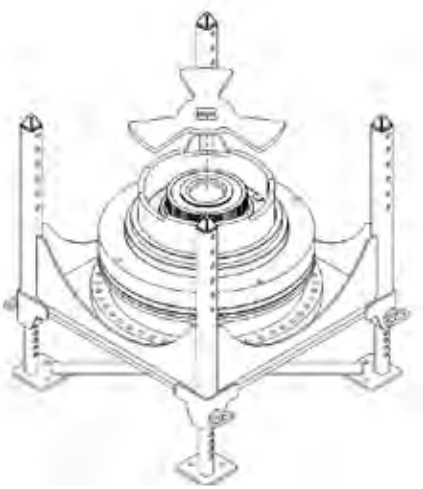
Final Drive D&A Bench

Model Usage: HMS/Surface Drill

Warranty: Caterpillar® Six Months







European Union Compliant, CE marked

- The final drive disassembly and assembly bench is specifically designed to remove and tighten the final drive spindle bearing locknut to a maximum torque requirement of 74000 NM.
- Enables dealership to capture the product support revenue for final drive rebuilds
- Provides a reduction in time and cost incurred compared to sending the final drive assembly to an OEM for the rebuild procedure
- Provides a reduction of service tool capital expenditures vs. specific torque tools for each individual model as available from final drive suppliers

Reference

- M0075754 Tool Operating Manual
- Note: This service tool replaces the cancelled 127-8458 final drive bench. All contact tooling required for 127-8458 may be utilized with this final drive bench.

Part No.	Description
502-6325	Final Drive D&A Bench

Item	Description	Specification
A	Approximate Height	158 cm (62.2 in)
B	Approximate Width	183.6 cm (72.3 in)
C	Approximate Length	183.6 cm (72.3 in)
-	Approximate Weight	1498 kg (3302 lb)
-	Working Load Limit	74000 Nm (54,580 lb-ft)

Model	Socket	Reaction Plate	Spanner Ring	Spacer Ring
MD6290	501-9693	507-1487	None Req	None Req
MD6240	533-1162	507-1487	None Req	None Req
MD6420	501-6672	507-1487	None Req	None Req
MD6540/HMS 6015	520-4658	515-4640	None Req	None Req
MD6640	520-4659	515-4640	541-9358	520-8684
6018	520-4659	515-4640	520-8683	520-8684
6020B	520-4659	515-4640	520-4660	520-4661
6030	517-4128	515-4640	519-1707	519-1708
6040 O&K	517-4128	515-4640	517-4129	517-4130
6040 Bosch	517-4128	515-4640	519-1706	517-4130
6050 Bosch	520-4657	515-4640	None Req	None Req
6060 Bosch	520-4657	515-4640	None Req	None Req
5230B	127-8463	127-8468	None Req	None Req
541TFB/322B/325B/330B	199-6557	127-8468	None Req	None Req
5130	127-8464	127-8468	None Req	None Req
RM300/RM500	292-8544	127-8468	None Req	None Req
247B/257B/277C/287C/297C (6 hole final drive nut)	308-5673	308-5675 (Included with 308-5673)	None Req	None Req
247B/257B/277C/287C/297C (7 hole final drive nut)	329-1669	308-5675 (Included with 308-5673)	None Req	None Req
PM825/PM600	541-9338	127-8468	None Req	None Req

Continued on next page...

Final Drive D&A Bench (Continued)

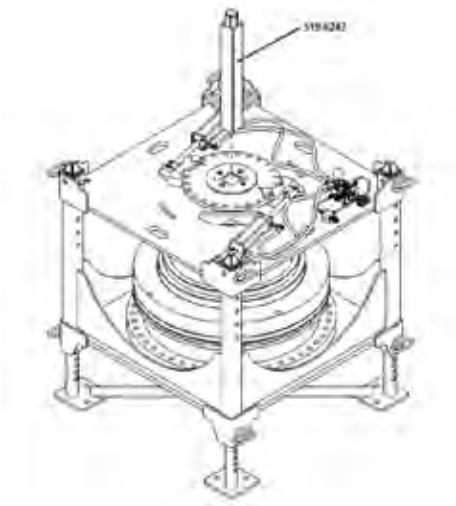
Model Usage: HMS/Surface Drill

Warranty: Caterpillar® Six Months

Adapter Ring and Master Ring

- Used to mount final drive in 502-6325 Final Drive D&A Bench

Model	Adapter Ring	Master Ring
MD6290/322B/325B	507-3258	513-4502
MD6240	513-4499	513-4502
MD6420	513-4499	513-4502
MD6540/HMS 6015	513-4500	513-4502
MD6640/5110	513-4501	513-4502
6018/5130	513-4502	None Req
6020B	511-9553	None Req
6030	513-4503	None Req
6040	513-4504	None Req
6050	None Req	None Req
6060	None Req	None Req
5230B	513-6819	None Req
541TFB/330B	190-0110	513-6819
RM300/RM500	507-3258	513-4502
247B/257B/277C/287C/297C	513-6819	None Req
PM825/PM600	507-3258	None Req



Socket

- Used to manually rotate drive shaft on final drive D&A bench using ¾ drive ratchet
- Speeds run down of lock nut by disconnecting hydraulic cylinders and manually rotating until high torque is required.

Part No.	Description
520-4183	Run Down Socket

Repair Parts	
519-0242	Shaft Assembly (Included with Bench)

FINAL DRIVE

Retaining Nut Spanner Wrench

Model Usage: D3 Tractor, 931 Traxcavator

Warranty: Caterpillar® Six Months



- Used to remove and install sprocket shaft bearing retaining nut

Part Number	Description
5P-0316	Retaining Nut Spanner Wrench

Bearing Driver

Essential Tool

Model Usage: D3G, D4G, D5G Hystat Track-Type

Warranty: Caterpillar® Six Months



- Installs new bearing cones onto shafts of final drive units
- Installs bearing cone to correct dimension

Reference

- RENR7485, Service Manual, Final Drive Disassembly and Assembly

Part Number	Description
289-2961	Bearing Driver

Gear Final Drive Sprocket and Support Removal Tools

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Attachments for hydraulic service tools that make it possible to use hydraulic force to remove and install tight fitting components such as final drive sprockets, gears, and bearing supports
- Basic use of each tool is described below but some tools are also used in other operations

NOTE: Tonnage capacity of tool is given in parentheses. Use of tool is limited to the cylinder of that tonnage; i.e., 9S-8900 Cylinder Group for 70 ton applications and 9S-8901 Cylinder Group for 100 ton applications.

Item	Description
3	Yoke (Tapped)

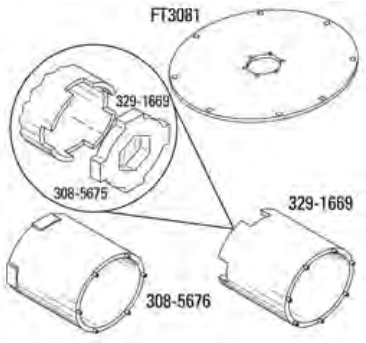
Item	Part Number	Description	Qty.	Application
1	1B-4207	Nut	3	—
1	1D-3419	Bolt	3	—
2, 3 and 4	1B-4331	Nut	2	—
3	9S-1323	Stub	2	—
4	0S-1587	Bolt	—	—
4	1D-4593	Bolt	—	—
4	1D-4719	Nut	—	—
4	1D-4720	Nut	—	—
4	1U-6415	Puller Assembly	—	final drive bearing cage holder, D7E, D7F, 571E, 571F, 572E, 572F and 983
4	2A-1538	Bolt	—	—
4	4B-4280	Washer	2	—
4	4B-4281	Washer	2	—
4	4B-4283	Washer	2	—

Final Drive Locknut Tooling for Multi-Terrain Loaders

Essential Tool

Model Usage: 247B, 247B2, 257B, 257B2, 277C, 287C, and 297C Multi-Terrain Loaders

Warranty: Caterpillar® Six Months



- Used to service final drive
- Used with 127-8458 Final Drive Disassembly and Assembly Bench
- Designed to correctly fit and properly tighten final drive bearing locknut
- Capable of withstanding high torque required for final drives

308-5676 Wrench Assembly

- Includes 308-5673 Spanner Assembly and 308-5675 Driver Assembly
- Used to remove six-hole final drive nut
- 9S-1307 Dowel Assembly is serviced separately

329-1669 Spanner Assembly

- Used with 308-5675 Driver Assembly (part of 308-5676 Wrench Assembly)
- 308-5675 Driver Assembly must be ordered separately
- Used to remove seven-hole final drive nut
- 9S-1307 Dowel Assembly is serviced separately

References

- KENR5197 Service Manual, Power Train, Disassembly and Assembly, 277C, 287C, and 297C Multi-Terrain Loaders
- RENR4874 Service Manual, Power Train, Disassembly and Assembly, 247B, 247B2, 257B, and 257B2 Multi-Terrain Loaders
- NEHS0673 Tool Operating Manual, 127-8458 Final Drive Disassembly and Assembly Bench

Part Number	Description
308-5676	Wrench Assembly
329-1669	Spanner Assembly

Final Drive Plate Assembly

Essential Tool

Model Usage: 5230 and 5230B Mining Excavators

Warranty: Caterpillar® Six Months



- Used to hold internal final drive components in place while machine is being towed
- Plate assembly bolts to machine in place of final drive motor (4 required)
- Bolts to housing using bolts removed from motor
- Refer to Service Manual for specific details on towing

Reference

- SEBU6737, Service Manual; Operation and Maintenance, 5230 and 5230B Mining Excavators

Part Number	Description
118-6909	Final Drive Plate Assembly

Lifting Bracket Assembly

Model Usage: 793C, 793D and 793F

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to lift inboard bearing assembly during disassembly and assembly of final drive
- Used with overhead lifting device
- Primarily used when rear wheel spindle is in a vertical orientation
- Adjustable for various bearing diameters

Reference

- NEHS1232
- Specifications
- Working Load Limit: 350 LB (159 kg)
- Dimensions: **920 x 501 mm (36 x 20 in)**
- Weight: **16 kg (35.25 lb)**

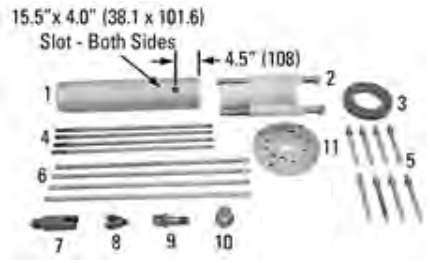
Part Number	Description
479-6908	Lifting Bracket Assembly

FINAL DRIVE

Sprocket Shaft Removal and Installation Tools

Model Usage: Refer to photo callouts

Warranty: Caterpillar® Six Months



Hydraulic service tool attachments used for sprocket shaft removal and installation on various models as indicated

NOTE: Use of tool is limited to the cylinder of that tonnage; i.e., 9S-8900 Cylinder Group for 70 ton applications and 9S-8901 Cylinder Group for 100 ton applications

Item	Description	Tonnage Capacity	Use	Model
2	Puller Group	70 ton	Sprocket shaft removal	—
3	Plate	100 ton	Sprocket shaft removal	Later D8H, D9G, later 583H, 594

Item	Part No.	Description	Qty.	Tonnage Capacity	Use	Models
1	5S-1430	Sleeve (modify earlier sleeves as shown)	—	100 ton	Sprocket shaft removal	D5, D6B, D6C, D7E, D7F, D7G, 561, 955, 977
4	1M-6766	Stud	4	70 ton	Four required for sprocket shaft installation	Early D8H, early D9
5	5P-2677	Leg	—	100 ton	Sprocket shaft removal	Later D8H, D8K, D9G, D9H, later 583H, 583K, 594
6	2J-3505	Nut	4	100 ton	Sprocket shaft installation	Later D8H, D8K, D9G, D9H, later 583H, 583K, 594
6	5P-2678	Stud	4	100 ton	—	Later D8H, D8K, D9G, D9H, later 583H, 583K, 594
7	1P-3052	Link	—	70 ton	—	—
8	6V-2052	Adapter	—	70 ton	Used with the 1P-3052 Link and 1P-3053 Adapter for sprocket shaft installation on track-type machines that have puller holes in the bevel gear case. Also these tools are used to install the 992 upper lift arm pin	—
9	1P-3053	Adapter	—	70 ton	—	—
10	5F-9889	Plug	—	—	Use with appropriate adapter and pin for sprocket shaft installation	D4C, D4D, D5, D6, D6B, D6C, D7, D7E, D7F, early D8, and D9G
11	8M-9012	Disc	—	70 ton	Sprocket shaft installation	D7F, early D8H, early D9
Puller Group (70 ton) Consists of:						
2	7F-0482	Nut	2	—	Sprocket shaft removal	—
2	5F-9893	Stud	2	—	Sprocket shaft removal	—

Sprocket Shaft Removal and Install

Description	D7E [a] F, G, 572E, [a] F, G, 571A, [a], F, G, 983 Remove Install	D8H, K, 583H, K Remove Install	D9G, H, DD9G, H, 594 Remove Install
Electric Hydraulic Pump [a]	R-2 I-2	R-2 I-2	R-2 I-2

a. Effective with 47A-3396, 48A-6393, 64A152, 65A151

b. Alternate pumps can be used

Part Number	Description	D7E, F, G, 572E, F, G, 571A, F, G, 983 Remove Install [a]	D8H, K, 583H, K Remove Install	D9G, H, DD9G, H, 594 Remove Install
1P-3052	Link	I-8	—	—
1P-3053	Adapter	I-2	—	—
1P-5582	Adapter — Sprocket Removal	—	—	I-1
2J-3505	Nut	—	I-4	I-4
5F-9891	Bolt	—	I-2	I-2
5H-6197	Pin	—	R-3	R-3
5P-2677	Leg	—	R-8	R-8
5P-2678	Stud	—	I-4	I-4
5P-5207	Stud	R-1	R-1	R-1
5P-5208	Nut [b]	R-1	R-1	R-1
5P-5215	Adapter	R-1	R-1	—
5S-1430	Sleeve	R-1	—	—
6H-4158	Pin	I-10	—	—
6V-2052	Adapter	I-2	—	—
7F-9306	Wrench	I-1	—	—
7M-9772	Coupling Pin	I-1	I-1	I-1
7M-9773	Adapter — Sprocket	I-1	I-1	—
7M-9774	Adapter Coupling	I-1	I-1	I-1
8S-6377	Lock	—	R-3	R-3
9H-3992	Head	R-1	—	—
9S-5431	Sleeve Assembly	—	R-1	R-1
9S-5433	Puller Adapter	—	R-3	R-3
9S-8900	Cylinder Group	I-1	I-1	I-1

a. D7E, 572E and 571A: Effective with 47A-3396, 48A-6393, 64A152, 65A151

b. Effective with 47A-3396, 48A-6393, 64A152, 65A151

Final Drive Pinion Flange Installation Tools

Model Usage: D3, 931, D4C, D5, D6B, 561B, 955, 977

Warranty: Caterpillar® Six Months



- Used to install final drive pinion flanges
- Also used for some steering clutch operations

Item	Part Number	Description
1	7B-8364	Bolt
2	7M-7237	Adapter
3	7M-7238	Sleeve
4	7B-8363	Bolt

FINAL DRIVE

Final Drive Pinion Flange Installation Tools

Model Usage: D6C, D6D, D7F, D7G Tractors; 977K, 977L Loaders

Warranty: Caterpillar® Six Months

- Used for installation of final drive pinion flanges; choose tools according to pinion
- 6V-3094 Adapter replaces 8M-9007 Adapter (no longer serviced) because of design changes to final drive pinions
- Former 5S-0192 Pinion in D6 Tractors and 977 Loaders still available for parts service; if necessary to replace with 7G-5323 Pinion, mating gears must also be replaced

Reference

- Service Magazine, January 14, 1985

NOTE: Some earlier Tool Selection Charts and Service Manuals show incorrect tools for installation of final drive pinion flanges on D6C and D6D Tractors and 977K and 977L Loaders. Change Tool Selection Charts and Service Manuals to show the correct tooling listed.

- 7B-8791 Bolt (1-1/4 inch-12 threads) incorrectly shown for use with 1S-6561 Adapter (1-1/4 inch-7 threads)
- 6V-3094 Adapter cannot be used to install flange on former 5S-0192 Pinion (1-1/2 inch-12 threads)

Part Number	Description
Tools needed for former 5S-0192 Pinion (Puller also required)	
1S-6560	Bolt
8M-9008	Spacer
Tools needed for 9S-6875, 7G-5323 and 9P-9362 Pinions (Puller also required)	
373-9825	Spacer
4B-5326	Washer
6V-3094	Adapter
7B-8791	Bolt

Adapter

Model Usage: D6C, D6D, D7E, D7F Track-Type Tractors; 977K, 977L Loaders

Warranty: Caterpillar® Six Months

- Used to install final drive pinion flange
- Provides sufficient thread engagement on 5S-0192 Pinion which was changed, adding 19 mm (3/4 in) long boss to splined end
- Used with 5P-4155 Spacer and longer 8F-1156 Bolt, 1 1/4 -7 thread
- OAL: 2.75 inch
- 1 1/4 -7 internal thread in 1 end and 1 1/2 -12 thread 1.62 inch long in other end

Reference

- Service Magazine, January 14, 1985

Part Number	Description
4C-9471	Adapter

Shaft Adapters and Coupling Components

Model Usage: Most Cat Final Drives

Warranty: Caterpillar® Six Months



- Adapters and coupling tools used for various final drive service operations

NOTE: Tonnage capacity of tool is given in parentheses. Use of tool is limited to the cylinder of that tonnage; i.e., 9S-8900 Cylinder Group for 70 ton applications and 9S-8901 Cylinder Group for 100 ton applications.

Item	Part No.	Description	Size
3	5F-9880	Shaft Adapter (70 ton)	1 7/8 in-12 thd
3	5F-9882	Shaft Adapter (70 ton)	2 1/2 in-12 thd
3	5F-9884	Shaft Adapter (70 ton)	1 3/8 in-12 thd
3	5F-9885	Shaft Adapter (70 ton)	1 1/2 in-12 thd
3	5P-4183	Shaft Adapter (100 ton)	1 3/4 in-12 thd
3	6F-8343	Shaft Adapter (70 ton)	2 1/4 in-12 thd
3	7M-9773	Shaft Adapter (100 ton)	2 1/2 in-12 thd
3	8M-9013	Shaft Adapter (100 ton)	2 1/8 in-12 thd
4	1P-5582	Shaft Adapter (100 ton)	4 in-12 thd
5	7M-9774	Adapter Coupling (100 ton for ram)	—
6	5F-9888	Adapter Coupling (70 ton for ram)	—
7	3J-1770	Lock Pin (not shown)	—
7	7M-9772	Coupling Pin (100 ton)	1 3/16 in diameter
9	7S-7112	Coupling Pin (100 ton)	1 3/16 in diameter

Final Drive Pinion Flange Tools

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used primarily for installation or removal of final drive pinion flanges

Item	Part Number	Description	Use	Model
1	1S-6560	Bolt	Installation	D6C, D7E, D7F
2	8M-9008	Spacer	Installation	D7E
3, 4	6V-3094	Adapter	Installation [a]	D6C, D6D, D7G, 977K, 977L
4	4C-9471	Adapter	Installation	D6C
5	5P-4155	Spacer	Installation	D6C effective with 4A-2103, 6A-3747, 82A452, 83A598 and 977K, 977L effective with 11K1
5	8M-9011	Puller (1)	Removal	D7E

a. D6C, D6D, 977K, 977L effective with the use of 7G-5323 pinions

Installer

Model Usage: 994 Loader

Warranty: Caterpillar® Six Months

- Used in installation of large, 864 mm (34 in) diameter Duo-Cone seals of final drives
- Holds seal face parallel to, and correct distance from, housing face

Reference

- SEHS8364-01, Special Instruction

Part Number	Description
4C-4907	Installer

FINAL DRIVE

Duo-Cone Seal Installer

Model Usage: Nearly All Cat® Machines

Warranty: Caterpillar® Six Months

- Required for proper installation to ensure reliable performance of seals
- **Chart 1** lists conventional seal installers
- **Chart 2** lists current inverted seal group part numbers along with correct installation tools for each application; inverted seal may require several different installers depending on where it is installed; installer locates seal group correct distance from reference surface, which may differ with each application

Chart 1

Conventional Duo-Cone Seals Tools and Dimensions

Seal Class	Toric C/S	Example Seal Groups	Seal Ring		Installation Tool	Assembled Height	
			O.D.	Ramp Angle		Nominal	Tolerance
B	6.22 mm (0.245 in)	8E-5608	65.67 mm (2.585 in)	15	9U-5985	7.6 mm (0.299 in)	1.5 mm (0.059 in)
		216-2957	104.67 mm (4.121 in)				
		5P-0373			1U-8850	7.6 mm (0.299 in)	
		6S-3285					
		3S-0303	141.25 mm (5.561 in)		1U-8699	6.9 mm (0.272 in)	
		8L-5519					
		5K-5288	157 mm (6.181 in)		1U-8698	7.6 mm (0.299 in)	
		5P-0375					
		186-6531	168.3 mm (6.626 in)		1U-8697	7.6 mm (0.299 in)	
		5K-1078					
		8L-5516					
		177-6717	222.5 mm (8.76 in)		4C-9527	6.5 mm (0.256 in)	
		5N-7639					
C	9.47 mm (0.373 in)	161-7247	77.5 mm (3.051 in)	8	179-7208	10.6 mm (04.17 in)	1.5 mm (0.059 in)
		171-5883	82.55 mm (3.25 in)	20	224-9466	9.1 mm (0.358 in)	
		179-1292					
		5K-6191					
		9W-5224					
		171-5882	92.08 mm (3.625 in)	20	1U-8840	8.9 mm (0.35 in)	
		175-7513					
		1M-8747					
		4S-8984					
		6Y-0925					
		099-0193	94.48 mm (3.72 in)		1U-6145	8.8 mm (0.346 in)	
		340-8206					
		125-3267	102 mm (4.016 in)	8	227-4755	10.6 mm (0.417 in)	
		162-7863					
		9W-8878					
		9W-2142	109.55 mm (4.313 in)	20	1U-8841	8.8 mm (0.346 in)	
		1M-8746					
		206-9211					
		8S-5656					
		107-9621	110 mm (4.331 in)	8	129-1340	10.6 mm (0.417 in)	
		162-7864					
		171-5811	119.08 mm (4.688 in)	20 or 8	1U-8842	8.8 mm (0.346 in)	
		1M-8748					
		206-9212					
		3P-1848					
		5P-7143					
		9W-2201					
		109-0885	131.5 mm (5.177 in)	20	9U-7537	8.9 mm (0.35 in)	
		133-0513					
		148-3533					

Conventional Duo-Cone Seals Tools and Dimensions (Continued)

Seal Class	Toric C/S	Example Seal Groups	Seal Ring		Installation Tool	Assembled Height	
			O.D.	Ramp Angle		Nominal	Tolerance
C	9.47 mm (0.373 in)	155-9879	133 mm (5.236 in)	8	159-9843	10.6 mm (0.417 in)	1.5 mm (0.059 in)
		161-7525					
		6Y-5218	146.05 mm (5.75 in)	20, 15 or 8	1U-8849	8.8 mm (0.346 in)	
		6Y-5219					
		109-0881					
		142-1579					
		176-5331					
		5P-7146					
		5P-9121					
		109-0868	171.5 mm (6.752 in)	20	4C-6206	8.9 mm (0.35 in)	
		133-0512					
		176-5332					
		109-0861	188.5 mm (7.421 in)		9U-7538	8.9 mm (0.35 in)	
		171-5825					
D	12.7 mm (0.5 in)	6T-2981	171.7 mm (6.76 in)	15	1U-6443	11.6 mm (0.457 in)	1.5 mm (0.059 in)
		6T-8440					
		9G-5311					
		9W-6717					
		4C-1494	191.26 mm (7.53 in)		1U-6441	11.6 mm (0.455 in)	
		6T-3377					
		6T-8436					
		9G-5313					
		9W-7331	191.26 mm (7.53 in)	8	1U-6442	15 mm (0.591 in)	
		3T-6541	210.31 mm (8.28 in)	15	1U-6439	11.7 mm (0.459 in)	
		6T-8438					
		6T-9986					
		9G-5315					
		6T-8439	210.31 mm (8.28 in)	8	1U-6440	15 mm (0.591 in)	
		171-5897	251.46 mm (9.9 in)	15	1U-6436	11.6 mm (0.455 in)	
		213-7509					
		6T-2815					
		6T-8435					
		9G-5317					
		9W-4650					
		195-3070	251.46 mm (9.9 in)	8	1U-6437	15 mm (0.591 in)	
		6Y-0859					
		6Y-6277					
		9G-5343					
		9W-5977					
		200-4059	259.59 mm (10.22 in)	15	1U-6438	11.7 mm (0.462 in)	
		202-3206					
		314-4124					
		6Y-0520					
		9W-4098					
		137-2429	292.86 mm (11.53 in)		1U-6434	11.6 mm (0.455 in)	
		145-8032					
		171-5898					
		3T-9117					
		6T-8437					
		9G-5319					
		9G-5349					
		9W-4651					
		9W-5979					
		381-0705	292.86 mm (11.53 in)	8	1U-6435	15 mm (0.591 in)	
		9W-3732					

FINAL DRIVE

Conventional Duo-Cone Seals Tools and Dimensions (Continued)

Seal Class	Toric C/S	Example Seal Groups	Seal Ring		Installation Tool	Assembled Height	
			O.D.	Ramp Angle		Nominal	Tolerance
D	12.7 mm (0.5 in)	7T-2459	310.86 mm (12.239 in)	15	220-5726	11.6 mm (0.455 in)	1.5 mm (0.059 in)
		125-5538 174-4874 336-7869	328 mm (12.913 in)		173-6703	11.8 mm (0.466 in)	
		207-1571 3T-8500 6T-8434 9G-5321 9W-4652 166-8815	346.46 mm (13.64 in) - 347.50 mm (13.681 in)		1U-5933	11.6 mm (0.457 in)	
		118-2900 130-6889 163-7368 186-3277 314-4122 6Y-0857 6Y-6275 9G-5347 9W-5978	346.46 mm (13.64 in)	8	1U-5934	15 mm (0.591 in)	
		305-7976	368.75 mm (14.518 in)	20	317-3806	11.4 mm (0.449 in)	
		363-4454	375.2 mm (14.772 in)	15	366-6832	11.6 mm (0.455 in)	
		255-2272 314-4120 9G-5323 149-8434 385-4571 133-0441 137-2428 213-4737 314-4119 341-8543 6T-4316 6T-8433	394.46 mm (15.53 in)		8T-9206	11.6 mm (0.455 in)	
		6Y-0855 6Y-6273	394.46 mm (15.53 in)	8	8T-7789	15 mm (0.591 in)	
		314-4128	427.2 mm (16.819 in)	15	285-8787	11.5 mm (0.453 in)	
		205-9025 4D-8960 137-4343 195-3495 195-9706 314-4126	457.2 mm (18.0 in) - 458.36 mm (18.046 in)		8T-0531	11.6 mm (0.455 in)	
		212-2784	457.2 mm (18.0 in)	8	176-1724	15 mm (0.591 in)	
		319-3887 365-4924	482.6 mm (19.0 in)	15	340-0988	11.6 mm (0.455 in)	
		214-7880	533.4 mm (21.0 in)		140-7642	11.6 mm (0.455 in)	
		365-4922 147-5509 297-9546	533.4 mm (21.0 in) - 534.00 mm (21.024 in)		140-7642	14.6 mm (0.573 in)	
		172-5284 365-4920 8E-6327	567.94 mm (22.36 in)		9U-5691	11.6 mm (0.455 in)	
		147-5510 314-4130 433-1348	700 mm (27.559 in)		4C-6582	13.7 mm (0.537 in)	
		378-0592	806.72 mm (31.761 in)		264-5067	13.8 mm (0.543 in)	
		314-4132	865 mm (34.055 in)	16	4C-4907	13.9 mm (0.547 in)	
		453-5929	865.44 (34.072 in)		423-9905	14.95 mm (0.589 in)	
L	16 mm (0.63 in)	109-5730	480 mm (18.898 in)	15	131-3345	14.8 mm (0.583 in)	1.5 mm (0.059 in)
		Longwall Miner Application	622.3 mm (24.5 in)		385-8486	14.8 mm (0.582 in)	1.5 mm (0.059 in)
		314-4134	939.8 mm (37.0 in)	16	149-0974	17.7 mm (0.698 in)	2 mm (0.079 in)

Duo-Cone Seal Installers (Continued)

Chart 2

Inverted Duo-Cone Seals Tools and Dimensions

Seal Class	Toric C/S	Example Seal Groups	Installation Tool	Alignment Sleeve	Seal Ring		Assembled Height	
					O.D.	Ramp Angle	Nominal	Tolerance
E	12.7 mm (0.5 in)	309-7664	198-7154	198-7155	236.77 mm (9.322 in)	15	11.7 mm (0.461 in)	0.8 mm (0.031 in)
	9.47 mm (0.373 in)	6V-2614	8T-0827	8T-0824	99.4 mm (3.913 in)	12.5	41.2 mm (1.622 in)	
			8T-0830					
		7T-0157	8T-0827					
			8T-0830					
		6V-2615	8T-0826	8T-0825	125.4 mm (4.937 in)	12.5	41.2 mm (1.622 in)	
		7T-0160	8T-0826					
		7T-0158	8T-7641	8T-0822	83.4 mm (3.284 in)	12.5	41.2 mm (1.622 in)	
			8T-0828					
			8T-0839					
			8T-0940	8T-0822	83.4 mm (3.284 in)	12.5	37.0 mm (1.457 in)	
		7T-4722	8T-0828	8T-0822	83.4 mm (3.284 in)	12.5	37.0 mm (1.457 in)	
			8T-7641	8T-0822	83.4 mm (3.284 in)	12.5	41.2 mm (1.622 in)	
		7T-5133	8T-7641	8T-0822	83.4 mm (3.284 in)	12.5	41.2 mm (1.622 in)	
			8T-0828					
			8T-0939					
			8T-0940	8T-0822	83.4 mm (3.284 in)	12.5	37.0 mm (1.457 in)	
		7T-0159	8T-0829	8T-0823	93.4 mm (3.677 in)	12.5	41.2 mm (1.622 in)	
			7T-5133					
		7T-5125	8T-0829					
			8T-7640					
		7T-4080	8T-0941	8T-0945	71.4 mm (2.811 in)	12.5	37.0 mm (1.457 in)	
			8T-0942					
			8T-0943					
		7T-4086	8T-0941					
			8T-0942					
			8T-0943					

FINAL DRIVE

Duo-Cone Seal Installer

Model Usage: 315, 320, 320B, 322, and 322B Excavators (126-3994) B-Series Gen III (173-6703)

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seal groups in final drives
- For longest service life, 2 steel rings with their mating surfaces must be positioned parallel to each other (most seal failures result from incorrect installation, many times caused by using improper installation tools)
- Prevents toric seal from rolling or twisting, making installation faster and easier (rubber toric rings hold steel rings parallel and concentric while maintaining correct face contact pressure)

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

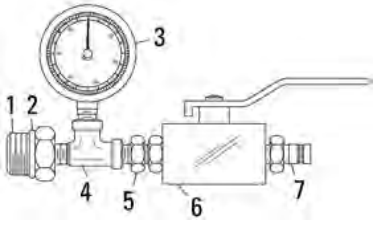
Tool Usage and Seal Identification Chart

Component	Seal Group	Toric Section Diameter	Seal Ring OD	Duo-Cone Seal Installer	Model Usage
Final Drive	096-8039 114-1497	12.7 mm (0.50 in)	32.80 mm (12.9 in)	126-3994	315, 320, 320B, 322, 322B
Final Drive	125-5538	12.7 mm (0.50 in)	33.80 mm (13 in)	173-6703	Gen III
Final Drive	8E-6327	12.7 mm (0.50 in)	57.79 cm (22.75 in)	9U-5691	375
Final Drive	109-5730	16.0 mm (0.62 in)	48.00 cm (18.9 in)	131-3345	5130B

Leak Test Tooling

Model Usage: 375, 385B, and 5090B Excavators with SMR Final Drive Seals

Warranty: None



- Used to test sealing capability of SMR final drive seal after rebuild

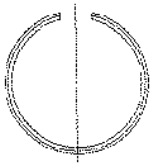
NOTE: Do not exceed 103 kPa (15 PSI) during final drive leak test.

Item	Part Number	Description
1	3T-0811	Adapter (STOR)
2	7M-8485	Seal — O-ring — STOR
3	8T-0853	Pressure Gauge, 0 — 400 kPa (0 — 60 PSI)
4	2D-7325	Pipe Tee
5	4C-7121	Nipple
6	4C-7090	Valve
7	4C-7156	Fitting

Seal Installer

Model Usage: D25E, D30E, D40E, D400E Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to install Duo-cone brake seal in brake system
- Makes installation faster and much easier
- Eliminates rolling and twisting of seal
- Construction: 2-piece
- Diameter: 254 mm (10.0 in)

Reference

- SMHS8483, Special Instruction

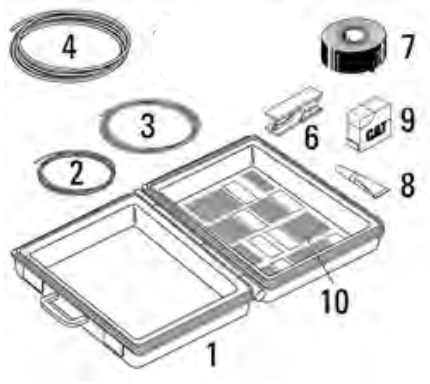
Part Number	Description
4C-5581	Seal Installer

Duo-Cone Seal Installation Kit

Essential Tool

Model Usage: 312 and 312B Excavators (Grenoble Version) and 460, 465, 480, and 485 Lexion Combines

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seals in final drive assemblies
- Also used to install Duo-Cone seals when recommended installer is not available — an excellent addition to every service truck
- Cord stock acts as a spacer to prevent toric seal from rolling or twisting during seal installation
- Offers a less expensive alternative to rigid seal installers when servicing components that rarely need repair
- Cord stock material: Buna N
- Cord stock length: 6.1 m (20 ft)

References

- RENR1113, 312B Excavator Machine System Disassembly and Assembly
- SENR6139, 311 and 312 Excavator Machine System Disassembly and Assembly
- RENR1645, 460 and 465, RENR1708 480 and 485

NOTE: Always check assembled height of Duo-Cone seals in at least four places, 90° apart. If difference in height is more than 1 mm (0.04 in), reinstall the seal. A 6V-3075 Dial Indicator, 6V-6167 Contact Point, 3P-1565 Indicator Collet, and a 165-8958 Indicator Base (plastic) can be used to check the assembled height.

Item	Description
8	Commercially available adhesive, Cyanoacrylate (Super Glue)
10	NEEG2825, Decal (Instructions)
10	NEEG2824, Decal (not shown)

Item	Part Number	Description	Diameter	Color Code Stripe
1	6V-3073	Case — Plastic	—	—
2	165-5191	Cord Stock	3.53 mm (0.139 in)	Green
4	165-5193	Cord Stock	6.35 mm (0.250 in)	Light blue
6	1U-7648	Tube Cutter	—	—
7	1P-0810	Vinyl Tape	—	—
9	9U-7326	Pocket Tape	—	—
—	161-4350	Duo-Cone Seal Installation Kit	—	—

Seal Installer

Model Usage: 623 Scraper, RM293, RM309

Warranty: Caterpillar® Six Months

- Used to install Duo-Cone seal
- Easy, reliable seal installation; slotted latches bridge saw cut gap, ensuring installing lips are held in alignment
- Less cost thru simple design, less major parts
- Fits seal assemblies with: Toric cross section: 6.22 mm (0.244 in) Seal ramp angle: 15°

References

- SEHS8364, Special Instruction
- SEHS8484, Special Instruction
- SEHS8825, Special Instruction
- SEHS8876, Special Instruction

Part Number	Description
4C-9527	Seal Installer

Seal Installer

Essential Tool

Model Usage: 267 (CMP1-Up), 277 (CNC1-Up), 287 (CNY1-Up), 267B (CYC1-Up), 277B (MDH1-Up), and 287B (ZSA) Multi Terrain Loader

Warranty: Caterpillar® Six Months



- Installs duo cone seals in final drive motor
- Easy, reliable seal installation
- Holds seal to prevent rolling and twisting
- Made from high strength plastic to protect components during installation

References

- RENR4815, Disassembly/Assembly, 267, 277 and 287 Multi Terrain Loaders Power Train
- RENR4884, Disassembly/Assembly, 267B, 277B, 287B Multi Terrain Loaders Systems

Part Number	Description
306-5147	Seal Installer

FINAL DRIVE

Seal Installer Assembly

Model Usage: CP/CS 533, 563, 573, 583C

Warranty: Caterpillar® Six Months



- Used to install 7T-2459 Duo-cone Seal Group in propel drive motors
- Seals cannot be correctly installed using any other tooling
- Provides fast and easy installation
- Prevents seal rolling and twisting

References

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals
- KENR3529, Machine Systems Disassembly and Assembly

Specifications

- Toric C/S Diameter: 280.03 ± 1.78 mm (11.025 ± 0.070 in)
- Seal Ring OD: 310.86 mm (12.239 in)

Part Number	Description
220-5726	Seal Installer Assembly

Seal Installer Assembly

Essential Tool

Model Usage: 772X Off-Highway Truck; 621H, 623H, and 627H Wheel Tractor Scraper

Warranty: None



- Used to install 319-3887 Duo-Cone Seal Group in propel drive motors
- Seals cannot be correctly installed using any other tooling
- Fast and easy duo-cone seal installation
- Prevents seal rolling and twisting

Reference

- SEHS8364, Special Instruction Assembly and Installation of Conventional Duo-Cone Seals

Specifications

- Installer Seal Ring ID: 482.6 mm (19.0 in)
- Seal Ring OD: 475.4 mm (18.7 in)

Part Number	Description
340-0988	Seal Installer Assembly
Service/Repair Parts	
033-8755	Pan Head Screw
1F-1739	Wing Nut
5P-0537	Hard Washer

Installer Assembly

Model Usage: 992, 994 Wheel Loaders

Warranty: Caterpillar® Six Months

- Replaces discontinued 8T-0527 Installer
- Installs 685.8 mm (27 in) Duo-Cone seals
- Has fewer major parts, is easier to use and provides more reliable seal installation
- Simpler design means lower cost to user
- Slotted latches bridge saw cut gap to ensure that installing lips are held in alignment during seal installation
- Duo-Cone seals consist of 2 steel rings with mating faces positioned by rubber toric rings; torics hold steel rings parallel, concentric, with correct face contact pressure; proper installation requires a special tool
- 4C-6582 is one of a family of different diameters but with a profile to fit seal assemblies with: Toric cross section: 12.7 mm (0.5 in) Seal ramp angle: 15°

References

- SEHS8364, Special Instruction
- SEHS8484, Special Instruction
- SEHS8825, Special Instruction
- SEHS8876, Special Instruction

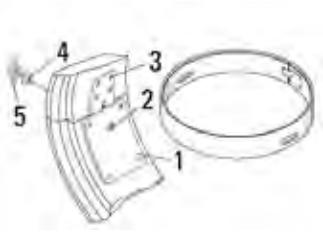
Part Number	Description
4C-6582	Installer Assembly

Seal Installer Assembly

Essential Tool

Model Usage: 793D Off-Highway Truck

Warranty: Caterpillar® Six Months



- Installs 194-7957 or 314-4136 Duo-Cone Seal Required for proper installation
- Makes installation faster and easier
- Eliminates rolling and twisting of toric ring
- Molded polyurethane for added durability
- Hand slots for ease of handling/positioning

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Conventional Duo-Cone Seals

Specifications

- Seal diameter: 806.72 mm (31.761 in)
- Seal ramp angle: 15 degrees
- Installer OD: 816.12 mm (32.131 in)
- Installer width: 140.0 mm (5.51 in)

Item	Description
3	Pop Rivet

Item	Part Number	Description
—	264-5067	Seal Installer Assembly
	Consists:	
1	1U-5495	Latch Group
2	033-8755	Pan Head Screw
4	5P-0537	Hard Washer
5	1F-1739	Wing Nut

Spanner Wrench Summary

Spanner Wrench — Tubular



Part No. a	Comments	No. of Tangs	Width of Tangs	Distance Between Tangs
154-9320	Inset Tangs	4	28.00 mm (1.10 in)	21.7 cm (8.54 in)
165-1670	Inset Tangs	2	28.00 mm (1.10 in)	23.98 cm (9.44 in)
199-4925	—	4	24.60 mm (0.97 in)	22.89 cm (9.01 in)
1M-6759	—	8	42.42 mm (1.67 in)	18.09 cm (7.12 in)
1P-2381	—	Double 4 and 4	3.96 mm (0.16 in)	52.32 mm (2.06 in)
5P-4727	—	4	8.00 mm (0.31 in)	99.72 mm (3.93 in)
6F-3011	—	4	5.56 mm (0.22 in)	60.72 mm (2.39 in)
6F-3013	—	4	5.54 mm (0.218 in)	64.29 mm (2.53 in)
9S-7364	not serviced	8	11.18 mm (0.44 in)	13.34 cm (5.25 in)
9S-9061	not serviced	8	11.18 mm (0.44 in)	13.97 cm (5.50 in)

Spanner Wrench — Special Large Socket



Part Number	Hex Size	Usable Depth
	1/2 in Drive	
4C-6172 a	28.7 mm (1.13 in)	76.2 mm (3.00 in)
	3/4 in Drive	
125-5723	11.51 cm (4.53 in)	25.4 mm (1.00 in)
1B-4657	69.9 mm (2.75 in)	11.43 cm (4.50 in)
1U-6689	88.9 mm (3.50 in)	22.2 mm (0.875 in)
1U-6690	10.20 cm (4.00 in)	16.00 cm (6.30 in)
1U-6691	13.97 cm (5.50 in)	20.07 cm (7.90 in)
1U-6692	14.60 cm (5.75 in)	20.07 cm (7.90 in)
268-2866	10.60 cm (4.18 in)	88.9 mm (3.50 in)
292-4949	11.75 cm (4.625 in)	25.4 mm (1.00 in)
3B-6352	66.8 mm (2.63 in)	11.43 cm (4.50 in)
5P-0954	76.2 mm (3.00 in)	11.43 cm (4.50 in)
5P-3540	88.9 mm (3.50 in)	11.43 cm (4.50 in)

a. Special for removal of solenoid valves on counter shaft transmission

FINAL DRIVE

Spanner Wrench — Face Slotted

Part No.	Drive Size	Clearance Diameter	No. of Tangs	Width of Tangs	Distance Between Tangs
126-6609	3/4 in square	22.19 cm (8.74 in)	4	14.60 mm (0.57 in)	23.26 cm (9.16 in)
127-9304	1 7/16 in hex	15.05 cm (5.92 in)	6	12.70 mm (0.50 in)	13.48 cm (5.30 in)
129-3253	1 in square	16.51 cm (6.50 in)	4	9.52 mm (0.375 in)	13.70 cm (5.39 in)
129-3254	1 in square	17.78 cm (7.00 in)	4	9.52 mm (0.375 in)	14.70 cm (5.79 in)
132-8263	7/16 in hex	8.27 mm (0.33 in)	2	2.21 mm (0.09 in)	8.27 mm (0.33 in)
135-9814	1 7/16 in hex	13.70 cm (5.40 in)	6	10.00 mm (0.39 in)	11.83 cm (4.70 in)
135-9817	1 3/16 in hex	69.80 mm (2.75 in)	6	7.50 mm (0.30 in)	54.80 mm (2.16 in)
142-4212	1 7/8 in hex	47.60 mm (1.87 in)	2 sector	47.60 mm (1.87 in)	47.60 mm (1.87 in)
150-1716	3/4 in square	25.40 mm (1 in)	4	9.53 mm (0.38 in)	49.96 mm (1.96 in)
156-5875	1 in square	27.80 cm (10.94 in)	4	27.80 mm (1.09 in)	27.80 cm (10.94 in)
177-9795	1 7/8 in hex	95.25 mm (3.75 in)	2	17.0 mm (0.67 in)	61.0 mm (2.40 in)
199-6557	—	26.67 cm (10.50 in)	2	11.80 mm (0.46 in)	29.08 cm (11.45 in)
1M-6759	Bar Drive	18.08 cm (7.12 in)	8	11.2 mm (0.44 in)	18.08 cm (7.12 in)
1M-6760	Bar Drive	18.08 cm (7.12 in)	8	—	18.08 cm (7.12 in)
1U-5833	1 7/16 in hex	11.64 cm (4.58 in)	12	9.40 mm (0.37 in)	10.48 cm (4.12 in)
1U-8855	3/4 in square	82.55 mm (3.25 in)	4	4.32 mm (0.17 in)	73.91 mm (2.91 in)
212-8144	1/2 in square	16.21 mm (0.638 in)	2	n/a	11.18 mm (0.44 in)
239-7305	3/4 in square	14.80 cm (5.83 in)	6	6.50 mm (0.26 in)	13.50 cm (5.31 in)
240-8274	1 7/16 in hex	10.94 cm (4.31 in)	4	9.20 mm (0.36 in)	74.00 mm (2.91 in)
243-6532	1/2 in square	64.0 mm (2.50 in)	4	6.0 mm (0.24 in)	64 mm (2.50 in)
2P-2317	1/2 in square	34.93 mm (1.38 in)	4	4.06 mm (0.16 in)	34.93 mm (1.38 in)
305-4538	1 in square	12.00 cm (4.72 in)	6	18.0 mm (0.70 in)	10.00 cm (3.93 in)
4C-4058	1 7/16 in hex	14.76 cm (5.80 in)	8	12.80 mm (0.50 in)	13.00 cm (5.13 in)
4C-6369	3/4 in square	12.70 cm (5.00 in)	4	9.52 mm (0.37 in)	10.30 cm (4.05 in)
4C-6987	1/2 in square	69.85 mm (2.75 in)	2 flats	65.03 mm (2.56 in)	—
4C-9416	1/2 in square	27.5 mm (1.08 in)	4	6.00 mm (0.236 in)	75.50 mm (2.97 in)
5P-0316	3/4 in square	11.11 cm (4.38 in)	4	8.89 mm (0.35 in)	11.11 cm (4.38 in)
5P-0964	1/2 in square	73.20 mm (2.88 in)	4	9.00 mm (0.35 in)	73.20 mm (2.88 in)
5P-2190	1/2 in square	31.75 mm (1.25 in)	4	4.06 mm (0.16 in)	31.75 mm (1.25 in)
5P-2978	3/4 in square	12.40 cm (4.88 in)	8	8.90 mm (0.35 in)	12.40 cm (4.88 in)
5P-3044	3/4 in square	16.51 cm (6.50 in)	8	10.00 mm (0.39 in)	16.51 cm (6.50 in)
5P-3518	1/2 in square	24.00 mm (0.94 in)	4	2.75 mm (0.11 in)	24.00 mm (0.94 in)
5P-4201	3/4 in square	15.70 cm (5.96 in)	8	6.00 mm (0.24 in)	14.20 cm (5.60 in)
5P-4202	3/4 in square	12.00 cm (4.72 in)	8	6.00 mm (0.24 in)	12.00 cm (4.72 in)
5P-4204	3/4 in square	10.67 cm (4.20 in)	8	7.00 mm (0.28 in)	10.67 cm (4.20 in)
5P-6153	3/4 in square	93.68 mm (3.69 in)	4	8.74 mm (0.34 in)	93.68 mm (3.69 in)
6V-0005	1/2 in square	13.65 cm (5.38 in)	4	10.00 mm (0.39 in)	13.65 mm (5.38 in)
6V-0096	Handle	20.6 mm (0.81 in)	2	—	—
6V-4041	3/4 in square	79.38 mm (3.13 in)	4	6.10 mm (0.24 in)	79.76 mm (3.14 in)
6V-4070	3/4 in square	98.43 mm (3.88 in)	4	6.35 mm (0.25 in)	79.76 mm (3.14 in)
6V-4072	3/4 in square	88.90 mm (3.50 in)	4	6.35 mm (0.25 in)	69.84 mm (2.75 in)
6V-4073	3/4 in square	12.07 cm (4.75 in)	4	6.35 mm (0.25 in)	10.00 cm (3.94 in)
6V-4074	3/4 in square	11.11 cm (4.38 in)	4	6.35 mm (0.25 in)	91.92 mm (3.62 in)
9U-6626	1/2 in square	31.40 mm (1.24 in)	4	4.70 mm (0.19 in)	42.50 mm (1.67 in)
1.00 in Drive					

Spanner Wrench — Internal Slotted

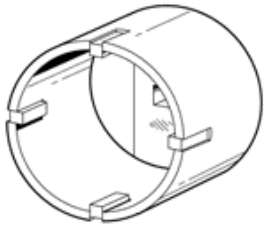
Part No.	Drive	No. of Keys	Clearance Diameter	Inside Key Diameter	Key Width
120-9877	3/4 in square	4	13.97 cm (5.50 in)	13.40 cm (5.28 in)	11.00 mm (0.43 in)
125-4634	3/4 in square	4	11.43 cm (94.50 in)	103.5 mm (4.07 in)	10.00 mm (0.39 in)
125-9787	1/2 in square	4	50.32 mm (1.98 in)	60.00 mm (2.36 in)	6.35 mm (0.25 in)
126-6608	3/4 in square	4	22.86 cm (9.00 in)	21.41 cm (8.43 in)	14.30 mm (0.56 in)
126-6609	3/4 in square	4	26.04 cm (10.25 in)	23.26 cm (9.08 in)	19.05 mm (0.75 in)
126-6901	3/4 in square	6	80.60 mm (3.17 in)	73.34 mm (2.89 in)	6.35 mm (0.25 in)
127-8463	—	2	41.70 cm (16.42 in)	39.10 cm (15.39 in)	25.50 mm (1.00 in)
127-8464	—	2	40.60 cm (15.98 in)	40.60 cm (15.98 in)	25.50 mm (1.00 in)
129-3253	1 in square	4	73.00 mm (2.87 in)	13.70 cm (5.39 in)	9.52 mm (0.37 in)
129-3254	1 in square	4	85.7 mm (3.37 in)	14.70 cm (5.79 in)	9.52 mm (0.37 in)
140-1770	3/4 in square	6	15.55 cm (6.12 in)	14.67 cm (5.76 in)	9.20 mm (0.36 in)
140-1833	1 in square	4	64.90 mm (2.56 in)	85.66 mm (3.37 in)	7.35 mm (0.29 in)
140-3073	1/2 in square	4	47.62 mm (1.87 in)	48.90 mm (1.93 in)	3.50 mm (0.14 in)
147-3508	Bar Drive	2	82.55 mm (3.25 in)	65.65 mm (2.58 in)	16.90 mm (0.67 in)
152-7159	1/2 in square	4	44.45 mm (1.75 in)	53.72 mm (2.11 in)	6.02 mm (0.24 in)
154-6179	1 in square	4	13.34 cm (5.25 in)	13.10 cm (5.16 in)	11.00 mm (0.43 in)
161-8957	3/4 in square	4	81.10 mm (3.19 in)	93.50 mm (3.68 in)	7.65 mm (0.30 in)
174-9465	3/4 in square	3	63.50 mm (2.50 in)	77.66 mm (3.06 in)	6.50 mm (0.25 in)
174-9468	3/4 in square	3	79.38 mm (3.13 in)	91.32 mm (3.60 in)	7.30 mm (0.29 in)
174-9536	1/2 in square	4	53.98 mm (2.13 in)	64.00 mm (2.52 in)	5.85 mm (0.23 in)
174-9696	3/4 in square	3	76.20 mm (3.00 in)	87.00 mm (3.43 in)	10.70 mm (0.42 in)
176-0404	1 in square	4	95.25 mm (3.75 in)	10.62 cm (4.18 in)	11.50 mm (0.45 in)
184-7409	1 in square	4	20.96 cm (8.25 in)	23.62 cm (9.30 in)	16.00 mm (0.63 in)
1P-2381	1/2 in square	Double, 4 and 4	40.49 mm (1.59 in), 40.49 mm (1.59 in)	52.32 mm (2.06 in), 47.75 mm (1.88 in)	3.96 mm / 0.16 in, 3.96 mm (0.16 in)
1U-6230	3/4 in square	4	12.70 cm (5.00 in)	10.58 cm (4.16 in)	9.00 mm (0.35 in)
1U-7643	3/4 in square	6	75.60 mm (2.98 in)	68.30 mm (2.69 in)	6.75 mm (0.27 in)
1U-8306	3/4 in square	4	54.00 mm (2.13 in)	53.18 mm (2.09 in)	4.76 mm (0.19 in)
1U-9478	3/4 in square	4	92.50 mm (3.64 in)	11.75 cm (4.63 in)	10.00 mm (0.39 in)
202-0453	3/4 in square	4	13.25 cm (5.22 in)	12.10 cm (4.76 in)	10.50 mm (0.41 in)
207-0757	1/2 in square	4	60.50 mm (2.38 in)	92.50 mm (3.64 in)	6.00 mm (0.24 in)
220-8428	Handle	4	56.50 mm (2.22 in)	50.00 mm (1.97 in)	5.70 mm (0.22 in)
224-8958	1 in square	4	15.88 cm (6.25 in)	18.73 cm (7.37 in)	11.90 mm (0.47 in)
225-4125	3/4 in square	4	10.16 cm (4.00 in)	10.41 cm (4.13 in)	9.02 mm (0.36 in)
230-7923	3/4 in square	4	12.15 cm (4.78 in)	11.33 cm (4.46 in)	10.50 mm (0.41 in)
246-5254	3/4 in square	5	94.00 mm (3.70 in)	11.60 cm (4.57 in)	10.00 mm (0.39 in)
246-7504	1 in square	4	28.30 cm (11.14 in)	27.15 cm (10.69 in)	6.00 mm (0.24 in)
248-3310	1/2 in square (Offcenter)	4	53.93 mm (2.12 in)	49.08 mm (1.93 in)	4.57 mm (0.18 in)
260-0626	38 mm hex	4	12.70 cm (5.00 in)	11.90 cm (4.68 in)	8.00 mm (0.315 in)
279-4142	3/4 in square	4	10.58 cm (4.163 in)	99.00 mm (3.90 in)	7.38 mm (0.291 in)
304-5800	3/4 in square	3	69.85 mm (2.75 in)	77.66 mm (3.08 in)	9.52 mm (0.37 in)
4C-6369	3/4 in square	4	11.44 cm (4.50 in)	10.30 cm (4.06 in)	9.28 mm (0.37 in)
4C-8500	3/4 in square	4	15.88 cm (6.25 in)	14.86 cm (5.85 in)	10.90 mm (0.43 in)
4C-8502	3/4 in square	4	83.00 mm (3.27 in)	10.40 cm (4.09 in)	10.00 mm (0.39 in)
4C-9439	1/2 in square	4	57.15 mm (2.25 in)	52.93 mm (2.08 in)	5.16 mm (0.20 in)
5P-4727	Chain Wrench	4	99.72 mm (3.93 in)	99.72 mm (3.91 in)	8.00 mm (0.31 in)
5P-4756	1/2 in square	4	66.68 mm (2.63 in)	60.30 mm (2.37 in)	4.80 mm (0.19 in)
5P-4770	1/2 in square	4	12.70 cm (5.00 in)	89.00 mm (3.50 in)	6.35 mm (0.25 in)
5P-7323	3/4 in square	4	10.80 cm (4.25 in)	10.03 cm (3.95 in)	8.00 mm (0.31 in)
6F-3011	Bar Drive	4	—	60.72 mm (2.39 in)	5.56 mm (0.22 in)
6F-3013	Bar Drive	4	—	64.29 mm (2.53 in)	—
6V-2065	3/4 in square	4	76.00 mm (2.99 in)	79.76 mm (3.14 in)	6.10 mm (0.24 in)
6V-3133	3/4 in square	4	98.00 mm (3.86 in)	99.72 mm (3.91 in)	9.28 mm (0.37 in)
6V-3134	3/4 in square	4	11.20 cm (4.41 in)	13.67 cm (5.38 in)	12.25 mm (0.48 in)
6V-4070	3/4 in square	4	82.55 mm (3.25 in)	79.76 mm (3.14 in)	6.24 mm (0.25 in)
6V-4072	3/4 in square	4	73.02 mm (2.87 in)	69.84 mm (2.75 in)	6.24 mm (0.25 in)
6V-4073	3/4 in square	4	10.48 cm (4.12 in)	10.00 cm (3.94 in)	9.26 mm (0.36 in)
6V-4074	3/4 in square	4	95.25 mm (3.75 in)	92.90 mm (3.66 in)	9.26 mm (0.36 in)
6V-7920	3/4 in square	4	85.72 mm (3.37 in)	86.80 mm (3.42 in)	5.90 mm (0.23 in)
8T-2838	3/4 in square	4	11.18 cm (4.40 in)	10.48 cm (4.13 in)	9.26 mm (0.36 in)
8T-2839	3/4 in square	4	11.75 cm (4.62 in)	11.12 cm (4.38 in)	9.26 mm (0.36 in)
8T-2843	3/4 in square	4	76.20 mm (3.00 in)	71.50 mm (2.81 in)	8.90 mm (0.35 in)
9U-6237	3/4 in square	4	10.16 cm (4.00 in)	10.18 cm (4.01 in)	9.26 mm (0.36 in)
1.00 in Drive					

FINAL DRIVE

Spanner Wrench — Flat Faced with Pin

Part No.	Drive	No. of Pins	Clearance Diameter	Pin Distance	Pin Diameter
126-0413	1 1/8 in hex	2	28.00 mm (1.10 in)	40.00 mm (1.575 in)	4.74 mm (0.19 in)
126-5759	Handle	2	31.75 mm (1.25 in)	68.28 mm (2.69 mm)	10.59 mm (0.42 in)
126-5760	Handle	3	1.13 mm (0.04 in)	3.63 mm (0.14 in)	1.50 mm (0.06 in)
134-2570	9/16 in hex	2	21.00 mm (0.83 in)	28.50 mm (1.12 in)	4.37 mm (0.17 in)
149-5168	1/2 in square	3	—	12.99 cm (5.11 in)	4.73 mm (0.19 in)
176-6537	1 in square	2	Flat Plate	68.00 mm (2.68 in)	19.55 mm (0.77 in)
176-6538	1 in square	2	Flat Plate	36.00 mm (1.42 in)	19.55 mm (0.77 in)
202-7965	1/2 in square	2	Flat Plate	81.00 mm (3.19 in)	6.60 mm (0.26 in)
208-6033	3/4 in square	2	29.21 cm (11.50 in)	31.50 cm (12.40 in)	12.70 mm (0.50 in)
235-2785	Handle	2	—	—	—
246-5254	3/4 in square	5	94.00 mm (3.70 in)	Non-symmetrical	10 mm (0.39 in)
246-9300	5/16 in hex	2	10.00 mm (0.039 in)	6.05 mm (0.24 in)	1.60 mm (0.06 in)
263-2153	Handle	6	80.00 mm (3.15 in)	65.00 mm (2.56 in)	5 mm (0.20 in)
281-2587	30 mm hex	2	53.97 mm (2.12 in)	66.00 mm (2.60 in)	7 mm (0.28 in)
292-8544	—	4	23.40 cm (9.21 in)	24.80 cm (9.76 in)	9.50 mm (0.37 in)
4C-4767	3/4 in square	4	94.95 mm (3.74 in)	11.30 cm (4.45 in)	9.81 mm (0.39 in)
4C-8345	3/4 in square	4	—	16.00 cm (6.30 in)	9.52 mm (0.37 in)
4C-8346	3/4 in square	4	10.40 cm (4.09 in)	13.40 cm (5.28 in)	9.52 mm (0.37 in)
4C-8347	3/4 in square	4	90.00 mm (3.54 in)	12.00 cm (4.72 in)	9.52 mm (0.37 in)
4C-8348	3/4 in square	4	12.20 cm (4.80 in)	14.50 cm (5.71 in)	9.52 mm (0.37 in)
4C-8349	3/4 in square	4	15.20 cm (5.98 in)	17.50 cm (6.89 in)	9.52 mm (0.37 in)
4C-9874	1/2 in	2	80.00 mm (3.15 in)	10.80 cm (4.25 in)	10.46 mm (0.41 in)
6V-3158	1 in square	8	10.50 cm (4.13 in)	13.42 mm (5.28 in)	9.52 mm (0.37 in)
8T-9289	1 in square	2	Flat Plate	Adjustable	—
9U-5131	1 1/8 in hex	5 sets of 2	11.30 cm (4.45 in)	—	—
9U-5919	1 in square	2	12.70 cm (5.00 in)	20.40 cm (8.03 in)	15.88 mm (0.63 in)
9U-6110	3/4 in square	2	10.16 cm (4.00 in)	72.00 mm (2.83 in)	9.52 mm (0.37 in)
9U-7346	1 in square	2	22.86 cm (9.00 in)	25.00 cm (9.84 in)	10.96 mm (0.43 in)
9U-7434	1 1/2 in hex	4	17.73 cm (6.98 in)	22.25 cm (8.75 in)	9.34 mm (0.37 in)
1.00 in Drive					

Spanner Wrench — Flat Face with Tangs



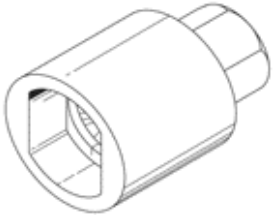
Part No.	Drive Size	Clearance Diameter	No. of Tangs	Width of Tangs	Distance Between Tangs
171-1110	3/4 in hex	44.50 mm (1.75 in)	4	5.55 mm (0.22 in)	85.73 mm (3.38 in)
186-0240	9S-6371 Socket	53.90 mm (2.12 in)	4	20.60 mm (0.81 in)	10.00 cm (3.94 in)
186-0241	9S-6371 Socket	62.80 mm (2.47 in)	4	20.60 mm (0.81 in)	14.30 cm (5.63 in)
1U-8306	3/4 in square	66.70 mm (2.63 in)	4	6.35 mm (0.25 in)	53.18 mm (2.09 in)
224-8958	1 in square	20.96 cm (8.25 in)	4	11.90 mm (0.47 in)	18.73 cm (7.37 in)
230-7923	3/4 in square	13.97 cm (5.49 in)	4	10.90 mm (0.43 in)	11.30 cm (4.45 in)
6V-7920	3/4 in square	10.16 cm (4.00 in)	4	5.60 mm (0.22 in)	86.80 mm (3.42 in)
9U-6237	3/4 in square	10.60 cm (4.17 in)	4	9.02 mm (0.36 in)	10.18 cm (4.00 in)
9U-7398	1 5/16 in hex	—	4	11 mm (0.43 in)	17.45 cm (6.87 in)
9U-7399	1 5/16 in hex	—	4	11 mm (0.43 in)	19.55 cm (7.70 in)

Spanner Wrench — Hook



Part No.	No. of Keys	Clearance Radius	Key Depth	Key Diameter	Notes
126-8290	1	26.70 mm (1.05 in)	4.63 mm (0.18 in.)	4.63 mm (0.18 in.)	—
159-0271	1	24.25 mm (0.95 in)	3.20 mm (0.13 in.)	4.75 mm (0.19 in.)	3/8 in square drive
1P-2851	1	30.23 mm (1.19 in)	—	—	—
1P-2852	1	41.15 mm (1.62 in)	—	—	—
1P-2853	1	57.15 mm (2.25 in)	—	—	—
1P-2854	1	76.20 mm (3.00 in)	—	—	—
1P-2856	2	40.00 mm (1.57 in)	21.30 mm (0.84 in.)	10.51 mm (0.41 in.)	1/2 in square drive
1U-7042	1	69.00 mm (2.72 in)	7 mm (0.28 in.)	6.34 mm (0.25 in.)	—
235-2785	2	—	—	—	Handle
280-2059	1	31.8 — 76.2 mm (1.25 — 3.00 in)	—	—	1/2 in square drive
280-2060	1	50.8 — 120.7 mm (2.00 — 4.75 in)	—	—	1/2 in square drive
280-2061	1	11.43 — 15.88 cm (4.50 — 6.25 in)	—	—	1/2 in square drive
4C-8155	1	69.00 mm (2.72 in)	7 mm (0.28 in.)	6.16 mm (0.24 in.)	3/4 in square drive
5F-9693	1	Adjustable	—	—	—
5F-9695	1	Adjustable	—	—	Jaw
5F-9696	1	Adjustable	—	—	Jaw
5F-9697	1	Adjustable	—	—	Pivot Pin
7F-9304	1	Adjustable	—	—	Bolt
7F-9306	1	Adjustable	—	—	—
8S-8303	2	10.16 cm (4.00 in)	—	—	Jaw/Handle
9U-5120	1	17.20 mm (0.68 in)	4.45 mm (0.18 in.)	4.34 mm (0.17 in.)	9.53 mm (3/8 in) square
9U-6736	2	—	—	—	Adjustable
1.00 in Drive					

Spanner Wrench — Socket



Part No.	Drive	Clearance Diameter	Distance Across Flats	Counter Bore
142-4212	1 7/8 in hex	47.6 mm (1.87 in)	47.6 mm (1.87 in)	—
193-8100	1 1/2 in square	22.2 mm (0.87 in)	46.2 mm (1.82 in)	44.00 mm (1.73 in)
371-1080	1 in hex [a]	84.5 mm (3.33 in)	65 mm (2.56 in)	20 mm (0.78 in)
4C-6987	1/2 in square	69.8 mm (2.75 in)	65 mm (2.56 in)	—

a. Used to install and remove 215-4099 Nut

FINAL DRIVE

Spanner Wrench — Hydraulic Cylinder



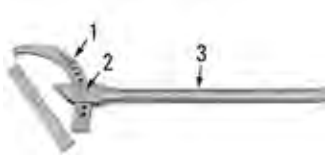
Part No.	Comments	Guide Diameter	No. of Pins	Diameter of Pins (2)	Distance Between Pin Centers (2)	Slot Angle
123-0390	Face	76.20 mm (3.00 in)	2	7.90 mm (0.31 in)	10.16 cm (4.00 in)	—
123-3802	Internal	88.80 mm (3.50 in)	2	11.12 mm (0.44 in)	88.80 mm (3.50 in)	120
123-3803	Internal	88.80 mm (3.50 in)	2	11.12 mm (0.44 in)	88.80 mm (3.50 in)	120
127-8064	Adjustable	12.00 cm (4.72 in)	3	—	12.00 mm (4.72 in)	90
160-0261	Internal	89.00 mm (3.50 in)	—	—	—	—
162-7189	Adjustable	93.00 mm (3.66 in)	2	—	—	120
5P-3520	Adjustable	—	2	—	—	—
8T-0984	Adjustable	—	2	—	—	—
8T-9289	Face	13.97 cm (5.50 in)	2	—	16.51 cm (6.50 in)	—
9U-7868	Adjustable	11.44 cm (4.50 in)	4	8.70 mm (0.34 in)	11.44 cm (4.50 in)	120
9U-7869	Adjustable	14.72 cm (5.80 in)	4	8.70 mm (0.34 in)	14.72 cm (5.80 in)	120
9U-7872	Internal	88.80 mm (3.50 in)	2	11.09 mm (0.44 in)	—	120
9U-7873	Face	88.80 mm (3.50 in)	2	12.68 mm (0.50 in)	11.10 cm (4.37 in)	—
9U-7874	Internal	88.80 mm (3.50 in)	2	11.09 mm (0.44 in)	—	120
9U-7875	Internal	88.80 mm (3.50 in)	2	11.09 mm (0.44 in)	—	120
9U-7876	Face	88.80 mm (3.50 in)	2	12.68 mm (0.50 in)	13.00 cm (5.12 in)	—
1.00 in Drive						

Socket Used to Install and Remove 215-4099 Nut

Adjustable Retaining Nut Spanner Wrench

Model Usage: D4H, D5B. D6D, D7G, 637D, 637E

Warranty: Caterpillar® Six Months



- Specially designed for operations requiring up to 124.5 mkg (900 ft-lb) 1224 N·m torque, such as sprocket retaining nuts, sprocket shaft retaining nuts, and sprocket hub bearing adjusting nuts
- Forged jaws adjust to 11 positions from 121 mm (4 3/4 in) to 324 mm (12 3/4 in) outer diameter.

Item	Part Number	Description	Size
—	7F-9306	Wrench	—
1	5F-9696	Jaw	19.05 mm (3/4 in) thick
2	7F-9304	Bolt	—

Adjustable Bevel Gear Spanner Wrench

Model Usage: Most Cat Final Drive Sprockets

Warranty: Caterpillar® Six Months

- Equipped with two jaws, one 9.52 mm (3/8 in) thick, to permit it to be used for bevel gear adjustments where space is limited, the other 19.05 mm (3/4 in) thick for heavier operations
- Lightweight
- Forged jaws adjust to eleven positions from 121 mm (4 3/4 in) to 324 mm (12 3/4 in) outer diameter.
- Round handle to permit use of "cheater pipe" where additional leverage is required
- Not advisable to use on D8 sprocket retaining nut; wrench with offset handle provided for this operation

Item	Part Number	Description	Size
—	5F-9693	Wrench	—
1	5F-9695	Jaw	9.52 mm (3/8 in) thick
2	5F-9696	Jaw	19.05 mm (3/4 in) thick
3	5F-9697	Pivot Pin	—

FINAL DRIVE

Adapter

Model Usage: D8K Tractor, 583K Pipelayer

Warranty: Caterpillar® Six Months



- Used (2 required) with existing tools for adjustment of final drive outer bearings on D8K Tractors, effective with 76V479 and 7V-3958, and 583K Pipelayers, effective with 78V510

Part Number	Description
5P-5228	Adapter

Retaining Nut Spanner Wrench

Essential Tool

Model Usage: CS-433C and CP433C Vibratory Compactors, CB534C and CB634C Asphalt Compactors, PM465 and PM565B Cold Planers

Warranty: Caterpillar® Six Months



- Used to remove, install, and tighten final drive bearing retaining nut
- Used with standard 1 inch square drive tools
- Pilots on outside diameter of bearing retaining nut providing positive engagement
- Makes final drive repair faster and easier
- Heat-treated for maximum durability

References

- KENR2996, Machine Systems Disassembly and Assembly module for CS432C, CS433C, and CP433C Vibratory Compactors
- KENR2843-01, Machine Systems Disassembly and Assembly module for CB534C Vibratory Compactor

Specifications

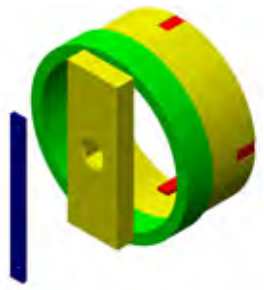
- Overall length: 95.4 mm (3.755 in)
- Inside diameter: 210.8 mm (8.299 in)
- Number of teeth: 4, equally spaced
- Tooth width: 15.9 mm (0.625 in)
- Square drive: 1 in

Part Number	Description
184-7409	Retaining Nut Spanner Wrench

Socket Assembly Spanner

Model Usage: CP34, CS34, CS44B, CP44B, CCS7, CS44B, CP44B, CB66B, CB64B, CB68B

Warranty: Caterpillar® Six Months



- Used to remove, install and tighten final drive bearing retaining nut 485-1392
- Used with standard 1 inch square drive tools
- Pilots on outside diameter of bearing retaining nut for positive engagement
- Makes final drive repair faster and easier
- Heat-treated for maximum durability

Specifications

- Overall Length: 252 mm (10 in)
- Inside Diameter: 201 mm (8 in)
- Outside Diameter: 228.6 mm (9 in)
- Number of Teeth: 4, equally spaced
- Tooth Width: 16 mm (5/8 in)
- Square Drive: 25.4 mm (1 in)
- Weight: 10 kg (22 lb)

Part No.	Description
524-2773	Socket Assembly Spanner

Gearbox Disassembly and Assembly Tooling

Essential Tool

Model Usage: AP655 Asphalt Paver

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 219-1962 Comber Drive

Reference

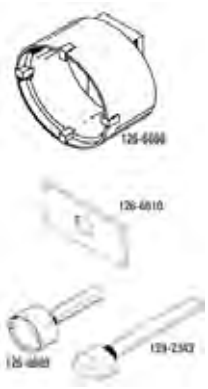
- KENR5033, Service Manual Module

Item	Part Number	Description
1	254-3839	Sleeve
2	254-3840	Guide
3	254-7270	Base Plate
4	254-7272	Driver
5	254-7273	Locating Pin
6	254-7274	Guide

Bearing Locknut Tools

Model Usage: Compaction Equipment: CS/CP433C, 533C, 563C, 583C; CB534B, 534C, 634B, 634C; Asphalt Paver: 1055, 2455

Warranty: Caterpillar® Six Months



- Used to remove and install final drive bearing locknut when replacing bearings or Duo-Cone seals
- Used with standard torque wrench to obtain up to 950 N·m (700 ft-lb) of torque
- Four spanner teeth provide positive engagement with locknut (virtually eliminates slippage and locknut damage)
- Locknut cannot be properly installed using hammer and punch
- Spanner wrenches are heat-treated for durability and long life

126-6608 Locknut Spanner Wrench

- Used on CP/CS433C, CB534B, CB534C, CB634B, and CB634C Compaction Equipment
- Designed to fit inside housing bore
- Top of spanner wrench is designed to extend out beyond face of housing (allows use of torque wrench without need for an extension)

126-6609 Locknut Spanner Wrench, 126-6610 Alignment Bracket, and 129-2343 Staking Tool

- Used on CP/CS533C, CP/CS563C, and CS583C Compaction Equipment; 1055 and 2455 Asphalt Paver
- Spanner wrench is designed to fit down inside deep housing bore (locknut is over 90 mm (3.5 in) down inside housing)
- Designed to extend out beyond face of housing (round shank of spanner wrench extends beyond housing face and through alignment bracket)
- 126-6610 Alignment Bracket bolts directly onto housing and provides a reaction point for torque wrench (permits one-person tightening of locknut)
- Bracket uses existing final drive holes and bolts for mounting
- 129-2343 Staking Tool provides best method of properly securing locknut onto shaft (simple and easy to use; see illustration)
- Staking tool locates point of punch in the correct position to peen or stake locknut onto shaft (a regular punch could slip off of locknut and cause bearing damage)

Reference

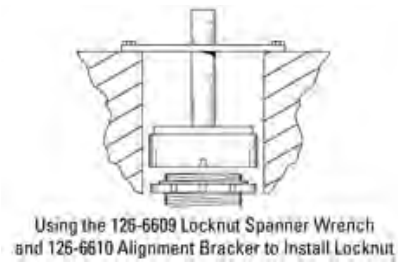
- Service Manual, Disassembly and Assembly Module
- KENR2888, AP1050B and AP1055B Asphalt Paver Machine Systems Dissassembly and Assembly Module

Specifications

- Working torque capacity of spanner wrenches: 950 N·m (700 ft-lb)
- Square drive: 3/4 in

Part Number	Description	Width Of Square Teeth	Distance Between Teeth
126-6608	Locknut Spanner Wrench	14.3 mm (0.56 in)	214 mm (8.4 in)
126-6609	Locknut Spanner Wrench	14.3 mm (0.56 in)	232 mm (9.2 in)

Installing and Locking Locknut



Using the 126-6609 Locknut Spanner Wrench and 126-6610 Alignment Bracker to Install Locknut



Using the 129-2343 Staking Tool to lock the locknut in place

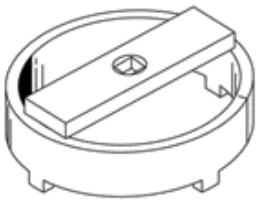
FINAL DRIVE

Travel Drive Nut Spanner Wrench

Essential Tool

Model Usage: 315B Excavator (HE Version Only)

Warranty: Caterpillar® Six Months



- Used to remove and install 136-2824 Nut
- Makes repair of travel drive easier and quicker
- Pilots on inside diameter of ring gear, providing positive engagement

Reference

- RENR1131, Service Manual Module, 315B and 315BL Excavators Machine Systems Disassembly and Assembly

Specifications

- Outside diameter: 308.0 mm (12.13 in)
- Inside diameter: 278.0 mm (10.94 in)
- Height: 115.4 mm (4.54 in)
- Tooth width: 27.8 mm (1.09 in)
- Number of teeth: 4, equally spaced
- Square drive: 1 in

Part Number	Description
156-5875	Travel Drive Nut Spanner Wrench

Spanner Assembly

Model Usage: 966L and 972L

Warranty: Caterpillar® Six Months



Used to remove and install the 295-2342 and 295-2343 spanner nuts used in the axles

Part No.	Dimensions	Weight
442-6518	150 x 26 mm (5.90 x 1.0 in)	1.7 kg (3.74 lb)
442-6519	210 x 26 mm (8.26 x 1.0 in)	3.4 kg (7.49 lb)

Sprocket Wear Gauges

Model Usage: D4, D5, D6, D7, D8 and D9 Tractors

Warranty: Caterpillar® Six Months



- Used to determine when sprockets should be replaced on track-type tractors
- 5P-8616 Gauge used for D4, D5 and D6 Tractors
- 5P-8617 Gauge used for D7, D8 and D9 Tractors
- When point marked with model and pitch touches bottom of sprocket profile, sprocket should be replaced

Part Number	Description
5P-8616	Sprocket Wear Gauges
5P-8617	Sprocket Wear Gauges

Final Drive Bearing Adjustment Tool Arrangement, Trunnion Assembly

Model Usage: See Below



Needed to apply torque required to preload final drive bearings on the 8 models of track-type machines listed in chart

Reference

- SMHS7583, Special Instruction

Service Tools for Final Drive Bearing Adjustment

6V-0082 Final Drive Bearing Adjustment Tool Arrangement



Item	Description
Not Shown	SEHS7424 Decal

Item	Part Number	Description
Service/Repair Parts for 6V-0082 Tool Arrangement		
2	5P-8634	Spacer (3)
3	2B-0947	Bolt (3)
4	5P-8635	Pin
5	0S-1585	Bolt (2)
7	5H-7370	Seal

Sprocket Wheel Removal Tools



Complete Set of Tooling Required to Remove Sprocket Wheel

- Not Shown: Hydraulic Service Pump

Item	Part Number	Description	Quantity
Complete Set of Tooling Required to Remove Sprocket Wheel			
1	8T-5243	Adapter Group	3
2	7B-2499	Ring	12
3	6H-4158	Pin	6
5	8S-9975	Ram Adapter	1
7	9S-8900	Cylinder Group	1

FINAL DRIVE

Arm Sprocket Puller

Model Usage: C32, D3, D3B, 931, 931B, D4, D4C, D4D, D4E, 941,951, D5, D5B, D6, D6B, 561B,561D D6, 561C D6D, 955K, 955L, 977K, 977L, D6G, D7G, SR5 Generator, 215 Excavator

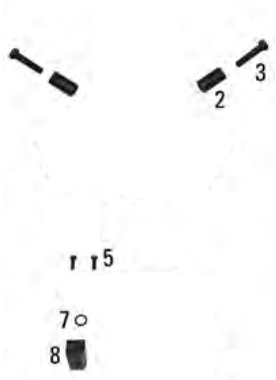
Warranty: Caterpillar® Six Months



- Set of three forged arms used in hydraulic puller applications (previously 5F-9306 when sold individually)
- If seal adapter is present, use 6V-3143. If no seal adapter is present, use 1U-7325.

Part No.	Description	Dimensions	Weight
490-0737	Arm Sprocket Puller	19 x 485 x 51 mm (0.8 x 19 x 2 in)	2 kg (4.5 lb)

Final Drive Bearing Adjustment Tool Arrangement



Item	Part Number	Description
-	6V	Final Drive Bearing Adjustment Tool Arrangement
2	5P-8634	Spacer (3)
3	2B-0947	Bolt (3)
4	5P-8635	Pin
5	0S-1585	Bolt (2)
7	5H-7370	Seal
Not Shown	SEHS7424	Decal

Item	Description	D4 941 951	D5 561	D6	D7 571 572 983	977
1	Driver Group (Part of 6V-0082)	1	1	1	1	1
2	Trunnion Group (Part of 6V-0082)	1	1	1	1	1

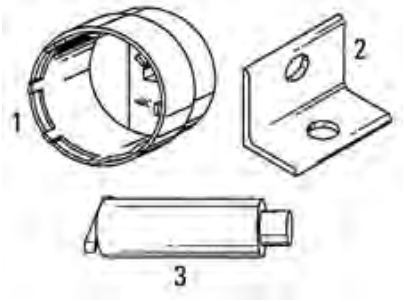
Item	Part Number	Description	D4, 941, 951 a	D5, 561	D6	D7, 571, 572, 983	977
—	6V-0082	Tool Arrangement	—	—	—	—	—
3	5P-8634	Spacer (Part of 6V-0082)	3	3	3	—	—
Item (4) Includes:							
—	0S-1585	Bolt (1/2 — 13, 1.50 in long)	3	—	—	—	—
—	1A-5822	Bolt (1/2 — 13, 2.75 in long)	—	—	—	3	—
—	1B-2886	Bolt (1/2 — 13, 3.75 in long)	—	—	3	—	—
—	1D-4569	Bolt (1/2 — 13, 4.25 in long)	—	—	—	—	4
—	2B-2006	Bolt (1/2 — 13, 4.75 in long)	3	3	—	—	—
—	4B-5273	Washer	—	3	3	3	4

a. Except D4 with Serial Nos. 4G and 7J

Motor Grader Tandem Removal and Installation Tooling

Model Usage: G Series Motor Graders

Warranty: Caterpillar® Six Months



- Used to simplify and reduce the time of removing and installing tandem drive housings — eliminates need to disconnect drive chains
- Allows tandem assembly with sprockets to be removed and installed as a unit — a pipe or pry bar can be inserted through sprockets to maintain alignment when guide is removed
- Sprocket guides thread directly onto tandem drive axle [33.33 mm (1 5/16 inch) hex head accepts sockets or combination wrenches for easy attachment]
- Tapered extension added to former design allows removal of sprocket guide from tandem assembly after it is removed from motor grader (sprocket guide can now be used to remove remaining tandem)
- The spanner wrenches provide a positive method to engage slots in spanner nut that retains the drive sprocket; a square drive permits use with a ratchet, breaker bar, or torque measuring device
- The lifting brackets provide a place to attach hooks from a suitable lifting device when removing and installing the tandem housings

Item	Part Number	Description
1	5P-4201	Spanner Wrench Assembly
1	5P-4202	Spanner Wrench Assembly
1	5P-4204	Spanner Wrench Assembly
1	5P-6153	Spanner Wrench Assembly
Sprocket Accessories		
4	1U-5898	Sprocket Guide
5	1U-5899	Sprocket Guide
6	1U-5900	Sprocket Guide

FINAL DRIVE

Adapter Group

Model Usage: 215 Excavator

Warranty: Caterpillar® Six Months



- Used to remove 1-piece sprocket wheel; sprocket wheel arrangement for 215 Excavator has changed from 2-piece design to single piece
- On earlier excavators, sprocket is bolted to splined hub; removal of sprocket done by removing bolts that hold it to hub; removal of 1-piece sprocket wheel must be done with hydraulic puller
- Provides necessary link between 1-piece 215 Excavator sprocket wheel and standard dealer service tools for hydraulic removal of wheel
- Removing sprocket wheel from most Cat® track-type machines involves tooling that connects a hydraulic cylinder to sprocket wheel; special adapters are used to connect sprocket wheel to rest of tooling; those adapters are installed from inboard side of sprocket wheel; because of limited clearance between sprocket wheel and final drive case on 215 Excavator, it is not possible to install adapters from inboard side; 8T-5243 Adapter Group can be installed from outboard side of sprocket wheel (3 required)

Item	Description
1	Plate
2	Adapter

Item	Part Number	Description	Quantity
3	0S-1615	Bolt [a]	2
4	5P-4115	Washer [a]	2

a. Parts serviced separately.

Adapter Group Installation



- Install the adapter groups by evenly spacing them in the holes in the sprocket flange. The "hooked" adapter (1) is installed first and then the plate (2). The plate is fastened to the adapter with two bolts (3) and washers (4). It serves as a spacer to retain the adapter in the sprocket wheel.
- Before installing the remainder of the tooling, loosen bolt (5) so that there is approximately a 6.35 mm (0.25 in) gap between the retainer (6) and the sprocket wheel.

Hydraulic Cylinder Installation



- The hydraulic cylinder and the remainder of the tooling are installed in the conventional manner.

Sprocket Adapter Tool

Model Usage: 16M

Warranty: Caterpillar® Six Months



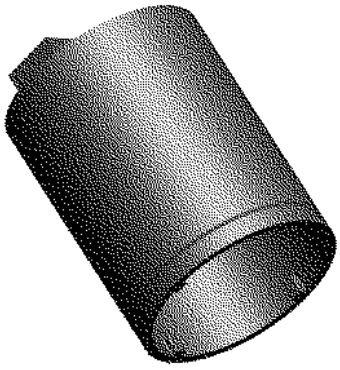
- Used to adapt the shaft to the 1U-5898 Tool
- There are no threads on the end of the axle shafts on the 16M. This tool bolts to the end of the shaft and provides the external threads.

Part No.	Description	Dimensions
442-9885	Sprocket Adapter Tool	4.5-12 External Threads, 20.5 mm (0.8 in) Thick, 1.23 kg (2.7 lb)

Drive Axle Nut Spanner Wrench

Model Usage: Wheel Skidder Models 525C, 535C, 545C

Warranty: Caterpillar® Six Months



- Used to remove and install 9C-6313 nut to quickly and easily disassemble and assemble drive axle assembly

Specifications

- Dimensions:
  - O.D. 139.7 mm (5.49 in)
  - I.D. 127.0 mm (4.99 in)
- Height: 190.5 mm (7.49 in)
- Tooth Width:
  - 117.3 mm (4.61 in)
- No. of teeth: (4)
- Square Drive: 19.05 mm (3/4 in)
- Material: Steel and black oxide coated

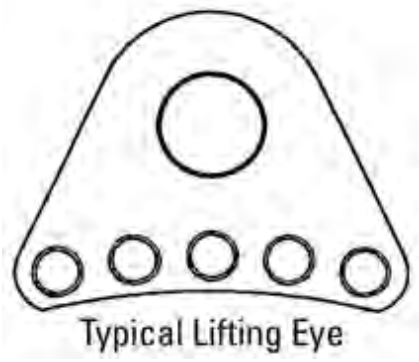
Part Number	Description
378-4524	Drive Axle Nut Spanner Wrench

FINAL DRIVE

Lifting Eyes

Model Usage: 785 and 789 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install final drives
- Safe, secure, convenient brackets quickly attached to final drive wheel studs after tires and rims removed
- Allow use of chains or cables with hooks instead of 2 large, long straps which are not always available

References

- When revisions (-01) are available:
  - SENR4010, Service Manual, 785 Power Train Disassembly and Assembly
  - SENR3430, Service Manual, 789 Power Train Disassembly and Assembly

Specifications

- 1U-9365 fits: inner wheel stud pattern
- 1U-9378 fits: outer wheel stud pattern
- Lifting capacity: 6810 kg (15,000 lb)
- Thickness of plate: 25.4 mm (1.0 in)
- Estimated weight: 6 kg (13.2 lb)

Metric Lifting Eyes

Model Usage: All Cat® Products

Warranty: Manufacturer's



European Union compliant, CE marked

- Suitable for loads which swivel and tilt
- Can be load in all directions with a 4:1 design factor
- Swiveling under full load is permissible provided the inclination angle is not perpendicular to the screw-in direction.
- Not for permanent swiveling under full load

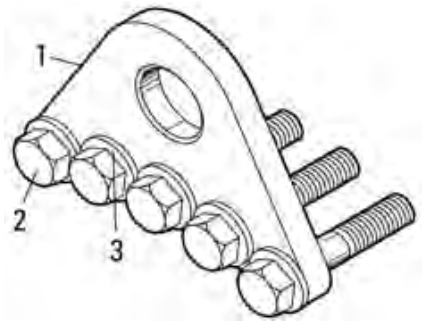
Part Number	Thread	Working Load Limit	Weight
384-9657	M10	450 kg (992.08 lb)	0.3 kg (.66 lb)
384-9658	M12	600 kg (1,322.77 lb)	0.5 kg (1.1 lb)
384-9659	M14	1,000 kg (2,204.62 lb)	0.6 kg (1.3 lb)
384-9660	M16	1,300 kg (2,866.01 lb)	0.6 kg (1.3 lb)
384-9661	M20	2,000 kg (4,409.24 lb)	1.4 kg (3.1 lb)
384-9662	M24	3,500 kg (7,716.17 lb)	2.7 kg (6.0 lb)
384-9663	M30	5,000 kg (11,023.10 lb)	5.5 kg (12.1 lb)
384-9664	M36	8,000 kg (17,636.96 lb)	4.8 kg (10.6 lb)
384-9665	M48	10,000 kg (22,046.20 lb)	6.2 kg (13.6 lb)
384-9666	M64	15,000 kg (33,069.30 lb)	9.9 kg (21.8 lb)

Lifting Plate

Essential Tool

Model Usage: 994 and 994D Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to safely remove and install final drive and axle housing assemblies
- Removal procedure requires 2 lifting plates
- Easily attaches to axle housing with provided hardware

Reference

- RENR2034, 994 Wheel Loader Power Train Disassembly and Assembly

Specifications

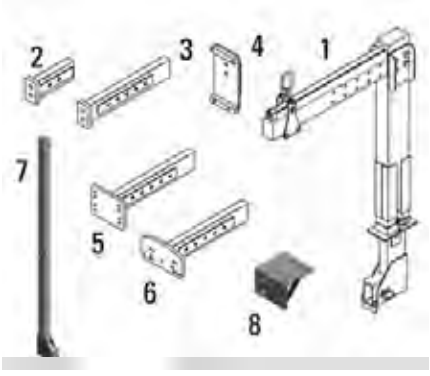
- Maximum capacity: 8619 kg (19,000 lb)
- Weight: 11.5 kg (25 lb)

Item	Part Number	Description
1	179-8695	Lifting Plate
2	8T-0370	Hex Head Bolt
3	3S-7023	Washer-Hard

Multi-Purpose Lifting Bracket and Adapters

Model Usage: 14H, 16H Motor Grader; CB434D, CS434D Compactor; 785, 789, 793, and 797 Off-Highway Truck; and 994 Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install various final drive components
- Used with suitable hoist or lifting device
- Top rail of lifting bracket bolts to vertical tube in various locations
- Threaded rod allows center of gravity to be changed under load
- Vertical tube adjusts to different lengths
- Optional vertical tube extends an additional 5 feet
- Bottom rail accepts several different tube assemblies and adapters
- Various adjustments allow for maximum versatility

References

- RENR4178, Power Train for 14H Motor Grader, Differential Remove and Install
- RENR4196, Power Train for 16H Motor Grader, Differential Remove and Install

Item	Part Number	Description
1	226-2380	Multi-Purpose "C" Style Lifting Bracket Assembly
2	226-2381	Short Slide Tube Assembly (included with 226-2380 Lifting Bracket Assembly)
3	226-2382	Long Slide Tube Assembly (included with 226-2380 Lifting Bracket Assembly)
4	226-2383	Adapter Plate Assembly used with 226-2380 Bracket Assembly to remove and install 14H and 16H Motor Grader Differential
5	233-1485	Tube Plate Assembly used with 226-2380 Bracket Assembly to remove and install CP434D and CS434D Compactor Differential
6	226-2379	Tube Plate Adapter Assembly used with 226-2380 Bracket Assembly and 128-4776, 128-4773, 152-7247, 9U-6122, 153-1174, or 153-1175 Handling Bracket Assemblies used on 785, 789, 793, 797 Off-Highway Truck and 994 Wheel Loader
7	436-0138	Tube assembly used to extend the vertical height of 226-2380 up to an additional 5 feet (1524 mm). [a]
8	438-5467	Lifting adapter used on Excavator pumps that have an offset of 88.9 mm (3-1/2") to the right and used with 226-2380 Adjustable Lifting Assembly

a. Separate the vertical sections. Install between the upper and lower half. (Sold separately)

WARNING

Working load limit of 1814 kg (4000 lb). Injury to personnel and damage to equipment can result if the load limit is exceeded.

FINAL DRIVE

Lifting Adapter - Pump Removal

Model Usage: 336 HEX, SN Pfx YBN, JHD

Warranty: Caterpillar® Six Months



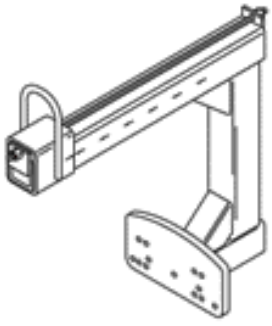
- Lifting adapter used to remove 336 excavator pump 505-0526
- Used with 226-2380 adjustable lifting assembly

Part No.	Description	Dimensions	Weight	WLL
528-5284	Lifting Adapter-Pump Removal	215 x 192.7 x 153 mm (8.5 x 7.6 x 6 in)	4.5 kg (10 lb)	230 kg (507 lb)

Lifting Bracket Assembly

Model Usage: 785, 789, and 793 Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

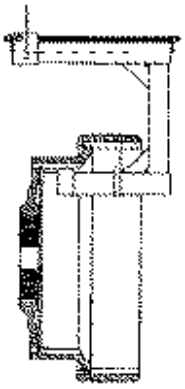
- Used to easily balance various final drive components during disassembly and assembly by positioning lifting eye over center of gravity (adapter/extension assemblies allow bracket to be used on many different components)
- Used with 128-4773 Bracket Extension Assembly to remove and install differential group, holding it in a horizontal position — lift capacity is 2041 kg (4500 lb); differential group weighs approximately 1134 kg (2500 lb)
- Used with 128-4776 Bracket Extension Assembly to remove and install various components, such as ring gear assembly and small planetary assembly
- Large planetary assembly can be removed and installed, using lifting bracket assembly, without extension assembly
- Uses an adjustable lifting eye for balancing loads of different components
- Relative lifting capacities are marked at various locations on side of lifting bracket over entire 424 mm (16.7 in) adjustment range for fast and accurate centering of bracket on each particular component being lifted

Specifications

- Adjustment range: 424 mm (16.7 in)
- Lifting capacity: 1134 kg (2500 lb) with lifting eye in extended position
- Max lifting capacity: 2041 kg (4500 lb) with lifting eye in retracted position

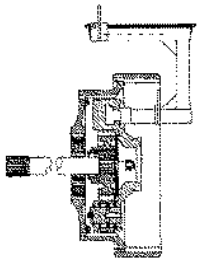
Part Number	Description
128-4773	Bracket Extension Assembly
128-4775	Lifting Bracket Assembly
128-4776	Bracket Extension Assembly

Lifting Bracket Assembly — Ring Gear Assembly



- 128-4775 Lifting Bracket Assembly and 128-4776 Bracket Extension Assembly Shown Lifting Ring Gear Assembly on Truck's Axle Housing Hub
- The end plate of extension assembly is positioned in ring gear's retaining groove. Positive support and retention of gear is achieved with this tooling.

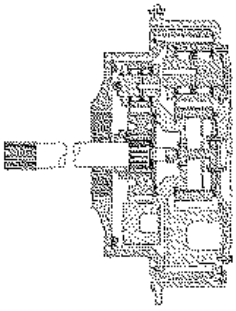
Lifting Bracket Assembly — Small Planetary Assembly



- 128-4775 Lifting Bracket Assembly and 128-4776 Bracket Extension Assembly Shown Lifting Small Planetary Assembly

- The extension assembly is hooked into the casting cavity of small planetary assembly allowing it to be installed into ring gear assembly.

Lifting Bracket Assembly — Large Planetary Assembly



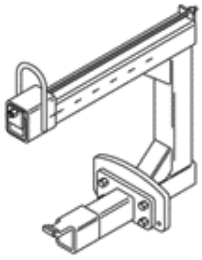
- Shown Lifting Large Planetary Assembly (no extensions are required)

- The large planetary assembly can be installed next to small planetary and inside ring gear assembly. Bracket is mounted to assembly using studs on housing assembly.

Bracket Extension Assembly

Model Usage: 785, 789, and 793 Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to disassemble and assemble various components, such as ring gear assemblies and small planetary assemblies
- Used with 128-4775 Lifting Bracket Assembly
- Eye of lifting bracket assembly can be easily adjusted to balance the loads center of gravity

- For small planetary assemblies, hook extension into casting cavity to install planetary into ring gear assembly
- For ring gear assembly on truck axle housing hub, position extension in ring gear retaining groove; provides positive support and retention of gear

Specification

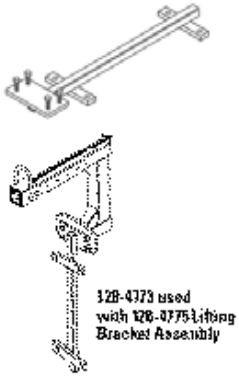
- Maximum lifting capacity: 386 kg (850 lb)

Part Number	Description
128-4776	Bracket Extension Assembly

Bracket Extension Assembly

Model Usage: 785, 789, and 793 Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install differential group; holds the group in a horizontal position, making overhauls faster and simpler, with reduced possibility of component damage
- Used with 128-4775 Lifting Bracket Assembly
- Lifting bracket can be easily adjusted to balance the loads center of gravity

- Attaches to mounting studs which secure transmission to differential arrangement
- Designed to clear rear brake slack adjuster and brake lines, when used with the 128-4775 Lifting Bracket Assembly

Specification

- Maximum lifting capacity: 1145 kg (2525 lb)

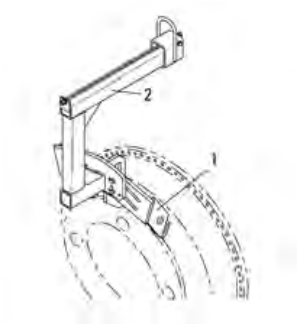
Part Number	Description
128-4773	Bracket Extension Assembly

FINAL DRIVE

Lifting Adapter Assemblies

Model Usage: 785, 789, 793, 797 Off-Highway Trucks; 994 Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (152-7247)

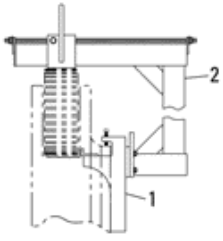
- 152-7247 Outer Carrier Adapter Assembly replaces discontinued 9U-6121 Adapter Assembly (9U-6121 works only on 785, 789 and 793; it can still be used)
- Safe, efficient tools used to remove and install final drive planetary carriers — a difficult job without these tools
- Used with 128-4775 Lifting Bracket Assembly (except 797 outer carrier)
- Allow center of gravity to be adjusted which facilitates alignment during installation
- 152-7247 attached to outer planetary carriers on 785, 789, 793, 797 and 994 (slotted bolt holes in adapter allows it to be mounted on carrier regardless of orientation of bolt holes in carrier)
- 9U-6122 required to remove and install inner planetary carriers on 793 and 994
- 153-1174 required to remove and install inner planetary carrier on 797
- 153-1175 required to remove and install ring gear on 797
- Used with 160-1831 Bracket Assembly mounted on fork left when 128-4775 Lifting Bracket Assembly cannot be used

Reference

- Power Train Disassembly and Assembly Service Manuals:
  - SENR4747, 994
  - SENR4907, 793
  - SENR4010, 785
  - SENR3420, 789

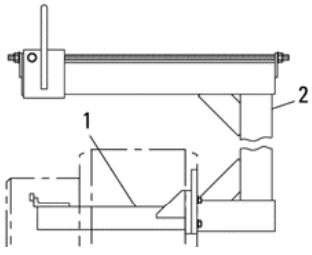
Item	Part Number	Description
1	152-7247	Handling Bracket Assembly
2	128-4775	Lifting Bracket Assembly

Lifting Adapter



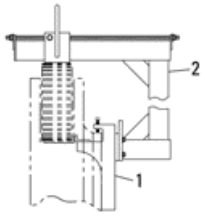
Item	Part Number	Description
1	9U-6122	Lifting Adapter Assembly, Inner Carrier
2	128-4775	Lifting Bracket Assembly

Lifting Adapter



Item	Part Number	Description
1	153-1175	Handling Bracket Assembly
2	128-4775	Lifting Bracket Assembly

Lifting Adapter

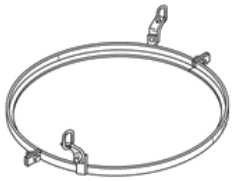


Item	Part Number	Description
1	153-1174	Handling Bracket Assembly
2	128-4775	Lifting Bracket Assembly

Brake Hub Lifting Device

Model Usage: 789 and 793C Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to provide a safe method for removing and installing 136-7003 brake hub while rear wheel spindle is in horizontal or vertical orientation
- Used with hoist or other suitable lifting device

References

- SENR5692, 793B Truck Machine Systems
- SENR5687, 789B Truck Machine Systems

Specification

- Working load limit: 82 kg (180 lb)

Part Number	Description
144-3488	Brake Hub Lifting Device

Bracket Assembly

Model Usage: 793D, 793F OHT

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to easily and safely remove and install 197-7069 brake hub
- Can be used while rear wheel spindle is in horizontal or vertical orientation
- Used with hoist or other suitable lifting device
- Material: Steel

Reference

- NEHS1169 Tool Operating Manual

Specifications

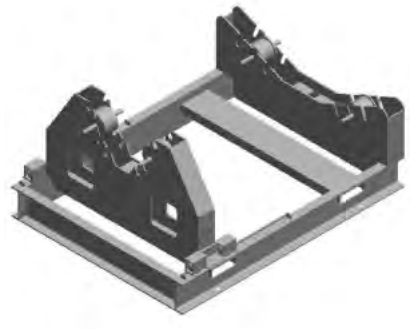
- Dimensions: 692.7 mm (27.2 in)
- Working load Limit (WLL): 91.0 kg (201.0 lb)
- Weight: 5.3 kg (11.6 lb)

Part Number	Description
423-2009	Bracket Assembly

Spindle and Brake Assembly Stand

Model Usage: 777-797

Warranty: Caterpillar® Six Months



- Reduces technician fatigue and ergonomic stress
- Allows for the use of more precise torque tools resulting in improved quality
- Provides improved assembly time over vertical assembly
- Eliminates the use of a standard shipping stand which requires the spindle and brake to be repositioned with an overhead crane
- Adjustable rollers and moveable headstock to accommodate 777-797 spindle and brake assemblies
- Locking bar to prevent rotation during torque process

Specifications

- Dimensions: 1,730 x 1,338 x 879 mm (68 x 53 x 35 in)
- Weight: 404 kg (888 lb)

Part Number	Description
449-0986	Spindle and Brake Assembly Stand

FINAL DRIVE

Installer

Model Usage: 789 Off-Highway Truck

Warranty: Caterpillar® Six Months



Installer attached to shaft (sling not shown)

- Essential for safe, proper removal and installation of 8W-8739 and 8W-8741 Final Drive Shafts (larger 8W-8739 and 8W-8741 Shafts replace 5T-6393 and 5T-6394 Final Drive Shafts)
- 8W-8739 and 8W-8741 Shafts weigh 137 kg (301 lb) and have 2 1/2 inch-12 threaded connection compared to 5T-6393 and 5T-6394 Final Drive Shafts weighing 114 kg (251 lb) with 2 inch-12 threaded connection
- Therefore, 5P-7395 Installer used on 5T-6393 and 5T-6394 Final Drive Shafts will not work on 8W-8739 and 8W-8741 Final Drive Shafts
- Hoist and sling support tool and shaft during installation and removal of axle

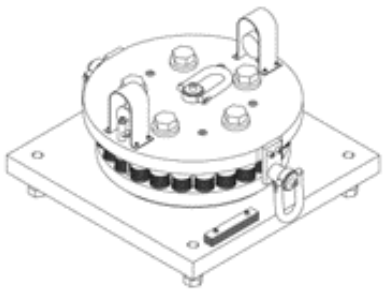
Part Number	Description
1U-8848	Installer

Front Wheel Bearing Preload Adjusters

Essential Tool

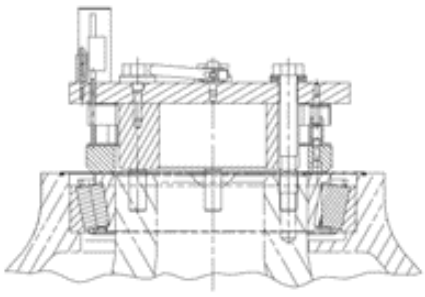
Model Usage: 777, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to accurately adjust the amount of shims required for proper preload setting
- No calculations are required
- Improved accuracy over conventional methods
- Reduced adjustment time over conventional methods
- Less chance of error than with conventional methods
- Rugged design ensures long life and maintains calibration
- Includes a precision zero plate to assure high accuracy
- Indicators and all attachment hardware are included
- Lifting rings are provided to position preload adjuster with lifting device
- Front wheel assembly may be in a spindle-down, vertical, or horizontal position when using this tool
- Requires annual calibration

Front Wheel Assembly



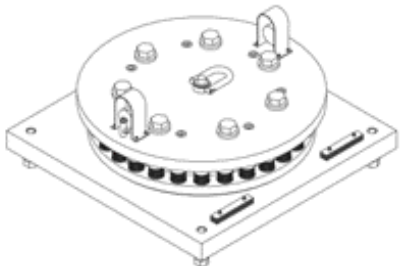
Part Number	Description	Model	Tool Operating Manual
200-4529	Preload Adjuster	777	NEHS0917
200-4532	Preload Adjuster	785, 789, and 793	NEHS0920
200-4533	Preload Adjuster	797	NEHS0873
Service/Repair Parts			
266-0307	Bolt	777	—
266-0308	Bolt	785 and 789	—
266-0309	Bolt	793	—
266-0310	Bolt	797	—

Rear Wheel Bearing Preload Adjusters

Essential Tool

Model Usage: 776, 777, 784, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to accurately adjust the amount of shims required for proper preload setting
- No calculations are required
- Improved accuracy over conventional methods
- Reduced adjustment time over conventional methods
- Less chance of error than with conventional methods
- Rugged design ensures long life and maintains calibration
- Includes a zero plate to assure high accuracy
- Indicators and all attachment hardware are included
- Three lifting rings are provided to position preload adjuster with lifting device
- Rear wheel assembly must be in spindle-down, vertical position to use this tool

Rear Wheel Assembly

Part Number	Description	Model	Tool Operating Manual
193-4121	Preload Adjuster	777	NEHS0910
193-4122	Preload Adjuster	785	NEHS0921
193-4123	Preload Adjuster	789	NEHS0922
193-4124	Preload Adjuster	793	NEHS0911
193-4125	Preload Adjuster	797	NEHS0872
Service/Repair Parts			
266-0311	Bolt	777 — 777D [a]	—
266-0312	Bolt	785	—
266-0313	Bolt	789	—
266-0314	Bolt	793	—
266-0315	Bolt	797	—
8T-6383	Bolt	777F, 777G [b]	—

a. 266-0311 Bolts must be used to zero in the indicators on the master plate

b. For 777F Rear Spindles only

Digital Indicator

Model Usage: 776, 777, 784, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Manufacturer's



European Union Compliant, CE marked

- IP67 protection against dirt, dust, and water
- Zero Set
- Counting Direction Switching (+/-)
- Power ON/OFF
- Inch/mm conversion
- Data Output
- Limit Set
- Value Preset
- Reading Hold
- Selectable Resolutions
- Feature Locker
- Lug-on-center back

Specifications

- Dimensions: 158.75 x 58.67 x 61.98 mm (6.25 x 2.31 x 2.44 in)
- Weight: 0.32 kg (11.4 oz)
- Range: 25 mm (1.0 in)
- Resolution: 0.01 mm (0.0005 in)
- Power: 2 X CR2032, 3V, Lithium Battery

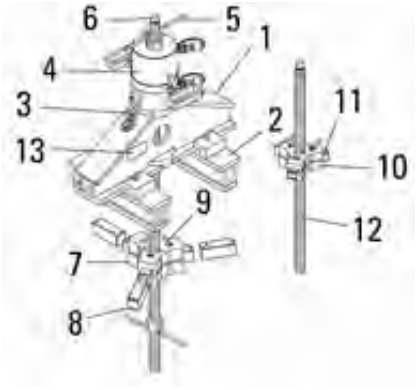
Part Number	Description
435-0231	Digital Indicator

FINAL DRIVE

Wheel Bearing Removal Group

Model Usage: 769D, 770, 771D, 772, 773E, 775E, 773F, 775F, 777D, and 777F Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove large bearing cup from off-highway truck wheel hubs
- Used with suitable overhead lifting device and additional required tooling
- Removes inboard and outboard bearing cups on specific front and rear wheel assemblies
- Tool usage charts in NEHS1000 Tool Operating Manual and SEBF9118 Special Instruction list components and settings needed for bearing cup removal
- Heavy-duty construction with heat-treated components
- Weight: 163 Kg (359 lbs)

Reference

- NEHS1000, Tool Operating Manual, Procedure to Remove Wheel Bearings from Off-Highway Trucks
- SEBF9118, Special Instruction, Procedure to Remove Large Wheel Bearings

Item	Part Number	Description
2	—	Crossbar Slider Assembly (not serviced separately)
9	CL-38-TP [c]	T-handle (3)

a. Carr Lane Mfg part number(www.carrlane.com)

Item	Part Number	Description
—	301-5718	Wheel Bearing Removal Group
1	301-5719	Crossbar
3	4L-9337	Bolt (2)
3	8T-4896	Washer (2)
3	439-3938	Bracket Assembly — Link
4	316-1489	Cylinder Group (60 Ton)
5	9U-6809	Nut — Fast Runner, (M36 x 4)
6	9U-6811	Puller Stud
7	301-5722	Hub Assembly (large)
8	301-5723	Slide Bar Set, 87.0 mm (3.42 in) long (serviced only as a set)
8	301-5724	Slide Bar Set, 132.0 mm (5.20 in) long (serviced only as a set)
10	301-5720	Hub Assembly (small)
11	301-5721	Slide Bar Set, 69.6 mm (2.75 in) long (serviced only as a set)
12	9U-7998	Puller Stud
13	224-0554	Warning Film

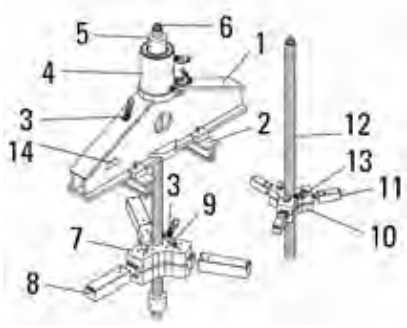
Additional Required Tooling

Part Number	Description	Quantity
	Additional Required Tooling	
1P-2376	Coupler Assembly Quick Connective (Female) (2)	2
350-7768	Pump Group — Hydraulic (115V)	1
6D-7726	Hydraulic Hose (2)	2
6V-3145	Load Leveler (Optional)	1
8T-5343	Pressure Gauge	1

Wheel Bearing Removal Group

Model Usage: 777D, 777F, 785, 789, 793 std, 793XLP, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove large bearing cup from off-highway truck wheel hubs
- Used with suitable overhead lifting device and additional required tooling
- Removes inboard and outboard bearing cups on specific front and rear wheel assemblies
- Tool usage charts in NEHS1000 Tool Operating Manual and SEBF9118 Special Instruction list components and settings needed for bearing cup removal
- Heavy-duty construction with heat-treated components
- Weight: 729 Kg (1607 lbs)

Reference

- NEHS1000, Tool Operating Manual, Procedure to Remove Wheel Bearings from Off-Highway Trucks
- SEBF9118, Special Instruction, Procedure to Remove Large Wheel Bearings

Item	Part Number	Description
4	—	Hydraulic Cylinder
7	—	Hub Assembly (Large)
9	CL-13-TP [a]	T-Pin — Fits 301-5727 Hub Assembly (3)
—	CL-40-TP [a]	T-Pin — Fits 301-5730 Hub Assembly (3)
10	—	Hub Assembly (Small)

a. Carr Lane Mfg part number (www.carrlane.com)

Item	Part Number	Description
—	301-5725	Wheel Bearing Removal Group
1	301-5726	Crossbar
3	5P-2566	Hex Head Bolt
3	8T-4223	Washer — Hard M12
3	439-3940	Bracket — Link
5	9U-6800	Nut — Speed (M64)
6	9U-6702	Rod Assembly — Threaded
8	301-5728	Slide Bar Set, 190.0 mm (7.48 in) long (serviced only as a set)
8	301-5729	Slide Bar Set, 330.0 mm (13.0 in) long (serviced only as a set)
11	301-5731	Slide Bar Set, 120.0 mm (4.72 in) long (serviced only as a set)
11	301-5732	Slide Bar Set, 155.0 mm (6.10 in) long (serviced only as a set)
12	4C-8150	Rod Assembly — Threaded
13	5M-3062	Bolt
13	5P-1075	Hard Washer
13	439-3938	Bracket Assembly — Link
14	224-0554	Warning Film

Additional Tooling Required

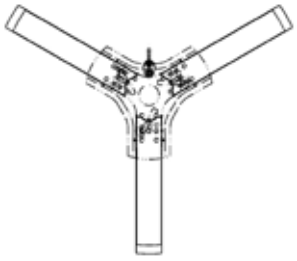
Part Number	Description	Quantity
1P-2376	Coupler Assembly Quick Connective (Female) (2)	2
350-7768	Pump Group — Hydraulic (115V)	1
6D-7726	Hydraulic Hose (2)	2
6V-3145	Load Leveler (Optional)	1
8T-5343	Pressure Gauge	1

FINAL DRIVE

Slide Bar Set

Model Usage: MT4400

Warranty: Caterpillar® Six Months



- Allows technician to pull wheel bearings from MT4400 final drive using the large truck wheel bearing removal tool set 301-5725
- Prevents damage to final drive by pulling evenly around bearing cup

Reference

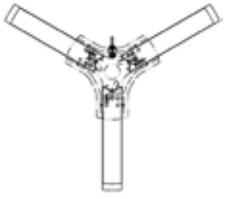
- NEHS1000 Tool Operating Manual

Part No.	Description	Dimensions	Weight	WLL
511-8587	Slide Bar Set	3x 85 x 85x 450 mm (3.3 x 3.3 x 17.7 in)	72 kg (158 lb)	36 Metric Ton (40T)

Slide Bar Set

Model Usage: MT4400

Warranty: Caterpillar® Six Months



- Allows technician to pull wheel bearings from MT4400 final drive using the large truck wheel bearing removal tool set 301-5275
- Prevents damage to final drive by pulling evenly around bearing cup

Part No.	Description	Dimensions	Weight	WLL
511-8587	Slide Bar Set	85 x 85 x 450 mm (3.3 x 3.3 x 17.7 in)	72 kg (158 lb)	36 Metric Ton (40 T)

Wheel Stud Tool Group

Model Usage: 797 and 797B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install M36 Studs from both front and rear wheel assemblies
- Used with either 350-7768 (115V) or 350-7769 (230V) Electric Hydraulic Pumps to supply hydraulic pressure
- Can be used for in-chassis or out-of-chassis procedures after tire and rim have been removed
- Eliminates use of sledge hammer that could damage existing studs and cause wheel flange fractures
- Designed with a lightweight, double acting cylinder
- Removes broken studs or removes and reuses studs during salvage operations

Reference

- NEHS0858, Tool Operating Manual, Using the 197-5589 Wheel Stud Remover/Installer

NOTICE

The 350-7768 (115V) or 350-7769 (230V) Electric Hydraulic Pumps have a maximum operating pressure of 68,948 kPa (10,000 PSI). The 197-5589 Wheel Stud Remover/Installer, however, has a maximum working pressure of 44,816 kPa (6,500 PSI); therefore, the pump MUST BE regulated to not exceed 44,816 kPa (6,500 PSI). Failure to regulate the pump will result in seal failure and component damage.

Specifications

- Stud thread size: M36 x 4
- Max operating pressure: 448 bar (6500 PSI)
- Max initial load: 312168 kN (31330 ft-lb / 15.6 tons)
- Max stroke: 55.0 mm (2.17 in)
- Min thread engagement: 36.0 mm (1.42 in)
- Cylinder weight: 10.4 kg (23 lb)
- C-clamp weight: 3.7 kg (8 lb)

Part Number	Description	Quantity
197-5589	Wheel Stud Tool Group	—
	Additional Parts (Sold Separately)	
135-2532	Fitting — Adapter	2
135-2533	Fitting — Adapter	—
1P-2376	Coupler Assembly Quick Connective (Female)	2
1P-2377	Plug As — Dust	2
350-7768	Hydraulic Pump Group	—
350-7769	Hydraulic Pump (230 V)	—
6D-7726	Hose Assembly	2
8F-0024	Hose Assembly	2
8T-0820	Gauge — Pressure	—
8T-5343	Gauge — Pressure Stem Mount	—
	Service/Repair Parts	
1P-2375	Coupler Assembly Quick Connective (Male)	—
1P-7437	Protective Cap	—
223-2406	Seal Kit	—
223-2407	Puller Bar Group	—

Adapter

Model Usage: D6C and D6D Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install final drive sprocket
- Replaces 5P-4183 Adapter in this application; 5P-4183 Adapter still used in other applications
- 5P-4183 Adapter mounted on sprocket shaft (dead axle) and allowed sprocket installation force to be received by inner tapered roller bearing; 1U-5771 Adapter mounts directly to bull gear hub and eliminates installation force from inner tapered roller bearings, reducing possibility of bearing damage during installation of sprockets

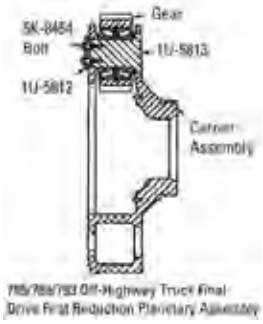
Part Number	Description
1U-5771	Adapter

FINAL DRIVE

Plate, Shaft

Model Usage: 785, 789 and 793 Off Highway Trucks

Warranty: Caterpillar® Six Months



785/789/793 Off-Highway Truck Final Drive First Reduction Planetary Assembly



- Used to preload bearings in final drive first reduction planetary
- Planetary bearings are shim adjusted using 1U-5812 and 1U-5813 prior to final assembly (requires two 5K-8454 Bolts); with bearings and bearing adjustment tools installed, proper shim thickness can be determined using micrometer; tooling then removed and 8X-8412 Shaft is pressed through carrier and bearings; proper shims are installed and secured with 8W-3088 Plate and two 5K-8454 Bolts
- Bearing adjustment procedure at first reduction planetary locations has been changed to improve bearing life in trucks operated consistently at speeds over 42 km/h (26 mph)

References

- Revision of 785, 789 and 793 Off-Highway Truck Service Manual
- SEBE3556-01, Service Letter for bearing adjustment procedures
- SEPD0091, Service Magazine, November 11, 1991

Part Number	Description
1U-5812	Plate
1U-5813	Shaft

Service Tools for Excavators

Essential Tool

Model Usage: 312 and 312B Excavators (Grenoble Version)

Warranty: Caterpillar® Six Months

Used to service final drive and travel motor

154-9320 Spanner Wrench Assembly and 154-9324 Reaction Shaft

- Used to remove and install final drive bearing retainer nut
- Bearing retainer nut can be tightened without using final drive repair bench or any other special holding fixture
- Spanner wrench assembly contains a 6 mm (0.24 in) drill bushing to pilot drill bit when splitting bearing retainer nut (required on earlier design of final drives)

154-9326 Spring Compressor Plate

- Used to compress brake springs for removal and installation of snap ring
- Allows servicing of brake to be done safely and easily

155-1709 Hydraulic Test Adapter

- Used to pressurize brake piston for leakage test
- Leakage can be checked prior to final drive installation

Reference

- RENR1113, 312B Excavators Machine Systems Disassembly and Assembly
- SENR6139, 311 and 312 Excavators Machine Systems Disassembly and Assembly

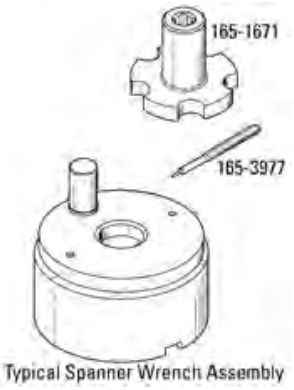
Part Number	Description
154-9320	Spanner Wrench Assembly and 154-9324 Reaction Shaft
154-9326	Spring Compressor Plate
155-1709	Hydraulic Test Adapter

Bearing Retainer Nut Tools for Excavators

Essential Tool

Model Usage: 315B, 317B, and 318B Excavator (Grenoble Version) 165-3977: 797, and 797B Off-highway Truck Differential

Warranty: Caterpillar® Six Months



Typical Spanner Wrench Assembly

- Used to remove and install final drive bearing retainer nut (165-1670 or 199-4925 Spanner Wrenches and 165-1671 Reaction Shaft work together)
- Bearing retainer nut can be tightened without using final drive repair bench or other special holding fixture
- 165-3977 Radius Punch used to form a seat for retainer nut locking ball and screw

References

- RENR1148, 315B Excavators Machine Systems Disassembly & Assembly
- RENR2925, 317B Excavators Machine Systems Disassembly & Assembly
- RENR3272, 318B Excavators Machine Systems Disassembly & Assembly

165-1670 Spanner Wrench Assembly

- Outside diameter: 239.8 mm (9.44 in)
- Inside diameter: 203.2 mm (8.00 in)
- Height: 143.9 mm (5.67 in)

199-4925 Spanner Wrench Assembly

- Outside diameter: 239.8 mm (9.44 in)
- Inside diameter: 203.2 mm (8.00 in)
- Height: 143.9 mm (5.67 in)

165-1671 Reaction Shaft

- Flange outside diameter: 160.0 mm (6.30 in)
- Shaft diameter: 63.5 mm (2.50 in)
- Flange thickness: 25.4 mm (1.00 in)
- Height: 135.5 mm (5.33 in)
- Square drive: 1 in

165-3977 Radius Punch

- Tip diameter: 4.95 mm (0.195 in)
- Overall length: 154.0 mm (6.06 in)
- Hex handle: 16.0 mm (0.630 in)

Part Number	Description	315B L	317B L	317B LN	318B	318B N
165-1670	Spanner Wrench Assembly	5SW00001 to 5SW00340	9WW00001 to 9WW00454	6DZ00001 to 6DZ00442	ADC00001 to ADC00255	AEJ00001 to AEJ00317
199-4925	Spanner Wrench Assembly	5SW00341 and UP	9WW00455 and UP	6DZ00443 and UP	ADC00256 and UP	AEJ00318 and UP

Lifting Group

Model Usage: C175 Engines in Narrow-Body Locomotives

Warranty: Manufacturer's Six Months



- Used for lifting (for purposes of removal, service and installation) of engine components in-chassis, where access for overhead hoist is limited
- Reduces locomotive downtime by making service operations possible without removing the aftertreatment module or pulling the engine module out of chassis
- Easy assembly and installation of the tooling inside locomotive carbody
- Length of double uni-strut channel/spreader bar can be modified from 3000 mm to a shorter length.

Reference

- M0074900 Tool Operating Manual

Part No.	Description	**Dimensions** (in fully assembled state)	Weight	WLL
509-7382	Lifting Group	3214 x 797 x 1184 mm (126.5 x 31.4 x 46.6 in)	35 kg (77 lb)	136 kg (300 lb)

FINAL DRIVE

Excavator Service Tools



154-9320 Spanner Wrench Assembly (Item 1)

- Outside diameter: 24.13 cm (9.50 in)
- Inside diameter: 20.18 cm (7.95 in)
- Height: 10.54 cm (4.15 in)
- Square drive: 1 in
- Slots: 4, equally spaced
- Slot width: 28.0 mm (1.10 in)

155-1709 Hydraulic Test Adapter (Item 4)

- Male thread: M5 x 0.8
- Female thread: #6 SAE O-ring port
- Center hole: 1.6 mm (0.06 in)
- Hex: 22.23 mm (7/8 in)

154-9323 Spacer (Item 6)

- Outside diameter: 52.70 mm (2.075 in)
- Inside diameter: 25.01 mm (0.985 in)
- Height: 40.0 mm (1.57 in)

154-9324 Reaction Shaft (Item 9)

- Large outside diameter: 52.7 mm (2.07 in)
- Small outside diameter: 24.96 mm (0.983 in)
- Counterbore diameter: 40.04 mm (1.576 in)
- Length: 264.0 mm (10.39 in)

154-9326 Spring Compressor Plate (Item 10)

- Outside diameter: 14.00 cm (5.51 in)
- Hub diameter: 13.50 cm (5.31 in)
- Thickness: 15.9 mm (0.63 in)

Final Drive Ring Gear Retainer Nut Spanner Sockets

Essential Tool

Model Usage: 303C CR and 305C CR Mini Excavator

Warranty: Caterpillar® Six Months



Used to properly remove and install final drive ring gear retainer nuts

- Used with 3/4 inch drive extension, breaker bar, or torque wrench
- Hardened steel for durability

Reference

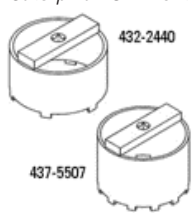
- RENR9617, Service Manual, 303C CR/303.5C CR Powertrain Disassembly and Assembly

Part Number	Description	Square Drive	Number of Teeth	Width of Teeth	Inside Diameter Between Teeth
289-6052	Spanner Socket	3/4 in	eight	12.7 mm (0.50 in)	145.5 mm (5.73 in)
289-6053	Spanner Socket	3/4 in	four	12.7 mm (0.50 in)	166 mm (6.53 in)

Spanner Wrench

Model Usage: 306E, 307E Excavators produced for China

Warranty: Caterpillar® Six Months



- Used to properly remove and install final drive ring gear retainer nuts
- Hardened steel for durability
- Used with ¾" drive extension, breaker bar, or torque wrench

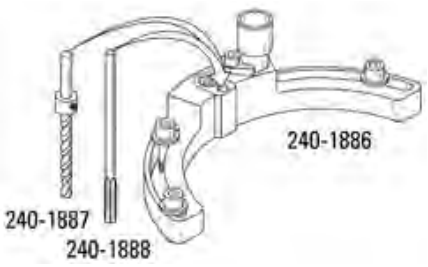
Part Number	Dimensions	Weight
432-2440	184 x 121 mm (7.25 x 4.75 in)	3.73 kg (8.23 lb)
437-5507	197 x 121 mm (7.75 x 4.75 in)	3.98 kg (8.78 lb)

Drill Guide Fixture Group

Essential Tool

Model Usage: 322C and 325C Excavator

Warranty: Caterpillar® Six Months



- Used to properly locate, drill, and ream a hole in final drive for stopper nut staking dowel
- Prevents contamination of new bearings (connects to most vacuum systems or portable shop vac to remove metal chips from drill and reaming operation)
- Made from lightweight aluminum
- A drill bit stop collar controls depth of drilled hole

Reference

- RENR7474, Service Manual, 322C Disassembly and Assembly
- RENR5497, Service Manual, 325C Disassembly and Assembly

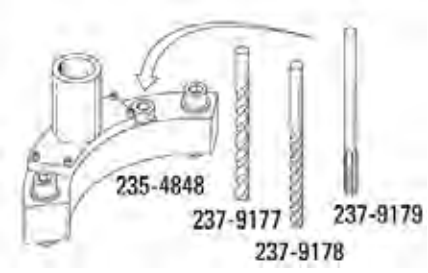
Part Number	Description
240-1886	Drill Guide Fixture Group
Service/Repair Parts	
240-1887	Step Drill
240-1888	Chucking Reamer

Drill Fixture Group

Essential Tool

Model Usage: 330C Hydraulic Excavator

Warranty: Caterpillar® Six Months



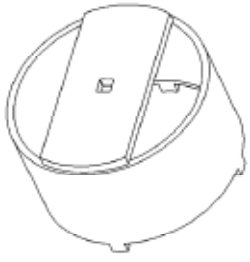
- Locates and drills a 13 mm (0.51 in) dowel hole to lock bearing retainer nut in place
- Bolts to motor housing stopper nut
- Drills half a hole in bearing retainer nut and half in motor housing
- Eliminates contamination during final drive rebuild procedure by connecting a shop vacuum sweeper to suction port
- Drills, reamer, bolts, and washers in group

Reference

- RENR5438, Service Manual, Disassembly and Assembly

Part Number	Description
235-4848	Drill Fixture Group
Service/Repair Parts	
237-9177	Step Drill
237-9178	Core Drill
237-9179	Reamer
8T-1447	Bolt, M16 x 2
9X-8268	Washer

Spanner Socket



- Used to remove and install final drive nut 309-2682
- Used with 3/4" drive torque wrench or extension
- Hardened steel for durability and black oxide coating to resist corrosion

Specifications

- Square Drive: 3/4 in
- Inside Diameter Between Teeth: 172 mm (6.77 in)
- Number of Teeth: 4
- Width of Teeth: 15 mm (.59 in)
- Dimensions: 184 x 15 x 11 mm (7.25 x 4.56 in)
- Weight: 3.68 kg (8.1 lbs)

Part Number	Description
375-1573	Spanner Socket

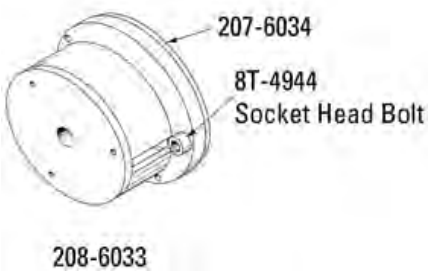
FINAL DRIVE

Spanner Socket Group, Measuring Ring

Essential Tool

Model Usage: 330C and 345C Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to properly set final drive bearing preload
- Measuring ring simulates thickness of spanner nut
- Bolts to final drive using a predetermined bearing load — allows assembler to take a measurement which is later used when tightening final drive spanner nut
- Uses 8T-4944 Socket Head Bolt

Reference

- 330C and 345C Disassembly and Assembly Service Manuals

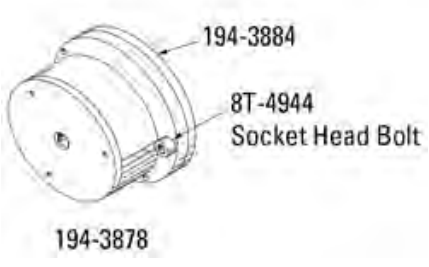
Part Number	Description
208-6033	Spanner Socket Group
208-6034	Measuring Ring

Measuring Ring, Spanner Socket Group

Essential Tool

Model Usage: 322C and 325C Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to properly set final drive bearing preload
- Measuring ring simulates thickness of spanner nut
- Bolts (8T-4944 Socket Head Bolt) to final drive using a predetermined bearing load — allows assembler to take a measurement which is later used when tightening final drive spanner nut

Reference

- 322C and 325C Service Manuals, Disassembly and Assembly

Part Number	Description
194-3878	Spanner Socket Group
194-3884	Measuring Ring

Seal Installer Assembly, Stabilized Metal Ring (SMR)

Essential Tool

Model Usage: 375, 385B, 5080, 5090B Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to install SMR seals into excavator final drives
- Makes installation faster and much easier
- Provides more reliable seal installation

Specifications

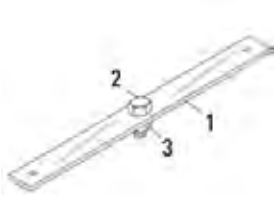
- Material: Plastic
- Outside diameter: 590.0 mm (23.23 in)
- Inside diameter: 550.0 mm (21.65 in)

Part Number	Description
205-8241	Seal Installer Assembly, Stabilized Metal Ring (SMR)
Service/Repair Parts	
1F-1739	Wing Nut
4B-4276	Flat Washer
7H-1246	Machine Screw - Machine (Pan Head)

Rolling Torque Bar

Model Usage: 311B, 311C, 312B, and 312C Excavators

Warranty: None



- Used to check final drive bearing preload
- Material: SAE1018 steel

Reference

- RENR5503, Service Manual, 312C Excavator

Item	Part Number
1	Plate

Item	Part Number	Description
2	0S-1624	Bolt
3	4K-0367	Nut — Full

Steering Clutch and Final Drive Bracket Assembly, Bearing Spacer, and Press Plate

Model Usage: D11R and D11R Carry Dozer

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (142-1666)

- Used to remove, install, disassemble, and assemble final drive

Part Number	Description	Use
142-1666	Bracket Assembly — Steering Clutch and Final Drive	Remove and install final drive assembly
142-1670	Bearing Spacer	During assembly to set proper preload on bearings
142-1673	Plate — Press	Remove hub and bearing cone from hub assembly
Plate press is used with additional tooling to remove hub and bearing cone		
1P-0543	Fast Runner Nut	—
3K-5234	Washer (3)	—
8M-9011	Puller (1)	Steering Clutch Hub removal
9U-5267	Stud (3)	—

a. Includes 9S-6338 Cylinder, 9S-6339 Pump Piston Assembly, and 9S-7377 Pump Service kit

Ring Nut Spanner Wrench

Model Usage: E110B, E120B, 311, 311B, 312, and 312B Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install 1R-5839 and 99-7050 Ring Nuts
- Used with 6V-6080 Torque Multiplier
- Makes disassembly and assembly much quicker because spanner wrench allows mechanic easier access to hard-to -reach bearing retainer nut
- Spanner pilots on inside diameter of ring gear, providing positive engagement with ring nuts
- Spanner works on ring nuts with tightening holes or slotted (notched) nuts

Reference

- Disassembly and Assembly Modules located in E110B, E120B, 311, 311B, 312, and 312B Excavator Service Manuals

Specifications

- Outside diameter: 273 mm (11.0 in)
- Inside diameter: 229 mm (9.0 in)
- Inside diameter clearance: 104 mm (4.1 in)
- Pin diameter: 11 mm (0.4 in)
- Distance between pins: 245.5 mm (9.67 in)
- Number of pins: 2
- Square drive: 1 in
- Material: steel

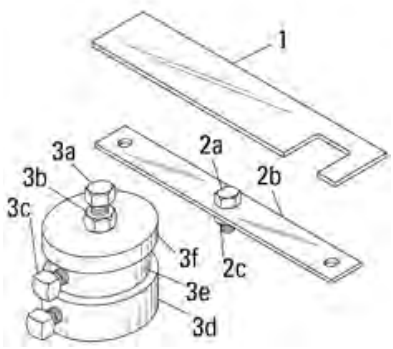
Part Number	Description
9U-7346	Ring Nut Spanner Wrench

FINAL DRIVE

Rolling Torque Bracket

Model Usage: CS531, CS563, CS573, and CS583 Compactors

Warranty: None



Locknut Bracket

- Used to tighten locknut that retains bearing on differential input shaft
- Bracket can be easily manufactured
- Material: SAE1018 steel
- Overall stock size (W x L x T): 76.2 x 415.0 x 6.35 mm (3.0 x 16.30 x 0.25 in)

Axle Rotation Torque Bracket

- Used to check rotation torque on one end of axle
- Bolts directly onto "trumpet tube"
- Material: SAE1018 steel
- Overall stock size (W x L x T): 50.8 x 445.0 x 6.35 mm (2.00 x 17.50 x 0.25 in)

Differential Torque Bracket

- Used to check differential and pinion shaft torques
- Bolts to differential shaft with one ID and pinion shaft with the other ID

References

- KENR2583, Service Manual
- KENR2663, Service Manual
- KENR2693, Service Manual

Description	Material	Inside Diameter	Outside Diameter	Width	Threaded Hole
Tube	SAE1026 steel	65.2 mm (2.57 in)	76.3 mm (3.00 in)	31.8 ± 0.5 mm (1.25 ± 0.04 in)	3/8 – 16
Tube	SAE1026 steel	81.1 mm (1.50 in)	63.5 mm (2.50 in)	31.8 ± 0.5 mm (1.25 ± 0.04 in)	3/8 – 16
Tube	SAE1018 steel	73.0 ± 1.0 mm (2.87 ± 0.04 in)	12.7 ± 0.5 mm (0.50 ± 0.02 in)	3/8 – 16	—

Item	Description	Dimension
1	Locknut Bracket	—
2	Axle Rotation Torque Bracket	—
2b	Plate	—
3	Differential Torque Bracket	—
3d	Tube	76.2 x 5.56 mm diameter wall x 31.8 mm long
3e	Tube	63.5 x 12.7 mm diameter wall x 31.8 mm long
3f	Plate	73 mm x 12.7 thick

Item	Part Number	Description	Dimensions
2a	0S-1624	Bolt	5/8-11 x 25 mm (1.0 in) long
2c	4K-0367	Nut — Full	5/8-11
3a	0S-1591	Bolt	3/8-16 x 38.1 (1.50 in) long
3b	9S-8752	Nut — Full (3/8 – 16)	3/8-16
3c	4B-3574	Set Screw — Square Head	3/8-16 x 19.05 (0.75 in) long

Puller Assembly

Model Usage: M318F & M320F

Warranty: Caterpillar® Six Months



- Required to service drive train components
- Used to easily remove differential carrier bearings without damage

Part No.	Description	Dimensions	Weight
492-6204	Puller Assembly	Dia 73 x 414 mm (3 x 16.3 in)	3.3 kg (7.3 lb)

Pinion Nut Spanner Wrench

Model Usage: Various Models

Warranty: Caterpillar® Six Months



- Used to remove and install 5P-5813 Pinion Nut from the final drive/differential — provides dealers with greater cost value and combined application tooling
- Used with square drive breaker bar or torque wrench
- Improved design allows the spanner wrench to be used both on the wheel loaders and compactors

Specifications

- Overall length: 184.0 mm (7.25 in)
- Inside diameter: 85 mm (3.37 in)
- Number of teeth: 4
- Square drive: 3/4 in

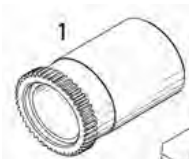
Part Number	Description
6V-7920	Pinion Nut Spanner Wrench

Final Drive Tooling

Essential Tool

Model Usage: MT735, MT745, MT755, and MT765 Challengers

Warranty: Caterpillar® Six Months



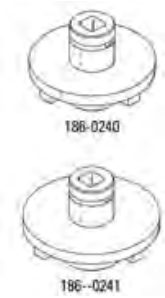
- Used to remove and install 287-2171 Retaining Nut from 267-5582 Final Drive
- 312-3575 Driver Assembly features 1 inch square drive (fits 6V-6080 Torque Multiplier) and is made from hardened steel for long service life
- Used with 6V-6080 Torque Multiplier (dealer supplied)

Item	Part Number	Description
1	312-3575	Driver Assembly

Axle Nut Spanner Wrench

Model Usage: 966G and 972G Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install differential axle locking nut
- Hardened to provide longer tool life
- Can be used with an impact wrench

Specifications

- Outside diameter:
  - 186-0240: 160 mm (6.3 in)
  - 186-0241: 203 mm (8.0 in)
- Tooth width: 20.6 mm (0.811 in)
- Number of teeth: 4, equally spaced

Part Number	Description
186-0240	Axle Nut
186-0241	Axle Nut

FINAL DRIVE

Bearing Retaining Nut Spanner Socket

Model Usage: 966M - 972M Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to remove the 388-1398 spanner nut in axle housings
- Used with 3/4 inch drive extension, breaker bar or torque wrench
- Hardened steel for durability
- Improves efficiency and safety

Part No.	Description	Dimensions	Weight
506-2799	Bearing Retaining Nut Spanner Socket	197 x 152.4 mm (7.75 x 6 in)	7.3 kg (16 lb)

Seal Installer

Model Usage: MT700 Series Challenger Ag Tractors

Warranty: Caterpillar® Six Months



- Used to correctly install 172-1619 Final Drive Seal Group
- One-piece design made from strong and durable plastic
- Durable enough to last a machines lifetime (under normal usage)

Part Number	Description
214-3064	Seal Installer

Seal Installer

Essential Tool

Model Usage: 279C, 289C, and 299C Compact Track Loaders

Warranty: Caterpillar® Six Months



- Used to correctly install 278-8725 Duo Cone Seal on final drive motor
- Required for easy, reliable installation without damaging seals
- Machined grooves securely hold seal to prevent rolling and twisting
- Made from durable high strength plastic
- Protects related components during seal installation

Reference

- KENR8831, 279C, 289C, and 299C Compact Track Loaders, Power Train

Part Number	Description
360-4222	Seal Installer

Duo-Cone Seal Installer

Model Usage: 247, 247B2, 247B3, 257, 257B2, 257B3

Warranty: Caterpillar® Six Months



- Used to properly install Duo Cone Seal in 289-6355 travel motor in skid steer loaders and multi terrain loaders

Specifications

- Dimensions: 202.0 OD x 115 H mm (7.9 OD x 4.5 H in)
- Weight: 0.7 kg (1.5 lb)

Part Number	Description
443-2579	Due Cone Seal Installer

Plate

Model Usage: 246D, 262D, 272D, 272D XHP

Warranty: Caterpillar® Six Months



- Used to align holes after weld repair has been completed on damaged holes
- Eliminates damage to bolt threads in drive motors and other resultant damage to components inside the chain box
- Made from steel

Specifications

- Dimensions: 250 X 4 mm (9.8 X 0.2 in)
- Weight: 0.8 kg (1.8 lb)

Part Number	Description
461-2889	Plate

Compactor Final Drive Tooling

Essential Tool

Model Usage: CB-113 Compactor

Warranty: Caterpillar® Six Months



- Used for disassembly and assembly of CB-113 Compactor Final Drive
- Aids in removal and installation of seals, lock nuts, and bearings on final drive planetary
- All parts made of durable steel construction

Reference

- QENR2006, CB-113 Compactor Machine Systems Disassembly and Assembly

Item	Part Number	Description	Use
1	314-8758	Installer	Remove seal ring during disassembly and install bearing and seal ring during assembly
2	314-8757	Remover Assembly	Remove bearing during disassembly
3	314-8754	Spanner Assembly	Remove and install ring nut during disassembly and assembly
4	314-8756	Installer	Install seal during assembly
5	314-8755	Installer	Install multiple rings and bearings during assembly

Bearing Puller, Seal Installer



314-9075



314-9076

314-9075 Bearing Puller

- Used to remove bearing from flanged hub on final drive planetary during disassembly
- Used with 4C-3085 Two Jaw Puller and 1P-0510 Driver Group
- 2-piece, steel design provides proper clamping force
- Serviceable part: 8T-9535 Socket Head Bolt

314-9076 Seal Installer

- Used to correctly install half seal on final drive flanged hub during assembly
- 1-piece design made from durable steel

Reference

- KENR6008, Disassembly and Assembly, CB14 Vibratory Compactor Machine Systems

Part Number	Description
314-9075	Bearing Puller
314-9076	Seal Installer

Seal Driver for Lip Seal

Model Usage: All C175s and 3500 Engines

Warranty: Caterpillar® Six Months



- Installs 109-5722 lip seal in accessory drives
- Prevents misalignment

Part No.	Description	Dimensions	Weight
482-7518	Seal Driver for Lip Seal	188 x 101 mm (7.4 x 3.98 in)	4.99 kg (11 lb)

FINAL DRIVE

Lip Seal Driver

Model Usage: D6R II, D6R III, D6T, D7R II Tractors

Warranty: Caterpillar® Six Months



- Seal installer is required for the improved lip seal (419-4175) used in the final drive
- Seal installer protects the seal during installation to prevent failure of the seal
- Made of steel with a protective handle

Specifications

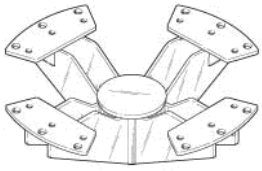
- Dimensions: 102 X 175 mm (4 X 6.9 in)
- Weight: 3 kg (6.6 lb)

Part Number	Description
467-0265	Lip Seal Driver

Puller Assembly Used to Assemble D10T and D11T Final Drive

Model Usage: D10T, and D11T Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to aid in disassembly of 282-4029 and 324-2343 Final Drives
- Used with 346-5029 Cylinder Group
- Tool assembly is painted to prevent rust

Specifications

- Overall Height: 281.5 mm (11 in)
- Overall Diameter: 895 mm (35.25 in)
- Weight: 72 kg (159 lbs)

Part Number	Description
360-4423	Puller Assembly

Socket

Essential Tool

Model Usage: 450E Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to set rotating torque during assembly of differential
- Used with 3/4 inch square drive ratchet
- Socket fits over spline of pinion shaft

Reference

- KENR5485, 450E Backhoe Loader Power Train, Axle Housing (Differential and Bevel Gear, Rear) Assemble

Specifications

- Length: 90.37 mm (3.55 in)
- Diameter: 49.81 mm (1.96 in)
- Weight: .337 kg (.75 lb)

Part Number	Description
365-4754	Socket

Bearing Installation Tools

Model Usage: 5GEB25 AC Drive Motors

Warranty: Caterpillar® Six Months



- Bearing race and spacer are used to aid in assembly procedure
- The spacer is used to space bearing elements correctly for initial assembly onto shaft.
- The bearing installation tool is used to completely install the bearing.

Part No.	Description	O.D.	I.D.	Width	Weight
488-0372	Bearing Spacer	153.4 mm (6 in)	125.6 mm (4.9 in)	76.2 mm (3 in)	.639 kg (.29 lb)
488-0373	Press Tool	295.15 mm (11.6 in)	214.76 mm (8.45 in)	22.23 mm (.875 in)	5.7 kg (12.54 lb)

Seal Installer, Seal Installer Assembly

Essential Tool

Model Usage: 735, 740, 740 OEM, and 740 EJ Articulated Truck

Warranty: Caterpillar® Six Months



364-9557



366-6832

- Used to install seals in final drives of articulated trucks

364-9557 Seal Installer

- Used to install 363-4456 Retainer Ring during field repairs. Required for "drop in" seal group installation of 363-4457 Seal Kit
- Tool helps install retaining ring
- Seal group and retaining ring provides quicker field repairs and reduces out-of-production down time
- Required to ensure reliable performance and service life of seals

366-6832 Seal Installer Assembly

- Used to install 363-4454 Seal Group during final drive assembly and field repairs. Required for "drop in" seal group installation of 363-4457 Seal Kit
- Required to ensure reliable performance and service life of seals
- Prevents toric seal from rolling or twisting, making installation faster and easier (rubber toric rings hold steel rings parallel and concentric while maintaining correct face contact pressure)

References

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals
- PS51483, Service Letter, Product Support Program for Installing Duo-Cone Seals in Certain 735, 740, and 740EJ Articulated Trucks (April 24 and May 09 2008)

	364-9557	366-6832
Diameter	400 mm (15.75 in)	384.4 mm (15.1 in)
Height	17 mm (.66 in)	95 mm (3.74 in)
Weight	2.7 kg (6.12 lb)	1.06 kg (2.33 lb)

Part Number	Description
364-9557	Seal Installer
366-6832	Seal Installer Assembly
366-6832 Service/Repair Parts	
033-8755	Pan Head Screw
1F-1739	Wing Nut
1U-5495	Latch Group
5P-0537	Hard Washer

Installation Tool Assembly

Model Usage: AD45B

Warranty: Caterpillar® Six Months



- Used for the proper installation of the wheel bearing.
- Used as a rundown tool to seat the bearing once it is cooled

Reference

- RENR8575, AD45B Underground Articulated Truck Power Train, Final Drive Spindle, Service and Parking Brake — Assemble

Specifications

- Description: Dimensions
- Tube: 197.5 x 190 mm (7.8 x 7.5 in)
- Plate: 190 x 12 mm (7.5 x.47 in)
- Weight: 8.9 kg (19.6 lb)

Part Number	Description
419-1391	Installation Tool Assembly

Tire Pressure Gauge Group

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Checks pressure on either large bore earthmover or small bore automotive type tire valves
- Can be used on tires with liquid ballast
- Scales read in kPa and PSI
- Includes plastic pouch

Part Number	Description
1P-0545	Tire Pressure Gauge Group

Inflator Adapter

Essential Tool

Model Usage: 793F, 795F, and 797F Off-Highway Trucks

Warranty: Manufacturer's



- Used to connect nitrogen supply line to Mega Bore tire valve body
- Threads onto tire valve body with knurled nut turned in a clockwise direction
- Internal o-rings seal inflator adapter to valve body
- Solid brass construction
- Other fittings or shut off valves can be attached to 3/4 — 14 NPT threaded connection

Part Number	Description
336-8984	Inflator Adapter

Tire Pressure Gauge

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Used to check tire pressure on all Cat® machines equipped with pneumatic tires
- Heavy-duty gauge with swivel head

Part Number	Description
4S-6524	Tire Pressure Gauge

Tire Tread Depth Gauge

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months

- Replaces discontinued 2P-2310 Tire Tread Depth Gauge
- Provides quick, accurate way to measure amount of tread remaining on used tire
- Range: 152.4 mm (6.0 in) [Compared to discontinued 2P-2310 range of 127.0 mm (5.0 in)]

Part Number	Description
1U-5751	Tread Depth Gauge

Air Service Connection Assembly

Model Usage: 436

Warranty: Caterpillar® Six Months



- Used to inflate all pneumatic tires used on Cat® equipment as well as automotive tires
- Has quick disconnect air chuck and hand valve for control of air flow
- 1P-3552 Extension also required for servicing tires where theres a clearance problem between stem and rim

Item	Part Number	Description
1	1P-3551	Chuck
2	7K-3468	Clip-on Chuck
—	7S-9394	Air Service Connection Assembly

Tire Valve Extension

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Used where there's a clearance problem between stem and rim

Part Number	Description
1P-3552	Tire Valve Extension

Adapter

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Required to reduce jumbo valve thread to standard when necessary to use standard automotive equipment to inflate earthmoving tires with jumbo size valves

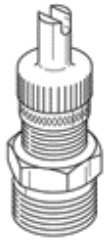
Part Number	Description
5F-9999	Adapter

Tank Valve

Essential Tool

Model Usage: PS-150B, PS-200B, PS-360B Pneumatic Compactors

Warranty: Caterpillar® Six Months



- Used to check and set high and low pressure regulator settings for air-on-the-run systems
- Used with 3B-7764 Reducing Bushing
- Must be used to set high/low pressures after replacing pressure regulator switch
- Easily connects to air-on-the-run tank
- Equipped with standard valve core and sealing cap

Reference

KENR2721, Service Manual; Supplement for PS-150B, PS-200B, PS-360B Pneumatic Compactors Air-on-the-Run System

Specifications

- Thread: 1/4 NPT
- Maximum pressure rating: 1378 kPa (200 PSI)
- Overall length: 38 mm (1.5 in)
- Material: brass

Part Number	Description
178-3832	Tank Valve

WHEEL AND TIRE

Jack Group

Model Usage: 12G, 120G, 130G, 14G, 140G

Warranty: Caterpillar® Six Months



- Used to remove front axle spindle

Part Number	Description
5P-2968	Jack Group

Tire Valve Repair Tool

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



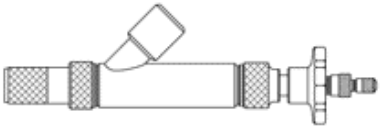
- 4-way tool used to remove and install valve cores on wheel-type machines
- Equipped with tap and die for rethreading cap and core threads in tire valves

Part Number	Description
7F-8240	Tire Valve Repair Tool

Inflator Adapter

Model Usage: All Wheeled Models with Super Large Bore Valve Stems (see detailed list below)

Warranty: Caterpillar® Six Months



- Used to quickly and efficiently inflate large tires (inflator adapter removes valve core for unrestricted flow into tire)
- Used with tires having super large bore valve stems
- Works by threading inflator adapter onto valve stem of tire; adapter stem engages valve core; valve core is removed and stored inside inflator adapter; tire is inflated/deflated; pressure is checked; valve core is reinstalled
- Can be used with air or liquid-filled tires (unique design prevents valve core from being exposed to liquid during filling process)
- Charging tires with inflator adapter can reduce inflation times by up to 60 percent, and reduce deflation times by up to 80 percent
- Saves a significant amount of time because current "super large" valve stems are still using "large" valve cores (current valve cores act as an orifice, restricting air/fluid flow into tire)
- Tire pressure can be checked as tire is inflated, using standard or large bore pressure gauges (check pressure through stem knob on end of inflator adapter)
- All parts are made from brass, except for stainless steel internal collet and aluminum handle

Specifications

- Valve stem threaded connection: 11/16 in — 24 thd
- Air hose connection: 1/2 in NPT
- Weight: 1.4 kg (3 lb)
- Wheel loader models: 994, 994F, 992, 992C/D/G, 990, 988, 988B/F, 980G
- Wheeled tractor models: 824G, 825G, 834G, 836
- Off-highway truck models: 776, 776B, 777, 777B, 783, 783B, 784, 784B, 785, 785B, 787, 787B, 789, 789B, 793, 793B/C

Part Number	Description
135-8290	Inflator Adapter

Retaining Nut Spanner Wrench

Model Usage: 554 and 574 Forwarders

Warranty: Caterpillar® Six Months

- Used to remove final drive bogey retaining nut
- Square drive: 3/4 inch
- Number of teeth: 4

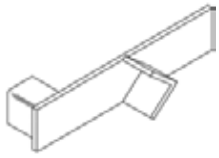
Part Number	Description
176-0404	Retaining Nut Spanner Wrench

Support Plate Assembly

Essential Tool

Model Usage: 24H Motor Grader

Warranty: Caterpillar® Six Months



- Provides a flat reaction surface and supports hydraulic ram during removal of spindle
- Quickly and easily installs without bolts
- Overall dimensions: 101 x 330 x 202 mm (4.0 x 13.0 x 8.0 in)
- Weight: 3.6 kg (8 lb)

Reference

- SENR1438, Service Manual, 24H Motor Grader Machine Systems Disassembly and Assembly

Part Number	Description
162-4204	Support Plate Assembly

Sleeve Assembly

Model Usage: 112, 12, 14 Motor Graders

Warranty: Caterpillar® Six Months



- Used with 9S-8900 or 7F-9831 Cylinder Group to remove or install wheel assemblies on later No. 112, 12, and 14 Motor Graders

Part Number	Description
7F-6068	Sleeve Assembly

Drive Extension

Model Usage: 793 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install wheel lug nuts
- Allows one-man operation with torque capacities up to 2750 N·m (2000 ft-lb)
- Used with 194-7586 Pneumatic Wrench Group
- Square drive: 1 inch, each end
- Overall length: 305 mm (12 in)

Part Number	Description
194-7886	Drive Extension

Tire Runout Gauge

Model Usage: CT660 Truck

Warranty: Manufacturer's



- Eliminate vibration and irregular tire wear issues
- Properly match the high and low spots of the tire and rim runout
- Locate wheels and/or tires that need to be reworked or discarded
- Locate trouble areas that can induce excessive runout that is not actually in the tire/rim combo
- Gauge can also be used on the sidewall of tire to measure lateral runout

Specifications

- Dimensions: 27 x 18 x 18 in
- Weight: 10.4 kg

Part Number	Description
372-5256	Tire Runout Gauge

WHEEL AND TIRE

Nitrogen Tire Inflation Group

Model Usage: 436, 637E, 785, 789

Warranty: Caterpillar® Six Months



- Used to inflate conventional and beadless tires with nitrogen from compressed gas cylinders available from local suppliers
- Chucks provided for both standard and large bore valves; chucks connect to 8.1 m (26.5 ft) hose with quick disconnect fittings
- Regulator/safety relief valve restrict working pressure to that comparable to air system

Reference

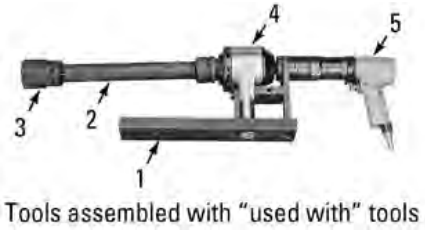
- SMHS7867, Special Instruction

NOTE: The 175-5507 Charging Group for accumulators is not recommended for tires due to the associated higher pressure and increased line flow restrictions.

Item	Part No.	Description
—	6V-4040	Nitrogen Tire Inflation Group
		Available separately
1	9U-6219	Tool Box
2	2P-8289	Block — Tool Holder
		Service/Repair Parts for 6V-4040 Group
4	8S-4599	Coupling Assembly
5	1P-3551	Chuck
6	2S-5244	Nipple, Quick Disconnect (2)
7	6V-4038	Chuck
8	6V-4039	Relief Valve, 1137 kPa (165 PSI)
9	8S-4600	Nipple, Q.D.
10	8S-1506	Coupling Assembly
11	6B-5072	Reducing Bushing (2)
12	1Y-0413	Tee — Pipe
13	5P-8998	Nipple — Pipe
14	7J-8611	Elbow 90° — Pipe
15	6V-4037	Regulator — Nitrogen, 0 -1379 kPa (0 — 200 PSI) (6V-7879 Adapter available for connecting to nitrogen bottles with 5/8 in B.S.P. right hand threads, from sources outside U.S., such as U.K. and Australia)

Reference

SENR4747, Disassembly and Assembly Module, 994 Power Train



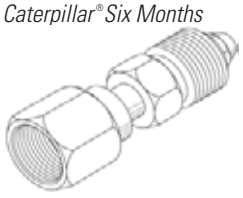
Tools assembled with "used with" tools

Item	Part Number	Description
1	4C-9814	Reaction Bar
2	4C-9813	Extension
3	4C-9812	Socket
4	6V-6080	Torque Multiplier
5	525-8305	Wrench, Air Regulated

Nitrogen Regulator Adapter

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Connects 162-4146 regulator, part of 175-5507, and 6V-4037 regulator, part of 6V-4040 nitrogen tire inflation group to some non-U.S. nitrogen bottles
- 960-14 NGO internal right-hand thread and 5/8 B.S.P. external right-hand thread
- Permits 162-4146 and 6V-4037 Regulators to be used on nitrogen bottles with shutoff valves having 5/8 B.S.P. internal right-hand thread

Part Number	Description
6V-7879	Nitrogen Regulator Adapter

Adapter

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Used with 6V-4040 Nitrogen Tire Inflation Group to allow vehicle to fill its tires from its own air system
- Required option for vehicles in isolated locations where nitrogen is not readily available; machines shipped to certain countries require on-board capabilities to air service vehicles tires
- One end of adapter connects to 0.965 inch-14 NGO-RH thread of 6V-4037 Regulator in tire inflation group; other end of adapter has 1/4 inch-18NPTF internal thread used for attaching required pipe fittings to connect with vehicle's air system
- Quick disconnect fittings can be used to make repetitive connections fast and easy; chart lists fittings necessary to connect adapter to any motor grader, tractor scraper, off-highway truck or tractor, wheel loader or lift truck with an air compressor; not all fittings listed will be used in every installation
- If 6V-7879 Adapter has been installed on 6V-4037 Regulator, it must be removed to install 1U-6313 Adapter; 6V-7879 allows direct connection of regulator to nitrogen containers with 5/8 inch-14 BSP threads often used in Australia and United Kingdom

Part No.	Description	Detail
1U-6313	Adapter	—
	Fitting List	
003-8470	Pipe Tee	3/8 in — 18 NPTF
2S-5244	Quick Disconnect Nipple	1/4 in — 18 NPT external
3B-6488	Pipe Coupling	1/4 in — 18 NPT
3J-5390	Plug — NPTF (Ext Hex) 3/8 in-18 NPTF external to 1/8 in-27 NPTF internal	3/8 in — 18 NPT x 11/16 in hex
4F-0186	Nipple — Pipe	3/8 in — 18 NPT x 76.2 mm (3 in) long (2)
5H-7598	Nipple — Pipe	1/4 in — 18 NPT x 76.2 mm (3 in) long
5M-6213	Plug — Pipe	1/4 in — 18 NPT x 9/16 in hex
5S-2403	Fitting — Reducing Nipple	3/8 in — 18 NPTF external x 1/4 in — 18 NPTF external
6D-4045	Hose Assembly	1/4 in — 18 NPT external x 68.58 cm (27 in) long
8S-4599	Coupling Assembly — Quick Disconnect	1/4 in — 18 NPT internal
8S-4600	Nipple (2) a	1/4 in — 18 NPT internal

a. Other nipples available for gauge attachment are: 2S-5244, 1/4 in NPT External Thread

Wheel Loader, 994, Tools

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install tires and rims
- One-man operation to safely, accurately remove and install wheel-mounting nuts that 1) require torque and turn procedure that results in torque of up to 2856 N·m (2100 ft-lb) and 2) are located in recessed area that requires fairly long extensions
- Used with 6V-6080 Torque Multiplier and 525-8305 Air Regulated Wrench
- Reaction bar holds all tooling together and provides required reaction arm
- 1 inch drive sockets and extensions should not be used, as their recommended maximum torque is around 1632 N·m (1200 ft-lb); special 1 inch drive on 6V-6080 Torque Multiplier is capable of 4350 N·m (3200 ft-lb)
- All items designed to be used with 6V-6080 Torque Multiplier which has a maximum capacity of 4350 N·m (3200 ft-lb)

4C-9812 Socket

- 46 mm (1 13/16 in) hex by #5 spline drive, impact O.A.L.: 86.0 mm (3.38 in)
- OD at hex end: 67.0 mm (2.64 in)

4C-9813 Extension

- 1 in female square drive by #5 spline male drive O.A.L.: 387 mm (15 1/4 in)

4C-9814 Reaction Bar

- Dimensions: 70.0 x 381.0 x 25.4 mm (2.75 x 15.0 x 1.0 in)

Part Number	Description
4C-9812	Socket
4C-9813	Extension
4C-9814	Reaction Bar

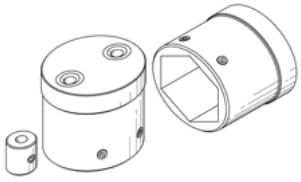
WHEEL AND TIRE

Lug Nut Splitter Assembly

Essential Tool

Model Usage: 785C Off-Highway Truck

Warranty: Caterpillar® Six Months



- Removes lug nuts when wheel stud rotates during removal
- Used with 6.35 mm (.25 in) drill bit and suitable pneumatic or electric drill (dealer-supplied)
- Features 2 set screws to clamp tool onto lug nut (req. dealer-supplied 3/16" Allen wrench)
- Includes stop collar to limit drill bit depth (req. dealer-supplied 3/32" Allen wrench)
- Two drill guide bushings allow precise drilling of lug nut on both sides of wheel stud
- Effectively weakens and splits lug nut for easier removal
- Durable black oxide coating to prevent corrosion
- Heavy-duty welded steel construction

Part Number	Description
331-2819	Lug Nut Splitter Assembly

Wheel Bearing Nut Spanner Wrenches

Model Usage: 6V-4073 — 922, 943, 953; 5P-2978 — IT18B, 508, 528, 916, 926, 936, 936E, 944, 950, 966

Warranty: Caterpillar® Six Months



- 6V-4073 Wheel Bearing Nut Spanner Wrench replaces discontinued 5P-2977 Spanner Wrench; both improved wrench and discontinued wrench can be used to remove and adjust wheel bearing nuts
- 5P-2978 Wheel Bearing Nut Spanner Wrench used for same purpose on different models

Part Number	Description
5P-2978	Wheel Bearing Nut Spanner Wrench
6V-4073	Wheel Bearing Nut Spanner Wrench

Retaining Nut Spanner Wrench

Model Usage: 966, 950, 816, 815, 814, 528

Warranty: Caterpillar® Six Months



- Removes wheel and adjusts bearing preload on 966, 950, 816, 815, 814 and 528 machines with 9K-6198 Wheel Bearing Retaining Nut

Reference

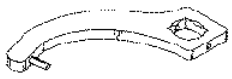
- Service Manuals (preload procedures)

Part Number	Description
5P-3044	Retaining Nut Spanner Wrench

Locknut Spanner Wrench

Model Usage: 143H and 163H Motor Graders with All Wheel Drive

Warranty: Caterpillar® Six Months



- Used with 3/4 inch square drive ratchet or torque wrench to remove/install 5T-1428 Locknut from front wheel spindle
- Designed to fit inside wheel housing (no other tool will properly remove and install this locknut without extensive damage to locknut and mating parts)

Reference

- Service Manual Module

Specifications

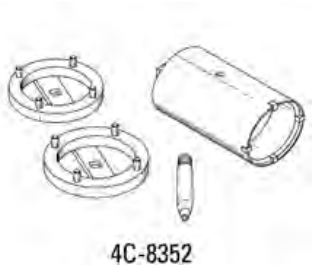
- Square drive: 3/4 in
- Torque capacity: 612 N·m (453 ft-lb)
- Inside radius: 70.0 mm (2.76 in)
- Distance (center of square to center of locknut): 89.0 mm (3.5 in)
- Pin diameter: 6.35 mm (0.25 in)
- Pin part number: 1J-2198

Part Number	Description
4C-8155	Locknut Spanner Wrench

Guide Bolt and Bearing Retaining Nut Spanner Wrenches

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Two guide bolts allow one person to easily remove and install tire and wheel
- Spanner wrenches used to disassemble and assemble bearing retaining nuts in axle housing
- Square drive: standard 3/4 inch

References

- SENR4920, Manual, 950F Wheel Loaders
- SENR4765, Manual, 966F Wheel Loaders
- SENR5760, Manual, 918F Wheel Loaders
- SENR5230, Manual, 936F Wheel Loaders

Part Number	Description	Model
4C-8345	Bearing Retaining Nut Spanner Wrench	936F, 950F, 518C
4C-8346	Bearing Retaining Nut Spanner Wrench	936F, 950F, 518C, 928F, IT18F, IT28F
4C-8347	Bearing Retaining Nut Spanner Wrench	918F
4C-8348	Bearing Retaining Nut Spanner Wrench	928F, 966F
4C-8349	Bearing Retaining Nut Spanner Wrench	966F
4C-8352	Guide Bolt	—
4C-8500	Bearing Retaining Nut Spanner Wrench	966F
4C-8502	Bearing Retaining Nut Spanner Wrench	918F, IT18F

Cast Driver Gauge

Model Usage: All Large Challengers Using Cast Steel Drive Wheels

Warranty: Caterpillar® Six Months



- Used to accurately make scraper adjustments
- Built-in handle decreases adjusting time

Reference

- SEBU7072-04, Operation and Maintenance Manual

Part Number	Description
155-1557	Cast Driver Gauge

Special Service Tools for D9L and D9R Tractors

- Make service operations easier and safer
- Some tools used on all 3 tractors (see application charts)



Item	Part Number	Description
1	6V-3187	Adapter
4	6V-2098	Sleeve
5	6V-2097	Receiving Sleeve
6	6V-2108	Receiving Sleeve
7	140-2286	Spacer
7	6V-3028	Spacer
8	6V-2109	Spacer (D9R)
9	6V-3158	Wrench
11	—	No longer available
12	8T-0829	Installer — Seal
13	6V-2168	Plate

Reaction Bar

Model Usage: 797 Rear Axle Collets

Warranty: Manufacturer's



- Used with the 385-3988/385-4002 and 478-4006/478-4012 torque tools
- This reaction bar is required for 797 rear axle collet installation.

Part No.	Description	Diameter	Weight
516-6860	Reaction Bar	98 x 16 x 10 mm (3.85 x 0.62 x 0.39 in)	0.107 kg (0.235 lb)

SPECIAL TOOLS FOR TRACK-TYPE TRACTORS

Special Service Tools for D8, D9, D10 and D11 Track-Type Tractors

Model Usage: D8, D9, D10 and D11 Tractors

Warranty: Caterpillar® Six Months

Figure 1



European Union compliant, CE marked (142-8547, 142-8548, 151-2816)

- Some tools are used on all 3 tractors — see combined application charts which are followed by photos of the tools (referred to by figure number in the chart)

Special Service Tools for D10 Tractors

- Make D10 service operations easier and safer
- Needed to handle heavier D10 components
- Some tools used on all 3 tractors (see application charts)

Special Service Tools for D10 Tractors

Item	Part Number	Description	Qty
1	5P-8622	Shackle (6.5 ton)	—
2	151-2816	Plate	—
2	2H-3745	Bolt	4
3	5P-7273	Stud	—
4	5P-7395	Installer — Axle	—
5	142-8548	Bracket	—
6	—	Hoist [capacity of 5P-9694 Hoist: single line — 7.5 kN (1700 lb) double line — 15 kN (3400 lb)]	—
8	139-3328	Tilt Link	—
9	8T-0830	Installer — Seal	—
10	5P-8625	Spacer	—
11	142-1666	Bracket Assembly — Steering Clutch and Final Drive	—
11	1B-4209	Nut — Full	2
11	1D-4608	Bolt	2
11	7F-4283	Bolt	2
12	5P-8620	Pilot	—
13	5P-7269	Plate	—
15	5P-8732	Adapter	—
16	8T-0826	Installer — Seal	—
19	5P-8624	Plate	—
20	5P-8725	Guide — Seal	
21	139-2782	Transmission Bracket Assembly	—
21	142-8547	Bracket As — Lifting	—
22	142-1664	Adjustable Lifting Bracket Group	—
22 a	142-6893	Adjustable Hook Assembly	—
25	5P-8673	Tip	—
26	5P-7274	Nut	—
27	5P-7270	Sleeve	—

a. Use 142-6893 Adjustable Hook Assembly or 142-1664 Lifting Bracket Group (see chart for application)

Combined Application Chart for D11, D10, D9 and D8 Service Tools

Fig. No.	Part Number	Description	D11	D10	D9L	D8L	Tool Usage
1	129-3253	Wrench	—	X (D10R)	—	—	R & I Bevel Gear Shaft Bearing Adjusting Nut
1	129-3254	Wrench	X (D11N)	—	—	—	R & I Bevel Gear Shaft Bearing Adjusting Nut
1	139-2782	Transmission Bracket Assembly	X (D11R)	—	—	—	R & I Transmission
1	139-3328	Tilt Link	X (D11R)	X (D10R)	—	—	Support Radiator Guard during Engine R & I
1	142-1664	Adjustable Lifting Bracket Group	X	X	—	—	R & I Transmission or Steering Clutch and Final Drive
1	142-1666	Bracket Assembly — Steering Clutch and Final Drive	—	X	X	X	Use with Lifting Hook (see chart for R & I of Final Drive Module)
1	142-1673	Plate — Press	X	—	—	—	Remove Final Drive Hub from Final Drive
1	142-6893	Adjustable Hook Assembly	—	—	X	X	R & I Transmission or Steering Clutch and Final Drive
1	142-8547	Bracket As — Lifting	—	X	—	—	R & I Transmission
1	142-8548	Bracket	X	X	X	X	Remove and Install Roller Frames
1	151-2816	Plate	—	X	X	X	Use with Lifting Hook (see chart)
1	5P-7269	Plate	—	X	—	—	D & A Recoil Spring, Equalizer Bar, Roller Frames
1	5P-7270	Sleeve	—	X	X	—	R & I Bogie Cartridge Pin Assemblies
1	5P-7273	Stud	—	X	X	—	D & A Recoil Spring; R & I Bogie Cartridge Pins
1	5P-7274	Nut	—	X	X	—	R & I Bogie Cartridge Pin Assemblies
1	5P-7395	Installer — Axle	—	X	X	X	Install Final Drive Axles
1	5P-8620	Pilot	—	X	X	X	Pivot Shaft Installation: Recoil Spring R & I
1	5P-8622	Shackle (6.5 ton)	—	X	X	X	Use with Lifting Hook (see chart)
1	5P-8624	Plate	—	X	X	—	Assemble Roller Frame; R & I Equalizer Bar
1	5P-8625	Spacer	—	X	—	—	Remove Transfer Gear Bearing
1	5P-8668	Turning Tool (Qty 2)	—	X	—	—	Rotate Engine for In-Chassis Timing
1	5P-8725	Guide — Seal	—	X	—	—	Install Bulldozer Lift Cylinder Head Seal
1	5P-8732	Adapter	—	X	X	X	R & I Final Drive Planet Carriers, Hub and Ring Gear
1	5P-9694	Hoist — Rachet	—	X	X	—	Remove and Install Torque Divider
1	8T-0826	Installer — Seal	—	X	—	—	Install Idler Duo-Cone Seal
1	8T-0830	Installer — Seal	—	X	X	—	Install D9L Idler and D10 Roller Seals
2	140-2286	Spacer	—	—	X (D9R)	—	Installation of Final Drive Outer Bearing
2	399-5154	Adapter	—	—	X	X	R & I of Planetary Transmission
2	6V-2097	Receiving Sleeve	—	—	X	—	Removal of Equalizer Bar End Bearing
2	6V-2098	Sleeve	—	—	X	X	Installation of Equalizer Bar End Bearing
2	6V-2108	Receiving Sleeve	—	—	X	X	Removal of Bogie Cartridge
2	6V-2109	Spacer (D9R)	—	—	X	—	Installation of Minor Bogie Cartridge
2	6V-2168	Plate	—	—	X	X	R & I of Recoil Spring
2	6V-3028	Spacer	—	—	X	—	Installation of Final Drive Outer Bearing
2	6V-3048	Installer	—	—	X	—	Installation of Pivot Shaft Seal
2	6V-3158	Wrench	—	—	X	X	R & I of Bevel Gear Shaft Nut
2	6V-3187	Adapter	—	—	X	—	Removal of Equalizer Bar Center Pin
2	8T-0829	Installer — Seal	—	—	X	X	Install D8L Idler and D9L Roller Seals
2	8T-7688	Spacer	—	X	—	—	Installation of Final Drive Outer Bearing
4	142-1670	Bearing Spacer	X (D11R)	—	—	—	Outer Bearing
4	6V-4871	Reaction Bar	—	—	X	—	Removal of Equalizer Bar Center Pin
4	6V-4951	Spacer	—	—	—	X	Installation of Final Drive
4	8T-0828	Installer	—	X	X	—	Installation of Track Roller Seal

WHEEL AND TIRE

Special Service Tools for D8L Tractors

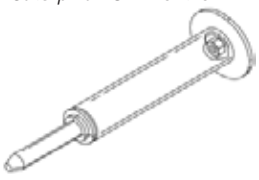
- Make D8L service operations easier and safer
- Some tools used on all 3 tractors (see application charts)

Item	Part Number	Description
2	8T-0828	Installer
4	6V-4871	Reaction Bar
9	6V-4951	Spacer

Recoil Spring Compressor

Model Usage: D8R Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to align components of recoil spring group to ensure correct spring location
- Used with other available tools to compress recoil spring
- Pilot has 2 diameter sizes to accommodate both recoil spring groups used on D8R Tractor
- Makes removal and installation of spring groups easier and safer

Reference

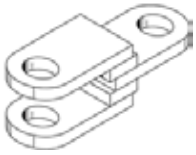
- SENR8327, Disassembly and Assembly, D8R Tractor Power Train

Part No.	Description	Overall Length	Pilot Pin Length	Diameter (plate)	Diameter (pilot)	Material
133-9872	Pilot Assembly	830.7 mm (32.7 in)	285 mm (11.2 in)	224.0 mm (8.8 in)	50 mm (2 in)	Steel

Tilt Link

Model Usage: D10R Track-Type Tractor

Warranty: Caterpillar® Six Months



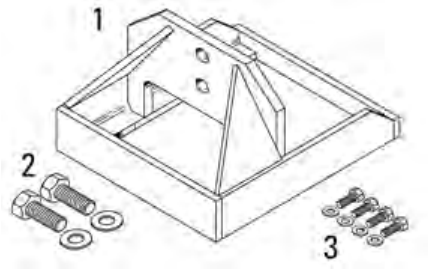
- Used to hold radiator guard in the forward (tilt) position
- Stops radiator guard from moving while working in or around engine compartment
- Easily mounts to existing holes using both lower radiator guard pins

Part No.	Description	Length	Width	Height	Plate Thickness	Material
139-3328	Tilt Link	447.0 mm (17.6 in)	127 mm (5 in)	127 mm (5 in)	25.4 mm (1.0 in)	Steel

Transmission Bracket Assembly

Model Usage: D11R and Carrydozer

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

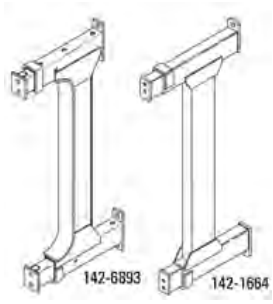
- Used to remove transmission assembly from machine without any unnecessary disassembly; keeps transmission level during removal and installation
- Used with an adjustable 142-1664 Lifting Bracket Group
- Designed to bolt to top of transmission over controller assembly
- Overall size (L x W x H): 457.0 x 397.0 x 292.0 mm (18.0 x 15.6 x 11.5 in)

Item	Part Number	Description
1	139-2782	Transmission Bracket Assembly
2	2H-3745	Bolt
2	5P-8250	Hard Washer
3	0S-1566	Bolt
3	5P-8247	Hard Washer

Adjustable Hook Assembly, Adjustable Lifting Bracket Group

Model Usage: Track-Type Tractors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove/install large assemblies
- Adjustable arms make balancing assemblies with different centers of gravity much easier
- Unit can be positioned with either arm in the upright position
- Distance between upper and lower arms provides clearance around fenders, fuel tanks, or other items blocking a straight lift
- Can be used to lift final driver, steering clutch and brake, and transmission
- Can not be used to lift track roller frames (CE Compliant 142-8548 Non Adjustable Lifting Bracket is available for this)
- 142-1664 Adjustable Lifting Bracket Group includes 142-2857 Trunnion Pin and 142-2858 Threaded Rod

142-1664

- Overall height: 257.0 cm (101.2 in)
- Operating range from vertical beam to tip of Upper arm: 252.0-610.0 mm (9.92-24.0 in)
- Operating range from vertical beam to tip of Lower arm: 100.0-458.0 mm (3.9-18.0 in)
- Weight: 200 kg (440 lb)
- Lifting capacity with either arm fully extended: 2724 kg (6000 lb)
- Lifting capacity with both arms fully retracted: 5448 kg (12,000 lb)
- Distance between upper and lower arms: 200.0 cm (78.75 in)

142-6893

- Overall height: 183.3 cm (72.1 in)
- Operating range from vertical beam to tip of Upper arm: 302.2-581.2 mm (11.9-22.9 in)
- Operating range from vertical beam to tip of Lower arm: 163.2-442.2 mm (6.4-17.4 in)
- Weight: (230 lb)
- Lifting capacity with either arm fully extended: 1816 kg (4,000 lb)
- Lifting capacity with both arms fully retracted: 4550 kg (10,000 lb)
- Distance between upper and lower arms: 139.0 cm (54.7 in)

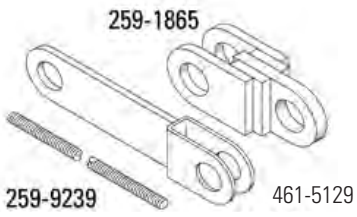
Part Number	Description
142-1664	Adjustable Lifting Bracket Group
142-6893	Adjustable Hook Assembly

Radiator Service Tools

Essential Tool

Model Usage: D8T, D9T, D10T Track-Type Tractors

Warranty: Caterpillar® Six Months



259-1865 Tilt Link

- Used on D9T Track-Type Tractor
- Used to hold radiator guard in forward (tilt) position
- Stops radiator guard from moving while working in or around engine compartment
- Easily mounts to existing holes using both lower radiator guard pins
- Steel tilt link measures 177.8 mm (7.0 in) on center between pin holes

259-9239 Threaded Rod

- Used on D10T Track-Type Tractor
- Used to remove radiator guard tilt pin

Used with puller sleeve and hydraulic cylinder

- Grade 8 threaded rod (M20 x 2.5) is 1.0 m (39.4 in) long

461-5129 Tilt Link

- Used on D8T Track-Type Tractor
- Used to hold radiator guard in forward (tilt) position
- Stops radiator guard from moving while working in or around engine compartment
- Easily mounts to existing holes using both lower radiator guard pins
- Steel tilt link measures 438.5 mm (17.25 in) on center between pin holes

Part Number	Description
259-1865	Tilt Link
259-9239	Stud
461-5129	Tilt Link

WHEEL AND TIRE

Service Tools for D7H Tractors

Model Usage: D7H

Warranty: Caterpillar® Six Months



- Many have multiple applications; will also be used to service other models
- In addition to tools illustrated, dealers should order 8T-5071 Seal Guard to protect recoil seal while removing or installing front roller frame into rear frame

Part Number	Description	Tool Usage
396-6461	Adapter	Remove and install bevel gear and transmission module

Part No.	Description	Tool Usage
369-6017	Adapter	Remove/install transmission (with 142-6893 Adjustable Hook Assembly)
1U-9397	Driver	Recoil and/or pivot shaft seal installation
5P-8622	Shackle (6.5 ton)	Use with Lift Bracket
8T-0822	Sleeve — Align	Duo-Cone seal installation (track rollers and idlers)
8T-0939	Installer — Seal	Duo-Cone seal installation (track rollers and idlers)
8T-2827	Spacer	Final Drive outboard bearing installation
8T-2838	Spanner	Remove and install direct drive bevel gear shaft nut (4H-6507)
8T-2839	Spanner	Remove and install power shift bevel gear shaft nut (1L-6957)
8T-3053	Installer	Pivot Shaft Seal installation

Service Tools for Series "N" and D9R Track-Type Tractors

Model Usage: Series "N" and D9R Track-Type Tractor

Warranty: Caterpillar® Six Months

- Required to service Series "N" and D9R Track-Type Tractor power trains
- Several tools (footnote 1) are much-improved replacements for former Duo-Cone seal installers; new installer assemblies provide more reliable seal installation; they hold both steel ring and rubber toric in better relation to each other and position seal group at correct bore depth; installer assemblies replace discontinued tools
  1U-6437 Installer Assembly replaces discontinued 8M-9395
  1U-5934 Installer Assembly replaces discontinued 8M-7913
  8T-7789 Installer Assembly replaces discontinued 1S-4320

Special Service Tools for Series "N" and D9R Track-Type Tractors

Tool Name	D8N	D9N	D9R	D10N	D11N	Service/Repair Operation
Installer	—	—	—	—	—	Install Track Seals
Hydraulic Torque Wrench	—	—	—	—	—	Install Track Bolts
Adapter	1U-7432	—	—	—	—	Shift Differential Steer Planetary
Alignment Sleeve	8T-0823	8T-0823	8T-0823	8T-0824	8T-0825	Install Idler Seals
Driver	1U-9397	1U-9397	1U-9397	1U-9397	1U-9397	Install Recoil Bearing Seal
Installer	8T-0828	8T-7641	8T-7641	8T-0829	8T-0827	Install Roller Seals
Installer — Seal	8T-0829	8T-7640	8T-7640	8T-0830	—	Install Idler Seals
Installer Assembly	1U-6437	1U-5934	1U-5934	1U-5934	8T-7789	Install Final Drive Seals [a]
Piston Ring Guide	8T-9151	—	—	—	—	Install piston Rings
Seal Driver	8T-9148	—	—	—	—	Install Cover Seal
Seal Guide	8T-9159	—	—	—	—	Install Shaft Seal
Seal Starter	1U-5753	1U-5753	1U-5753	1U-5753	1U-5753	Install Recoil Spring Bearing
Sleeve — Align	8T-0822	8T-0822	8T-0822	8T-0823	8T-0824	Install Roller Seals
Spacer	8T-2827	6V-4951	140-2286	8T-7688	8T-7688	Install Final Drive Bearings

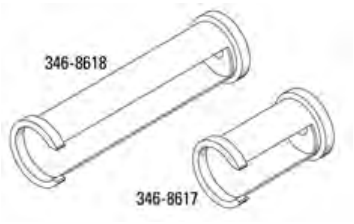
a. Replacements of existing Duo-Cone seal installers

Sleeve Assembly

Essential Tool

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



- Used to remove linkage pins from ripper attachment on D7E Track-Type Tractor

346-8617 Sleeve Assembly

- Used with 6V-3175 Hydraulic Cylinder, 9U-5344 Puller Stud, 9U-5346 Fast Runner Nut, and a suitable hydraulic power supply to remove 270-0598 Linkage Pins (interior)
- 9U-5344 Puller Stud (M30) must be cut from original length of 80 cm (31.5 in) to 69 cm (27.2 in)

346-8618 Sleeve Assembly

- Used with 6V-3175 Hydraulic Cylinder, 137-8460 Puller Stud, 9U-5346 Fast Runner Nut, and a suitable hydraulic power supply to remove 270-0597 Linkage Pins (exterior)
- 137-8460 Puller Stud (M30) can be used as is, or may be shortened from 198 cm (77.95 in) long to a minimum length of 100 cm (39.4 in)

Reference

- KENR5166, Machine System, Disassembly and Assembly

Part No.	Description	Length	Diameter	Side Opening	Weight	Qty.
346-8617	Sleeve Assembly	261.3 mm (10.29 in)	177.8 mm (7 in)	100 mm x 220.4 mm (4.0 x 8.7 in)	14.3 kg (31.53 lb)	—
346-8618	Sleeve Assembly	522.6 mm (20.57 in)	177.8 mm (7 in)	100 mm x 481.7 mm (4.0 x 19.0 in)	23.9 kg (52.69 lb)	—
346-8617 Sleeve Assembly [b]						
9U-5344	Puller Stud	800 mm (31.50 in)	—	—	—	1
9U-5346	Fast Runner Nut, M30	—	—	—	—	1
346-8618 Sleeve Assembly [b]						
137-8460	Puller Stud	1,980 mm (77.95 in)	—	—	—	1
9U-5346	Fast Runner Nut, M30	—	—	—	—	1
Required Tooling						
—	Hydraulic Power Supply w/hose	—	—	—	—	1

a. Required Tooling

Shaft Tester Plate

Model Usage: D7E Track-Type tractor

Warranty: None



- Used to pressure test generator assembly for leaks during assembly procedure
- Attaches to rotor assembly for leak test
- Allows use of pressure air 103 kPa (15 PSI) to test generator for leaks
- Drop in air pressure indicates a leak
- Made from SAE6061 Aluminum Alloy

Reference

- KENR5162, D7E Track-Type Tractor, Power Train, Disassembly and Assembly

Part Number	Description	Quantity
Required Hardware		
006-0210	Pipe Tee	1
214-0787	Pressure Gauge	1
224-1228	Ball Valve	1
4C-7158	Fitting	1
5P-8998	Nipple — Pipe	2

Spacer

Essential Tool

Model Usage: 517 and 527 Track-Type Skidders and D5H Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to quickly and consistently seat 8T-0072 Bearing to correct depth
- Used on 132-5536, 196-1865, and 233-9595 Final Drive Assembly
- Ensures correct bearing assembly

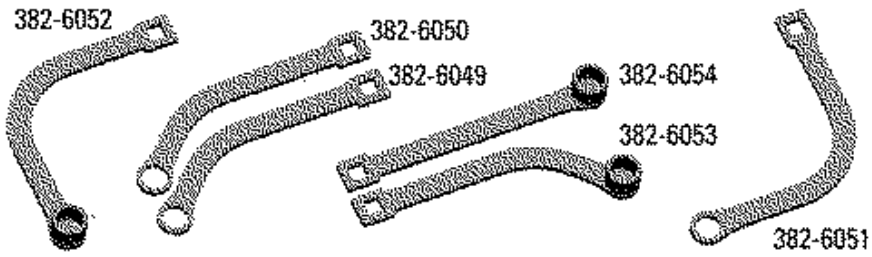
Part Number	Description
273-9373	Spacer

WHEEL AND TIRE

Tools for Rear Engine Mount Bolt Torque

Model Usage: D6, D10, D11

Warranty: Caterpillar® Six Months



Used to torque rear motor mount bolts in chassis

- Requires 3/4" torque wrench, sold separately

Reference

- Service Manual, REBE7684-00 D10 & D11 Instructions, REBE7730-00 D6 Instructions

D6 Tool List

- 382-6054: Raised straight 30 mm 12 pt box with 3/4" square drive
- 382-6053: Raised 45 degree 30 mm 12 pt box with 3/4" square drive
- 382-6050: Flat straight 30 mm 12 pt box with 3/4" square drive
- 382-6052: Raised 90 degree 30 mm 12 pt box with 3/4" square drive

D10 and D11 Tool List

- 382-6049: Flat 45 degree 1 1/8" 12 pt box with 3/4" square drive
- 382-6051: Flat 90 degree 1 1/8" 12 pt box with 3/4" square drive

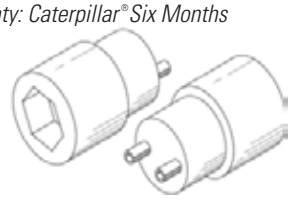
Part Number	Description	Dimensions	Weight
382-6049	D10 & D11 Special Wrench	122 x 332 x 7.9 mm (4.8 x 13.1 x .3 in)	0.62 kg (1.36 lb)
382-6050	D6 Special Wrench	122 x 338 x 7.9 mm (4.8 x 13.3 x .3 in)	0.62 kg (1.36 lb)
382-6051	D10 & D11 Special Wrench	258 x 259 x 7.9 mm (10.2 x 10.2 x .3 in)	0.79 kg (1.73 lb)
382-6052	D6 Special Wrench	258 x 259 x 37 mm (10.2 x 10.2 x 1.5 in)	0.95 kg (2.09 lb)
382-6053	D6 Special Wrench	338 x 120 x 37 mm (13.3 x 4.7 x 1.5 in)	0.82 kg (1.80 lb)
382-6054	D6 Special Wrench	350 x 44 x 37 mm (13.8 x 1.7 x 1.5 in)	0.79 kg (1.70 lb)

Pin Socket

Essential Tool

Model Usage: M300C Series Excavators

Warranty: Caterpillar® Six Months



- Used to easily remove and install 214-3403 Check Valve from combination valve
- Used with a 5/16 inch Allen socket

Part Number	Description
246-9300	Pin Socket

Service Tools for 206, 212, 214 and 224 Wheel-Type Excavators

Model Usage: 206, 212, 214 and 224 Wheel-Type Excavators

Warranty: Caterpillar® Six Months



- Required to service drive train components (final drives, differentials, transmission and transfer gear, and steering)
- Originally available as non-serviceable items in 8T-3202, 8T-3203 and 8T-3204 Tool Groups (first announced in January 1986 Tool Announcement SENS6865, Power Train Tools Section); groups discontinued but all 60 tools available individually
- Charts identify each tool by both Cat® and supplier part numbers along with service manual pages and illustrations which reference use of each tool; it is recommended that dealer personnel enter both Cat and supplier part numbers in service manuals; some tools listed on more than 1 chart
- Only supplier part number stamped on each tool

Service Tools For Disassembly and Assembly of 206/212 Differential

Item	Cat Part No.	Description	Supplier Part No.	Service Manual Form HENR4057, Page No.-Illus. No.
1	492-6204	Puller Assembly	5870-026-000	16-35, 17-38, 19-46
2	1U-5816	Grab Sleeve	5870-026-001	19-46
4	1U-5828	Measuring Ring	5870-340-020	22-58
5	8T-0984	Spanner Wrench	5870-240-025	18-43, 23-90, 24-65
6	1U-5824	Centering Ring	5870-200-042	28-79
7	8T-0976	Measuring Cover Group	5870-200-034	28-79
10	1U-5823	Driver	5870-058-061	28-78, 30-86

Service Tools for Disassembly and Assembly of 206/212 Transmission



Item	Cat Part No.	Description	Supplier Part Number	Service Manual, Form HENR4057, Page No.-Illus. No.
1	8T-0984	Spanner Wrench	5870-240-025	58-54, 61-68
2	1U-5832	Pry Bar	5870-400-001	53-34
13	1U-5839	Two Leg Puller	5870-970-002	59-17, 52-30
14	1U-5835	Profile Sleeve	5870-512-006	76-127

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Service Tools for Disassembly and Assembly of 206/212 Final Drive



Item	Cat Part No.	Description	Supplier Part Number	Service Manual, Form HENR4057, Page No.-Illus. No.
1	1U-5832	Pry Bar	5870-400-001	13-18, 87-18
3	8T-0995	Spanner	5870-655-004	94-46
6	1U-5839	Two Leg Puller	5870-970-002	10-5, 84-5
7	8T-0991	Sleeve Driver Group	5870-048-101	33-95, 95-49
8 [a]	1U-5820	Driver	5870-055-090	91-33 and 34, 92-39
10	1U-5833	Hook Spanner	5870-401-085	11-11, 12-13, 35-103, 39-118 and 120, 85-11, 96-54, 100-70
12	8T-0994	Handle	5870-260-004	36-106, 97-57

a. Only required for front axle final drive

Service Tools for Disassembly and Assembly of 214/224 Differential



Item	Cat Part No.	Description	Supplier Part Number	Service Manual, Form HENR3095, Page No.-Illus. No.
4	8T-0984	Spanner Wrench	5870-240-025	108-9, 112-23
5	1U-5847	Measuring Shaft	5870-500-001	109-14, 126-31
7	8T-0504	Basic Set	5870-026-100	106-4, 119-8
9	492-6204	Puller Assembly	5870-026-000	109-13
10	1U-5816	Grab Sleeve	5870-026-001	109-13
12	8T-0988	Driver	5870-055-016	111-21

Service Tools for Disassembly and Assembly of 214/224 Final Drive



Item	Cat Part No.	Description	Supplier Part Number	Service Manual, Form HENR3095, Page No.-Illus. No.
6	1U-5842	Driver	5870-055-006	92-29 and 30, 95-39 and 40
7	8T-0995	Spanner	5870-655-004	94-35, 137-72

Service Tools for Disassembly and Assembly of 214/224 Transmission



Item	Cat Part No.	Description	Supplier Part Number	Service Manual, Form HENR3095, Page No.-Illus. No.
1	1U-5841	Grab Sleeve	5870-026-021	121-14
2	8T-0504	Basic Set	5870-026-100	121-14

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Service Tools for 213B and 214B Excavators

Model Usage: 213B and 214B Excavators

Warranty: Caterpillar® Six Months



- Used mainly for disassembly and assembly of power train components
- Facilitate service support because they are very efficient for disassembly and assembly/ remove and install operations
- All are applicable to 214B Excavator 4C-4767 Spanner Wrench is the only tool that is also applicable to 213B Excavator

References

- SENR3794, 213B Vehicle Systems Disassembly/Assembly
- SENR3796, 214B Vehicle Systems
- SENR4315, 214B Power Train Disassembly and Assembly

Service Manual Reference: 214B Power Train Disassembly and Assembly, SENR4315

Item	Part Number	Description	Use
1	4C-4058	Spanner Wrench	Use to remove and install 8U-2342 Nut (front and rear final drive); Supplier Part No. 5870-401-105
4	4C-4061	Centering Plate	Use to remove and install 8U-2342 Nut (front and rear final drive)

Service Manual Reference: Collar, shaft, etc. arrangement described on page 71 of 213B Vehicle Systems Disassembly and Assembly SENR3794, and page 66 of 214B Vehicle Systems Disassembly and Assembly SENR3796



Part No.	Description	Use
4C-4767	Spanner Wrench	Applicable to both 213B and 214B Excavator. Required for removal and installation of the 8U-2523 Collar (Nut) from the 8U-2514 Shaft, included in the 8U-2512 Swing Drive Group.

Hex Wrench



Part No.	Description	Use
4C-4067	Hex Wrench, 22 mm	Required to remove and install the 10 fill and drain plugs in the 214B Excavator final drives and axles. General usage tool.

Front and Rear Axle Service Tools

Essential Tool

Model Usage: M318 Material Handler and M320 Wheeled Excavator

Warranty: Caterpillar® Six Months



- Used to service front and rear axles
- 147-1744 used to remove 8U-2356 Inner Bearing Cone from front steering axle housing and hub flange of rear axle — allows for easy removal of bearings without damaging bearing cone

Reference

- SENR1157, Disassembly and Assembly M320 Excavators Power Train

Specifications

- Outside diameter of bearing cone: 163.40 mm (6.433 in)
- Height of bearing cone: 25.0 mm (0.984 in)

Part Number	Description
147-1744	Bearing Puller

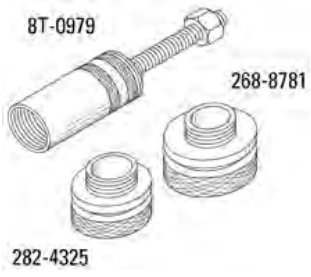
SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Grab Sleeve

Essential Tool

Model Usage: M300C Update Axles — MT-E3050/3060 MT-E3070

Warranty: Caterpillar® Six Months



- Used to easily remove differential carrier bearings without damage
- Used with 492-6204 Puller Assembly Bearing Removal Tool

Reference

- RENR7011, M318C MH, M322C, M322C Material Handler Disassembly/Assembly Manual

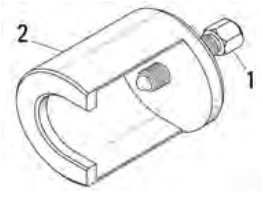
Part Number	Description
268-8781	Grab Sleeve
282-4325	Grab Sleeve

Tie Rod Separator Group

Essential Tool

M315C, M316C, M318C, M318C MH, M318D, M322C MH, and M322D Wheel-Type Excavators, 24M Motor Grader

Warranty: Caterpillar® Six Months



- Used to remove and separate tie rod ends without damage to taped bore
- Used with a 7/8 inch socket (hex end of screw assembly)
- Steel ball in end of screw assembly locates tool on tie rod and rotates to lessen friction as pressure is applied
- Made of heavy-duty steel for long service life
- 267-7513 Separator Group is used on M315C, M316C, M318C, M318C MH, and M322C MH Wheel-Type Excavators
- 329-4995 Separator Group is used on M318D and M322D Wheel-Type Excavators, and M24 Motor Grader

References

- RENR8618, M315C Wheeled Excavator, Power Train, Disassembly and Assembly
- RENR8621, M316C Wheeled Excavator, Power Train, Disassembly and Assembly
- RENR8622, M318C and M322C Wheeled Excavators, Power Train, Disassembly and Assembly
- KENR6035, M318D Material Handler, Power Train, Disassembly and Assembly
- KENR6040, M322D Wheeled Excavator, Power Train, Disassembly and Assembly
- KENR6042, M322D Material Handler, Power Train, Disassembly and Assembly
- KENR6022, 24M Motor Grader, Machine Systems, Disassembly and Assembly

Item	Part Number	Description
1	—	Screw Assembly
2	267-7513	Separator Group
Not Shown	329-4995	Separator Group

Separator Group

Essential Tool

Model Usage: M315C, M316C, M318C Wheel -Type Excavators

Warranty: Caterpillar® Six Months

- Used to remove and separate tie rod ends without damage to taped bore
- Used with a 7/8 inch socket (hex end)
- Steel ball in end of screw assembly locates tool on tie rod and rotates to lessen friction as pressure is applied
- Made of heavy-duty steel for long service life
- 140-9861 Screw Assembly not serviced

References

- RENR8618, M315C Wheel-Type Excavator, Disassembly and Assembly Service Manual
- RENR8621, M316C Wheel-Type Excavator, Disassembly and Assembly Service Manual
- RENR8622, M318C Wheel-Type Excavator, Disassembly and Assembly Service Manual

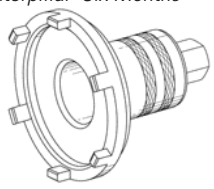
Part Number	Description
140-9861	Screw Assembly
267-7513	Separator Group

Hook Spanner

Essential Tool

Model Usage: M318C Wheel Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install axle locknut without damage

Reference

- SENR6264, Disassembly and Assembly of M318C Wheeled Excavator

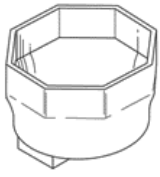
Part Number	Description
239-7305	Hook Spanner

Socket Wrench, 4 3/8 in

Essential Tool

Model Usage: 325B Wheeled Carrier Material Handler

Warranty: Caterpillar® Six Months



- Used to remove and install drive axle bearing retainer nut

Reference

- RENR4017, 325B Wheeled Carrier Material Handler Disassembly and Assembly Manual

Specifications

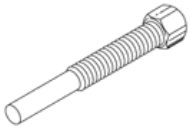
- Socket size: 4 3/8 in
- Square drive: 3/4 in
- Overall length: 87.0 mm (3.4 in)

Part Number	Description
195-3446	Socket Wrench, 4 3/8 in

Brake Piston Installer

Model Usage: M312, M318 Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Makes installation of brake piston faster
- Reduces damage to brake piston seals

Reference

- SENR6258-02, Disassembly and Assembly M318 Excavator-Machine Systems

Part Number	Description
188-7400	Brake Piston Installer

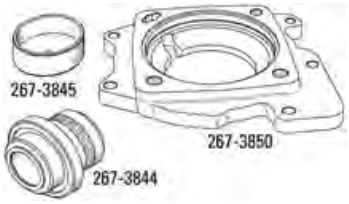
SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

M325C Material Handler Transmission Tools

Essential Tool

Model Usage: M325C Material Handler

Warranty: Caterpillar® Six Months



- Used to properly assemble transmission
- Simplifies installation of various transmission service parts

Reference

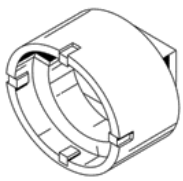
- RENR7164-00, M325C Material Handler Powertrain Disassembly and Assembly

Part No.	Description	Use
267-3844	Seal Installer	properly install output shaft seal to correct depth without calculations (made from durable plastic to prevent seal damage during installation)
267-3845	Guard Installer	install output shaft seal guard to proper depth without calculations
267-3850	Clearance Gauge	measure clearance between transmission clutch/brake disc during assembly

Bearing Retaining Nut Spanner Wrench

Model Usage: M312 Wheeled-Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install bearing retainer nut in swing drive assembly
- Makes repair of swing drive much faster and easier

Reference

- SENR8950, Disassembly and Assembly M312 Excavator Machine Systems

Specifications

- Outside diameter: 107.95 mm (4.25 in)
- Inside diameter: 92.6 mm (3.646 in)
- Diameter inside teeth: 85.66 mm (3.372 in)
- Tooth width: 7.35 mm (0.289 in)
- Number of teeth: 4
- Square drive: 1 in

Part Number	Description
140-1833	Bearing Retaining Nut Spanner Wrench

Measuring Ring

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to adjust rolling torque on pinion

References

- RENR6964, M315C Power Train Disassembly and Assembly
- RENR6991, M316C Power Train Disassembly and Assembly
- SENR6258, M318, M320 Power Train Disassembly and Assembly

Part Number	Description
123-6698	Measuring Ring

Measuring Ring for Pinion

Model Usage: M322D

Warranty: Manufacturer's



- Used to adjust rolling torque on pinion

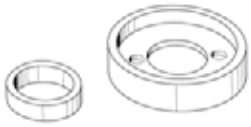
Part Number	Description
440-5345	Measuring Ring for Pinion

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Centering Disk

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Removes/installs final drive planetary nut
- Used with 123-6704 Centering Ring

References

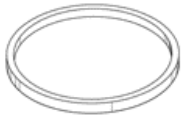
- RENR6675, M318C Power Train Dis/Assembly
- RENR6964, M315C Power Train Dis/Assembly
- RENR6991, M316C Power Train Dis/Assembly
- SENR6258, M318, M320 Power Train Dis/Assembly
- SENR8944, M312 Power Train Dis/Assembly
- SENR8924, M315 Power Train Dis/Assembly

Part Number	Description
123-6703	Centering Disk

Centering Ring

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install final drive planetary nut
- Used with 123-6703 Centering Ring

References

- RENR6675, M318C Power Train Dis/Assembly
- RENR6964, M315C Power Train Dis/Assembly
- RENR6991, M316C Power Train Dis/Assembly
- SENR6258, M318, M320 Power Train Dis/Assembly
- SENR8944, M312 Power Train Dis/Assembly
- SENR8924, M315 Power Train Dis/Assembly

Part Number	Description
123-6704	Centering Ring

Seal Guide

Warranty: Caterpillar® Six Months



- Installs seal on transmission drive shaft

References

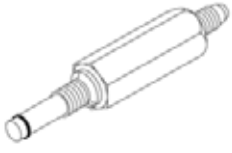
- RENR6675, M318C Power Train Dis/Assembly
- RENR6964, M315C Power Train Dis/Assembly
- RENR6991, M316C Power Train Dis/Assembly
- SENR6258, M318, M320 Power Train Disa/Assembly

Part Number	Description
9U-6048	Seal Guide

Hydraulic Adapter

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to test transmission clutch seals for leakage after assembly

References

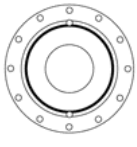
- RENR6675, M318C Power Train Dis/Assembly
- RENR6964, M315C Power Train Dis/Assembly
- RENR6991, M316C Power Train Dis/Assembly
- SENR6258, M318, M320 Power Train Dis/Assembly
- SENR8924, M315 Power Train Dis/Assembly

Part Number	Description
9U-6049	Hydraulic Adapter

Measuring Cover

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to measure transmission brake preload

References

- RENR6675, M318C Power Train Dis/Assembly
- RENR6964, M315C Power Train Disassembly and Assembly
- RENR6991, M316C Power Train Disassembly and Assembly
- SENR6258, M318, M320 Power Train Disassembly and Assembly

Part Number	Description
9U-6050	Measuring Cover

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Socket

Essential Tool

Model Usage: M313C, M313D, M315C, M315D, M316C, M316D Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install 155-0835 Bearing Retainer Nut from swing drive
- Used with 3/4 inch square drive torque wrench

Reference

- M313C & D, M315C & D, M316C & D Disassembly and Assembly Service Manuals

Specifications

- Square drive: 3/4 in
- Tooth width: 9.5 mm (0.38 in)
- Tooth spacing: 3, equally spaced

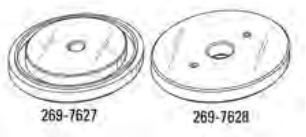
Part Number	Description
304-5800	Socket

Seal Installer and Pinion Backlash Tools for M300C Axles

Essential Tool

Model Usage: M300C Wheeled Excavators

Warranty: Caterpillar® Six Months



References

- RENR8618, M315C Power Train
- RENR8621, M316C Power Train
- RENR8622, M318C Power Train

Part Number	Description	Use
269-7627	Seal Installer	Makes large axle seal installation easier and more accurate
269-7628	Disk Measure	Determines shim thickness for pinion backlash

Hook Spanner, Spanner Insert

Essential Tool

Model Usage: M318 Wheeled Excavator (8AL-2385-UP), M318C, M318D, M322C, M322D Wheeled Excavator, M322C, M322D Material Handler Wheeled Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install 179-3152 Collar Nut in swing drive assembly
- Designed for high torque requirements

Reference

- RENR6676-03, M318C Disassembly and Assembly Service Manual — Machine Systems

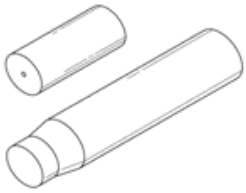
Part Number	Description
240-8274	Spanner Insert
305-4538	Hook Spanner

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Seal Installer

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to install brake piston seal

Reference

- SENR6258; M318, M320 Power Train Disassembly and Assembly

Part Number	Description
9U-6053	Seal Installer

Assembly Jig

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove and install transmission clutch retainer rings

References

- RENR6675, M318C Power Train Disassembly and Assembly
- RENR6964, M315C Power Train Disassembly and Assembly
- RENR6991, M316C Power Train Disassembly and Assembly
- SENR6258; M318, M320 Power Train Disassembly and Assembly

Part Number	Description
9U-6071	Assembly Jig

Seal Driver

Model Usage: M300 Series Wheeled Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to install shaft seal on axle hub
- Use with 8T-0994 Handle

References

- RENR6675, M318C Power Train Disassembly and Assembly
- RENR6964, M315C Power Train Disassembly and Assembly
- RENR6991, M316C Power Train Disassembly and Assembly
- SENR6258, M318, M320 Power Train Disassembly and Assembly

Part Number	Description
123-6707	Seal Driver

Service Tools for Lexion Combines

Essential Tool

Model Usage: 450, 460, 465, 480, and 485 Lexion Combines

Warranty: Caterpillar® Six Months

References

- SEBU7117, Operation and Maintenance Manual for 480 and 485
- SEBU7119, Operation and Maintenance Manual for 450, 460 and 465
- RENR1645, Service Manual, Disassembly and Assembly for 450, 460 and 465
- RENR1708, Service Manual, Disassembly and Assembly for 480 and 485

Part Number	Description	Use
162-4138	Eyebolt, M22 x 1.5 thread	Remove hydrastatic drive pump
176-5320	Coupling Nut, M10 x 1.5, 24 mm long	—

SERVICE TOOLS FOR WHEEL-TYPE EXCAVATORS

Service Tools for M312 Wheeled Excavator

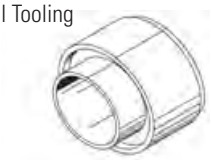
Model Usage: M312 Wheeled Excavators

Warranty: Caterpillar® Six Months

Transmission Tooling



Differential Tooling



- Used to disassemble and assemble axle, differential, and transmission
- Used with other available hand tools to make repairs go much easier and faster

Axle Tooling

- 129-1063 Riveter used to install plugs in internal gear housing and wheel hub
- 135-9811 Brake Spring Pliers used to remove and install brake springs
- 135-9814 Hook Spanner used to remove and install wheel hub spanner nut on both front and rear axles
- 135-9818 Tie Rod Separator used to disassemble tie rods from steering knuckles

Differential Tooling

- 135-9816 Seal Driver used to install shaft seals into rear of differential housing

Transmission Tooling

- 135-9817 Hook Spanner used to remove spanner nuts from spur gear drive assembly

Reference

- SENR8944, Disassembly and Assembly M312 Excavator Power Train

Transmission Tooling: 135-9817 Hook Spanner (Item 1):

- Outside diameter: 69.72 mm (2.745 in)
- Tooth inside diameter: 54.94 mm (2.163 in)
- Tooth width: 7.16 mm (0.282 in)
- Tooth height: 12.37 mm (0.487 in)
- Number of teeth: 6
- Hex size: 30 mm

Part No.	Description
135-9817	Hook Spanner, Transmission Tooling
135-9816	Seal Driver, Differential Tooling



Axle Tooling: 129-1063 Riveter Kit

- Overall length: 53 cm (21 in)
- Tips: 3, interchangeable

Axle Tooling: 135-9811 Brake Spring Pliers

- Overall length: 66 cm (26 in)
- Replaceable tip: 135-9879

Axle Tooling: 135-9814 Hook Spanner

- Outside diameter: 13.77 cm (5.421 in)
- Tooth inside diameter: 11.84 cm (4.66 in)
- Tooth width: 9.98 mm (0.393 in)
- Tooth height: 12.52 mm (0.493 in)
- Number of teeth: 6
- Hex size: 36 mm

Axle Tooling: 135-9818 Tie Rod Separator

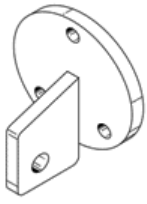
- Outside diameter: 82.72 mm (3.257 in)
- Inside diameter: 54.0 mm (2.13 in)
- Shaft length (outer): 93.5 mm (3.68 in)
- Shaft length (inner): 87.15 mm (3.431 in)
- Thread: 3/4-16

Item	Part Number	Description
1	129-1063	Riveter Kit
2	135-9811	Brake Spring Pliers
3	135-9814	Hook Spanner
4	135-9818	Tie Rod Separator

Lifting Bracket Assembly

Model Usage: 500C Series Compactors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install eccentric weights in pods of compactor drum — saves time and eliminates bearing damage during assembly and disassembly of drum
- Offset lifting point provides correct positioning for level lifting of eccentric weight

Bolts to top of eccentric weight and uses standard 12.7 mm (0.5 in) shackle

Specifications

- Weight: 0.7 kg (2 lb) approx.
- Diameter: 99 mm (4 in)
- Height: 65 mm (2.5 in)
- Lifting hole: 13.8 mm (0.54 in)

Part Number	Description
148-2700	Lifting Bracket Assembly

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Superbolt Torque Tools

Model Usage: 793 and 797 OHTs

Warranty: Caterpillar® Six Months



- 480-7870 aids in torquing the bolts that are part of the 797 front strut superbolts assembly (467-0074) to the proper torque
- 483-4966 aids in torquing the bolts that are part of the 797 ball stud superbolts assembly to the proper torque
- 483-4967 aids in torquing the bolts that are part of the 793 ball stud superbolts assembly to the proper torque

Reference

- TEKQ1197 Salesgram "Superbolt Option for Cat® 797 Large Mining Trucks Front Struts"

Part No.	Description	Specifications	Max. Torque	Color	Drive
480-7870	Superbolt Torque Tools Group	180mm with ½" drive both ends	65 ft lbs	green	M8 x 3/8" M8 x 1/2"
483-4966	Torque Stick	180mm with ½" drive both ends	120 ft lbs	grey	9/16 x 1/2 "
483-4967	Torque Stick	180mm with ½" drive both ends	75 ft lbs	black	7/16 x 1/2"

Pneumatic Angle Nut Runner

Model Usage: All Cat® Projects



- Used to reduce operator fatigue when installing superbolts on 793F and 797F OHT applications
- Wrenches can be set to required torque and stall out when set torque is reached.
- Requires 90 psi air pressure
- Externally adjustable precision shutoff clutch for consistent joints; ISO 5393 tested
- Ergonomic grip for operator comfort
- Ideally positioned reverse ring for ease of use
- Quiet operation
- Non-lube motor
- Longer service life through precision machine and heat treatment

Part No.	Drive	Shutoff Torque Ft-Lb (Nm)				Length	Width	Weight
		At 90 psi	rpm	At 70 psi	rpm	in (mm)	in (mm)	lb (kg)
489-2533	1/2"	18.4-40.6 (25-55)	425	18.4-36.1 (25-49)	400	17.8" (453)	1.71" (44)	5.40 (2.45)
489-2534	1/2"	33.2-66.4 (45-90)	255	33.2-59.0 (45-80)	240	17.5" (445	1.76" (45)	5.40 (2.45)
489-2535	1/2"	55.3-110.6 (75-150)	145	55.3-98.1 (75-133)	140	19.2" (489)	1.97" (50)	6.88 (3.12)
489-2536	3/4"	92.2-166.0 (125-225)	90	92.2-163.7 (125-222)	85	20.0" (508)	2.09" (53)	8.86 (4.02)

Superbolt Angle Nut Runner

Model Usage: 797 Mining Truck

Warranty: Manufacturer's





- Used to aid in reducing operator fatigue when installing Superbolts on 797F front struts
- Wrenches can be set to required torque and stall out when set torque is reached

REPAIRS

Apex Tool Group, www.apextoolgroup.com

1000 Lufkin Road, Apex, NC 27539

919-387-0099 p 919-387-2614 f

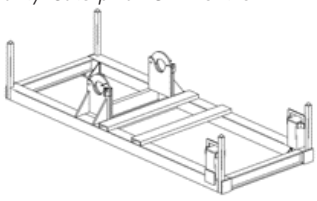
Part No.	Description
492-5762	Superbolt Angle Nut Runner Tool Assembly
492-5763	Superbolt Angle Nut Runner Controller

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Shipping Stand Assembly (797 Tandem Engine)

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to store and ship 3524 Engines
- Also used to ship remanufactured (Reman) engines

Reference

- RENR2036, Service Manual, Powertrain Disassembly and Assembly

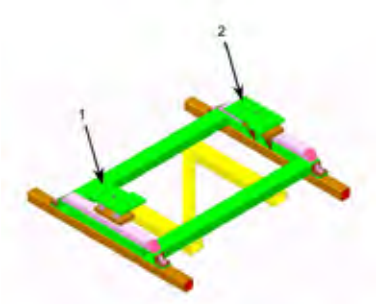
Part Number	Description
203-9603	Shipping Stand Assembly (797 Tandem Engine)

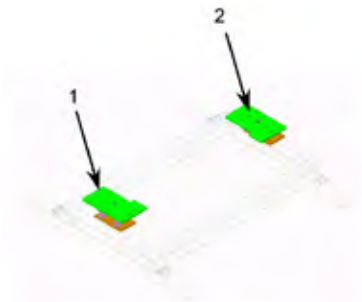
Riser Group, Brace Assembly

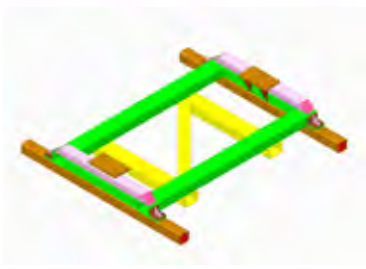
Essential Tool

Model Usage: 797F and 795F Off-Highway Trucks

Warranty: Caterpillar® Six Months







- Used to hold radiator, with shrouding and ladders, in vertical position
- Used with 175-7532 Radiator Support Assembly
- Provides a secure platform for off-truck maintenance of radiator assembly
- 313-9096 LH Fixture Assembly Riser, and 313-9097 RH Fixture Assembly Riser are serviced separately

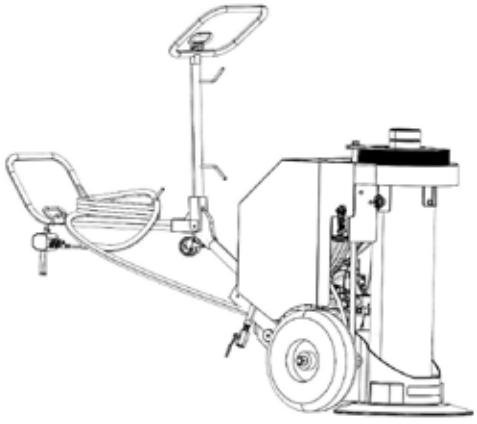
313-9094 Riser Group

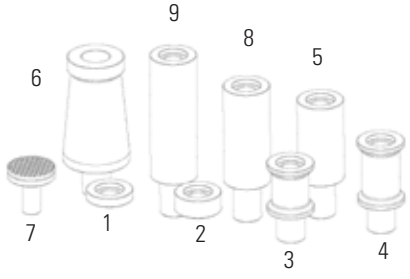
- Consists of left-hand fixture assembly, right-hand fixture assembly, and necessary mounting hardware
- Eyebolt allows use of overhead lifting device for assembly onto 175-7532
- Dowel pins precisely locate risers on 175-7532
- Multiple bolt hole pattern fits a variety of radiator mounting brackets

Item	Part Number	Description
—	313-9094	Riser Group
—	6V-8237	Hard Washer
—	8T-0666	Bolt, M24 x 76.2 mm (3.0 in) long
1	313-9096	Left-Hand Fixture Assembly, 251 Kg (553 lb)
2	313-9097	Right-Hand Fixture Assembly, 251 Kg (553 lb)

Power Riser (200 Ton Capacity)

Warranty: Supplier Limited Lifetime





ANSI B30.1-2009, AS/NZS-2538, AS/NZS-2693, CE Compliant

- Provides continuous locking protection during lift, lower and hold functions
- Patent-pending control technology synchronizes cylinder and lock nut for smooth and efficient lifting and lowering
- Air powered, portable, self-contained unit
- Unique double-acting cylinder offers a low collapsed height to accommodate more lifting applications
- Simple 2-button pendant allows operation of raise/lower functions from up to 20 feet away
- All exposed load-bearing steel cylinder components utilize a nitrocarburizing treatment to reduce wear and resist corrosion

Part No.	466-1788	466-1773
Stroke	14 in (356mm)	24.5 in (622mm)
Lifting Capacity	200 ton (1779 kN)	
Max Operating Pressure	10,000 psi (689bar)	
Oil Capacity	5 gal (18.9 L)	
Dimensions	(1468 x 645 x 1626 mm) 57.8 x 25.4 x 64.0 in	
Weight	1105 lbs (501 kg)	1320 lbs (599 kg)

Service Parts

Air Solenoid Seal Kit	466-1781	
Air Solenoid Service Assm Kit	466-1782	
Cylinder Seal Kit	466-1783	
Swivel Load Cap	466-1784	
Hose Assm, 20 Ft Air Pendant	466-1785	
Shroud Assm	466-1786	466-1791
Pendant – Air Motor	466-1787	

Accessories

Item	For Use With:	466-1788	466-1773
1	Spacer – 1 in (25.4mm)	466-1774	
2	Spacer – 2 in (50.8mm)	466-1775	
3	Extension – 5 in (127mm)	466-1776	
4	Extension – 7 in (177.8mm)	466-1777	
5	Extension – 9 in (228.6mm)	466-1778	
6	Extension Base Adapter– 12 in (304.8mm)	466-1779	-
7	Flat Load Cap – 1.3 in (33.8mm)	466-1780	
8	Extension – 11 in (279.4mm)	466-1789	-
9	Extension – 14 in (355.6mm)	466-1790	-

NOTE: This is a direct-ship item.

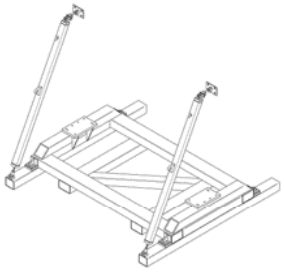
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Radiator Support Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to hold radiator with shrouding and ladders in vertical position
- Provides a secure platform for off-truck maintenance of radiator
- 3-piece assembly for easier shipping and storage
- Designed with fork lift tubes for easier movement

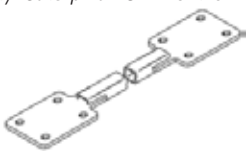
Part Number	Description
175-7532	Radiator Support Assembly

Radiator Cowl Support Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to maintain side-to-side radiator assembly mounting dimension for side shrouds
- Allows easy reinstallation of radiator assembly into truck frame after overhaul by ensuring accurate alignment with frame mounting pads
- Used with 175-7532 Radiator Support Assembly
- Bolts to 4-hole mounting flange on side shroud
- Reduces risk of radiator core damage during overhaul
- Overall length: 3460.0 mm (136.0 in)

Part Number	Description
195-9649	Radiator Cowl Support Assembly

Wrench, 30 mm (1.2 in)

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to easily remove and install hydraulic hoist pump
- 30 mm (1.2 in) box end wrench is bent to reach pump mounting bolts
- Span: 30.0 mm (1.2 in)

Part Number	Description
185-0622	Wrench, 30 mm (1.2 in)

Tie Rod Removal and Installation Tooling Group

Model Usage: 797F, 793F

Warranty: Caterpillar® Six Months



- Removes ball stud from cylinder and tie rod
- Increases efficiency by allowing in-chassis removal which saves approx 30 labor hours

Reference

- M0069418 (NEHS1269)

Part No.	Description	Model
509-2877	Tie Rod Removal and Installation Tooling Group	797F
509-2878	Tie Rod Removal and Installation Tooling Group	793F

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Truck Tie Rod Support Stand

Model Usage: 797F Mining Truck



- Used to aid in removing and installing the steering linkage (tie rods) and steering cylinders
- Bolts to/used with the 1U-7505 transmission jack stand
- Replaces fabricated FT2678

Part No.	Description	Length	Weight
485-8004	Truck Tie Rod Support Stand	875 x 380 x 302 mm (34.4 x 15 x 11.9 in)	25 kgs (55 lbs)

Lift Plate Assembly

Model Usage: 793D

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to safely and efficiently remove and install 793D OHT torque converters
- Used with load rated eye-bolt assembly (421-5663)
- Made of steel

Specifications

- Overall Dimensions: 396 x 107 x 63.5 mm (15.6 x 4.2 x 2.5 in)
- Weight: 8 kg (17.6 lb)
- Working Load Limit: 1,129 kg (2,489 lb)

Part Number	Description
452-3340	Lift Plate Assembly

Hoist and Rear Suspension Cylinder Handler Tooling

Model Usage: Large Off-Highway Trucks (including 797)

Warranty: Manufacturer's One Year
Send warranty-related questions to:

warranty@hedweld.com.au



- Positive and firm restraining of the cylinder enables it to be tilted to various angles for removal or installation to difficult locations.
- Simple, quick attachment to 980G or IT62H
- Adjustable arm length for extended reach (approx. max extension 2280 mm)
- Adjustable wire ropes to clamp cylinders of varying diameters

Reference

- NEHS1286, NSHS1286, NPHS1286
- KENR8382, RENR2037

Part No.	Description	Dimensions	Weight	WLL
513-0254	Quick Hitch Tool Group	1949 x 1250 x 1234 mm (77 x 50 x 49 in)	877 kg (1934 lb)	2500 kg (5512 lb)
513-0255	Cylinder Clamp Assembly	1747 x 590 x 423 mm (69 x 24 x 17 in)	120 kg (265 lb)	2500 kg (5512 lb)

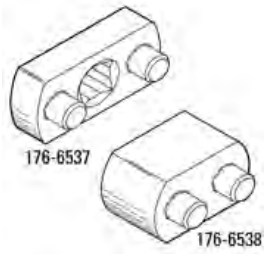
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Cylinder Pin Spanner Wrench, Ball Stud Spanner Wrench

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install 152-5572 Cylinder Pin and 156-8136 Ball Stud Pin when servicing steering linkage (keeps pin or ball stud from turning)
- Used with 1 inch square drive wrench
- Provides pins that accurately fit reaction holes
- Heat treated for strength and long wear life

Part Number	Description	Center Distance Between Pins
176-6537	Cylinder Pin Spanner Wrench	68 mm (2.677 in)
176-6538	Ball Stud Spanner Wrench	36 mm (1.417 in)

Modified Socket, 55 mm

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install steering arm bolts (M36 bolt with 55 mm hex head)
- Used with 1 inch square drive pneumatic or hydraulic wrench
- Made to fit limited clearance of steering arm
- 6 point, deep well socket, with black industrial finish
- Rugged design works with impact wrench

Reference

- RENR2037, Service Manual, Disassembly and Assembly

Specifications

- Outside diameter: 82.5 mm (3.25 in)
- Overall length: 11.11 cm (4.38 in)
- Cut-down diameter: 74 mm (2.9 in)
- Cut-down length from end: 25.0 mm (0.98 in)
- Square drive: 1 in
- Socket depth: 38.1 mm (1.50 in)

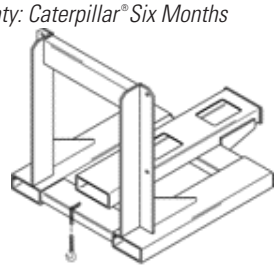
Part Number	Description
203-5430	Modified Socket, 55 mm

Lifting Adapter Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used w/forklift to remove/install differential
- Used to remove first and second reduction planetaries and ring gear from final drive, with 153-1174 Adapter Assembly Group, 153-1175 Adapter Assembly Group and 152-7247 Lifting Outer Carrier Adapter Assembly
- Large fork pockets accommodate many different sizes of forklifts

Specifications

- Fork pocket height: 152 mm (6 in)
- Fork pocket width: 305 mm (12 in)
- Fork pocket depth: 1372 mm (54 in)
- Inside spread for forks: 787 mm (31 in)
- Maximum capacity: 3357 kg (7,400 lb)

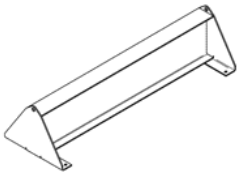
Part Number	Description
160-1831	Lifting Adapter Group

Roll-Over Stand

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to disassemble and assemble differential [122 cm (48 in) height positions components for easier access]
- Provides proper working access to improve accuracy and reduce disassembly and assembly time
- Used with 4C-9832 Roll Over
- Requires permanent mounting
- Sold in pairs

Specifications

- Capacity: 256,000 kg (16,000 lb)

Part Number	Description
195-6167	Roll-Over Stand

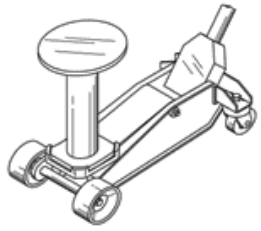
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Gear Extension Jack

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to raise and lower differential long shaft during backlash adjustment procedure
- Improves accuracy of bearing settings and bevel gear backlash adjustments
- Reduces assembly time (helps eliminate trial and error adjustments)

Specifications

- Capacity: 1,814 kg (2 tons)
- Minimum height: 495 mm (19.5 in)
- Maximum height: 565 mm (35.8 in)

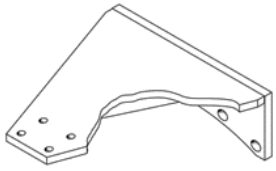
Part Number	Description
195-4988	Gear Extension Jack

Adapter Bracket Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Supports/rotates differential carrier during dis/assembly (2 brackets required)
- Used with 4C-9832 Large Engine Roll-Over Stand
- Bracket attaches to differential using 7X-0445 Hex Head Bolt, 7X-0451 Hex Nut, and 7X-0533 Flat Hard Washer
- Bracket allows 360° rotation for easier access to all surfaces and attached components
- Bracket attaches to engine stand using 7X-0370 Hex Head Bolt, 6V-8182 Hex Nut, and 8T-4994 Flat Hard Washer
- Length x Width x Height: 62.5 x 56.5 x 25.4 cm (24.60 x 22.25 x 10.00 in)

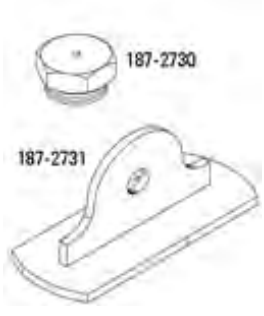
Part Number	Size	Quantity	Description
Adapter Bracket Assembly			
160-1728	—	—	Adapter Bracket Assembly
Attachment Hardware			
6V-8182	3/4-10	8	—
7X-0370	3/4-10 x 88.9 mm (3.5 in) long	8	—
7X-0445	1 1/4-7 x 12.7 cm (5.0 in) long	8	—
7X-0451	1 1/4-7	8	—
7X-0533	1 1/4 in	16	—
8T-4994	3/4 in	16	—

Adapter, Lift Bracket Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks (187-2730 Adapter for serial numbers 5YW1-Up and JSM1-129)

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (187-2731)

Adapter

- Used to lift bevel pinion gear assembly
- Used with 1P-7404 Eyebolt and overhead lifting device capable of lifting 340 kg (750 lb)
- To lift pinion gear, remove oil plug and install adapter
- Outside diameter threads: 2 1/2-12
- Inside diameter threads: 5/16-18

Reference

- RENR2036, Service Manual, Powertrain Disassembly and Assembly

Lift Bracket Assembly

- Used to lift differential housing during disassembly and assembly
- Used with 186-6089 Rollover Fixture, 186-6090 Rollover Fixture, or 186-6091 Rollover Fixture
- Used with overhead lifting device capable of lifting a rotating housing to 454 kg (1000 lb)
- Fits into rotating housing with differential gear
- Overall length: 220 mm (8.7 in)
- Lifting hole diameter: 25.4 mm (1.0 in)

NOTE: Make sure adapter is removed and replaced with original oil plug and a new O-ring.

Part Number	Description
187-2730	Adapter
187-2731	Lift Bracket Assembly

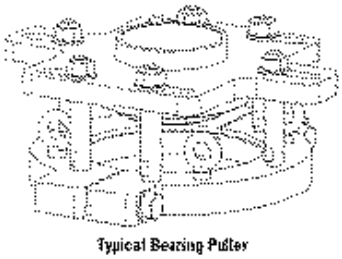
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Differential Bearing Pullers

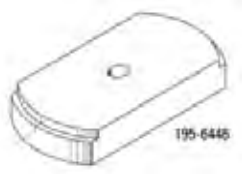
Essential Tool

Model Usage: 797 Off-Highway Truck

Warranty: Caterpillar® Six Months



Typical Bearing Puller



- Used to remove bearing cones without cutting/grinding inner bearing race (rollers and cage must be removed from race prior to use this tooling)
- Used with hydraulic cylinder, hose group, and pump
- Reduces risk to maintenance personnel due to broken race and cup (applies even removal force on entire bearing race)
- Reduces chance of damaging differential housing during bearing race removal

Part Number	Description
194-3725	Bearing Puller Group

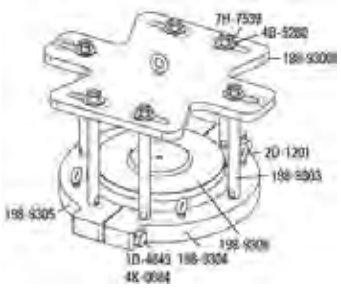
Part Number	Description
Service/Repair Parts	
1A-1935	Hex Nut, 1-14
1D-4616	Hex Head Cap Screw, 3/4 -10 x 6.0 in long
1D-4620	Hex Head Cap Screw, 3/4 — 10 x 7.0 in long
4B-4283	Plain Washer, 3/4 in bolt
4B-4285	Plain Washer, 1 in bolt
5F-9338	Hex Head Cap Screw, 1 — 8 x 7.0 in long

Bearing Puller Group, 150T

Essential Tool

Model Usage: 797 Off-Highway Truck

Warranty: Caterpillar® Six Months



- Removes differential long shaft heel bearing
- Decreases possible damage to shaft over using conventional cutting techniques

Part Number	Description	Qty.
194-3725	Bearing Puller Group	—
1D-4649	Bolt	2
2D-1201	Eyebolt	4
4B-5280	Screw Washer	6
4K-0684	Hardened Washer	2
7H-7539	Nut — Full, 1 1/4 — 12	6

Spider Gear Assembly Handler

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Lifts spider gear assembly and side gear with 1U-7461 Press and 194-5246 Press Guide Plate
- Provides proper balance during installation and removal
- Reduces chipping or damaging gears
- Designed for easy use with press equipment

Reference

- RENR2036, Service Manual, Power Train Disassembly and Assembly

Specifications

- Overall size: 180 x 430 x 1750 mm (7 x 17 x 69 in)
- Weight: 90 kg (40 lb)

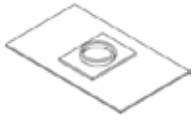
Part Number	Description
194-4810	Spider Gear Assembly Handler

Spider Gear Plate Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Holds spider gear during bearing installation (reduces chance of handling damage)
- Used with 1U-7461 Economy Shop Press, 55 Ton and 194-4810 Lifting Device

Reference

- RENR2036, Power Train Disassembly and Assembly for 797 Off-Highway Truck Differentials

Specifications

- Overall size: 356 x 686 mm (14.0 x 27.0 in)

Part Number	Description
194-5246	Spider Gear Plate Assembly

Puller Group

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to remove 183-9511 Spider Gear and 156-4594 Spider Bearing Assembly
- Used with 1P-0820 Puller Group
- Reduces chipping gear teeth during removal
- Designed for easy use with assembly equipment
- Requires two 8B-7549 Push Puller Legs and four 3H-0465 Plates

Item	Part Number	Description
1	191-8306	Gear Puller
2	191-8307	Rod
3	6B-6683	Nut
4	4B-4281	Washer
5	8B-7549	Leg — Push Puller 16.5 in
6	3H-0465	Puller Plate
7	1P-0820	Puller Group — Hyd
Not Shown	191-8308	Cap
—	196-1231	Puller Group

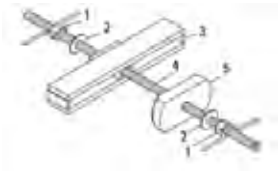
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Bearing Puller Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Removes 6V-0460 Pinion Toe Bearing Cup
- Reduces cracking differential housing during cone removal — cost of tooling is greatly offset by potential damage of housing
- Used with 316-1491 Cylinder

Reference

- SENR2036, Service Manual, Power Train Disassembly and Assembly

Item	Part Number	Description	Quantity
—	196-1218	Bearing Puller Group	—
1	9U-6809	Nut — Fast Runner, (M36 x 4)	2
2	3S-6162	Hard Washer	2
3	150-1784	Cross Block	—
4	9U-7998	Puller Stud	—

Bearing Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Installs 156-4594 Spider Gear Bearing Assembly
- Reduces bearing/gear damage during installation
- Used with 1U-7461 Press and 194-5246 Guide Plate

Part Number	Description
191-7886	Bearing Driver, Heel Bearing Cup
191-7888	Bearing Driver, Toe and Heel Bearing Cones
191-7891	Bearing Driver, Toe Bearing Cup

Spiral Bevel Gear Handler

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to lift spiral bevel gear and spiral bevel pinion
- Provides proper balance during installation and removal procedure
- Designed for easy use with assembly equipment
- Reduces chance of chipping or damaging gear teeth

Reference

- RENR2036, Service Manual, Power Train Disassembly and Assembly

Specifications

- Overall size: 660 x 1020 x 1400 mm (26.0 x 40.0 x 55.0 in)
- Weight: 310 kg (140 lb)

Part Number	Description
194-4791	Spiral Bevel Gear Handler

Seal and Bearing Drivers

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install seals and bearings in differentials
- Heat-treated for added durability

Part Number	Description	Use
186-0339	Seal Driver	151-8641 Lip-type Seal
186-0352	Cup Driver	147-9506 Roller Bearing Cup
190-6106	Guide — Seal Alignment	151-8641 Seal
194-8664	Sleeve Driver	151-8642 Wear Sleeve
195-0953	Cone Driver	147-9505 Cone Bearing

Reamer

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used during installation of new differential gear and pinion
- Installation of new differential gear or pinion requires line reaming ground body bolt holes through case flange to ensure alignment and proper ground body bolt installation

Specifications

- Cutting diameter: 20.269 mm (0.798 in)
- Overall length: 241.3 mm (9.5 in)
- Flute length: 63.5 mm (2.5 in)
- Shank diameter: 15.862 mm (0.6245 in)
- Shank type: straight

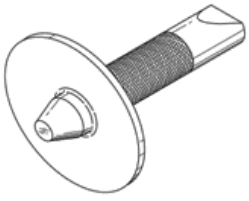
Part Number	Description
190-6107	Reamer

Ball Driver Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 4B-9784, 9W-7226, and 6Y-3083 Ball Plugs to proper depth
- Strike tapered end with hammer to seat ball plugs
- Designed with hand protection shield to prevent injury
- Made of hardened-steel for longer life

Part Number	Description
194-1634	Driver Assembly

Staking Punch Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks (serial number 5YW1-up), 797B Off-Highway Trucks (serial number JSM1-up)

Warranty: Caterpillar® Six Months



- Stakes differential spider gears to shaft
- Urethane guard prevents hand injury during staking process
- Hardened for added durability

References

- RENR2036, Disassembly and Assembly, 797 Off-Highway Truck Power Train, Differential and Bevel Gear Assembly
- RENR2577, Disassembly and Assembly, 797 Off-Highway Truck Power Train, Differential and Bevel Gear Assembly
- SEPD0856, Service Magazine (September 25, 2006), An Update to the Spider Assembly Improves the Retention of the Stake Nut in the Differential Assembly

Part Number	Description
297-2795	Staking Punch Assembly

186-0339

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)

Reference

- RENR2036, Service Manual, Powertrain Disassembly and Assembly for 797 Off-Highway Trucks "

1178-0344 Master Bearing Gauge

- Used to determine correct shim thickness when adjusting tooth contact pattern of bevel pinion gear
- Used with 194-4524 Position Gauge
- Bearing has precision ground, slip-fit inside diameter to easily remove bearing cone when determining shim thickness
- Greatly reduces risk of bearing cone and mating component damage during setting procedure

NOTICE:

Do not leave this master gauge (bearing cone) assembled in the pinion. It will cause bearing failure and possible differential component failure.

Part Number	Description
178-0344	Master Bearing Gauge

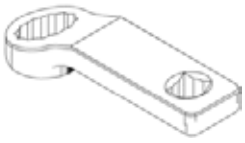
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Pinion Wrench

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Tightens nut on bolted joint of bevel pinion
- Used with 9U-5007 Torque Wrench or equivalent
- Use when tapered bearing is installed on pinion shaft
- Heat-treated for added strength and durability

Specifications

- Hex: 30 mm, double hex
- Square drive: 3/4 in
- Center to center distance of square drive to socket: 10.2 cm (4.0 in)

Part Number	Description
201-1144	Pinion Wrench

Front Wheel Bearing Handler

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to lift front wheel bearing and differential bearing
- Provides proper balance during installation and removal
- Designed for easy use with bearing heating equipment
- Reduces possibility of damaging bearings

Reference

- RENR2036, Service Manual, Power Train Disassembly and Assembly

Specifications

- Use: 171-4745 Front Wheel Bearing
- Overall size: 550 x 680 x 750 mm (22 x 27 x 30 in)
- Weight: 90 kg (42 lb)

Part Number	Description
195-3175	Front Wheel Bearing Handler

Seal Alignment Guide

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 151-8641 Seal
- Helps prevent damage while installing differential spiral bevel pinion shaft seal
- Heat-treated for added durability and long tool life

Part Number	Description
190-6106	Guide — Seal Alignment

Plug Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to install 160-5582 Orifice Plug into 160-6288 Housing
- Installs orifice plugs quickly and to proper depth (eliminates measuring and guess work)
- Helps prevent installation damage that could occur using conventional hand tools
- Heat-treated for added durability
- Knurled handle prevents slipping
- Overall length: 158.0 mm (6.2 in)

Part Number	Description
194-8665	Plug Driver

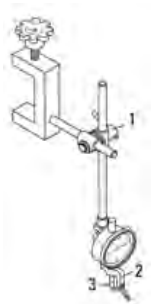
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Gauge Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to measure backlash on pinion bevel gear
- Used with 7H-1940 Universal Attachment (90 degrees) and 3S-3268 Tip
- Clamps onto differential casting to provide a stable mount\
- Provides more reliable readings over using an indicator with a magnetic base
- Allows better positioning of indicator tip (indicator tip should be perpendicular to tooth face at heel of gear)

Reference

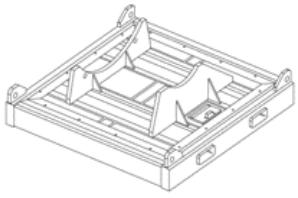
RENR2036, Service Manual, Power Train Disassembly and Assembly

Item	Part Number	Description
1	194-6226	Gauge Group
2	7H-1940	Universal Attachment
3	3S-3268	Point — Indicator Contact
	Service Part	
—	7H-1942	Indicator

Shipping Stand Group (Differential Bevel Gear)

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to hold differential bevel gear after removal

Part Number	Description
202-2054	Shipping Stand Group

Axle Adapters

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



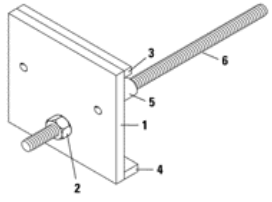
- Used to remove and install rear drive axles
- Heavy-duty, design protects axle threads
- 160-7682 Axle Adapter used for axles 145-8008 and 145-8009 (Serial Number 5YW1-233)
- 524-9350 Axle Adapter used for axles 185-8902 and 185-8903 (Serial Numbers 5YW234-up and JSM1-up)

Part Number	Description
160-7682	Axle Adapter

Gear Retainer Assembly

Model Usage: 797 Off-Highway Trucks

Warranty: None



- Used to hold final drive planet carrier in position inside rear axle housing
- Retains carrier position when axle is removed; makes reinstallation much easier because parts remain in alignment
- Prevents carrier from lowering out of position when sun gear is removed; can save several hours of sun gear reinstallation time

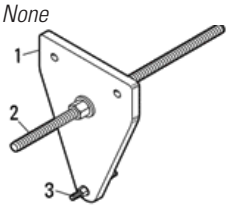
Item	Description	Material
1	Plate	SAE1018 steel
2	2J-3507	Nut
3	Plate	SAE1018 steel
4	Plate	SAE1018 steel
5	Tube	DOM
6	Threaded Rod	SAE1018 steel

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Sun Gear Retainer

Model Usage: 797 Off-Highway Trucks

Warranty: None



- Removes axle without removing final drive
- Prevents sun gear movement and retains final drive components in their correct position
- Each threaded rod is held in position with one nut and one washer
- Plate material: SAE1026 steel

Item	Description	Thread
1	Plate	—
2	Threaded Rod #98790A0381 (McMaster-Carr part number)	1/2 — 3
3	Threaded Rod #98790A0331 (McMaster-Carr part number)	1 — 8

Item	Part Number	Description
2	2J-3507	Nut
2	5P-8250	Hard Washer
3	1F-7958	Nut
3	5P-8245	Washer

Bearing Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Installs 174-3045 First Reduction Bearing Cup in 139-7638 Planet Gear with 1U-7459 or 1U-7461 Economy Shop Press, 55 Ton
- Reduces damage to bearing cup/planet gear
- Precision machined/heat treated for durability
- 201-1116 Driver used to remove 174-3045 Bearing Cup

Reference

- RENR2036, Service Manual, Powertrain Disassembly and Assembly

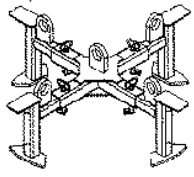
Part Number	Description
201-1112	Bearing Driver

Ring Gear Lifting Bracket

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Removes and installs final drive ring gears
- Removes inner/outer ring gears as one unit
- Rear wheel station must be in vertical position to use this tool

Reference

- RENR2036, Service Manual, Powertrain Disassembly and Assembly

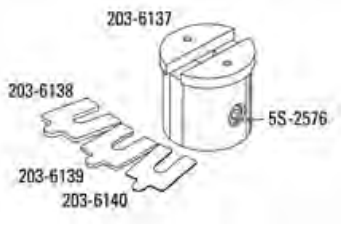
Part Number	Overall size	Description
199-8230	865 x 865 x 470 mm (34.0 x 34.0 x 18.0 in)	Ring Gear Lifting Bracket

Press Driver Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to remove 174-3045 Bearing Cup (first reduction) from 139-7638 Planet Gear
- Used with 1U-7459 or 1U-7461 Economy Shop Press, 55 Ton
- Reduces damage to bearing cup/planet gear
- 3 shims provided to expand diameter of driver (allows tool to work in worn or damaged bearing cups)
- Precision machined/hardened for durability

Reference

- RENR2036, Service Manual, Dis/Assembly

Part Number	Description
201-1116	Press Driver Group
203-6138	Shim, 2.50 mm (0.098 in) thick
203-6139	Shim, 1.27 mm (0.050 in) thick
203-6140	Shim, 2.5 mm (0.005 in) thick
5S-2576	Socket Head Bolt, 3/4 -10

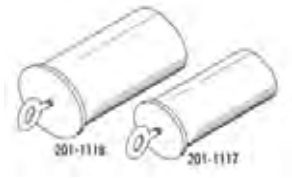
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Gear Retainer Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to assemble final drive planet gears into planetary group
- 201-1117 used with 139-7638 1st Reduction Gear in 179-7284 Planetary Group
- 201-1118 used with 139-7651 2nd Reduction Gear in 179-7285 Planetary Group
- Retains "planet gear to housing" alignment while positioning carrier in a hydraulic press
- Made from nylon material to prevent potential damage to planetary housing, gears, and/or bearings
- Includes 1P-7407 Eyebolt

Application Procedure

1. Place gear in planetary
2. Install nylon pin
3. Place planetary in hydraulic press
4. Remove nylon pin
5. Press steel pin into place

Reference

- RENR2036, Service Manual, Disassembly and Assembly

Part Number	Description
201-1117	Gear Retainer Assembly
201-1118	Gear Retainer Assembly

Alignment Tool

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to align splines on brake disc
- Allows for smooth, easy brake package installation on wheel stations

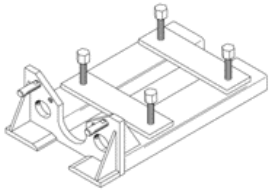
Part Number	Description
160-5492	Alignment Tool

Handler Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to quickly remove and install 147-5519 Front Strut Plate
- Used with fork lift and 174-9245 Front Strut Handling Group
- Works with 190-3694 Shim Gauge
- Provides full access to shim area and bolt positions
- Easier installation — lift tube jack screws allow plate position adjustment
- Lift tube dimensions (W x H): 305 x 203 mm (12.0 x 8.0 in)

Reference

- RENR2037, Service Manual, Disassembly and Assembly

Part Number	Description
196-6960	Handler Assembly

Forcing Bolt Assembly (M30)

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to tilt front strut in either direction to make installation easier
- Used with 174-9245 Front Strut Handling Group and 196-6960 Handler Assembly
- Can be ordered separately to replace damaged parts
- Thread size: M30 x 3.5
- Overall length: 165.0 mm (6.50 in)

Part Number	Description
196-8520	Forcing Bolt Assembly (M30 x 3.5, 16.5 cm [6.50 in] long)

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Drive Extended

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Removes/install wheel nuts with 194-7594 Special Reaction Arm, 194-7596 Deep Socket

Reference

- RENR2036, 797 Off-Highway Truck Power Train, Disassembly and Assembly Manual

NOTE:

Drive extension must be used with 194-7596 Deep Socket. Using a standard socket will not allow drive extension splines to fully engage into wrench, resulting in tool damage.

Part Number	Square Drive	Description
212-9332	1 inch	Extended Drive, 44 in Rims

Pneumatic Wrench Group

Model Usage: 797, 797B and 797F Off-Highway Trucks

Warranty: Caterpillar® Six Months



REPAIR INFORMATION

Global Bolting Technologies, Inc.
827 Anchor Avenue
Billings, MT 59105-2519
Phone and fax: (406) 259-9111
E-mail: torctim@imt.net

- Made as ordered (MAO)
- Used to remove and install wheel nuts
- Tightens nuts to max 4125 N·m (3000 ft-lb)
- Output torque is set by adjusting air supply pressure on regulator (part of cage assembly)
- Group includes a cage assembly with built-in air filter, regulator, and automatic air line oiler
- Requires 4C-8856 Fitting and 8T-9568 Oil
- Facilitates only having to buy wrench group one time (443-7801), then purchase accessory packages for wheel changing (443-7795 for 795F AC or 443-7797 for 797)

Specifications

- 194-7609 Hose Assembly:
  - Inside diameter: 1/2 in
  - Length: 3.7 m (12.9 ft)
  - Hose ends: 1/2 NPT (1 end) and quick disconnect (opposite end)
- 194-7610 Cage Assembly:
  - Overall size: 33.7 x 38.7 cm (13.3 x 15.3 in)
- 194-7612 Pressure Gauge:
  - Pressure rating: 0 — 689 kPa (0 — 100 PSI)
  - Type: Liquid-filled
  - Stem size: 1/4 NPT

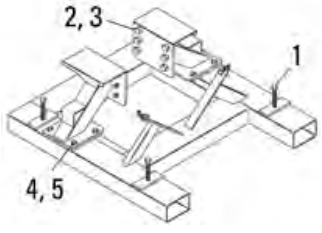
Item	Part Number	Description
—	443-7801	Pneumatic Wrench Group
1	—	Special Reaction Arm
2	194-7593	41 in Rims
2	212-9332	44 in Rims
3	194-7596	Deep Socket, 1 in square drive
3	443-7792	Deep Socket, 1 in spline drive
Not shown		
—	194-7591	Regulator Group (includes the following)
—	194-7609	Hose Assembly
—	194-7610	Cage Assembly
—	194-7611	Filter Assembly
—	194-7612	Pressure Gauge

Front Strut Handling Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Safely removes and installs front strut
- Equipped with lift tube jack screws to tilt strut 3 degrees in either direction
- Fully adjustable strut post (can be attached on or off handler support frame)
- Designed with fork lift tubes for easier movement of strut

Reference

- RENR2037, Service Manual

Specifications

- Working load limit: 11340 kg (25000 lb)

Item	Part Number	Description
—	174-9245	Front Strut Handling Group
1	196-8520	Forcing Bolt Assembly (M30 x 3.5, 16.5 cm [6.50 in] long)
2	160-6513	Hex Head Bolt (M36 x 4, 80 mm [3.15 in] long)
3	9X-8259	Hard Washer (M36)
4	6V-9199	Hex Head Bolt (M24 x 3, 50 mm [1.97 in] long)
5	6V-8237	Hard Washer

Pneumatic Wrench Group

Model Usage: 797, 797B and 797F Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to remove and install wheel nuts
- Tightens nuts to maximum torque of 4125 N·m (3000 ft-lb)
- Output torque is set by adjusting air supply pressure on regulator (part of cage assembly)
- Group includes a cage assembly with built-in air filter, regulator, and automatic air line oiler
- Requires 4C-8856 Fitting and 8T-9568 Oil (not included)
- Facilitates only having to buy wrench group one time (443-7801), then purchase accessory packages for wheel changing (443-7795 for 795F AC or 443-7797 for 797)

Specifications

- 194-7609 Hose Assembly:
  - Inside diameter: 1/2 in
  - Length: 3.7 m (12.9 ft)
  - Hose ends: 1/2 NPT (1 end) and quick disconnect (opposite end)
- 194-7610 Cage Assembly:
  - Overall size: 33.7 x 38.7 cm (13.3 x 15.3 in)
- 194-7612 Pressure Gauge:
  - Pressure rating: 0 — 689 kPa (0 — 100 PSI)
  - Type: Liquid-filled
  - Stem size: 1/4 NPT

REPAIR INFORMATION

Global Bolting Technologies, Inc.
827 Anchor Avenue
Billings, MT 59105-2519
Phone and fax: (406) 259-9111
E-mail: torctim@imt.net

Item	Part Number	Description
—	—	Pneumatic Wrench Group
1	—	Special Reaction Arm
2	194-7593	41 in Rims
2	212-9332	44 in Rims
3	194-7596	Deep Socket, 1 in square drive
3	443-7792	Deep Socket, 1 in spline drive
Not shown		
—	194-7591	Regulator Group (includes the following)
—	194-7609	Hose Assembly
—	194-7610	Cage Assembly
—	194-7611	Filter Assembly
—	194-7612	Pressure Gauge

Pilot Pins

Essential Tool

Model Usage: 793C, 793D, and 797B Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to aid in installation of differential and bevel gear assemblies in axle housing
- Pilot pins thread into housing to align components during assembly (used in pairs)
- Helps prevent premature wear due to misalignment
- Black oxide-coated for corrosion resistance and heat treated for durability and strength

Part Number	Description	Overall Length	Pin Diameter	Threaded End
347-3904	Pilot Pin	205 mm (8.07 in)	32 mm (1.26 in)	M30
351-0043	Pilot Pin	270 mm (10.63 in)	32 mm (1.26 in)	M30

Guide Stud

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to align and hold component in proper orientation during installation and removal
- Greatly reduces risk of damage to component being installed and other mating components
- Made of hardened steel for added durability
- Guide stud has wrench flats for easier installation and removal
- Black oxide-coated for corrosion resistance

Guide Stud	Thread	Thread Length	Overall Length	Use
174-8986	M30 x 3.5	55 mm	22.0 cm (3.9 in)	Align transmission to housing (2 req)
175-6853	M36 x 3.5	65 mm	28.5 cm (11.2 in)	Align rear wheel station to housing (2 req)
195-0954	M24 x 3.0	71-4 mm	16.5 cm (6.5 in)	Align spiral bevel pinion heel bearing cage to housing (2 req)

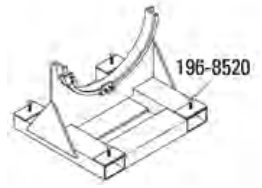
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Adapter Handler Group

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Remove/install 191-5196 Split Ring Adapters
- Handles both adapters at same time
- Split can be oriented in any rotary position
- Mechanically attached to handler group

Reference

- RENR2036, Service Manual, Dis/Assembly

Specifications

- Fork pockets: 203.2 x 304.8 mm (8.0 x 12.0 in)
- Center-to-center spacing on fork pockets: 1117.6 mm (44.0 in)
- Replacement bolt assembly: 196-8520

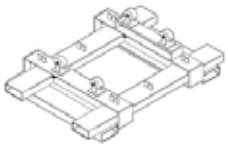
Part Number	Description
201-7602	Adapter Handler Group

Wheel Carrier Bracket Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Secures rear wheel station during removal and installation
- Front and side forklift transport tubes
- Roller bearing wheels allow rotation for aligning bolt holes
- Equipped with welded-on eye plates (76.2 mm [3 in] hole) for 3 tie down locations
- May use 1U-9723 Ratchet-Type Binder

Reference

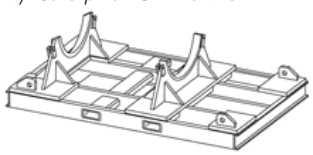
- RENR2037, Service Manual

Part Number	Description
173-6624	Wheel Carrier Bracket Assembly

Shipping Stand Group (Wheel Station)

Model Usage: 797 Off-Highway Truck

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Holds rear wheel stations after removal

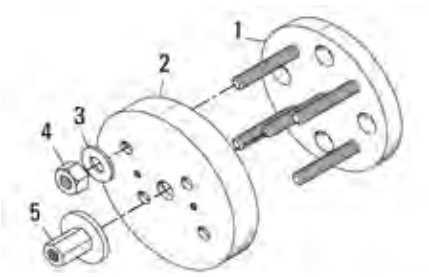
Part Number	Description
202-2053	Shipping Stand Group (Wheel Station)

Seal and Wear Sleeve Installer, Crankshaft Seal Locator Assembly

Essential Tool

Model Usage: 3524B Tandem Engine in 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 155-0423 Seal and Wear Sleeve Group on crankshaft of rear engine
- Used with one 9S-8858 Nut Assembly, four 5P-8249 Nuts, and four 5P-8249 Washers (must be ordered separately)

Application Procedure

1. Bolt locator to crankshaft using 4 existing crankshaft bolts.
2. Place wear sleeve in installer and place installer over 5 studs on locator.
3. Install 4 washers and nuts on outside studs and nut assembly on center stud.
4. Tighten all 5 nuts simultaneously to insure proper installation.

Item	Part No.	Description
1	192-6339	Crankshaft Seal Locator Assembly
2	187-1841	Seal And Wear Sleeve Installer
3	5P-8249	Hard Washer (attaches 439-3939 link brackets to D7E EDPM)
4	2J-3505	Full Nut
5	9S-8858	Nut Assembly

Lifting Bracket

Model Usage: 797/797B with C175 Engines

Warranty: Caterpillar® Six Months



- European Union Compliant
- Used to remove and install engine and torque converter
- Predetermined chain lengths put lift point above center of gravity

Reference

- NEHS1254, Tool Operating Manual

Part No.	Description	Dimensions	WLL	Weight
493-1502	Lifting Bracket	4750 x 1660 mm (187 x 65.4 in)	24,484 kg (54,000 lb)	748 kg (1649 lb)

Undercarriage Idler - Lower/Upper Roller Duo Cone Seal Installation Tools

Model Usage: 6015B, 6040, 6050, 6060

Warranty: Caterpillar® Six Months

- Assists in the installation of seals in the undercarriage idler, lower and upper roller assemblies
- A slotted plastic ring slipped around the seal ring is used to prevent damage to the seal during installation.

Part No.	Model	Description	Quantity Req.	Dimensions	Weight
510-8682	6040	Seal Installer Idler	1	335 x 335 x 50 mm (14 x 13.2 x 2 in)	0.6 kg (1.3 lb)
510-8683	6040	Seal Installer Lower Roller	1	276 x 258 x 75 mm (11 x 13 x 3 in)	0.5 kg (1.1 lb)
510-8684	6040 6050 6060	Seal Installer Upper Roller	1	260 x 243 x 50 mm (10.2 x 9.6 x 2 in)	0.35 kg (0.77 lb)
510-8685	6050 6060	Seal Installer Idler	1	465 x 446 x 50 mm (18.3 x 17.6 x 2 in)	0.7 kg (1.54 lb)
510-8686	6050 6060	Seal Installer Lower Roller	1	311 x 292 x 50 mm (12.2 x 11.5 x 2 in)	0.45 kg (1.0 lb)
1U-6436	6015B	Seal Installer Idler	1	252 x 252 x 12.4 mm (10 x 10 x 0.5 in)	0.65 kg (1.4 lb)
1U-6439	6015B	Seal Installer Lower Roller	1	211 x 211 x 11.7 mm (8.3 x 8.3 x 0.5 in)	0.6 kg (1.3 lb)
1U-8849	6015B	Seal Installer Upper Roller	1	152 x 152 x 8.8 mm (6 x 6 x 0.4 in)	0.2 kg (0.5 lb)

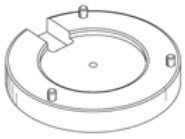
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Press Plate

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 147-8089 Bearing into 139-7631 Retainer and 139-7630 Guide
- Used with 1U-7459 and 1U-7461 55 Ton Economy Shop Press
- Reduces chance of damage to bearing cup and planet gear
- Precision machined and heat-treated

Reference

- RENR2036, Service Manual, Disassembly and Assembly

Part Number	Description
203-7705	Press Plate

Seal Installer Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Installs 144-5308 Duo-Cone Seal Group
- Required for proper installation of seal
- Makes installation faster and easier
- Eliminates rolling and twisting of toric ring
- Handhold slots for ease of handling and positioning

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Conventional Duo-Cone Seals

Specifications

- Seal diameter: 939.8 mm (37.0 in)
- Seal ramp angle: 15 degrees
- Installer OD: 975.1 mm (38.39 in)
- Installer width: 140.0 mm (5.51 in)

Part Number	Description
149-0974	Seal Installer Assembly

Installer Extension Ring

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 68.6 cm (27 in) Duo Cone seals
- Used with 4C-6582 Installer
- Provides extra length for deeper housings
- Makes installation faster and much easier
- Hand-hold slots for easy positioning

Specifications

- Outside diameter: 701.4 mm (27.61 in)
- Installer width: 170.0 mm (6.69 in)

Part Number	Description
158-6541	Installer Extension Ring

Pin Installation Tools for Rear Axle Linkage Pin and Rear Suspension Cylinder

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install pin and seal in rear axle linkage and rear suspension cylinder

Reference

- RENR2037, Service Manual

Seal Drivers

- Reduces risk of damage during seal installation
- Pilots on seals inside diameter
- Eliminates need for freezing seal prior to assembly
- Heat-treated for added durability

Part Number	Description	Use
196-7858	Seal Driver	Install discontinued 157-2386 Seal (rear axle linkage pin seal)

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Collet Gauges



- Requires one collet at each end of linkage pin (bolts directly onto linkage pin)
- Designed with three threaded pusher holes to push collet out of linkage pin bore, if necessary

Part Number	Description	Use
176-6544	Collet Gauge	Install 156-9804 Pin in rear axle linkage (centers pin end to end in linkage pin bore)
200-4279	Collet Gauge	Install 191-3628 Pin in rear suspension cylinder

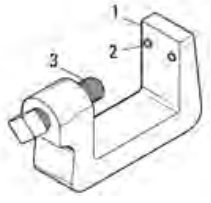
Modified Socket, 46 mm (1.81 in)



- Used to remove pin bolts on rear axle linkage and rear suspension cylinder pin
- Used with 1 inch square drive ratchet or breaker bar
- Short length allows socket to be used in minimum clearance applications

Part Number	Description
176-6543	Modified Socket, 46 mm (1.81 in)

Pin Joint Clamp Assembly



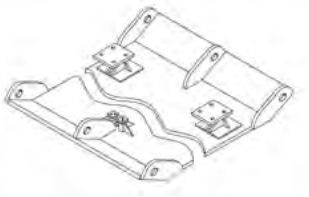
- Used to tighten and loosen rear axle linkage pin bolts
- Provides torque reaction arm support for hydraulic wrench
- Clamps onto machine to provide solid support

Item	Part Number	Description
1	176-6540	Pin Joint Clamp Assembly
2	9X-6611	Setscrew
3	2H-3896	Setscrew

Skid Group, Torque Converter Stand

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to remove and install torque converter without removing fuel tank
- Supports torque converter without risk of spline shaft damage

Reference

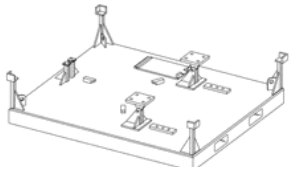
- RENR2037, Service Manual

Part Number	Description
186-3390	Skid Group, Torque Converter Stand

Shipping Stand Group (Converter)

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to hold converter after removal

Part Number	Description
202-2057	Shipping Stand Group (Converter)

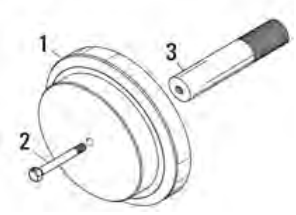
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Bearing Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install 158-7827 and 158-7828 Sleeve Bearings in torque converters
- Used with 1P-0532 Handle (part of 1P-0520 Driver Group)
- Quickly installs bearing to proper depth
- Heat-treated for added durability and long tool life
- Black oxide coating provides long corrosion free life

Reference

- SENR2036, Service Manual, Power Train Disassembly and Assembly

Specifications

- Bearing ID: 149.24 mm (5.875 in)
- Bearing OD: 155.78 mm (6.133 in)
- Bearing installation depth: 1.0 mm (0.04 in)

Item	Part Number	Description
1	198-4904	Bearing Driver
2	1P-0532	Handle [a]
3	4L-7124	Bolt — Hex Socket Head [a]

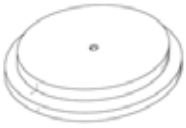
a. Part of 1P-0520 Driver Group

Seal Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to properly install 145-6048 Lip-type Seal in transmission and torque converter
- Used with 1P-0532 Handle

Reference

- RENR2036, 797 Power Train Disassembly and Assembly

Part Number	Description
198-3488	Seal Driver

Sleeve Bearing Driver Assembly

Model Usage: All 797

Warranty: Caterpillar® Six Months



- Installs the 140-7028 clutch 1 sleeve bearing into the 140-7026 ring gear hub
- Installs to the proper depth and eliminates measurement
- Reduces time by eliminating measurement step and provides consistent results
- Heat treated for added durability
- Replicates factory installation process

Part No.	Description	Dimensions	Weight
546-5745	Sleeve Bearing Driver Assembly	235 x 152 Dia mm (9.3 x 6 Dia in)	6 kg (13 lb)

Bearing Driver Assembly

Model Usage: All 797

Warranty: Caterpillar® Six Months



- Installs the clutch 1 bearing (148-6559) into the housing assembly (283-8007) to the proper depth
- Prevents oil leak path which occurs if bearing is installed to the wrong depth
- Reduces time by eliminating measurement step and provide consistent depth
- Heat treated for added durability
- Replicates factory installation process

Part No.	Description	Dimensions	Weight
541-9360	Bearing Driver Assembly	194 x 189 Dia mm (7.6 x 7.4 Dia in)	7 kg (14 lb)

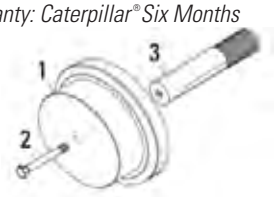
SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Bearing Driver

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install transmission sleeve bearing
- Used with 1P-0532 Handle (part of 1P-0520 Driver Group)
- Quickly installs bearing to proper depth
- Heat-treated for durability and long tool life

Reference

- SENR2036, Service Manual, Power Train Disassembly and Assembly

Item	Part Number	Description
1	198-4386	Bearing Driver
2	1P-0532	Handle [a]
3	4L-7124	Bolt — Hex Socket Head [a]

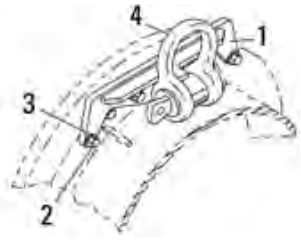
a. Part of 1P-0520 Driver Group

Transmission Removal and Installation Bracket Assembly

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install transmission with body attached
- Used with mobile cranes

Specification

- Maximum capacity: 6,350 kg (14,000 lb)

Item	Part Number	Description
—	193-5474	Shackle (55 ton)
1	169-3687	Transmission Removal and Installation Bracket Assembly
2	8T-0283	Hex Head Bolt
3	9X-8258	Washer

Transmission Hoist Group

Model Usage: 797 Off-Highway Trucks

Warranty: Manufacturer's One Year
Send warranty-related questions to:

warranty@hedweld.com.au



- The Cat® 797 Transmission Hoist is a specialized Trilift® hoist designed to assist with R&I of Cat 797 transmissions without removing the truck body.
- Frame designed to allow placement on truck chasis using the workshop overhead crane
- Hoist hydraulic functions include winch raise/lower, winch portal extend/retract and transmission right/left rotate or tilt via two additional cylinders.

Two Model Options Available

- Hoist P is pneumatic/hydraulic powered (515-4334.)
- Hoist D is powered by a self-contained Tier IV pollution-rated diesel motor powering the hydraulic pump (515-4336.)

Reference

- NEHS1288, NEHS1289, NSHS1287, NPHS1288, KENR8372, RENR2577, RENR2036

Key Features

- Eliminates dump body removal
- No mobile cranes required during removal/installation
- Work within one bay
- Reduced downtime
- Safety handrails and non-slip platforms provide a safe, stable working area for maintenance staff.
- 70% labor hour reduction compared to current R&I

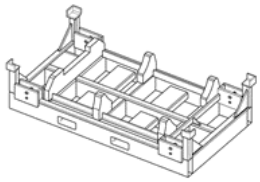
Part No.	Description	Dimensions (L x W x H)	Weight	WLL
515-4334	Pneumatic Hoist Group	3695 x 3730 x 2714 mm (145 x 147 x 107 in)	2800 kg (6273 lb)	8000 kg (17637 lb)
515-4336	Diesel Hoist Group	3695 x 3730 x 2714 mm (145 x 147 x 107 in)	3200 kg (7716 lb)	8000 kg (17637 lb)
After choosing pneumatic or diesel part number above, both of the following parts numbers must be ordered:				
515-4335	Transport Frame Tool Assembly	3858 x 3354 x 520 mm (152 x 132 x 20 in)	1000 kg (2205 lb)	8000 kg (17637 lb)
515-4333	Transport Cradle Tool Assembly	2600 x 1720 x 520 mm (102 x 68 x 20 in)	630 kg (1389 lb)	8000 kg (17637 lb)

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Transmission Shipping Stand Group

Model Usage: 797 OHTs

Warranty: Caterpillar® Six Months



- Made as ordered (MAO)
- Used to hold transmission after removal

Part Number	Description
202-2056	Transmission Shipping Stand Group
Service/Repair Parts	
1U-9724	Load Binder
1U-9809	Binder Chain Assembly

Adapter

Essential Tool

Model Usage: 793, 793B, 793C and 797 OHTs

Warranty: Caterpillar® Six Months



- Used to adapt 1 1/8-12 male O-ring thread to 1-11 1/2 NPTF thread
- Can be used for drain plugs or other conversion applications

References

- NEHS0848, Tool Operating Manual for 204-7392 Transfer/Filter Cart
- SEBF8483, Procedure for Kidney Looping Front Wheel Groups of 793, 793B, 793C and 797 Off-Highway Trucks

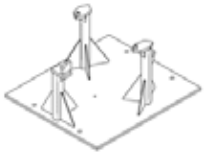
Part Number	Description
194-5182	Adapter

Transmission Stand Assembly

Essential Tool

Model Usage: 793F Mechanical Drive OHTs

Warranty: Caterpillar® Six Months



- Used to support transmission during disassembly and assembly
- Supports transmission at four points for added stability during servicing
- Welded steel construction
- Made as ordered (MAO)
- Weight: 191 kg (421 lbs)

Reference

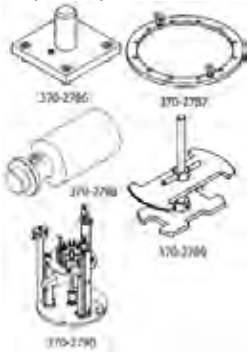
- KENR8579, 793F Off-Highway Truck, Disassembly and Assembly

Part Number	Description
331-1645	Transmission Stand Assembly

Differential, 797, Rebuild Tools

Model Usage: 797, 797B, and 797F OHTs

Warranty: Caterpillar® Six Months



- Used during the rebuild of the Differential on the 797 Off-Highway Trucks
- Machined steel components
- Made As Ordered (MAO)

Part No.	Length	Width	Height	Weight
370-2786	152.4 mm (6.0 in)	152.4 mm (6.0 in)	120.4 mm (4.7 in)	4.4 kg (9.7 lb)
370-2787	Diameter 520 mm (20.5 in)		20 mm (0.8 in)	3.0 kg (6.6 lb)
370-2788	Diameter 78.74 mm (3.1 in)		197.1 mm (7.8 in)	2.9 kg (6.4 lb)
370-2789	152 mm (6.0 in)	160 mm (6.3 in)	317.5 mm (12.5 in)	6.9 kg (15.2 lb)
370-2790	Diameter 914.4 mm (36.0 in)		1,310 mm (51.6 in)	564 kg (1,243.4 lb)

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Seal Driver

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to properly and quickly install 300-7717 Lip Seal to proper depth
- Used with 1P-0532 Handle (part of 1P-0520 Driver Group)
- Heat-treated for durability and long tool life
- Small diameter of tool is used to remove old seal while large diameter is used to install new seal
- Black oxide coating provides long corrosion-free life

Part Number	Description
369-3831	Seal Driver

Air-To-Air-Aftercooler (ATAAC) Leak Test Tools

Model Usage: 785D, 785G, 789, 793, 795, 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months





- Available in 4 inch, 5 inch, and 6 inch
- Backup Rings eliminate the possibility of plug blowing out of tube
- Used to pressure test and leak test the aftercooler systems
- Two Tube seals and two leak test tools are required to plug both sides of the system
- Seals the inside diameter of the ATAAC Tubes
- Center bolt is hollow and has a 1/8-27 NPTF thread for a standard fitting for pressurizing the aftercooler
- Custom sized part numbers are used on 785D, 785G ATAAC, and 797 ATTAC directly
- Clearance issues eliminate the ability to check the air flow in the tubes

Tube Size	Part Number	Part Name	Dimensions	Weight
4 in	441-5063	Plug	146 x 98 mm (5.7 x 3.8 in)	1.8 kg (2.6 lb)
	441-5064	Backup Ring	31 x 141 mm (1.2 x 5.6 in)	1.4 kg (3.1 lb)
5 in	425-5681	Plug	146 x 122 mm (5.7 x 4.8 in)	1.5 kg (3.3 lb)
	427-1117	Backup Ring	30 x 175 mm (1.2 x 6.9 in)	2.2 kg (4.9 lb)
6 in	441-4895	Plug	146 x 147 mm (5.7 x 5.8 in)	1.8 kg (3.9 lb)
	441-4896	Backup Ring	37 x 219 mm (1.5 x 8.6 in)	4.7 kg (10.4 lb)
Custom	448-9323	Plug	146 x 88 mm (5.7 x 3.5 in)	1.1 kg (2.4 lb)
	448-9324 a	Backup Ring	33.6 x 142 mm (1.3 x 5.6 in)	1.6 kg (3.5 lb)
	448-9390 b	Backup Ring	28.4 x 155 mm (1.1 x 6.1 in)	1.7 kg (3.7 lb)
	479-5369 c	Backup Ring	36.6 x 235 mm (1.4 x 9.25 in)	5.5 kg(12.1 lb)
	479-5370 c	Plug	146 x 140 mm (5.7 x 5.5 in)	5.5 kg (12.1 lb)

a. Used on 785D OHT
b. Used on 785G OHT
c. Used on 797 OHT

Socket, 55 mm

Model Usage: 797F, 795F AC

Warranty: Caterpillar® Six Months



- Used to torque bolts that are used to fasten rear wheel stations to rear axle housing on 797F and 795F AC Off-Highway Trucks

Part Number	Description	Dimensions	Weight
419-1799	Socket, 55 mm	105.9 x 79 mm (4.2 x 3.1 in) No. 5 Spline Drive 55 Hex (2 3/16 in)	1.8 kg (4 lb)

Adapter Plug

Model Usage: Various

Warranty: Caterpillar® Six Months



- Used to adapt the 8-point metric octagon to a more standard available size
- Used specifically on the 194-7051 plug
- Adapts up from 23.98 octagon to standard 6-point 1-1/2 socket
- Black Oxide Coated

Specifications

Dimensions: 38.1 x 12.7 mm (1.5 x .5 in)

Weight: .07 kg (.17 lb)

Part Number	Description
430-3217	Adapter Plug

SERVICE TOOLS FOR 797 OFF-HIGHWAY TRUCKS

Wear Sleeve Installer, Shaft Installer

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months

- Used to correctly install wear sleeve in traction motor
- Pilots off shaft to correctly align tool with wear sleeve
- Black Oxide Coated

Part Number	Dimensions	Weight
415-1721	139 x 156 mm (5.47 x 6.14 in)	4.85 kg (10.69 lb)
415-1722	24 x 98 mm (.94 x 3.86 in)	.2 kg (.44 lb)

Bearing Installer

Model Usage: 795F AC Traction Motor

Warranty: Caterpillar® Six Months



- Allows the installation of the drive end bearing in the 283-6751 traction motor when the motor is assembled in the vertical position
- Guide tool allows quick and accurate installation of the bearing.

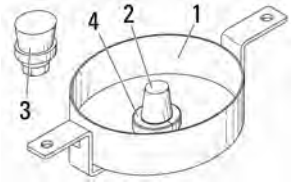
Part No.	Description	Diameter	Weight
475-0194	Bearing Installer	195 x 216 mm (7.67 x 8.50 in)	2.445 kg (5.390 lb)

Cover Assembly

Essential Tool

Model Usage: M-Series Motor Grader

Warranty: Caterpillar® Six Months



- Used to hold drive shaft yoke in place during transmission test procedure
- Rubber bumper presses against yoke to prevent it from being dislodged and prevent oil leakage around yoke seal
- Ball bearing assembly allows bumper to rotate with yoke during testing
- Attaches to transmission cover plate using existing bolt holes
- Removable collar allows changing bumper assemblies to fit various transmission arrangements

References

- RENR8454, 120M, 12M, 140M, and 160M Motor Grader Power Train
- RENR8482, 14M and 16M Motor Grader Power Train

Item	Description
1	Plate Assembly
2	Bumper Assembly, 50.8 mm (2.00 in) long tapered bumper, Used with 253-8405 and 331-5225 Transmission Arrangement
3	Bumper Assembly, 25.4 mm (1") long tapered bumper, Used with 253-8407 Transm. Arrangement
4	Collar Assembly

Part Number	Description
326-8026	Cover Assembly

Drive Line Fixture Assembly

Product Family: Rotary Blasthole Drills

Model Usage: MD6240, MD629 Rotary Drill

Warranty: Caterpillar® Six Months



- Aids in the alignment of the pump drive and engine after the pump drive has been removed and reinstalled

Specifications

- Dimensions: 419.2 x 250 mm (16.5 x 9.84 in)
- Weight: 33 kg (72.75 lb)

Part Number	Description
441-8912	Drive Line Fixture Assembly

Pump Drive Alignment Tool

Product Family: Rotary Blasthole Drills

Model Usage: MD6240

Warranty: Caterpillar® Six Months



- Aids in the alignment of the pump drive and engine after the pump drive has been removed and reinstalled

Specifications

- Dimensions: 368 x 330 mm (14.48 x 12.99 in)
- Weight: 35.27 kg (77.75 lb)

Part Number	Description
442-4750	Pump Drive Alignment Tool

Backlash Setting Tool, Spindle Seal Installer, Differential Seal Installer

Model Usage: SU488



- Tooling assists in the assembly and disassembly of the 1200 Series Axle

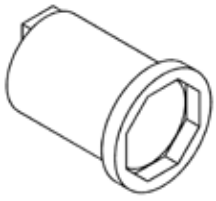
- Saves time and effort having the right tool designed for the job at hand
- 455-6548 is tooling used for setting the backlash in the axle

Part Number	Description	Dimensions
455-6548	Backlash Setting Tool	64 x 64 x 285.75 mm (2.5 x 2.5 x 11.3 in)

Socket for Spindle Nut

Model Usage: SH630

Warranty: Caterpillar® Six Months



- 105 mm, 8-sided socket for Meritor 6000 Axle
- This tool is used to remove and install nut on spindle at proper torque.
- Helps prevent damage caused by using a hammer and punch to remove or install nut

Specifications

- Dimensions: 139 mm (5.5 in) dia x 181 mm (7.1 in)
- Weight: 3.54 kg (7.8 lb)
- Drive Size: ¾ in

Part Number	Description
462-8385	Socket

Chart Recorder Group

Product Family: Draglines

Model Usage: 8000, 8200, 8750

Warranty: Caterpillar® Six Months

European Union Compliant, CE Marked

- Used to troubleshoot and commission draglines
- Basic software provided, Manufacturer's enhanced software available



385-8462

385-8463



385-8464



385-8492



Part Number	Item	Description
385-8462	Recorder	16SE/8DI general purpose channels, ±1000V isolation, 14 bit A/D resolution, 1500 VDC or peak AC maximum voltage Accuracy: 0.5% of full scale range, 10MΩ input impedance, operating temp. 0 - 70° C
385-8463	Recorder - Expansion	32SE/16DI, 14 bit A/D resolution, 30 V normal mode maximum voltage Accuracy: 0.5% of full scale range, 10MΩ input impedance, operating temp. 0 to 70° C
385-8464	Harness - Connector	Four foot cable with 37-pin D-type female, 16 fast connect female BNC
385-8492	Cable - Ethernet	3m/10 foot CAT5e Ethernet patch cable
4C-9658	Case	20.5 x 16.75 x 8.5 in, Plastic

Swing Gearbox/Hydraulic Pump Spline Alignment Turning Service Tool

Model Usage: Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months





- Adapts ½" sq. drive to ANSI B92.1 spline 7/8", 13 teeth, 16/32 pitch
- Adapts ½" sq. drive to DIN 5480 spline W50 x 2 x 30 x 24 x 9g
- Retainer ring and cross-hole ensure easy removal from spline after use

Specifications

- Dimensions: 70 x 70 x 51 mm (2.8 x 2.8 x 2 in)
- Weight: 0.32 kg (0.7 lbs)

NOTE: This tool is not required for HMS 6015-6018 or 6030-6090.

Part No.	Description	Use with Model	Function
486-6395	Swing Gearbox Installation Spline Alignment Turning Service Tool	6015-6090	Aligns swing gearbox pinion and housing during installation and removal
	Hydraulic Pump Assembly Installation Spline Alignment Turning Service Tool	6020B	Aligns hydraulic pump input/output shaft during installation. Provides reduction time of 1.5 hours per person = 3 hrs total to conduct this R&I procedure

Hex Socket Bit, 17 mm

Model Usage: 6015-6090 Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



- For the GET CL1 Cast Lip Systems removal and installation
- Heat-treated alloy steel
- Full polished chrome finish
- ½" square drive
- HEX tip
- Standard socket depth
- 6 points

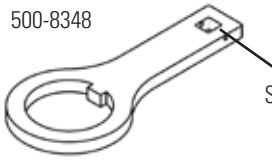
Part No.	Description	Dimensions	Weight
493-6895	Extra-Long Hex Socket Bit, 17 mm	184 mm (7.24 in)	0.544 kg (1.19 lb)

Propel Gearbox Input Shaft Bearing Retaining Nut Torque Tools

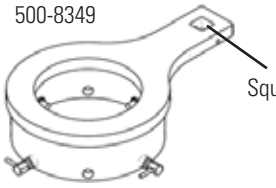
Model Usage: 7495

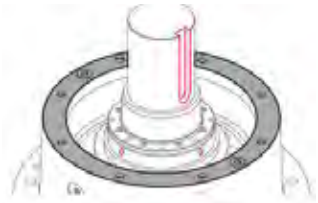
Warranty: Caterpillar® Six Months

500-8348



500-8349





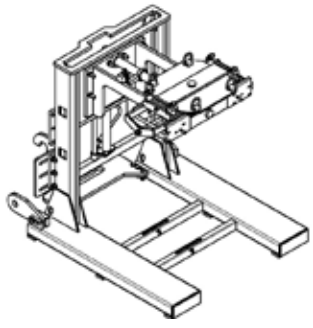
- These service tools are used with the double and triple planetary reduction propel gearboxes.
- Both tools used together during the removal and installation of the input pinion shaft.
- Improves ability to accurately achieve specified torque on retaining nut vs. previous procedure.

Part No.	Description	Quantity Required	WLL	Dimensions	Weight
500-8348	Pinion Driver	1	2000 Nm (1475 ft lb)	373 x 165 x 20 mm (14.7 x 6.5 x 0.8 in)	3.6 kg (8 lb)
500-8349	Nut Driver	1	2000 Nm (1475 ft lb)	372 x 230 x 83 mm (14.7 x 9.1x 3.3 in)	9 kg (20 lb)

Motor Removal Tool

Model Usage: Continuous Miner

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Tool allows for quick, safe removal/install of horizontal electric motors on continuous miner cutting heads .
- Hydraulic jack raises and lowers motor cradle.
- End effector rotates and tips to allow for alignment of motor to housing.
- Tool can be transported through mines using fork pockets or by directly mounting to scoop quick-attach bracket.
- Tool may also be used to transport any large round component that is within working load limit.

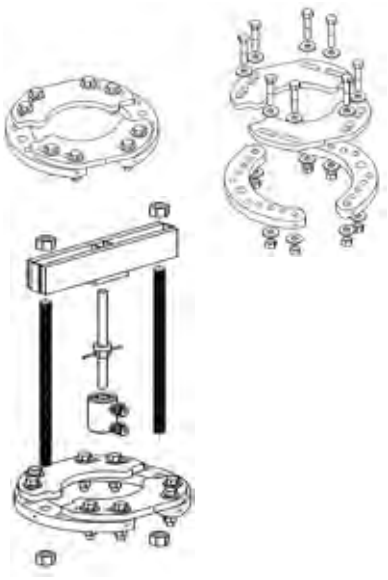
Part No.	Description	Dimensions	Weight	WLL
489-4626	Motor Removal Tool	1748 x 1470 x 1620 mm (69 x 58 x 64 in)	907 kg (2000 lb)	1134 kg (2500 lb)

SPECIALTY MINING TOOLS

Modular Puller Plates for Large Bearings

Model Usage: FB85, FB110, FB140, All Models With Large Bearings

Warranty: Caterpillar® Six Months



- Continuously adjustable puller assembly for diameters 175 - 325 mm (6.9 - 12.8 in)
- 45 metric ton capacity
- Removes bearing races for all feeder breaker shafts (8, 10 and 12 in)
- Modular design allows for alternative puller plates to meet space and size needs.
- 3/8 lifting eye holes enable lift assist.

Part No.	Description	Dimensions	Weight	WLL
494-1921	Modular Puller Plates for Large Bearings	590 x 550 x 132 mm (23.2 x 21.7 x 5.2 in)	68 kg (150 lb)	45,360 kg (50 tons)

This table lists all tools and quantities needed with the newly released tools highlighted:

Item	Part No.	Quantity	Description
1	395-1099	1	3/8-16 Lift Eye
2	5P-7273	2	Threaded Rod (1 ½ - 12 Thd)
3	8H-3390	4	Nut (1 ½ - 12 Thd)
4	150-1784	1	Cross-Block
5	6V-3175	1	50 ton Hydraulic Cylinder
6	5P-8714	1	Threaded Rod
7	198-4772	1	Washer-Hard
8	1P-0544	1	Fast Runner Nut

Bearing Installation Tools

Model Usage: See Chart

Warranty: Caterpillar® Six Months



- Allows technician to apply 60 ton force to properly seat bearing on breaker shaft
- Adapts hydraulic cylinder to bolt pattern on end of shaft
- Cup presses bearing using hydraulic cylinder,
- Other items shown but not included with tool: 1 each 9U-7763 puller stud, 316-1489 hydraulic cylinder, 494-7003 speed nut

Part No.	Description	Model Usage	Dimensions	Weight
494-7004	Bearing Installation Tool	FB85	191 mm dia x 450 mm (7.5 x 17.7 in)	73 kg (160 lb)
501-6670	Bearing Installation Tool	FB140	229 mm dia x 506 mm (9 x 20 in)	89 kg (195 lb)

Seal Installation Tools

Model Usage: See Chart

Warranty: Caterpillar® Six Months



- Allows technician to install seal on breaker shaft quickly and easily without damage to seal
- Provides smooth tapered transition for sliding seal onto lip

Part No.	Model Usage	Description	Dimensions	Weight
492-5766	FB85	Seal Installation Tool	173 mm dia x 50.8 mm (6.8 x 2 in)	1.2 kg (2.6 lb)
494-6874	FB110	Seal Installation Tool	219 mm dia x 50.8 mm (6.8 x 2 in)	1.7 kg (3.7 lb)

Cotta Rotary Gearbox Socket

Model Usage: MD6290

Warranty: Caterpillar® Six Months



- Spanner fits 4 slotted lock nuts on Cotta rotary gearbox
- Used to remove and install nut on rotary shaft using proper preload procedure
- Helps prevent damage caused by using a hammer and punch to remove or install nut

Reference

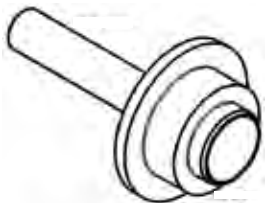
- NEHGE2014-358

Part No.	Description	Drive Size	Dimensions	Weight
486-4025	Socket	3/4 in	156 mm (6.1 in) dia x 187 mm (7.4 in)	2.5 kg (5.5 lb)

Seal Installer for Pump Drive Gearbox

Model Usage: MD6240, MD6290

Warranty: Caterpillar® Six Months



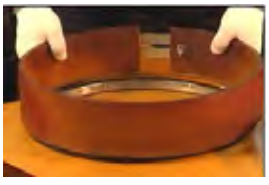
- Attaches to 1P-0531 handle using 0S-1615 bolt (1/4-20)
- Allows technician to easily install seal to proper depth
- Prevents damage to seal caused by using improper tools

Part No.	Description	Dimensions	Weight
495-4908	Seal Installer for Pump Drive Gearbox	122 dia. x 56 mm (4.8 x 2.2 in)	2.7 kg (6 lb)

Undercarriage Idler- Lower/Upper Roller Duo Cone Seal Installation Tools

Model Usage: 6015, 6015B, 6040, 6050, 6060

Warranty: Caterpillar® Six Months



- Assists in the installation of seals in the undercarriage idler, lower, and upper roller assemblies
- A slotted plastic ring slipped around the seal ring is used to prevent damage to the seal during installation.

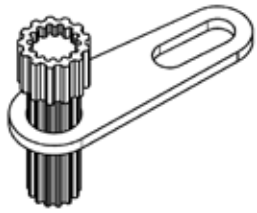
Model	Seal	Seal Installer	Dimensions	Weight
6015	Idler	1U-6439	211 x 211 x 11.7 mm (8.3 x 8.3 x 0.5 in)	0.6 kg (1.3 lb)
	Lower Roller	4C-6206	178 x 178 x 64 mm (7 x 7 x 2.5 in)	0.14 kg (0.3 lb)
	Upper Roller	4C-6206	178 x 178 x 64 mm (7 x 7 x 2.5 in)	0.14 kg (0.3 lb)
6015B	Idler	1U-6436	252 x 252 x 12.4 mm (10 x 10 x 0.5 in)	0.65 kg (1.4 lb)
	Lower Roller	1U-6439	211 x 211 x 11.7 mm (8.3 x 8.3 x 0.5 in)	0.6 kg (1.3 lb)
	Upper Roller	1U-8849	152 x 152 x 8.8 mm (6 x 6 x 0.4 in)	0.2 kg (0.5 lb)
6018	Idler	520-5377	301 x 282 x 50 mm (12 x 11 x 2 in)	0.45 kg (1.0 lb)
	Lower Roller	523-7732	248 x 235 x 75 mm (9.8 x 9.3 x 3 in)	0.4 kg (0.9 kg)
	Upper Roller	1U-6443	172 x 172 x 70 mm (6.8 x 6.8 x 3 in)	0.43 kg (1.0 lb)
6020B	Idler	520-5377	301 x 282 x 50 mm (12 x 11 x 2 in)	0. 45 kg (1.0 lb)
	Upper Roller	4C-6206	178 x 178 x 64 mm (7 x 7 x 2.5 in)	0.14 kg (0.3 lb)
	Lower Roller	1U-6436	252 x 252 x 12.4 mm (10 x 10 x 0.5 in)	0.65 kg (1.4 lb)
6030	Idler	520-5377	301 x 282 x 50 mm (12 x 11 x 2 in)	0. 45 kg (1.0 lb)
	Upper Roller	1U-6443	172 x 172 x 70 mm (6.8 x 6.8 x 3 in)	0.43 kg (1.0 lb)
	Lower Roller	510-8684	260 x 243 x 50 mm (10.2 x 9.6 x 2 in)	0.35 kg (0.77 lb)
6040	Idler	510-8682	355 x 335 x 50 mm (14 x 13.2 x 2 in)	0.6 kg (1.3 lb)
	Lower Roller	510-8683	276 x 258 x 75 mm (11 x 13 x 3 in)	0.5 kg (1.1 lb)
	Upper Roller	510-8684	260 x 243 x 50 mm (10.2 x 9.6 x 2 in)	0.35 kg (0.77 lb)
6050	Idler	510-8685	465 x 446 x 50 mm (18.3 x 17.6 x 2 in)	0.7 kg (1.54 lb)
	Upper Roller	510-8686	311 x 292 x 50 mm (12.2 x 11.5 x 2 in)	0.45 kg (1.0 lb)
	Upper Roller	510-8684	260 x 243 x 50 mm (10.2 x 9.6 x 2 in)	0.35 kg (0.77 lb)
6060	Idler	510-8685	465 x 446 x 50 mm (18.3 x 17.6 x 2 in)	0.7 kg (0.54 lb)
	Lower Roller	510-8686	311 x 292 x 50 mm (12.2 x 11.5 x 2 in)	0.45 kg (1.0 lb)
	Upper Roller	510-8683	276 x 258 x 75 mm (11 x 10.1 x 3 in)	0.5 kg (1.1 lb)

SPECIALTY MINING TOOLS

Locking Tool for Rotary Gearbox

Model Usage: Diesel Rotary Drills

Warranty: Caterpillar® Six Months



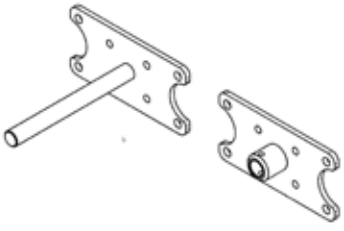
- Fits 1-3/4" 13 spline and 1-1/4" 14 spline input shaft
- Securely locks rotation to allow accurate torquing of lock nut
- Prevents damage to input spline caused by use of prybar, etc to lock rotation
- Durable steel construction

Part No.	Description	Dimensions	Weight
499-4278	Locking Tool for Rotary Gearbox	168 x 32 mm (6.6 x 5.2 in)	1.1 kg (2.4 lb)

Pump Drive Gearbox Adapters for Rollover Stand

Model Usage: Rotary Drills

Warranty: Caterpillar® Six Months



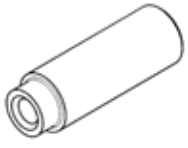
- Adapts pump drive gearboxes to 1U-7502 rollover stand
- Greatly improves safety and efficiency of D&A procedure by holding gearbox on rollover stand
- Allows technician to safely roll gearbox for access to both sides using rollover stand rather than overhead hoist

Part No.	Description	Dimensions	Weight
493-2018	Pump Drive Gearbox Adapters for Rollover Stand	355 x 178 x 375 mm (14 x 7 x 14.8 in)	14.5 kg (32 lb)

Dipstick Tube Driver for Pump Drive Gearbox

Model Usage: MD6240, MD6290

Warranty: Caterpillar® Six Months



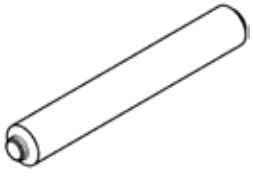
- Allows easy installation of the dipstick tube
- Prevents damage to thin-walled tube caused by using improper tools
- Hardened for added durability
- Knurled handle provides positive grip

Part No.	Description	Dimensions	Weight
494-7013	Dipstick Tube Driver for Pump Drive Gearbox	20 dia. x 133 mm (0.78 x 5.2 in)	0.3 kg (0.64 lb)

Dipstick Plug Driver for Pump Drive Gearbox

Model Usage: MD6240, MD6290

Warranty: Caterpillar® Six Months



- Allows easy installation of the dipstick plug
- Prevents damage to thin-walled tube caused by using improper tools
- Hardened for added durability
- Knurled handle provides positive grip

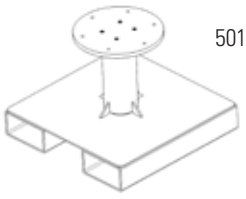
Part No.	Description	Dimensions	Weight
494-7014	Dipstick Plug Driver for Pump Drive Gearbox	40 dia. x 95 mm (1.58 x 3.75 in)	0.46 kg (1 lb)

Swing Pinion Shaft Assembly Removal & Installation Tool

Model Usage: 7495

Warranty: Caterpillar® Six Months





501-4326

- Provides quick and safe removal and installation of the swing pinion shaft assembly.
- Swing pinion shaft is securely attached to this tool with (6) bolts.
- Includes forklift attachment pockets

Part No.	Description	Quantity Required	WLL	Dimensions	Weight
501-4326	Swing Pinion Shaft Assembly Removal & Installation Tool	1	3175 kg (7000 lb)	914 x 914 x 660 mm (36 x 36 x 26 in)	270 kg (595 lb)

Bearing Handling Tools

Model Usage: 7495, CST45, CST65, Plus All Models with Large Bearings

Warranty: Six Months



European Union Compliant, CE marked

- Allows safe handling of large bearings used on mining machines
- Allows rotation of bearings from horizontal to vertical position
- Improves efficiency by allowing one technician to safely handle bearings using slings and overhead crane
- Bearings can be heated to 120°C with device installed.
- Allows rotation of bearings from horizonal to vertical position
- Handles bearings from 450-650 mm with outer ring width from 60 mm to 270 mm and weight to 500 kg

Part No.	Description	Handles Bearings with the Following Diameter Dimensions	Weight	Load Carrying Capacity
515-1227	Bearing Handling Tool (Small Range)	250 -450 mm	6.3 kg (14 lb)	500 kg (1100 lb)
507-8437	Bearing Handling Tool (Medium Range)	450 -650 mm	6.3 kg (14 lb)	500 kg (1100 lb)
515-1228	Bearing Handling Tool (Large Range)	650 -850 mm	6.3 kg (14 lb)	500 kg (1100 lb)

SPECIALTY MINING TOOLS

Hoist and Drum Bearing Clamp

Model Usage: 7495

Warranty: Caterpillar® Six Months



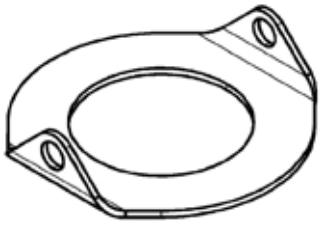
- Required to hold the bearing assembly (429-1688) together while being positioned
- Allows rotation of bearings from horizontal to vertical position
- Improves efficiency by allowing one technician to safely handle bearing (429-1688) using slings, overhead crane, and bearing handling tool
- Bearings can be heated to 120°C with device installed.

Qty. Required	Part No.	Description	For use with Bearing Part Number	Weight
1	520-4808	Bearing Clamp Tool	429-1688	4 kg (9 lb)

Final Drive Coupler Lifting Device

Model Usage: 508-6263: 6030, 6040 HMS with Bosch Final Drives; 508-6262: 6050 HMS With Bosch Final Drives

Warranty: Caterpillar® Six Months



European Union Compliant and CE marked

- Safely and easily lifts coupler from final drive during D&A procedure
- Prevents damage to coupler from using hooks or other tools for lifting
- Locks onto coupler using existing snap ring for positive grip

Reference

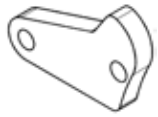
- NEHS1273 508-6263 Tool Operating Manual
- NEHS1272 508-6262 Tool Operating Manual
- M0076788 Tool Operating Manual

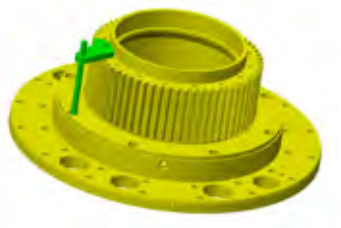
Part No.	Description	WLL	Diameter	Weight
508-6262	Final Drive Coupler Lifting Device	210 kg (463 lb)	250 x 56 mm (10 x 2.2 in)	1.7 kg (3.7 lb)
508-6263	Final Drive Coupler Lifting Device	190 kg (419 lb)	160 x 50 mm (6.3 x 2 in)	.8 kg (1.8 lb)
522-3639	Final Drive Coupler Lifting Device	227 kg (500 lb)	320 dia x 87.6 mm (12.6 x 3.5 in)	3 kg (6.6 lb)

Plate

Model Usage: CST45 Output Unit

Warranty: Caterpillar® Six Months





- Plate bolts clutch housing using M20 forcing bolt 154-6184 to depress spring to remove and install circlip during D&A procedure.

Part No.	Description	Specifications	Weight
510-0896	Plate	140 x 64 x 20 mm (5.5 x 3.7 x0.8 in)	1.1 kg (2.5 lb)

Clutch Disc Alignment Tool

Model Usage: CST45 Output Unit

Warranty: Caterpillar® Six Months





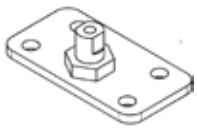
- Two required to align clutch discs
- Magnetic base holds tool in place during use.
- Used to align spline teeth in clutch discs to allow assembly of clutch ring

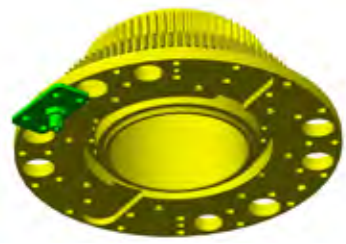
Part No.	Description	Specifications	Weight
510-0897	Clutch Disc Alignment Tool	268 x 64 x 18 mm (10.6 x 3.7 x 0.7 in)	0 .4 kg (0.9 lb)

Hydraulic Adapter

Model Usage: CST45 Output Unit

Warranty: Caterpillar® Six Months





- Two hydraulic adapters are required to pressure test clutch assembly: one will accept hand pump, and the other should be plugged or have gage installed.
- Uses hydraulic hand pump to pressurize clutch
- Threaded with 3/8 NPTF port to accept standard hand pump

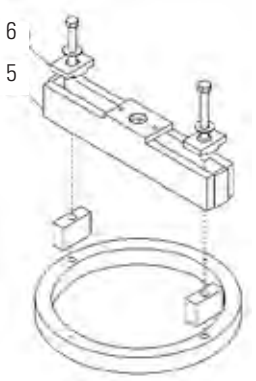
Part No.	Description	Specifications	Weight
510-0898	Hydraulic Adapter	120 x 230 x 84 mm (4.72 x 9 x 3.3 in)	3.2 kg (7 lb)

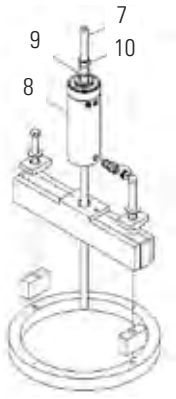
SPECIALTY MINING TOOLS

Bearing Installation Tool

Model Usage: CST45 Output Unit

Warranty: Caterpillar® Six Months





- Uses 150-1784 H bar and hydraulic cylinder to seat spherical bearing on CST 45 output unit
- Ring applies force evenly around bearing

Part No.	Description	WLL	Diameter	Weight
510-0900	Spherical Bearing Installation Tool	30 metric ton (33 tons)	530 x 253 mm (20.9 x 10 in)	30.6 kg (67.3 lb)

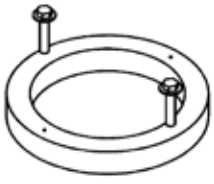
Item	Part No.	Description	Quantity
5	150-1784	Block-Cross	1
6	150-1786	Plate-Slide	2

Item	Part No.	Description	Quantity
7	162-4197	Stud Puller	1
8	316-1494	Hydraulic Cylinder	1
9	8T-7505	Bolt M20 x 2.5	1
10	7X-0851	Nut M24 x 3	1

Bearing Install Tool Assembly

Model Usage: CST30 Output Unit

Warranty: Caterpillar® Six Months



- Uses 150-1784 H-bar and hydraulic cylinder to seat spherical bearing on CST 30 output unit
- Ring applies force evenly around bearing

Part No.	Description	Dimensions	Weight	WLL
522-0730	Bearing Install Tool Assembly	446 mm (17.6 in) dia x 188 mm (7.4 in)	31 kg (69 lb)	30 metric ton (33 tons)

Undercarriage Idler-Lower/Upper Roller Duo Cone Seal Installation Tools

Model Usage: 6040, 6060

Warranty: Caterpillar® Six Months



- Assists in the installation of seals in the undercarriage idler, lower and upper roller assemblies
- A slotted plastic ring slipped around the seal ring is used to prevent damage to the seal during installation.

Part No.	Model No.	Description	Qty Req.	Dimensions	Weight
510-8682	6040	Seal Installer Idler	1	335 x 335 x 50 mm 14 x 13.2 x 2 in)	0.6 kg (1.3 lb)
510-8683	6040	Seal Installer Lower Roller	1	276 x 258 x 75 mm (11 x 13 x 3 in)	0.5 kg (1.1 lb)
510-8684	6040, 6060	Seal Installer Upper Roller	1	260 x 243 x 50 mm (10.2 x 9.6 x 2 in)	0.35 kg (0.77 lb)
510-8685	6060	Seal Installer Idler	1	465 x 446 x 50 mm (18.3 x 17.6 x 2 in)	0.7 kg (1.54 lb)
510-8686	6060	Seal Installer Lower Roller	1	311 x 292 x 50 mm (12.2 x 11.5 x 2 in)	0.45 kg (1.0 lb)

Bearing and Components Induction Heater

Model Usage: All Models

Warranty: Manufacturers 36 Months



sureTHERM pro 1X

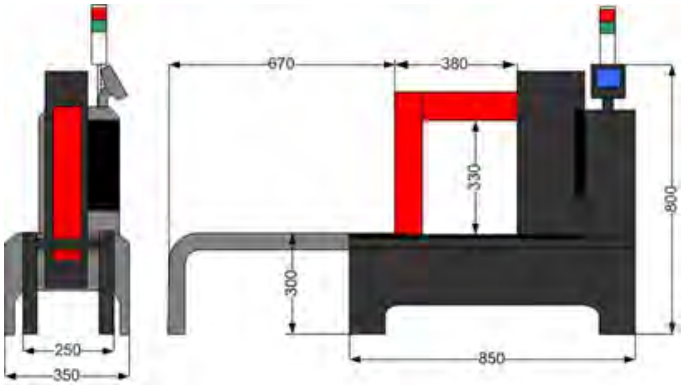
CE Cerfified

- Used to expand bearings, bushings, gears, bores, pulleys, couplings, etc. to reduce assembly press loads on interference fits
- New heating software program specially developed for the heating of gears and bearings:
  - User may set the temperature and time (ramp)
  - User may place (2) sensors (option)
  - Unrivaled power factor
  - Tension-free heating, using touchscreen (mulitple languages)

Key Advantages

- Temperature differential between the internal and external component materials remains low, thus reducing the potential for material stress accumulation and subsequent potential distortional damage.
- Removable vertical yoke that provides flexibility
- Provides gradual uniform heating, and only the workpiece is heated

Dimensions are in millimeters



Model No.	Mfg	Model No.	Work Piece Dimensions	Work Piece Max Weight	Controls (for Tension Free Heating)	Standard Yokes Dimensions	Power Requirements
All Caterpillar Product Families	TM Induction Heating US Inc. 10336 Dransfeldt Rd #5 Parker, CO 80134 Ph. 720-266-4403 Fax: 303-646-4880 rick@tminductionheating.com tminductionheating.com	sureTHERM pro 1X Induction Heater	Min bore 30 mm (1.2 in) Max Outer Diameter 1000 mm (39.4 in) Max Work piece width 330 mm (13 in)	Bearings 400 kg (880 lb) Other Parts 300 kg (660 lb)	Temperature (1 sensor) 0-240°C/464°F (special 0-400°C/752°F) Temperature (2 sensors) 0-240°C/0-464°F T 20-50°C/68-122°F Time 0-99 min Time/Temperature Ramp 5-99 min / 5-240°C/ 41-464°F 0-99 hours / 5-240° C/ 41-464°F	20 x 20 x 490 mm/ 0.8 x 0.8 x 19.3 in 30 x 30 x 490 mm/ 1.2 x 1.2 x 19.3 in 40 x 40 x 490 mm/ 1.6 x 1.6 x 19.3 in 50 x 50 x 490 mm/ 2 x 2 x 19.3 in 60 x 60 x 490 mm/ 2.4 x 2.4 x 19.3 in 70 x 70 x 490 mm/ 2.8 x 2.8 x 19.3 in 80 x 80 x 490 mm/ 3.2 x 3.2 x 19.3 in	Power Rating 12.8 kVA Voltage 400-480 V Current max 32 A Frequency 50-60 Hz
	Inform TM Induction Heating that you are a Caterpillar Dealer and request to talk to their Caterpillar Representative.				Options Suggested • Trolley • Remote Control • Second temp. sensor		

SPECIALTY MINING TOOLS

Ultra Low Temperature Freezer

Model Usage: All Models

Warranty: Manufacturer's One Year



C85-9 Freezer

- CE Certificate Available
- Used to shrink bearings, bushings, pins, shafts, etc. to reduce assembly press loads on interference fits

Temperature Control

Digital control with two temperature displays:

- Set temperature
- Actual temperature in the freezer

Alarm System

– Battery-operated alarm system will emit an audible and visual signal when there is a mechanical or electrical failure.

Remote Alarm Relay

- Utilized for remote alarm hook-up

Refrigeration System

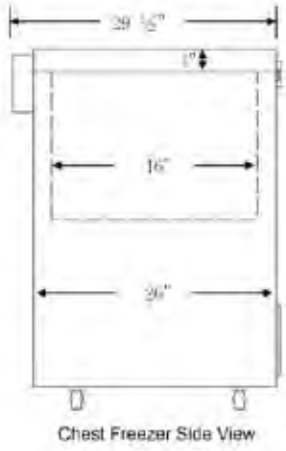
- Two hermetically sealed compressors
- CFC- and HCFC-free refrigerants

Construction

- Chamber is 14-gauge zinc-coated galvanized steel.
- Exterior is 16-gauge steel.
- Powder-coated cool gray finish

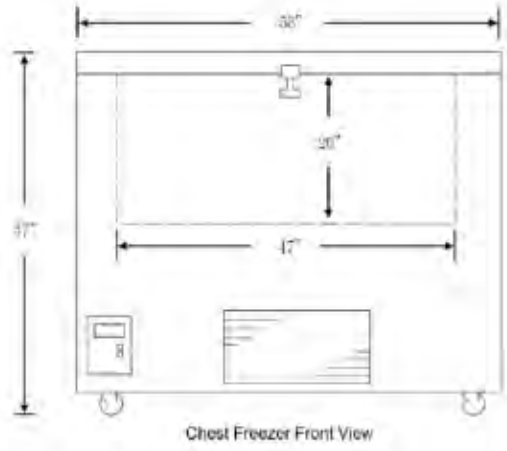
Technical Support

- Supplied by Nation-Wide-Network of service companies



Chest Freezer Side View

FREEZER SPECIFICATIONS		
CAPACITY	9 CUBIC FEET	
STYLE	CHEST	
NET WEIGHT	600 LBS.	
SHIPPING WEIGHT	675 LBS.	
INTERIOR DIMENSIONS		
INTERIOR WIDTH	47.0"	(119.4 cm)
INTERIOR DEPTH	16.0"	(40.6 cm)
INTERIOR HEIGHT	29.5"	(60.6 cm)
EXTERIOR DIMENSIONS		
EXTERIOR WIDTH	58.0"	(147.3 cm)
EXTERIOR DEPTH	29.5"	(74.9 cm)
EXTERIOR HEIGHT	47.0"	(119.4 cm)
EXTERIOR CRATED DIMENSIONS		
CRATED WIDTH	64.0"	(162.5 cm)
CRATED DEPTH	41.0"	(104.1 cm)
CRATED HEIGHT	57.0"	(144.8 cm)



Chest Freezer Front View

Model No.	Mfg	Model No.	Cooling Temperature Range	Capacity	Power Requirements
All Cat Product Families	SO-LOW 10310 Spartan Dr. Cincinnati, OH 45215 Ph. 513-772-9410 Fax: 513-772-0570 sales@so-low.com www.so-low.com	C85-9 Industrial Freezer	Standard range -40° to -120° F (-40° to -85° C)	9 cu. ft. 255 liters	115 VAC, 60 Hz, 1 phase 208 VAC, 60 Hz, 1 phase 230 VAC, 60 Hz, 1 phase 220 VAC, 50 Hz, 1 phase 220 VAC, 50 Hz, 3 phase -20 Amp dedicated circuit required -ETL electrical approval
	Inform SO-LOW that you are a Caterpillar Dealer and request to talk to their Caterpillar Representative.	Minimum size model recommended for 7495 gearbox pinion pins and bearings	Optional Accessories Chart Recorder CO^2 Backup System LN^2 Backup System Cold Safety Gloves Inventory Racks		

Ultra Low Temperature Freezer

Model Usage: All Models

Warranty: Manufacturer's

- CE Certificate Available
- Essential tool for the repair and rebuild of various Caterpillar® and expanded mining components
- Used to shrink bearings, bushings, pins, shafts, etc. to reduce assembly press loads on interference fits
- Heavy-duty, built-to-last construction provides long life.
- Thick foam insulation for continuous operation and reduced maintenance costs
- Casters for easy mobility
- NEMA-12 enclosures and oil-tight switches extend the life of electronics refrigeration.
- Gas spring or pneumatic easy-to-open lids
- Fast and efficient cooling with zero ozone depletion refrigerants
- High-volume air circulation provides uniform cooling.
- Freezer construction and refrigeration systems hold up in harsh heat treat environments.



Model No.	Mfg	Model No.	Dimensions Workspace L x W x D	Dimensions Overall L x W x H¹ x H²	Cooling Temperature Range	Cooling Capacity Steel/Hour	Power Requirement
All Caterpillar Product Families	Cincinnati Sub-Zero (CSZ) 12011 Mosteller Road Cincinnati OH 45241 Ph. 513-772-8810 Fax: 513-772-9119 cszindustrial.com	T-13-2-2 Industrial Freezer	910 x 610 x 660 mm (36 x 24 x 26 in)	2820 x 1070 x 1550 x 920 mm (111 x 42 x 61 x 36 in)	Standard range -40° to -120° F (-40° to -85° C) Optional Liquid Nitrogen Cooling -300° F (-184° C)	45 kg (100 lb)	**230V AC** 30 Amps 60 Hz 3 Phase **460V AC** 15 Amps 60 Hz 3 Phase
	Inform CSZ that you are a Cat® Dealer and request to talk to their Caterpillar Representative.	Minimum size model recommended for 7495 gearbox pinion pins and bearings		H¹ - Overall Height H² - Loading Height			Performance will be reduced by approximately 17% for 50 Hz.

SPECIALTY MINING TOOLS

Tooth Gauge

Model Usage: AFC Sprocket

Warranty: Caterpillar® Six Months



- Gauge checks wear on AFC Sprockets SAP part #1496910 and 1496911.
- Used to determine when sprocket needs to be replaced

Part No.	Description	Dimensions	Weight
519-8680	Tooth Gauge	56 x 62 x 5 mm (2.2 x 2.4 x 2 in)	0.1 kg (0.2 lb)

Driver Assembly

Model Usage: 6030, 6040 HMS with Bosch final drives

Warranty: Caterpillar® Six Months



- Safely and efficiently installs coupler bearing to depth in final drive
- Avoids damage to bearing or shaft from use of improper tools

Part No.	Description	Dimensions	Weight	WLL
510-9781	Driver Assembly	188 x 112 mm (7.4 in x 4.4 in)	6 kg (13 lb)	10 T

Seal Installer

Model Usage: 6030, 6040 HMS

Warranty: Caterpillar® Six Months



- Safely and efficiently installs coupler seal to depth in final drive
- Avoids damage to seal from use of improper tools
- Ensures that seal is aligned properly
- Equipped with M10 lifting eye holes for transport

Part No.	Description	Diameter	Weight
510-9782	Seal Installer	40 x 150 mm (9.4 x 6 in)	15.3 kg (34 lb)

Final Drive Bearing Press Tool

Model Usage: Rotary Drills/HMS

Warranty: Caterpillar® Six Months



- Allows technician to apply force to bearings using hydraulic cylinder or shop press
- Allows development of proper shim thickness as called out in D&A manual
- Slots allow measurement using depth micrometer or caliper.

Part No.	Model Usage	Dimensions	Weight
506-1889	MD6290	229 x 70 mm (9 x 2.9 in)	11 kg (24 lb)
506-1888	MD6420	267 x 70 mm (10.5 x 2.8 in)	15 kg (33 lb)
506-1885	MD6540/6015	336 x 80 mm (13.2 x 3.2 in)	33 kg (72 lb)
506-1890	6018	390 x 80 mm (15.4 x 3.2 in)	43 kg (94 lb)
506-1887	6020B	420 x 80 mm (16.5 x 3.2 in)	51 kg (113 lb)
540-1205	6030	468 mm (18.4 in) dia x 80 mm (3.2 in)	63 kg (139 lb)

Final Drive Brake Press Tool

Model Usage: HMS 6060

Warranty: Caterpillar® Six Months



- Allows technician to safely depress spring on brake to remove/install snap ring
- Uses hydraulic cylinder and H-Bar or shop press to apply force to spring

Part No.	Description	Dimensions	Weight	WLL
520-2343	Final Drive Brake Press Tool	135 dia x 110 mm (5.3 x 4.33 in)	3 kg (6.8 lb)	10 T

Wear Ring Installation Tool

Model Usage: MD6290

Warranty: Caterpillar® Six Months



- Allows technician to install wear ring on compressor shaft while changing seal kit
- Prevents damage to sealing surface from use of improper driving tool

Part No.	Description	Dimensions	Weight
521-8242	Wear Ring Installation Tool	76.2 dia x 124 mm (3 x 4.9 in)	2.4 kg (5.3 lb)

Seal Driver

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



- Allows technician to properly install seal in swing gearbox
- Prevents damage to seal by spreading force across entire seal

Part No.	Description	Dimensions	Weight
521-4326	Seal Driver	298 x 10 mm (11.73 x 0.4 in)	5.5 kg (12 lb)

SPECIALTY MINING TOOLS

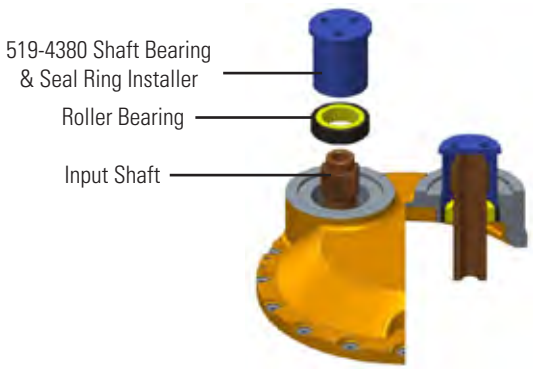
Final Drive Input Shaft Seal & Bearing Installation Tool

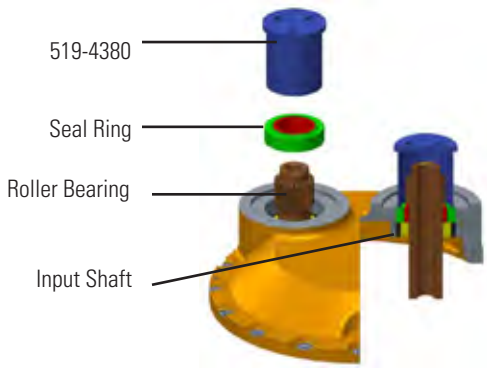
Model Usage: 6050, 6060

Warranty: Caterpillar® Six Months

- Allows technician to properly install the final drive seal and roller bearing on the following Bosch™ final drive assemblies:
  - 6050 – P/N 483-7497
  - 6060 – P/N 484-2616
- Prevents damage to seal & bearing caused by using improper tools
- Properly aligns seal & bearing in bore during installation

Part No.	Description	Dimensions (L x D Ø)	Weight
519-4380	Final Drive Seal & Bearing Installation Tool	140 x 173 mm (5.5 x 6.8 in)	4.4 kg (9.7 lb)





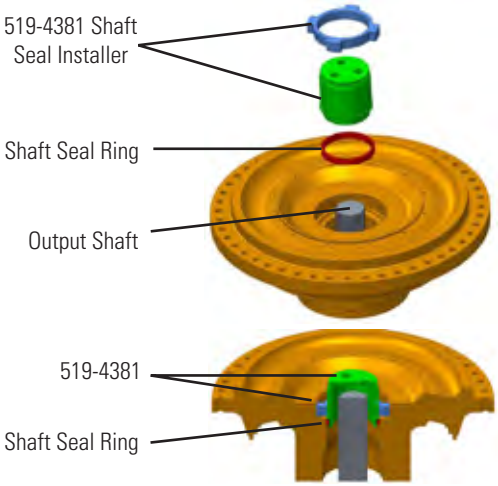
Final Drive Output Shaft Seal Installation Tools

Model Usage: 6050, 6060

Warranty: Caterpillar® Six Months

- Allows technician to properly install final drive seals on the following Bosch™ final drive assemblies:
  - 6050 – P/N 483-7497
  - 6060 – P/N 484-2616
- Prevents damage to seal caused by using improper tools
- Properly aligns seal in bore during installation

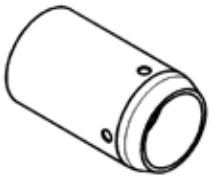
Part No.	Description	Dimensions L x Ø	Weight
519-4381	Seal Installer	220 x 239 mm (8.7 x 9.4 in)	4.2 kg (9.3 lb)



Seal Guide

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



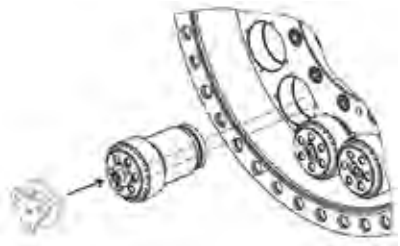
- Allows technician to properly install input shaft seal in swing gearbox
- Used to cover input shaft during seal installation, preventing damage to seal caused by keyway

Part No.	Description	Dimensions	Weight
523-9841	Seal Guide	99.3 x 170 mm (3.9 x 6.7 in)	1.5 kg (3.4 lb)

Spanner Wrench, Snubber

Model Usage: 7495

Warranty: Six Months



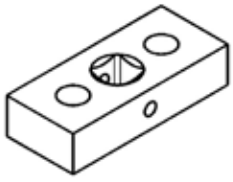
- A snubber spanner wrench is required to adjust the snubber "dampening" settings during the closing function of the latchfree dipper door assembly.
- This service tool is utilized with a 1/4 inch square drive torque wrench to quickly set the snubber dampening effect that provides longer life span of the latchfree dipper door components.

Part No.	Description	Quantity Req.	O.D.	Depth	Square Drive	Weight
486-3857	Latchfree Dipper Door Snubber Spanner Wrench	1	70 mm (2.8 in)	42 mm (1.7 in)	6.3 mm (0.25 in)	0.3 kg (0.7 lb)

Spanner Wrench

Model Usage: 7495

Warranty: Caterpillar® Six Months



- Required for installation and removal of steel plugs located on flange of stationary rod of the HydraCrowd cylinder assembly

Part No.	Description	Dimensions	Weight
541-9357	Spanner Wrench	70 x 30 x 15.88 mm (2.75 x 1.18 x 0.63 in)	0.21 kg (0.47 lb)

SPECIALTY MINING TOOLS

Propel Gearbox Bearing Lifting Tool

Model Usage: 7495

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- A bearing lifting tool is required for the 7495 propel gearbox assembly.
- Detachable foot assemblies allow for custom attachments to be created as needed.
- Assists in assembly of heated components
- Can be used to lift round objects on an inner or external diameter
- Used to lift round objects, such as large bearing races, that are too heavy to manually lift
- The tool is adjustable to lift objects over a size range of 350-930 mm (13.8-36.6) and have a maximum weight of 227 kg (500 lb.)

Reference

- M0070924 Tool Operating Manual

Part No.	Description	Quantity Req.	Dimensions (H x L x W)	Weight
501-4327	Propel Gearbox Bearing Lifting Tool	1	601 x 565 x 615 mm (23.7 x 22.2 x 24.2 in)	25 kg 55 (lb)

Propel Gearbox Planetary Gear Lifting Tool

Model Usage: 7495

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- A planetary gear lifting tool is required for the 7495 propel gearbox assembly.
- Used to lift each planetary gear in a horizontal orientation
- This feature provides a significant time reduction of the removal and installation of each planetary gear from/to the planetary carrier assembly.

Reference

- M0073796 Tool Operating Manual

Part No.	Description	Quantity Req.	Dimensions	WLL	Weight
509-5170	7495 Propel Gearbox Planetary Gears Lifting Tool	1	240 x 352 x 50 mm (9.5 x 14 x 2 in)	300 kg (661 lb)	2 kg (4 lb)

Part No.	Quantity Req.	Description
8T-4183	1	M12 x 1.75 Bolt
8T-4223	1	Washer

Arbor Press (10 Ton)

Model Usage: General Shop Use

Warranty: Manufacturer's



- Used with 10-ton single-acting hydraulic cylinder and any single-acting hydraulic pump (sold separately)
- Holes for horizontal or vertical mounting
- Back is slotted for loading of longer parts.

Part No.	Description	Throat Depth	Dimensions (L x W x H)	Weight
526-5512	Arbor Press (10 Ton)	150 mm from center of cylinder	291 x 151 x 426 mm (11.5 x 6 x 16.8 in)	27 kg (78 lb)

Gear Lifting Tool

Model Usage: CST45

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Attaches to lifting tool 509-5170
- Allows safe handling of planetary gears using hoist
- This tool provides a safe method to lift gears that do not have holes for standard lifting eyes.

Reference

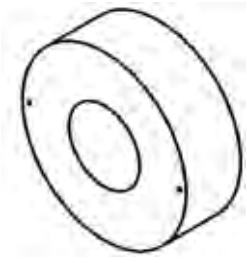
- M074040 Tool Operating Manual

Part No.	Description	Dimensions	Weight	WLL
509-5085	Gear Lifting Tool	320 x 166 mm x 106 mm (13.8 x 8 x 9.6 in)	2 kg (4 lb)	100 kg (220 lb)

Bearing Weight

Model Usage: MT4400

Warranty: Caterpillar® Six Months



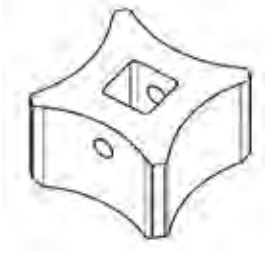
- Essential to the proper assembly of NUB bearing on MT4400 with 5GEB25 wheel motor
- Weight maintains contact between heated collar and bearing until temp normalizes.
- Collar will lift as it cools if not properly weighted.
- Tapped for two M6 lifting eyes

Part No.	Description	Dimensions	Weight
521-4394	Bearing Weight	304 x 114 mm (12 x 4.5 in)	49 kg (108 lb)

Spline Adapter

Model Usage: RA750, RA860

Warranty: Caterpillar® Six Months



- Tool engages input spline on ranging arm allowing technician to rotate geartrain during D&A procedure. (DIN 5480 W72 x 3 x 22)
- Use with ¾" drive extension
- Tool has cross hole allowing it to be retained by extension.

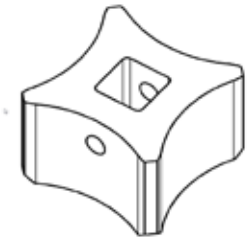
Part No.	Description	Dimensions	Weight
522-8573	Spline Adapter	71 x 25 mm (2.8 x 1 in)	0.3 kg (0.7 lb)

SPECIALTY MINING TOOLS

Spline Adapter

Model Usage: HU150

Warranty: Caterpillar® Six Months



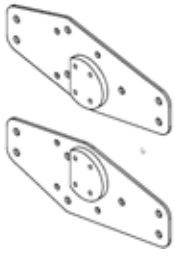
- Tool engages input spline on gearbox allowing technician to rotate geartrain during D&A procedure. (DIN 5480 W72 x 3 x 22)
- Use with 271-4724 11" extension (1/2" drive)
- Tool has cross hole allowing it to be retained by extension.

Part No.	Description	Dimensions	Weight
518-6625	Spline Adapter	50.5 x 25 mm (2 x 1 in)	0.2 kg (0.4 lb)

Adapter Assembly

Model Usage: Rotary Drills MD6240, MD6290, MD6420, MD6540, MD6640

Warranty: Caterpillar® Six Months



- Adapter mounts rotary gearbox to large engine rollover stand 456-6500 allowing technician to rotate gearbox during D&A procedure
- Improves safety and saves time vs rolling gearbox using overhead hoist.
- Fits all rotary gearboxes for diesel and electric drills

Part No.	Description	Dimensions	Weight
517-2142	Adapter As.	812 x 340 x 70 mm (32 x 13.4 x 2.8 in)	41 kg (90 lb)

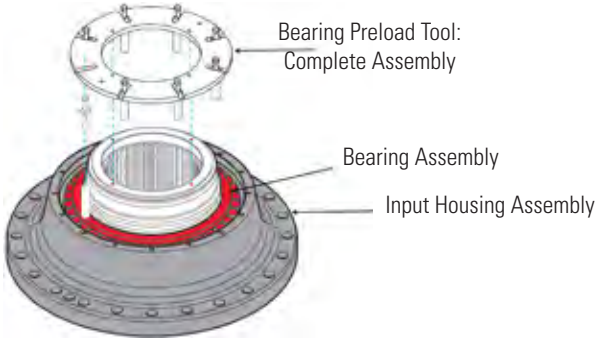
Propel Gearbox Bearing Preload Tools

Model Usage: 7495

Warranty: Caterpillar® Six Months

- Service tools are required for the disassembly and assembly of the propel gearbox.
- This tool provides a large reduction in time requirements during the assembly of the propel gearbox bearing assembly.

Qty. Required	Part No.	Description	Dimensions	Weight
1	486-9053	Bearing Preload Plate (7495 Final Drive)	(OD x ID x D): 750 x 465 x 25 mm (30 x 18.3 x 1 in)	51.2 kg (113 lb)



Rotary Shaft Lifting Device

Model Usage: MD6640

Warranty: Caterpillar® Six Months





European Union Compliant, CE marked

- Lifts main shaft and bearings for rotary gearbox
- Improves safety and efficiency compared to using choker

Reference

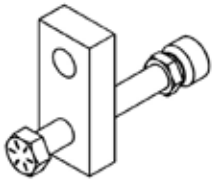
- M0076784 Tool Operating Manual

Part No.	Description	Dimensions	Weight	WLL
521-4327	Rotary Shaft Lifting Device	375 x 275 x 80 mm (14.8 x 10.8 x 3.2 in)	5 kg (11 lb)	218 kg (480 lb)

Hoist Gearcase Disassembly & Assembly Tools

Model Usage: 7495

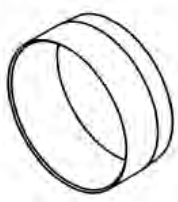
Warranty: Caterpillar® Six Months



522-0843



522-0844



522-0845

European Union Compliant, CE marked (Bearing Lift Assembly 522-0844 only)

- These tools provide increased safety during the D&A of the hoist gearcase.
- Locking fixture tool prevents the planetary carrier from falling out when the hoist gear case is turned on its side during D&A.
- Bearing lift tool provides accurate lifting of the bearing assembly during the D&A procedure.
- Seal Guide provides accurate placement and prevents damage to the seal during the seal installation procedure.

Reference

- MOO78820 Tool Operating Manual for Bearing Lift Assembly 522-0844

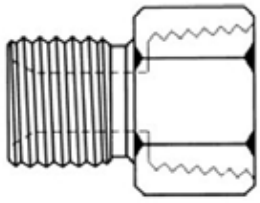
Part No.	Description	Dimensions (L x W x D)	Weight	WLL
522-0843	Tool Assembly – Locking Fixture	171 x 110 x 50 mm (6.7 x 4.3 x 2.0 in)	1.5 kg (3.3 lb)	-
522-0844	Tool Assembly – Bearing Lift	590 x 163 mm (23.2 x 6.4 in)	29 kg (64 lb)	181 kg (400 lb)
522-0845	Guide – Seal	186 x 75 mm (7.3 x 3.0 in)	0.7 kg (1.5 lb)	-

SPECIALTY MINING TOOLS

Pump Test Fittings

Model Usage: See Chart

Warranty: Caterpillar® Six Months



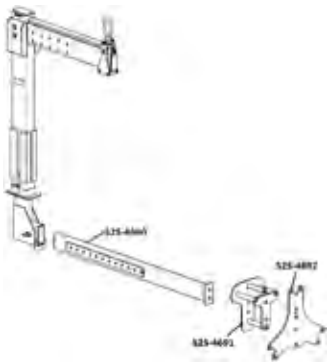
- Fittings adapt expanded mining pumps to hydraulic test bench

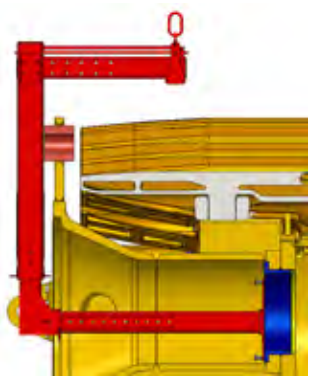
Fitting	Thread (Male x Female)	Pump Usage	Model Usage
533-1169	M33 STOR x ½" NPTF	471-5739	6018
533-1170	M33 STOR x 1" NPTF	468-9838 417-9308 417-9312	6015, AP300F AP300D
533-1171	M42 STOR x 1" NPTF	437-0161 437-0159 485-8432 484-6741 467-9656 468-9837 468-9838 468-9840 471-5739	6015, 6018, 6030, 6050, 6060, 6090
533-1172	M22 STOR x M14 STOR	437-0163	6040, 6050
533-1173	M26 STOR x ¾" NPTF	162-9592 180-0459 233-6702 484-6741 485-8432	MTC735, MTC745, MTC755, MTC765, MTC835, MTC845, MTC855, MTC865, MT735, MT745, MT755, MT765, MT835, MT845, MT855, MT865, 6030, 554
533-1174	¾ JIC x M20 Swivel	437-0161 467-9658	6015, 6018, 6030

Propel Shaft Mounting Tools

Model Usage: 7295, 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months





European Union Compliant, CE marked

525-4690 Slide Tube Assembly

- 525-4690 Extra-long slide tube assembly extends the horizontal reach of the 226-2380 C-frame from the standard 0.5 m to 1.6 m.
- Enables servicing the propel shaft cover plates, bearing cartridges, and bearing on HR, HF, and HD roller frames

525-4691 Bearing Lift Device

- Used to install/remove both inboard and outboard 514-0446 propel shaft bearing
- Used with the 226-2380 C-frame and may be attached directly to the standard 226-2381 and 226-2382 slide tubes or to the 525-4690 extra-long slide tube
- Auxiliary holes allow 525-4692 adapter plate to be attached to service cover plates and cartridges.

525-4692 Adapter Plate

- Used to remove/install inboard and outboard bearing cartridges 493-4405 and 493-4399, respectively
- Used to remove/install inboard and outboard cover plates 493-4398 and 513-7932, respectively
- May be used to remove/install inboard and outboard 514-0446 propel shaft bearing under specific circumstances
- Used with the 226-2380 C-frame and may be attached directly to the standard 226-2381 and 226-2382 slide tubes, or to the 525-4690 extra long slide tube
- May be attached to the 525-4691 bearing lift device

Reference

- 525-4690-NEHS0966
- 525-4691-M0083623
- 525-4692-M0083625

Part No.	Description	Dimensions	Weight	WLL
525-4690	Slide Tube Assembly	1844 x 178 x 89 mm (72.6 x 7 x 3.5 in)	56 kg (123 lb)	386 kg (850 lb)
525-4691	Bearing Lift Device	400 x 457 x 293 mm (15.8 x 18 x 11.5 in)	19 kg (42 lb)	330 kg (728 lb)
525-4692	Adapter Plate	700 dia x 49.7 mm (27.6 dia x 1.9 in)	17 kg (37 lb)	330 kg (728 lb)

Hoist Gear Box Test Tool Group

Model Usage: 7495

Warranty: Caterpillar® Six Months





- Designed to provide a safe and reliable method of synchronizing the hoist gearbox output shafts
- Required to determine accurate baseline vibration signatures during testing
- Parts are available as a group or may be ordered individually.
- Made As Ordered (MAO)

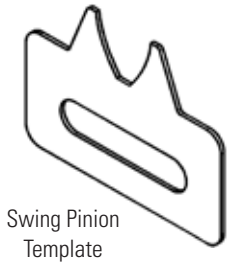
546-5740 7495 Hoist Gear Box Test Tool Group

Item	Qty	Part No.	Description	Dimensions	Weight
1	1	546-5734	3-Groove Sheave	332 x 160 mm (13 x 6.3 in)	44 kg (88 lb)
2	1	546-5735	3-Groove Sheave (Companion)	333 x 132 mm (13 x 5.2 in)	22 kg (44 lb)
3	2	546-5737	Belt	106 x 106 x 89 mm (4.2 x 4.2 x 3.5 in)	1 kg (2.2 lb)
4	3	546-5738	Shaft Adapter Assembly	3,325 mm Pitch (131 in Pitch)	71 kg (156 lb)
5	2	546-5736	Split Taper Bushing	243 x 305 mm (9.6 x 12 in)	1 kg (2.2 lb)
6	2	546-5739	Retainer Plate	559 x 43 mm (22 x 1.7 in)	51 kg (112 lb)

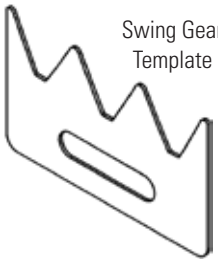
Swing Gear Template

Model Usage: 7295 ERS

Warranty: Caterpillar® Six Months



Swing Pinion Template



Swing Gear Template

- Made from stainless steel for durability
- Allows quick visual inspection of wear to swing gears and pinions
- Made as ordered

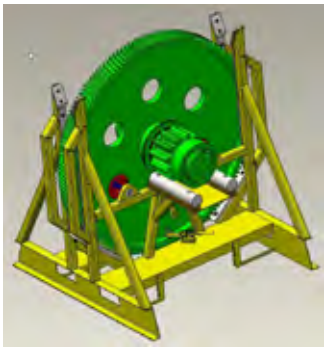
Part No.	Application	Dimensions	Weight
544-0236	7295 B Swing Gear	240 x 146 x 3 mm (9.5 x 5.7 x 0.12 in)	0.6 kg (1.3 lb)
544-0237	7295 HR Swing Gear	240 x 146 x 3 mm (9.5 x 5.7 x 0.12 in)	0.6 kg (1.3 lb)
547-9561	7295 B Swing Pinion	178 x 138 x 3 mm (7 x 5.4 x 0.12 in)	0.4 kg (0.8 lb)
547-9562	7295 HR Swing Pinion	178 x 133 x 3 mm (7 x 5.2 x 0.12 in)	0.4 kg (0.8 lb)

SPECIALTY MINING TOOLS

Shaft Stand

Model Usage: 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months



- Safely supports 7495 rope crowd gearbox 1st intermediate shaft during disassembly and assembly
- Securely locks shaft to stand to prevent shifting
- Guards shaft and gear teeth from damage caused by rough handling
- Nylon guide bars help support bearings during removal and installation.
- Provides secure tiedown points

Reference

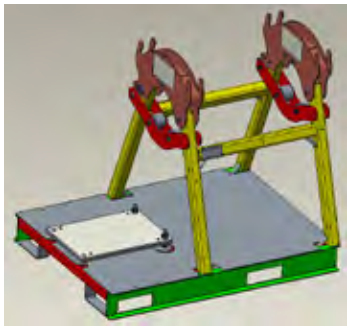
- Tool Operating Manual M0083809

Part No.	Description	Dimensions	Weight	WLL
523-5976	Shaft Stand	1411 x 1300 x 1366 mm (55.6 x 51.2 x 53.8 in)	268 kg (591 lb)	900 kg (2000 lb)

Shaft Stand

Model Usage: 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months



- Safely supports 7495 rope crowd gearbox 2nd intermediate shaft during disassembly and assembly
- Rollers allow shaft to be turned as required, and braking mechaninsm locks shaft into place.
- Provides secure tiedown points

Part No.	Description	Dimensions	Weight	WLL
520-3244	Shaft Stand	1685 x 1226 x 1455 mm (66.4 x 48.3 x 57.3 in)	550 kg (1210 lb)	4000 kg (8800 lb)

Guard Assembly

Model Usage: 7495 Electric Rope Shovels

Warranty: Caterpillar® Six Months

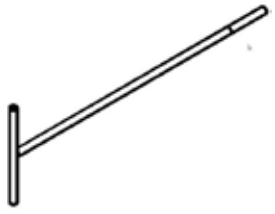
- Optional attachement for shaft stand 520-3244
- Prevents damage to gear teeth and bearing from rough handling

Part No.	Description	Dimensions	Weight
528-5288	Guard Assembly	1855 x 1339 x 1600 mm (73 x 53 x 63 in)	100.5 kg (221 lb)

Quill Shaft Extractor

Model Usage: EL1000 Shearer

Warranty: Caterpillar® Six Months



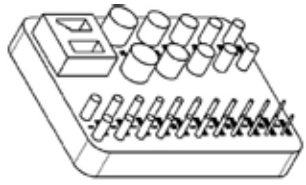
- Used to extract quill shaft from shearer
- Varying lengths to fit range of applications
- Made as ordered

Part No.	Thread	Length	Weight
549-3496	M8	362 mm (14.3 in)	0.2 kg (0.44 lb)
549-3497	M8	512 mm (20.2 in)	0.3 kg (0.55 lb)
549-3498	M16	312 mm (12.28 in)	0.7 kg (1.4 lb)
549-3499	M16	512 mm (20.2 in)	1 kg (2.1 lb)

Gage Pin Set

Model Usage: All

Warranty: Caterpillar® Six Months



- Gage pins used to measure gears and splines in reuse and salvage documentation
- Set includes magnetizing tool to help hold pins during measurement (also demagnetizes.)
- Polycarbonate case included
- Pins can be ordered individually– an order quantity of 1 equals a set of two pins.
- Complete set 549-3500 is stocked. Individual pins are Made As Ordered (MAO).

Part No.	Description
549-3500	Complete Gage Pin Set

Part No.	Description
549-3501	2 mm Gage Pin
549-3502	2.5 mm Gage Pin
549-3503	3 mm Gage Pin
549-3504	3.5 mm Gage Pin
549-3505	4 mm Gage Pin
549-3506	5 mm Gage Pin
549-3507	5.5 mm Gage Pin
549-3508	6 mm Gage Pin
549-3509	7 mm Gage Pin
549-3510	8 mm Gage Pin
549-3511	9 mm Gage Pin
549-3512	10 mm Gage Pin
549-3513	12 mm Gage Pin
549-3514	16 mm Gage Pin
549-3515	20 mm Gage Pin
549-3516	25 mm Gage Pin
549-3520	Magnetizer Tool
549-3521	Polycarbonate Case
549-3522	Foam Insert

Available for Separate Purchase:

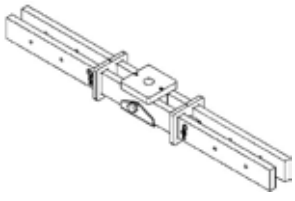
- The following pins are available for purchase. (They are not included in above set.)
- Foam insert will accommodate all sizes below in addition to complete set above.
- Used for measurement of large gears

Part No.	Description
549-3517	32 mm Gage Pin
549-3518	40 mm Gage Pin
549-3519	50 mm Gage Pin

Modular H-Bar

Model Usage: MT4400, CST45, CST65

Warranty: Caterpillar® Six Months



- 1.5 Meter width, 50T WLL H-bar for removal of large bearings and components
- Modular design allows for flexibility of setup to suit many applications
- Made as ordered

Part No.	Description	Dimensions (L x W x H)	Weight	WLL
515-4614	Modular H-Bar	1500 x 174 x 154 mm (59 x 6.9 x 6 in)	93 kg (204 lb)	50 Metric Ton (100,000 lb)

Brushes, Radial Knot Stringer Bead-Type Wheels

Warranty: Caterpillar® Six Months



- Designed for heavy duty cleaning, scale, spatter and rust removal
- High quality oil tempered wire gives long life on pipe and plate weld cleaning

Part No.	Package Quantity	Diameter	Arbor Hole (A.H) Threaded Size	Wire Size	Max. Safe Free Speed (RPM)
1U-9957	1	76.2 mm (3 in)	9.5 mm (3/8 in) A.H.	0.36 mm (0.014 in)	25,000

Brushes, Bench Grinder Wire

Warranty: Caterpillar® Six Months



- General purpose wire brushes that provide fine to medium brushing action
- Excellent for brushing uneven surfaces or areas not easily reached by wider brushes
- Will remove light scale, dirt, rust, corrosion or light burrs

Part No.	Package Qty	Wheel Diameter	Arbor Hole	Wire Size	Face Width	Max. Safe Free Speed (RPM)
1U-9971	1	152.4 mm (6 in)	12.7 - 15.9 mm (1/2 - 5/8 in)	0.36 mm (0.014 in)	15.88 mm (5/8 in)	6,000
1U-9972	1	152.4 mm (6 in)	12.7 - 15.9 mm (1/2 - 5/8 in)	0.36 mm (0.014 in)	25.4 mm (1 in)	6,000
1U-9974	1	203.2 mm (8 in)	15.9 mm (5/8 in)	0.36 mm (0.014 in)	25.4 mm (1 in)	4,500

ABRASIVES

Brushes, Cylinder Block Cleaning

Warranty: Manufacturer's 90 Days



- Used during rebuild to clean oil passages and cylinder bores after honing
- Circular brushes with nylon bristles and a single stem, single spiral, and carbon steel wire handle

Part No.	Brush Diameter
135-7628	304.8 mm (12 in)
1P-5571	9.5 mm (3/8 in)
1P-5572	19.1 mm (3/4 in)
1P-5573	31.8 mm (1 1/4 in)
1P-5574	127.0 mm (5 in)
6V-3182	7.9 mm (5/16 in)
6V-3183	11.1 mm (7/16 in)
6V-7067	6.4 mm (1/4 in)
6V-7091	12.7 mm (1/2 in)
6V-7092	15.9 mm (5/8 in)
6V-7093	25.4 mm (1 in)
6V-7094	38.1 mm (1 1/2 in)
6V-7095	44.5 mm (1 3/4 in)
6V-7096	50.8 mm (2 in)
4C-5552	57.2 mm (2 1/4 in)
4C-6342	88.9 mm (3 1/2 in)
4C-6343	101.6 mm (4 in)
1U-7429	114.3 mm (4 1/2 in)
1U-9788	127.0 mm (5 in)
4C-6344	139.7 mm (5 1/2 in)
4C-6345	152.4 mm (6 in)
4C-6346	165.1 mm (6 1/2 in)
4C-6347	177.8 mm (7 in)
4C-6348	190.5 mm (7 1/2 in)
4C-6349	203.2 mm (8 in)
4C-6350	241.3 mm (9 1/2 in)

Brushes, Interleaf Flap

Warranty: Manufacturer's 120 Days

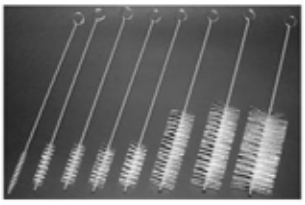


- Non-woven surface conditioning material and aluminum-oxide abrasive flaps with cloth backing
- Epoxy filled center with 6.4 mm (.25 in) shank
- Used to clean curved and irregular shaped parts with hard to reach areas
- Use in place of wire wheels, hand scrapers, and wire brushes
- Typical applications include cleaning up both hydraulic cylinders and engine lower bores
- Can also be used to clean rust, carbon deposits, adhesives, and tough coatings

Part No.	Size	Grade	Grit
254-5310	38 x 25 mm (1.5 x 1 in)	Coarse	60
254-5311	38 x 25 mm (1.5 x 1 in)	Medium	120
254-5312	38 x 25 mm (1.5 x 1 in)	Very Fine	240
254-5313	76 x 51 mm (3 x 2 in)	Coarse	60
254-5314	76 x 51 mm (3 x 2 in)	Medium	120
254-5315	76 x 51 mm (3 x 2 in)	Very Fine	240

Brushes, Nylon Cleaning

Warranty: Caterpillar® Six Months



- Used in a variety of cleaning applications, such as spray paint equipment and parts washers for cleaning tubes, valves cylinders, etc.
- Nylon bristles clean dirt without damaging surface
- Available in several brush diameters to meet cleaning task requirements
- Nylon bristles with a 25 cm (10 in) metal handle
- Long handle for cleaning hard to reach dirt and debris.

Part No.	Brush Diameter	Brush Length	Qty.
264-4352	50.8 mm (2 in)	102 mm (4 in)	48
264-4355	12.7 mm (1/2 in)	51 mm (2 in)	48
264-4357	19.0 mm (3/4 in)	51 mm (2 in)	48
264-4358	22.2 mm (7/8 in)	102 mm (4 in)	48
264-4372	38.1 mm (1 1/2 in)	102 mm (4 in)	48
266-2281	6.4 mm (1/4 in)	51 mm (2 in)	48
266-2282	15.9 mm (5/8 in)	51 mm (2 in)	48
266-2283	31.8 mm (1 1/4 in)	102 mm (4 in)	48

Brushes, Tube

Warranty: Caterpillar® Six Months



Part No.	Package Qty	Description	O.D.	Wire
4C-6161	1	76.2 mm (3 in) Brush Face, 609.6 mm (24 in) O.A.L.	9.53 mm (3/8 in)	0.13 mm (.005 in), Carbon Steel

Brushes, Brass Bristle Cleaning

Warranty: Caterpillar® Six Months



- Use to clean tire beads prior to mounting
- Also good for other applications where steel or nylon bristles will not work
- Foam plastic handle will not crack when left in cleaning solution
- Dense brass bristles clean well and will not rust

Part No.	Length x Width	Bristle Length	Package Quantity
262-4868	216 x 9 cm (8.5 x 3.5 in)	16 mm (.62 in)	12

Brushes, Parts Cleaning

Warranty: Caterpillar® Six Months



- For general cleaning—works great in parts washers
- Will not rust or damage the surface of the part being cleaned
- All poly handle and ferrule with natural fiber bristles
- Tapered handle for better grip
- Long bristles reach hard to clean areas

Part No.	Diameter	Overall Length	Bristle Length	Package Quantity
264-4359	25 mm (1 in)	25 cm (10 in)	64 mm (2.5 in)	12

ABRASIVES

Brushes, Crimped End Wire

Warranty: Manufacturer's 120 Days



- End brushes are suitable for operation over a wide range of speeds to accommodate various jobs. At a moderate RPM the wires maintain a general end position for tip action. Higher speeds cause flaring action which can be beneficial in conforming to irregular shapes and contours.
- Steel Wire
- 1/4 inch shank
- Used to clean large metal surfaces
- Remove burrs, weld scale, and rust
- Good for edge blending and surface preparation

Part No.	Description	Gauge	Size	Dimensions	Quantity	RPM
4C-6157	Encapsulated Flair-Flex	0.010	1 1/2 in (38 mm)	–	1	25,000
262-9721	Straight Wire	0.006	1/2 in (13 mm)	–	1 Box of 10	22,000
262-9722	Straight Wire	0.006	3/4 in (19 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	22,000
262-9723	Straight Wire	0.006	1 in (25 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	22,000
262-9726	Straight Wire	0.020	1/2 in (13 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	22,000
262-9727	Straight Wire	0.020	3/4 in (19 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	20,000
1U-9939	Knot	0.020	1 in (25 mm)	–	1	20,000
1U-9940	Straight Wire	0.020	1 in (25 mm)	–	–	20,000
1U-9941	Straight Wire	0.020	3/4 in (19 mm)	–	–	20,000
1U-9942	Circular End	0.020	1 1/2 in (38 mm)	–	1	15,000
1U-9943	Knot	0.020	3/4 in (19 mm)	–	1	20,000
1U-9945	Galvanized	0.020	3 in (76 mm)	–	–	5,000
1U-9946	Galvanized	0.014	3 in (76 mm)	–	–	5,000
4C-6153	Straight Wire	0.010	1 in (25 mm)	–	–	20,000
4C-6154	Straight Wire	0.010	1 in (25 mm)	–	–	20,000
4C-6158	Knot	0.014	1 in (25 mm)	–	1	20,000
262-9728	Straight Wire	0.02	1 in (25 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	–
262-9729	Knot	0.014	3/4 in (19 mm)	76 x 63.5 mm (3 x 2 1/2 in)	1 Box of 10	–

Brushes, Stem Mount Wire

Warranty: Manufacturer's 120 Days



- Steel Wire
- 1/4 inch shank
- Used to clean metal surfaces
- Remove burrs, weld scale, and rust
- Good for edge blending and surface preparation

Part No.	Wire Gauge	Size	Max. Speed (RPM)	Quantity	RPM
249-5284	0.010	1 1/2 in (38 mm)	25,000	1	25,000
249-5285	0.011	2 in (52 mm)	25,000		
249-5286	0.011	2 1/2 in (64 mm)	25,000		

Discs, Type 29 Zirconium Flap

Warranty: Manufacturer's 120 Days



- Grind and finish in one operation—good for heavy stock removal as well as finishing—reduces downtime
- Unique design allows for consistent sharp edge as wheel wears away
- Has a built-in angle for less operator fatigue
- Fiberglass reinforced backer
- Long lasting Zirconium grain cloth-backed flaps

Part No.	Center Hole	Diameter	Grade	Package Qty	RPM
236-8105	22.23 mm (7/8 in)	114.3 mm (4 1/2 in)	ZIR24	10	25,000
236-8106	22.23 mm (7/8 in)	114.3 mm (4 1/2 in)	ZIR36	10	
236-8107	22.23 mm (7/8 in)	114.3 mm (4 1/2 in)	ZIR60	10	
236-8109	22.23 mm (7/8 in)	114.3 mm (4 1/2 in)	ZIR80	10	
236-8111	22.23 mm (7/8 in)	114.3 mm (4 1/2 in)	ZIR120	10	
236-8114	22.23 mm (7/8 in)	152.4 mm (6 in)	ZIR60	10	
236-8116	22.23 mm (7/8 in)	152.4 mm (6 in)	ZIR120	10	
254-5336	22.23 mm (7/8 in)	178 mm (7 in)	ZIR36	10	
254-5337	22.23 mm (7/8 in)	178 mm (7 in)	ZIR60	10	
254-5338	22.23 mm (7/8 in)	178 mm (7 in)	ZIR80	10	

Discs, Type 29 Zirconium Flap with 5/8 -11 Hub

Warranty: Manufacturer's 120 Days



- Long lasting Zirconium cloth backed flaps
- Fiberglass reinforced backer
- Three popular grades
- Grind and finish in one operation
- Permanently attached metal hub

Part No.	Diameter	Hub Thread	Grade	Package Quantity
254-5339	144 mm (4.5 in)	5/8 -11	36G	10
254-5340	144 mm (4.5 in)	5/8 -11	60G	10
254-5341	144 mm (4.5 in)	5/8 -11	80G	10
254-5342	178 mm (7 in)	5/8 -11	36G	10

Discs, Hi-Density Zirconium Flap with 5/8 -11 Hub

Warranty: Manufacturer's 120 Days



- Hi-density flap disc with 5/8 -11 permanently attached metal hub
- Good for stock removal as well as finishing
- Fiberglass reinforced backer
- Available in four popular grades
- Made with long-life Zirconium grain
- 35-50% more material than Standard Flap discs

Part No.	O.D.	Hub Thread	Grade	Package Quantity
254-5345	114 mm (4.5 in)	5/8 -11	36 grit	10
254-5346	114 mm (4.5 in)	5/8 -11	60 grit	10
254-5347	114 mm (4.5 in)	5/8 -11	80 grit	10
254-5348	114 mm (4.5 in)	5/8 -11	120 grit	10
254-5349	178 mm (7 in)	5/8 -11	36 grit	10
254-5350	178 mm (7 in)	5/8 -11	60 grit	10
254-5351	178 mm (7 in)	5/8 -11	80 grit	10

ABRASIVES

Discs, Aluminum Oxide Surface Reconditioning

Warranty: Manufacturer's 120 Days



- Conditioning surfaces with conventional abrasive discs often results in dimensioning, gouging, or undercutting. Wire brushes don't thoroughly remove contaminants which can lead to rework. Their wires can become loose, fly off, and injure an operator. Surface reconditioning discs can help reduce or eliminate these problems. They deliver superior, consistent finishes when you need to clean, deburr, blend or finish.
- Use disc coming off the edge—better finish results
- Aluminum Oxide
- Use for gasket removal
- Use for deburring, cleaning and rust removal
- Use instead of wire brushes or sand paper when you don't want to remove any stock

Part No.	Package Qty	Grade	Diameter	Maximum Oper. Speed (RPM)	Optimum Oper. Speed (RPM)	Backing Pad
1U-7622	25	A-Coarse	101.6 mm (4 in)	13,000	10,000	4C-4763 (13,000), 1U-7623 (18,000)
4C-4383	50	A-Coarse	50.8 mm (2 in)	25,000	18,000	4C-4381
4C-4384	25	A-Coarse	76.2 mm (3 in)	18,000	15,000	4C-4382
5P-9709	25	A-Coarse	177.8 mm (7 in)	6,000	4,500	5P-9718
6V-0185	25	A-Coarse	127.0 mm (5 in)	10,000	10,000	6V-0186

Discs, Surface Reconditioning with Superior Edge Wear

Warranty: Manufacturer's 120 Days



- Surface reconditioning disc used on right angle tools
- The edges of an abrasive on a right angle grinder tend to wear faster than the center and thus the disc is never fully used up. Superior edge wear discs have longer overall life than standard discs.
- Ideal for gasket removal, rust removal and general cleaning on steel parts
- Retained by hook and loop type fasteners or 7/8 inch bolt thru application
- Brown disc with gray backing

Part No.	Package Qty	Description	Diameter	Maximum Oper. Speed (RPM)	Optimum Oper.Speed	Associated Tool
9U-6921	10	SE Disc — A Coarse	177.8 mm (7 in)	6,000	4,500	Grinder
9U-6922	10	SE Disc — A Coarse	127.0 mm (5 in)	10,000	10,000	Grinder
9U-6923	10	SE Disc — A Coarse	127 x 22.23 mm center hole (5 x 7/8 in)	10,000	10,000	Grinder
9U-6924	10	SE Disc — A Coarse	101.6 mm (4 in)	13,000(1)	10,000	Grinder/ Hand Drill
9U-6925	10	SE Disc — A Coarse	101.6 x 22.23 mm center hole (4 x 7/8 in)	13,000	10,000	Grinder/ Hand Drill
9U-6926	10	Roloc — A Coarse	76.2 mm (3 in)	18,000	15,000	Die Grinder/ Hand Drill
9U-6927	10	Roloc — A Coarse	50.8 mm (2 in)	25,000	21,000	Die Grinder/ Hand Drill

R-Type Zirconia Quick-Change Discs

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.



- Faster stock removal than aluminum oxide discs
- Cool grinding action reduces glazing and loading
- Tough zirconia provides a unique self-sharpening characteristic for extended disc life (up to 2.2 x the life of aluminum oxide discs).

Part No.	Grit	Size	Package Quantity
511-2178	24	2 in	50 discs
511-2179	36	2 in	50 discs
511-2180	50	2 in	50 discs
511-2181	80	2 in	50 discs
511-2182	120	2 in	50 discs
511-2183	24	3 in	25 discs
511-2184	36	3 in	25 discs
511-2185	50	3 in	25 discs
511-2186	80	3 in	25 discs
511-2187	120	3 in	25 discs

Zirconia Resin Fiber Discs

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.



- Provides faster stock removal than aluminum oxide discs
- Cool grinding action reduces glazing and loading
- Tough zirconia provides a unique self-sharpening characteristic for extended disc life (up to 2.2 x the life of aluminum oxide discs).
- 7/8 in hole

Part No.	Grit	Size	Package Quantity
511-2188	24	4.5 in	25 discs
511-2189	36	4.5 in	25 discs
511-2190	50	4.5 in	25 discs
511-2191	60	4.5 in	25 discs
511-2192	80	4.5 in	25 discs
511-2193	100	4.5 in	25 discs
511-2194	24	5 in	25 discs
511-2195	36	5 in	25 discs
511-2196	50	5 in	25 discs
511-2197	60	5 in	25 discs
511-2198	80	5 in	25 discs
511-2199	100	5 in	25 discs
511-2200	24	7 in	25 discs
511-2201	36	7 in	25 discs
511-2202	50	7 in	25 discs
511-2203	60	7 in	25 discs
511-2204	80	7 in	25 discs
511-2205	100	7 in	25 discs

ABRASIVES

Heavy Duty Abrasive Roll

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.



- Resin bond technology for aggressive metalworking, cleaning, finishing, deburring and sanding applications
- Increased grain retention provides superior cutting capability.
- Strong and tear-resistant
- Will not load
- Cut to length
- Can be used with solvents or other cleaners
- Ultra flexible
- Provides superior surface finish consistency

Part No.	Roll Size	Package Quantity
511-2206	50.8 x 762 mm (2 x 30 in)	1 Roll

Type 1 High-Performance Cutting Wheel

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.



- This unique treated abrasive grain structure provides extra-long life and fast cutting capability.
- Use with an angle grinder to cut bolts, tubing, structural steel, or sheet metal.
- Max RPM 10,186

Part No.	Wheel Size	Package Quantity
511-2207	152.4 mm (6 in)	1 Wheel

Four Piece 3/8 in Carbide Burr Set

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.



- Collection of the most popular shapes
- Includes heavy-duty canvas pouch
- Includes ball, ball nose cylinder, cylinder with cut end and ball nose cone burrs

Part No.	Description
511-2216	Four Piece 3/8 in Carbide Burr Set

Carbide Burrs, ½ in

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.









- Quickly enlarge holes, slots and cutouts with these ½ in diameter burrs
- Standard 1/4 in shank fits most die grinders.

Part No.	Shape
511-2208	Cylinder with End Cut
511-2209	Ball Nose Cylinder
511-2210	Ball Nose Tree
511-2211	Ball Nose Cone

Extra Long 3/8 in Carbide Burrs

Warranty: Caterpillar guarantees this product to be free from defect in material and workmanship at the time of sale.









- Extra long 6 in length for access to hard-to-reach areas
- Standard 1/4 in shank fits most die grinders.

Part No.	Shape
511-2212	Cylinder with End Cut
511-2213	Ball Nose Cylinder
511-2214	Ball
511-2215	Ball Nose Cone

ABRASIVES

Disc Pad Holders

Warranty: Manufacturer's 120 Days



- Safety Tip: Place holder on table before turning tool on—prevents pad from flying off.

Part No.	Package Qty	Used With	Description	Diameter	Hub/Shank	Maximum Oper. Speed (RPM)
1U-5518	1	1U-5519 or 1U-5520	Replacement Threaded Shaft	–	–	–
1U-5519	1	9U-6927	R - type Holder	51.0 mm (2 in)	–	25,000
1U-5520	1	9U-6926	R - type Holder	76.2 mm (3 in)	–	20,000
1U-7623	–	1U-7622	Hook and Loop	101.6 mm (4 in)	6.35 mm shaft (1/4 in)	13,000
4C-4381	–	4C-4383	Hook and Loop	51.0 mm (2 in)	6.35 mm shaft (1/4 in)	25,000
4C-4382	–	4C-4384	Hook and Loop	76.2 mm (3 in)	6.35 mm shaft (1/4 in)	18,000
4C-4763	–	1U-7622	Pad Holder	101.6 mm (4 in)	M14 x 2	13,000
4C-4764	–	1U-7622	Hook and Loop	101.6 mm (4 in)	5/8 in-11	13,000
5P-9718	–	5P-9709	Pad Holder	177.8 mm (7 in)	5/8 in-11	6,000
6V-0186 (Female, 5/8 in-11; use 1U-9381 to adapt it.)	–	150-1244	Pad Holder	127.0 mm (5 in)	5/8 in-11	10,000

Discs, Roloc Surface Conditioning

Warranty: Manufacturer's 120 Days



- Uses a more positive retention method than the "hook and loop" fasteners system
- R-style discs have a quarter turn male fastener embedded into the disc. The disc holder has the corresponding female fastener.
- Typically used at smaller sizes where the higher maximum operating speed requires a more positive retention system
- The disadvantage of this system is that the surface conditioning operation must always be conducted in one direction only. Reversing the tool will "unspin" the disc from the holder.
- Aluminum oxide
- Use for gasket removal, deburring, cleaning, and rust removal
- Use instead of wire brushes or sand paper when you don't want to remove any stock

Part No.	Package Qty	Diameter	Maximum Operating Speed (RPM)	Optimum Operating Speed (RPM)	Used With
R - type Surface Conditioning Discs					
1U-5516	25	50.8 mm (2 in)	25,000	18,000	1U-5519
9U-6927	10	50.8 mm (2 in)	25,000	21,000	1U-5519
9U-6926	10	76.2 mm (3 in)	18,000	15,000	1U-5520
1U-5517	25	76.2 mm (3 in)	18,000	15,000	1U-5520
R - type Disc Holders					
1U-5518	1	6.4 mm (1/4 in)	–	–	1U-5520 or 1U-5519
1U-5519	1	50.8 mm (2 in)	25,000	21,000	1U-5518
1U-5520	1	76.2 mm (3 in)	15,000	15,000	1U-5518

Discs, Surface Reconditioning for Aluminum Surfaces

Warranty: Manufacturer's 120 Days



- The ideal disc for aluminum
- Uses the same holders and grinders as other surface reconditioning discs

Fine Grade

- Very fine grade minimizes the chance of changing the surface profile
- Identified by blue/green color both front and back of disc

Medium Grade

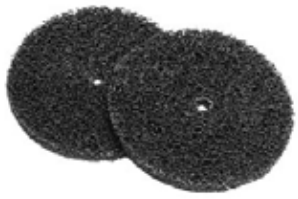
- Medium grade material used much like coarse but is less aggressive in performance—used when very fine surface condition material is not quite aggressive enough
- Ideal for work requiring less pressure such as grind marks, surface rust, and mild coatings
- Brown disc with gray backing

Part No.	Package Qty.	Grade	Diameter	Maximum Operating Speed (RPM)	Optimum Operating Speed (RPM)	Used With	Qty.	Actual Diameter	Max. Hub/ Shank	Associated Tool
150-1197	10	A Fine, N.H.	177.8 mm (7 in)	6,000	4,500	–	–	–	–	Grinder
150-1244	10	A Fine, N.H.	127.0 mm (5 in)	10,000	10,000	–	–	–	–	Grinder
150-1246	10	A Fine	101.6 mm (4 in)	13,000 (Max speed is 13,000 if used with 4C-4763, (4C-4764, 155-3595))	10,000	–	–	–	–	Grinder/ Hand Drill
150-1248	10	A Fine	76.2 mm (3 in)	18,000	15,000	–	–	–	–	Die Grinder/ Hand Drill
150-1250	10	A Fine	50.8 mm (2 in)	25,000	21,000	–	–	–	–	Die Grinder/ Hand Drill
236-8092	25	Medium	76.2 mm (3 in)	18,000 rpm	15,000 rpm	–	–	–	–	Grinder
Holders										
1U-5519	1	R - type Holder	51.0 mm (2 in)	25,000	21,000	150-1250	1	44.45 mm (1 3/4 in)	–	Die Grinder, Hand Drill
1U-5520	1	R - type Holder	76.2 mm (3 in)	20,000	15,000	150-1248	1	69.85 mm (2 3/4 in)	–	Die Grinder, Hand Drill
1U-7623	–	Hook and Loop	101.6 mm (4 in)	13,000	10,000	150-1246	1	98.43 mm (3 7/8 in)	1/4 in Shaft	–
4C-4381	–	Hook and Loop	51.0 mm (2 in)	25,000	21,000	150-1251	1	44.45 mm (1 3/4 in)	–	–
4C-4382	–	Hook and Loop	76.2 mm (3 in)	18,000	15,000	150-1252	1	78.03 mm (2 7.8 in)	–	–
4C-4763	–	Pad Holder	101.6 mm (4 in)	13,000	10,000	150-1246	1	95.25 mm (3 3/4 in)	M14 x 2	–
4C-4764	–	Hook and Loop	101.6 mm (4 in)	13,000	10,000	150-1246	1	95.25 mm (3 3/4 in)	5/8 in-11	–
5P-9718	–	Pad Holder	177.8 mm (7 in)	6,000	4,500	150-1197	1	174.63 mm (6 7/8 in)	5/8 in-11	–
6V-0186 (Female, 5/8 in-11; use 1U-9381 to adapt.)	–	Pad Holder	127.0 mm (5 in)	10,000	10,000	–	1	120.65 mm (4 3/4 in)	5/8 in-11	–

ABRASIVES

Discs, Aluminum Oxide

Warranty: Manufacturer's 120 Days



- Flexible discs can be used to remove corrosion and surface deposits
- Clean/strip designation indicates a coarse version of cutting/polishing disc
- Typical applications are clean up of hydraulic cylinders and engine lower bores
- Can be used in stacks of two or three, for whatever width is required to clean the surface in the most efficient manner
- Aluminum oxide
- Use for gasket removal, deburring, cleaning, and rust removal
- Use instead of wire brushes or sand paper when you don't want to remove any stock
- 279-2267 material is more aggressive so has a better cleaning and polishing effect than 6V-4086

Part No.	Package Qty	Grade	Diameter	Maximum Operating Speed (RPM)	Optimum Operating Speed (RPM)
279-2267	1	A-Medium	152.4 x 6.35 mm (6 x 1/4 in)	4,000	3,200
4C-3868	1	Extra Coarse	101.6 x 6.35 mm (4 x 1/4 in)	6,000	4,500
6V-4086	1	A-Medium	152.4 x 6.35 mm (6 x 1/4 in)	4,000	3,200
8T-3054	1	Coarse	152.4 x 12.7 mm (6 x 1/2 in)	4,000	3,200

Discs, Surface Reconditioning Bolt-On Style

Warranty: Manufacturer's 120 Days



- Holders for these discs have a hook and loop type fastening system; not all the grinders in the shop will accept this kind of holder

Part No.	Package Quantity	Description	Diameter x Center Hole	Max.Operating Speed (RPM)	Optimum Operating Speed (RPM)	Associated Tool
9U-6928	10	Disc — A Coarse	127.0 x 22.23 mm (5 x 7/8 in)	10,000	10,000	Grinder
9U-6929	10	Disc — A Coarse	101.6 x 22.23 mm (4 x 7/8 in)	13,000	10,000	Grinder
6V-4086	1	A-Medium	152.4 x 6.35 mm (6 x 1/4 in)	4,000	3,200	
8T-3054	1	Coarse	152.4 x 12.7 mm (6 x 1/2 in)	4,000	3,200	

Discs, Roloc Holders and Threaded Shaft Bristle

Warranty: Caterpillar® Six Months



- Bristle design and 3-dimensional abrasives enable bristle discs to remove carbon buildup, coatings, sealants, gaskets and weld discoloration quickly, leaving a clean surface ready for subsequent operations or inspection
- Used with rotary tool such as drill or small angle grinder
- Designed to compete with crimped wire and bristle cup brushes
- Extends range of surface reconditioning operations where conformability and flexibility are most critical
- Provides exceptional finish, outstanding performance and a safer workplace by eliminating flying metal wires
- Come in 3 sizes and 3 grades
- All Roloc holders use 1U-5518 Threaded Shaft

Specifications	
Shaft size	6.4 mm (.25 in)
Disc package quantity	10
50 grit discs	carbon removal, weld discoloration clean up or where coating removal discs are used
80 grit discs	corrosion removal, sealant removal and general maintenance repair operations
120 grit discs	aluminum parts

loc Bristle Discs

Item	Part No.	Description	Diameter	Size	Package Qty	Grit	Color	Max Oper. Speed (RPM)	Optimum Oper. Speed
1	138-4523	Roloc Bristle Disc	25 mm (1.0 in)	1	10	50	Green	30,000	25,000
1	138-4524	Roloc Bristle Disc	25 mm (1.0 in)	1	10	80	Yellow	30,000	25,000
1	138-4528	Roloc Bristle Disc	51 mm (2.0 in)	2	10	50	Green	25,000	18,000
1	138-4529	Roloc Bristle Disc	51 mm (2.0 in)	2	10	80	Yellow	25,000	18,000
1	138-4530	Roloc Bristle Disc	51 mm (2.0 in)	2	10	120	White	25,000	18,000
1	138-4534	Roloc Bristle Disc	76 mm (3.0 in)	3	10	50	Green	20,000	15,000
1	138-4535	Roloc Bristle Disc	76 mm (3.0 in)	3	10	80	Yellow	20,000	15,000
1	138-4536	Roloc Bristle Disc	76 mm (3.0 in)	3	10	120	White	20,000	15,000
1	150-5431	2" Holder Medium (Warranty: Manufacturer, 120 Day)	51 mm (2.0 in)	–	–	–	–	–	–
1	151-8101	Roloc Bristle Disc	25 mm (1.0 in)	1	10	120	White	30,000	25,000
2	151-8102	Holder for Bristle Discs	25 mm (1.0 in)	–	–	–	–	–	–
2	1U-5519	R - type Holder	51 mm (2.0 in)	–	1	–	–	25,000	21,000
2	1U-5520	R - type Holder	76 mm (3.0 in)	–	1	–	–	15,000	15,000
3	1U-5518	Replacement Threaded Shaft	–	–	1	–	–	–	–

ABRASIVES

Discs, Aluminum Oxide Fiber

Warranty: Manufacturer's 120 Days



- Requires use with rib-flow backing pad noted in table below
- Aluminum oxide with resin fiber back
- 22 mm (7/8 in) center hole for use with 5/8 -11 arbor (except 236-8069 which has 16 mm (5/8 in) center hole)
- Resin bond with fiber backing for strength
- Used for medium and heavy stock removal on right-angle sanding equipment for:
  - Cutting down and blending weld lines
  - Cutting down filler metal, rust and scale removal, as well as deburring

Part No.	Grit	Pad Diameter	Package Quantity	Backing Pad
7/8 inch Arbor Hole				
1U-6827	24	114 mm (4 1/2 in)	25	254-5307
1U-6828	36	114 mm (4 1/2 in)	25	254-5307
1U-6829	50	114 mm (4 1/2 in)	25	254-5307
1U-6832	100	114 mm (4 1/2 in)	25	254-5307
1U-6834	24	127.0 mm (5 in)	25	254-5308
1U-6835	36	127.0 mm (5 in)	25	254-5308
1U-6836	50	127.0 mm (5 in)	25	254-5308
1U-6837	60	127.0 mm (5 in)	25	254-5308
1U-6838	80	127.0 mm (5 in)	25	254-5308
1U-6839	100	127.0 mm (5 in)	25	254-5308
1U-6841	24	178.0 mm (7 1/64 in)	25	254-5309
1U-6842	36	178.0 mm (7 1/64 in)	25	254-5309
1U-6843	50	178.0 mm (7 1/64 in)	25	254-5309
1U-6844	60	178.0 mm (7 1/64 in)	25	254-5309
1U-6846	100	178.0 mm (7 1/64 in)	25	254-5309
268-8709	16	114.0 mm (4 31/64 in)	25	254-5307

Discs, Bristle

Warranty: Caterpillar® Six Months



- Bristle design and 3-dimensional abrasive filled fingers enable bristle disc to remove carbon buildup, coatings, sealants, gaskets, and weld discoloration quickly, leaving a clean surface ready for subsequent operations or inspection
- Used with rotary tool such as drill or right angle grinder
- Used for coating removal, weld preparation, and general cleaning
- Increased safety during use—bristles are mounted securely to backing, virtually eliminating flying wires common with wire brushes
- Flexible, abrasive-filled bristles conform to part's surface and clean without removing base material, helping reduce damage and rework
- Unique bristle shape resists excessive edge wear and loading with coatings, dirt, and debris to extend disc life and performance
- Resists heat build-up to reduce potential tempering or work surface damage
- Threaded 5/8 -11 inch core quickly threads onto shaft of an electric or pneumatic right angle grinder
- Color coding makes abrasive grade selection quick and easy
- Internal thread: 5/8 -11

Part No.	Size	Grit	Color	Maximum Operating Speed (RPM)	Optimum Operating Speed	Application
165-3945	4 1/2	50	Green	12,000	10,000	Carbon removal, weld discoloration cleaning, coating removal
165-3946	4 1/2	80	Yellow	12,000	10,000	Corrosion removal, sealant removal, general maintenance repair operations
165-3947	4 1/2	120	White	12,000	10,000	Aluminum parts

Pads, Rib-flow Backing for Fiber Disc

Warranty: Manufacturer's 120 Days

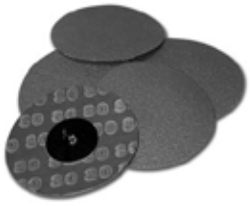


- Rib-flow backing pads allow air flow through the ribs extending disc life from 20 to 50%
- Polymide construction with steel insert and arbor nut
- Shipped in poly bag with 5/8 -11 arbor flange nut
- Available in three popular diameters
- For use with angle grinders with a 5/8 -11 spindle thread
- 254-5309 will fit 222-3064 or 222-3065 Pneumatic Angle Grinders

Part No.	O.D.	Max. Speed (RPM)	Package Quantity
254-5307	114.3 mm (4.5 in)	13,000	1
254-5308	127.0 mm (5 in)	11,900	1
254-5309	177.8 mm (7 in)	8,600	1

Discs, R-Type Mini Grinding

Warranty: Manufacturer's 120 Days



- Aluminum oxide with resin fiber back
- Manufactured with non-carcinogenic bonding agents—safer for the environment and dissipate heat while providing cooler cut for longer product life
- More coarse grits (24/36) best for weld removal, grinding, and deburring
- 50 grit best for blending; finer grits best for smooth sanding
- Resists stretching, shedding, and grain loss
- Maintains flexibility to work in contours
- Use with 1U-5519, 150-5431, and 1U-5520 R-Type Disc Holders

Part No.	Diameter	Grit	Package Quantity
236-8072	50.8 mm (2 in)	24	50
236-8073	50.8 mm (2 in)	36	50
236-8074	50.8 mm (2 in)	50	50
236-8075	50.8 mm (2 in)	80	50
236-8076	50.8 mm (2 in)	120	50
236-8078	76.2 mm (3 in)	24	25
236-8079	76.2 mm (3 in)	36	25
236-8081	76.2 mm (3 in)	50	25
236-8082	76.2 mm (3 in)	80	25
236-8083	76.2 mm (3 in)	120	25

Discs

Warranty: Manufacturer's 120 Days



- Excellent for cleaning welds, removing tough coatings, carbon deposits, adhesives and rust
- Conformable so there is less chance of under-cutting or gouging
- Open web resists loading even from soft coatings and is non-metallic so it will not contaminate the surface with metallic residues
- Will work at low RPM's, such as on a 6.35 mm (1/4 in) drill @ 1750 RPM
- Works well on other substrates such as wood, aluminum and even plastic

Part No.	Package Quantity	Description	Diameter	Maximum Operating Speed (RPM)	Optimum Operating Speed	Associated Tool
4C-8637	1	Clean 'N Strip 6.35 mm (1/4 in) Spindle Mounted Disc (CSD1-S)	101.6 x 12.7 x 6.35 mm (4 x 1/2 x 1/4 in)	8,000	8,000	Straight Grinder and Hand Drill
4C-8638	1	Clean 'N Strip 6.35 mm (1/4 in) Spindle Mounted Disc (CSD2-S)	101.6 x 25.4 x 6.35 mm (4 x 1 x 1/4 in)	8,000	8,000	Straight Grinder and Hand Drill

ABRASIVES

Discs, PSA Stick-It Type

Warranty: Manufacturer's 120 Days



- Aluminum oxide, resin bond adhesive backed paper discs
- Special coating resists loading
- Paper weight: E
- Color: gold
- Material: aluminum oxide

Part No.	Size	Weight	Grit	Qty.
262-9736	127 mm (5 in)	Paper Weight E	40	100 per box

Discs, PSA Glue Backed PSA/No Hole

Warranty: Manufacturer's 120 Days



- Aluminum oxide, resin bond adhesive backed paper discs
- Special coating resists loading
- Paper weight: E
- Color: gold
- Material: aluminum oxide

Part No	Grit	Description	Diameter x Hole	Package Quantity
4C-3809	36	Cloth Backed Disc	50.8 mm (2 in)	50
4C-3811	60	Cloth Backed Disc	50.8 mm (2 in)	50
4C-3813	100	Cloth Backed Disc	50.8 mm (2 in)	50
4C-3821	100	Cloth Backed Disc	101.6 mm (4 in)	50
4C-3822	120	Cloth Backed Disc	101.6 mm (4 in)	50
4C-3834	80	Cloth Backed Disk	304.8 mm (12 in)	25

Discs, PSA Sanding

Warranty: Manufacturer's 120 Days



- Aluminum oxide, resin bond adhesive backed paper discs
- Special coating resists loading
- Paper weight: E
- Color: gold
- Material: aluminum oxide

Part No.	Diameter	Grit	Package Quantity
236-8041	127 mm (5 in)	A/O 100	100
236-8043	127 mm (5 in)	A/O 150	100
236-8048	152.4 mm (6 in)	A/O 60	100
236-8049	152.4 mm (6 in)	A/O 80	100
236-8051	152.4 mm (6 in)	A/O 120	100
236-8052	152.4 mm (6 in)	A/O 150	100
236-8053	152.4 mm (6 in)	A/O 180	100
236-8054	152.4 mm (6 in)	A/O 220	100
236-8055	152.4 mm (6 in)	A/O 320	100
236-8056	152.4 mm (6 in)	A/O 400	100

Discs, Hook and Loop Aluminum Oxide Film Back Sanding

Warranty: Manufacturer's 120 Days

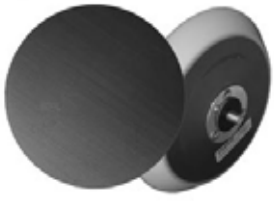


- Extremely tear resistant
- Resists loading on metal, paint and wood surfaces
- Strong backing
- Use with hook and loop sanding pads
- Material: aluminum oxide, film back resin bond
- Color: blue

Part No.	Diameter	Grit	Package Quantity
281-8271	127 mm (5 in)	100	50
281-8272	127 mm (5 in)	180	50
281-8273	152.4 mm (6 in)	100	50
281-8274	152.4 mm (6 in)	180	50
281-8275	152.4 mm (6 in)	220	50
281-8282	203.2 mm (8 in)	80	50

Discs, Hook and Loop Sanding

Warranty: Manufacturer's 120 Days



- Extremely tear resistant
- Resists loading on metal, paint and wood surfaces
- Strong backing
- Use with hook and loop sanding pads
- Material: aluminum oxide, film back resin bond
- Color: blue

Part No.	Diameter	Size	Max. Speed (RPM)
275-5265	152.4 mm (6 in)	5/16 -24	10,000
275-5266	203.2 mm (8 in)	5/8 -11	4800

Wheels, Clean 'N Strip Silicon Carbide Unitized

Warranty: Manufacturer's 30 Days



- Constructed of the most advanced material, Clean 'N Strip Unitized Wheels meet the demand for aggressive and durable cleaning products
- Designed to compete with power tool wire brushing, this product provides a cleaner, burr-free surface quicker than any wire fiber product
- Constructed of a non-woven nylon web, there is no opportunity for metal contamination or rusting in this product. It can be used on a variety of ferrous and nonferrous metal surfaces
- Used extensively in weld cleaning and conditioning applications to provide the proper surfaces for high integrity welding and cleaned polish surfaces for nondestructive testing
- Use this product for heavy-duty cleaning of rust, corrosion and coatings of all types
- Use for gasket removal, deburring, cleaning, and rust removal
- Clean up to 4 times faster than wire brushes, runs smoothly and resists loading
- Use instead of wire brushes or sand paper when you don't want to remove any stock

Specifications	
Density	7
Mineral type	S
Color	Black
Grade	XCS

Part No.	Package Qty	Wheel Size	Hole Size	Max. Operating Speed (RPM)	Optimum Oper. Speed
8T-7769	40	38.1 x 25.4 mm (1 1/2 in x 1 in)	4.8 mm (3/16 in)	18,000	16,000

ABRASIVES

Wheel, Light Silicon Carbide Deburring

Warranty: Manufacturer's 120 Days



- Widely used for fine deburring and polishing applications
- Designed to allow for removal of burrs without changing the dimension of the workpiece
- An excellent blending and radiusing tool
- Used in a variety of hand and automatic deburring and finishing applications including centerless polishing
- Used with bench and stand grinder

Specifications	
Density	6
Mineral type	S
Color	Gray
Grade	Fine
6V-2032 Adapter	
Maximum operating speed	4,000
Number required	2

Part No.	Package Qty	Wheel Size	Hole Size	Max. Operating Speed (RPM)	Optimum Oper. Speed
8T-7748	3	203.2 x 25.4 mm (8 in x 1 in)	76.2 mm (3 in)	4,500	4,500

Wheels, Type 27 High Performance Zirconium Grinding

Warranty: Manufacturer's 120 Days



- Ideal for the toughest applications
- Provides extremely long life
- High performance Zirconium offers very fast stock removal and longer life
- Cool running
- Smoother, more consistent performance for operator
- Best choice for stainless, castings, welding seams, and hard metal grinding

Part No.	Size	Grade	Package Quantity
236-8070	100 mm x 6 mm x 9.53 mm (4 in x 1/4 in x 3/8 in)	4997, ZG	50
236-8071	100 mm x 6 mm x 15.88 mm (4 in x 1/4 in x 5/8 in)	4997, ZG	50
237-3653	100 mm x 6 mm x 22.23 mm (4 1/2 in x 1/4 in x 7/8 in)	4997, ZG	50

Wheels, Type 27 Aluminum Oxide 4 inch Grinding

Warranty: Manufacturer's 120 Days



- Designed for grinding applications on ferrous metal such as grinding/smoothing weld seams and cleaning/shaping metal surfaces
- Material: aluminum oxide and resin

Part No.	Size	Type	Grade	Max. Speed (RPM)
262-9738	101.6 x 6.35 x 9.53 mm (4 x 1/4 x 3/8 in) hole	27	A24	15,000

Wheels, Finishing Flap Aluminum Oxide Brush

Warranty: Caterpillar® Six Months



- Fine grade flap brush replaces fine wire power brushes for removing carbon buildup, light rust and corrosion

Specifications	
Density	5
Color	Maroon
Grade	Fine

Part No.	Package Qty	Wheel Size	Hole Size	Maximum Operating Speed (RPM)	Optimum Operating Speed	Typical Application
6V-2033	2	203.2 x 50.8 mm (8 in x 2 in)	76.2 mm (3 in)	4,000	3,200	Bench Grinder, Stand Grinders, Straight Grinders
Mandrel						
6V-2032	–	–	–	–	–	–

Wheels, Level Cut Aluminum Oxide Unitized

Warranty: Manufacturer, 30 Day



- Made from an advanced material
- An excellent blending and polishing tool
- Used frequently in weld cleaning where high quality surface appearance is desirable

Specifications	
Density	5
Color	Tan
Letter color	Red
Grade	Fine

Part No.	Package Qty	Wheel Size	Hole Size	Maximum Operating Speed (RPM)	Optimum Operating Speed
8T-7767	50	25.4 x 25.4 mm (1 in x 1 in)	4.8 mm (3/16 in)	35,100	22,000
Mandrel					
8T-7768	5	–	–	22,000	–

Slicer and Arbor Cutoff Wheel

Warranty: Caterpillar® Six Months



- The A-60 TX Slicer Plus is an aluminum oxide, proprietary bond cut-off wheel formulated to provide very long life and very aggressive cool-cutting action on all metals.
- Sold in boxes of 50
- Grit: A-60
- Metabo Type 1
- Max Speed: 15,000 rpm

Part No.	Description	Specifications	Weight
486-2266	Slicer and Arbor Cutoff Wheel	4" Wheel with 5/8" Arbor	0.064 kg (0.14 lb)

ABRASIVES

Wheels, Threaded Flap

Warranty: Manufacturer, 120 Day



- Flap wheels consist of a series of coated abrasive pieces (forming the spokes of the wheel) which are mounted around a steel hub
- Supplied with a 1/4 in-20 thread mandrel designed for fast mounting
- Can be used on higher speed machines popular in today's market
- Delivers smooth, chatter-free grinding
- NOTE: Best speed ranges from 6,000 to 9,000 SFPM (surface feet per minute). Wheels should be operated in direction of arrow. Never exceed maximum operating speed.

Optimum Surface Feet per Minute Speed	Type Material
5,500	Aluminum
4,000	Hardwood
5,000	Non-ferrous metals
5,000	Steel (alloy)
5,000	Steel (mild)
6,500	Steel (stainless)

Part No.	Package Qty	Size	Grit	Max. Speed (RPM)	Description
4C-8511	10	1 in x 1 in	60	25,000	–
4C-8512	10	1 in x 1 in	120	25,000	–
4C-8513	10	1 in x 1 in	180	25,000	–
4C-8514	10	2 in x 1 in	60	20,000	–
4C-8515	10	2 in x 1 in	120	20,000	–
4C-8516	10	2 in x 1 in	180	20,000	–
4C-8517	10	3 in x 1 in	60	20,000	–
4C-8518	10	3 in x 1 in	120	20,000	–
4C-8519	10	3 in x 1 in	180	20,000	–
Mandrel					
4C-8520	–	1/4 inch x 1 inch	–	–	Adapter
4C-8521	–	1/4 inch x 4 inch	–	–	Adapter

Mandrels

Warranty: Manufacturer, 120 Day



Part No.	Description	Package Qty	Used with	Diameter	Hub/Shank	Max. Operating Speed (RPM)
6V-4087	Mandrel	1	6V-4086/4C-3868/ 279-2267	6.4 mm (1/4 in)	6.35 shank x 25.4 mm Dia. (1/4 x 1 in)	6,000
8T-3055	Mandrel	1	8T-3054	12.7 mm (1/2 in)	6.35 x 70.5 mm Dia. (1/4 x 2 1/2 in)	4,000

Brush, Surface Condition

Warranty: Manufacturer's 120 Days



- Non-woven surface condition material with epoxy-filled center
- Shank size: 6.35 mm (.25 in)
- Available in three grades — very fine, medium, and coarse

Part No.	Size	Grade	Package Quantity
254-5316	38.1 x 25.4 mm (1.5 x 1 in)	Coarse	1
254-5319	76.2 x 50.8 mm (3 x 2 in)	Coarse	1
254-5317	38.1 x 25.4 mm (1.5 x 1 in)	Medium	1
4C-8630	76.2 x 44.5 mm (3 x 1 3/4 in)	Medium	1
254-5318	38.1 x 25.4 mm (1.5 x 1 in)	Very Fine	1
254-5320	76.2 x 50.8 mm (3 x 2 in)	Very Fine	1

Wheel Sander, Aluminum Oxide Large Flap

Warranty: Manufacturer's 120 Days



- Flap wheel sander consists of a series of coated abrasive pieces (forming the spokes of the wheel) which are mounted around a steel hub
- Delivers smooth, chatter-free grinding
- Used on bench grinder, stand grinder, or straight grinder with 25.4 mm (1 in) spindle
- Material: aluminum oxide
- NOTE: Wheel should be operated in direction of arrow. Never exceed maximum operating speed (RPM).

Part No.	Size	Grit	Max. Speed (RPM)	Package Quantity
262-9739	6 in x 1 in	120	6000	1

Wheels, 1/4 Inch Shank Abrasive Flap

Warranty: Manufacturer's 120 Days



- Aluminum-oxide coated abrasive flaps with cloth backing
- Delivers smooth, chatter-free grinding
- Use with handheld grinders
- Mounted on 6.35 mm (.25 in) shank
- Available in five popular grits and three sizes

Part No.	Diameter x Thickness	Grit	Package Quantity
254-5321	25.4 x 25.4 mm (1 x 1 in)	60	10
254-5322	25.4 x 25.4 mm (1 x 1 in)	80	10
254-5323	25.4 x 25.4 mm (1 x 1 in)	120	10
254-5324	25.4 x 25.4 mm (1 x 1 in)	180	10
254-5325	25.4 x 25.4 mm (1 x 1 in)	240	10
254-5326	50.8 x 25.4 mm (2 x 1 in)	60	10
254-5327	50.8 x 25.4 mm (2 x 1 in)	80	10
254-5328	50.8 x 25.4 mm (2 x 1 in)	120	10
254-5329	50.8 x 25.4 mm (2 x 1 in)	180	10
254-5330	50.8 x 25.4 mm (2 x 1 in)	240	10
254-5331	76.2 x 25.4 mm (3 x 1 in)	60	10
254-5332	76.2 x 25.4 mm (3 x 1 in)	80	10
254-5333	76.2 x 25.4 mm (3 x 1 in)	120	10
254-5334	76.2 x 25.4 mm (3 x 1 in)	180	10
254-5335	76.2 x 25.4 mm (3 x 1 in)	240	10

ABRASIVES

Wheels, Zirconium Raised Hub

Warranty: Manufacturer's 120 Days



- Designed for rough grinding applications, including:
  - grinding/smoothing weld seams
  - cleaning metal surfaces
- Designed for use on electrical or air powered right angle or vertical shaft grinders
- Wheels fit 114.3 mm, 177.8 mm and 228.6 mm (4 1/2 in, 7 in and 9 in) grinders
- Type 28 wheels have built-in 15° angle for out of position work
- Wheels comply with ANSI safety code B-7.1
- 1/4 - inch (6 mm) thick

Part No.	Package Qty	Grit	Dimensions	Thread Size	Max. Speed (RPM)
Type 27					
4C-3769	5	A24	7 inch (177 mm)	7/9	8,500
4C-3770	5	A24	7 inch (177 mm)	5/9 - 11	8,500
4C-3772	5	A24	9 inch (228 mm)	5/9 - 11	6,600
9U-6383	1	A24	5 inch (127 mm)	5/9 - 11	12,220
Type 28 (built-in 15 degree angle)					
4C-3773	5	A24	7 inch (177 mm)	7/8	8,500
4C-3774	5	A24	7 inch (177 mm)	5/9 - 11	8,500
4C-3776	5	A24	9 inch (228 mm)	5/9 - 11	6,600

Wheels, Aluminum Oxide Raised Hub

Warranty: Manufacturer's 120 Days



- Designed for use on electrical or air powered right angle or vertical shaft grinders
- Designed for rough grinding applications, including:
  - grinding/smoothing weld seams
  - cleaning metal surfaces
- Wheels fit 114.3 mm, 177.8 mm and 228.6 mm (4 1/2 in, 7 in and 9 in) grinders
- Type 28 wheels have built-in 15° angle for out of position work
- Wheels comply with ANSI safety code B-7.1k

Part No.	Package Qty	Grit	Dimensions	Thread Size	Max. Speed (RPM)
Type 27					
1U-6788	10	A24	102 x 3 mm (4 x 1/8 in)	5/8	15,300
1U-6789	10	A24	102 x 6 mm (4 x 1/4 in)	5/8	15,300
1U-6790	10	A24	114 x 3 mm (4 1/2 x 1/8 in)	7/8	13,300
1U-6791	10	A24	114 x 6 mm (4 1/2 x 1/4 in)	7/8	13,300
1U-6792	10	A24	177 x 3 mm (7 x 1/8 in)	7/8	8,500
1U-6793	10	A24	177 x 6 mm (7 x 1/4 in)	7/8	8,500
1U-6794	10	A24	177 x 6 mm (7 x 1/4 in)	5/8 - 11	8,500
1U-6796	10	A24	228 x 6 mm (9 x 1/4 in)	5/8 - 11	6,600
236-8061	Bulk	A24	152 x 6 mm (6 x 1/4 in)	7/8	10,000
9U-6382	1	A24	127 x 6 mm (5 x 1/4 in)	5/8 - 11	12,220
Type 28 (built-in 15 degree angle)					
4C-3863	10	A24	228 x 6.35 mm (9 x 1/4 in)	5/8 - 11	6,600

Wheels, Cut-Off

Warranty: Manufacturer's 120 Days



- Fully reinforced cut-off wheels for heavy-duty cut off jobs on ferrous metals
- Wheels comply with ANSI Safety Code B-7.1
- Use A60 for burr-free, cool cutting of metal
- Use A36 for rough cutting applications
- Offers quality at a competitive price

Part No.	Package Qty	Grit	Dimensions	Hole Size	Max. Speed (RPM)
3- inch / 25,000 RPM					
174-8900	25	A60	76 x 1 mm (3 x 1/32 in)	1/4 in	25,000
174-8901	25	A60	76 x 1.5 mm (3 x 1/16 in)	3/8 in	25,000
174-8902	25	A36	76 x 1.5 mm (3 x 1/16 in)	1/4 in	25,000
174-8903	25	A36	76 x 3 mm (3 x 1/8 in)	3/8 in	25,000
174-8904	25	A36	76 x 3 mm (3 x 1/8 in)	3/8 in	25,000
174-8905	25	A36	76 x 3 mm (3 x 1/32 in)	3/8 in	25,000
4 - inch / 20,000 RPM					
174-8906	25	A60	101 x 1 mm (4 x 1/32 in)	1/4 in	20,000
174-8907	25	A60	101 x 1 mm (4 x 1/32 in)	3/8 in	20,000
174-8908	25	A36	101 x 1.5 mm (4 x 1/16 in)	1/4 in	20,000
174-8909	25	A36	101 x 1.5 mm (4 x 1/16 in)	3/8 in	20,000
174-8910	25	A36	101 x 3 mm (4 x 1/8 in)	1/4 in	20,000
174-8911	25	A36	101 x 3 mm (4 x 1/8 in)	3/8 in	20,000
Below 6,000 RPM					
1U-6809	25	A36	304 x 3 mm (12 x 7/64 in)	1 in	5,100
1U-6810	25	A36	356 x 3 mm (14 x 7/64 in)	1 in	4,400
1U-6811	10	A24	406 x 3 mm (16 x 5/32 in)	1 in	3,000

Wheels, Thin-Cut Abrasive Cutting

Warranty: Manufacturer's 120 Days



- High quality treated grain for long life
- Ideal for sheet metal, steel tubing, and solid stock
- Great for cutting off bolts and rusted fasteners
- Used on portable angle grinders
- Available in 1/32 and 1/16 inch thickness for fast cutting

Part No.	Size	Grade	Max. Speed (RPM)	Package Qty
236-8066	114.3 mm x .889 mm x 22.23 mm (4 1/2 in x .035 in x 7/8 in)	A60	17,902	Bulk
236-8067	127 mm x .889 mm x 22.23 mm (5 in x .035 in x 7/8 in)	A60	12,223	Bulk
236-8068	152.4 mm x .889 mm x 22.23 mm (6 in x .035 in x 7/8 in)	A60	10,186	Bulk

Wheels, Drill Sharpening (Type 1)

Warranty: Manufacturer's 120 Days



- Used on drill sharpening machines to form or resharpen drills
- Use aluminum oxide for all types of steel
- Use silicone carbide for tungsten carbide, non-ferrous metals such as brass, bronze and aluminum

Part No.	Grit Spec.	Wheel Size (O.D. x Thickness x I.D.)	Package Qty
4C-3766	A80-H Aluminum Oxide	152.4 mm x 19 mm x 15.88 mm (6 in x 3/4 in x 5/8 in)	1
4C-3768	C80-I Silicon Carbide Used to sharpen cobalt or carbide drill bits and tools	152.4 mm x 19 mm x 15.88 mm (6 in x 3/4 in x 5/8 in)	1

ABRASIVES

Mandrel for Small Abrasive Wheels

Warranty: Manufacturer's 120 Days



- Used with small cut-off wheels with either a 1/4 inch or 3/8 inch hole
- Not recommended for wheels thicker than 1/8 inch
- Safe to use in die grinders up to 30,000 RPM
- Flush head for confined work
- Stress relieved, high tensile steel
- Includes two screws, one for 1/4 inch and one for 3/8 inch holes

Part No.	Description	Dimensions	Package Qty
236-8038	Mandrel	2 inch OAL x 1/4 inch shank	1

Wheels, Portable Reinforced (Type 1)

Warranty: Manufacturer's 120 Days


4C-3777

- These reinforced wheels are to be used on grinders to clean up and blend
- Straight wheels are to be used on portable horizontal shaft or straight shaft machines

Part No.	Grit Spec.	Max. Speed (RPM)	Wheel Size (O.D. x Thickness x I.D.)	Package Qty
4C-3777	A36	27,120	50.8 mm x 12.7 mm x 9.53 mm (2 in x 1/2 in x 3/8 in)	10
4C-3864	A24	27,120	50.8 mm x 12.7 mm x 9.53 mm (2 in x 1/2 in x 3/8 in)	10
4C-3865	A36	18,080	76.2 mm x 9.53 mm x 9.53 mm (3 in x 3/8 in x 3/8 in)	10

Wheels, Bench and Pedestal (Type 1)

Warranty: Manufacturer's 120 Days



- Cover a broad range of general bench grinding jobs
- Offer custom quality
- Choose aluminum oxide wheels for all types of steel
- 6-inch and 7-inch wheels come with 1/2", 5/8", 3/4" reduction bearings
- 8-inch wheels come with 5/8" and 3/4" reduction bearings
- 10-inch wheels come with 3/4" and 1" reduction bearings

Part No.	Grit Spec.	Max. Speed (RPM)	Wheel Size (O.D. x Thickness x I.D.)	Package Qty
1U-6784	A36	3,600	177.8 mm x 25.4 mm x 25.4 mm (7 in x 1 in x 1 in)	1
1U-6786	A36	3,600	203.2 mm x 25.4 mm x 25.4 mm (8 in x 1 in x 1 in)	1
1U-6787	A60	3,600	203.2 mm x 25.4 mm x 25.4 mm (8 in x 1 in x 1 in)	1
1U-8285	A36	2,485	254 mm x 25.4 mm x 31.75 mm (10 in x 1 in x 1 1/4 in)	1
1U-8286	A60	2,485	254 mm x 25.4 mm x 31.75 mm (10 in x 1 in x 1 1/4 in)	1

Wheels, Aluminum Oxide Flaring Cup Snagging (Type 11)

Warranty: Manufacturer's 120 Days


1U-6817

- Use on right angle or vertical machines
- Use for smoothing of weld seams and metal preparations prior to plating/painting
- Use for grinding welds, cleaning castings, or grinding fins and parting lines from rough castings

Part No.	Grit	Max. Speed (RPM)	Large O.D. / Small O.D. x Thickness x I.D.	Package Qty
1U-6817	A16	9,075	101.6/76.2 mm x 50.8 mm x 5/8 in-11 (4/3 in x 2 in x 5/8 in-11)	10
1U-6818	A16	7,260	127/95.3 mm x 50.8 mm x 5/8 in-11 (5/3 3/4 in x 2 in x 5/8 in-11)	10
1U-6819	A16	6,000	152.4/120.7 mm x 50.8 mm x 5/8 in-11 (6/4 3/4 in x 2 in x 5/8 in-11)	5

Mandrel #936

Warranty: Manufacturer's 120 Days



Part No.	Package Quantity	Maximum Operating Speed
8T-7768	5	22,000

Pads, Abrasive Hand

Warranty: Manufacturer's 120 Days



- Every workplace has uses for non-woven nylon abrasive hand pads—whenever surfaces must be conditioned or cleaned by hand
- Used to clean surfaces or remove rust, oxides, paint discoloration, and other surface contaminants
- Impart and blend cosmetic finishes on metal or highlight wood finishes
- Hand deburr metals and plastics quickly and economically
- Used with optional 4C-4175 Hand Pad Holder
- Size: 152 x 229 mm (6 x 9 in)

Part No.	Description	Grade	Color	Package Qty
8T-7752	Long Life Production	Coarse	Black	20
262-9980	Heavy-Duty Aggressive	Extra Coarse	Tan	20
241-9512	Cleaning and Finishing	Fine	Gray	20
8T-7765	General Purpose	Medium	Green	20
8T-7751	Medium-Duty Cleaning	Medium	Maroon	20
4C-4175	Pad Holder	–	–	–

Cutting and Polishing Rolls, Aluminum Oxide

Warranty: Caterpillar® Six Months



- A unique and aggressive material for cleaning, finishing deburring
- Ideal as a utility bench roll
- Used in similar application as Emery Rolls, but does not load up with material

Specifications	
Mineral type	Aluminum oxide
Color	Tan
Grade	Very fine, medium

Part No.	Package Qty	Size	Grade	Used with
1U-5512	1	25.4 mm x 9 m (1 in x 30 ft)	Very Fine	Hand application or hand drill with 8T-7766 mandrel
1U-5513	1	25.4 mm x 9 m (1 in x 30 ft)	Medium	Hand application or hand drill with 8T-7766 mandrel
1U-5514	1	51 mm x 9 m (2 in x 30 ft)	Very Fine	Hand application or hand drill with 8T-7766 mandrel
467-0192	1	51 mm x 9 m (2 in x 30 ft)	Medium	Hand application or hand drill with 8T-7766 mandrel

ABRASIVES

Mandrel, Adapter #935

Warranty: Manufacturer's 30 Days



- Tear off strip and insert in the mandrel to use in corners and other hard to reach areas
- Use on air drills

Part No.	Maximum Operating Speed	Package Quantity
8T-7766	6000 RPM with 25.4 x 38.1 mm (1 in x 1 1/2 in) flat stock (roll or hand pad)	5

Polishing Stone

Warranty: Caterpillar® Six Months



- Use this fine grade polishing stone to remove the sharp, raised edges of nicks and burrs on machine components
- More useful than the emery paper where a burr or raised edge is large
- Should always be used with a lightweight oil

Part No.	Dimensions	Package Quantity
6V-2010	100 mm x 25 mm x 6 mm (4 in x 1 in x .25 in)	1

Sanding Cloth Rolls

Warranty: Manufacturer's 120 Days



- These cloth shop rolls are cut in various widths and can be torn to the desired length for hand deburring
- For contour sanding, stripping, deburring, rust removal, cutdown prior to polishing, and all general maintenance work

Part No.	Grit	Dimensions	Package Quantity
		1– inch	
262-9732	180J	25 mm x 45.7 m (1 in x 50 yd)	1
262-9737	320J	25 mm x 45.7 m (1 in x 50 yd)	1
262-9740	400J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7255	80J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7256	100J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7257	120J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7258	220J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7259	280J	25 mm x 45.7 m (1 in x 50 yd)	1
269-7260	500J	25 mm x 45.7 m (1 in x 50 yd)	1
		1 1/2 – inch	
1U-6848	60J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
1U-6849	80J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
1U-6850	120J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
1U-6851	180J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
1U-6852	240J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
1U-6853	320J	38.1 mm x 45.7 m (1 1/2 in x 50 yd)	1
4C-8522	80	38.1 mm x 22.7 m (1 1/2 in x 25 yd)	1
4C-8523	120	38.1 mm x 22.7 m (1 1/2 in x 25 yd)	1
4C-8524	180	38.1 mm x 22.7 m (1 1/2 in x 25 yd)	1
		2 – inch	
1U-8274	60J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8275	80J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8276	100J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8277	120J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8278	180J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8279	240J	50.8 mm x 45.7 m (2 in x 50 yd)	1
1U-8280	320J	50.8 mm x 45.7 m (2 in x 50 yd)	1
262-9741	400J	50.8 mm x 45.7 m (2 in x 50 yd)	1

Sanding Sheets

Warranty: Manufacturer's 120 Days



- These sheets are used for sanding and metal surface preparation
- Engineered for maximum economy, fast cutting and smoothing action
- Excellent for scouring, deburring, scale and rust removal

Part No.	Grit	Abrasive	Size	Package Quantity
266-3452	4/0	Emery	228.6 x 349.3 mm (9 in x 13.75 in)	100
1U-6854	60J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	25
1U-6855	80J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	25
1U-6856	120J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-6857	180J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-6858	240J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-6859	320J	Aluminum Oxide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-8281	400A	Silicon Carbide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-8282	500A	Silicon Carbide	228.6 x 279.4 mm (9 in x 11 in)	50
1U-8283	600A	Silicon Carbide	228.6 x 279.4 mm (9 in x 11 in)	50
4C-8510	Crocus	Ferrous Oxide	228.6 x 279.4 mm (9 in x 11 in)	50

Belts, Surface Conditioning

Warranty: Manufacturer, 120 Days



- Excellent tool to polish crankshafts
- Ideal for high tension applications
- Unique, reinforced construction delivers a uniform, consistent finish that can be applied with abrasive belt machinery
- Surface conditioning belts are reinforced which allows the material to be spliced into a continuous belt
- Open construction resists loading and heat buildup that normally affects belt life and performance
- As it wears, the surface conditioning material exposes fresh abrasive mineral to the work surface, providing consistent results throughout the belt's life
- Density: 5

Part No.	Package Qty	Wheel Size	Max. Oper. Speed	Optimum Oper. Speed	Grade	Color	Used with
6V-3044	12	25.4 mm x 165.1 cm (1 in x 65 in)	6500 SFPM	5500 SFPM	Fine	Blue	Abrasive Belt Machinery

Belts, Sanding

Warranty: Manufacturer, 120 Days



- Used with any 7.62 x 53.34 cm (3 x 21 in) belt sander
- Material: aluminum oxide with cloth back

Part No.	Grade	Color
262-9742	36 grit - coarse	Tan
262-9743	80 grit - medium	Tan
262-9744	120 grit - fine	Tan
262-9745	220 grit - super fine	Tan

ABRASIVES

Cleaning and Polishing Stars, Aluminum Oxide

Warranty: Manufacturer, 120 Days



- Perfect choice for cleaning and polishing the inside diameters of pipe, tubing, cylinders and other interior spaces
- Star shape allows the star tips to provide constant outward pressure on the walls to produce uniform and consistent results
- Can be mounted singly or in multiples for efficient inside diameter cleaning and polishing operations
- Adapter: 4C-8629 Mandrel

Part No.	Package Qty	Diameter	Max. Oper. Speed	Optimum Oper. Speed
4C-8624	25	38.1 mm (1 1/2 in)	24,000	18,000
4C-8625	25	50.8 mm (2 in)	24,000	18,000
4C-8626	10	76.2 mm (3 in)	18,000	15,000
4C-8627	10	101.6 mm (4 in)	18,000	15,000
4C-8628	10	114.3 mm (4 1/2 in)	18,000	15,000
Mandrel				
4C-8629	–	–	–	–

Threaded Cones and Plugs

Warranty: Manufacturer, 120 Days



- Use on horizontal shaft and vertical shaft grinders
- Choose these for welding shop jobs such as:
  - Grinding and smoothing fillets and corners
  - Internal grinding
  - Blending contours
  - Work in confined areas
- Center holes have molded-in bushings, available in 5/8 inch-11 threads to fit most popular grinder spindles

Available in four shapes:

- Type 16 with rounded tip for grinding mild contours or flat surfaces
- Type 17 with square tip for beveling workpiece edges prior to welding
- Type 18 square plugs for use on straight shaft grinders for work on flat surfaces
- Type 18R also called pot balls, for work requiring straight sides and rounded tips

Item	Part No.	Grit	O.D. x Length x Thread Size	Package Qty
Type 16	1U-6812	A24	38.1 mm x 76.2 mm x 5/8 in-11 (1 1/2 in x 3 in x 5/8 in-11)	10
Type 17	1U-6813	A24	63.5 mm x 76.2 mm x 5/8 in-11 (2 1/2 in x 3 in x 5/8 in-11)	10
Type 18	1U-6814	A24	38.1 mm x 63.5 mm x 5/8 in-11 (1 1/2 in x 2 1/2 in x 5/8 in-11)	10
Type 18R	1U-6815	A24	38.1 mm x 63.5 mm x 5/8 in-11 (1 1/2 in x 2 1/2 in x 5/8 in-11)	10
Type 18R	1U-6816	A24	50.8 mm x 76.2 mm x 5/8 in-11 (2 in x 3 in x 5/8 in-11)	10

Flex-Hone Tools, Surface Reconditioning

Warranty: Manufacturer, 90 Days



- The flex-hone process (Superfinishing) produces a controlled surface condition that will result in:
  - Lowered oil consumption
  - Less blow-by
  - Less friction
  - Plateaued finish over 50%
  - Finish free from cut, and folded metal
- All abrasive is silicone carbide
- Resilient, flexible, honing tool with soft cutting action
- Abrasive (points) globules each have independent suspension that assures the hone to be self-centering, self-aligning to the bore, and self-compensating for wear
- 553-3281 and 553-3282 require order of a re-usable shaft
- A low temperature abrading process that exposes the undisturbed base metal structure to produce a long wearing surface
- Method of developing a surface on a metal part which is optically smooth and metallurgically free of any fragmented, amorphous or smeared metal from previous operations
- Accomplished at a low pressure where the "stones" float
- Hone crosshatch is extremely efficient in providing a multiplicity of oil grooves or valleys for oil retention as opposed to the uni-directional or uneven valleys common to the conventional type rigid hone. A crosshatch that usually remains as the cylinder wall has been wear-reduced by the hone.

Part No.	Engine Bore Size	Grit
1U-7428	101.6 mm (4 in)	240
1U-9787	120.65-127 mm (4 3/4 in-5 in)	180
4C-6322	101.6 mm (4 in)	180
4C-6323	107.95 mm (4 1/4 in)	180
4C-6324	117.3 mm (4 1/2 in)	180
4C-6325	133.5-137.16 mm (5 1/4 in-5.4 in)	180
4C-6326	146.05-152.4 mm (5 3/4 in-6 in)	180
4C-6327	158.75 mm (6 1/4 in)	180
4C-6328	169.92-177.8 mm (6.69 in-7 in)	180
4C-6329	190.5 mm (7 1/2 in)	180
4C-6330	203.2 mm (8 in)	180
553-3281*	241.3 mm (9 1/2 in)	180
553-3282**	241 mm (11.8 in)	120
4C-6332	60.33 mm (2 3/8 in)	240
4C-6333	79.38 mm (3 1/8 in)	240
4C-6334	92.08 mm (3 5/8 in)	240
4C-6335	104.78 mm (4 1/8 in)	240
4C-6336	114.3 mm (4 1/2 in)	240
4C-6337	12.7 mm (1/2 in)	320
4C-6338	15.88 mm (5/8 in)	320
4C-6339	19 mm (3/4 in)	320
4C-6340	25.4 mm (1 in)	320
4C-6341	38.1 mm (1 1/2 in)	320

*Requires re-usable shaft part number 553-3283

** Requires re-usable shaft part number 553-3284

ABRASIVES

Mounted Points

Warranty: Manufacturer, 120 Days



- Mounted wheels are used with horizontal or straight shaft, die and pencil grinders on jobs where larger wheels will not fit
- Offer maximum performance for grinding ferrous metals
- Accurate spindles ensure precision grinding and minimize run-out
- A-shaped wheels are for medium to heavy-duty blending and contouring
- W-shaped wheels are for off-hand and precision grinding of medium to heavy stock

Part No.	Shape	Grit	Diameter x Length	Max Speed	Mandrel Diameter	Package Quantity
1U-6820	A1	A36	19 mm x 63.5 mm (3/4 in x 2 1/2 in)	19,800	6.4 mm (1/4 in)	25
1U-6821	A1	A60	19 mm x 63.5 mm (3/4 in x 2 1/2 in)	19,800	6.4 mm (1/4 in)	25
1U-6822	A3	A36	25.4 mm x 69.85 mm (1 in x 2 3/4 in)	16,100	6.4 mm (1/4 in)	25
1U-6823	A3	A60	25.4 mm x 69.85 mm (1 in x 2 3/4 in)	16,100	6.4 mm (1/4 in)	25
1U-6824	A11	A36	22.23 mm x 50.8 mm (7/8 in x 2 in)	19,860	6.4 mm (1/4 in)	25
1U-6825	A11	A60	22.23 mm x 50.8 mm (7/8 in x 2 in)	19,860	6.4 mm (1/4 in)	25
1U-6826	A38	A60	25.4 mm x 25.4 mm (1 in x 1 in)	34,500	6.4 mm (1/4 in)	25
4C-3845	A4	A60	31.75 mm x 31.75 mm (1 1/4 in x 1 1/4 in)	30,560	6.4 mm (1/4 in)	25
4C-3846	A5	A36	19 mm x 28.58 mm (3/4 in x 1 1/8 in)	45,000	6.4 mm (1/4 in)	25
4C-3849	A12	A36	26.9 mm x 31.75 mm (11/16 in x 1 1/4 in)	48,000	6.4 mm (1/4 in)	25
4C-3850	A12	A60	26.9 mm x 31.75 mm (11/16 in x 1 1/4 in)	48,000	6.4 mm (1/4 in)	25
4C-3852	A39	A60	19 mm x 19 mm (3/4 in x 3/4 in)	47,250	6.4 mm (1/4 in)	25
4C-3853	W220	A60	25.4 mm x 25.4 mm (1 in x 1 in)	20,250	6.4 mm (1/4 in)	25
4C-3854	W235	A60	38.1 mm x 6.35 mm (1 1/2 in x 1/4 in) (with hub)	25,460	6.4 mm (1/4 in)	25
4C-3855	W236	A60	38.1 mm x 12.7 mm (1 1/2 in x 1/2 in) (with hub)	25,460	6.4 mm (1/4 in)	25
4C-3856	W237	A60	38.1 mm x 25.4 mm (1 1/2 in x 1 in)	25,460	6.4 mm (1/4 in)	25
6V-4802	A37	A60	31.75 mm x 31.75 mm (1 1/4 in x 1 1/4 in) (with hub)	30,560	6.4 mm (1/4 in)	25

Burrs, Carbide

Warranty: Manufacturer, 120 Days



- Ideally used on high speed die grinders for steel, iron and composites
- "Double cut" designed burs provide rapid stock removal in tough applications
- Produces small chips
- A variety of shapes for most applications
- Excellent for grinding and shaping most metallic and non-metallic materials

Part No.	Size	Shape	Shank Size	Package Quantity
236-8093	9.53 mm x 15.88 mm (3/8 in x 5/8 in)	Egg	6.35 mm (1/4 in)	1
236-8094	9.53 mm (3/8 in)	Ball	6.35 mm (1/4 in)	1
236-8095	9.53 mm x 19 mm (3/8 in x 3/4 in)	Pointed Tree	6.35 mm (1/4 in)	1
236-8096	9.53 mm x 19 mm (3/8 in x 3/4 in)	Cylindrical	6.35 mm (1/4 in)	1
236-8097	9.53 mm x 19 mm (3/8 in x 3/4 in)	Round Nose	6.35 mm (1/4 in)	1
236-8098	9.53 mm x 26.99 mm (3/8 in x 11/16 in)	Cone Radius End	6.35 mm (1/4 in)	1
236-8100	3.18 mm x 14.29 mm (1/8 in x 9/16 in)	Flat End Cut	3.18 mm (1/8 in)	1
236-8101	3.18 mm x 14.29 mm (1/8 in x 9/16 in)	Round End	3.18 mm (1/8 in)	1
262-9746	6.35 mm x 19 mm (1/4 in x 3/4 in)	Cylindrical	6.35 mm (1/4 in)	1
262-9747	12.7 mm x 25.4 mm (1/2 in x 1 in)	Cylindrical	6.35 mm (1/4 in)	1
262-9748	6.35 mm x 19 mm (1/4 in x 3/4 in)	Cylindrical	6.35 mm (1/4 in)	1

Burrs, Aluma Cut Carbide

Warranty: Manufacturer, 120 Days



- For use with aluminum non-ferrous metals and non-metallic materials
- Material: tungsten carbide
- Wide clearance and end mill type geometry of the flutes promotes fast stock removal with minimum loading

Part No.	Size	Shape	Package Quantity
236-8104	9.53 mm x 19 mm (3/8 in x 3/4 in)	Cylindrical	1

Spira Bands

Warranty: Manufacturer, 120 Days



- Ideal for grinding, blending, deburring, finishing and polishing flat and contoured surfaces
- Design eliminates lap bumping marks, provides chatter free operation
- Good alternative tools for flap wheels

Part No.	Grit	Size	Package Quantity
		Mandrels	
4C-3778	60	19 mm x 25.4 mm (3/4 in x 1 in)	1
4C-3779	60	25.4 mm x 25.4 mm (1 in x 1 in)	1
4C-3780	60	38.1 mm x 38.1 mm (1 1/2 in x 1 1/2 in)	1
4C-3781	60	50.8 mm x 25.4 mm (2 in x 1 in)	1
4C-3782	Mandrel 1/4 in	19 mm x 25.4 mm (3/4 in x 1 in)	1
4C-3783	Mandrel 1/4 in	25.4 mm x 25.4 mm (1 in x 1 in)	1
4C-3784	Mandrel 1/4 in	38.1 mm x 38.1 mm (1 1/2 in x 1 1/2 in)	1
4C-3785	Mandrel 1/4 in	50.8 mm x 25.4 mm (2 in x 1 in)	1

ABRASIVES

Durite Rolls, Screen-Bak

Warranty: Manufacturer, 120 Days



- Use for superfast makeready of copper pipe joints
- Removes scale, corrosion and oxidations without clogging — sanding residue falls through the backing
- Long abrasive life and clean, tight connections are ensured
- Silicon carbide abrasive grain is coated on both sides of an open weave, cloth backing

Part No.	Grit	Size
4C-8522	80	11/2 in x 25 ft
4C-8523	120	11/2 in x 25 ft
4C-8524	180	11/2 in x 25 ft

Discs, Decal Removal

Warranty: Manufacturer, 120 Days



- Fast and easy method to remove vinyl decals, graphics, tapes, films and adhesive without damaging paint – no fire damage because the discs are noncombustible.
- Unique construction of the disc assures long life and allows easy conformability to contours
- Discs are flexible and have no sharp edges – will not damage acrylic, enamel or urethane paint. (Not recommended for use on acrylic lacquer paints or plexiglass.)
- Faster and cleaner to use than solvent or chemical adhesive removers
- RPM is critical for product performance – maximum RPM is 4000; recommended RPM is 3000 to 4000

Part No.	Description	Package Qty	Diameter	Shank Length	Used With
226-0125	Decal Removal Disc	1	120 mm x 15.9 mm (4 in x 5/8 in)	—	Electric or Air Drill
226-0126	Mandrel	1	25.4 mm x 44.5 mm (1 in x 3/4 in)	9 mm (0.35 in)	—

Flexible Engineered Abrasive Belts

Warranty: Six Months Materials and Workmanship



- Fine 3D tri-helical pattern wears away consistently, exposing sharp abrasive grains to prolong cutting performance
- Lasts 2-5x longer with faster cut rate and consistency vs conventional polishing belts
- Quickly removes grit scratches, part defects and steps from your polishing process
- Engineering high-performance micro-graded aluminum oxide abrasive prevents wild scratches, produces a more repeatable consistent finish from the first to the last part.
- Heat-reducing grinding aid for cooler cutting ensures exceptional part integrity
- New, very flexible J-weight backing conforms to intricate part contours

Part No.	Description	Dimensions	Qty. in Package
516-4613	U243 x16 (P1200)	25.4 x 1828.8 mm (1 x 72 in)	50
516-4615	U254 x5 (P2400)	25.4 x 1828.8 mm (1 x 72 in)	50
516-4616	U243 x16 (P1200)	55.5 x 1828.8mm (1409.7 x 72 in)	10
516-4617	U243 x16 (P1200)	115 x 1828.8mm (2921 x 72 in)	10
516-4618	U243 x16 (P1200)	121.5 x 1828.8mm (3086.1 x 72 in)	10
516-4619	U254 x5 (P2400)	55.5 x 1828.8mm (1409.7 x 72 in)	10
516-4620	U254 x5 (P2400)	115 x 1828.8mm (2921 x 72 in)	10
516-4621	U254 x5 (P2400)	121.5 x 1828.8mm (3086.1 x 72 in)	10

METAL-CUTTING TOOLS

Drill Bits, Standard

Warranty: Manufacturer's, 120 Days



These roll forged jobber length drills are designed with a 118° point. Made with M-2 high speed steel. A dependable general purpose drill bit designed to perform in a broad range of materials in the iron and steel families. Ideal for production, maintenance, or portable drilling jobs. Surface treated with abrasion resistant black oxide.

1U-5889 Drill Bit Set (Plus Index), 13 Piece	
1U-5589	1/16 in
1U-5590	5/64 in
1U-5591	3/32 in
1U-5592	7/64 in
1U-5593	1/8 in
1U-5594	9/64 in
1U-5595	5/32 in
1U-5596	11/64 in
1U-5597	3/16 in
1U-5598	13/64 in
1U-5599	7/32 in
1U-5600	15/64 in
1U-5601	1/4 in
1U-5714 Drill Bit Set (Plus Index), 29 Piece	
1U-5589	1/16 in
1U-5590	5/64 in
1U-5591	3/32 in
1U-5592	7/64 in
1U-5593	1/8 in
1U-5594	9/64 in
1U-5595	5/32 in
1U-5596	11/64 in
1U-5597	3/16 in
1U-5598	13/64 in
1U-5599	7/32 in
1U-5600	15/64 in
1U-5601	1/4 in
1U-5602	17/64 in
1U-5603	9/32 in
1U-5604	19/64 in
1U-5605	5/16 in
1U-5606	21/64 in
1U-5607	11/32 in
1U-5608	23/64 in
1U-5609	3/8 in
1U-5610	25/64 in
1U-5611	13/32 in
1U-5612	27/64 in
1U-5613	7/16 in
1U-5614	29/64 in
1U-5615	15/32 in
1U-5616	31/64 in
1U-5617	1/2 in

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METAL-CUTTING TOOLS

Drill Bits, Standard (Continued)

Individual Drill Bits	
1U-5586	1/64 in
1U-5587	1/32 in
1U-5588	3/64 in
1U-5589	1/16 in
1U-5590	5/64 in
1U-5591	3/32 in
1U-5592	7/64 in
1U-5593	1/8 in
1U-5594	9/64 in
1U-5595	5/32 in
1U-5596	11/64 in
1U-5597	3/16 in
1U-5598	13/64 in
1U-5599	7/32 in
1U-5600	15/64 in
1U-5601	1/4 in
1U-5602	17/64 in
1U-5603	9/32 in
1U-5604	19/64 in
1U-5605	5/16 in
1U-5606	21/64 in
1U-5607	11/32 in
1U-5608	23/64 in
1U-5609	3/8 in
1U-5610	25/64 in
1U-5611	13/32 in
1U-5612	27/64 in
1U-5613	7/16 in
1U-5614	29/64 in
1U-5615	15/32 in
1U-5616	31/64 in
1U-5617	1/2 in
1U-6700	19/64 in

Drill Bits, Reduced Shank Metal Cutting

Warranty: Manufacturer, 120 Days



- S & D drill bits, as they are often called, are designed with a 118° point.
- Made with M-2 high speed steel.
- Expands the size range capacity of a 1/2 portable drill chuck.
- Common flute and overall length for minimal adjustment during tool changes.
- Precision ground for high degree of concentricity between shank and body diameter.
- Ideal for drilling in low and medium tensile strength materials.

Part No.	Size
Individual Drill Bits	
1U-5682	17/32 in
1U-5683	9/16 in
1U-5684	19/32 in
1U-5685	5/8 in
1U-5686	21/32 in
1U-5687	1 1/16 in
1U-5688	23/32 in
1U-5689	3/4 in
1U-5690	25/32 in
1U-5691	13/16 in
1U-5692	27/32 in
1U-5693	7/8 in
1U-5694	29/32 in
1U-5695	15/16 in
1U-5696	31/32 in
1U-5697	1 in
1U-5698	1 1/32 in
1U-5699	1 1/16 in
1U-5700	1 3/32 in
1U-5701	1 1/8 in
1U-5702	1 5/32 in
1U-5703	1 3/16 in
1U-5705	1 1/4 in
1U-5707	1 5/16 in
1U-5709	1 3/8 in
1U-5711	1 7/16 in
1U-5713	1 1/2 in
1U-7433	33/64 in
1U-7434	37/64 in
1U-7435	45/64 in
1U-7436	53/64 in
1U-7437	1 9/16 in (3/4 inch Shank)
1U-7438	1 13/26 in (3/4 inch Shank)

METAL-CUTTING TOOLS

Drill Bits, Heavy-Duty 135° Split Point

Warranty: Manufacturer, 120 Days



- Designed with a 135° split point for self centering and reducing thrust
- Can reduce drill time by 50% compared to 118° point.
- Manufactured from premium M-2 grade high speed steel.
- Gold and black surface treated for use in stainless and other hard metal drilling.
- Sizes smaller than 1/16" have the 118° standard point.

Part No.	Size
1U-5892 Drill Bit Set (Plus Index), 13 Piece	
1U-5621	1/16
1U-5622	5/64
1U-5623	3/32
1U-5624	7/64
1U-5625	1/8
1U-5626	9/64
1U-5627	5/32
1U-5628	11/64
1U-5629	3/16
1U-5630	13/64
1U-5631	7/32
1U-5632	15/64
1U-5633	1/4
1U-5893 Drill Bit Set (Plus Index), 29 Piece	
1U-5621	1/16
1U-5622	5/64
1U-5623	3/32
1U-5624	7/64
1U-5625	1/8
1U-5626	9/64
1U-5627	5/32
1U-5628	11/64
1U-5629	3/16
1U-5630	13/64
1U-5631	7/32
1U-5632	15/64
1U-5633	1/4
1U-5634	17/64
1U-5635	9/32
1U-5636	19/64
1U-5637	5/16
1U-5638	21/64
1U-5639	11/32
1U-5640	23/64
1U-5641	3/8
1U-5642	25/64
1U-5643	13/32
1U-5644	27/64
1U-5645	7/16
1U-5646	29/64
1U-5647	15/32
1U-5648	31/64
1U-5649	1/2

Drill Bits, Heavy-Duty 135° Split Point (Continued)

Individual Drill Bits	
1U-5620	3/64
1U-5621	1/16
1U-5622	5/64
1U-5623	3/32
1U-5624	7/64
1U-5625	1/8
1U-5626	9/64
1U-5627	5/32
1U-5628	11/64
1U-5629	3/16
1U-5630	13/64
1U-5631	7/32
1U-5632	15/64
1U-5633	1/4
1U-5634	17/64
1U-5635	9/32
1U-5636	19/64
1U-5637	5/16
1U-5638	21/64
1U-5639	11/32
1U-5640	23/64
1U-5641	3/8
1U-5642	25/64
1U-5643	13/32
1U-5644	27/64
1U-5645	7/16
1U-5646	29/64
1U-5647	15/32
1U-5648	31/64
1U-5649	1/2

METAL-CUTTING TOOLS

Drill Bits, Heavy-Duty Cobalt 135° Split Point

Warranty: Manufacturer, 120 Days



- These drill bits are designed with a 135° split point for self centering and reducing thrust.
- Can reduce drill time by 50% compared to 118° point.
- Made of high resistant M 42 cobalt.
- Higher red hardness which permits speeds up to 30% greater than high speed drills
- Cobalt drills are especially effective in drilling tough, high tensile strength materials like stainless steel, inconec, and titanium.

Part No.	Size
1U-5890 Drill Bit Set (Plus Index), 13 Piece	
1U-5386	1/16 in
1U-5387	5/64 in
1U-5388	3/32 in
1U-5389	7/64 in
1U-5390	1/8 in
1U-5391	9/64 in
1U-5392	5/32 in
1U-5393	11/64 in
1U-5394	3/16 in
1U-5395	13/64 in
1U-5396	7/32 in
1U-5397	15/64 in
1U-5398	1/4 in
1U-5891 Drill Bit Set (Plus Index), 29 Piece	
1U-5386	1/16 in
1U-5387	5/64 in
1U-5388	3/32 in
1U-5389	7/64 in
1U-5390	1/8 in
1U-5391	9/64 in
1U-5392	5/32 in
1U-5393	11/64 in
1U-5394	3/16 in
1U-5395	13/64 in
1U-5396	7/32 in
1U-5397	15/64 in
1U-5398	1/4 in
1U-5399	17/64 in
1U-5400	9/32 in
1U-5401	19/64 in
1U-5402	5/16 in
1U-5403	21/64 in
1U-5404	11/32 in
1U-5405	23/64 in
1U-5406	3/8 in
1U-5407	25/64 in
1U-5408	13/32 in
1U-5409	27/64 in
1U-5410	7/16 in
1U-5411	29/64 in
1U-5412	15/32 in
1U-5413	31/64 in
1U-5414	1/2 in

Drill Bits, Heavy-Duty Cobalt 135° Split Point (Continued)

Individual Drill Bits	Size
1U-5386	1/16 in
1U-5387	5/64 in
1U-5388	3/32 in
1U-5389	7/64 in
1U-5390	1/8 in
1U-5391	9/64 in
1U-5392	5/32 in
1U-5393	11/64 in
1U-5394	3/16 in
1U-5395	13/64 in
1U-5396	7/32 in
1U-5397	15/64 in
1U-5398	1/4 in
1U-5399	17/64 in
1U-5400	9/32 in
1U-5401	19/64 in
1U-5402	5/16 in
1U-5403	21/64 in
1U-5404	11/32 in
1U-5405	23/64 in
1U-5406	3/8 in
1U-5407	25/64 in
1U-5408	13/32 in
1U-5409	27/64 in
1U-5410	7/16 in
1U-5411	29/64 in
1U-5412	15/32 in
1U-5413	31/64 in
1U-5414	1/2 in
1U-8764	5/8 in (1/2 inch Shank)
1U-8765	3/4 in (1/2 inch Shank)

METAL-CUTTING TOOLS

Drill Bits, Aircraft

Warranty: Manufacturer, 120 Days



- These drill bits are designed with a 135° split point for self centering and reducing thrust.
- Made with M-2 high speed steel. Can reduce drill time by 50% compared to 118° point.
- Ground from solid, ideal for drilling in mild steel where extra length is required.
- They have a black oxide surface treatment that is abrasion resistant.

Part No.	Size
Individual Drill Bits (set not available)	
4C-4412	3/32 in
4C-4413	1/8 in
4C-4414	5/32 in
4C-4415	3/16 in
4C-4416	7/32 in
4C-4417	1/4 in
4C-4418	9/32 in
4C-4419	5/16 in
4C-4420	11/32 in
4C-4421	3/8 in
4C-4422	13/32 in
4C-4423	7/16 in
4C-4424	15/32 in
4C-4425	Drill, 1/2 in

Drill Bits, Left-Handed

Warranty: Manufacturer, 120 Days



- These drill bits are designed with a 135° split point for self centering and reducing thrust.
- Made with M-2 high-speed steel
- Ground from solid features a left hand helix for screw machine applications and drilling out broken bolts.
- Index set not available

Part No.	Size
4C-3335	1/16 in
4C-3336	5/64 in
4C-3337	3/32 in
4C-3338	7/64 in
4C-3339	1/8 in
4C-3340	9/64 in
4C-3341	5/32 in
4C-3342	11/64 in
4C-3343	3/16 in
4C-3344	13/64 in
4C-3345	7/32 in
4C-3347	1/4 in
4C-3348	17/64 in
4C-3349	9/32 in
4C-3350	19/64 in
4C-3351	5/16 in
4C-3352	21/64 in
4C-3353	11/32 in
4C-3354	23/64 in
4C-3355	3/8 in
4C-3356	25/64 in
4C-3357	13/32 in
4C-3358	27/64 in
4C-3359	7/16 in
4C-3360	7/16 in
4C-3361	15/32 in
4C-3362	31/64 in
4C-3363	1/2 in

METAL-CUTTING TOOLS

Drill Bits, Metric Standard

Warranty: Manufacturer, 120 Days



- These roll forged drill bits are designed with a 118° point.
- Made with M-2 high speed steel
- A dependable general purpose drill designed to perform in a broad range of material in the iron and steel families.
- Ideal for production, maintenance, or portable drilling jobs.

Part No.	Size
4C-3335	1/16 in
4C-3336	5/64 in
4C-3337	3/32 in
4C-3338	7/64 in
4C-3339	1/8 in
4C-3340	9/64 in
4C-3341	5/32 in
4C-3342	11/64 in
4C-3343	3/16 in
4C-3344	13/64 in
4C-3345	7/32 in
4C-3347	1/4 in
4C-3348	17/64 in
4C-3349	9/32 in
4C-3350	19/64 in
4C-3351	5/16 in
4C-3352	21/64 in
4C-3353	11/32 in
4C-3354	23/64 in
4C-3355	3/8 in
4C-3356	25/64 in
4C-3357	13/32 in
4C-3358	27/64 in
4C-3359	7/16 in
4C-3360	7/16 in
4C-3361	15/32 in
4C-3362	31/64 in
4C-3363	1/2 in

Drill Bit Index

Warranty: Manufacturer, 120 Days



- Empty drill bit index for storing 29 different sizes of jobber length drill bits from 1/16 inch to 1/2 inch in 1/64 inch increments
- Typical use: left hand drill bits

Part No.	Size
4C-3385	Drill Bit Index

Drill Extension

Warranty: Caterpillar® Six Months



- Extends drill reach 304.8 mm (12 in)
- Accepts up to 1/4 inch diameter shank

Part No.	Size
4C-4426	Drill Extension

Drill Bit Sizes for Metric Thread Recommendations

Warranty: Manufacturer, 120 Days

Thread Size	Drill Bit Diameter	Part No.
M1.6	1.4 mm	–
M2	1.7 mm	–
M2.5	2.2 mm	–
M3	2.6 mm	–
M4	3.4 mm	–
M5	4.3 mm	1U-8146
M6	5.2 mm	1U-8152
M8	7.0 mm	1U-8159
M10	8.7 mm	1U-8165
M12	10.5 mm	1U-8169
M14	12.2 mm	–
M20	18.0 mm	1U-8184

Taps and Dies Abbreviations

NF	American National Fine Thread Series
NC	American National Coarse Thread Series
NS	American National Thread — Special
H1	Tolerance Limit of Ground Thread Tap
H2	Tolerance Limit of Ground Thread Tap
H3	Tolerance Limit of Ground Thread Tap
PD	Pitch Diameters
D5	Tolerance Limit of Ground Thread Metric Tap
D7	Tolerance Limit of Ground Thread Metric Tap
D9	Tolerance Limit of Ground Thread Metric Tap
NPT	National Standard Pipe Form
NPTT	American Standard Dryseal Pipe Form

METAL-CUTTING TOOLS

Taps, Hand Type

Warranty: Manufacturer, 120 Days

- Made of high speed M-7 steel for longer life
- These are ground thread taps providing tolerance designed for Class 2 Thread, exceeds quality of carbon steel taps
- Offered in tapered, plug and bottoming versions

Caterpillar offers five types of hand taps, available by individual part numbers and in sets (indexes).

- Machine screw
- Fractional
- Taper pipe
- Special thread taps
- Metric

Nominal Size (in)	Threads/Inch	Pitch Diameter Limits	Number of Flutes	Taper	Plug	Bottoming	Thread Length	Overall Length
3	56 NF	H2	3	–	1P-3007	–	1/2 in	1 13/16 in
4	40 NC	H2	3	4C-5008	1P-3008	4C-5015	9/16 in	1 7/8 in
5	40 NC	H2	3	–	1P-3010	–	5/8 in	1 15/16 in
6	32 NC	H3	3	4C-5009	1P-3012	4C-5016	11/16 in	2 in
8	32 NC	H3	4	4C-5010	1P-3014	4C-5017	3/4 in	2 1/8 in
8	36 NF	H2	4	–	1P-3015	–	3/4 in	2 1/8 in
10	24 NC	H3	4	4C-5011	1P-3016	4C-5018	7/8 in	2 3/8 in
10	32 NF	H3	4	4C-5012	1P-3017	4C-5019	7/8 in	2 3/8 in
12	24 NC	H3	4	4C-5013	1P-3018	4C-5020	15/16 in	2 3/8 in
12	28 NC	H3	4	4C-5014	1P-3019	4C-5021	15/16 in	2 3/8 in

Machine Screw Set

Warranty: Manufacturer, 120 Days

- Contains plug taps from 0-80 through 12-28 in National Fine and 1-64 through 12-24 in National Coarse Threads
- Includes plastic index

Nominal Size (in)	Threads/ Inch	Pitch Diameter Limits	Number of Flutes	Taper	Plug	Description	Bottoming	Thread Length	Overall Length
–	–	–	–	–	1P-3020	Complete Machine Screw Set	–	–	–
Machine Screw Set Consists of:									
1	12 NF	H4	4	4C-5006	1P-3040	Taps and Dies	4C-4988	2 1/2 in	5 1/8 in
1	14 NF	H4	4	4C-5007	1P-7421	–	5P-3011	2 1/2 in	5 1/8 in
1	8 NC	H4	4	4C-5005	1P-3039	Taps and Dies	4C-4987	2 1/2 in	5 1/8 in
1 1/16	12 NF	H4	4	–	1U-6539	Taps and Dies	–	2 1/2 in	5 1/8 in
1 1/2	12 NF	H4	6	–	1P-3044	–	–	3 in	6 3/8 in
1 1/4	12 NF	H4	6	–	1P-3042	–	–	2 9/16 in	5 3/4 in
1 1/4	7 NC	–	–	–	4C-5051	Plug Tap 1 1/4-7-2B	–	1 1/4 in	–
1 1/8	12 NF	H4	4	–	1P-3041	Taps and Dies	5P-3012	2 9/16 in	5 7/8 in
1 1/8	7 NC	–	4	–	1U-9707	Plug Tap 1 1/8-7-2B	–	2 1/2 in	5.4 in
1 3/8	12 NF	H4	6	–	1P-3043	Taps and Dies	5P-3013	3 in	6 1/16 in
1 3/8	6 NC	–	–	–	1U-9709	Plug Tap 1 3/8-6-2B	–	–	–
1 5/16	12 NF	H4	6	–	1U-6540	Taps and Dies	–	2 9/16 in	5 3/4 in
1/2	13 NC	H3	4	4C-4997	1P-3029	Taps and Dies	4C-4979	1 21/32 in	3 3/8 in
1/2	20 NF	H3	4	4C-4998	1P-3030	Taps and Dies	4C-4980	1 21/32 in	3 3/8 in
1/4	20 NC	H3	4	4C-4989	1P-3021	Taps and Dies	4C-4971	1 in	2 1/2 in
1/4	20 NF	H3	4	4C-4990	1P-3022	Taps and Dies	4C-4972	1 in	2 1/2 in
2 1/2	12 NC	H6	6	199-3947 (Caterpillar Six Month Warranty)	199-3947 (Not available for individual sale)	Taper	–	3 in	7 in
3/4	10 NC	H3	4	4C-5001	1P-3035	Taps and Dies	4C-4983	2 in	4 1/4 in
3/4	12 NF	–	–	–	2B-2526	Taps and Dies	–	–	–
3/4	16 NF	H3	4	4C-5002	1P-3036	Taps and Dies	4C-4984	2 in	4 1/4 in
3/8	16 NC	H3	4	4C-4993	1P-3025	Taps and Dies	4C-4975	1 1/4 in	2 15/16 in
3/8	20 NF	H3	4	4C-4994	1P-3026	Taps and Dies	4C-4976	1 1/4 in	2 15/16 in
5/16	18 NC	H3	4	4C-4991	1P-3023	Taps and Dies	4C-4973	1 1/8 in	2 23/32 in
5/16	24 NF	H3	4	4C-4992	1P-3024	Taps and Dies	4C-4974	1 1/8 in	2 23/32 in
5/8	11 NC	H3	4	4C-4999	1P-3033	Taps and Dies	4C-4981	1 13/16 in	3 13/16 in
5/8	18 NF	H3	4	4C-5000	1P-3034	Taps and Dies	4C-4982	1 13/16 in	3 13/16 in
7/16	14 NC	H3	4	4C-4995	1P-3027	Taps and Dies	4C-4977	1 7/16 in	3 5/32 in
7/16	20 NF	H3	4	4C-4996	1P-3028	Taps and Dies	4C-4978	1 7/16 in	3 5/32 in
7/8	14 NF	H4	4	4C-5004	1P-3038	Taps and Dies	4C-4986	2 7/32 in	4 11/16 in
7/8	9 NC	H4	4	4C-5003	1P-3037	Taps and Dies	4C-4985	2 7/32 in	4 11/16 in
9/16	12 NC	H3	4	–	1P-3031	Taps and Dies	–	1 21/32 in	3 19/32 in
9/16	14 NF	–	–	–	2B-9256 (Not available for individual sale)	Taps and Dies	–	1 21/32 in	–
9/16	18 NF	H3	4	–	1P-3032	Taps and Dies	–	1 21/32 in	3 19/32 in

METAL-CUTTING TOOLS

Tap Set, Fractional Size



- Contains 10 plug taps
- Includes plastic index

Part No.	Description
1P-3070	Fractional Size Tap Set

Nominal Size (inch)	Threads Per Inch
1/4	20 NC
1/4	28 NF
5/16	18 NC
5/16	24 NF
3/8	16 NC
3/8	24 NF
7/16	14 NC
7/16	20 NF
1/2	13 NC
1/2	20 NF

Tap, Long Shank Spiral Point

Warranty: Caterpillar® Six Months



- 1/4"-28 Tap Thread Size
- H3 Pitch Diameter Limit
- 3 Flutes
- 6" length
- Made from high speed steel

Part No.	Description
454-6623	Long Shank Spiral Point Tap

Tap Set, Fractional Size

Warranty: Manufacturer, 120 Days



- Contains 20 plug taps
- Includes 1P-3047 and 1P-3048 Tap Wrenches

Part No.	Description
1P-3050	Fractional Size Tap Set
Fractional Size Tap Set Includes:	
1P-3047	Solid Handle Tap Wrench
1P-3048	Solid Handle Tap Wrench

Nominal Size (inch)	Threads Per Inch
1/4	20 NC
1/4	28 NF
5/16	18 NC
5/16	24 NF
3/8	16 NC
3/8	24 NF
7/16	14 NC
7/16	20 NF
1/2	13 NC
1/2	20 NF
9/16	12 NC
9/16	18 NF
5/8	11 NC
5/8	18 NF
3/4	10 NC
3/4	16 NF

Thread Taps, Special

Warranty: Manufacturer, 120 Days

- Used for cleaning up damaged threads
- Not readily obtainable on the market because the threads are not common standards

Part No.	Size
1P-7422	2 inch-12 UN
1U-6600	1 1/8 inch-7 Spiralock
1U-6725	1 3/8 inch-12 Buttress Bottoming Tap (4)
1U-6726	1 3/4 inch-12 Buttress Bottoming Tap (4)
1U-9708	1 1/4 inch-7 Spiralock
5P-3012	1 1/8 inch-12 NF Bottom
6V-2091	3/8 inch-16 Spiralock (4)
7S-7093	7/8 inch-12 UN

Rethreading Dies

- Caterpillar offers three types of rethreading dies, available by individual part number and in sets (indexes).
- Conform to industry standards
- Used to clean-up existing thread—not recommended to cut new threads
- Made of conventional carbon steel (unless otherwise specified)

Metric Die Set, Hexagon Rethreading

Warranty: Manufacturer, 120 Days

- Includes plastic index

Nominal Size (in)	Part No.	Description	Dimensions Across Flat	Thickness
–	4C-4963	Complete Hexagon Rethreading Metric Die Set	–	–
Hexagon Rethreading Metric Die Set Consists of:				
M10 x 1.5	8T-3070	Taps and Dies	7/8 in	7/16 in
M12 x 1.75	8T-3074	Taps and Dies	1 1/16 in	1/2 in
M14 x 2	4C-4961	Taps and Dies	1 1/16 in	1/2 in
M16 x 1	4C-4182 (Not available for individual sale)	Taps and Dies (Caterpillar, Six Month Warranty)	1 1/4 in	7/16 in
M16 x 2	8T-3078	Taps and Dies	1 1/4 in	5/8 in
M20 x 2.5	4C-4962	Taps and Dies	1 5/8 in	7/8 in
M6 x 1	8T-3064	Taps and Dies	19/32 in	1/4 in
M8 x 1.25	8T-3066	Taps and Dies	11/16 in	5/16 in
Optional				
M16 x 1	4C-4181	Taps and Dies	1 1/4 in	5/8 in
M30 x 3.5	4C-6722	Rethreading Die	2 3/16 in	1 in

Pipe Dies, Individual Hexagon Rethreading

Warranty: Manufacturer, 120 Days

Nominal Pipe Size (in)	Threads/Inch	Part No.	Dimensions Across Flat	Across Thickness
1/2	14	4C-4960	1 5/8 in	3/4 in
1/4	18	4C-4958	1 1/4 in	5/8 in
1/8	27	4C-4957	1 7/16 in	3/8 in
3/8	18	4C-4959	1 5/8 in	5/8 in

METAL-CUTTING TOOLS

Fractional Die Set, Hexagon Rethreading

Warranty: Manufacturer, 120 Days



- Contains 10 fractional, coarse thread dies
- Contains 10 fractional, fine thread dies
- Includes plastic index

Nominal Size (in)	Threads/Inch	Part No.	Description	Dimensions across flat	Thickness
–	–	1P-3000	Complete Hexagon Rethreading Fractional Die Set	–	–
			Hexagon Rethreading Fractional Die Set Consists of:		
1	14 NS	3P-2213	Taps and Dies	13/16 in	1
1	8 NC	1P-2997	Taps and Dies	13/16 in	1 in
1/2	13 NC	1P-2987	Taps and Dies	1/16 in	1/2 in
1/2	20 NF	1P-2988	Taps and Dies	1/16 in	1/2 in
1/4	20 NC	1P-2979	Taps and Dies	19/32 in	1/4 in
1/4	28 NF	1P-2980	Taps and Dies	19/32 in	1/4 in
3/4	10 NC	1P-2993	Taps and Dies	7/16 in	3/4 in
3/4	16 NF	1P-2994	Taps and Dies	7/16 in	3/4 in
3/8	16 NC	1P-2983	Taps and Dies	25/32 in	3/8 in
3/8	24 NF	1P-2984	Taps and Dies	25/32 in	3/8 in
5/16	18 NC	1P-2981	Taps and Dies	11/16 in	5/16 in
5/16	24 NF	1P-2982	Taps and Dies	11/16 in	5/16 in
5/8	11 NC	1P-2991	Taps and Dies	1/4 in	5/8 in
5/8	18 NF	1P-2992	Taps and Dies	1/4 in	5/8 in
7/16	14 NC	1P-2985	Taps and Dies	7/8 in	7/16 in
7/16	20 NF	1P-2986	Taps and Dies	7/8 in	7/16 in
7/8	14 NF	1P-2996	Taps and Dies	5/8 in	7/8 in
7/8	9 NC	1P-2995	Taps and Dies	5/8 in	7/8 in
9/16	12 NC	1P-2989	Taps and Dies	1/16 in	1/2 in
9/16	18 NF	1P-2990	Taps and Dies	1/16 in	1/2 in
			Optional Rethreading Fractional Dies		
1	12 NF	1P-2998	Taps and Dies	13/16 in	1 in
1 1/2	12 NF	4C-5497	Taps and Dies	9/16 in	1 in
1 1/4	12 NF	4C-5495	Taps and Dies	3/16 in	1 in
1 1/8	12 NF	4C-5494	Taps and Dies	1 in	1 in
1 3/4	5 NF	5P-4238	Taps and Dies	1 in	1 1/4 in
1 3/8	12 NF	4C-5496	Taps and Dies	3/8 in	1 in
M10 x 1.25	–	8T-3069	Taps and Dies	7/8 in	7/16 in
M11 x 1.50	–	8T-3071	Taps and Dies	7/8 in	7/16 in
M12 x 1.25	–	8T-3072	Taps and Dies	1/16 in	1/2 in
M12 x 1.50	–	8T-3073	Taps and Dies	1/16 in	1/2 in
M13 x 1.50	–	8T-3075	Taps and Dies	1/16 in	1/2 in
M14 x 1.50	–	9F-9398	Taps and Dies	–	–
M15 x 1.50	–	8T-3076	Taps and Dies	1/4 in	5/8 in
M16 x 1.50	–	8T-3077	Taps and Dies	1/4 in	5/8 in
M4 x 0.70	–	8T-3062	Taps and Dies	19/32 in	1/4 in
M5 x 0.80	–	8T-3063	Taps and Dies	19/32 in	1/4 in
M7 x 1.00	–	8T-3065	Taps and Dies	11/16 in	5/16 in
M9 x 1.00	–	8T-3067	Taps and Dies	25/32 in	3/8 in
M9 x 1.25	–	8T-3068	Taps and Dies	25/32 in	3/8 in

Dies, Special Rethreading

Warranty: Manufacturer, 120 Days



- Used for cleaning up damaged external threads
- Not readily obtainable on the market because the threads are not common standards

Part No.	Size
1P-2998	1 in-12 UNF
5P-4238	1 3/4 in-5 NC
6V-7052	1 5/16 in-12 NF
9F-9398	14 mm x 1.5 mm Pitch

Thread Chasers, Universal Outside

Warranty: Caterpillar® Six Months



- Precision dies restore threads to their original condition to make reassembly of matching parts easier
- Eliminates the need for expensive thread-cutting equipment
- Tighten the tool slightly on the good threads, then back off over the damaged thread area to restore the threads
- 1- 1/4 in to 5 in outer diameter

Part No.	Per Capacity	Description	Weight
1U-7521	4, 5, 6, 7, 7 1/2 , 8, 9, 10, 11, 11 1/2 , 12, 14, 16, 18, 20, 24	Standard Thread Chaser (complete with 6 dies)	1.4 kg (3 lb)
1U-7610	1 mm-1.25 mm-1.5 mm-1.75 mm; 2 mm-2.5 mm; 3.0 mm-3.5 mm; 4 mm	Dies only (3 dies)	0.4 kg (0.99 lb)

Thread File Group

Model Usage: 311, 312, 312B, 315B, and 318B Excavators (Grenoble Version)

Warranty: Caterpillar® Six Months



- Used to renew damaged external threads on any diameter shaft (right or left handed)
- Cross-cut and thread proportional to thread pitch (helps eliminate file skipping or jumping out of fine pitches)
- Each file has eight separate pitches
- Makes thread repairs without using a thread die
- Red plastic handle protects hands
- Each file is individually packaged in a plastic tube
- Carrying pouch keeps files together
- Files can also be ordered separately

Reference

- RENR1113 Service Manual, 312B Excavators Machine Systems Disassembly and Assembly

Part No.	Description	Pitch
154-9315	Complete Thread File Group	9, 10, 12, 16, 20, 27, 28, and 32 tpi
	Thread File Group Consists of:	
154-9316	Metric Thread File	0.75, 1.00, 1.25, 1.50, 1.75, 2.00, and 3.00
154-9317	Inch Thread File	11, 12, 13, 14, 16, 18, 20, and 24 tpi
154-9318	Inch Thread File	9, 10, 12, 16, 20, 27, 28, and 32 tpi
154-9319	Pipe Thread File	8, 10, 11 1/2 , 14, 16, 18, 24, and 27 tpi
160-1749	Roll-up Pouch	–

METAL-CUTTING TOOLS

Taper Pipe Tap Set

Warranty: Manufacturer, 120 Days



Meets Right Hand American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPTF).

- Dryseal taps are used to tap fittings which will give a pressure tight joint without use of a "sealer."
- Contains 4 taper pipe taps 1/8 inch, 1/4 inch, 3/8 inch and 1/2 inch NPTF, shown here
- Includes plastic index

Nominal Pipe Size (in)	Treads/Inch	Number of Flutes	Part No.	Thread Length	Overall Length
2P-5530 Set Contains					
1/2	14	4	2P-5534	1 3/8	79.5 mm (3.13 in)
1/4	18	4	2P-5532	1 1/16	62 mm (2.44 in)
1/8	27	4	2P-5531	3/4	54.1 mm (2.13 in)
3/8	18	4	2P-5533	1 1/16	65 mm (2.56 in)
Taper Pipe Taps — Individual					
1/16	27	4	4C-9747	–	54.1 mm (2.13 in)
3/4	14	5	214-3635	1 3/8	82.6 mm (3.25 in)

Taps, Metric Sized Individuals

Warranty: Manufacturer, 120 Days

Nominal Size	Pitch Diameter Limits	Number of Flutes	Part Number
Plugs			
M10 x 1.25	–	4	8T-3086
M10 x 1.50	D6	4	8T-3087
M11 x 1.50	–	4	8T-3088
M12 x 1.25	–	4	8T-3089
M12 x 1.50	–	4	8T-3090
M12 x 1.75	D6	4	8T-3091
M13 x 1.50	–	4	8T-3092
M14 x 1.50	–	4	8T-3093
M14 x 2	D7	4	4C-4965
M15 x 1.50	–	4	8T-3094
M16 x 1.50	–	4	8T-3095
M16 x 2	D7	4	8T-3096
M18 X 1.5	D6	4	9U-7283
M18 x 2.5	D7	4	4C-4966
M20 x 1.5	D7	4	9U-5794
M20 x 2.5	D7	4	4C-4967
M22 x 1.5	D6	4	156-8166
M24 x 3.0	D8	4	4C-4968
M30 x 3.5	D9	4	4C-4969
M36 x 4	–	4	423-8713
M36 x 4	D9	4	4C-4970
M4 x 0.7	–	4	8T-3079
M42 x 4.5	D5	4 or 6	9U-6901
M48 x 5	D5	6	9U-6503
M5 x 0.8	D4	4	8T-3080
M6 x 1	D5	4	8T-3081
M64 x 6.0	D5	4 or 6	9U-6902
M7 x 1.0	–	4	8T-3082
M8 x 1.25	D5	4	8T-3083
M9 x 1.0	–	4	8T-3084
M9 x 1.25	–	4	8T-3085
Bottoming			
M10 x 1	D6	4	4C-5894
M14 x 1	D7	4	4C-6924
M16 x 2	D6	4	4C-9645
M27 x 3	D6	4	386-3218
M39 x 4	D6	6	386-3219
M42 x 3	D6	6	386-3220
M64 x 4	D6	6	386-3221

METAL-CUTTING TOOLS

Tap Wrenches

Warranty: Manufacturer, 120 Days



- Designed for use in hand tapping but can also be used with reamers, drills, screw extractor or other hand cutting tools
- Jaws are made of carefully hardened and tempered steel
- Ruggedly built yet nicely furnished
- Two types of tap wrenches:
  - T-Handle
  - Straight

Part Number	Description	Usage
4C-5026	Slip Handle	The T-Handle may be "slipped" from side to side to permit a complete turn in close quarters.
4C-5028	Long Shank	The long shank permits tapping in hard to reach places encountered in machine and automobile repair work.
4C-5029	Ratchet	The combination of ratchet and slip handle make this an all around wrench capable of handling most hand tapping jobs.
1P-3047	Solid Handle	These wrenches have solid handles, one of which is forged integral with the center. Adjustment is made by turning the movable handle.

Description	Part No.	Length	Used with Fractional Taps	Machine Screw Taps	Metric Taps	Pipe Taps
T-Handle Tap Wrenches						
Long Shank	4C-5028	222.2 mm (8.75 in)	1/16 in - 1/4 in	0-14	1 - 6 mm	–
Ratchet	4C-5029	95.2 mm (3.75 in)	1/16 in - 1/4 in	0-14	1 - 6 mm	–
Slip Handle	4C-5026	69.8 mm (2.75 in)	1/16 in - 1/4 in	0-14	1 - 6 mm	–
Straight Tap Wrenches						
Solid Handle Tap Wrench	1P-3047	279.4 mm (11 in)	5/32 in - 1/2 in	7-14	4 - 13 mm	1/8
Solid Handle Tap Wrench	1P-3048	482.6 mm (19 in)	1/4 in - 1 1/8 in	–	6 - 24 mm	1/8 - 3/4

Extractors, Individual

Warranty: Manufacturer, 120 Days



- Useful in maintenance departments, machine shops, garages, workshops, etc., to remove broken screws, bolts or other threaded parts
- First, drill a hole into the broken part. Insert the extractor. By twisting to the left, the extractor will grip into the wall of the hole and the broken part can be backed out without damaging threads.

Extractor Size	Part No.	Used with Drill Size	Used to Remove Screws and Bolts	Used to Remove Pipe
Left Hand Spiral Tapered Flutes (Item 1)				
1	4C-3364	5/64	2.5 mm - 6.0 mm (3/16 in - 1/4 in)	–
2	4C-3365	7/64	6.0 mm - 8.0 mm (1/4 in - 5/16 in)	–
3	4C-3366	5/32	8.0 mm - 12.0 mm (5/1 in - 7/16 in)	–
4	4C-3367	1/4	12.0 mm - 14.0 mm (7/16 in - 9/16 in)	–
5	4C-3368	17/64	14.0 mm - 20.0 mm (9/16 in - 3/4 in)	1/8 in
6	4C-3369	13/32	20.0 mm - 24.0 mm (3/4 in - 1 in)	–
7	4C-3370	17/32	24.0 mm - 35.0 mm (1 in - 1 3/8 in)	–
8	4C-3372	1 1/16	44.0 mm - 54.0 mm (1 3/4 in - 2 1/8 in)	1 in
Straight Tapered Flutes (Item 2)				
1	4C-3374	9/64 in	2.5 mm - 8.0 mm (1/4 in - 5/16 in)	–
2	4C-3375	3/16 in	9.0 mm - 10.0 mm (3/8 in)	–
3	4C-3376	15/64 in	12.0 mm (7/16 in)	1/8 in
4	4C-3377	5/16 in	13.0 mm - 14.0 mm (1/2 in - 9/16 in)	1/4 in
5	4C-3378	3/8 in	15.0 mm - 16 mm (5/8 in)	3/8 in
6	4C-3380	9/16 in	22.0 mm (7/8 in)	–

Extractor Sets

Warranty: Manufacturer, 120 Days



4C-3382



4C-3384

- For removing broken screws and bolts (eliminates redrilling and retapping for a larger screw)

Part No.	Used to Remove
4C-3383 Extractor Set, Straight Tapered, Consists of:	
4C-3374	3/16 in to 5/16 in
4C-3375	3/8 in
4C-3376	7/16 in and 1/8 in Pipe
4C-3377	1/2 in to 9/16 in and 1/4 in Pipe
4C-3378	5/8 in and 3/8 in Pipe
4C-3379	3/4 in and 1/2 in Pipe
4C-3382 Extractor Set, Left Hand Spiral, Consists of:	
4C-3364	3/32 in to 5/32 in
4C-3365	5/32 in to 7/32 in
4C-3366	7/32 in to 9/32 in
4C-3367	9/32 in to 3/8 in and 1/8 in Pipe
4C-3368	3/8 in to 5/8 in and 1/4 in Pipe
4C-3369	5/8 in to 7/8 in and 3/8 in Pipe
4C-3370	7/8 in to 1 1/8 in and 1/2 in Pipe
4C-3371	1 1/8 in to 1 3/8 in and 3/4 in Pipe
4C-3372	1 3/8 in to 2 in and 1 in Pipe
4C-3381 Extractor Set, Left Hand Spiral, Consists of:	
4C-3364	3/32 in to 5/32 in
4C-3365	5/32 in to 7/32 in
4C-3366	7/32 in to 9/32 in
4C-3367	9/32 in to 3/8 in and 1/8 in Pipe
4C-3368	3/8 in to 5/8 in and 1/4 in Pipe
4C-3369	5/8 in to 7/8 in and 3/8 in Pipe
4C-5530 Extractor Set, Straight Tapered, Consists of:	
4C-3374	3/16 in to 5/16 in
4C-3375	3/8 in
4C-3376	7/16 in and 1/8 in Pipe
4C-3377	1/2 in to 9/16 in and 1/4 in Pipe
4C-3378	5/8 in and 3/8 in Pipe
4C-3384 Extractor Set, Left Hand Spiral, in vinyl pouch, Consists of:	
4C-3364	3/32 in to 5/32 in
4C-3365	5/32 in to 7/32 in
4C-3366	7/32 in to 9/32 in
4C-3367	9/32 in to 3/8 in and 1/8 in Pipe
4C-3368	3/8 in to 5/8 in and 1/4 in Pipe

METAL-CUTTING TOOLS

Screw Extractor, Left-Hand Spiral

Warranty: Caterpillar® Six Months



- Originally used for the removal of burner tubes in the D70, D65 Tractors and D9900 Power Units
- Used to remove broken screws and bolts
- Eliminates redrilling and retapping for larger screw

Part No.	Turn	Spiral Length	Taper/Foot	Square Drive	Overall Length
1B-9925	1/2 in	1 3/4 in	1 3/8 in	5/8 in	10 1/2 in

Extractor Set, 10 piece

SMCS Code: 0671

Warranty: Manufacturer, 120 Day



- Standard extractors for righthand pipe and studs
- Four-point grip assures strong bite
- Works with shallow grip which lessens expansion and jamming
- Pulls rather than reams
- Releases from bite instantly after job completed
- Designed for strength, durability, and easy handling
- Rust resistant, black oxide finish
- Complete set of only 10 extractors fits every size and class of pipe from 1/8 to 2 inch
- Also fits every stud and screw from 3/8 to 3 1/2 inch
- Comes in sturdy plastic case
- Can also be ordered individually

Part No.	Description	Broken Pipe Length (in)	Broken Stud/Screw Length (in)
282-2108	Complete Extractor Set	–	–
Extractor Set Consists of:			
282-2111	Extractor	3/8	5/8 or 3/4
282-2112	Extractor	1/2	–
282-2113	Extractor	–	7/8 or 1
282-2115	Extractor	3/4	1 1/8 or 1 1/4
282-2116	Extractor	1	1 1/2 or 1 3/4

Stud Remover Set

Warranty: Caterpillar® Six Months



- Extractors are not threaded and thus will accommodate studs with either coarse or fine threads
- Saves time when removing a number of studs and eliminates thread damage

Reference

- GMG02078 Special Instruction

Item	Part No.	Description
–	2P-5535	Complete Stud Remover Set
Stud Remover Set Consists of:		
1	–	Extractor, 3/4 in
2	–	Extractor, 7/8 in
3	2P-5529	Extractor, 1 in
4	2P-5497	Body
5	2P-5538	Bolt
6	2P-5537	Washer

Stud Remover and Resetter Tool Set

Warranty: Caterpillar® Lifetime



Part No.	Description	Size
8S-1378	Complete Stud Remover and Resetter Tool Set, 1/4 through 5/8 in	–
	Stud Remover and Resetter Tool Set, 1/4 through 5/8 in, Consists of:	
8S-1346	Collet	5/8 in - 11
8S-1364	Box	–
8S-1365	Collet	1/4 in - 20
8S-1366	Collet	1/4 in - 28
8S-1368	Collet	5/16 in - 24
8S-1369	Collet	3/8 in - 16
8S-1370	Collet	3/8 in - 24
8S-1371	Collet	7/16 in - 14
8S-1372	Collet	7/16 in - 20
8S-1373	Collet	1/2 in - 13
8S-1375	Collet	9/16 in - 12
8S-1376	Collet	9/16 in - 18
8S-1377	Collet	5/8 in - 18
	Not Shown	
8S-1347	Housing	–
8S-1374	Collet	1/2 in - 20

Stud Installers, Metric

Essential Tool

Warranty: Caterpillar® Lifetime



- Used to quickly and easily install metric studs (not for stud removal)
- Can be used with standard wrench or impact wrench
- Reduces possible damage to threads
- Designed to easily release from stud after installation
- Ensures reliable bolted joint (reduces chance of stud backout)

Part No.	Size
204-7932	M16 x 2.0
204-7933	M20 x 2.5
204-7934	M24 x 3.0
204-7935	M30 x 3.5
204-7936	M36 x 3.0

Metal-Etching Pen

Warranty: Caterpillar® Six Months

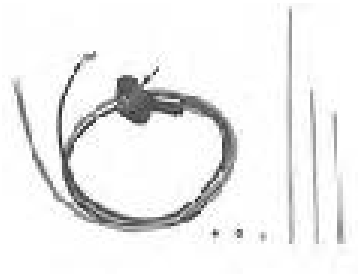


- Leaves distinctive, smudge-proof, black markings
- Indispensable anyplace where metals, hardened or thin-walled, have to be marked or identified
- Strong effect on heavy metals, stainless steel, iron, copper, brass, nickel, tin, lead
- No electrical flux necessary; special acid solution flows like ink in a felt-tip pen and a permanent etch is produced on the metal
- Ideal for toolroom use and marking in the machine shop
- Apply on clean surface; after application wipe dry with oily cloth.

Part No.	Description
9U-7377	Metal-Etching Pen

Cutting Torch (Mini)

Warranty: Manufacturer, 30 Day



- Will cut cast iron, stainless steel, high alumina refractory, and slag
- Can be used indoors, because the noise and smoke levels are very low
- Faster and less expensive than carbon arc and requires oxygen only
- Durable, comfortable, and less fatiguing to use
- Large squeeze trigger-type handle control delivers oxygen precisely
- Excellent tool for gouging hard facing. Unlike carbon arc, the rods contain no carbon, thus reducing the grinding requirement

Reference

- Form SEHS8923

Details
Rod Sizes Used by Mini Cutting Torch
General purpose rods for removing small bolts and pins by piercing 4.76 mm x 55.24 cm (3/16 x 21 3/4 in)
6.35 mm x 55.24 cm (1/4 in x 21 3/4 in)
Rods for piercing track pins, washing away welds, and gouging hard facing 9.5 mm x 46.67 cm (3/8 x 18 3/8 in)
Cut off and gouging rod for piercing longer pins and rough cutting
9.52 mm x 91.44 cm (3/8 in x 36 in)

Item	Part No.	Description
1	8T-7792	Complete Mini Cutting Torch
Mini Cutting Torch Consists of:		
2	8T-9110	Washer
3	8T-7795	Collet, 4.76 mm (3/8 in)
4	8T-7794	Collet, 6.35 mm (1/4 in)
Not shown	8T-7793	Striker Plate
Not shown	8T-9202	Collet, 4.76 mm (3/16 in)
Not shown	8T-9287	Washer
Purchase separately		
5	8T-7697	Rod, 9.52 mm x 914.4 mm (3/8 in x 36 in)
6	8T-7696	Rod, 6.35 mm x 55.24 cm (1/4 in x 21 3/4 in)
7	8T-7698	Rod, 4.76 mm x 45.72 cm (3/8 in x 18 in)
Not shown	8T-7699	Igniter
Not shown	8T-9201	Rod, 4.76 mm x 55.24 cm (3/16 in x 21 3/4 in)
Not shown	9U-5614	Shield
Not shown	9U-5615	Collet Nut-Brass

Surface Texture Replica (Comparison)

Warranty: Caterpillar® Six Months



- Used as a reference tool for metal surface reconditioning during reuse and salvage of major components
- Provides user with a physical representation of surface finish specifications that are called out in Reuse and Salvage Guidelines
- Provides 12 examples of F, H, K, and N surface textures for cast iron and steel

Reference

- SEBF8271, Guideline for Reusable Parts

Part No.	Description
9A-1593	Metal Surface Texture Replica

Thread Repair Kits, Full-Torque®



- Unique threaded insert design repairs damaged threaded holes in cast and ductile iron, steel, and aluminum
- Spiralhook™ threads engage tapped hole and draw surrounding metal into threads, as bolt or stud is torqued, resulting in a stronger repair
- Thread Repair Solid Plug inserts allow off-center and custom-size thread repairs
- Viable alternative to welding cast and ductile iron, steel, and aluminum
- In many cases parts can be repaired without disassembly
- Six kits with individual written installation instructions for a wide range of repair solutions

Part Number	Description	Qty.
263-7140 - Thread Repair Kit: 1-8 Thread Insert Kit for ductile iron in Off-Highway Truck and Wheel Loader wheels; can also be used on steel fabricated and cast wheels		
263-7160	Drill Bit, 1 9/64 inch	
263-7161	Rough Tap	1
263-7162	Finish Tap	1
263-7170	Installation Tool	1
263-7173	Thread Insert, M30	5
263-7145 - M20 Thread Insert Kit for repair of 3116 block head bolt holes		
263-7174	Thread Insert, M20	5
263-7180	Drill Bit, 57/64 inch	1
263-7181	Rough Tap	1
263-7182	Finish Tap	1
263-7183	Installation Tool	1
263-7141 - M24 Thread insert Kit for ductile iron in Off-Highway Truck and Wheel Loader wheels; can also be used on steel fabricated and cast wheels		
263-7160	Drill Bit, 1 9/64 inch	1
263-7161	Rough Tap	1
263-7162	Finish Tap	1
263-7167	Installation Tool	1
263-7168	Thread Insert, M24	5
263-7142 - M30 Thread Insert Kit for ductile iron housing on 797 Off-Highway Truck wheels		
263-7157	Rough Tap	1
263-7158	Finish Tap	1
263-7165	Installation Tool	1
263-7173	Thread Insert, M30	5
263-7178	Drill Bit, 1 25/64 inch	1
263-7179	Drill Fixture	1
263-7144 - M36 Thread Insert Kit for ductile iron housing on 797 Off-Highway Truck wheels; also used for repairing 797 front axle steering bracket mounting holes		
263-7155	Rough Tap	1
263-7156	Finish Tap	1
263-7163	Installation Tool	1
263-7164	Thread Insert, M36	5
263-7172	Drill Bit, 1 41/64 inch	1
263-7179	Drill Fixture	1
263-7146 - Thread Repair Solid Plug Insert Kit for drilling and tap- ping off-center and custom-size threaded holes; used for repairing 797 differential retaining bolt holes in thrust washer halves (Maximum I.D. thread size of original threaded hole is 1/2 inch)		
263-7175	Solid Plug Insert	5
263-7177	Spotfacer	1
263-7255	Rough Tap	1
263-7256	Finish Tap	1

METAL REPAIR TOOLS

Part Number	Description	Qty.
263-7258	Tapping Fluid	1
263-7259	Thread Sealant	1
263-7260	Drill Bit, 21/32 inch	1

Crack Repair Kit, Lock-N-Stitch®



- Unique threaded stitching pins and locks repair cracks in cast and ductile iron, steel, or aluminum castings
- L-Series Stitching Pins use an interference fit to seal pressure tight and can be installed at steep angles
- C-Series Stitching Pins feature Spiralhook™ threads to produce drawing pressure that pulls sides of the crack together for strength
- Locks installed across a crack; drill jigs create precise hole patterns across cracks in castings; locks driven into hole patterns creating additional strength
- Cold process—viable alternative to welding
- In many cases parts can be repaired without disassembly
- Extensive kit features specialized tools, complete instructions including six DVDs covering all aspects of crack repair, and storage case
- Provides a wide range of repair solutions

Part No.	Description	Qty.
263-7147	Crack Repair Kit	–
	Tools	
263-7184	Magcheck™ Kit	1
263-7190	Pneumatic Tapping Tool	1
263-7249	"Trim-Kut® 3 inch Discs (includes 1/4 inch mandrel)"	10
	"L" Series Stitching Pins, 6.3 mm (.248 in) Thread Diameter	
263-7193	Stitch Pin, 6.3 mm (.250 in) length	100
263-7194	Stitch Pin, 9.5 mm (.375 in) length	100
263-7195	Stitch Pin, 15.9 mm (.625 in) length	100
263-7197	Drill Bit, wire size 7	2
263-7198	Starting Tap	1
263-7199	Bottom Tap	1
263-7200	Piloted Tap	1
263-7201	Drilling Jig	1
	"L" Series Stitching Pins, 8.3 mm (.326 in) Thread Diameter	
263-7203	Stitch Pin, 12.7 mm (.500 in) length	100
263-7204	Stitch Pin, 25.4 mm (1.00 in) length	100
263-7205	Starting Tap	1
263-7206	Bottom Tap	1
263-7207	Piloted Tap	1
263-7208	Drill Bit, letter size L	2
	"C" Series Stitching Pins, 6.0 mm (.233 in) Thread Diameter	
263-7197	Drill Bit, wire size 7	2
263-7201	Drilling Jig	1
263-7209	Stitch Pin, 6.3 mm (.250 in) length	100
263-7210	Stitch Pin, 9.5 mm (.375 in) length	100
263-7211	Stitch Pin, 12.7 mm (.500 in) length	100
263-7212	Stitch Pin, 19 mm (.750 in) length	100
263-7213	Stitch Pin, 28.6mm (1.125 in) length	100
263-7215	Finishing Tap, fine	1

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(Continued)

Part No.	Description	Qty.
263-7216	Bottom Tap, fine	1
263-7217	Spotfacer	1
263-7218	Drill Stop	1
"C" Series Stitching Pins, 9.5 mm (.375 in) Thread Diameter		
263-7219	Stitch Pin, 15.9 mm (.625 in) length	25
263-7220	Stitch Pin, 22.2 mm (.875 in) length	25
263-7223	Rough Tap	1
263-7224	Bottom Tap	1
263-7225	Bottom Tap	1
263-7226	Drill Bit, letter size O	2
263-7227	Spotfacer	1
Lock, 20 mm (.793 in) Long		
263-7232	Drill Bit, wire size 15	3
Lock, 36 mm (1.409 in) Long		
263-7235	Bottom Lock, 2 mm (.080 in) thick	10
263-7236	Surface Lock, 4 mm (.160 in) thick	10
263-7238	Drill Bit Set, 1/8 and 3/16 inch	3 each
Lock, 48 mm (1.877 in) Long		
263-7240	Drill Stop, 1/8 inch	1
263-7242	Bottom Lock, 5 mm (.190 in) thick	10
263-7243	Surface Lock, 9.5 mm (.375 in) thick	5
263-7244	Drill Bit Set, 1/8 and 1/4 inch	3 each

METAL REPAIR TOOLS

Master Thread Repair Sets

Warranty: Manufacturer's One Year



- Both sets contain repairs for the most commonly used thread sizes
- Two Master Sets for inch sizes are available: one for Inch Coarse (4C-8364) and one for Inch Fine (4C-8365)
- The coarse set contains six sizes: 1/4 inch, 5/16 inch, 3/8 inch, 7/16 inch, 1/2 inch and 5/8 inch
- The fine set has six sizes: #10, 1/4 inch, 5/16 inch, 3/8 inch, 7/16 inch and 1/2 inch
- Each set has a drill, tap, installation tool, a quantity of inserts for each size, and complete instructions

Optional Inch Coarse Thread Repair Kits

- Kits include insert, tap, installation tool, tang break-off tool, and drill
- Tang break-off tool included in 1/4 -20 through 1/2 -13 only
- Insert package contains inserts only

Optional Inch Fine Thread Repair Kits

- Kits include insert, tap, installation tool, tang break-off tool, and drill
- Tang break-off tool included in 10-32 through 1/2 -20 only
- Insert package contains inserts only
- Installation tools, prewinder and mandrel included in Fine Series only.

Thread Size x Length	Insert Package	Qty.	Tap	Drill Size	Installation Tool	Inserts/ Kit	Insert Package	Drill
4C-8364 - Inch Coarse Master Thread Repair Set								
1/2 in-13 x .750 in	4C-8423	6	4C-9685	17/32 in	8T-2706	–	–	–
1/4 in-20 x .375 in	4C-8419	12	–	17/64 in	8T-2692	–	–	–
3/8 in-16 x .562 in	4C-8421	12	4C-9683	25/64 in	8T-2698	–	–	–
5/16 in-18 x .469 in	4C-8420	12	4C-9682	21/64 in	8T-2695	–	–	–
5/8 in-11 x.938 in	4C-8425	6	4C-9686	21/32 in	6V-9083	–	–	–
7/16 in-14 x .656 in	4C-8422	6	–	29/64 in	–	–	–	–
4C-8365 - Inch Fine Master Thread Repair Set								
1/2 in-20 x .750 in	4C-8438	6	4C-9692	33/64 in	8T-2742	–	–	–
1/4 in-28 x .375 in	4C-8434	12	–	17/64 in	8T-2730	–	–	–
10-32 x .285 in	4C-8433	12	4C-9687	13/64 in	8T-2727	–	–	–
3/8 in-24 x .562 in	4C-8436	12	–	25/64 in	–	–	–	–
5/16 in-24 x .469 in	4C-8435	12	4C-9689	21/64 in	–	–	–	–
7/16 in-20 x .656 in	4C-8437	6	4C-9691	29/64 in	–	–	–	–
Optional Inch Coarse Thread Repair Kits								
1 1/2 -6 x 2.250	–	1	4C-9720	1 17/32	–	4	4C-8432	–
1 1/4 -7 x 1.875	4C-8379	1	4C-9721	1 9/32	8T-2721	4	4C-8430	–
1 1/8 -7 x 1.688	4C-8378	1	4C-9722	1 5/32	8T-2718	5	4C-8429	1U-5702
1-8 x 1.500	4C-8377	1	–	1 1/32	8T-2715	6	4C-8428	1U-5698
1/2 -13 x .750(2)	4C-8372	6	4C-9685	17/32	8T-2706	12	4C-8423	1U-5682
1/4 -20 x .375(2)	4C-8368	12	4C-9681	17/64	8T-2692	24	4C-8419	1U-5634
3/4 -10 x 1.125	4C-8375	4	4C-9725	25/32	–	4	4C-8426	1U-5690
3/8 -16 x .562(2)	4C-8370	12	4C-9683	25/64	8T-2698	12	4C-8421	1U-5642
5/16 -18 x .469(2)	4C-8369	12	4C-9682	21/64	8T-2695	24	4C-8420	1U-5638
5/8 -11 x .938(2)	4C-8374	6	4C-9686	21/32	6V-9083	6	4C-8425	1U-5686
7/16 -14 x .656(2)	4C-8371	6	4C-9684	29/64	–	12	4C-8422	1U-5646
7/8 -9 x 1.312	4C-8376	1	4C-9724	29/32	8T-2712	6	4C-8427	1U-5694
9/16 -12 x .844	4C-8373	6	4C-9700	19/32	–	6	4C-8424	1U-5684

Thread Size x Length	Insert Package	Qty.	Tap	Drill Size	Installation Tool	Inserts/ Kit	Insert Package	Drill
Optional Fine Thread Repair Kits								
1 1/2 -12 x 2.250	4C-8397	1	–	1 17/32	8T-2760	4	4C-8447	–
1 1/4 -12 x 1.875	4C-8395	1	4C-9707	1 9/32	–	4	4C-8445	–
1 1/8 -12 x 1.688	4C-8394	1	4C-9706	1 5/32	–	5	4C-8444	1U-5702
1 3/8 -12 x 2.062	4C-8396	1	–	1 13/32	–	4	4C-8446	–
1-14 x 1.500	4C-8392	1	4C-9704	1 1/64	8T-2751	6	4C-8442	4C-8483
1/2 -20 x .750 (Also included in 4C-8365)	4C-8387	6	4C-9692	33/64	8T-2742	12	4C-8438	1U-7433
1/4 -28 x .375 (Also included in 4C-8365)	4C-8383	12	4C-9688	17/64	8T-2730	24	4C-8434	1U-5634
10-32 x .285 (Also included in 4C-8365)	–	12	4C-9687	13/64	8T-2727	24	4C-8433	1U-5630
3/4 -16 x 1.125	4C-8390	4	4C-9702	49/64	6V-9082	4	4C-8440	4C-8481
3/8 -24 x .562 (Also included in 4C-8365)	4C-8385	12	4C-9690	25/64	–	12	4C-8436	1U-5642
5/16 -24 x .469 (Also included in 4C-8365)	–	12	4C-9689	21/64	–	24	4C-8435	1U-5638
5/8 -18 x .938	4C-8389	6	–	41/64	–	6	4C-8439	4C-8480
7/16 -20 x .656 (Also included in 4C-8365)	4C-8386	6	4C-9691	29/64	–	12	4C-8437	1U-5646
7/8 -14 x 1.312	4C-8391	1	4C-9703	57/64	8T-2748	6	4C-8441	4C-8482
9/16 -18 x .844	4C-8388	6	4C-8469	37/64	4C-8486	6	4C-8497	1U-7434

Thread Repair Set, Metric Master

Warranty: Manufacturer's One Year

- Contains repairs for the most commonly used thread sizes: M5, M6, M8 and M10 x 1.50
- Set has a drill bit, tap, installation tool, a quantity of inserts for each size, and complete instructions

Thread Size x Length	Part No.	Description	Qty.	Tap Part Number	Drill Size	Installation Tool Part Number
–	4C-8366	Complete Metric Master Thread Repair Set	–	–	–	–
Metric Master Thread Repair Set Consists of:						
M10 x 1.515.0	4C-8452	Threaded Inserts	12	4C-9730	13/32	8T-2793
M5 x 0.8 7.5	4C-8448	Threaded Inserts	12	4C-9727	13/64	8T-3121
M6 x 19.0	4C-8449	Threaded Inserts	12	–	1/4	8T-2784
M8 x 1.25 12.0	4C-8451	Threaded Inserts	12	–	21/64	8T-2790

Thread Repair, Metric Master

Warranty: Manufacturer's One Year

- Contains repairs for the most commonly used thread sizes: M5, M6, M8 and M10 x 1.25
- Set has a drill bit, tap, installation tool, a quantity of inserts for each size, and complete instructions

Thread Size x Length	Part Number	Qty.	Tap Part Number	Drill Size	Installation Tool Part Number	Inserts/ Kit	Insert Package Part Number	Drill Part Number
M10 x 1.25 15.0	4C-8410	12	4C-9715	13/32	8T-2763	12	4C-8460	1U-5643
M5 x 0.8 7.5	4C-8448	12	4C-9727	13/64	8T-3121	–	–	–
M6 x 19.0	4C-8449	12	–	1/4	8T-2784	–	–	–
M8 x 1.25 12.0	4C-8451	12	4C-8475	21/64	8T-2790	–	–	–

METAL REPAIR TOOLS

Thread Repair Kits, Metric

Warranty: Manufacturer's One Year

Metric Coarse Thread Repair Kits

- Kits include insert, tap, installation tool, tang break-off tool, and drill
- Tang break-off tool included in M5 through M12 only

Metric Fine Thread Repair Kits

- Kits include insert, tap, installation tool, tang break-off tool, and drill
- Tang break-off tool included in M5 through M12 only

Thread Size x Length	Part No.	Qty.	Tap	Drill Size	Installation Tool	Inserts/Kit	Insert Package	Drill
Metric Coarse Thread Repair Kits								
M5 x 0.8 7.5 (Also included in 4C-8366 Master Thread Repair Set) (Also included in 4C-8367 Master Thread Repair Set)	4C-8398	12	4C-9727	13/64	8T-3121	12	4C-8448	1U-5630
M6 x 1 9.0 (Also included in 4C-8366 Master Thread Repair Set) (Also included in 4C-8367 Master Thread Repair Set)	4C-8399	12	–	1/4	8T-2784	12	–	1U-5633
M7 x 1 10.5	4C-8400	12	–	9/32	–	12	4C-8450	1U-5635
M8 x 1.25 12.0 (Also included in 4C-8366 Master Thread Repair Set) (Also included in 4C-8367 Master Thread Repair Set)	4C-8401	12	4C-8475	21/64	8T-2790	12	4C-8451	1U-5638
M10 x 1.5 15.0 (Also included in 4C-8366 Master Thread Repair Set)	4C-8402	12	4C-9730	13/32	8T-2793	12	4C-8452	1U-5643
M12 x 1.75 18.0	4C-8403	6	4C-9731	15/32	8T-2796	12	4C-8453	1U-5647
M14 x 2 21.0	4C-8404	6	4C-8472	37/64	4C-8489	12	4C-8454	1U-7434
M16 x 2 24.0	4C-8405	6	4C-9732	21/32	8T-2799	6	4C-8455	1U-5686
M18 x 2.5 27.0	4C-8406	6	4C-8473	47/64	–	6	4C-8456	–
M20 x 2.5 30.0	4C-8407	3	4C-8474	13/16	4C-8491	4	4C-8457	1U-5691
Metric Fine Thread Repair Kits								
M10 x 1 15.0	4C-8409	12	–	13/32	–	12	4C-8459	1U-5643
M10 x 1.25 15.0	4C-8410	12	4C-9715	13/32	8T-2763	12	4C-8460	1U-5643
M12 x 1.25 18.0	4C-8411	6	4C-9716	15/32	–	12	4C-8461	1U-5647
M12 x 1.5 18.0	4C-8412	6	4C-9717	15/32	–	12	4C-8462	1U-5647
M14 x 1.5 21.0	4C-8413	6	4C-9718	9/16	8T-2772	12	4C-8463	1U-5683
M16 x 1.5 24.0	4C-8414	6	–	21/32	8T-2775	6	4C-8464	1U-5686
M18 x 1.5 27.0	4C-8415	6	4C-8477	23/32	–	6	4C-8465	1U-5688

Thread Repair, Spark Plugs

Warranty: Manufacturer's One Year



- Preferred method of repair specified by virtually all U.S. and foreign vehicle manufacturers.
- Kits are available in sizes M14, M18, and 7/8 inch
- Each kit contains a piloted tap (no drilling necessary), an installation tool, and a quantity of inserts
- The M14 Kit contains several insert lengths to accommodate all spark plug reaches

Thread Size	Reach	Part No.	Inserts/Kit	Tap	Installation Tool	Qty.
Kit Part Numbers						
14 - 1.25 mm	3/8 in	4C-8416	6	–	–	6
18 - 1.50 mm	1/2 in	4C-8417	24	4C-8478	–	6
7/8 in - 18	1/2- 5/8 in	4C-8418	10	4C-8479	4C-8496	5
Insert Package Part Numbers for 4C-8416						
14 - 1.25 mm (Warranty: Manufacturer 30-Day)	0.472 in	9U-5125 (Not available for individual sale)	6	–	–	6
14 - 1.25 mm (Warranty: Manufacturer 30-Day)	1/2 in	9U-5123	6	8T-2801	8T-2802	6
14 - 1.25 mm (Warranty: Manufacturer 30-Day)	3/4 in	9U-5124	6	–	–	6
14 - 1.25 mm (Warranty: Manufacturer 30-Day)	3/8 in	9U-5121	6	–	–	6
14 - 1.25 mm (Warranty: Manufacturer 30-Day)	7/16 in	9U-5122	6	–	–	6
Insert Package Part Number for 4C-8417						
18 - 1.50 mm	1/2 in	4C-8466	24	–	–	6
Insert Package Part Number for 4C-8418						
7/8 - 18 in	1/2 - 5/8 in	4C-8467 (Not available for individual sale)	10	–	–	5

Carded Inserts

Warranty: Manufacturer's One Year



- Inserts are carded according to thread size for easy handling and display
- Contained in a vial marked with part number, thread size, and length
- The length of insert in Inch and Metric packages is 1 1/2 times the diameter of the bolt—providing sufficient strength in most applications
- Spark Plug Inserts are packaged in lengths corresponding to the various spark plug reaches

Thread Size	Thread Length	Part No.	Qty.
Inch Coarse			
1 1/2-6	2.250	4C-8432	1
1 1/4-7	1.875	4C-8430	1
1 1/8-7	1.688	4C-8429	1
1 3/8-6	2.062	4C-8431	1
1-8	1.500	4C-8428	1
1/2-13	0.75	4C-8423	6
1/4-20	0.375	4C-8419	12
3/4-10	1.125	4C-8426	4
3/8-16	0.562	4C-8421	12
5/16-18	0.469	4C-8420	12

METAL REPAIR TOOLS

(Continued)

Thread Size	Thread Length	Part No.	Qty.
5/8-11	0.938	4C-8425	6
7/16-14	0.656	4C-8422	6
7/8-9	1.312	4C-8427	1
9/16-12	0.844	4C-8424	6
Inch Fine			
1 1/2-12	2.25	4C-8447	1
1 1/4-12	1.875	4C-8445	1
1 1/8-12	1.688	4C-8444	1
1 3/8-12	2.062	4C-8446	1
1-12	1.5	4C-8443	1
1-14	1.5	4C-8442	1
1/2-20	0.75	4C-8438	6
1/4-28	0.375	4C-8434	12
3/4-16	1.125	4C-8440	4
3/8-24	0.562	4C-8436	12
5/8-15	0.938	4C-8439	6
7/16-20	0.656	4C-8437	6
7/8-14	1.312	4C-8441	1
9/16-18	0.844	4C-8497	6
Metric Coarse			
M10 x 1.5	15	4C-8452	12
M12 x 1.75	18	4C-8453	6
M14 x 2	21	4C-8454	6
M16 x 2	24	4C-8455	6
M18 x 5.25	27	4C-8456	6
M20 x 5.25	30	4C-8457	3
M5 x 0.8	7.5	4C-8448	12
M6 x 1	9	4C-8449	12
M7 x 1	9	4C-8450	12
M8 x 1.25	12	4C-8451	12
Metric Fine			
M10 x 1	15	4C-8459	12
M10 x 1.25	15	4C-8460	12
M12 x 1.25	18	4C-8461	6
M12 x 1.5	18	4C-8462	6
M14 x 1.5	21	4C-8463	6
M18 x 1.5	27	4C-8465	6
M8 x 1	12	4C-8458	12
Spark Plug			
14 - 1.25 mm	1/2 in	9U-5123	6 (Warranty: Manufacturer, 30 Day)
14 - 1.25 mm	3/4 in	9U-5124	6 (Warranty: Manufacturer, 30 Day)
14 - 1.25 mm	3/8 in	9U-5121	6 (Warranty: Manufacturer, 30 Day)
14 - 1.25 mm	7/16 in	9U-5122	6 (Warranty: Manufacturer, 30 Day)
18 - 1.50 mm	1/2 in	4C-8466	6

Inserts for Specific Engine Applications

Warranty: See Part Number

Engine Bore Size mm (inch)	Drill Size	Thread Size	Tap	Tap Guide	Pre-Winder	Sleeve Assembly	Insert	Nib
95.29 (3.75)	1.0 in			8F-5574		9F-7143		
101.60 (4.00)	1.0 in					9F-7143		
107.95 (4.25)	1 1/8 in		8F-5577	8F-5575		9F-7143	8F-5574	
114.30 (4.50)	1 1/8 in		8F-5577			9F-7143	8F-5574	
101.60 (4.00)	51/64 in	3/4 -12				9F-7143	8M-8292	
114.30 (4.50)	51/74 in	3/4 -12			9F-7143	8M-8292		
114.30 (4.50)	29/32 in	7/8 -12	9M-6595			9F-7143	9M-6593	9M-6596
114.30 (4.50)	29/32 in		9M-6595				8S-6400	

Thread Size x Length	Part No.	Tap	Installation Tool
Special Length Inserts			
3/4-16 x 1.500 (Warranty: Manufacturer, One Year)	6V-9074	4C-9702	6V-9082
5/8-11 x 1.250 ((Warranty: Manufacturer, One Year))	6V-9076	4C-9686	6V-9083
M16-2 x 32 mm (Warranty: Manufacturer, 30-Day)	9U-5604	4C-9732	8T-2799
M8-1.25 x 16 mm (Warranty: Manufacturer, 30-Day)	9U-5177	4C-8475	8T-2790

Inserts for Specific Engine Applications

Warranty: Manufacturer's One Year

Engine Bore Size mm (inch)	Drill Size	Thread Size	Tap	Sleeve Assembly	Insert	Nib
120.65 (4.75) V8	29/83 in		9M-6595	8S-6034	8S-6400	
120.65 (4.75) 2-Valve	29/32 in		9M-6595	8S-6034	8S-6400	
130.75 (5.12)	1 1/8 in		8F-5577	9F-7143	5H-8146	
130.75 (5.12) Series F	1.0 in			9F-7143		
137.31 (5.40) D343, 1693 90deltaV8	29/32 in	7/8 - 12	9M-6595	9F-7143	9M-6593	9M-6595
137.31 (5.40) 3400 Series	29/32 in	7/8 - 12	9M-6595	9F-7143	8S-6400	9M-6595
137.31 (5.40) 60deltaV8, V12, V16	29/32 in	7/8 - 12	9M-6595	9F-7143	9M-6593	9M-6595
146.05 (5.75)	1 1/4 in	1 1/4 - 12		9F-7143	8F-5575	
146.05 (5.75)	1 1/8 in	1 1/8 - 12	8F-5577	9F-7143	5H-8146	
158.75 (6.25)	1.0 in	1 -12		9F-7143	8S-6402	

Insert	Thread Size	Tap Part Number
5H-8146	1 1/8 - 12	8F-5577
8F-5575	1 1/4 - 12 (Warranty: Caterpillar, Six Months)	–
8S-6400	7/8 - 12	9M-6595
8S-6402	1 - 12	–
9M-6593	7/8 - 12 (Warranty: Manufacturer, 30-Day)	9M-6595

METAL REPAIR TOOLS

Thread Inserts

Warranty: Manufacturer's One Year



- Strong, permanent, metal threads — coarse or fine
- Master kits contain a selection of various size inserts, drivers, and complete instructions in one package. These master kits provide convenient storage and easy access to inserts and driver tools.

Refill kits contain only one size of thread insert and instructions (no driver tool).

- Installed with standard drills and taps
- No pre-winder tool required
- Impossible to cross thread while installing
- No tang to break-off
- Positive mechanical lock against rotation
- May be used in virtually any material including aluminum, magnesium, cast iron, cold rolled steel, or plastic
- Provides high strength, reliability, and maximum pullout strength
- Easy to remove
- No special skills required—installation procedures can be learned in minutes

Typical Applications

- Buses
- Trucks
- Heavy equipment
- Marine equipment
- Machinery
- Tooling
- Power tools
- Recreational vehicles
- Small engines

Easy Installation/Four Simple Steps

1. Drill out old threads using specified drill size.
2. Tap new threads using specified tap size.
3. Screw in insert until slightly below surface. Lock-tabs act as depth stop.
4. Drive lock-tabs into the surrounding base material with several light taps on installation tool to securely lock the insert against rotation.

Internal Thread Size	Drill Size	Drill Depth	Drill Part No.
10-24	9/32 in	3.2 mm (.12 in)	1U-5603
10-32			
1/4 -20	11/32 in	4.8 mm (.19 in)	1U-5607
1/4 -28			
5/16 -18	13/32 in	4.8 mm (.19 in)	1U-5611
5/16 -24			
3/8 -16	15/32 in	4.8 mm (.19 in)	1U-5615
3/8 -24			
7/16 -14	17/32 in	4.8 mm (.19 in)	1U-5682
7/16 -20			
1/2 -13	21/32 in	4.8 mm (.19 in)	1U-5686
1/2 -20			
9/16 -12	21/32 in	4.8 mm (.19 in)	1U-5686
9/16 -18			
5/8 -11	25/32 in	4.8 mm (.19 in)	1U-5690
5/8 -18			
3/4 -10	31/32 in	7.9 mm (.31 in)	1U-5696
3/4 -16			
7/8 -9	1 3/32 in	7.9 mm (.31 in)	1U-5700
7/8 -14			
1-8	1 7/32 in	7.9 mm (.31 in)	–
1-14			
1 1/8 -7	1 11/32 in	7.9 mm (.31 in)	–
1 1/8 -12			
1 1/4 -7	1 15/32 in	7.9 mm (.31 in)	–
1 1/4 -12			
1 1/2 -6	1 23/32 in	7.9 mm (.31 in)	–
1 1/2 -12			

(Continued)

Metric Thread Insert Removal Data			
Internal Thread Size	**Drill Size**	**Drill Depth**	**Drill Part No.**
M6	7.50 mm	4.3 mm (.17 in)	1U-8160
M8	9.50 mm	4.3 mm (.17 in)	1U-8167
M10	11.50 mm	4.3 mm (.17 in)	1U-8171
M12	13.50 mm	4.3 mm (.17 in)	1U-8171
M16	17.75 mm	6.3 mm (.25 in)	–
M20	25.75 mm	6.3 mm (.25 in)	–
M24	28.75 mm	6.3 mm (.25 in)	–

Thread Insert Master Kits, English and Metric

Warranty: Manufacturer's 90 Days



- Solid key-locking inserts are used for repairing damaged threads
- Not affected by vibration or torsion providing added strength and reliability
- All kits are contained in rugged metal boxes with individual compartments for each size of insert and driver
- Each kit contains different-sized inserts and drivers ranging from M6 to M24 or 1/4 inch to 1 1/2 inch threaded size

Reference

- Special Instruction SEHS8792, Using Caterpillar Replacement Threads

Part No.	Size Range
247-9662	M6 through M12
247-9663	M8 through M24
9S-3500	#10 through 1 1/2 inch, fine thread
9S-3700	#10 through 1 1/2 inch, course thread

METAL REPAIR TOOLS

Insert Kits and Replacement Kits

Warranty: Manufacturer's 90 Days



Insert Kits (Item 1)

- Used to repair threads of one specific size
- These insert kits include inserts of one size, a driver, and installation instructions
- Insert kits come in both English and metric threads

Replacement Kits (Item 2)

- Replacement kits provide inserts for restocking master kits such as 9S-3500, 9S-3700, 247-9662, and 247-9663
- Kits include one size insert and installation instructions
- Replacements kits come in both English and metric threads

Reference

- Special Instruction SEHS8792; Using Caterpillar Replacement Thread Inserts
- Use a standard countersink tool with an angle from 82 to 100 degrees. The diameter listed in the chart is the measurement at the top of the counterbore. The tolerance for this diameter is -0 mm (.0 in) 0.25 mm (.010 in).

Internal Thread Size	Insert Kit	Inserts /Kit	Replacement Kit	External Thread Size	Insert Length	Tap Drill Diameter	Drill	Countersink Diameter*	Tap Size	Inserts/ Replmnt Kit	Tap
1 1/2 -12	9S-3638	2	9S-3680	1 7/8 -12	51 mm (2.01 in)	1 13/16	1U-7438	48 mm (1.89 in)	1 7/8 -12	2	–
1 1/2 -6	9S-3637	2	9S-3679	1 7/8 -12	51 mm (2.01 in)	1 13/16	1U-7438	48 mm (1.89 in)	1 7/8 -12	2	–
1 1/4 -12	9S-3636	2	9S-3678	1 5/8 -12	46 mm (1.81 in)	1 9/16	1U-7437	41 mm (1.61 in)	1 5/8 -12	2	1P-3045
1 1/4 -7	9S-3635	2	9S-3677	1 5/8 -12	46 mm (1.81 in)	1 9/16	1U-7437	41 mm (1.61 in)	1 5/8 -12	2	1P-3045
1 1/8 -12	9S-3634	2	9S-3676	1 1/2 -12	41 mm (1.61 in)	1 7/16	1U-5711	39 mm (1.54 in)	1 1/2 -12	3	1P-3044
1 1/8 -7	9S-3633	2	9S-3675	1 1/2 -12	41 mm (1.61 in)	1 7/16	1U-5711	39 mm (1.54 in)	1 1/2 -12	3	1P-3044
1-14	9S-3631	2	9S-3648	1 3/8 -12	35 mm (1.38 in)	1 5/16	1U-5707	35 mm (1.38 in)	1 3/8 -12	4	1P-3043
1-8	9S-3632	2	9S-3658	1 3/8 -12	35 mm (1.38 in)	1 5/16	1U-5707	35 mm (1.38 in)	1 3/8 -12	4	1P-3043
1/2 -13	9S-3622	5	9S-3653	3/4 -16	16 mm (0.63 in)	45/64	1U-7435	19 mm (0.75 in)	3/4 -16	15	1P-3036
1/2 -20	9S-3621	5	9S-3643	3/4 -16	16 mm (0.63 in)	45/64	1U-7435	19 mm (0.75 in)	3/4 -16	15	1P-3036
1/4 -20	9U-5053	13	9U-5054	7/16 -14	9.4 mm (0.37 in)	X	1U-5610	11 mm (0.43 in)	7/16 -14	40	1P-3027
1/4 -28	9U-5055	13	9U-5056	7/16 -14	9.4 mm (0.37 in)	X	1U-5610	11 mm (0.43 in)	7/16 -14	40	1P-3027
10-24	9S-3510	15	9S-3674	3/8 -16	7.8 mm (0.31 in)	Q	1U-5606	9.6 mm (0.38 in)	3/8 -16	45	1P-3025
10-32	9S-3509	15	—	3/8 -16	7.8 mm (0.31 in)	Q	1U-5606	9.6 mm (0.38 in)	3/8 -16	45	1P-3025
3/4 -10	9S-3628	2	9S-3656	1 1/8 -12	28 mm (1.10 in)	1 1/16	1U-5699	29 mm (1.14 in)	1 1/8 -12	6	1P-3041
3/4 -16	9S-3627	2	9S-3646	1 1/8 -12	28 mm (1.10 in)	1 1/16	1U-5699	29 mm (1.14 in)	1 1/8 -12	6	1P-3041
3/8 -16	9S-3618	6	9S-3651	9/16 -12	13 mm (0.51 in)	33/64	1U-7433	14 mm (0.55 in)	9/16 -12	20	1P-3031
3/8 -24	9S-3515	6	9S-3641	9/16 -12	13 mm (0.51 in)	33/64	1U-7433	14 mm (0.55 in)	9/16 -12	20	1P-3031
5/16 -18	9U-5057	8	9U-5058	1/2 -13	11 mm (0.43 in)	27/64	1U-5614	13 mm (0.51 in)	1/2 -13	25	1P-3029
5/16 -24	9U-5059	8	9U-5060	1/2 -13	11 mm (0.43 in)	27/64	1U-5614	13 mm (0.51 in)	1/2 -13	25	1P-3029
5/8 -11	9S-3626	2	9S-3655	7/8 -14	22 mm (0.87 in)	53/64	1U-7436	22 mm (0.87 in)	7/8 -14	9	1P-3038
5/8 -18	9S-3625	2	9S-3645	7/8 -14	22 mm (0.87 in)	53/64	1U-7436	22 mm (0.87 in)	7/8 -14	9	1P-3038
7/16 -14	9S-3620	6	9S-3652	5/8 -11	16 mm (0.63 in)	37/64	1U-7434	16 mm (0.63 in)	5/8 -11	18	1P-3033
7/16 -20	9S-3619	6	9S-3642	5/8 -11	16 mm (0.63 in)	37/64	1U-7434	16 mm (0.63 in)	5/8 -11	18	1P-3033
7/8 -14	9S-3629	2	9S-3647	1 1/4 -12	32 mm (1.26 in)	1 3/16	1U-5703	32 mm (1.26 in)	1 1/4 -12	5	1P-3042
7/8 -9	9S-3630	2	9S-3657	1 1/4 -12	32 mm (1.26 in)	1 3/16	1U-5703	32 mm (1.26 in)	1 1/4 -12	5	1P-3042
9/16 -12	9S-3624	3	9S-3654	3/4 -16	20 mm (0.79 in)	45/64	1U-7435	19 mm (0.75 in)	3/4 -16	10	1P-3036
9/16 -18	9S-3623	3	9S-3644	3/4 -16	20 mm (0.79 in)	45/64	1U-7435	19 mm (0.75 in)	3/4 -16	10	1P-3036
M10-1.25	246-7515	5	246-7523	M14-1.5	14 mm (0.55 in)	12.8 mm	1U-8173	14.2 mm (0.56 in)	M14-1.5	10	8T-3093
M10-1.5	246-7514	10	246-7522	M14-1.5	14 mm (0.55 in)	12.8 mm	1U-8173	14.2 mm (0.56 in)	M14-1.5	20	8T-3093
M12-1.75	246-7516	5	246-7524	M16-1.5	16 mm (0.63 in)	14.7 mm	–	16.2 mm (0.64 in)	M16-1.5	10	8T-3095
M16-2	246-7517	3	246-7525	M22-1.5	22 mm (0.87 in)	20.5 mm	–	22.2 mm (0.88 in)	M22-1.5	5	156-8166
M20-2.5	246-7518	3	246-7526	M30-2	30 mm (1.18 in)	28 mm	–	30.2 mm (1.19 in)	M30-2	5	–
M24-3	246-7519	2	246-7528	M33-2	33 mm (1.30 in)	31 mm	–	33.2 mm (1.31 in)	M33-2	5	—
M6-1	246-7511	10	246-7520	M10-1.25	10 mm (0.39 in)	8.8 mm	1U-8165	10.2 mm (0.40 in)	M10-1.25	25	8T-3086
M8-1.25	246-7513	10	246-7521	M12-1.25	12 mm (0.47 in)	10.8 mm	1U-8169	12.2 mm (0.48 in)	M12-1.25	25	8T-3089

Thread Inserts and Installation Tools

SMCS Code: 7564

Models: 141-7250-416C, 426C, 428C, 436C, and 438C Backhoe Loader; 178-7635—E529, E523, E530, E524, E531, E525, and various other models; 179-3571-various

Warranty: Caterpillar® Six Months

141-7250 Installation Tool

- Used to install M6 x 1 threaded insert
- Used with standard hand tools to make repair
- Allows convenient field repair of stripped or damaged threads
- Compact design allows installation of insert in confined areas
- Used in applications such as repair of threaded M6 x 1.0 mounting holes inside cab of C-Series Backhoe Loaders
- Used to repair stripped threads

140-9921 Threaded Insert

- Used in material thickness of 0.7 to 3.0 mm (.028 to .118 in)

178-7635 Installation Tool

- Used to install 8-32 threaded insert
- Used with standard hand tools to make repair
- Allows convenient field repair of stripped or damaged threads
- Compact design allows installation of insert in confined areas

176-1691 Fastener

- Used to repair stripped threads
- Used in material thickness of .76 mm to 4.75 mm (.030 to .187 in)

179-3571 Installation Tool

- Used to install all 1/4 -20 threaded insert
- Used with standard hand tools to make repair
- Allows convenient field repair of stripped or damaged threads
- Compact design allows installation of inserts in confined area

178-1628 Fastener

- Used to repair stripped threads
- Used in material thickness of .76 mm to 4.75 mm (.030 to .187 in)

Reference

- NEHS0677 Tool Operating Manual containing installation instructions

Part No.	Description	Hex Size	Length	Bolt Thread	Body Diameter	Flange Diameter	Thread
Installation Tools							
141-7250	Installation Tool	9/16 in	12.7 mm (0.50 in)	M6 x 1.0	-	-	-
178-7635	Installation Tool	9/16 in	10.2 mm (0.40 in)	8-32	-	-	-
179-3571	Installation Tool	9/16 in	13.3 mm (0.52 in)	1/4 -20	-	-	
206-4496	Installation Tool (M4)	9/16 in	12.7 mm (0.50 in)	M4 x 0.7	-	-	-
206-4499	Installation Tool (M6)	9/16 in	12.7 mm (0.50 in)	M6 x 1.0	-	-	-
Threaded Inserts							
140-9921	Threaded Insert	–	14.0 mm (0.55 in)	–	9.5 mm (0.37 in)	10.0 mm (0.39 in)	M6 x 1.0
176-1691	Fastener	–	9.4 mm (0.37 in)	–	6.3 mm (0.25 in)	6.8 mm (0.27 in)	8-32
178-1628	Threaded Insert	–	13.1 mm (0.52 in)	–	9.5 mm (0.37 in)	10.2 mm (0.40 in)	1/4 -20

METAL REPAIR TOOLS

Wire, Welding

Warranty: Manufacturer's



- Advanced Surface Characteristics Technology
- Improved feedability and arc starting/stability
- Superb wetting action
- Extended corrosion resistance
- Reduced contact tip wear
- Classifications/Approvals: DNV III YMS, CWB CSA W48: ER49S-6, BV SA3YM, ABS 3SA, 3YSA, DB 42.039.29, AWS
- SFA5.18: ER70S-6, GL 3YS, LR 3S 3YS, VdTUV 10052
- Available in Canada, Mexico, and the United States

Typical Mechanical Properties	
90% Ar/10% CO2	
Yield Strength	66 ksi, 455 Mpa
Tensile Strength	82 ksi, 565 Mpa
Elongation in 2"	27%
Reduction of Area	56%
CVN (@-20°F)	82 ft-lbs, 111J
75% Ar/25% CO2	
Yield Strength	66 ksi, 455 Mpa
Tensile Strength	82 ksi, 565 Mpa
Elongation in 2"	28%
Reduction of Area	61%
CVN (@-20°F)	44 ft-lbs, 111J
100% CO2	
Yield Strength	65 ksi, 448 Mpa
Tensile Strength	78 ksi, 538 MPa
Elongation in 2"	25%
Reduction of Area	70%
CVN (@-20°F)	27 ft-lbs, 37 J

Part No.	432-6084	416-2693	432-6083	432-6087	432-6085	432-6086
Aristorod 12.5 mild steel MIG welding wire						
Quantity	1050 lbs (476 kg)	550 lbs (250 kg)	40 lbs (18 kg)	900 lbs (408 kg)	550 lbs (250 kg)	40 lbs (18 kg)
Gauge	0.045	0.045	0.045	0.035	0.035	0.035
Minimum	2	4	63	2	4	63

Ceramic Weld Backing Plates

Model Usage: 793F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Easier welding in the field
- Sold by the carton

Reference

- Special Instruction M0069982: "Procedure to Replace the Center Tube Assembly on the 793F Off-Highway Truck"

Part No.	Description	Specifications
517-0658	Curved Weld Backing Plates	60 pieces per carton, 406.4 mm (16 in)
517-0659	Straight Backing Plates	40 pieces per carton, 609.6 mm (24 in)

CAPS & PLUGS

Conduit Covers

Warranty: Caterpillar® Six Months



- Quick and easy to use
- Polyethylene nylon
- Built in quick tie
- Universal size
- Pack of 50

Part No.	Description
435-9843	4 x 5 inch (102 x 127 mm)
435-9844	8 x 8 inch (203 x 203 mm)
435-9845	12 x 12 inch (305 x 305 mm)

Stretch Fit Cover Caps

Warranty: Caterpillar® Six Months



- Designed to mask awkward shapes utilizing an elasticated bottom that holds the cap onto the application
- The polyethelene material can slip over a wide range of part diameters and shapes to protect against dirt and moisture during shipping and storage.
- An effective, easy-to-use, low-cost option for protecting contamination-sensitive components
- Meets contamination control requirements for covering sensitive components and cavities
- Helps to keep grease on the machine and away from clothing during service
- Can be used in temperatures up to 140 degrees F (60 degrees C)
- Blue color
- Sold by the case

Part No.	Covers per Case	Outside Diameter	Elastic Diameter
515-2506	500	203.2 mm (8 in)	31.75 mm (1.25 in)
515-2507	1000	146 mm (5.75 in)	50.8 mm (2 in)
515-2508	250	330.2 mm (13 in)	108 mm (4.25 in)
515-2509	200	609.6 mm (24 in)	146 mm (5.75 in)

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CAPS & PLUGS

Cap and Plug Kit

Warranty: Caterpillar® Six Months

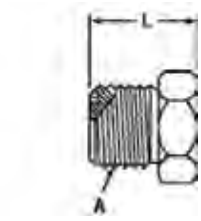


- Protects against damage, dirt, moisture and corrosion during storage, shipping and repair
- Three individual plastic boxes all found in one kit to keep caps/plugs organized and clean
- Tapered caps/plugs are designed to plug multiple inner diameters and cap multiple outside diameters

Part Number	Index Description
276-7018 Consists of:	
276-0731	Cap-Plug
276-0740	Cap-Plug
276-0741	Cap-Plug
276-0742	Cap-Plug
276-0743	Cap-Plug
276-0744	Cap-Plug
276-0745	Cap-Plug
276-0746	Cap-Plug
276-0747	Cap-Plug
276-0748	Cap-Plug
276-0749	Cap-Plug
276-0750	Cap-Plug
276-0751	Cap-Plug
276-0752	Cap-Plug
276-7018 Consists of:	
276-0753	Cap-Plug
276-0754	Cap-Plug
276-0755	Cap-Plug
276-0756	Cap-Plug
276-0757	Cap-Plug
7E-8716	Cap-Plug
9U-7067	Cap/Plug - Tapered
9U-7068	Cap/Plug - Tapered
9U-7069	Cap/Plug - Tapered
9U-7070	Cap/Plug - Tapered
9U-7071	Cap/Plug - Tapered
9U-7073	Cap/Plug - Tapered
9U-7074	Cap/Plug - Tapered
9U-7075	Cap/Plug - Tapered
276-7018 Consists of:	
9U-7076	Cap/Plug - Tapered
9U-7077	Cap/Plug - Tapered
9U-7078	Cap/Plug - Tapered
9U-7079	Cap/Plug - Tapered
9U-7080	Cap/Plug - Tapered
9U-7081	Cap/Plug - Tapered
9U-7082	Cap/Plug - Tapered
9U-7085	Cap/Plug - Tapered
9U-7087	Cap/Plug - Tapered
9U-7088	Cap/Plug - Tapered
9U-7089	Cap/Plug - Tapered
9U-7090	Cap/Plug - Tapered
9U-7091	Cap/Plug - Tapered

Plugs, ORFS

Warranty: Caterpillar® Six Months



- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Dash Size (A)	Thread Size (A) (in - TPI)	L Length
231-3942	-24	2-12	1.10 in, 28 mm
6V-9507	-4	9/16 - 18	0.67 in, 17 mm
6V-9508	-6	11/16 - 16	0.75 in, 19 mm
6V-9509	-8	13/16 - 16	0.87 in, 22 mm
6V-9510	-10	1 - 14	1.02 in, 26 mm
6V-9511	-12	1 3/16 - 12	1.06 in, 27 mm
6V-9512	-16	1 7/16 - 12	1.10 in, 28 mm
6V-9513	-20	1 11/16 - 12	1.10 in, 28 mm

Plugs, JIC 37°

Warranty: Caterpillar® Six Months

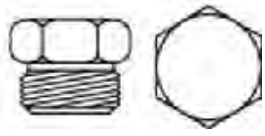


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Dash Size (A)	Thread Size (A) (in - TPI)	L Length
2P-9697	-10	7/8 - 14	1.10
5P-2299	-16	1 5/16 - 12	1.34
5P-2909	-8	3/4 - 16	0.94
5P-4299	-14	1 3/16 - 12	1.30
5P-4996	-5	1/2 - 20	0.79
9S-5518	-4	7/16 - 20	0.79
9S-8895	-12	1 1/16 - 12	1.26
9S-8927	-6	9/16 - 18	0.83

Straight Thread O-Ring - Hex Head Plugs

Warranty: Caterpillar® Six Months



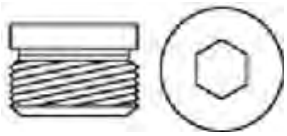
- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)	O-Ring Seal
1N-5998	1 7/8 - 12	6K-6307
1N-5999	3/8 - 24	7J-0204
3K-8460	1/2 - 20	1J-9671
9S-4180	5/16 - 24	4J-7533
9S-4181	1 5/16 - 12	7M-8485
9S-4182	7/16 - 20	3J-7354
9S-4183	1 1/16 - 12	3D-2824
9S-4185	3/4 - 16	3K-0360
9S-4188	1 3/16 - 12	4K-1388
9S-4190	7/8 - 14	2M-9780
9S-4191	9/16 - 18	3J-1907
9S-6130	1 5/8 - 12	2S-4078
9S-7583	2 1/2 - 12	030-4606

CAPS & PLUGS

Straight Thread O-Ring - Hex Drive Plugs

Warranty: Caterpillar® Six Months

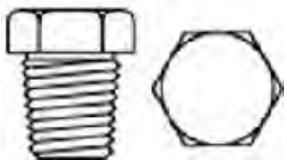


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)	O-Ring Seal
5P-7684	1 7/8 - 12	6K-6307
9S-8001	5/16 - 24	4J-7533
9S-8002	7/16 - 20	3J-7354
9S-8003	1/2 - 20	1J-9671
9S-8004	9/16 - 18	3J-1907
9S-8005	3/4 - 16	3K-0360
9S-8006	7/8 - 14	2M-9780
9S-8007	3/8 - 24	7J-0204
9S-8008	1 1/16 - 12	3D-2824
9S-8009	1 3/16 - 12	4K-1388
9S-8010	1 5/8 - 12	2S-4078
9S-9334	1 5/16 - 12	7M-8485

Pipe - Hex Head Plugs

Warranty: Caterpillar® Six Months

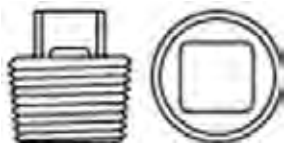


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)
090-9019	1 - 11 1/2
2S-7905	1/16 - 27
3J-5390	3/8 - 18
3M-7045	3/4 - 14
4J-4382	1/2 - 14
5M-6213	1/4 - 18
5M-6214	1/8 - 27

Pipe - Square Head Plugs

Warranty: Caterpillar® Six Months



- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)
068-0710	1 1/4 - 11 1/2
2B-7408	1/8 - 27
2B-7409	1/4 - 18
2B-7457	3/8 - 18
5B-9169	1/2 - 14
5P-3320	3/4 - 14
7L-2505	1 - 11 1/2

Pipe - Square Drive Plugs

Warranty: Caterpillar® Six Months

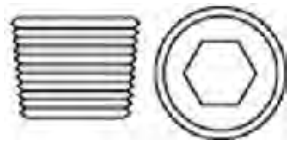


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)
1B-5170	1 1/4 - 11 1/2
1B-5174	3/4 - 14
2B-0858	1/2 - 14
3B-0551	1 - 11 1/2
4B-4845	3/8 - 18
6V-1897	2 - 11 1/2
6V-3280	2 1/2 - 8
7B-9665	1 1/2 - 11 1/2
7F-9504	1/4 - 18

Pipe - Hex Drive Plugs

Warranty: Caterpillar® Six Months



- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Thread Size (in - TPI)
2R-5657	1 - 11 1/2
4D-0514	1/16 - 27
7H-3171	1/4 - 18
7M-7410	3/8 - 18
9F-2247	1/8 - 27

Shipping Plugs, JIS - BSPP

Warranty: Caterpillar® Six Months

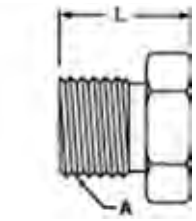


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	JIS-BSPP Thread Size (in - TPI)
093-1321	1/4 - 19
093-1322	1/2 - 14
093-1323	3/4 - 14
096-3829	1 - 11
096-6073	3/8 - 19

Plugs, Metric

Warranty: Caterpillar® Six Months



- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Light Duty Tube O.D.	Heavy Duty Tube O.D.	Length
2Y-5841	10 mm	8 mm	0.63 in, 16 mm
2Y-6461	10 mm	8 mm	0.71 in, 18 mm
2Y-6462	8 mm	6 mm	0.63 in, 16 mm
8C-4424	14 mm	14 mm	1.06 in, 27 mm
9T-6322	8 mm	6 mm	0.87 in, 22 mm

CAPS & PLUGS

Flange Port Cover, SAE Code 61

Warranty: Caterpillar® Six Months



- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Head Size (A) (in)	Flange (mm)
2J-2668	2.38	60.3
2J-5608	2.81	71.4
5H-4017	1.19	30.2
5H-4018	1.50	38.1
5H-4019	1.75	44.5
5H-4020	2.00	50.8

Flange Port Cover, Cat®

Warranty: Caterpillar® Six Months

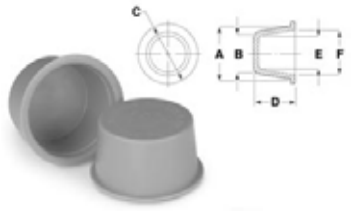


- Used to help protect against damage, dirt and moisture contamination, and corrosion during shipping and storage

Part No.	Head Size (A) (in)	Flange (mm)
5P-0045	1.25	31.8
5P-0046	1.63	41.3
5P-0047	1.88	47.6
5P-0048	2.12	54.0
5P-0049	2.50	63.5
5P-0050	3.13	79.4

Caps and Plugs, Tapered Dual-Function

Warranty: Caterpillar® Six Months



- To assure a proper fit, dimension "E" should be approximately .020 in smaller than the opening diameter of the part to be protected, or dimension "A" should be approximately 0.020 in larger than the opening diameter of the part to be protected.
- The tapered design allows the part to plug multiple inner diameters or cap multiple outside diameters
- Protects against damage, dirt, moisture and corrosion during storage and shipping
- Material: Low-Density Polyethylene
- Color: Blue
- Applicable Spec: NAS 834 (supercedes MIL-C-5501/7, MIL-C-52078)

Part No.	Package	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)	Length (D) (in)	Length (D) (mm)	Length (E) (in)	Length (F) (in)	Supplier Part No.
Tapered Dual-Function Caps and Plugs												
276-0731	250	0.18	5	0.11	3	0.31	8	0.40	10	0.05	0.11	1 T-0-X
276-0740	250	0.24	6	0.17	4	0.37	10	0.37	10	0.10	0.17	2 T-1
276-0741	250	0.27	7	0.20	5	0.43	11	0.37	10	0.15	0.20	4 T-1-X
276-0742	250	0.30	8	0.24	6	0.46	12	0.37	10	0.17	0.24	5 T-2
276-0743	250	0.33	9	0.26	7	0.46	12	0.37	10	0.20	0.27	6 T-2-X
276-0744	250	0.36	9	0.30	8	0.53	13	0.37	10	0.23	0.30	7 T-3
276-0745	250	0.46	12	0.39	10	0.62	16	0.37	10	0.32	0.39	10 T-4-X
276-0746	250	0.51	13	0.44	11	0.62	16	0.40	10	0.38	0.44	12 T-5-X
276-0747	250	0.56	14	0.50	13	0.75	19	0.43	11	0.43	0.50	14 T-6-X
276-0748	250	0.67	17	0.58	15	0.87	22	0.53	13	0.52	0.60	18 T-8-X
276-0749	250	0.69	18	0.61	15	0.84	21	0.50	13	0.54	0.63	20 T-9
276-0750	250	0.93	24	0.82	21	1.12	29	0.62	15	0.75	0.86	29 T-13-A
276-0751	250	1.35	34	1.22	31	1.50	38	0.75	19	1.16	1.29	45 T-16
276-0752	250	1.45	40	1.29	33	1.62	41	1.00	25	1.22	1.39	48 T-17
276-0753	250	1.46	37	1.31	33	1.62	41	0.75	19	1.24	1.40	49 T-17
276-0754	100	1.75	44	1.60	41	1.93	49	0.75	19	1.56	1.68	56 T-19
276-0755	100	2.02	51	1.84	47	2.12	54	1.00	25	1.78	1.93	60 T-22-S
276-0756	100	2.16	55	1.98	50	2.25	57	1.00	25	1.91	2.11	63 T-25-A
276-0757	100	2.25	57	2.06	52	2.43	62	1.03	26	2.00	2.17	66 T-240
276-0758	50	2.60	66	2.39	61	2.62	67	1.00	25	2.33	2.54	73 T-44
276-0759	50	2.69	68	2.56	65	2.87	73	0.75	19	2.50	2.62	77 T-44
276-0760	50	3.24	82	2.98	76	3.37	86	1.00	25	2.90	3.16	85 T-501
276-0761	50	3.75	95	3.55	90	4.00	102	1.00	25	3.47	3.67	K-851 T-502
276-0762	50	3.92	100	3.80	97	4.12	105	0.68	17	3.71	3.84	91 T-1063
6V-7494	50	3.00	76	2.74	70	3.13	79	1.00	25	2.68	2.94	81 T-57-A
6V-7496	50	4.62	117	4.37	111	5.00	127	1.00	25	4.29	4.50	95 T-1076
9U-7067	250	0.40	10	0.33	8	0.56	14	0.38	10	0.27	0.33	8 T-3-X
9U-7068	250	0.43	11	0.36	9	0.59	15	0.38	10	0.30	0.37	9 T-4
9U-7069	250	0.49	12	0.42	11	0.59	15	0.38	10	0.36	0.42	11 T-5
9U-7070	250	0.55	14	0.49	12	0.72	18	0.50	13	0.41	0.49	13 T-6-5
9U-7071	250	0.62	16	0.53	13	0.75	19	0.50	13	0.47	0.55	16 T-7-X
9U-7072	250	0.63	16	0.55	14	0.78	20	0.50	13	0.49	0.57	17 T-8
9U-7073	250	0.73	18	0.64	16	0.88	22	0.50	13	0.58	0.67	21 T-9-X
9U-7074	250	0.75	19	0.67	17	0.88	22	0.63	16	0.62	0.69	22 T-10
9U-7075	250	0.79	20	0.69	18	0.94	24	0.63	16	0.63	0.72	23 T-11
9U-7076	250	0.85	22	0.75	19	1.03	26	0.63	16	0.69	0.79	27 T-12
9U-7077	250	0.91	23	0.80	20	1.09	28	0.75	19	0.74	0.85	28 T-12-X
9U-7078	250	0.98	25	0.87	22	1.11	28	0.63	16	0.81	0.92	31 T-13-X
9U-7079	250	1.04	26	0.90	23	1.16	29	0.75	19	0.83	0.98	35 T-14

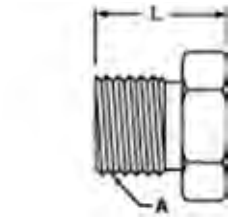
CAPS & PLUGS

...Continued

Part No.	Package	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)	Length (D) (in)	Length (D) (mm)	Length (E) (in)	Length (F) (in)	Supplier Part No.
9U-7080	250	1.09	28	0.97	25	1.25	32	0.75	19	0.90	1.03	40 T-14
9U-7081	250	1.15	29	1.00	25	1.31	33	0.75	19	0.94	1.08	41 T-14-X
9U-7082	250	1.23	31	1.11	28	1.52	39	0.75	19	1.04	1.18	42 T-15-X
7E-8716	250	1.29	33	1.18	30	1.44	37	0.75	19	1.11	1.22	44 T-15-5
276-0751	250	1.35	34	1.22	31	1.50	38	0.75	19	1.16	1.29	45 T-16
9U-7084	250	1.35	34	1.24	31	1.50	38	0.75	19	1.17	1.30	46 T-16
9U-7085	250	1.60	41	1.45	37	1.75	44	0.75	19	1.39	1.54	53 T-18
9U-7086	100	1.60	41	1.52	39	1.75	44	0.75	19	1.46	1.54	54 T-18-X
9U-7087	100	1.68	43	1.56	40	1.88	48	0.75	19	1.50	1.62	55 T-19
9U-7088	100	1.88	48	1.75	44	2.03	52	0.75	19	1.69	1.82	57 T-210
9U-7089	100	1.94	49	1.81	46	2.13	54	1.00	25	1.75	1.88	58 T-21
9U-7090	50	2.26	57	2.23	57	2.50	64	0.50	13	2.17	2.20	68 T-240
9U-7091	50	2.47	63	2.30	58	2.63	67	1.00	25	2.24	2.40	71 T-43-A
9U-7092	50	2.79	71	2.65	67	3.00	76	0.50	13	2.58	2.73	78 T-45-A
9U-7094	50	3.45	88	3.32	84	3.63	92	0.50	13	3.24	3.37	87 T1050
9U-7095	50	3.58	91	3.24	82	3.94	100	1.00	25	3.16	3.49	88 T1051
9U-7096	50	4.46	113	4.22	107	5.00	127	1.00	25	4.14	4.38	94 T1076

Cap, Straight

Warranty: Caterpillar® Six Months



Part No.	Pckg. Qty	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)	Length (D) (in)	Length (D) (mm)	Length (E) (in)
217-1591	50	1.25	31.65	0.67	17	1	25.22	1.06	26.82	0.05

Cap, Non-threaded

Warranty: Caterpillar® Six Months



Materials Key

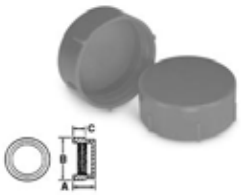
- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg. Qty.	Material	Diameter (A) (in)	Length (B) (in)	Length (B) (mm)
9U-7166	250	1	0.13	0.63	16
9U-7167	250	1	0.25	0.88	22
9U-7168	250	1	0.30	0.88	22
9U-7169	250	1	0.38	0.88	22
9U-7170	250	1	0.44	0.88	22
9U-7171	250	1	0.50	0.88	22
9U-7172	250	1	0.56	0.88	22
9U-7173	250	1	0.63	0.88	22
9U-7174	100	1	0.69	0.88	22
9U-7175	100	1	0.75	0.88	22
9U-7176	100	1	0.81	0.88	22
9U-7177	100	1	0.88	0.88	22
9U-7178	100	1	1.00	0.75	19
9U-7179	100	1	1.06	0.88	22
9U-7180	100	1	1.19	1.00	25
9U-7181	100	1	1.25	0.88	22
9U-7182	100	1	1.31	0.88	22
9U-7183	100	1	1.38	0.88	22
9U-7184	100	1	1.44	0.88	22
9U-7185	100	1	1.50	0.88	22
9U-7186	100	1	1.63	1.00	25
9U-7187	100	1	1.69	0.88	22
9U-7188	100	1	1.75	0.88	22
9U-7189	100	1	1.88	0.88	22
9U-7190	100	1	2.00	0.88	22
9U-7191	100	1	2.13	0.88	22
9U-7192	100	1	2.38	0.88	22
9U-7193	100	1	2.50	0.88	22
9U-7194	50	1	3.13	1.38	35

CAPS & PLUGS

Cap Protectors, Metric Threaded

Warranty: Caterpillar® Six Months



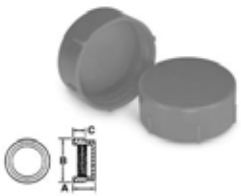
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg. Qty.	Material	Diameter x Pitch	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)
9U-7145	100	2	M10 x 1.0	0.39	10	0.54	14	0.29	8
9U-7146	100	2	M12 x 1.5	0.47	12	0.62	16	0.37	10
9U-7147	100	2	M14 x 1.5	0.47	12	0.70	18	0.37	10
9U-7148	100	2	M16 x 1.5	0.47	12	0.78	20	0.37	10
9U-7149	100	2	M18 x 1.5	0.55	14	0.85	22	0.45	12
9U-7150	100	2	M20 x 1.5	0.55	14	0.92	24	0.37	10
9U-7151	50	2	M22 x 1.5	0.54	14	1.02	26	0.45	12
9U-7152	50	2	M24 x 1.5	0.55	14	1.14	29	0.45	12
9U-7153	50	2	M26 x 1.5	0.55	14	1.18	30	0.45	12

Cap Protectors, Metric Threaded

Warranty: Caterpillar® Six Months



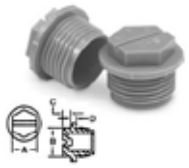
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg. Qty.	Material	Thread Size (in - TPI)	Tube Diameter (in)
9U-7114	250	1	7/16 - 20	0.25
9U-7115	250	1	9/16 - 18	0.38
9U-7116	250	1	3/4 - 16	0.50
9U-7117	100	1	7/8 - 14	0.63
9U-7118	100	1	11/16 - 12	0.75
9U-7119	100	1	15/16 - 12	1.00

Plug Protectors, Threaded and Slotted

Warranty: Caterpillar® Six Months



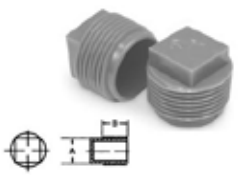
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg. Qty.	Material	Thread Size (in - TPI)	Tube Diameter (in)	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)	Length (D) (in)	Length (D) (mm)
9U-7104	250	3	7/16 - 20	–	0.43	11	0.62	11	0.18	5	0.30	5
9U-7105	100	3	1/2 - 20	–	0.50	13	0.68	13	0.18	5	0.36	5
9U-7106	100	3	9/16 - 18	–	0.50	13	0.75	13	0.18	5	0.33	5
9U-7107	100	3	3/4 - 16	–	0.68	17	0.94	17	0.19	5	0.44	5
9U-7108	100	3	7/8 - 14	–	0.75	19	1.06	19	0.24	6	0.50	6
9U-7109	100	3	11/16 - 14	–	0.87	22	1.31	22	0.25	6	0.62	6
9U-7110	50	3	13/16 - 12	–	1.00	25	1.50	25	0.30	8	0.70	8
9U-7111	50	3	15/16 - 12	1.00	1.07	27	1.62	27	0.30	8	0.70	8
9U-7112	50	3	1 5/8 - 12	–	1.13	29	1.88	29	0.30	8	0.75	8
9U-7113	50	3	1 7/8 - 12	–	1.50	38	2.13	38	0.30	8	0.75	8

Plug Protectors for NPT Thread - Square Head

Warranty: Caterpillar® Six Months



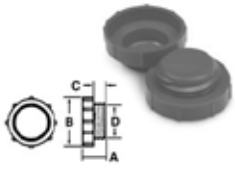
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg.Qty.	Material	Thread Size (in - TPI)	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)
9U-7098	250	3	1/8 - 27	0.28	7	0.38	10
9U-7099	250	3	1/4 - 18	0.38	10	0.44	11
9U-7100	250	3	3/8 - 18	0.44	11	0.50	13
9U-7101	250	3	1/2 - 14	0.56	14	0.56	14
9U-7102	100	3	3/4 - 14	0.69	17	0.63	16

Plug Protectors for NPT Thread - Knurled Head

Warranty: Caterpillar® Six Months



Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Pckg. Qty.	Material	Thread Size (in - TPI)	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)	Length (D) (in)	Length (D) (mm)
9U-7103	100	3	1 - 11 1/2	0.50	13	1.57	40	0.25	6	1.18	30

Plug Protectors, Threaded and Slotted

Warranty: Caterpillar® Six Months



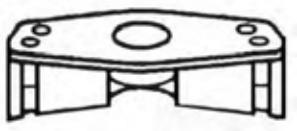
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Package Quantity	Material	Thread Size (in - TPI)	JIC/SAE Fitting	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)
9U-7120	250	1	7/16 - 20	4-TS	0.46	12	0.43	11
9U-7121	250	1	1/2 - 20	5-TS	0.46	12	0.49	12
9U-7122	250	1	9/16 - 18	6-TS	0.48	12	0.55	14
9U-7123	250	1	11/16 - 16	7-TS	0.48	12	0.67	17
9U-7124	250	1	3/4 - 16	8-TS	0.56	14	0.74	19
9U-7125	250	1	13/16 - 16	9-TS	0.56	14	0.80	20
9U-7126	250	1	7/8 - 14	10-TS	0.65	17	0.87	22
9U-7127	250	1	1 - 14	11-TS	0.65	17	0.99	25
9U-7128	250	1	11/16 - 12	12-TS	0.75	19	1.05	27
9U-7129	250	1	13/16 - 12	13-TS	0.75	19	1.17	30
9U-7130	100	1	15/16 - 12	16-TS	0.75	19	1.30	33
9U-7131	100	1	1 7/16 - 12	17-TS	0.75	19	1.43	36
9U-7132	100	1	1 5/8 - 12	20-TS	0.83	21	1.62	41
9U-7133	100	1	1 11/16 - 12	21-TS	0.83	21	1.67	42
9U-7134	100	1	1 7/8 - 12	24-TS	0.95	24	1.87	48
9U-7135	50	1	2 1/2 - 12	32-TS	1.20	30	2.49	63

Protectors, SAE Code Flange 61 Bolted

Warranty: Caterpillar® Six Months



Materials Key

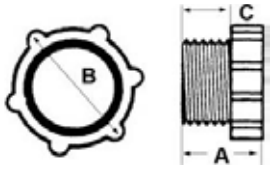
- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene

3: High Density Polyethylene

Part No.	Package Quantity	Material	Thread Size (in - TPI)
9U-7154	25	1	1/2 NPT
9U-7155	25	1	3/4 NPT
9U-7156	25	1	1 NPT
9U-7157	25	1	1 1/4 NPT
9U-7158	25	1	1 1/2 NPT
9U-7159	25	1	2 NPT
9U-7160	25	1	2 1/2 NPT

Plug Protectors, British Thread - BSP/GAS

Warranty: Caterpillar® Six Months



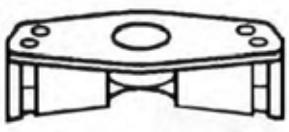
Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene
- 3: High Density Polyethylene

Part No.	Package Quantity	Material	Thread Size (in - TPI)	Length (A) (in)	Length (A) (mm)	Length (B) (in)	Length (B) (mm)	Length (C) (in)	Length (C) (mm)
9U-7195	100	2	1/8 - 28	0.41	11	0.65	16	0.16	4
9U-7196	100	2	1/4 - 19	0.50	13	0.74	19	0.26	7
9U-7197	100	2	3/8 - 19	0.47	12	0.90	23	0.27	6
9U-7198	100	2	1/2 - 14	0.68	17	1.10	28	0.41	10
9U-7199	50	2	5/8 - 14	0.72	18	1.23	31	0.51	13
9U-7200	50	2	3/4 - 14	0.67	17	1.27	32	0.43	11
9U-7201	50	2	7/8 - 14	0.71	18	1.50	38	0.53	14
9U-7202	50	2	1 - 11	0.66	17	1.57	40	0.42	11

Protectors, SAE Code 62 and Cat® Flange Bolted

Warranty: Caterpillar® Six Months



Materials Key

- 1: Grade 1 Virgin Polyethylene
- 2: Low Density Polyethylene

3: High Density Polyethylene

Part No.	Package Quantity	Material	Thread Size (in - TPI)
9U-7161	25	1	3/4 NPT
9U-7162	25	1	1 NPT
9U-7163	25	1	1 1/4 NPT
9U-7164	25	1	1 1/2 NPT
9U-7165	25	1	2 NPT

Vises, Tradesman

Warranty: Manufacturer's Lifetime



- Replaceable, hardened steel serrated jaw inserts and replaceable pipe jaws
- Precision, machined keyed slide bar
- Built for maximum quality and performance
- 360° swivel base, double lockdowns
- Straight line design means no wear on spindle or nut
- Side play eliminated by precision machined slide bar—keyed for precision
- Fully enclosed design keeps dirt and contaminants out

Part No.	Jaw Width	Pipe Capacity	Throat Depth	Max. Opening Width	Shipping Weight	Replacement Jaw Insert Kits	Replacement Pipe Jaw Inserts	Replacement Jaw Insert
188-2163	8	1/8 in- 3 1/2 in	4 3/4 in	7 in	109.0 lb	–	–	–
233-8145	4	1/4 in-2 in	3 7/16 in	4 1/2 in	37.0 lb	–	236-2654	–
233-8146	5	1/4 in- 2 1/2 in	3 3/4 in	5 1/4 in	50.0 lb	236-2655	236-2654	–
233-8147	6 (Warranty: Caterpillar, Lifetime)	1/4 in- 3 1/2 in	4 1/8 in	5 3/4 in	64.0 lb	236-2648	236-2654	–
Replacement Parts for Non Current Vises								
188-2143		–	–	–	–	–	4C-4400	–
188-2145		–	–	–	–	–	4C-4400	188-2167
188-2147		–	–	–	–	–	4C-4400	188-2170
4C-3741		–	–	–	–	–	4C-4400	–
4C-3742		–	–	–	–	–	4C-4400	4C-4392
4C-3743		–	–	–	–	–	4C-4400	4C-4393

Vises, Tradesman

Warranty: Manufacturer's Lifetime

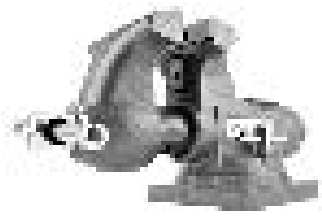


- Stressed parts made of 60,000 PSI tensile strength ductile iron
- Straight line design guarantees a lifetime spindle and nut
- Precision slide bar is moveable, maintained with hardened steel key, insuring .002 mm fit
- 360° slip proof swivel base—serrated teeth and double lockdowns
- Largest anvil of any machinists' vise

Part No.	Model	Jaw Width	Throat Depth	Max. Opening Width	Shipping Weight	Replacement Jaw Insert
4C-3751	350S	3 1/2 in	2 3/4 in	5 1/4 in	46.0 lb	–
4C-3752	400S	4 in	3 1/2 in	6 1/2 in	66.0 lb	–
4C-3753	450S	4 1/2 in	4 3/16 in	7 1/2 in	73.0 lb	4C-4394
4C-3754	500S	5 in	4 1/4 in	8 in	97.0 lb	4C-4399

Vises, Tradesman 6 1/2"

Warranty: Manufacturer's Lifetime



- Built for maximum quality and performance
- Suited for shop use and on Dealer Service Trucks
- Sealed design protects moving parts from dirt, dust, and moisture
- Includes jaws for steel pipe
- Precision slide bar is fitted within .003" to minimize play
- Built-in anvil for forming and shaping materials
- Reversible jaw inserts provide either a non-marring or maximum grip

Part No.	Jaw Width	Pipe Capacity	Throat Depth	Max. Opening Width	Shipping Weight
377-5722	6 1/2 in	1/4 - 3 1/2 in	4 in	6 1/2 in	22kg (73 lb)

Vises, Combination Pipe and Bench

Warranty: Manufacturer's Lifetime



- Stressed parts made of 60,000 PSI tensile strength ductile iron
- Replaceable hardened steel jaw inserts
- Hardened, replaceable steel pipe jaws
- Alloy steel slide bar

Part No.	Model	Jaw Width	Pipe Capacity	Throat Depth	Max. Opening Width	Shipping Weight	Replacement Jaw Insert
4C-3745	C-2	5 in	1/8 in- 4 1/2 in	5. 5/16 in	7 in	113.0 lb	4C-4395
4C-3746	C-3	6 in	3/8 in-6 in	6 5/8 in	9 in	209.0 lb	4C-4396

Jaw Caps, Model R — Rubber Face Magnefix

Warranty: Manufacturer's Lifetime



- Aluminum alloy with synthetic rubber cover
- Jaw cap conforms to workpiece and grips firmly without slipping
- Designed to prevent cushioning during use
- Use in combination with Prism Jaw Caps to clamp taper pins or tapered workpieces
- Mar-free
- Jaw caps sold separately

Part No.	Jaw Width	Use with these Vises or any other with the same Jaw Width
4C-6833	6 in	4C-3746

Jaw Caps, Model P — Prism Magnefix

Warranty: Caterpillar® Lifetime



- Jaw construction includes a 120° horizontal Vee-Groove, 3 vertical Vee-Grooves and a 90° groove for marking out and center punching
- Ideal for light tapping and thread cutting applications
- Capable of clamping a block of material in a vise to be utilized as a surface plate for light duty work
- Jaw caps sold separately

Part No.	Jaw Width	Use with these Vises or any other with the same Jaw Width
4C-6837	6 in	4C-3746

VISES

Jaw Caps

Warranty: Manufacturer's Lifetime



- Designed to avoid marring the surface of softer metals and to protect jaw faces
- Made to fit any size vise
- Polished faces and pliable copper extensions for a sure-grip fit on any make vise

Part No.	Description	Width
4C-3747	Jaw Cap	6 in
4C-3748	Jaw Cap	5 in
4C-3749	Jaw Cap	4 1/2 in
4C-3750	Jaw Cap	4 in

Holding Fixture

Warranty: Caterpillar® Six Months



- Mounts on workbench
- Use to secure components during assembly and disassembly
- Capable of holding small transmissions, differentials, hydraulic pumps, water pumps and electrical components

Part No.	Description	Capacity
2P-8338	Holding Fixture	250 lb

Vise, Yoke Pipe

Warranty: Caterpillar® Six Months



- Used to brace pipe for cutting and machining
- Used for pipe from 10 through 102 mm (1/8 through 3 1/2 in)

Part No.	Description	Weight
127-1909	Yoke Pipe Vise	7.4 kg (16.23 lb)

Clamps, Regular Duty, Standard Throat C-Clamps

Warranty: Manufacturer's Lifetime



- Recommended for regular-duty work not requiring unusual throat depth
- Drop forged from specially selected steels
- Light enough for production line use
- Equipped with Wilton Permapads® and lifetime lubricated spindles of through hardened steel
- Finished in grey enamel

Part No.	Capacity	Throat Depth	Spindle Diameter	Minimum Proof Test	Weight
4C-3755	0 - 2 in	1 13/16	9/16	2.00	1 3/8 lb
4C-3756	0 - 3 in	1 15/16	9/16	3.00	1 43/64 lb
4C-3757	0 - 4 in	2 5/16	5/8	3.00	2 3/4 lb
4C-3758	0 - 6 in	2 15/16	5/8	4.00	3 3/4 lb
4C-3759	2 in - 8 in	3 7/16	3/4	5.00	7 lb
4C-3760	1 1/2 in - 10 in	3 3/4	3/4	6.00	8 3/8 lb
4C-3761	1 1/8 in - 12 in	3 7/8	3/4	8.00	12 lb

BATTERIES AND EQUIPMENT

Battery Tester, Cat®

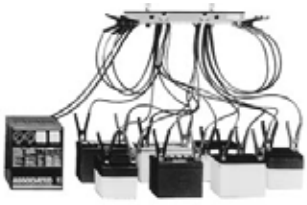
Warranty: Manufacturer's One Year

- 1000 Amp Load Tester is ideal for battery distributors, high volume testing and fleet use.
- High rpm fan cools for continuous battery testing
- High resolution carbon pile assembly ensures maximum contact, reduces hot spots, prevents edge burning and provides smoother operation and longer life.

Part No.	Load	Ammeter	Voltmeter	Leads	Clamps	Weight	Shipping Dimensions
4C-4911	1000A	0 - 1999 Amps (Digital)	0 - 19.99 V DC (Digital)	5 ft - 2 AWG	Vinyl insulated steel with flexi-spring and copper jaw	34 lb (15.4 kg)	16 in x 15 in x 15 in (0.40 m x 0.38 m x 0.38m)

Bus Bar Set

Warranty: Manufacturer's One year on parts/ labor, five years on transformer/rectifier



- Bus Bar Set for parallel charging
- Ten Battery Capacity
- Use one or combine additional bars for additional capacity
- Insulated fiberglass backboard with 10 pairs of DC Charging leads, 4 AWG (36 in) long with 300 Amp insulated safety clamps
- Comes with (3 ft) 4 AWG cables to connect to charger or additional batteries
- Can be mounted on wall or bench
- Ensures convenient way to hook up to 10 batteries in parallel

Part No.	Capacity	Leads	Clamp	Material	Weight	Dimension
4C-4917	Connections for 10 Batteries	10 sets - 4 AWG, (36 in) long	300 Amp Insulated Safety	Insulated Fiberglass Backboard	11 kg (24 lb)	31.25 in x 15.25 in x 5.25 in

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BATTERIES AND EQUIPMENT

Chargers, Multi-Battery Parallel

Warranty: Manufacturer's One Year





4C-4913

- Charges 1 - 10, 12 Volt Batteries, in parallel, in less than 24 hours
- 16 charge rates offer precise charging
- Alternate model 4C-4914 charges 1 - 36, 12 Volt batteries in parallel
- Can be mounted on wall or bench
- UL Listed; RoHS Compliant
- Patented multi-diode rectifier with deep reserve capacity

Additional accessories available:

- 4C-4917 Buss Bar ensures convenient way to hook up 10 batteries in parallel.
- Buss Bar includes 10 pairs of leads with insulated fiberglass backboard, with 300 Amp insulated safety clamps.
- 9U-5784 Charging Rack that stores up to 15 batteries

4C-4914

- Charges 1 - 36, 12 Volt Batteries, in parallel, in less than 24 hours
- Designed for 190 – 262 Vac 50/60Hz electrical environments
- Includes a patented multi-diode rectifier with a deep reserve capacity
- Circuit breaker protection and isolated transformer provides added safety
- Can be mounted on a wall or bench
- UL Listed

Additional accessories available:

- 4C-4917 Bus Bar ensures convenient way to hook up to 10 batteries in parallel.
- Bus Bar includes 10 pairs of DC Charging leads (48" long, 8.5 AWG with 300 Amp insulated clamps) and insulated fiberglass backboard
- 9U-5784 Charging Rack Battery charging rack stores up to 15 Batteries on threeshelf acid resistant, insulated rack

4C-9799

- Charges 1 – 10, 12 Volt Batteries, in parallel, in less than 24 hours
- Designed for 230 VAC 50/60Hz electrical environments
- Includes a patented multi-diode rectifier with a deep reserve capacity
- Circuit breaker protection and isolated transformer provides added safety
- Can be mounted on a wall or bench

Additional accessories available:

- 4C-4917 Bus Bar ensures convenient way to hook up to 10 batteries in parallel.
- Bus Bar includes 10 pairs of DC Charging leads (48" long, 8.5 AWG with 300 Amp insulated clamps) and insulated fiberglass backboard
- 9U-5784 Charging Rack Battery charging rack stores up to 15 Batteries on threeshelf acid resistant, insulated rack

Part No.	DC Output	AC Input	Battery Capacity	Charge Rates	Digital Voltmeter	Digital Ammeter	DC Leads	AC Cord	Weight	Shipping Dimensions
4C-4913	30 Amps, 14.9 Volts	108-132/ VAC, 7.5A 60 Hz	Up to 10, 12 Volt Batteries	16	11 - 17 Volts	0 - 50 Amps	1.8 m (6 ft) 6.5 AWG	6.5 ft 16–3	18 kg (40 lb)	16 in x 19 in x 16 in
4C-4914	110 Amps, 15.5 Volts	190-262/ VAC, 13.8A 50/60 Hz	Up to 36, 12 Volt Batteries	16	0 - 19.99 Volts (Digital)	0 - 199 Amps	1.5 m (5 ft) 1 AWG	No AC cord, must be hard wired	38 kg (83 lb)	26 in x 17 in x 14 in
4C-9799	30 Amps, 14.9 Volts (Warranty: Caterpillar, 6 Months)	210 - 250/ VAC, 4A, 50/ 60 Hz	Up to 10, 12 Volt Batteries	16	11 - 17 Volts (Digital)	0 - 50 Amps	m (6.5 ft) 6 1/2 AWG	16A, 2m length (No Plug)"	18 kg (40 lb)	16.5 in x 19 in x 16.5 in

Battery Charging Rack

Warranty: Caterpillar® Six Months



- Stores up to 15 batteries
- Includes 10 pairs of charging leads
- Three-shelf, acid resistant, insulated steel rack

Part No.	Description
9U-5784	Battery Charging Rack

Chargers, Heavy-Duty Commercial Fast

Warranty: Manufacturer's One year on parts/ labor, five years on transformer/rectifier





4C-4920

- Highest performance fast chargers on the market
- 16 rates of charge and 75 amps
- 75 amps of continuous charge with 375 amps crank assist at 12 Volts
- Fan cooling prevents overheating enhancing unit's life span significantly
- UL and CSA listed with "Safe in Any Weather" Operation
- Patented "Stop / Go" Light
- Automatic reset AC and DC circuit breakers
- Automatic timer

4C-4921

- The highest performance fleet charger on the market
- 33% more engine start than the previous model
- 80 amp continuous charge with 400 amp crank assist at 12 Volts
- Fan cooling prevents overheating enhancing unit's life span significantly
- 500 Amp, fully insulated, "Flexi-Spring" clamps
- UL and CSA listed with "Safe in Any Weather" operation
- Patented "Stop / Go" Light
- Automatic reset AC and DC circuit breakers
- Automatic timer

4C-4910

- Charges all standard & maintenance free 6/12/24 V batteries
- High Output 220VAC Charger
- Cranking assist rating of 325 amps at 6 Volts
- Fan cooling mechanism prevents overheating enhancing the unit's life span significantly
- Certified for outdoor use, safe in any weather
- Cautions against incorrect polarity with patented "stop-go-light" technology
- CE Approved

Part No.	Electrical Requirements	Battery Voltage	UL Continuous Rating	Weight	UL Cranking Assist Rate	MFGS Boost Rating	AC Cord	DC Leads	Clamp Rating	Shipping Dimensions	Timer
4C-4920 Specifications											
4C-4920	120 VAC, 14.8A, 50 Hz	6/12 Volt	100/75 Amp	25 kg (55 lb)	375 Amp	625 Amp	3m (10 ft) 14 - 3	2.4 m (8 ft) 4 AWG	500 Amp	26 x 16 x 14 in	–
4C-4921 Specifications											
4C-4921	120 VAC, 15A, 60 Hz	6/12/18/24 Volt	-	31 kg (68 lb)	400 Amp	725 Amp	3m (10 ft) 14 - 3	2.4 m (8 ft) 4 AWG	500 Amp	26 x 16 x 14 in	–
4C-4910 Specifications											
4C-4910 Warranty: Caterpillar, Six Months	230 VAC; 50/60 Hz	6/12/24 Volt	90/75/55 Amp	34 kg (75 lb)	325/270/180 Amp	300/500/700 Amp	2.4 m (7.9 ft) 16A Euro plug	3 m (9.8 ft) 4 AWG	500 Amp	26 x 16 x 14 in	90 minute auto

BATTERIES AND EQUIPMENT

Charger, Portable

Warranty: One Year Limited



- Electrical Stability System (ESS™) technology turns 9425 into a stable power supply for extended service procedures or re-flashes. Nominal 13.7V DC Output
- Program for deep discharge recovery of flooded batteries
- Display: 3 LED display indicating charge status
- Battery Types: 12 Volt Flooded, AGM, and Gel Cell batteries - including Spiral Cell, Orbital, or Optima
- batteriesPatented diagnostics indicate weak or defective battery
- Charges all types of 12 volt batteries.
- Designed for AGM, Gel Cell, Sealed, and Standard Flooded batteries including Spiral Cell, Orbital, or Optima batteries
- MADE IN USA

NOTE: Cannot be sold in all regions. Sales are restricted in some countries. Limited availability.

Part No.	Model	DC Output	DC Leads	Clamp Rating	Shipping Dimensions	Weight	AC Cord Voltage	DC Leads
510-5236	9425	20 Amps	6.5' AWG	300 A	14"x12"x12"	21 lb	6' 18-3 / 120VAC 60 Hz	7 ft 4/AWG

Heavy-Duty Portable Battery Charger

Warranty: Manufacturer's Five Years



- Model 6010B Associated Heavy-Duty 6/12/24V Portable Battery Charger
- Powerful performance in a smaller package
- Charges all standard and maintenance-free 6/12/24 v batteries with 4 charging positions
- Fully portable 60/60/30A charger with 230 amp crank assist
- Vacuum-impregnated heavy-duty transformer
- Patented multi-diode rectifiers, fan-cooled
- Patented "Stop/Go-light" technology with 500 amp insulated clamps. Made in USA.
- Compliant for Bahamas, Belize, Canada, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Liberia, Mexico, Nicaragua, Panama, Peru, Philippines, Puerto Rico, Surinam, Tahiti, Taiwan, Trinidad, USA, Venezuela and Virgin Islands

Part No.	Description	Dimensions	Weight
481-5978	Associated Heavy-Duty 6/12/24V Portable Battery Charger	356 x 407 x 330 mm (14 x 16 x 13 in)	18 kg (40 lb)

Battery Charging Station, Cat® Advanced

Model Usage: All Models

Warranty: Manufacturer's One Year



European Union Compliant, RoHs, CE

- Fully automatic 80 amp charger
- All-Lead Acid Batteries
- Charges 6v, 12v and 24v
- Temperature sensor runs before and during charge cycle
- Custom Cat® Input Menus as well as non-Cat battery compatible
- Presets come loaded for all Cat battery part numbers which automatically set up correct charge
- Optional setting for regular manual input
- Displays charging status and time remaining
- Fully charges most batteries in < 30 minutes
- Deep discharge recovery
- USB ports for easy upgrade and data log download
- Bite Rite Clamps™
- Uses standard 15-amp outlet
- Series or parallel charging options
- Field-replaceable leads in four minutes
- Language Capabilities: English, Spanish, French, Portuguese, German, Italian

Specifications

- Dimensions: 508 x 508 x 508 mm (20 x 20 x 20 in)
- Weight: 16.8 kg (37 lb)

REPAIR

Manufacturer guarantees these products to be free of workmanship and material defects prior to purchase for 12 months. For warranty and repair needs, contact Auto Meter at 866-248-6356

Part No.	Description	Power
485-9464	Battery Charging Station	60 Hz, 110 VAC
485-9465	Battery Charging Station	50 Hz, 220 VAC
Replacement Parts		
485-9466	Cable Set, 8' (includes clamps)	
485-9467	Cable Set, 20' (includes clamps)	
485-9472	USB Cable	
485-9744	Temperature Sensor and Stand Kit	

BATTERIES AND EQUIPMENT

Starting System, Extra Heavy-Duty Plug-In

Warranty: Caterpillar® Six Months



- More truck starting power than 8hp gas starter
- Extra heavy duty plug-in starting system ideal for volume car starting in extremely cold climates
- Heavier 1 AWG cable has half the voltage drop as Model 4C-4929 (6139)
- Anti-spark delay timer protection for safety during hook-up
- Circuit breaker protection
- Polarity protection
- 30 foot of tangle-free cables
- Stainless steel receptacle mounts onto a truck bumper and connects directly to a battery
- Reaches stalled vehicles from front, back, or side
- Solid copper jaw, with patented insulated clamps with "flexi-spring" cable guard
- Patented "stop-go safety light"

Part No.	Description	Total Length	Vehicle Connection Length	Gauge	Cir. Mil. Copper, Jacket	Amp Clamp	Side Terminal Adapters	SAE Rating	Weight	Shipping Dimensions
4C-4930	Extra Heavy-Duty Plug-In Starting System	30 ft	5 ft	1 AWG	83,600 T-94	800 A	No	Super Heavy-Duty	26 lb	9 in x 12 in x 12 in
Service Part										
4C-9917	Power Socket with Battery Cable									

Starting System, Heavy-Duty Plug-In

Warranty: Caterpillar® Six Months

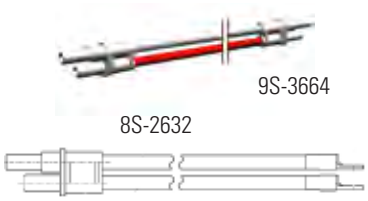


- Stainless Steel receptacle mounts onto a truck bumper and connects directly to a battery
- Reaches stalled vehicles from front, back or side
- Polarized LEXAN plug won't break in coldest weather
- Solid copper jaw, with patented insulated clamps with "flexi-spring" cable guard
- Patented "stop-go safety light"
- 30 ft of tangle-free cables
- For the flush mount version, combine with 4C-4931 (6125)

Part No.	Description	Total Length	Vehicle Connection Length	Gauge	Cir. Mil. Copper, Jacket	Amp Clamp	Side Terminal Adapters	SAE Rating	Weight	Shipping Dimensions
4C-4929	Heavy-Duty Plug-In Starting System	30 ft	5 ft	4 AWG	41,300 T-94	500 A	Yes	Heavy-Duty	17 lb	6 in x 12 in x 12 in
Service Parts										
4C-4943	Power Socket with battery cable	–	–	–	–	–	–	–	–	–
4C-4944	Plug-in Cable (includes clamps)	–	–	–	–	–	–	–	–	–
4C-4946	Polarized Lexan® Plug, .45 kg (1 lb)	–	–	–	–	–	–	–	–	–

Jump Start Plug Assembly

Warranty: Caterpillar® Six Months



- Used with jump start receptacle on M Series Motor Graders and other similar receptacles
- Used for receptacle-to-receptacle on machine-to-machine applications
- 4.7 meter (15.5 feet long)
- 8S-2632 has receptacle on one end and battery terminals on the other

Part No.	Description
9S-3664	Jump Start Plug Assembly

Power Socket, Flush Mount

Warranty: Caterpillar® Six Months



- Alternative to cabinet style socket — stainless steel plate mounts flush on service vehicle
- For a complete starting system, order 4C-4931 and 4C-4944 Plug-In Cables

Part No.	Description
4C-4931	Flush Mount Power Socket

Cables, Booster

Warranty: Caterpillar® Six Months



- Professional quality
- Ensure quick and efficient connections
- Designed for convenience and safety
- Replacement clamps available

Part No.	Length	Gauge	Gauge (circular mil)	Jacket	Clamp Rating	Side Terminal Adapters	Approx. Ind. Weight
Heavy Duty and Super Heavy Duty Cables							
4C-4934 (Equipped with stop/go light - red L.E.D.s warn operator if polarity is reversed)	4 m (12 ft)	5 AWG	32,900	T-94 (T-94: flexible to 4° C (-40° F))	500 A	Yes	3.6 kg (7.94 lb)
4C-4938	5 m (15 ft)	1/0 AWG	106,400	T-94 (T-94: flexible to 4° C (-40° F))	800 A	No	7.3 kg (16.09 lb)
Booster Cables							
300-5899	6 m (20 ft)	2 AWG	62,450	T-94	600A	No	6.4 kg (14.11 lb)
4C-4933	4 m (12 ft)	4 AWG	37,360	T-94 (T-94: flexible to 4° C (-40° F))	500E	No	2.7 kg (5.95 lb)
4C-4935	5 m (16 ft)	4 AWG	37,360	T-94 (T-94: flexible to 4° C (-40° F))	500E	No	3.6 kg (7.94 lb)
4C-4936	6 m (20 ft)	4 AWG	37,360	T-94 (T-94: flexible to 4° C (-40° F))	500E	No	4.1 kg (9.04 lb)

Clamps, Replacement

Warranty: Caterpillar® Six Months



- Designed to grip securely to side terminal and/or post terminal batteries for maximum current carrying capacity
- Color coded (Red/Black) for safety and visual appeal

Part No.	Description	Clamp Rating	Jaws	Insulation	Weight/Master
4C-4940	Replacement clamp for use with 3, 4, and 6 ga cable	500A	Copper	Bonded Vinyl	4 kg (8.82 lb)
4C-4942	Batteries and Battery Chargers	600A	Heavy Gauge Copper	Bonded Vinyl	4.5 kg (9.92 lb)

BATTERIES AND EQUIPMENT

Battery Post Set

Warranty: Caterpillar® Six Months

4C-5637





4C-5638

- Alternative to cabinet style socket — stainless steel plate mounts flush on service vehicle
- For a complete starting system, order 4C-4931 and 4C-4944 Plug-In Cables

Part No.	Description
4C-5637	10 mm (3/8 in) Female for Stud Type Batteries
4C-5638	10 mm (3/8 in) Male for Side Terminal Batteries

Cables

Warranty: Caterpillar® Six Months



- Polarized plug on both ends
- Mates with either 4C-9917 or 4C-4943 Power Socket

Part No.	Description	Mates with
4C-9801	3.66 m (12 ft) 4 AWG	4C-4943 Power Socket
4C-9802	3.66 m (12 ft) 1 AWG	4C-9917 Power Socket

Battery Cable Repair Kit

Warranty: Caterpillar® Six Months



- Fabricate or repair 8 through 4/0 gauge electrical cables
- Install splices or terminals
- Crimping tool comes with multiple dies for various cable sizes (AWG No. 8, 6, 4, 2, 1/0, 2/0, 3/0, 4/0)
- Cable Cutter - can cut up to 500 MCM copper or aluminum cable

Reference

- Special Instruction SMHS7677, Use of Battery Cable Repair Kit

Part No.	Description	Qty.
6V-3025	Battery Cable Repair Kit	–
	Battery Cable Repair Kit includes:	
6V-3017	00 Butt Splice	4
6V-3018	0 Butt Splice	3
6V-3019	000 Butt Splice	3
6V-3020	0000 Butt Splice	2
6V-3021	Crimping Tool	–
6V-3022	Cable Cutter	–
6V-3023	Box	–
	Replacement Dies for 6V-3021	
1U-6659	Left-Hand	–
1U-6660	Right-Hand	–

Flashlight, Mini-Maglite

Warranty: Lifetime



- For people on-the-go, can be carried on the hip in its own nylon belt holster
- Includes two AA batteries

Part No.	Description	Length
9U-7231	Mini-Maglite Flashlite	5 3/4 inches
4C-9463	Replacement Lamps	-

Flashlight, Cat® Heavy-Duty Professional

Warranty: Lifetime



- High quality
- Designed and manufactured in the U.S.A.
- Precision machined, high strength aluminum exterior components
- Anodized internally and externally for optimum corrosion resistance
- Water resistant O-ring seals throughout protecting an internal self-actuating switch
- Hi-impact, scratch resistant Lexan® lens
- Fast action Linear-Focusing™ flood-to-spot beam with a twist of the wrist
- Extra long lamp life, equivalent of 3 or 4 sets of batteries
- Approximately 5 to 6 hours operating time per set of batteries
- Ambient candle mode for hands free operation
- Spare lamp in tail cap
- All flashlights have Cat® logo

Item	Part No.	Description	Length	Batteries
1	1U-7321	Flashlight	254 mm (10 in)	2 D cell batteries
2	1U-7322	Flashlight	310 mm (12 3/16 in)	3 D cell batteries
3	4C-9442	Flashlight	375 mm (14 3/4 in)	4 D cell batteries
Accessories (Warranty: Six Months)				
4	4C-9448 (Warranty: Caterpillar, Six Months)	Mounting Clamp kit for all D cell flash- lights, 2 clamps and screws	–	–

Flashlight, Heavy-Duty

Warranty: Caterpillar® Six Months

- Water-resistant, made of high impact plastic, with corrosion resistant contact parts and a belt ring to prevent loss
- Batteries not included
- Battery barrier protects bulb and head contacts from impact force
- Comes with spare bulb

Part No.	Length	Batteries	Switch	Comes with
1U-7319	210 mm (8 1/4 in)	2 D cell batteries	–	–



LIGHTING AND ELECTRICAL

Flashlight, Continuity Tester

Warranty: Caterpillar® Lifetime



- Made of high impact plastic
- Can be used as a flashlight or continuity tester
- Yellow with black cap
- Uses 2 D cell batteries (not included)
- 1.82 m (72 in) length continuity wires shipped inside flashlight
- Magnet allows your hands to be free for testing

Part No.	Description	Length
1U-7318	Continuity Tester / Flashlight	210 mm (8 1/4 in)
	Service Part	
1U-9532	D-Cell Alkaline Battery	–

Flashlights, Cat® Branded

Warranty: Manufacturers Limited Lifetime (Return defective product postage prepaid to the EZ Red Co, 8 Leonard Way, Deposit, NY 13754 607-467-2866)



ANSI and CE marked

- Lighting for use during service work
- Uses 2 D cell batteries (not included)
- 1.82 m (72 in) length continuity wires shipped inside flashlight
- Magnet allows your hands to be free for testing

Part No.	Description	Weight
473-3336	Flashlight	0.109 kg
473-3337	Flashlight	0.186 kg
473-3338	Flashlight	0 .091 kg
473-3339	Flashlight	0 .136 kg

Slim Light, Cat® Rechargeable

Warranty: Caterpillar® One Year



CE/REACH/ROHS/PAHS

- No spot is too tight for the CT1205 Rechargeable Slim Light. Generating 175 lumens of flood light and 100 lumens of beam light, it's proof that good things come in small packages.
- Slim design ensures that storage won't be a problem.
- With a run time of 3 hours on flood and 4 hours on beam, this light delivers a long-lasting punch.
- The magnetic pocket clip offers easy, hands-free use.

Features

- Micro USB rechargeable (cable included) High power LED/COB
- Dual light: flood & beam
- Magnetic pocket clip
- Protected charge port
- Charge indicator

Specifications

- 100 lumen beam output
- 175 lumen flood light
- Water and impact resistant

Part No.	Description	Dimensions (H x W x D)	Weight
540-3913	Cat® Rechargeable Slim Light	165 x 32 x 19 mm (6.5 x 1.25 x 0.75 in)	0.08 kg (0.17 lb)

Work Light, E-Z Red COB Extreme Light – Rechargeable

Warranty: Caterpillar® One Year



CE/ROHS

- 3W COB LED
- 3.7V 4400 mAh Li-ion rechargeable battery
- 500 lumens high, 150 lumens low
- Up to 4 hours high / 7 hours low continuous use
- Approximately 6 hours of charging time
- USB charging port (includes USB charge cord)
- Over-charge protection
- Dimmable
- Impact protection, ergonomic grip handle and bumper
- Easy operating soft-touch switch
- 360 degree rotating hook for easy maneuverability

Part No.	Description	Dimensions (H x W x D)	Weight
540-3914	E-Z Red COB Extreme Light – Rechargeable Work Light	305 x 51 x 38 mm (12 x 2 x 1.5 in)	0.31 kg (0.7 lb)

Light, Inspection

Warranty: Manufacturer's Lifetime



- Lightweight, super compact light source
- White beam to penetrate smoke, fog and water
- Water-tight to 609.6 m (2000 ft)
- Shock proof, corrosion proof
- Economical, 30-hour long life lamp module
- Handy shirt clip
- Includes two AA batteries
- Includes 90° light bender

Part No.	Description
141-1655	Inspection Light
	Service Part
4C-6741	Lamp Module (Qty. 12) (Warranty: Manufacturer's, Lifetime)

LIGHTING AND ELECTRICAL

Light, Pen

Warranty: Manufacturer's, 120 Day



European Union Compliant, CE marked

- Made from tempered aircraft aluminum
- 100,000 hour lifetime, hi-intensity light emitting diode (LED) bulb
- Batteries last up to 60 hours
- Includes 3 AAAA batteries
- Handy shirt clip
- Push end of pen light to momentarily illuminate or twist end clockwise for constant "on"
- Waterproof

Part No.	Description
238-8244	Pen Light, White LED
269-3123	Pen Light, Blue LED
	Replacement Batteries
245-3224	AAAA-Cell Alkaline Battery

Battery, Lantern

Warranty: Caterpillar® Six Months

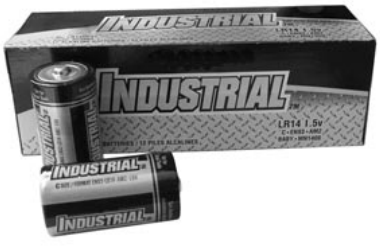


- Offers dependable high performance for portable lighting uses
- Recommended for all industrial lanterns

Part No.	Designation	Package Qty.
1U-9547	Lantern Battery, Spring Terminal, 6 Volt	12

Batteries, Industrial

Warranty: Caterpillar® Six Months



Alkaline

- Top-of-the-line for maximum service life
- Best for use in high-drain, continuous use situations

Heavy-Duty

- Ideally suited for normal industrial use

Part No.	Description	Voltage	Package Quantity
1U-9531	C-Cell Alkaline Battery	1.5	72
1U-9532	D-Cell Alkaline Battery	1.5	72
1U-9533	AA Alkaline Battery , non-rechargeable, package qty 96 (5 required to power Indicator III)	1.5	96
1U-9534	Battery - 9V Size (not shown)	9	72
1U-9535	AAA-Cell Alkaline Battery	1.5	96
1U-9536	C-Cell Heavy-Duty Battery	1.5	72
1U-9537	D-Cell Heavy-Duty Battery	1.5	72
1U-9538	AA-Cell Heavy-Duty Battery	1.5	96
1U-9539	9 Volt Heavy-Duty Battery	9	72
245-3224	AAAA-Cell Alkaline Battery (Warranty: Manufacturer, 120 Day)	1.5	6

Lights, Portable Fluorescent Work

Warranty: Manufacturer's, One Year

4C-6479 4C-6378



4C-6477

- 13 Watt fluorescent lamp is equivalent in light output to a 60 Watt incandescent, but four times more efficient and will last up to 10 times longer (10,000 hours)
- Built with the Saf-T-Lite design concept which places light and all electrical components inside a closed chamber for user safety
- Protected on-off switch can be operated by depressing domed end of the light
- Entire light double insulated for user safety
- Oil resistant power cord , UL listed and meets OSHA standards
- Durable and shatter resistant butyrate outer tube gives long life
- 4C-6478 and 4C-6479 include magnetic mounts and vapor clips

Part No.	Description	Length	Cord Type	Voltage/Watt	Standard Color
4C-6477	Portable Florescent Work Light	7.62 m (25 ft) Cord	SJTO 18/2	110V/13 Watt	Yellow
4C-6478	Portable Florescent Work Light	15.24 m (50 ft) Cord	SJTO 18/2	110V/13 Watt	Yellow
4C-6479	Portable Florescent Work Light	12.19 m (40 ft) Reel	SJT 18/2	110V/13 Watt	Yellow
9U-7203	Portable Florescent Work Light	9.5 m (30 ft) Cord	SJTOW-A 18/2	12V/13 Watt	Yellow
Service Parts for 9U-7203					
9U-6712	Replacement Lamp, 12V, 13 Watt	–	–	–	–

Light Assembly Accessories

Warranty: Manufacturer's, One Year

9U-6009



9U-6010



Part No.	Description	Material
9U-6009	Fluorescent Lamp, 110V/13 Watt	Twin Tube, cool white light emission
9U-6010	Magnetic Mount 26.3 kg (58 lb) pull	Nickel plated magnet

Light Kit (Fluorescent)

Warranty: Manufacturer's, One Year



- 110V kit which includes 13 Watt lamp, outer tube, switch assembly and installation instructions
- Install onto any Saf-T-Lite reel or cordset which was originally equipped with a 110V/13 Watt "Stubby" light head, such as 4C-6477, 4C-6478 or 4C-6479

Part No.	Description
9U-6710	Fluorescent Light Kit
Replacement Parts	
9U-6009	Fluorescent Lamp, 110V/13 Watt

LIGHTING AND ELECTRICAL

Light, Ratchet

Warranty: Caterpillar® Six Months



UL Approved

- 120 Volt/60 Hz light made from yellow, unbreakable aerospace plastic with a 10 amp tool-tap-plug
- 10,000 hour life, 13 Watt rough-service fluorescent bulb delivers output of a 60 Watt incandescent bulb
- STOW type cord — used for heavy duty service and with oil-resistant, thermoplastic jacket, is weather resistant for outdoor use
- Two year warranty on workmanship and material defects (not including bulb)
- Handy magnetic base so you can position the light where you need it

Part No.	Description	Cord Type
179-7043	Ratchet Light	STOW Type Cord - 7.62 m (25 ft) long, made from 16/3 wire

Extension Cord, Triple-Tap

*Warranty: Caterpillar® Six Months (*Two year warranty on workmanship and material defects)



UL Approved

- 120 Volt/60 Hz reel extension cord is 15.2 m (50 ft) long, made from 16/3 wire with a built-in 10 amp circuit breaker
- Case is made from shatter resistant ABS plastic

Part No.	Description
179-7053	Triple-Tap Extension Cord

Electrical Cord Definitions

Abbreviations	
U.L.	Underwriters Laboratories
C.U.L.	Canadian Underwriters Laboratories
O.S.H.A.	Office of Safety and Health Administration
NEMA	National Electrical Manufacturers Association
Cord Designation by Letter	
"S"	Hard surface, flexible cord, general use
"J"	300 Volt cord or smaller
"E"	Elastic synthetic rubber, good low temp cord
"W"	Watertight cord
"O"	Oil resistant
"A"	Low-temperature rated
"T"	Thermo-grade plastic

Extension Cords, Cat® Heavy-duty Contractor and Industrial Application

Warranty: Caterpillar® Six Months



- Designed for heavy-duty use by contractors and industrial applications
- Outer jacket protects against rough handling and extreme weather conditions
- Provides superior resistance to sunlight, ozone, cracking, oils chemicals, and moisture
- Materials: all-weather vinyl
- All cords have Cat logo printed on cord
- All extension cords are UL (Underwriters Laboratory) listed and meet OSHA (Office of Safety and Health Administration) requirements
- All plugs and outlets are NEMA (National Electrical Manufacturers Association) designated — 5-15P plug and 5-15R outlet

Part No.	Length	Outlet	Wire Size	Rating (S) Hard Surface, Flexible Cord, General Use; (J) 300 Volt cord or smaller; (W) Watertight Cord; (O) Oil Resistant; (T) Thermo Grade Plastic)	Voltage Rating	Operating Temperature
241-8522	25.00 ft	single	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
241-8529	50.00 ft	single	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
241-8530	100.00 ft	single	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1874	25.00 ft	triple	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1875	50.00 ft	triple	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1876	100.00 ft	triple	12 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1877	25.00 ft	triple	10 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1878	50.00 ft	triple	10 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)
243-1879	100.00 ft	triple	10 gauge, 3 conductor	SJTOW	300 volts	-35 to 60°C (-31 to 140°F)

LIGHTING AND ELECTRICAL

Connectors and Plugs, Heavy-Duty (20-30 Amps) with Insulating Cord Grip

Warranty: Manufacturer's



UL and CSA listed

- For use in construction sites, industrial, dusty, and damp environments
- For use with tools, motors, grinding machines, high pressure washers, outdoor lighting

Part No.	Type	Description	Cord Diameter
9U-6374	20 Amp, 125/250V Connector	Yellow High Impact, with Insulating Cord Grip	14.27 - 26.97 mm (.562 in - 1.062 in)
9U-6378	30 Amp, 125V Connector	Yellow High Impact, with Insulating Cord Grip	15.875 - 28.575 mm (.625 in - 1.125 in)
9U-6379	30 Amp, 125V Plug	Yellow High Impact, with Insulating Cord Grip	15.875 - 28.575 mm (.625 in - 1.125 in)

Rubber Splicing Compound

Warranty: Caterpillar® Six Months



- Linerless rubber tape
- Use for insulating and sealing on electrical cable installation and repair

Part No.	Description	Size	Qty.
4C-6393	Rubber Splicing Compound	19 mm (3/4 in) wide x 0.8 mm (0.030 in) thick x 4.6 m (15 ft) long rolls	1 roll per package

Wire Marker Tape Dispenser

Warranty: Caterpillar® Six Months



- Provides a fast, convenient system for marking wire or cable
- Helps eliminate errors in the disassembly and assembly of hydraulic lines, wiring harness, generator sets and panels
- Highly resistant to oils and solvents
- Ten refillable compartments with numbers from 0 to 9 let you choose the exact number/letter combinations needed
- Easy to use, easy to carry; convenient rolls — easy cutoff, no waste
- Tapes are an epoxy film with an acrylic adhesive

Part No.	Description
6V-7939	Wire Marker Tape Dispenser
Marker Tape Replacement Rolls (10 rolls per box)	
8T-5209	Tape No. 0
8T-5211	Tape No. 1
8T-5212	Tape No. 2
8T-5213	Tape No. 3
8T-5214	Tape No. 4
8T-5215	Tape No. 5
8T-5216	Tape No. 6
8T-5217	Tape No. 7
8T-5218	Tape No. 8
8T-5219	Tape No. 9

Crimping Tools

Warranty: Caterpillar® Six Months



- For insulated and uninsulated ferrules

Part No.	Wire Gauge
139-2788	24-12 AWG
139-2789	10-6 AWG
386-5102	28-24, 24-20, 18-16

Heat Shrinking Tubing

Warranty: Caterpillar® Six Months



- Made from polyolefin
- Effectively resists abrasion, scoring, cut-through, and the effects of long term aging
- Easy to install
- Use on inline electrical splices to provide mechanical protection as well as corrosion and moisture seal

Part No.	Expanded I.D.	Recovered I.D.	Recovered Length	Package Quantity
4C-6387	10 mm (.400 in)	3.8 mm (0.15 in)	152 mm (6 in)	25
4C-6388	20 mm (.800 in)	5.0 mm (0.20 in)	152 mm (6 in)	5
4C-6389	28 mm (1.10)	9.4 mm (0.37 in)	229 mm (9 in)	5
4C-6390	388 mm (1.50 in)	12.7 mm (0.50 in)	229 mm (9 in)	5
4C-6391	51 mm (2.00 in)	16.5 mm (0.65 in)	229 mm (9 in)	1

Heat Shrinking Tubing

Warranty: Caterpillar® Six Months



- One piece, pre-insulated
- Easy application
- Use on inline electrical splice where moisture and corrosion are a concern

Part No.	Wire	Barrel Length	I.D.	Color	Package Quantity
4C-6394	#22 to 18 AWG	0.28	0.062	Red	100
4C-6395	#16 to 14 AWG	0.30	0.095	Blue	100
4C-6396	#12 to 10 AWG	0.38	0.142	Yellow	100

Cold Shrink Insulators

Warranty: Caterpillar® Six Months



- Rubber insulators can be used on cable to insulate as well as to protect from moisture and corrosion while remaining flexible
- When shrunk, connection is water resistant
- Very portable since no heat source is required
- Resists fungus, acids and alkalies, ozone and ultra-violet light
- Easy to install (no flame/torch needed) — unwind the expander core by pulling the insulator and tubing will shrink to cable diameter

Part No.	Minimum Diameter	Tube Max.	Relaxed Package Length	Qty.
4C-6382	2.5 mm (0.10 in)	21.6 mm (0.85 in)	203 mm (8 in)	1
4C-6383	10.6 mm (0.42 in)	21.6 mm (0.85 in)	203 mm (8 in)	1
4C-6384	13 mm (0.51 in)	25.4 mm (1 in)	229 mm (9 in)	1
4C-6385	17.5 mm (0.69 in)	33 mm (1.30 in)	304.8 mm (12 in)	1
4C-6386	24.1 mm (0.95 in)	48.3 mm (1.90 in)	304.8 mm (12 in)	1

LIGHTING AND ELECTRICAL

Wedge Removal Tool

Warranty: Caterpillar® Six Months

- Use to remove wedges from DT series Deutsch connectors

Part No.	Description
147-6456	Wedge Removal Tool (included in kit)

Plugs and Connectors, Straight Blade

Warranty: Manufacturer's

UL and CSA listed

- For use in construction sites, industrial, dusty, and damp environments
- For use with tools, motors, grinding machines, high pressure washers, outdoor lighting

Part No.	Type	Description
9U-6362	15 Amp, 125V AC Connector	2 Pole, 3 Wire, NEMA 5-15P
9U-6363	15 Amp, 125V AC Plug	2 Pole, 3 Wire, NEMA 5-15P
9U-6364	15 Amp, 250V AC Connector	2 Pole, 3 Wire, NEMA 6-15P
9U-6366	20 Amp, 125V AC Connector	2 Pole, 3 Wire, NEMA 5-20P
9U-6368	20 Amp, 250V AC Connector	2 Pole, 3 Wire, NEMA 6-20P
9U-6369	20 Amp, 250V AC Plug	2 Pole, 3 Wire, NEMA 6-20P

Sure Seal Series Field Service Kit

Warranty: Caterpillar® Six Months

- Make or repair custom connectors
- Easy to assemble
- Forms a water, chemical, and grime resistant seal
- Wide variety of circuit configurations
- Tested from -40°C to 105°C (-40°F to 221°F)
- Designed for 14 to 18 gauge wire carrying up to 15 Amps

Reference

- Special Instruction SMHS7531, Use of Sure Seal Repair Kit

Part Number	Qty.	Description	Size
6V-3000	1	Sure Seal Field Service Kit	–
		Sure Seal Field Service Kit Consists of	
6V-3001	1	Sure Seal Crimping Tool	–
6V-3007	1	Divided Box w/ Hinged Lid	
6V-3008	1	Insertion Tool	–
7N-7779	100	Socket Connector	14 - 18 AWG
7N-7780	100	Pin Connector	14 - 18 AWG
9G-3695	50	Sealing Plug	
		1 Connector	
7N-7777	3	Socket Housing	–
7N-7778	3	Plug Housing	–
		2 Connector	
7N-9737	3	Plug Housing	–
7N-9738	3	Socket Housing	–
		3 Connector	
7N-7781	3	Socket Housing	–
7N-7782	3	Plug Housing	–
		4 Connector	
7N-8204	3	Socket Housing	–
7N-8205	3	Plug Housing	–
		5 Connector	
9G-3672	1	Plug Housing	–
9G-3678	1	Socket Housing	–
		6 Connector	
9G-3671	1	Plug Housing	–
9G-3677	1	Socket Housing	–
		7 Connector	
9G-3670	–	Plug Housing	–
9G-3676	1	Socket Housing	–
		8 Connector	
9G-3669	1	Plug Housing	–
9G-3675	1	Socket Housing	–
		9 Connector	
9G-3668	1	Plug Housing	–
9G-3674	1	Socket Housing	–
		10 Connector	
9G-3667	1	Plug Housing	–
9G-3673	1	Socket Housing	–

LIGHTING AND ELECTRICAL

Flashlight Kit (UV)

Warranty: Manufacturer's One Year



CE marked

Meets ASTM UV-A intensity and wavelength specifications for FPI and MPI

- OPTI-LUX 365 UV-A LED Inspection Flashlight
- 10,000 µW/cm2 of UV-A (365 nm) light at 38 cm (15 in)
- Instant on at full intensity
- Each charge provides four hours of continuous operation
- 100,000-hour LED service life
- Rugged anodized aluminum body
- Weight 130 g (4.6 oz)

Kit also contains:

- One pair UVS-30 absorbing Cat safety glasses with ANSI,
- AUS/NZ, CE, CSA certifications
- Spare battery
- Global charger set
  - 100-120v
  - 230v EU/CE
  - 240v AUS/CE
  - 230v UK/CE
- Lanyard
- Holster
- Storage case

Part No.	Description
459-0184	UV Flashlight Kit

Cat® Power Pocket Light

Warranty: Manufacturer's Limited Lifetime



CE marked

- Featuring a slim and compact design, the Cat® Power Pocket Light CT12351P features a 1-watt CREE® LED, and generates 100 lumens of light output at a distance of 60 meters.
- Water and impact resistant, the CT12351P includes a hand tether and pocket clip for easy portability.

Features

- Aircraft-grade aluminum
- 1W CREE® LED
- Rear tactical switch
- 2xAA batteries included
- Hand tether
- Pocket clip

Specifications

- 60 meter beam distance
- 100 lumen light output
- 2-hour runtime
- Water and impact resistant
- 5.75 L x 0.75 in D (146 mm x 19 mm)
- 0.9 lb (0.4 kg)

Part No.	Description
473-3336	Cat® Power Pocket Light

Cat® Tactical Flashlight

Warranty: Manufacturer's Limited Lifetime



CE marked

- This compact and durable tactical flashlight is designed for a lifetime of reliable use.
- The Cat® tactical flash CT12352P features a 2-watt high-power CREE® LED, and generates 150 lumens of light output at a distance of 80 meters.
- A rear-mounted weather-resistant switch provides 3 settings including HIGH, LOW, and STROBE.
- Water and impact resistant, the CT12352P includes a hand tether for easy portability.

Features

- Aircraft-grade aluminum
- 2W CREE® LED
- Rear tactical 3-position switch
- 3xAAA batteries included
- Hand tether

Specifications

- 80 meter beam distance
- 150 lumen light output
- 3-hour runtime
- Water and impact resistant
- 4.6 L x 1.2 in D (117 mm x 30 mm)
- 0.72 lbs (0.3 kg)

Part No.	Description
473-3337	Cat® Tactical Flashlight

Cat® Pocket COB Light

Warranty: Manufacturer's Limited Lifetime



CE marked

- The Cat® Pocket COB Light CT1000 provides 175 lumens of light output.
- With a rugged, water resistant ABS body and a flood beam effect, this light can brightly illuminate a wide area.

Features

- Flood beam effect
- Rugged ABS body
- Water resistant
- COB LED technology
- Magnetic base
- Rear pocket clip

Specifications

- 175 lumen light output
- Up to 7-hour runtime
- Water and impact resistant
- 6 H x 0.55 W x 1.25 D in (152 mm x 14 mm x 32 mm)
- 0.15 lb (0.07 kg)

Part No.	Description
473-3338	Cat® Pocket COB Light

LIGHTING AND ELECTRICAL

Cat® LED Headlight

Warranty: Manufacturer's Limited Lifetime



CE marked

- The CT40150P Cat® LED Headlight features a 1.5-watt CREE® LED, and generates 120 lumens of light output at a distance of 60 meters.
- Including a 2-way front-mounted switch, the CT40150P features a ratcheting light head for directing light as desired.
- Water and impact resistant, the CT40150P features an adjustable headband for hands free use.

Features

- Aircraft grade aluminum
- 1.5W CREE® LED
- Front mount 2 position switch
- 3 x AAA batteries included
- Ratcheting light adjustment
- Adjustable headband

Specifications

- 60 meter beam distance
- 120 Lumen light output
- 3.5 hr runtime
- Water & impact resistant
- 2.0" L x 1.2" D (51 mm x 30 mm)
- .3 LBS (.1 kg)

Part No.	Description
473-3339	Cat® LED Headlight

PERSONAL PROTECTIVE EQUIPMENT

Gloves, Utility

Warranty: Caterpillar® Six Months



CE marked, EN388: 2211, AS/NZS2161.2

- Black
- Synthetic Leather Palm
- Synthetic Leather Fingertips
- Spandex Back
- Lighter and More Durable than Leather
- More Breathable than Leather
- Reinforced Thumb
- Adjustable Wrist Strap

Part No.	Size
377-5750	Medium
377-5751	Large
377-5752	Extra Large

Gloves, Utility

Warranty: Caterpillar® Six Months



- Help protect from heat, cold, nicks, cuts, and bruises
- Split-palm design ensures long life in high-wear areas
- Hidden seam design eliminates snagging
- Tough spandex top material resists snags
- Snug, comfort fit assures greater dexterity
- NOT flame-proof or fire retardant
- Machine washable, air dry (Do NOT machine dry)

Part No.	Size	Qty.
276-0491	Medium	Bulk - 6 pair
276-0492	Large	Bulk - 6 pair
276-0493	Extra Large	Bulk - 6 pair
276-0494	XX Large	Bulk - 6 pair

Gloves, Impact

Warranty: Caterpillar® Six Months



- Design features improved dexterity and glove life
- Compression-molded Airprene knuckle and index finger protection
- Seamless index finger for great fingertip control
- Streamlined thermal plastic rubber (TPR) hook and loop fastening on cuff
- Split palm design puts 1 mm material in all high wear areas
- 3 mm gel palm padding reduces vibrations
- NOT flame-proof or fire retardant
- Machine washable, air dry (do NOT machine dry)

Part No.	Size	Qty.
276-0499	Medium	Bulk - 6 pair
276-0500	Large	Bulk - 6 pair
276-0501	Extra Large	Bulk - 6 pair
276-0502	XX Large	Bulk - 6 pair

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PERSONAL PROTECTIVE EQUIPMENT

Gloves, Insulated

Warranty: Caterpillar® Six Months



- Improved thermal protection
- Unique combination of Velboa and micro fleece layer closest to skin for warmth
- Neoprene cuff design with streamlined thermal plastic rubber (TPR) hook and loop fastening
- Compression-molded neoprene knuckle and index finger protection
- Durable synthetic leather palm
- NOT flame-proof or fire retardant
- Machine washable, air dry (do NOT machine dry)

Part No.	Size	Qty.
276-0495	Medium	Bulk - 6 pair
276-0496	Large	Bulk - 6 pair
276-0497	Extra Large	Bulk - 6 pair
276-0498	XX Large	Bulk - 6 pair

Gloves, Fingerless

Warranty: Caterpillar® Six Months



- Protect hands while having full fingertip access
- Palm padding of 3 mm shock-absorbing gel
- Hidden seam design eliminates snagging
- Tough spandex top material resists snags
- Snug, comfort fit assures greater dexterity
- NOT flame-proof or fire retardant
- Machine washable, air dry (do NOT machine dry)

Part No.	Size	Qty.
276-0487	Medium	Bulk - 6 pair
276-0488	Large	Bulk - 6 pair
276-0489	Extra Large	Bulk - 6 pair
276-0490	XX Large	Bulk - 6 pair

Gloves, Padded Utility

Warranty: Caterpillar® Six Months



CE marked, EN388: 1121, AS/NZS2161.2

- Yellow and Black
- Synthetic Leather Palm
- Synthetic Leather Fingertips
- Spandex Back
- Padded Palm
- Breathable Mesh
- Adjustable Wrist Strap

Part No.	Size
377-5737	Medium
377-5738	Large
377-5739	X Large
377-5740	XX Large
377-5741	XXX Large

Gloves, High Visibility Padded Utility

Warranty: Caterpillar® Six Months



CE marked, EN388: 1121, AVS/NZS

- High-Visibility Green
- Synthetic Leather Palm
- Synthetic Leather Fingertips
- Reflective Tape Fingertips and Knuckle Strap
- Nylon Black
- Padded Palm
- Reflective Tape
- Adjustable Wrist Strap

Part No.	Size
377-5734	Medium
377-5735	Large
377-5736	X Large

Gloves, Water-Resistant Utility

Warranty: Caterpillar® Six Months



CE marked, EN388: 1121, AVS/NZS

- Gray
- Synthetic Leather Palm
- Neoprene Back
- Padded Palm
- Reinforced Thumb
- Silicone Grip Fingers
- Reflective Piping
- Adjustable Wrist Strap

Part No.	Size
377-5753	Medium
377-5754	Large
377-5755	X Large

Gloves, Padded Palm Utility Glove with Adjustable Wrist, Cat® Branded

Warranty: Caterpillar® Six Months, First User Against Defects in Material & Workmanship



EN388, EN420

- Synthetic leather palm with PVC reinforced palm, fingers and knuckles
- Water-resistant rubber and nylon back
- High visibility reflective piping
- Wrap-around wrist strap for a secure fit
- EN 388: 2121

Part No.	Size	Weight
539-2756	Medium	0.2 kg (0.4 lb)
539-2758	Large	0.2 kg (0.4 lb)
539-2759	Jumbo	0.2 kg (0.4 lb)

Gloves, High Impact Synthetic Palm with Silicone Grip, Cat branded

Warranty: Caterpillar® Six Months



- Synthetic leather palm with silicone grip
- Molded knuckle impact protection
- Adjustable wrist closure
- Meets EN 388: 3131

Part No.	Size
473-4628	Medium
473-4629	Large
473-4629	Jumbo

PERSONAL PROTECTIVE EQUIPMENT

Gloves, Leather-Driver

Warranty: Caterpillar® Six Months



CE marked, EN388: 3122, AVS/NZS

- Unlined
- Double-Stitched
- Palm Patch
- Ball and Tape Closure
- Gunn Cut with Keystone Thumb

Part No.	Size
377-5742	Medium
377-5743	Large
377-5744	X Large
377-5745	XX Large
377-5746	XXX Large

Gloves, High-Visibility Leather Driver

Warranty: Caterpillar® Six Months



CE marked, EN388: 4122, AVS/NZS

- High-Visibility Green
- Pearl Grain Pigskin Leather
- Gunn Cut with Wing Thumb
- Elastic Wrist

Part No.	Size
377-5732	Large

Gloves, High-Visibility Leather Palm

Warranty: Caterpillar® Six Months



CE marked, EN388: 4122, AVS/NZS

- High-Visibility Green
- Grain Pigskin Leather
- Finger Tips and Knuckle Strap
- Gunn Cut with Wing Thumb
- Rubberized Safety Cuff
- Elastic Wrist

Part No.	Size
377-5733	Large

Gloves, Hi-Visability, High Impact, Cat® Branded

Warranty: Caterpillar® Six Months, First User Against Defects in Material & Workmanship



EN388, EN420

- Synthetic leather palm with PVC dots
- Padded with high visibility poly/spandex back
- Reflective knuckle strap
- Molded knuckle impact protection
- Sewn with cut- and heat-resistant aramid thread
- Laminated neoprene/nylon/polyester cuff
- EN 388: 1121

Part No.	Size	Weight
539-2761	Large	0.24 kg (0.5 lb)
539-2762	Jumbo	0.24 kg (0.5 lb)
539-2763	2X	0.24 kg (0.5 lb)
539-2764	3X	0.24 kg (0.5 lb)

Gloves, Fingerless Leather

Warranty: Caterpillar® Six Months



CE marked, EN388: 1220, AS/NZS2161.2

- Black
- Reversed Pigskin Leather Palm
- Spandex Black
- Breathable
- Double-Stitched
- Adjustable Wrist Strap

Part No.	Size
377-5756	Medium
377-5757	Large
377-5758	X Large

Gloves, Unlined Grain Leather Driver's

Warranty: Caterpillar® Six Months



CE marked, meets EN388, AVS/NZS

- For drivers, utility, and warehouse workers
- Gunn cut pattern
- Keystone thumb
- Pull-strap closure
- Package of 12

Part No.	Size
282-9529	Large
282-9530	Extra Large

Gloves, Lined Leather Driver's

Warranty: Caterpillar® Six Months



- For drivers, utility and warehouse workers
- Extra warmth
- Elastic shirred back holds glove securely to hand
- Gunn cut pattern

Part No.	Size	Qty.
246-5147	Extra Large	12 Pair with Hang Tags
246-5149	Large	12 Pair with Hang Tags
246-5151	Medium	12 Pair with Hang Tags

PERSONAL PROTECTIVE EQUIPMENT

Gloves, Split Leather Palm

Warranty: Caterpillar® Six Months



- For tough rugged jobs
- Full leather index finger
- Lined palm and leather tips
- Gauntlet cuff style
- Elastic on back with knuckle strap

Part No.	Size	Qty.
246-5155	Large	12 Pair with Hang Tags

Gloves, Split Cowhide Palm

Warranty: Caterpillar® Six Months



- For medium- to heavy-duty work
- Gunn cut pattern
- Full leather index finger
- Wing thumb

Part No.	Size	Qty.
282-9531	Medium	Bulk - 12 Pair
282-9532	Large	Bulk - 12 Pair
282-9533	Extra Large	Bulk - 12 Pair

Gloves, Traditional All-purpose

Warranty: Caterpillar® Six Months



- For general work
- Cotton blend
- Knit wrist cuff
- Plastic dots on inner side and back of index finger

Part No.	Size	Qty.
246-5163	Large	Bulk - 12 Pair

Gloves, Fleece-Lined Dotted Jersey

Warranty: Caterpillar® Six Months



CE marked, EN388: 0221, AS/NZS2161.2

- Black
- Cotton Jersey
- Fleece Lined
- PVC Dotted Palm and Fingers
- Gunn Cut with Continuous Thumb
- Open Cuff

Part No.	Size
377-5747	Large

Gloves, Fleece-Lined Dotted Jersey

Warranty: Caterpillar® Six Months



CE marked, EN388: 1111, AS/NZS2161.2

- Black
- Cotton Jersey
- Micro-Dotted Palm and Fingers
- Gunn Cut with Continuous Thumb
- Knit Wrist

Part No.	Size
377-5748	Medium
377-5749	Large

Gloves, Jersey

Warranty: Caterpillar® Six Months



CE marked, EN388

- For general purpose use
- Soft knit fabric
- Stretch to provide excellent fit

Part No.	Size	Qty.
246-5165	Large	12 Pair with Hang Tags
385-5557	Large	Bulk - 144 Pairs

Gloves, Fleeced

Warranty: Caterpillar® Six Months



- For outside work
- Knit wrist cuff
- Double layer of fabric
- Added warmth

Part No.	Size	Qty.
246-5167	Large	Bulk - 12 Pairs

Gloves, Leather Welding

Warranty: Caterpillar® Six Months



- One piece back fully welted
- Color: Gold

Part No.	Size	Qty.
247-4447	Large	Single Pair

Gloves, Chemical-resistant Nitrile

Warranty: Caterpillar® Six Months



- When using gloves as Personal Protection Equipment (PPE), always consult the Material
- Safety Data Sheet (MSDS) for the chemical that is being handled for the most appropriate glove.
- Protect against cuts, abrasions, punctures, and snags
- Embossed texture improves grip
- Will not swell or weaken like rubber or neoprene in solvents and fats

Part No.	Size	Thickness	Application	Chemical Resistance	Qty.
4C-5522	L	15 mil	Chemical Handling Acids, Solvents, Caustics, Oils, Grease, Degreasing Machine operations using cut- ting oil, metal fabrication	Sodium Hydroxide, Freon, Xylene, Hydro-chlor- ic Acid, Stoddard Solvent, Potassium Hydrox- ide, Perchloroethylene, Phosphoric Acid	Bulk - 12 Pair
4C-5523	XL	22 mil	Chemical Handling Acids, Solvents, Caustics, Oils, Grease, Degreasing Better protection than 4C-5522 due to thickness.	Sodium Hydroxide, Freon, Xylene, Hydro-chlor- ic Acid, Stoddard Solvent, Potassium Hydrox- ide, Perchloroethylene, Phosphoric Acid	Bulk - 12 Pair

PERSONAL PROTECTIVE EQUIPMENT

Work Glove, Waterproof Thermal-Coated

Warranty: Cat® 1st User Warranty Against Defects in Material and Workmanship



ANSI Cut Level 2, EN388 Cut Level 3

- For jobs that require handling sharp materials in cold and wet conditions, the Magid® ROC® HV250W Waterproof Thermal-Coated Work Glove keeps hands dry and warm while also delivering ANSI level A2 cut protection.
- Insulcore™ Extreme Thermal Lining delivers ultimate protection against cold temperatures.
- Aquagard™ Waterproof Membrane is guaranteed to keep hands dry.
- NitriX® Grip Technology palm coating delivers rock-solid grip, enhanced abrasion resistance and increases wear life.
- High-visibility color enhances worker protection and compliance.
- Color-coded overcast reduces fraying and acts as a visual aid in sizing.
- Machine washable for longer service life
- ANSI Level A2 Cut Resistance under the ANSI/ISEA 105-2016 Standard, ANSI Level 4 Abrasion Resistance and ANSI Level 3 Puncture Resistance
- Rated an ANSI Cut Level 2 under the ANSI/ISEA 105-2011 Standard using the ASTM F-1790-97 test method

Part No.	Description	Size	Weight
539-8084	Magid ROC HV250W Waterproof Thermal-Coated Work Glove	9	0.12 kg (0.26 lb)
539-8095		10	
539-8096		11	

Gloves, Nitrile-coated Knit-lined

Warranty: Caterpillar® Six Months



CE Cat. 11

- For dry and light oil applications
- Resistance to cuts and abrasions
- Porous coating is soft and flexible
- Excellent grip
- When using gloves as Personal Protection Equipment (PPE), always consult the Material Safety Data Sheet for the chemical that is being handled for themost appropriate glove.

Part No.	Size	Qty.	Application	Chemical
4C-5526	Large	12 pair per package	Light to medium duty, general purpose, fabrica- tion, assembly, maintenance, shipping, and re- ceiving. Excellent grip in light oil applications.	Oil, Grease

Gloves, Neox with Neoprene Coating

Warranty: Caterpillar® Six Months



- Resistance to cuts, abrasions, and chemicals
- Interlock knit lining enhances puncture and snag resistance
- Two-piece lining eliminates irritating seams
- When using gloves as Personal Protection Equipment , always consult the Material Safety Data Sheet for the chemical that is being handled for the most appropriate glove.

Part No.	Size	Qty.	Application	Chemical Resistance
4C-5527	One size fits most	12 pair per package	Resists Heat, Cutting, Use in Plating, Galvanizing Degreasing, Petrochemicals	Acids, Solvents, (Ex.:Glycol Ether), Oils, Caustics, Soaps, Alcohols

Gloves, Neoprene-coated Knit-lined

Warranty: Caterpillar® Six Months



CE Marked, EN388:3222, EN511:121, EN374, EN374:AKL, EN407:43XXXX

- For full-arm protection when using chemicals
- Broad protection against cuts and abrasions
- Resist oils, caustics, acids, alcohol, and solvents
- Fabric lining enhances puncture and snag resistance
- When using gloves as Personal Protection Equipment, always consult the Material Safety Data Sheet for the chemical that is being handled for the most appropriate glove.

Part No.	Size	Qty.	Application	Chemical Resistance
4C-5529	One size fits most	Single Pair	Resists Heat, Cutting, Use in Plating, Galvanizing, Sandblasting Cabinet	Acids, Solvents, (Ex:Glycol Ether), Oils, Caustics, Soaps, Alcohols

Gloves, Nitrile Disposable

Warranty: Caterpillar® Six Months



- EN 374, EN 388, EN 420 & FDA 21 CFR 177.2600
- Gloves for any single-use application requiring lightweight protection from fluids, dirt and chemicals, Magid's ComfortFlex® COMPLETE BK powder-free, black disposable nitrile gloves are ideal for dirty jobs.
- Powder-free nitrile eliminates concerns of airborne contamination
- Ideal combination of thickness and dexterity Rolled cuff prevents tearing when donning gloves
- 5 ml thick
- Industrial grade
- 9.5" length
- 100 gloves per dispenser

Part No.	Size
472-0401	Medium
472-0402	Large
472-0403	Extra Large
472-0404	Extra Extra Large

PERSONAL PROTECTIVE EQUIPMENT

Gloves, Best Nitrile Disposable

Warranty: Caterpillar® Six Months



CE marked, Cat 1

- 0.10 mm thick
- Powder free
- Rolled Cuff keeps dirt out
- Low allergy risk
- Smooth finish
- Box of 100

Part No.	Qty.
381-7612	Medium
381-7613	Large
381-7614	X Large

Gloves, Disposable Powder-Free Nitrile

Warranty: Caterpillar® Six Months



CE Marked, meets EN 388:1994 and EN 374-3:1994

- Superior resistance to abrasives, chemicals, and punctures
- Contains no latex
- 5 mil thick

Part No.	Description	Size	Qty.
246-5180	Powder-Free	Large	100 per box
259-7007	Powder-Free	Medium	100 per box
259-7008	Powder-Free	Extra Large	100 per box

Gloves, Disposable Powdered Nitrile

Warranty: Caterpillar® Six Months



CE Marked, meets EN 388:1994 and EN 374-3:1994

- Superior resistance to abrasives, chemicals, and punctures
- Contains no latex
- 5 mil thick

Part No.	Description	Size	Qty.
246-5179	Powdered	Large	100 per box
259-7005	Powdered	Medium	100 per box
259-7006	Powdered	Extra Large	100 per box

Gloves, Disposable Latex

Warranty: Caterpillar® Six Months



CE Marked, meets EN 388:1994 and EN 374-3:1994

- For working with chemicals
- Extra stretch for best fit
- Excellent sensitivity touch
- Seamless construction
- Rubber latex
- 5 mil thick, 10 in long

Part No.	Size	Qty.
246-5181	Large	100 per box
260-1779	Extra Large	100 per box

Gloves, Nitrile Coated

Warranty: Caterpillar® Six Months



CE marked, EN388: 3121, AS/NZS2161.2

- Yellow
- Nitrile-coated Nylon
- Ajustable wrist strap

Part No.	Size
377-5759	Medium
377-5760	Large
377-5761	X Large

Gloves, High-Visibility Nitrile Coated String Knit

Warranty: Caterpillar® Six Months



CE marked, EN388: 2243, AS/NZS2161.2

- High-Visibility Green
- Latex-Coated String Knit
- Textured for enhanced grip
- Cold Resistant
- Adjustable Wrist Strap

Part No.	Size
377-5762	Medium
377-5763	Large
377-5764	X Large

Gloves, Nitrile Coated Bamboo

Warranty: Caterpillar® Six Months



CE marked, EN388

- Made of sustainable materials
- More comfortable and tougher than other fabrics
- Bamboo also breathes better, wicks away more moisture, and is cooler

Part No.	Size
385-5553	Large
385-5554	X Large
385-5555	XX Large

Gloves, Cut Resistant, Level 2

Warranty: Caterpillar® Six Months



CE marked, EN388

- Lycra and Kevlar glove with Nitrile coated palm
- Strong and flexible
- Knit wrist
- ANSI cut level 2 protection

Part No.	Size
381-7607	Medium
381-7608	Large
381-7609	X Large

PERSONAL PROTECTIVE EQUIPMENT

Gloves, Cut Resistant

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- 15 g orange engineered yarn liner
- Black polyurethane palm coating
- ANSI Cut Level A4, EN388 Cut Level 5
- Improved grip and abrasion resistance
- Repels liquids from palm of hand
- Reinforced thumb crotch

Part No.	Description	Size	Weight
539-3724	Cut-Resistant Gloves	Medium	0.08 kg (0.18 lb)
539-3725		Large	
539-3726		XL	

Gloves, Cut Resistant

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- Gray basetek innovative fiber technology liner
- Gray polyurethane palm coating
- ANSI Cut Level A2, EN388 Cut Level 3
- Improved grip and abrasion resistance
- Repels liquids from palm of hand

Part No.	Description	Size	Weight
539-3712	Cut-Resistant Gloves	Medium	0.12 kg (0.26 lb)
539-3713		Large	
539-3714		XL	

Gloves, Cut Resistant

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- 13 g gray basetek innovative fiber technology liner
- Gray polyurethane palm coating
- ANSI Cut Level A3, EN388 Cut Level 5
- Improved grip and abrasion resistance
- Repels liquids from palm of hand

Part No.	Description	Size	Weight
539-3715	Cut-Resistant Gloves	Medium	0.13 kg (0.29 lb)
539-3716		Large	
539-3717		XL	

Gloves, Cut Resistant

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- 13 g green basetek innovative fiber technology liner
- Black polyurethane palm coating
- ANSI Cut Level A4, EN388 Cut Level 5
- Improved grip and abrasion resistance
- Repels liquids from palm of hand

Part No.	Description	Size	Weight
539-3718	Cut-Resistant Gloves	Medium	0.17 kg (0.37 lb)
539-3719		Large	
539-3720		XL	

Gloves, Cut Resistant, Level 4

Warranty: Caterpillar® Six Months



CE EN 388, EN 407

- Made of high performance polyethylene (HPPE), nylong and Spandex with a polyurethane coated palm
- Better gripping than nitrile coated gloves
- Strong and flexible
- Comfortable with excellent feel
- Breathable
- Knit wrist
- ANSI cut level 4 protection
- ANSI abrasion level 5 protection

Part No.	Description
381-7611	Cut Resistant Gloves - Level 4

Gloves, Cut Resistant

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- 13 g blue engineered yarn liner
- Black polyurethane palm coating
- ANSI Cut Level A3, EN388 Cut Level 5
- Improved grip and abrasion resistance
- Repels liquids from palm of hand
- Reinforced thumb crotch

Part No.	Description	Size	Weight
539-3721	Cut-Resistant Gloves	Medium	0.13 kg (0.29 lb)
539-3722		Large	
539-3723		XL	

Gloves, Nylon with Nitrile Coating

Warranty: Caterpillar® Six Months



- For maintenance/assembly and shipping/receiving
- Excellent cut and abrasion resistances
- Good alternative to heavy cotton-coated gloves

Part No.	Size	Qty.
247-6412	Large	12 Pair with Hang Tags
247-6413	Extra-Large	12 Pair with Hang Tags

PERSONAL PROTECTIVE EQUIPMENT

Gloves, General Purpose

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- Great value, general purpose glove
- 15 g, gray nylon liner
- Black hybrid coating technology microfoam nitrile coating
- "All in one": Fit, Feel, Flexibility, Breathability, Durability, Excellent Wet Grip

Part No.	Description	Size	Weight
539-3706	General Purpose Gloves	Medium	0.11 kg (0.23 lb)
539-3707		Large	
539-3708		XL	

Gloves, General Purpose

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- Great value, general purpose glove
- 15 g, gray nylon liner
- ¾ nitrile coating provides full-finger coverage
- Black hybrid coating technology microfoam nitrile coating
- "All in one": Fit, Feel, Flexibility, Breathability, Durability, Excellent Wet Grip

Part No.	Description	Size	Weight
539-3709	General Purpose Gloves	Medium	0.16 kg (0.34 lb)
539-3710		Large	
539-3711		XL	

Gloves, General Purpose

Warranty: Caterpillar® defects in material and workmanship to first user



ANSI, CE

- 13 g black nylon liner
- Black polyurethane palm coating
- For general assembly or inspection purposes

Part No.	Description	Size	Weight
539-4696	General Purpose Gloves	Medium	0.06 kg (0.13 lb)
539-4697		Large	
539-4698		XL	

Palm-Coated Work Glove

Warranty: Caterpillar® Six Months



ANSI and EN/CE Marked

- EN388 cut level 5, ANSI cut level 5, ANSI abrasion resistance level 6, ANSI puncture resistance level 4
- The D-ROC® GPD800 offers superior comfort, dexterity and grip with the maximum level of cut protection around the entire glove.
- Polyurethane palm coating maintains dexterity while delivering excellent grip.
- 13-gauge machine HPPE-blended shell delivers a ground-breaking combination of ultra-lightweight comfort and maximum cut protection.
- Touchscreen-compatible.
- Grey color hides dirt and grime extending wear.
- Sold in packages of 12

Part No.	Size	Weight	Description
495-5913	9 Medium	0.79 kg per pair	Palm-Coated Work Glove
495-5914	10 Large	0.79 kg per pair	Palm-Coated Work Glove
495-5915	11 XL	0.79 kg per pair	Palm-Coated Work Glove

Coveralls, Tyvek

Warranty: Caterpillar® Six Months



- White coveralls with zipper front
- For general maintenance work, fiberglass handling, spray painting, and sand blasting
- Offers splash protection against many liquids
- Lightweight and soft
- Strong, whether wet or dry
- Resistant to abrasion, tears, and punctures
- 100% Polyethylene construction
- Blocks out 99.9% of all dry particulate down to 0.5 microns

Part No.	Size	Qty.
267-8539	Large	25
267-8540	Medium	25
267-8541	Small	25
267-8542	X Large	25
267-8543	XX Large	25
267-8544	XXX Large	25
267-8545	XXXX Large	25

Rain Jackets and Pants

Warranty: Manufacturer's



- 0.35 mm (.014 in) PVC exterior laminated to polyester interior [PVC is a synthetic thermoplastic elastomer (TPE) which provides excellent ozone and weather resistance.]
- Double-lapped heat-welded construction
- Non-conductive hardware
- Meets California Proposition 65
- Corduroy collar
- Raglan sleeves for maximum mobility (a raglan sleeve is attached to a garment body at a 45 degree angle helping it to stretch from neckline to underarm)
- Take-up snaps at cuff
- Back yoke ventilation

Rain Jacket

- Yellow rain jacket with a detachable hood and two patch pockets
- Full snap front
- Inner storm fly prevents rain and debris from penetrating front opening

Rain Pants

- Yellow rain pants with fly front overall and pockets with flaps
- Fabric/elastic suspender and elastic waist band
- Take-up snaps at ankle

Part No.	Chest Size	Waist Size	Size
Rain Jacket			
311-2983	Medium, 101.6-106.68 cm (40-42 in)	–	–
311-2984	Large, 111.76-116.84 cm (44-46 in)	–	–
311-2985	XLarge, 121.92-127 cm (48-50 in)	–	–
Rain Pants			
311-2986	–	Medium, 91.44-96.52 cm (36-38 in)	–
311-2987	–	Large, 101.6-106.68 cm (40-42 in)	–
311-2988	–	XLarge, 111.76-116.84 cm (44-46 in)	–
2 Pc Suits			
311-2979	–	–	Medium
311-2980	–	–	Large
311-2981	–	–	XLarge

PERSONAL PROTECTIVE EQUIPMENT

Highway Warning Kit, Triangular

Warranty: Caterpillar® Six Months



- Three reflective triangles in a sturdy plastic case
- Compact, fold-flat design
- Durable spring steel base
- Complies with Federal Motor Vehicle Safety Standard Number 1
- Great for day or night visibility

Part No.	Description	Case Dimensions (L x W x H)	Size	Qty.
262-4862	Triangular Warning Kit	45.7 x 13 x 13 cm (18 x 5 x 5 in)	43 cm (17 in)	3 per case

Safety Vests

Warranty: Caterpillar® Six Months



262-9301 Lime Green Mesh Safety Vest

- Non-reflective, lime green color
- Front hook and loop closure with black cloth binding
- One size fits all
- Material: 100% polyester mesh

262-9176 Orange Mesh Safety Vest

- Non-reflective, dayglow orange color
- Front hook and loop closure
- Elastic side straps
- One size fits all
- Material: 100% polyester mesh

Part No.	Description	Color	Material
262-9176	Safety Vest	Orange	Polyester Mesh
262-9301	Safety Vest	Lime Green	Polyester Mesh

Safety Vest, Cat® 5-Point Breakaway

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.



Meets CSA Z96

- 3.2 oz. (110 gsm), 100% polyester mesh
- 3M Scotchlite Reflective stripes
- Crossover placket with hook-and-loop closure on front shoulders, front placket, and at sides
- Two transparent badge pockets with hook-and-loop closures on left chest and lower right

Part No.	Color	Size
461-0914	Hi-Vis Yellow	M/L
461-0915	Hi-Vis Yellow	XL/2XL
461-0916	Hi-Vis Orange	M/L
461-0917	Hi-Vis Orange	XL/2XL

Safety Vest, Cat® 5-Point Breakaway

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.



Meets ANSI 107 Class 2, ISO EN 20471, AS/NZS 4602

- 3.2 oz. (110 gsm), 100% polyester mesh
- 3M Scotchlite Reflective stripes
- Crossover placket with hook-and-loop closure on front shoulders, front placket, and at sides
- Two transparent badge pockets with hook-and-loop closures on left chest and lower right

Part No.	Color	Size
461-0918	Hi-Vis Yellow	M/L
461-0919	Hi-Vis Yellow	XL/2XL
461-0920	Hi-Vis Orange	M/L
461-0921	Hi-Vis Orange	XL/2XL

PERSONAL PROTECTIVE EQUIPMENT

Safety Vest, Cat® Branded

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.





Meets CSA Z96

- 3.5 oz. (120 gsm), 100% polyester tricot
- 3M Scotchlite Reflective stripes
- Crossover placket with hook-and-loop closure

Part No.	Color	Size
461-0922	Hi-Vis Yellow	M/L
461-0923	Hi-Vis Yellow	XL/2XL
461-0924	Hi-Vis Orange	M/L
461-0925	Hi-Vis Orange	XL/2XL

Safety Vest, Cat® Branded

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.





Meets ANSI 107 Class 2, ISO EN 20471, AS/NZS 4602

- 3.5 oz. (120 gsm), 100% polyester tricot
- 3M Scotchlite Reflective stripes
- Crossover placket with hook-and-loop closure

Part No.	Color	Size
461-0926	Hi-Vis Yellow	M/L
461-0927	Hi-Vis Yellow	XL/2XL
461-0928	Hi-Vis Orange	M/L
461-0929	Hi-Vis Orange	XL/2XL

T-Shirt, Cat® Branded Hi-Vis Short Sleeved

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.



Meets CSA Z96

- 3M Scotchlite Reflective stripes
- Moisture wicking, 6 oz. (200 gsm), 100% polyester jersey

Part No.	Color	Size
461-0930	Hi-Vis Yellow	M
461-0931	Hi-Vis Yellow	L
461-0932	Hi-Vis Yellow	XL
461-0933	Hi-Vis Yellow	2XL
461-0934	Hi-Vis Orange	M
461-0935	Hi-Vis Orange	L
461-0936	Hi-Vis Orange	XL
461-0937	Hi-Vis Orange	2XL

T-Shirt, Cat® Branded Hi-Vis Short Sleeved

Warranty: Manufacturer's One Year Workmanship. Contact JM Industrial supply at 309-346-5796 or wendy@jmindsupply.com.



Meets ANSI 107 Class 2, ISO EN 20471, AS/NZS 4602

- 3M Scotchlite Reflective stripes
- Moisture wicking, 6 oz. (200 gsm), 100% polyester jersey

Part No.	Color	Size
461-0938	Hi-Vis Yellow	M
461-0939	Hi-Vis Yellow	L
461-0940	Hi-Vis Yellow	XL
461-0941	Hi-Vis Yellow	2XL
461-0942	Hi-Vis Orange	M
461-0943	Hi-Vis Orange	L
461-0944	Hi-Vis Orange	XL
461-0945	Hi-Vis Orange	2XL

PERSONAL PROTECTIVE EQUIPMENT

Safety Glasses, Cat® Branded, Tread

Warranty: Manufacturer's One Year



ANSI Z87.1:2003, AS/NZS 1337:1992, CE marked, EN 166:2001, CSA Z94.3:2007

- Lightweight and stylish
- Soft, vented nose piece
- Cushioned temple arms
- Three position adjustable temples with a snap-lock positioning
- Wrap lens
- Lenses and temples flex for a comfortable fit
- Full frames with vented top and bottom
- Crystal clear polycarbonate lenses
- Anti-scratch/anti-fog coating
- Weight - 1 oz (29 g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
396-2013	Clear	10
396-2014	Smoke	10
396-2015	Blue Mirror	10

Safety Glasses, Cat® Branded, Dozer

Warranty: Manufacturer's One Year



ANSI Z87.1:2003, AS/NZS 1337:1992, CE marked, EN 166:2001, CSA Z94.3:2007

- Lightweight and stylish
- Rubber grip nose piece
- Four position adjustable temples with a snap-lock positioning
- Sides extendable by 0.5 in (12 mm)
- Lenses and temples flex for a comfortable fit
- 180 degree high wrap around style lens
- Crystal clear polycarbonate lenses
- Anti-scratch/anti-fog coating
- Weight - 0.84 oz (24 g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
396-2010	Clear	10
396-2011	Smoke	10
396-2012	Blue Mirror	10

Safety Glasses, Cat® Branded, Shield

Warranty: Manufacturer's One Year



ANSI Z87.1:2003, AS/NZS 1337:1992, CE marked, EN 166:2001, CSA Z94.3:2007

- Lightweight
- Lenses and temples flex for a comfortable fit
- 180 degree high wrap around style lens
- Crystal clear polycarbonate lenses
- Anti-scratch/anti-fog coating
- Weight - 0.811 oz (23 g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
396-2005	Clear	10
396-2006	Smoke	10

Safety Glasses, Cat® Branded, Grit

Warranty: Manufacturer's One Year



ANSI Z87.1:2010, AS/NZS 1337:1, CE marked, CSA Z94.3:2007, EN 166:2011

- Super lightweight, fashion sunglasses styling
- Nylon frames with injected rubber temples and nose pad
- 180-degree high wrap around style lens
- Crystal clear polycarbonate lenses
- High wrap molded lenses for optimal protection
- Anti-scratch/anti-fog coating
- Weight – 1.05 oz (30g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
435-4061	Smoke	10

Safety Glasses, Cat® Branded, Guard

Warranty: Manufacturer's One Year



ANSI Z87.1:2010, AS/NZS 1337:1, CE marked, CSA Z94.3 :2007, EN 166:2011

- Ultra-lightweight metal frames with spring hinges
- Rubber nose pad and temple tips
- 180-degree high wrap around style lens
- 100% optical lens clarity
- Anti-scratch/anti-fog coating
- Weight – 1.37 oz (39g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
460-3236	Clear	10
460-3237	Smoke	10

Safety Glasses, Cat® Branded, Torque

Warranty: Manufacturer's One Year



ANSI Z87.1:2010, AS/NZS 1337:1, CE marked, CSA Z94.3.2007, EN 166:2011

- Foam-lined safety glasses for dust proof fit
- Light and durable nylon chassis with indirect ventilation
- Detachable temples for use with the included strap
- 180-degree high wrap around style lens
- Crystal clear polycarbonate lenses
- Anti-scratch/anti-fog coating
- Weight – 1.79 oz (49g)
- Retail Box and Packaging
- Cat® branded

Part No.	Lens Type	Package Quantity
460-3238	Clear	10

Safety Glasses, Wraparound

Warranty: Caterpillar® Six Months



Meets or exceeds all ANSI, CSA, and CE specifications

- Visitor disposable safety glasses
- Can be worn over prescription glasses
- 99.9% UVA and UVB protection

Part No.	Lens Type	Package Quantity
239-1085	Clear	1

PERSONAL PROTECTIVE EQUIPMENT

Safety Glasses, Overspec

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1337.1:2010 SAI Lic: SMKH25509

- Keep visitors safe with these frontier clear lens overspec safety glasses
- Available in Australia/New Zealand region
- Effective and comfortable when worn over prescription glasses or alone
- 99% UV-resistant
- Anti-scratch and anti-fog lens

Part No.	Description	Dimensions (L x W x H)	Weight
536-3573	Overspec Safety Glasses	150 x 50 x 50 mm (2.9 x 2 x 2 in)	0.03 kg (0.08 lb)

Safety Glasses

Warranty: Caterpillar® Six Months



Meets or exceeds all ANSI and CUL specifications

- 5-position ratchet and 4-position telescoping temples
- Soft non-slip rubber nosepiece
- Anti-scratch hard-coated lenses
- 99.9% UVA and UVB protection
- Ventilation between lens and frame

Part No.	Lens Type	Package Quantity
249-7265	Clear (packaged for industrial;)	12

Safety Glasses

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1 + standards and protects against 99% harmful UV rays

- 9.75 base lens provide excellent optics and protection
- Gel nosepiece allows for all day comfort
- 4 - position telescoping temples for superior fit
- All lens are hard coated for scratch resistance

Part No.	Lens Tint	Package Quantity
	Industrial Packaging	
307-3013	Clear	12 per package
307-3014	Smoke	12 per package
307-3015	Indoor/Outdoor Use	12 per package

Safety Glasses

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1 + standards and protects against 99% harmful UV rays

- Polarized lens provides superior glare control
- 5 position ratchet plus 4-position telescoping temples for superior fit
- Ventilation channel between lens and frame helps reduce fogging

Part No.	Lens Tint	Package Quantity
309-4932	Polarized (Industrial Packaging)	12 per package

Safety Glasses

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1+ and CUL standards and protects against 99% of harmful UV Rays

- Rubber tipped temples for comfortable fit
- Soft rubber nosepiece
- Tough polycarbonate lens provides superior protection

Part No.	Lens Tint	Package Quantity
307-3017	Clear (Industrial Packaging)	12 per package

PERSONAL PROTECTIVE EQUIPMENT

Safety Glasses

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1 + standards and protects against 99% harmful UV rays

- Sleek, sporty style frame
- Soft, rubber temples provide superior comfort
- Rubber nosepiece allows for all day comfort
- Comes standard with neck cord

Part No.	Packaging	Lens Type
308-6384	Clamshell (packaged for retail)	Clear

Safety Glasses, Bi Focal

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1 + standards and protects against 99% harmful UV rays

- Bi Focal Safety Glass
- Magnification diopter molded into lens
- Soft, rubber nosepiece
- Cushioned, non-slip rubber temple pads

Part No.	Package Quantity	Lens Type
	Industrial Packaging	
308-6391	12 Per Package	Clear 1.0
308-6393	12 Per Package	Clear 1.5
309-2454	12 Per Package	Clear 2.0
309-2456	12 Per Package	Clear 2.5
309-2458	12 Per Package	Clear 3.0
	Retail Packaging (Clamshell)	
309-2455	Clamshell	Clear 2.0

Safety Glasses

Warranty: Caterpillar® Six Months



Meets ANSI Z87.1 + standards and protects against 99% harmful UV rays

- Sleek, sporty, lightweight wraparound frame
- Gel nosepiece allows for all day comfort
- High gloss painted frame
- Comes standard with neck cord
- Cushioned, non-slip rubber temple pads

Part No.	Packaging	Lens Type
307-3025	12 Per Package (industrial packaging)	Smoke

Safety Goggles

Warranty: Caterpillar® Six Months



- Provides excellent ventilation and indirect protection
- Fits over most prescription eyewear
- Clear optical-grade polycarbonate lens
- Adjustable headband
- Meets or exceeds all ANSI specifications

Part No.	Description	Package Quantity
233-8584	Safety Goggles	One Pair

Goggles, Welding

Warranty: Caterpillar® Six Months



- Features a shade 10 lens but in a larger size - 114 x 133 mm (4 1/2 x 5 1/4 in)
- Has ratcheting head gear
- Made of sturdy nylon material

Part No.	Lens Type
1U-8103	Welding Goggles

Goggles, Welding with Lift Front Lens

Warranty: Caterpillar® Six Months



- Feature the shade 5 lens with a hinged front-lift door

Part No.	Lens Type
1U-8104	Welding Goggles with Lift Front Lens

Safety Goggles, Vented

Warranty: Caterpillar® Six Months



CE Marked, ANSI 287.1, CUL, EN166

- Perforated goggle with excellent ventilation and protection
- Fits over most prescription eyewear
- Clear optical-grade polycarbonate lens
- Adjustable headband

Part No.	Description	Package Quantity
233-8583	Vented Safety Goggles	One Pair

Safety Glasses Lanyard

Warranty: Caterpillar® Six Months



CE Marked, ANSI 287.1, CUL, EN166

- Universal lanyard to help you keep track of your safety glasses when moving into and out of the shop.
- Rubber tips slip right onto your safety glasses
- Cat® branded slider adjusts to help keep your glasses snug

Part No.	Description
435-4062	Cat® Lanyard

PERSONAL PROTECTIVE EQUIPMENT

Wipers, All-purpose

Warranty: Caterpillar® Six Months



- Cleaning tissues for safety glasses
- Pop-up style box

Part No.	Description	Qty.	Size
263-0867	All-purpose Wipers	300 tissues per box, 60 boxes per case	127 x 203 mm (5 x 8 in)

Headgear, Heavy-Duty

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Headgear has precision ratchet head size adjustment for a comfortable snug fit
- Floating window suspension distributes weight and reduces shock of impact
- Five position pinlock crown band provides additional adjustment for proper support and a firm fit
- Crown protector made of a new high-performance thermoplastic offers excellent impact resistance over a wide range of temperatures
- Soft vinyl headband to cushion the forehead
- Packaged individually. Headgear and windows must be ordered separately.

4C-8096 and 4C-8097 Features

- 229 mm x 368 mm x 2.0 mm (9 in x 14 1/2 in x 0.080 in) thickness
- Good heat resistance
- Polycarbonate for heavy-duty impact protection against flying particles
- Provide excellent general face and eye protection
- Windows can be replaced in seconds
- Windows mount inside crown protector for greater splash protection
- Spring loaded pivot assemblies maintain proper friction and prevent annoying window drop
- Blue color and matte finish resist smudges and show less daily grime
- Packaged in quantities of 10

4C-8095: Heavy Duty Headgear

Accessories

- 4C-8096: Window, Clear Polycarbonate
- 4C-8097: Window, Dark Green for Glare Reduction

Face Shield

Warranty: Caterpillar® Six Months



- Clear 203 mm x 305 mm x 1 mm (8 in x 12 in x .040 in) window
- Comfortable and durable
- Provide excellent general face and eye protection

Part No.	Description
1U-8095	Face Shield
Replacement Windows for 1U-8095 Face Shield (Also fit Glendale 5000, Huntsman K, K3, K4 and K10, Norton 6300 and Jackson J-10 face shields)	
1U-8096	Clear replacement window
4C-4404	Green replacement window

Ear Plugs, Disposable

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Tapered disposable plug for excellent fit
- Light comfortable foam
- Smooth surface to repel dirt
- Excellent protection at NRR29

Part No.	Package Quantity
239-1090	1

Ear Plugs

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1270:2002

- Box of 200 pairs of uncorded ear plugs
- Available in Australia/New Zealand region
- Class 5, SLC80 29db
- NRR 32
- Soft PU foam for comfort
- Hi-vis color to identify wearer compliance
- Individually packaged pairs
- Complies with AS/NZS 1270:2002

Part No.	Description	Dimensions (L x W x H)	Weight
536-3576	Ear Plugs	185 x 100 x 210 mm (7.3 x 3.9 x 8.3 in)	0.04 kg (0.09 lb)

PERSONAL PROTECTIVE EQUIPMENT

Ear Plugs, Corded

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1270:2002

- Box of 100 pairs of corded ear plugs
- Available in Australia/New Zealand region
- Class 5, SLC80 29db
- NRR 32
- Soft PU foam for comfort
- Hi-vis color to identify wearer compliance
- Individually packaged pairs
- Complies with AS/NZS 1270:2002

Part No.	Description	Dimensions (L x W x H)	Weight
536-3577	Corded Ear Plugs	185 x 100 x 210 mm (7.2 x 3.9 x 8.3 in)	0.05 kg (0.1 lb)

Ear Plugs, Disposable Foam

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Bell-shaped polyurethane foam for maximum comfort
- Smooth soil-resistant skin
- Noise reduction rating: 33dB
- NRR33, Canada Class A(L), SNR 37, SLL{80}26, Class 5, CA 14.114, EN352
- Color: neon

Part No.	Description	Qty.
260-4783	Uncorded Disposable Plugs	10 pc
260-4785	Corded Disposable Plugs	25 pc

Ear Muffs

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1270:2002

- Quality Frontier Egard Tradie Ear Muff offer trade quality hearing protection for general purpose use.
- Available in Australia/New Zealand region
- Class 4/SLC80 25 db
- Padded headband for comfort
- 3 position headband for top of head, behind head or under chin use
- Can be used with hard hat, respirator or visor
- Simple, adjustable cup positioning
- Complies with AS/NZS 1270:2002

Part No.	Description	Dimensions (L x W x H)	Weight
536-3574	Ear Muffs	180 x 90 x 180 mm (7.1 x 3.5 x 7.1 in)	0.25 kg (0.6 lb)

Ear Muffs

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1270:2002

- Quality FrontierEgardPro5 Ear Muff 30dB offers high quality robust hearing protection.
- Available in Australia/New Zealand region
- Class 5 / SLC80 30db
- Hi Vis color for increased visibility
- High quality robust hearing protection for high noise use
- Padded headband for comfort
- Stainless steel wire headband construction for durability
- Complies with AS/NZS 1270:2002

Part No.	Description	Dimensions (L x W x H)	Weight
536-3575	Ear Muffs	180 x 90 x 180 mm (7.1 x 3.5 x 7.1 in)	0.25 kg (0.6 lb)

PERSONAL PROTECTIVE EQUIPMENT

Ear Muffs, Silencer

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Comfortable adjustable padded headband
- Soft foam padded ear cups—comfortable when wearing with glasses
- Rugged and lightweight
- Dielectric
- Excellent protection at NRR26

Part No.	Description
233-8587	Silencer Ear Muffs

Ear Muffs, Multipositional

Warranty: Caterpillar® One Year



- Foam filled ear cushions with a soft breathable surface
- Adjustable steel headband
- NRP 26
- Meets ANSI S3.19 - 1974 Standard

Part No.	Package Qty.	Description
543-2135	1	Multipositional Ear Muffs

Ear Muffs

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Hard hat-mounted ear muffs feature large, lightweight ear cups that attach to a variety of hard hats for convenience
- Recommended for moderately high noise situations (up to 95 dBA TWA)
- Noise reduction rating: 23 dB

Part No.	Package Qty.	Description
4C-6581	2 Pair	Ear Muffs

Hard Hat, Cat® Ratcheting

Warranty: Caterpillar® Six Months





Meets CE0086 EN397:2012+A1:2012 and ANSI Z89.1 - 2014

- Impact-absorbent, polypropylene shell
- Ratcheting adjustable suspension assures a snug fit.
- Adjustable/removable chin strap

Part No.	Description	Color	Size	Weight
517-1312	Cat® Ratcheting Hard Hat	White	One size fits all	0.5 kg (1.1 lb)
517-1313	Cat® Ratcheting Hard Hat	Yellow	One size fits all	0.5 kg (1.1 lb)

Hard Hats

Warranty: Caterpillar® Six Months



- High-density polyethylene
- Self-sizing, four-point suspension with brow pad
- Rain trough brim provides extra protection against snow, rain, dust, and dirt
- Attachment points for accessories like: earmuffs, face shields, flashlights, etc.
- Meets or exceeds ANSI/ISEA Z89.1-2009, Type 1, Class E and G, CSA Z94.1-2005, Type 1, Class E and G, EN 397

Part No.	Description
437-1415	Yellow Hard Hat
437-1416	White Hard Hat

Hard Hats, Cat® Branded

Warranty: Caterpillar® Six Months, First User Against Defects in Material & Workmanship





ANSI & CE Certified

- Impact absorbent polypropylene shell
- Ratcheting adjustable suspension assures a snug fit
- Adjustable/removable chin strap

Part No.	Description
539-2765	Cat® Hard Hat, White
539-2766	Cat® Hard Hat, Yellow

PERSONAL PROTECTIVE EQUIPMENT

Hard Hat Winter Liner

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Wear with 239-4964, 239-4965, 239-4966, and 239-4967 Hard Hats
- Dark blue cotton twill with fleece lining
- Comes with a hook and loop chin strap fastener
- Will work with other similar hard hats

Part No.	Description
1U-8091	Hard Hat Winter Liner

Helmet, Welding

Warranty: Caterpillar® Six Months



- 51 x 108 mm (2 x 4 1/4 in), "shade 10" lens
- Nylon material is lightweight and durable
- Ratcheting headgear adjusts to fit any head size

Part No.	Description
1U-8097	Welding Helmet

Helmet, Welding

Warranty: Caterpillar® Six Months



- Features a shade 10 lens but in a larger size - 114 x 133 mm (4 1/2 x 5 1/4 in)
- Has ratcheting head gear
- Made of sturdy nylon material

Part No.	Lens Type	Lens Use For:
1U-8100	Welding Helmet	–
	Replacement Lens for 1U-8097 and 1U-8100 Welding Helmets	
1U-8099	Plastic Cover Plates (Two needed, one inside and one outside of your tinted glass lens)	1U-8097
1U-8101	Shade 10 Tinted Glass (Shade 10 lens used for welding with manual weld electrodes)	1U-8100
1U-8209	Shade 10 Tinted Glass (Shade 10 lens used for welding with manual weld electrodes)	1U-8097

Helmets, Cat® Welding

Warranty: Manufacturer's Three Years

For warranties, contact helmet@millerwelds.com



487-6612

ANSI Z87.1+, CSA Z94.3, CE, AS. /NZS

- Exclusive Cat® graphics
- Aluminum heat shield for enhanced protection

487-6612 Miller Elite Series-Cat® - 1st Edition

- Large digital controls allow user to easily adjust mode and settings
- Four operating modes: weld, cut, grind and X-Mode provide ultimate versatility.
- X-Mode electromagnetically senses the weld to eliminate sunlight interference, continuously detecting the arc even when sensors are blocked.
- Redesigned headgear features additional adjustability settings and enhanced support for better fit and comfort.
- Aluminum heat shield protects lens in high amperage applications.
- 9.22 sq. in. viewing area

Part No.	Description	Dimensions	Weight
487-6612	Cat® Welding Helmet	311 x 260 x 254 mm (12.25 x 10.25 x 10 in)	1.37 kg (3.02 lb)

Protective Shell Insert for Baseball Cap

Warranty: Cat® 1st User Warranty Against Defects in Material and Workmanship



- Turns any baseball cap into a piece of protective headgear offering a mild form of head protection
- One size fits all

Part No.	Description	Dimensions	Weight
539-8085	Protective Shell Insert for Baseball Cap	196 x 152 x 102 mm (7.7 x 6 x 4 in)	0.06 kg (0.13 lb)

Bump Caps, Cat® Branded

Warranty: Caterpillar® Six Months, First User Against Defects in Material & Workmanship





European Union Compliant, CE marked

- High-density polyethylene shell
- Adjustable suspension and chin strap for a secure fit
- Side ventilation holes for added comfort in high temperatures

Part No.	Description
539-2767	Cat® Bump Cap, Yellow
539-2768	Cat® Bump Cap, White

Hard Hat

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1801:1997

- White Frontier Tuffgard Hard Hat
- Available in Australia/New Zealand region
- AS/NZS 1801:1997 certified
- Industrial Strength
- Lightweight
- Non Vented 6 Point Web Suspension

Part No.	Description	Dimensions (L x W x H)	Weight
536-3582	Hard Hat	280 x 220 x 190 mm (11 x 8.7 x 7.5 in)	0.4 kg (0.9 lb)

PERSONAL PROTECTIVE EQUIPMENT

Blanket, Welding

Warranty: Caterpillar® Six Months



- Made of a fiberglass textile material
- Light gold neoprene coating on one side to reduce fraying
- Hemmed and seamed with Kevlar thread
- Retains heat
- Protects welding area

Part No.	Description	Dimensions
4C-9616	Blanket	183 cm x 183 cm (6 ft x 6 ft)
4C-9617	Blanket	183 cm x 244 cm (6 ft x 8 ft)
4C-9618	Blanket	183 cm x 305 cm (6 ft x 10 ft)

Respirator, Particulate

Warranty: Caterpillar® Six Months



- Replaces 4C-8761 Dust/Mist Respirator
- 193-0766 and 193-0071 meet NOISH 42 CFR 84 N95 requirements. TC-84A2668 and TC-84A2669
- Three-panel respirator with innovative design allows better visibility and conforms to a wide range of face sizes
- Soft cover web on inner panel is comfortable against face and helps provide a custom fit and secure seal
- Individually packaged to help prevent contamination
- 193-0071 features the Cool Flow™ exhalation valve for easy exhalation and cool dry comfort
- Suggested applications: grinding, sanding, sweeping, bagging, general maintenance, dusty operations and operations involving liquid or non-oil based particle from sprays that do not emit harmful vapors

Part No.	Description	Qty.
193-0071	Particulate Respirator	10 respirators per box

Respirator, Welding

Warranty: Caterpillar® Six Months



- Meets NOISH 42 CFR 84 N95 requirements. TC-84A0454
- Cool flow exhalation valve promotes worker comfort by offering easy exhalation for cooler, dry comfort
- Contours easily to provide a comfortable, good seal
- Economical all-filter design with no spare parts to clean
- Suggested applications: welding, brazing, soldering, torch cutting, metal pouring, grinding, sanding, sweeping, bagging, general maintenance and operations involving liquid or non-oil based particle from sprays that do not emit harmful vapors

Part No.	Description	Qty.
237-5181	Welding Respirator	10 respirators per box

Mask, Reusable Polyester Dust

Warranty: Caterpillar® Six Months



- Adjustable metal nose bridge, single strap, and contour-fit design to ensure best coverage
- Lightweight and disposable
- Non-irritating to the skin
- Not NIOSH approved
- Material: polyester

Part No.	Description	Qty.
262-4866	Reusable Polyester Dust Mask	50 masks per box

Dust Mask

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1270:2002

- Box of 50 DM1, high filtration, polyester nuisance particle masks
- Available in Australia/New Zealand region
- Industrial Quality
- Lightweight
- Clear vision
- Maintenance free
- Elastic headband
- Adjustable nose bridge and single strap allows snug fit to most faces
- For non-toxic nuisance dusts

Part No.	Description	Dimensions (L x W x H)	Weight
536-3580	Dust Mask	120 x 120 x 150 mm (4.7 x 4.7 x 5.9 in)	0.03 kg (0.07 lb)

Dust Mask

Warranty: Caterpillar® defects in material and workmanship to first user



AS/NZS 1716:2012

- Box of 10 disposable, P2, 1/2 mask respirators with fast flow valve
- Available in Australia/New Zealand region
- P2 Valved Respirator
- AS/NZS 1716:2012 Certified
- Fast Flow Valve for easy breathing
- Industrial quality grade materials
- Lightweight, disposable, single use
- Twin elastic headbands for comfort
- Full face seal
- Adjustable nose bridge allows snug fit to most faces

Part No.	Description	Dimensions (L x W x H)	Weight
536-3581	Dust Mask	140 x 140 x 160 mm (5.5 x 5.5 x 6.3 in)	0.02 kg (0.04 lb)

PERSONAL PROTECTIVE EQUIPMENT

First Aid Kit, Personal

Warranty: Caterpillar® Six Months



- Small, portable kit for service trucks, tool boxes, or for personal use in family home, car, camper, or boat
- Soft shell case made of water resistant nylon
- Uses "Book Style" construction with zippered internal compartments (makes it easy to access items)

Part No.	Description
150-1578	Personal First Aid Kit

150-1578 consists of:		
Description	Size	Quantity
Water resistant nylon container	190.5 x 38.1 x 107.95 mm (7.5 x 1.5 x 4.25 in)	1
Scissors	102 mm (4.0 in)	1
Tweezers	76.2 mm (3 in)	1
First aid booklet		1
Bandaids	19.05 x 76.2 mm (.75 x 3 in)	20
Alcohol swabs		6
Wet wipes		4
Antiseptic swabs		12
Adhesive tape	2.3 m x 12.7 mm (2.5 yd x .5 in)	1
Sterile gauze pads	50.8 x 50.8 mm (2 x 2 in)	4
Sterile gauze pads	101.6 x 101.6 mm (4 x 4 in)	2
Sterile abdominal pad	127 x 228.6 mm (5 x 9 in)	1
Sterile pressure bandage	50.8 mm (2 in)	1
Conform gauze roll	4.57 m x 50.8 mm (5 yd x 2 in)	1
Triangular bandage		1
Safety pins		6
Vinyl gloves		1 pair
Acetaminophen		1 (2 per pack)

First Aid Kit, Portable

Warranty: Caterpillar® Six Months



- Small, portable kit for service trucks, tool boxes, or for personal use in family home, car, camper, or boat
- Soft shell case made of water resistant nylon
- Uses "Book Style" construction with zippered internal compartments (makes it easy to access items)

Part No.	Description
150-1579	Portable First Aid Kit

150-1579 consists of:		
Description	Size	Quantity
Water resistant nylon container	228.6 x 76.2 x 127 mm (9 x 3 x 5 in)	1
Scissors	152.4 mm (6 in)	1
Stainless steel splinter forceps	114 mm (4.5 in)	1
First aid booklet		1
Cloth bandaids	22.2 x 76.2 mm (.87 x 3 in)	10
Finger tip bandaids		5
Knuckle bandaids		5
Alcohol swabs		24
Wet wipes		6
Antiseptic swabs		16
Adhesive tape	4.6 m x 25.4 mm (5 yd x 1 in)	1
Sterile gauze pads	50.8 x 50.8 mm (2 x 2 in)	8
Sterile gauze pads	101.6 x 101.6 mm (4 x 4 in)	2
Sterile abdominal pad	127 x 228.6 mm (5 x 9 in)	2
Sterile pressure bandage	101.6 mm (4 in)	1
Conform gauze roll	4.57 m x 50.8 mm (5 yd x 2 in)	2
Triangular bandage		1
Safety pins		6
Vinyl gloves		1 pair
Multi-purpose pad	431.8 x 609.6 mm (17 x 24 in)	1
Tensor bandage	50.8 mm (2 in)	1
Instant cold pack (in box)	1016 x 152.4 mm (4 x 6 in)	1
Emergency mylar blanket		1

PERSONAL PROTECTIVE EQUIPMENT

First Aid Kit, Worksite (25- and 50-person)

Warranty: Caterpillar® Six Months

- Kits for your safety and first aid requirements
- Comply with OSHA 1910.151 for industry, and OSHA 1926.50 for construction
- 163-0798 contains supplies for 25 people; 163-0799 contains supplies for 50 people
- Soft shell case

Part No.	Description
163-0798	Small Worksite First Aid Kit (25-Person)
163-0799	Large Worksite First Aid Kit (50-Person)

Contents	163-0798 25-person	163-0799 50-person
Adhesive Strips, 3/4 in x 3 in	50	100
Adhesive Tape Roll, 1/2 in x 5 yd	1	1
Alcohol Wipes	13	23
Ammonia Inhalants	3	3
Instant Cold Pack	1	1
Combine Pad, 5 in x 9 in	1	1
Sterile Cotton, 1/2 oz roll	1	1
Disposable Gloves	1 pr	2 pr
Eye Irrigate Solution, 1 oz bottle	1	1
Eye Pads, oval, 1.75 in x 2.5 in	2	4
Gauze Pads, 4 in	2	4
Gauze Pads, 3 in	4	8
First Aid Cream, 7/8 oz	1	2
Triangular Bandage	1	1
Gauze Bandage, 2 in x 5 yd	2	2
Gauze Bandage, 4 in x 5 yd	—	1
Elastic Bandage, 2 in	—	1
Scissors	1	1
Tweezers	1	1

First Aid Kit

Warranty: Caterpillar® Six Months



- Worksite first aid kit
- Metal Box
- Designed to meet DIN 13164

Part No.	Description
389-2195	First Aid Kit

389-2195 consists of:	
1	Certi-Tape
1	2-inch Stretch Gauze Roll
1	3-inch Stretch Gauze Roll
1	Rescue Blanket
1	Bandage Scissors
1	First Aid Fact Sheet
1	Safety Flag
3	ANSI Z308.1.2009 Triangular Bandages
4	ANSI Z308.1.2009 Nitrile Gloves
6	Certi-Gauze Pads
7	Certi-Gauze Bandage Compresses in various sizes
8	Extra Large Plastic Certi-Strips

COVERS

Cover for Engines

Warranty: Manufacturer's



- Protects engine from dirt and debris
- Can be used as drop cloth or dust cover
- Affordable and disposable
- 50 sheets per case

Part No.	Description	Dimensions
1U-7427	Engine Cover	122 x 183 cm (48 x 72 in)

Covers for Seats

Warranty: Caterpillar® Six Months



- These seat covers drape over the seats and are disposable when the job is finished
- They are produced from a specially formulated resin that has a built-in stretch to help prevent tool punctures and rips.
- These covers are made of a clear non-slip surface on both sides that helps hold it in place while providing safe usage.

Part No.	Description
274-7454	Roll of 250 seat covers
274-7455	Case of 250 seat covers

Dispenser, Wall-Mount for Seat Covers

Warranty: Caterpillar® Six Months

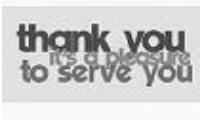


- Space saver wall dispenser mounts with ease to accommodate seat cover rolls
- This dispenser will help keep your interior protection products clean and easy to reach

Part No.	Description
274-7458	Wall-Mount Seat Cover Dispenser

Covers, Floor

Warranty: Caterpillar® Six Months



- Interior service soils are the single most frequent complaint by service customers.
- Help keep the inside clean with these floor covers that stay in place.
- These covers have a high absorption paper on top and a plastic bottom that won't soak through

Part No.	Description
274-7456	Case of 500 Floor Covers

JULY 2018 Shop Supplies 18-147

COVERS

Covers for Steering Wheels

Warranty: Caterpillar® Six Months



- The see-thru steering wheel cover protects your customer's steering wheel from oily prints.
- It is elasticized on both sides providing protection for the wheel and the customer's hands.
- Impervious to grease, these afford maximum protection for the wheel.

Part No.	Description
274-7457	Case of 500 covers

Dust Cap for 55 Gallon Drum

Warranty: Caterpillar® Six Months



- Excellent for covering open drum containers
- Ideal for most industrial, food, chemical, and pharmaceutical applications
- Low cost protection from dirt, dust, and moisture
- Prevents contamination and evaporation
- Elastic around entire opening helps keep cover in place
- Provides easy access to contents
- Fits a 208.2 L (55 gal) drum

Part No.	Diameter	Description
270-5347	863.6 mm (34 in)	100 per box

Cover for Barrels

Warranty: Caterpillar® Six Months



- Used to cover open or closed top drums — cover snaps onto top of drum
- Supports the Caterpillar contamination control efforts
- Protects drum contents from water induction when stored outside
- Keeps drum top clean and contents ready for use
- Made of long lasting, low density polyethylene — resistant to petroleum-based fluids and ultraviolet rays
- 10 covers per package

Part No.	Material Thickness	I.D.	Color
1U-6156	1.5 mm (0.06 in)	571 mm (22.48 in)	Yellow

Bags, Zipper-Top and Clear for Contamination Control

Warranty: Caterpillar® Six Months



- Exceptional strength
- Plastic slider top for easy opening and closing
- Material: linear low density polyethylene (LLDPE)

Part No.	Size	Thickness	Qty.
270-5341	203 x 178 mm (8 x 7 in)	3.0 mm	250 bags/carton
270-5342	229 x 305 mm (9 x 12 in)	3.0 mm	250 bags/carton

Fluid Sampling Extraction Tools for Pressurized Compartments

Warranty: Caterpillar® Six Months



- Valve locations provide oil sample confidence and continuity—comparative data of pressurized oil samples is more reliable because the sample is taken from a continuous flow of oil at a known location.
- A probe is provided that allows the valve to be quickly flushed prior to taking the oil sample
- The sample bottle group is packaged, and sealed in a plastic bag to insure cleanliness
- Pressurized oil sampling is a fast, economical and clean method of obtaining oil samples from pressurized systems
- Better represents oil condition because the oil is continually mixed and circulated
- 10 to 20 times faster than sampling oil from non-pressurized systems
- Mailing container is available so the oil sample can be conveniently mailed to the testing laboratory
- This bottle group is sealed in a plastic bag with sampling instructions included. The bottle group is ready to use when it is removed from the bag after the valve has been purged and the sample is ready to be taken. The bottle included in this group (169-7372) has the capacity to provide a 114 g (4 oz) sample. The 169-7372 can also be ordered by itself, 200 per case.
- After the sample is obtained, the probe and tube are removed from the bottle cap and holder, and discarded, and the cap-cover seals the bottle. Labels for identifying the sample (obtained locally) can then be attached to send the oil for identification purposes. The 4C-4600 mail tube is available to send the oil sample to the laboratory. The laboratory also provides a mailing label.

169-8373 Bottle Group (Package Qty. - 300)

- 177-9343 Probe and Cap Group (package Qty. - 500)
- The probe and cap group provides the same probe and cap that are used in the 169-8373 Bottle Group, however, without the bottle. This group is also sealed in a plastic bag with sampling instructions included. This group allows the dealer the flexibility to use other bottles such as the smaller 71 g (21/2 oz) 169-7373 bottle assembly (which must be ordered separately). (The cap requires that the bottles have a 38 M thread).

169-7373 Bottle Assembly (Package Qty. - 200)

- This smaller bottle assembly (169-7373) can be used with the 177-9343 Probe and Cap Group and reduces mailing expense by approximately one-half for dealers whose oil sample labs can provide effective full service analysis with 71 g (21/2 oz) or less of oil. These bottles can be used for engine samples since particle count is not used for engine samples. This bottle can also be used with the 1U-5718 Vacuum Pump used for non-pressurized oil sampling.

8T-9208 Probe Assembly (package Qty. - 1)

- The 8T-9208 Probe Assembly can be attached to a 6.35 mm (1/4 in) I.D. rubber hose (6K-0713 Hose - 228.6 mm (9 in) long or any desired length cut from bulk 5P-6442 hose or equivalent 100R6 type high temperature - low pressure hose).The 8T-9208 Probe and hose connected to a locally obtained waste container provide a method to purge or flush the 8C-3446, 8C-3345, or 7X-3387 sample values prior to obtaining the desired oil sample using either the 169-7373 Bottle Group or 177-9343 Probe and Cap Group with the desired bottle. Approximately 14.8 cm to 29.6 cm (1/2 to 1 ounce) of expelled fluid purges the valves.
- Pressurized systems on many Cat products are equipped with sampling values to quickly extract oil samples with the above tools. Special Instruction SEHS9043 details retrofitting some earlier models with oil sampling valves, as well as pointing out the respective valve locations on models currently factory equipped with the oil sample valves. Impervious to grease, these afford maximum protection for the wheel.

321-0659 8oz (240ml) Bottle and Cap (package Qty. - 1)

- The 321-0659 Bottle and Cap can be used with the 293-8413 Hydac Contamination Monitor and the 202-2301 Portable
- Contamination Instrumental Kit.

FLUID SAMPLING

Item	Part Number	Description	Package Quantity
1	169-8373	Bottle Group, 300 per box	300 per box
2	162-8873	Probe, Holder	–
3	177-9343	Probe and Cap Group, 500 per box	500 per box
4	4C-4600	Mailer Container — reusable Tube — 30.5 m (100 ft) rolls	–
5	1U-8757	6.35 mm OD x 30.5 m rolls (1/4 in OD x 100 ft) 5 rolls per box	5 rolls per box
6	4C-4056	7.9 mm OD x 30.5 m rolls (5/16 in OD x 100 ft) 5 rolls per box, not pictured	5 rolls per box
7	169-7373	Clear Bottle, 71 g (2.5 oz), 200 per box	200 per box
8	169-7372	Clear Bottle, 114 g (4 oz), 200 per box	200 per box
9	1U-5718	Vacuum Pump	–
10	8T-9208	Purging Probe(1)	–
11	6V-0852	Dust Cap (Blank) (not pictured)	
11	1U-7648	Tube Cutter	–
12	3J-7354	Seal - O-ring - STOR for 8C-3446 (not pictured)	
–	1U-5719	Seal Kit for 1U-5718 Pump (not pictured)	–
–	7X-3387	S·O·S Sampling Valve	
–	8C-3345	Oil Sampling Valve (M10 x 1 — ext thd)	
–	8C-3445	Dust Cap (Engine)	
–	8C-3446	Oil Sampling Valve (7/16 in-20 — ext. thd)	
–	8C-3447	Dust Cap (Transmission) (not pictured)	
–	8C-3451	Dust Cap (not pictured)	
–	8C-8456	Sealed Cap	
–	8T-7876	O-ring Seal for 8C-3345 (not pictured)	
		Not shown	
–	321-0659	Bottle and Cap (8oz/240ml)	1
–	4C-4055	6.35 mm OD x 2.1 m (1/4 in OD x 7 ft), 250 pieces per box	250 per box
–	4C-4057	7.9 mm OD x 2.1 m (5/16 in OD x 7 ft), 240 pieces per box	250 per box
		Oil Sampling Valves and O-Ring Seals	
12	3J-7354	Seal - O-ring - STOR for 8C-3446 (not pictured)	
–	7X-3387	S·O·S Sampling Valve	
–	8C-3345	Oil Sampling Valve (M10 x 1 — ext thd)	
–	8C-3446	Oil Sampling Valve (7/16 in-20 — ext. thd)	
–	8T-7876	O-ring Seal for 8C-3345 (not pictured)	
		Protective Dust Caps for Oil Sampling Valves (These are rubber caps with embossed symbols to indicate system being sampled.)	
11	6V-0852	Dust Cap (Blank) (not pictured)	
–	8C-3445	Dust Cap (Engine)	
–	8C-3447	Dust Cap (Transmission) (not pictured)	
–	8C-3451	Dust Cap (not pictured)	
–	8C-8456	Sealed Cap	
		Miscellaneous fittings and adapters commonly used for oil sampling valve retrofit installations	
2	3J-5390	Plug - NPTF (Ext Hex) 3/8 in-18 NPTF external to 1/8 in-27 NPTF internal	–
3	3B-7722	Bushing-Pipe-Reducing 3/8 in-18 NPTF to 1/4 in-18 NPTF	–
4	2S-4078	O-ring Seal for 9T-6865 Adapter Plug	
4	7M-8489	Adapter Assembly, 90° elbow 9/16 in-18 SAE external to 1/4 in-18 internal	
13	6V-3966	Pressure Test Valve, 1/4 in-18 NPTF external	
(not shown)	7J-8611	Elbow-90°-Pipe 1/4 in-18 NPTF	–
–	3J-1907	O-ring Seal for 5P-9617 Adapter	
–	3L-6521	Adapter Tee, 1/4 in-18 NPT (2 internal and 1 external)	–
–	5P-3413	Pipe Sealant, 47.25 g (1 2/3 oz) tube	–
–	5P-3501	Adapter, 9/16 in-18 SAE external to 1/4 in-18 NPTF internal	–
–	5P-9617	Adapter Reducer, 9/16 in-18 SAE external to 7/16 in-20 SAE internal	–
–	6V-7529	Adapter, 1/8 in-27 NPTF external to 7/16 in-20 SAE internal	–
–	8C-6427	Adapter, 1/4 in-18 NPTF external to 7/16 in-20 SAE internal	–
–	9T-6865	Adapter Plug, 5/8 in-12 SAE external to 7/16 in-20 SAE internal	–

Fluid Sampling Extraction Tools for Non-Pressurized Compartments

Warranty: Caterpillar® Six Months

- Fluid sampling extraction tools are used to obtain fluid samples from non-pressurized vehicle compartments such as final drives, differential compartments, transfer cases, axle housings, etc.
- The 1U-5718 Vacuum Pump is capable of pulling 25 inch (7.62 mm) Mercury (vacuum). The pump is compact and accepts the 169-7372, 114 g (4 oz), and 169-7373 Bottle Assembly, 71 g (2 1/2 oz), bottles, or any 38 M threaded plastic bottle, and 6.35 mm (1/4 inch) O.D. and/or 7.9 mm (5/16 inch) O.D. plastic tube.
- The 1U-5719 Kit provides replacement seals for the vacuum pump.
- The 169-7372 bottle has 4 oz (114 g) capacity. The bottle is marked showing fluid full range at 3/4 capacity. The fill range provides a reminder to not overfill the bottle. Partially filling the bottle satisfies both mailing and lag requirements.
- Full bottles expand because of temperature changes and can possibly rupture within the mailing container.
- The partially filled bottle also allows the lab to shake fluid sample prior to extracting fluid for testing.
- Labels identifying the fluid are obtained locally. The label is processed locally and attached to the sample bottle.
- The 169-7373 bottle is the same as the 169-7372 bottle except the capacity is 71 g (21/2 oz) rather than 114 g (4 oz).
- Clear high performance plastic rated at 91° C.
- 1U-8757 Tubing consists of five 30.5 m (100 ft) rolls of 6.35 mm (1/4 inch) O.D. plastic tubing. Random lengths of tubing can be easily dispensed from the tubing package. This tubing permits extraction of heavier oils when using the vacuum pump.
- Both tubing sizes are also available in pre-cut 2.1 m (7 ft) lengths that are packaged 250 pieces per box. This eliminates cutting the tube for each sample.
- 4C-4055 tubing contains 250 pieces of 6.35 mm (1/4 inch) O.D. tubing each 2.1 m (7 ft).
- 1U-7648 tube cutter is a convenient tool that easily cuts the desirable length of 6.35 mm (1/4 inch) or 7.9 mm (5/8 inch) plastic tubing. Cutter can cut the tubing at 90° or at a bias.

The following summarizes various sampling tools available through the Caterpillar Parts Distribution System:

Part No.	Description
169-7372	Clear Bottle, 114 g (4 oz), 200 per box
169-7373	Clear Bottle, 71 g (2.5 oz), 200 per box
169-8373	Bottle Group, 300 per box
177-9343	Probe and Cap Group, 500 per box
1U-5718	Vacuum Pump
1U-5719	Seal Kit for 1U-5718 Pump (not pictured)
1U-7648	Tube Cutter
1U-8757	6.35 mm OD x 30.5 m rolls (1/4 in OD x 100 ft) 5 rolls per box
3J-7354	Seal - O-ring - STOR for 8C-3446 (not pictured)
4C-4055	6.35 mm OD x 2.1 m (1/4 in OD x 7 ft), 250 pieces per box
4C-4056	7.9 mm OD x 30.5 m rolls (5/16 in OD x 100 ft) 5 rolls per box, not pictured
4C-4057	7.9 mm OD x 2.1 m (5/16 in OD x 7 ft), 240 pieces per box
4C-4600	Mailer Container — reusable Tube —30.5 m (100 ft) rolls
6V-0852	Dust Cap (Blank) (not pictured)
7X-3387	S·O·S Sampling Valve
8C-3345	Oil Sampling Valve (M10 x 1 — ext thd)
8C-3445	Dust Cap (Engine)
8C-3446	Oil Sampling Valve (7/16 in-20 — ext. thd)
8C-3447	Dust Cap (Transmission) (not pictured)
8C-3451	Dust Cap (not pictured)
8C-8456	Sealed Cap
8T-7876	O-ring Seal for 8C-3345 (not pictured)
8T-9208	Purging Probe (Warranty: Manufacturer's, 30-Day)

FLUID SAMPLING

Containers, Oil Safe

Warranty: Caterpillar® Six Months



- Prevents oil contamination
- Speeds up lubrication jobs
- Dispenses easily to awkward points
- Reduces spills and resulting accidents
- Expedites filling and refilling
- Leads to an organized workspace
- Pump fits 10L drum when coupled with a Utility Lid

Part No.	Description
310-5744	Contamination Prevention Kit
310-5744 Consists of:	
–	Drum (3 l)
–	Drum (10 l)
–	Pump
–	Stretch Hose Extension
310-5715	Stumpy Spout Lid (Yellow)
–	Stretch Spout Lid (Blue)
–	Utility Lid (Red)
Accessories	
310-5713	Stumpy Spout Lid (Red)
310-5716	Stumpy Spout Lid (Lt. Green)

Wipers, DRC Quarter-Fold

Warranty: Caterpillar® Six Months



- Highly absorbent material—cleans up oil, grease, water, and other messy fluids
- Strong and abrasion-resistant—resists tearing even when wet
- Offers a low-lint alternative
- Economical alternative to shop rags or towels
- Soft cloth-like feel

Part No.	Size	Color	Qty.
288-4209	31.75 x 33.02 cm (12.5 x 13 in)	White	56 wipers per bundle, 18 bundles per case

Towels, DRC Pop-Up Shop

Warranty: Caterpillar® Six Months



- Highly absorbent material—cleans up oil, grease, water, and other messy fluids
- Soft cloth-like feel
- Strong and abrasion-resistant—resists tearing even when wet
- Offers a low-lint alternative in a handy pop-up container

Part No.	Size	Color	Qty.
288-4210	24.13 x 41.91 cm (9.5 x 16.5 in)	White	100 towels per box, 9 boxes per case
288-4211	24.13 x 41.91 cm (9.5 x 16.5 in)	Blue	100 towels per box, 9 boxes per case

Towels, DRC Center-Pull Roll Dry Shop

Warranty: Caterpillar® Six Months



- Highly absorbent material—ideal for use on grease, oils, and other messy fluids
- Strong and abrasion-resistant—resists tearing even when wet
- Center-pull wiper wrapped in clear plastic film with re-closeable top tab for easy dispensing

Part No.	Size	Color	Qty.
288-4212	22.86 x 33.02 cm (9.0 x 13.0 in)	White	300 towels per roll, 1 roll per pack

Bucket Dispenser, Cat® Red Dry Shop Towels

Warranty: Caterpillar® materials and workmanship to first user



- Handy dispenser bucket keeps towels clean and dry indoors and out.
- Ideal for heavy-duty wiping and cleanup applications
- DRC technology provides excellent wet strength and durability while maintaining great absorbency.
- Durable storage container is perfect for shop or field.
- Each bucket dispenser includes wall mount hardware and comes filled with a roll of 303-9339 Cat® Red Dry Shop Towels. Bucket can be mounted in an upright or upside down position.

Reference

- Refill with 303-9339 Cat Red Dry Shop Towels

Part No.	Description	Dimensions	Weight
550-0937	Cat® Red Dry Shop Towels Bucket Dispenser	254 x 305 mm (10 x 12 in)	1.6 kg (3.5 lb)

Towels, DRC Center - Pull Shop

Warranty: Caterpillar® Six Months



- Economical alternative to shop cloths, without the mess
- Works like cloth but at a faction of the cost
- Packaging keeps your shop towels clean and dry until needed
- Won't color bleed and no thread gaps
- Made with the strongest and heaviest DRC material on the market
- New center pull design allows for one towel to come out at a time
- Center-pull design holds until the last three towels
- Absorbs fluids on contact and lint free

Part No.	Description	Size	Qty.
303-9339	DRC Red Shop Towels	30.7 x 42.7 cm (12.1 x 16.8 in)	140 per roll

ABSORBENT PRODUCTS

Towels, DRC Jumbo Roll Shop

Warranty: Caterpillar® Six Months



- Highly absorbent material—cleans up oil, grease, water, and other messy fluids
- Soft cloth-like feel
- Strong and abrasion-resistant—resists tearing even when wet

Part No.	Description	Size	Color	Qty.
301-9696	DRC Jumbo Roll Shop Towels	31.75 x 33.02 cm (12.5 x 13 in)	White	692 towels per roll, 1 roll per case
311-3136	Holder for 301-9696	–	–	5

Wipers, All Purpose

Warranty: Manufacturer's



- Highly absorbent—cleans up oil, grease, water and other messy fluids
- Strong and abrasion resistant—great wet-strength for scrubbing
- Pliable for reaching into tight places
- Soft for personal cleaning
- Low lint and won't leave a residue
- Economical alternative to shop rags or towels

Part No.	Size	Color	Qty.
265-2255	30.5 x 33 cm (12 x 13 in) quarter-folded	Blue	56 wipers per pack, 18 packs per case

Wipers

Warranty: Caterpillar® Six Months

- Designed to outperform rags with Hydroknit technology in lightweight wiper
- Reinforced for extra scrubbing and cleaning power
- Leaves no residue
- Good on grease and oil, adhesive cleaning and cable lubricant removal
- Good for applying thinners and solvents

Part No.	Size	Color	Qty.
254-3422	23.1 x 42.7 cm (9.1 x 16.8 in)	White	126 wipers per box, 10 boxes per case

Wipers, Low Lint Task

Warranty: Caterpillar® Six Months



- For lab environments where clean rooms require low lint
- Excellent for surface wiping in clean manufacturing environments—fuel systems, hydraulics, diagnostic equipment and precision instruments
- Continuous filament rayon/polyester spun-like blend for cloth-like feel
- Excellent absorption rate and capacity
- Solvent resistant
- Double wrapped in anti-stat packaging

Part No.	Size	Color	Qty.
265-2256	20.3 x 20.3 cm (8 x 8 in)	white	100 wipers per pack, 5 packs per case

Rags, Manufactured

Warranty: Caterpillar® Six Months



- HydroKnit fast-absorbing material—highly absorbent
- Cleans up oil, grime, and solvents
- Good for applying thinner and solvents
- Pound for pound absorbs more oil and water than shop rags
- Use with 1U-5432 Paper Wiper Dispenser

Part No.	Size	Color	Qty.
267-6532	31.8 x 36.6 cm (12.5 x 14.4 in)	white	76 wipers per bundle, 12 bundles per case

Rags, Manufactured Pop-up

Warranty: Caterpillar® Six Months



- HydroKnit fast-absorbing material—highly absorbent
- Reinforced for heavy maintenance cleaning and long-lasting performance that also reduces waste
- Cleans up oil, grime, and solvents
- Good for applying thinner and solvents
- Pound for pound absorbs more oil and water than shop rags
- Packaged in sturdy corrugated pop-up dispenser cartons
- Can also use with 269-3368 Dispenser

Part No.	Wiper Size	Color	Qty.
267-6535	23.1 x 42.7 cm (9.1 x 16.8 in)	white	100 rags per carton, 10 cartons per case
267-6536	23.1 x 42.7 cm (9.1 x 16.8 in)	blue	100 rags per carton, 10 cartons per case

Dispenser, for Manufactured Rags and Paper Wipers

Warranty: Caterpillar® Six Months



Part No.	Description	Usage
1U-5432	Paper Wiper Dispenser, Plastic	use for 267-6532 Manufactured Rags
269-3368	Dispenser, White Metal	use for 267-6535 and 267-6536 Manufactured Rags

Towels, Hard Roll

Warranty: Caterpillar® Six Months



- Towels compressed on roll so more towels fit in same space — no sacrifice in performance, change roll less often
- Material: paper

Part No.	Description	Size	Color	Package Quantity
263-0892	Hard Roll Towels	20.3 cm x 304.8 m (8 in x 1000 ft) roll	White	12 rolls

Towels, Shop

Warranty: Caterpillar® Six Months



- Excellent absorbency
- Perfect to use on grease or oil
- Low-lint, 100% polypropylene construction
- Good for cleaning and disinfecting surface
- Stands up well to spirits and solvents

Part No.	Description	Size	Package Quantity
162-5791	Shop Towel	30.7 x 42.7 cm (12.1 x 16.8 in)	180 per box

ABSORBENT PRODUCTS

Pads, Oil-Absorbent

Warranty: Caterpillar® Six Months



- Sonic-bonded Mats
- Mats keep shape even when saturated
- Low lint
- A lofty layer of randomly laid out melt-blow fibers enables the mat to absorb a large amount of oil

Part No.	Size	Quantity	Absorbency
467-9234	15 in x 19 in (38 cm x 48 cm)	50	14 gallons (55 L)

Socks, Absorbent

Warranty: Manufacturer's



Meets OSHA regulation 29 CFR 1910.22(a)(2) for dry and clean workplace floors

- Tubular absorbent socks absorb and contain leaks and spills around machinery (hydraulic oil, coolants, non-aggressive fluids, water, and even hazardous fluids, such as PCB oils and solvents)
- Superior diking and damming capability (hugs the floor, creating an effective barrier or dike that holds back fluids, in emergency situations, even after total absorption)
- Used primarily for everyday housekeeping around machines that leak, seep, or spill fluids
- Fits snugly against machine bases and wrap-around corners, keeping work area safe and dry
- Fine-grade vermiculite filler (non-biodegradable) quickly soaks up leaks and drips
- Durable, stitch-bonded polypropylene skin improves strength
- Self-contained, no messy cleanup (no loose absorbents to spread, sweep, scatter, shovel, or track around)
- Reusable for water spills only
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product

Reference

- NELG5036

Part No.	Quantity/ Box	Absorption/ Box	Absorption/ Sock	Size	Shipping Weight
235-0844	40	113 L (30 gal)	2.8 L (.7 gal)	8 cm x 122 cm (3 in x 48 in)	23 kg (50.71 lb)
254-3969	8	57 L (15 gal)	6.8 L (1.8 gal)	75 mm (3 in) diameter x 3 m (10 ft) long	11 kg (24.25 lb)

Pillows, Absorbent

Warranty: Manufacturer's



- Absorbent pillow soaks up small to medium-size spills of oil and other non-aggressive fluids (works best once a spill has been contained)
- Fast, effective way to control leaks
- Use only as many as required (pillow's large surface area and superior wicking ability speeds cleanup time)
- High absorption/fast-wicking cellulose fibers begin to work when pillow contacts liquid and continue until fully saturated
- Strong, polypropylene cover will not tear when handling
- Easy cleanup (simply pick up and place into proper disposal container)
- Meets OSHA regulation 29 CFR 1910.22(a)(2) for dry and clean workplace floors
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product

Reference

- NELG5036

Part No.	Size	Quantity	Absorption/Sock	Absorbency	Shipping Weight
235-0845	25 x 25 x 5 cm (10 x 10 x 2 in)	50	1.9 L (64 oz)	76 L (20 gal)	10 kg (23 lbs)

Heavyweight Absorbent Material for Most Oil, Water-Based Fluids and Chemicals

Warranty: Manufacturer's

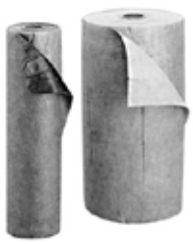


- Absorbs the following fluids and chemicals: Acetone, Acetonitrile, Aluminum Salts, Ammonium, Hydroxide, Barium Salts, Benzyl Alcohol, Boric Acid, Butanol, Calcium Chlorite, Carbon Disulfide, Carbon Tetrachloride, Chloroform, Cupric Chloride, Cyclohexanone, Dichloromethane, Diethylamine, Dimethylformamide, Ethyl Acetate, Formaldehyde, Gasoline, Glycol Ether, Hexane, Hydrazine, Anhydrous, Hydrochloric Acid (37%), Hydrogen Peroxide (30%), Hydrofluoric Acid (48%), Isopropanol, Jet Fuel (JP-5), Kerosene, Methanol, Methyl Ethyl, Ketone, Mineral Oil, Mineral Spirits, Naphtha, Nitric Acid (70%), Nitric Acid fuming (90%), Nitrobenzene, Perchloroethylene, Phenol, Potassium Hydroxide 50%, Propylene Glycol, Sodium Hydroxide (50%), Styrene, Sulfuric Acid (50%), Sulfuric Acid (98%), Tetrachloroethylene, Tetrahydrofuran, Thionyl Chloride, Toluene, 1, 1, 1-Trichloroethane, Trichloroethylene, Triethylamine, Turpentine, Water
- Heavyweight, gray, absorbent material designed to absorb chemicals, solvents, oils, coolants, petroleum products, water, water-based fluids, and even acids and bases
- Multiple uses in maintenance, repair, and operating (MRO) areas; cover areas prone to overspray and spills, leaving a cleaner, safer work area; ideal for heavy, concentrated machine leaks and large, spreading spills; keep floors and walk areas safer by absorbing leaks, spills, drips, and overspray
- Dark gray color hides dirt and grime of foot traffic
- Thin profile slides into hard-to-reach areas
- Made from flame-resistant material which can be used around spark-prone areas, such as welding or grinding equipment
- Material will not degrade or have a chemical reaction to a wide variety of chemicals and strong solvents
- Absorbs 10 times its weight, reducing material purchase and disposal costs
- Dimple design helps absorb more liquid in less time (material retains liquid, even when fully saturated)
- Roll material cuts easily with scissors or razor knife — easily shaped to fit virtually any area
- Material: 100% polypropylene
- Multiple layers are held together with thermal bond points for added strength and durability—will not fall apart or leave behind residue, even when fully saturated
- Meets OSHA regulation 29 CFR 1910.22(a)(2) for dry and clean workplace floors
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product unless otherwise indicated

Part No.	Description	Quantity/ Box	Absorption/ Box/ Roll	Absorption/ Pad	Size	Ply	Shipping Weight
235-0847	Roll	1 roll	155 L (41 gal)	—	76 cm (30 in) wide 46 m (150 ft) long, perforated to 25 x 38 cm (10x15 in)	8	14 kg (30.86 lb)
261-0114	Mat	1 roll	53.06 L (14 gal)	—	76.2 cm (30 in) wide 15.25 m (50 ft) long	8	5 kg (11.02 lb)
307-9919	Pad	100 pads	80 L (21 gal)	798 ml (27 oz)	38 x 48 cm (15 x 19 in)	3	8 kg (17.64 lb)
307-9920	Pad	100 pads	91 L (24 gal)	917 ml (31 oz)	38 x 51 cm (15 x 20 in)	8	9 kg (19.84 lb)
307-9922	Pad	100 pads	80 L (21 gal)	798 ml (27 oz)	38 x 48 cm (15 x 19 in)	3	8 kg (17.64 lb)
307-9925	Roll	1 roll	163 L (43 gal)	–	76 cm (30 in) wide 46 m (150 ft) long perforated every 25 cm (10 in)	3	15 kg (33.07 lb)
307-9927	Roll	1 roll	163 L (43 gal)	–	76 cm (30 in) wide 46 m (150 ft) long	3	15 kg (33.07 lb)

Rugs, Absorbent

Warranty: Caterpillar® Six Months



- Keep shop floors cleaner and safer
- Absorb most shop fluids and oils
- Tough and tear resistant—won't break down
- Durable enough to withstand heavy traffic
- Coated rug has a poly-backed coating to provide extra protection to shop floors

Part No.	Description	Size	Absorbent Capacity
159-5155	Rug	91 cm x 91.5 m (36 in x 300 ft)	121 L (32 gal) per roll
159-5160	Rug (Coated)	91 cm x 30 m (36 in x 100 ft)	40 L (10.5 gal) per roll

ABSORBENT PRODUCTS

Pads and Rolls, Oil-Only Absorbent

Warranty: Manufacturer's



- Heavyweight, white, absorbent material used for spill cleanup and everyday maintenance absorption of non-flammable petroleum products and petroleumbased fluids, such as oil, gasoline, kerosene, diesel fuel, solvents, etc.
- Absorbs petroleum-based fluids only—ideal for situations where water absorption is not necessary
- Roll material works great for factory floors saturated with oils or other petroleumbased fluids
- Less expensive than a universal absorbent (ideal for oil-only spills or drips)
- Material will not degrade or have a chemical reaction to petroleum-based fluids
- Absorbs 10 times its weight, reducing material purchase and disposal costs
- Dimple design helps absorb more liquid in less time (material retains liquid even when fully saturated)
- Roll material cuts easily with scissors or razor knife — easily shaped to fit virtually any area
- Material: 100% polypropylene
- Multiple layers are held together with thermal bond points for added strength and durability—will not fall apart or leave behind residue, even when fully saturated
- Material can be incinerated with less than 0.1% ash while producing 21,000 Btu/lb
- Meets OSHA regulation 29 CFR 1910.22(a)(2) for dry and clean workplace floors
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product unless otherwise indicated

Part No.	Description	Quantity/ Box	Absorption/ Box/Roll	Absorption/ Pad	Size	Shipping Weight	Ply	Color
235-0850	Roll	1 roll	155 L (41 gal)	—	76 cm (30 in) wide 46 m (150 ft) long	14 kg (30.86 lb)	8	White
307-9921	Pad	50 pads	45 L (12 gal)	917 ml (31 oz)	38 x 51 cm (15 x 20 in)	4 kg (8.82 lb)	8	White
307-9923	Pad	100 pads	76 L (20 gal)	739 ml (25 oz)	38 x 48 cm (15 x 19 in)	8 kg (17.64 lb)	3	White
307-9924	Roll	1 roll	151 L (40 gal)	–	76 cm (30 in) wide 46 m (150 ft) long	15 kg (33.07 lb)	3	White
307-9926	Roll	1 roll	151 L (40 gal)	–	76 cm (30 in) wide 46 m (150 ft) long	15 kg (33.07 lb)	3	White
307-9928	Pad	100 pads	76 L (20 gal)	739 ml (25 oz)	38 x 48 cm (15 x 19 in)	8 kg (17.64 lb)	3	White

Roll, Lightweight Absorbent

Warranty: Manufacturer's



- Lightweight, gray, absorbent mat designed to cover areas prone to overspray and spills, leaving a cleaner, safer work area
- Ideal for light machine overspray and small, annoying leaks of oils, coolants, solvents, and water
- Great for day-to-day housekeeping and repair work
- Cross roll perforations — easily and quickly tear to any size sheet, as small as 25 x 61 cm (10 x 24 in)
- Absorbs 10 times its weight, reducing purchase and disposal costs
- Works well in narrow walkways
- Multiple layers are held together with thermal bond points for added strength and durability—will not fall apart or leave behind residue
- Dark gray color hides dirt and grime
- Dimple design absorbs more liquid in less time and greater liquid retention holds liquid even when roll is saturated
- Meets OSHA regulation 29 CFR 1910.22(a)(2) for dry and clean workplace floors
- Material Safety Data Sheets (MSDS) available
- Supplier-branded productx

Part No.	Quantity/ Box	Absorption/Box	Size	Material	Ply	Shipping Weight
235-0849	1 roll	125 L (33 gal)	61 cm (24 in) wide by 91 M (300 ft) long	100% polypropylene	8	11 kg (24.25 lb)

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Mat, Rip & Fit Absorbent

Warranty: Manufacturer's



- Absorbs large amounts of coolant, oil, solvents, and water, 7.8 gallons (29.5 L)
- Heavy-weight and durable
- Perforations every 10" lengthwise and every 3.75" widthwise to help you easily fit the mat into the shape of your workspace
- 60' L x 15" W fitted into dispenser box
- Dark gray, flame-resistant material
- 50% recycled material
- Refill item for Spill Response Kit, 254-3770

Part No.	Description	Absorption	Dimensions	Shipping Weight
385-5560	Absorbent Roll with length - and widthwise perforations	29.5 L (7.8 gal)	15 in (38 cm) wide x 60 ft (18 cm) long	6.9 lbs (3.1 kg)

Mat, High-Visibility Absorbent

Warranty: Manufacturer's



- Absorbs oils, coolants, solvents and water
- Ideal for any leak-, spill-, or drip-prone areas
- Absorbs a wide range of chemicals without degrading or causing a dangerous chemical reaction
- High-visibility yellow color alerts workers to potential dangers where work or repairs are taking place
- Flame-resistant - safe for spark-prone areas such as welding robots
- Comes with a variety of socks and pillows along with a roll of universal mat
- Low profile — slides into hard-to-reach areas
- Supplier-branded product

Part No.	Absorbent Capacity	Length	Width	Weight	Material	Ply
261-0115	125 L (33 gal) per bag	46 m (151 ft)	61 cm (24 in)	11 kg (24 lb)	100% polypropylene	8

Spill Kits, Sorbent

Warranty: Caterpillar® Six Months



- Most versatile spill kit on today's market
- Chemical Sorbent Folded Spill Kit is a non-selective sorbent which will "sorb" most aggressive chemicals
- 170-8604 fits into small places where accessibility is important; unique construction and compressibility allows storage behind or under seats and/or lab benches where other spill kits will not fit
- 170-8605 is packaged in a 20 gallon drum and can be placed in key locations throughout a facility
- Most complete spill kit in a roll (material can be used as a pillow, pad, roll, or boom)
- Scrim coating on one side increases strength and eliminates linting
- Each kit contains a containment bag and tie
- Molded handles makes transportation easier

170-8604 Spill Kit, 5 Gallon

- Absorb 5 gallons of petroleum-based fluid
- Roll of folded sorbent, 13 x 66 cm (5 x 26 in); fully opened 48 x 66 cm (19 x 26 in);
- Qty 1
- Disposal bag and tie, Qty 1

170-8605 Spill Kit, 31 Gallon

- Absorb 31 gallons of petroleum-based fluid
- 20 gallon drum with lid and plastic closure ring, Qty 1
- Roll of folded sorbent, 13 x 127 cm (5 x 50 in); fully opened, 48 x 127 cm (19 x 50 in), Qty 2
- Sorbent pads, 43 x 48 cm (17 x 19 in), Qty 30
- Disposal bags and ties, Qty 3Cleans spills with no residue

Part No.	Size
170-8604	5 gal
170-8605	31 gal

ABSORBENT PRODUCTS

Pig Original SpillBlocker Dike

Warranty: Caterpillar® Six Months



- Non-weight bearing, temporary/removable barrier for smooth surfaces
- Exclusive new pig formulation features a tear-resistant top layer and a flexible, tacky bottom layer that seals tight to smooth surfaces and blocks liquids.
- Other dikes may look similar, but only PIG SpillBlocker Dikes have two-layer construction for superior performance.
- 2.25 in height is great for containing smaller spills
- Fast protection when a spill is heading right for your drain; just place dike in front of spill to contain liquid.
- Confines and diverts fluids without absorbing them, making cleanup or reclamation simpler
- Polyurethane material resists water, oils and many chemicals
- Reusable dike cleans easily with soap and water

Part No.	Description	Dimensions (W x L x H)	Weight
520-0205	Pig Original SpillBlocker Dike	102 mm x 3 m x 57 mm (4 in x 10 feet x 2.25 in)	13.6 kg (30 lb)

Spill Response Cart, Small

Warranty: Manufacturer's



- Absorbs oils, coolant, solvents, and water
- Ideal for spill-prone areas
- Comes with a variety of socks, mat pads, pillows, and wipers
- Products in cart can absorb up to 59 liters (15.5 gallons)
- Eight-inch rubber wheels and handles on both top and bottom for carrying
- Cleanup instructions on cart door
- Cart can be locked for security
- Helps to comply with 40 CFR 112.7(c) (1) (vii) where absorbents can be used to control oil discharges
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product

Part No.	Description	Weight
267-6532	Small Spill Response Cart	29.5 kg (65.04 lb)

Consists of:	Qty.	Reorder Part No.
Absorbent sock, 8 cm x 122 cm (3 in x 48 in)	3	235-0844
Absorbent sock, 8 cm x 250 cm (3 in x 10 ft)	2	254-3969
Universal mat pads, 38 cm x 22 cm (15 in x 8.5 in)	52	307-9919
Absorbent pillows, 25 cm x 25 cm (10 in x 10 in)	10	235-0845
Wipers, 33 cm x 30 cm (13 in x 12 in)	56	
Disposal bags and ties	5	
Nitrile gloves	1	4C-5522, 4C-5523, or 4C-5526
Safety goggles	1	233-8583
Disposable boots	1	
Repair putty, 178 mm (7 in) tube	2	
Emergency response guidebook	1	
Instruction Manual	1	

Spill Response Cart, Small

Warranty: Manufacturer's



- Absorbs oils, coolant, solvents, and water
- Ideal for spill-prone areas
- Comes with a variety of socks and pillows along with a roll of universal mat
- Products in cart can absorb up to 53 liters (14 gallons)
- Eight-inch rubber wheels on board and handles on both top and bottom
- Cleanup instructions on cart door
- Shelves and compartments inside cart for easy organization
- Cart can be locked for security
- Helps to comply with 40 CFR 112.7(c) (1) (vii) where absorbents can be used to control oil discharges
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product

Part No.	Description	Weight
254-3770	Small Spill Response Cart	18 kg (39.68 lb)

Consists of:	Qty.	Reorder Part No.
Absorbent socks, 8 cm x 122 cm (3 in x 48 in)	5	235-0844
Universal mat pads, 38 cm x 18 m (15 in x 60 ft)	1	
Absorbent pillows, 25 cm x 25 cm (10 in x 10 in)	4	235-0845
Disposable bags and ties	5	
Nitrile gloves	1	4C-5522, 4C-5523, or 4C-5526
Safety goggles	1	233-8583
Repair putty, 178 mm (7 in) tube	1	
"When the Spill Strikes" poster	1	

Spill Response Kit, Large

Warranty: Manufacturer's



- Absorbs oils, coolants, solvents, and water
- Comes with a variety of socks, mats, pillows, and loose absorbents
- Products in cart can absorb up to 144 liters (38 gallons)
- Polyethylene container with hinged lid stores and protects absorbents from moisture, dirt, and damage
- Equipped with eight-inch rubber wheels and built-in handles for easy mobility in tight spaces
- Helps to comply with 40 CFR 112.7(c) (1) (vii) where absorbents can be used to control oil discharges
- Material Safety Data Sheets (MSDS) available
- Supplier-branded product

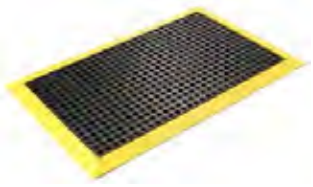
Part No.	Description	Weight
254-3769	Large Spill Response Cart	48.5

Consists of:	Qty.	Reorder Part No.
Absorbent sock, 8 cm x 122 cm (3 in x 48 in)	4	235-0844
Absorbent sock, 8 cm x 250 cm (3 in x 10 ft)	1	254-3969
Absorbent pillows, 53 cm x 43 cm (21 in x 17 in)	2	235-0845 (Equivalent - not an exact replacement)
Universal mat pads, 51 cm x 41 cm (20 in x 16 in)	50	
Disposal bags and ties	5	
Shop floor sweep material	1	
Loose absorbent material	2	
Tamper-proof labels	6	
Instructions	1	

FLOOR MATS

Floor Mat, WorkSafe

Warranty: Caterpillar® Six Months



- Holes trap dirt and small debris and are easy to clean
- Black with orange beveled border
- Border can be removed and reattached after cutting mat to any size
- 7/8 in (22.2 mm) thick

Part No.	Absorbent Capacity
4C-8099	2 ft x 3 ft (61 cm x 91 cm)
4C-8101	3 ft x 5 ft (91 cm x 152 cm)

Floor Mat, Rejuvenator Connect Modular

Warranty: Caterpillar® Six Months

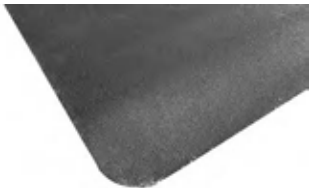


- Interlocks on all four sides
- Customizable down to 3 x 3 ft (0.914 x 0.914 m) squares
- Resists a wide variety of chemicals of fluids
- Border ramps are yellow for safety
- Urethane sponge material with tough outer skin
- 5/8" in (1.59 cm) thick

Part No.	Description	Size
384-8706	Center Segment	36 in x 36 in (91.4 cm x 91.4 cm)
385-8474	Male Ramp	2 in x 39 in (5.1 cm x 99 cm)

Floor Mat, Weldsafe

Warranty: Caterpillar® Six Months



- Designed specifically for welding/grinding stations
- Top surface has melting point of over 500°F (260°C)
- Beveled edges
- Black
- 9/16 in (1.4 cm)

Part No.	Size
385-8475	36 in x 60 in (91 cm x 152 cm)

Pig® Grippy® Absorbent Mat

Warranty: Caterpillar® Six Months



- Absorbs and retains water, oils, grease, coolants, solvents, etc., while preventing dirt, sand, and liquids from being tracked off onto clean floors
- Demonstrated to reduce slips and falls by as much as 90%
- Grippy® backing holds mat in place but peels up easily without residue
- Heat-fuse and needle-punched for durability
- Holds up to heavy traffic, including power trucks
- Liquid proof barrier layer prevents seepage through the mat
- Dark color hides grime allowing longer use
- Absorbs up to 13 gal (49 L)

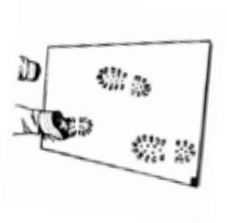
Specifications

- Dimensions: 36 in x 100 ft (914 mm x 30 m)
- Weight: 24 pounds (11 kg)

Part Number	Description
473-6461	Pig® Grippy® Absorbent Mat

Floor Mat, Clean Walk

Warranty: Caterpillar® Six Months



SMCS Code 7951-580

- 30 peelable layers, providing a fresh cleaning surface with each exposed layer
- Low profile – only 0.055 in (1.4 mm) thick
- Removes dirt/contamination from shoes, wheels, and other passing objects – keeps dirt/grease from being tracked into office area
- Inexpensive way to keep carpets and office areas clean

Part No.	Size
138-3856	635 mm x 1143 mm (25 in x 45 in)

Floor Protection

Warranty: Manufacturer's One Year

Send warranty-related questions to: sales@ameintl.net .



506-1258



506-1259



506-1260



506-1261

Track Mat

- Provides the protection needed against the potential damage caused by dozers and excavators driving on concrete workshop floors
- Polyurethane dovetail sheets
- Use with 506-1259 stainless steel trolley, which holds 12 pads at a time and can be maneuvered safely and packed away neatly when not in use.

Dozer Blade Mat

- 506-1260 polyurethane motor grader/dozer blade rest pads and 506-1261 ripper pads assist in protecting the concrete surface of workshop floors.

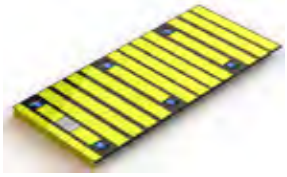
Part No.	Description	Dimensions	Weight
506-1258	Track Mat	1000 x 800 x18 mm (39 x 31 x 0.71 in)	18 kg (40 lb)
506-1259	Track Mat Carriage	1111.3 x 750 x 965 mm (44 x 30 x 38 in)	22 kg (49 lb)
506-1260	Dozer Blade Mat	600 x 200 x 50 mm (23.5 x 8 x 2 in)	18 kg (40 lb)
506-1261	Ripper Mat	400 x 465 x 40 mm (16 x 18.3 x 2 in)	11 kg (24.3 lb)

FLOOR MATS

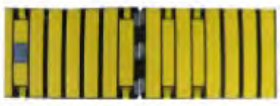
Dozer Maintenance Mats

Warranty: Manufacturer's One Year

Send warranty-related questions to: sales@ameintl.net.



506-1262



506-1263

- Designed to strap on to the dozer track and eliminate slip/trip hazards associated with common maintenance activities when walking on dozer tracks

Available in two designs:

- One-piece ridged mat suitable for the workshop
- Two-piece hinged mat suitable for either the workshop or field maintenance

Part No.	Description	Dimensions	Weight
506-1262	Maintenance Mat (One-Piece)	1965 x 860 x 1 mm (77.4 x 34 x 0.04 in)	22 kg (49 lb)
506-1263	Maintenance Mat (Two-Piece)	2000 x 760 x 10 mm (79 x 30 x 0.4 in)	22 kg (49 lb)

TAPES AND FILMS

Tape, General Purpose Masking

Warranty: Caterpillar® Six Months



- Can be used for holding, bundling, sealing, tabbing non-critical masking and many other miscellaneous applications where an economical grade of paper tape is needed

Part No.	Size in 55 m (60 Yd) Rolls	Rolls/Case
4C-6571	25.4 mm (1 in)	36
4C-6572	50.8 mm (2 in)	24
4C-6573	76.2 mm (3 in)	12

Tape, Masking

Warranty: Caterpillar® Six Months



- Six sizes available—13 mm (1/2 in) to 76.2 mm (3 in) wide, 60 yd. roll
- Clean removal—less adhesive transfer reduces residue which can stick to work surface
- Sharp paint edge—thin, smooth backing gives superior, straight paint line w/o jagged edges
- One-piece removal—balanced construction allows for one-piece removal
- Heat resistant—will generally function well in conditions up to 93° C (200° F)

Part No.	Size in 55 m (60 Yd) Rolls	Rolls/Case
1U-6705	12.7 mm (1/2 in)	72
1U-6709	63.5 mm (2 1/2 in)	12

Tape, 3M High Performance Green Masking Tape 401+

Warranty: Caterpillar® Six Months

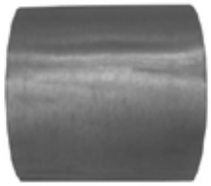


- 3M™ High Performance Green Masking Tape 401+ delivers sharp paint lines where surface temperatures can reach up to 250°F/ 121°C for 30 minutes. This green crepe paper tape is ideal for critical paint masking applications in automotive, specialty vehicle and industrial markets where strong holding and high temp performance is required.
- 55 meter rolls
- Adhesive formula removes cleanly in one piece with no adhesive residue
- Remains in place around corners, over contours and irregular surfaces
- Resists paint bleed-through to help create sharp paint lines
- Green backing improves visibility and accuracy during paint masking
- Withstands surface temperatures up to 250 degrees F/ 121 degrees C for 30 minutes in paint bake operations

Part No.	Width	Rolls Per Case
1U-6706	18 mm	48
485-8533	24 mm	24
485-8534	48 mm	12
485-8535	72 mm	8

Tape, Label Protection

Warranty: Caterpillar® Six Months



- Used for covering address labels, packing lists, and sales slips when protection against rough handling is needed
- Aggressive water-based acrylic adhesive
- Resistant to UV light and chemicals
- Adhesion to steel: 17.9 N/cm (16 oz/in)
- Tensile strength: 0.32 kg/mm (18 lb/in)
- Thickness: 0.04 mm (1.6 mils)
- Material: polypropylene

Part No.	Size	Rolls/ Case
263-0881	96.01 mm x 659.9 m (3.78 in x 216.5 feet) roll	18

TAPES AND FILMS

Tape, Filament

Warranty: Caterpillar® Six Months



- Stain resistant and transparent with reinforced continuous glass yarn filaments
- Used for closure and reinforcement of corrugated fiberboard boxes and performs well in holding, reinforcing, combining, bundling, and unitizing applications

Part No.	Size	Rolls/ Case
4C-4094	19 mm (3/4 in) x 55 m (60 yd) roll	48

Tape, Filament

Warranty: Caterpillar® Six Months



- Fiberglass reinforced tape excellent for light-duty applications such as strapping, palletizing, and packaging
- Adhesion to steel: 8.5 g/mm (78 oz/in)
- Elongation: 8%
- Tack: 12.7 cm (5 in)
- Tensile strength: 1.71 kg/mm (95.6 lb/in)
- Thickness: 0.099 mm (3.9 mils)

Part No.	Size	Rolls/ Case
263-0883	51 mm x 22.9 m (2 in x 25 yards) roll	24

Tape, Transparent

Warranty: Caterpillar® Six Months

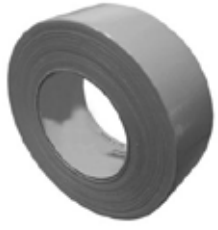


- Good for general purpose packaging needs
- Was developed primarily for single strip closure of regular slotted containers
- Has very good resistance to edge tear and splitting due to shock from impact
- Adhesive sticks at a touch to fiberboard

Part No.	Size	Rolls/ Case
4C-4095	48 mm (2 in) x 100 m	36

Tape, Double-faced

Warranty: Caterpillar® Six Months



- Multipurpose tape for general mounting and holding
- Can be used to reattach interior cab material or head liners, sound proofing material, etc.
- Extremely aggressive adhesive
- Silicone-coated polyethylene release liner makes unwinding easy
- Peels clean leaving minimum residue
- Adhesion to steel: 44 g/mm (40 oz/in)
- Tack: 5.1 cm (2 in)
- Tensile strength: 0.36 kg/mm (20 lb/in)
- Thickness: 0.28 mm (11 mils)

Part No.	Size	Rolls/ Case
263-0877	51 mm x 22.9 m (2 in x 25 yards) roll	24

Tape, White Filament

Warranty: Caterpillar® Six Months



- Multipurpose non-adhesive thread seal tape used for many maintenance applications
- Polytetraflouroethylene (PTFE) self lubricates joints for a leak-proof seal
- White color
- Easy to assemble and disassemble threaded joints when tape is applied
- Thickness: 0.09 mm (3.5 mils)
- Material: polytetraflouroethylene

Part No.	Size	Rolls/ Case
263-0879	13 mm x 76.2 m (0.5 in x 250 feet) roll	200

Tape, Duct

Warranty: Caterpillar® Six Months



- Use this silver, polyethylene-coated, cloth tape for sealing and/or waterproofing applications
- Has an extremely tough rubber adhesive

Part No.	Size	Qty.
190-9792	51 mm (2 in) wide and 55 m (60 yds) long	1

Tape, High Performance Duct

Warranty: Caterpillar® Six Months



- Use this olive drab, polyethylene-coated, cloth tape for sealing and/or waterproofing applications
- Conforms to mil spec PPP-T-60D
- Rubber adhesive adheres securely
- Thickness: 12 mils
- Tensile strength: 42 lbs per inch

Part No.	Size	Qty.
9U-5922	51 mm wide x 55 mm long (2 in wide x 60 yd long)	1

Tape, Electrical

Warranty: Caterpillar® Six Months



- Premium quality vinyl tape with many electrical insulation applications

Part No.	Size	Qty.
1P-0810	19 mm x 20.12 m long (3/4 in wide x 66 ft long)	10

TAPES AND FILMS

Tape, Electrical

Warranty: Caterpillar® Six Months



- Quality, black, vinyl tape with excellent electrical insulation properties

Part No.	Size	Qty.
235-8598	19 mm x 18.3 m long (3/4 in wide x 60 ft long)	10

Tape, Aluminum

Warranty: Caterpillar® Six Months



- A variety of sizes of aluminum tape that can be used for a number of applications in the shop and field.
- 3.5 Mil thick
- Tough and flexible
- Hi-tack
- Waterproof

Part No.	Description	Size
9U-6910	Aluminum Tape	63.5 mm x 45.7 m (2 1/2 in x 50 yds)
9U-6911	Aluminum Tape	101.6 mm x 45.7 m (4 in x 50 yds)
9U-6912	Aluminum Tape	152.4 mm x 45.7 m (6 in x 50 yds)
9U-7042	Aluminum Tape	304.8 mm x 45.7 m (12 in x 50 yds)

Tape Dispenser, Box Sealing

Warranty: Caterpillar® Six Months



- Provides quick, easy method for dispensing 4C-4095 Transparent Tape, or any other film-backed box sealing tape directly from the roll
- Hand-held and portable—excellent on center seam sealing of regular slotted boxes
- Sturdy, durable, easy to load and operate; handles tape widths from 38 mm (1 1/2 in) to 51 mm (2 in)

Part No.	Description	Qty.
4C-4099	Box Sealing Tape Dispenser	1

Tape Dispenser, Filament

Warranty: Caterpillar® Six Months



- Fast and economical clips of 4C-4094 Filament Tape can be applied
- Dispenser cuts and buffs tape with one-hand motion
- Features hand brake in the core that allows operator to adjust tension for tighter box reinforcement and bundling applications
- High impact plastic and one piece construction makes the dispenser very durable
- Handles filament tapes up to 19 mm (3/4 in) wide

Part No.	Description	Qty.
4C-4100	Filament Tape Dispenser	1

Heavy-Duty Mounting Tape

Warranty: Caterpillar® Six Months

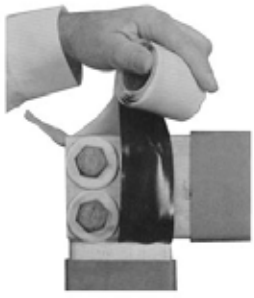


- High strength and durable
- Clean appearance
- Bonds high, medium and medium/low surface energy substrates.
- Provides handling convenience, cushioning, damping, and impact resistance.
- Conformable, double-sided, pressure-sensitive, closed-cell acrylic foam tape
- Ideal for re-mounting Cat® Telematics PL131/141 cellular and satellite locators to new surfaces/assets.
- Black color

Part No.	Description	Dimensions	Weight
497-8355	3M VHB Heavy-Duty Mounting Tape 5952	1 in x 36 yards x 5 mil	1 kg (2.2 lb)

Tape, Rubber Mastic

Warranty: Caterpillar® Six Months



- Great for quick buildup for moisture seal, for insulation, and for cushion on cable harness and wires
- Sticks fast, seals fast and stays tight
- Molds easily around irregular surfaces while holding its position through a range of temperatures

Part No.	Size	Qty.
4C-6392	51 mm (2 in) wide X 1.7 mm (.065 in) thick by 3 m (10 ft) long rolls	1

Band-it Tool, Adjustable Stretch

Warranty: Caterpillar® Six Months



- Fully mechanical
- Adjustable stretch control
- No spare parts—no parts to replace or wear out
- Use with 4C-4880 Film

Part No.	Description
4C-4779	Adjustable Stretch Band-it Tool

Band-it Tool, Stretch

Warranty: Caterpillar® Six Months



- "Hand Squeeze" control
- Use with 4C-4880 Film
- No assembly, no maintenance, no additional adhesives

Part No.	Description
4C-4780	Stretch Band-it Tool

TAPES AND FILMS

Handwrappers

Warranty: Caterpillar® Six Months



- Full rolls to 558.8 mm (22 in) wide
- Fits 76.2 mm (3 in) core
- Heavy duty mast
- Ball bearings
- Adjustable tension
- Ring rotates freely
- Foam grip

Part No.	Use
4C-4776	all 279 mm (11 in), 400 mm (15.75 in), 457 mm (18 in) films with 76 mm (3 in) cores
4C-4777	all 279 mm (11 in), 692 mm (27.25 in), 457 m (18 in) films with 57 mm (2.25 in) and 76 mm (3 in) cores

Band-it Tool Stand for Stretch

Warranty: Caterpillar® Six Months



- Portable
- Mounts on any table surface
- Accommodates up to 16 kg (35 lbs)
- Adjustable zinc-plated support
- Allows wrapping of smaller items using 4C-4880 Film and 4C-4779 or 4C-4780 Stretch Band-it Tools

Part No.	Description
4C-4781	Stretch Band-it Stand

Film, Heavy-Duty Master Wrap

Warranty: Caterpillar® Six Months

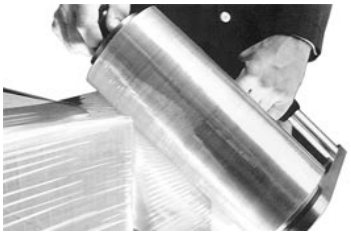


- Holds anything, any shape, anywhere
- Applicator packed in all cases

Part No.	Rolls/Case	Film Gauge	Film Width	Roll Length	Film Color
4C-4880	12	135	127 mm (5 in)	198 m (649.60 ft)	Blue

Film, Stretch

Warranty: Caterpillar® Six Months



- Revolutionary performance standard—one of the strongest films in the industry
- Cast formula
- Stiff high force
- No neck-down films
- Has highest holding-force-to-load possible without breaks
- Visually able to see through to wrapped product

Part No.	Rolls/Case	Film Width	Roll Length	Film Color
291-6710	4	457.2 mm (18 in)	457 m (1,499.34 ft)	Clear
291-6711	4	279.4 mm (11 in)	457 m (1,499.34 ft)	Clear

PACKING SUPPLIES

Film, Hand Wrap Standard-Duty Stretch

Warranty: Caterpillar® Six Months



- Convenient stretch film system
- Standard-duty gauge
- Extra wide—508 mm (20 in) compared to 457.2 mm (18 in)

Part No.	Rolls/Case	Film Width	Roll Length	Film Color
293-2978	4	508 mm (20 in)	305 m (1,000.65 ft)	Clear

Heat Shrink Bags

Warranty: Caterpillar® Six Months



- Strong durable plastic excellent for pallet unitization and load retention
- Ensures product will arrive at destination clean and undamaged
- To determine the size of opening for gusseted bags, add the width and depth
- UVI protection will protect bag from sun damage in outdoor storage.

Part No.	Width x Depth x Height	Thickness	Qty.
	Gusseted Heat Shrink Bag		
270-5329	800 x 495 x 710 mm (31.5 x 19.5 x 28 in)	5 mil	135 bags/roll
270-5331	1257 x 495 x 1370 mm (49.5 x 19.5 x 54 in)	5 mil	65 bags/roll
	Flat Heat Shrink Bag		
270-5332	2438 x 1829 mm (96 x 72 in)	5 mil	35 bags/roll
270-5333	3810 x 2970 mm (150 x 117 in)	5 mil	15 bags/roll

Heat Shrink Sheeting

Warranty: Caterpillar® Six Months



- Strong durable plastic excellent for pallet unitization and load retention
- Ensures product will arrive at destination clean and undamaged
- 5% UVI protection will protect bag from sun damage in outdoor storage

Part No.	Roll Size	Thickness	Color	Qty.
270-5334	5.5 x 61 m (18 x 200 ft)	7 mil	white	1 roll
270-5335	914 mm x 198 m (36 in x 650 ft)	5 mil	clear	1 roll
270-5336	1.37 x 198 m (54 in x 650 ft)	5 mil	clear	1 roll

Cardboard Boxes with Cat® Logo

Warranty: Caterpillar® Six Months



- Material: corrugated paper

Part No.	Length x Width x Depth	Edge Crush Number (ECT)	Qty.
270-5348	213 x 213 x 210 mm (8.4 x 8.4 x 8.3 in)	32 lb	25 per package
270-5349	254 x 203 x 170.8 mm (10 x 8 x 7 in)	32 lb	25 per package
270-5350	300 x 300 x 190 mm (11.8 x 11.8 x 7.5 in)	32 lb	20 per package
270-5351	318 x 315 x 224 mm (12.5 x 12.4 x 8.8 in)	32 lb	25 per package
270-5352	356 x 356 x 229 mm (14 x 14 x 9 in)	32 lb	10 per package
270-5353	648 x 648 x 503 mm (25.5 x 25.5 x 19.8 in)	—	5 per package

PACKING SUPPLIES

Maintenance Products Box

Warranty: Caterpillar® Six Months



- The Maintenance Products box preventive maintenance items, such as filters and grease, for machine service intervals. Designed to support dealer promotional campaigns and over-the-counter part sales; the carton assembles easily and has a convenient carrying handle.
- Made of recyclable heavy duty cardboard
- Practical handle for easy transport
- Includes blank lines for recording box contents
- Simple assembly

Part No.	Size	Qty.
390-3319	483 X 457 X 381 mm (19 X 18 X 15 in)	10 per bundle
332-1471	406 X 356 X 305 mm (16 X 14 X 12 in)	20 per bundle

Bags with Cat Logo (Plastic)

Warranty: Caterpillar® Six Months



- Two-color Cat logo on front, clear on the back
- Great for parts storage and shipping
- Thickness: 1.75 ml
- Exceptional strength
- Material: linear low density polyethylene (LLDPE)

Part No.	Size	Qty.
270-5337	30.48 cm x 45.72 cm (12 x 18 in)	1000 bags/carton
270-5338	45.72 cm x 61 cm (18 x 24 in)	500 bags/carton

Shrinkfast Shrink Gun

Warranty: Caterpillar® Six Months



- Portable — 3.5 lbs
- Fast — shrinkwrap a 1016 mm x 1219.2 mm x 1524 mm (40 in x 48 in x 60 in) pallet in less than two minutes
- UL listed
- Fast shrinkwrapping — the shrink gun is faster and holds more securely than either stretch-wrapping or banding
- Versatile — the shrink gun can be used on machinery, bagged products, boxes, pallets, construction materials, chemicals, petroleum containers, metals cabinets, and shelving
- Safe — operates with a safety latch trigger to prevent unintentional firing and shuts off automatically when put down
- Product support — repair parts are available through the Caterpillar Parts Distribution system

Part No.	Description	Heat Capacity	Propane Usage	Operating Pressure	Air Consumption
4C-4515	Shrinkfast Shrink Gun	–	2.6 kg/hr (5.71 lb/hr)	22.00 psi	21 CFM
Repair Parts (Warranty: Six Months)					
4C-4512	Valve Assembly	–	–	–	–
4C-4513	Hose Adapter	–	–	–	–
4C-4514	Spark Plug	–	–	–	–
4C-4516	Regulator Assembly	–	–	–	–
4C-4517	Gauge (Pressure)	–	–	–	–
4C-4518	U.L. Guard	–	–	–	–

Paper, Poly Coat

Warranty: Caterpillar® Six Months



- Used for protecting metal parts and tools, metal sheeting interleaving, protecting goods on pallets from moisture and debris
- Fifty pound virgin kraft paper with 10 pound polycoating
- Heavy duty protection from water, grease, and oil
- Fits standard dispenser — 3-inch core with plugs that reduce it to 1 inch

Part No.	Description	Size
263-0891	Poly Coat Paper	914.4 mm x 274.3 m (36 in x 900 feet) roll

Paper, Masking

Warranty: Caterpillar® Six Months



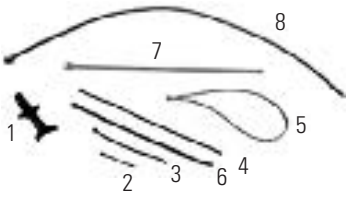
- Specially formulated, high density masking paper that helps reduce labor cost, decreases rework, and minimizes cleanup
- The paper's balanced construction offers conformability, strength, and easy handling
- Its unique, virtually "pinhole-free" construction delivers exceptional paint and solvent resistance to help eliminate bleed-through
- For protection, each roll is individually wrapped

Part No.	Size	Rolls/ Case
1U-9732	304.8 mm x 304.8 m (12 in x 1000 ft)	3
1U-9733	609.6 mm x 304.8 m (24 in x 1000 ft)	1
1U-9734	914.4 mm x 304.8 m (36 in x 1000 ft)	1

PACKING SUPPLIES

Cable Ties and Applicators

Warranty: Caterpillar® Six Months



- Used to secure wires, cables, tubes, etc.

Item	Installer Part No.	For Part No. (below)
1	1U-5228	1S-9593, 8L-8413, 3S-2093, 6K-0806
1	1U-5227	7K-1181

Item	Part No.	Bundle Diameter Range	Strap Width	Package Quantity	Installer
2	1S-9593	1.5 mm to 15.7 mm (.06 in to .62 in)	2.5 mm (0.10 in)	100	1U-5228
2	8L-8413	1.5 mm to 28.4 mm (.06 in to 1.12 in)	3.8 mm (0.15 in)	200	1U-5228
3	3S-2093	1.5 mm to 44.5 mm (.06 in to 1.75 in)	4.9 mm (0.19 in)	500	1U-5228
4	6K-0806	1.5 mm to 101.6 mm (.06 in to 4.00 in)	4.9 mm (0.19 in)	250	1U-5228
5	034-1432	1.5 mm to 203 mm (.06 in to 8.00 in)	—	1	—
6	7K-1181	4.8 mm to 101.6 mm (.19 in to 4.00 in)	7.9 mm (0.31 in)	100	1U-5227
7	5P-5148	44.5 mm to 120.6 mm (1.75 in to 4.75 in)	12.7 mm (0.50 in)	100	—
8	6V-7555	44.5 mm to 305 mm (1.75 in to 12.00 in)	12.7 mm (0.50 in)	1	—
Not shown	240-1678	12.7 mm to 79.4 mm (0.5 in to 3.125 in)	4.8 mm (0.19 in)	1000	—

Strapping, High Performance Steel

Warranty: Caterpillar® Six Months



- Great for stabilizing heavy loads during transportation
- Break strength: 972.2 kg (2150 lbs)

Part No.	Size	Thickness
270-5343	19 mm x 624.8 m (3/4 in x 2050 ft)	0.5 mm (0.02 in)

Strapping Seals

Warranty: Caterpillar® Six Months



- Easy to use strapping buckles
- Holds tension strong for nylon poly strapping
- Used with 270-5345 Nylon Cord Strapping, 12.7 mm (1/2 in) wide

Part No.	Size	Qty.
270-5344	12.7 mm (1/2 in)	1000 buckles per carton

Tie Strap Tightener, Electric

Warranty: Manufacturer's

- Tightens cable ties and cuts off excess when preset tension is attained
- Used with straps, harnesses, and hoses

Has a comfortable grip and handle for all hand sizes

- Tightens up to 12.7 mm (1/2 in) wide straps
- Weight: 454 g (16 oz)

Part No.	Description
4C-5877	Electric Tie Strap Tightener

Tie Down Straps

Warranty: Manufacturer's

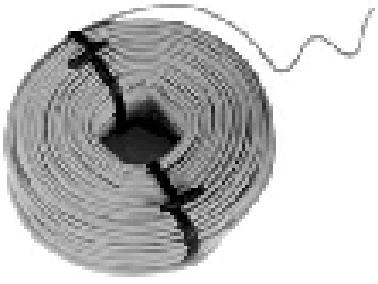


- Elastic rubber tie down straps with a hook at each end
- Material: SBR Rubber
- Excellent for general tie down applications such as tarps and covers

Part No.	Size
262-9304	8 x 12.6 x 381 mm (.31 x .50 x 15 in)
262-9305	10 x 13 x 533 mm (.39 x .50 x 21 in)

Wire, Black

Warranty: Manufacturer's



- Black annealed mechanics tie wire
- Soft and pliable—makes a perfect tie every time

Part No.	Size	Material	Qty.	Length
262-9959	18 gauge	Black iron	1 Roll	177 m (580.71 ft)

Strapping, High Performance Nylon Cord

Warranty: Caterpillar® Six Months



- Economical alternative to steel strapping
- Easy to use on a wide range of products
- Used with 270-5344 Strapping Seals, 12.7 mm (1/2 in)
- Breaking strength: 272.1 kg (600 lbs)

Part No.	Size	Color	Qty.
270-5345	12.7 mm x 1188.7 m (1/2 in x 3900 ft)	White	4 rolls per box

PACKING SUPPLIES

Tie Strap Tightener, Electric

Warranty: Manufacturer's

- Tightens cable ties and cuts off excess when preset tension is attained
- Used with straps, harnesses, and hoses
- Has a comfortable grip and handle for all hand sizes
- Tightens up to 12.7 mm (1/2 in) wide straps
- Weight: 454 g (16 oz)

Part No.	Description
4C-5877	Electric Tie Strap Tightener

Python Cinch Straps

Warranty: Caterpillar® Six Months



- Nylon with heavy duty nickel plated steel buckle
- Allows hose expansion and contraction without damage
- Easy installation and removal
- UV and Weather Resistant
- Varied lengths from 21 to 29 inches long

Part No.	Width	Length
391-2683	3.81 mm (1.5 in)	533 mm (21 in)
391-2684	3.81 mm (1.5 in)	635 mm (25 in)
391-2685	3.81 mm (1.5 in)	737 mm (29 in)

Label Maker Kit

Warranty: Caterpillar® Six Months



- Create metal labels that stand up to harsh weather, temperature and corrosion
- For tagging hoses, castings, engine components, pipes, etc.
- Heavy-duty cast aluminum body construction
- Built-in hole punch
- Front scissors cut-off—cuts tape exactly where required
- Tape advance and rewind control
- Wheel characters-selection window helps reduce embossing errors
- Also embosses 12.6 mm (1/2 in) vinyl tape
- 306-9601 tags will fit hose up to 3.25 inches in diameter

Part No.	Description	Size	Qty.
9U-7918	Label Maker Kit	–	–
	9U-7918 Label Maker Kit		
9U-7920	Aluminum Tape Roll, no adhesive	12.7 mm (1/2 in) x 4.88 m (16 ft) x 0.1524 mm (0.006 in thick)	10 per box
	Optional		
306-9601	Aluminum Hose Tag	12.7 mm (1/2 in) x 279.4 mm (11 in) x .305 mm (.012 in) thick	500 per box
9U-7920	Aluminum Tape Roll, no adhesive	12.7 mm (1/2 in) x 4.88 m (16 ft) x 0.1524 mm (0.006 in thick)	10 per box
9U-7921	Aluminum Tape Roll, with adhesive	12.6 mm (1/2 in) x 3.66 m (12 ft) x 0.33 mm (0.13 in thick)	10 per box
9U-7922	Stainless Steel Tape Roll, no adhesive	12.7 mm (1/2 in) x 6.41 m (21 ft) x 0.127 mm (.005 in thick)	10 per box

LOCKS

Padlock, Cat® Branded Combination

Warranty: Manufacturer,s, Two Years



- Cat® part number engraved on side of padlock

Part No.	Combination Type	Lock Mechanism	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1145	Resettable	4-digit dialing	50.8 mm (2 in)	7.9 mm (5/16 in)	25.4 mm (1 in)	25.4 mm (1 in)

Padlock, Cat® Branded Combination

Warranty: Manufacturer,s, Two Years



- Cat® part number engraved on side of padlock

Part No.	Combination Type	Lock Mechanism	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1146	fixed	3-digit dialing	47.6 mm (1 7/8 in)	7.1 mm (9/32 in)	20.6 mm (13/16 in)	19.0 mm (3/4 in)

Padlock, Cat® Branded High Security Brass

Warranty: Manufacturer,s, Two Years



- Lock body and shackle black with Cat® logo on both sides of bumper, Cat part number on side of bumper

Part No.	Number of Pin Tumblers	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1147	5	44.4 mm (1 3/4 in)	7.1 mm (9/32 in)	20.6 mm (13/16 in)	22.3 mm (7/8 in)

Padlock, Cat® Branded High Security Brass

Warranty: Manufacturer,s, Two Years



- Lock body and shackle black with Cat® logo on both sides of bumper, Cat part number on side of bumper

Part No.	Package Quantity	Number of Pin Tumblers	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1148	2	5	44.4 mm (1 3/4 in)	7.1 mm (9/32 in)	20.6 mm (13/16 in)	22.3 mm (7/8 in)

LOCKS

Padlock, Cat® Branded High Security Brass

Warranty: Manufacturer,s, Two Years



- Lock body and shackle black with Cat® logo on both sides of bumper, Cat part number on side of bumper

Part No.	Number of Pin Tumblers	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1149	5	44.4 mm (1 3/4 in)	7.1 mm (9/32 in)	20.6 mm (13/16 in)	63.5 mm (2 1/2 in)

Padlock, Cat® Branded High Security Brass

Warranty: Manufacturer,s, Two Years



- Lock body and shackle black with Cat® logo on both sides of bumper, Cat part number on side of bumper

Part No.	Package Quantity	Number of Pin Tumblers	Width	Shackle Diameter	Horizontal Shackle Clearance	Vertical Shackle Clearance
285-1150	4	5	44.4 mm (1 3/4 in)	7.1 mm (9/32 in)	20.6 mm (13/16 in)	63.5 mm (2 1/2 in)

Ladders, Step and Shelf

Warranty: Caterpillar® Six Months





Step Ladder

- Fiberglass nonconductive industrial step ladder designed for everyday use
- Extra heavy-duty, 136 kg (300 lb) weight rating
- Thick non-marring rubber tread provides a slip resistant footing
- Wide back braces provide maximum stiffness and discourages unsafe climbing
- Full channel fiberglass rails are covered with a polyester veil for years of service
- Double-rivet step construction with tubular steel rivets for maximum strength
- Nonconductive structural molded top with tool slots is extremely durable (slots help keep tools close at hand)
- Spreader braces are located inside rails to help protect them from getting hooked or damaged in transit
- Reinforced bottom back brace provides additional strength to bottom of ladder

Shelf Ladder

- Aluminum industrial shelf ladder for everyday industrial use
- Extra heavy-duty, 136 kg (300 lb) weight rating
- Steps are level when ladder is set at 72 degrees
- Equipped with thick rubber bumpers extending 152 mm (6.0 in) from top of ladder down side rails
- Two pair of heavy duty steel gussets support bottom step
- Angled feet with thick rubber tread on both legs provide sure footing
- Each step is secured with solid aluminum rivets for maximum strength

Part No.	Description	Height	Step Size	Bottom Width	Approx. Spread	Approx. Weight
263-1022	Shelf Ladder	2.4 m (7.87 ft)	7.6 cm (2.99 in)	38.1 cm (15 1/64 in)	–	7.7 kg (16.98 lb)
263-1030	Step Ladder	1.2 m (3.94 ft)	7.6 cm (2.99 in)	45.7 cm (18 1/64 in)	71 cm (27.95 in)	5.9 kg (13.01 lb)
263-1031	Step Ladder	2.4 m (7.87 ft)	7.6 cm (2.99 in)	61.0 cm (24 1/64 in)	132 cm (51.97 in)	12.2 kg (26.90 lb)

CLEANING EQUIPMENT AND SUPPLIES

Brooms

Warranty: Caterpillar® Six Months



Push Broom

- 100% Select black tampico
- Clear lacquered half-round hardwood block
- Recommended for dry sweeping semi smooth floors
- Handle not included

Whisk Broom

- Made of selected fine broom corn
- Sewn twice for strength
- Plated ring cap

Handle

- Selected hardwood with clear lacquered finish
- One end rounded and other end equipped with crimped on metal thread to fit standard floor brush blocks

Part No.	Description	Size	Qty.
263-0794	Push Broom	609 mm (24 in) wide	1
263-0796	Broom Handle	23.8 x 1524 mm (15/16 x 60 in)	1

Janitorial Equipment

Warranty: Caterpillar® Six Months



Janitorial Bucket

- Side pressure wringer
- 7.6 cm (3 in) casters
- Color: yellow
- Size: (L x W x H) 33 x 33 x 68.6 cm (13 x 13 x 27 in)

Mop Heads

- Lay-flat style
- Screw-type mount
- Use with 264-4364 Mop Handle

Mop Handle

- Lay-flat style
- Screw-type mount
- Metal cap

Part No.	Description	Material	Size	Qty.
264-4361	Rayon Mop Head	4-ply rayon	0.9 kg (32 oz)	1
264-4363	Cotton Mop Head	4-ply cotton	0.68 kg (24 oz)	1
264-4364	Mop Handle	Hardwood	152.4 cm (60 in) long	1

Trash Can or Waste Receptacle Liners

Warranty: Caterpillar® Six Months



- Plastic, super durable trash can liners with superior stretch and tear resistance
- Bottom designed for added strength and greater leak resistance

Part No.	Strength	Capacity	Liner Size	Quantity/ Roll
263-0885	Medium (10-12 micron)	57 L (15 gal)	60.96 cm x 81.28 cm (24 in x 32 in)	500
263-0886	Heavy (12-14 micron)	125 L (33 gal)	83.82 cm x 99.06 cm (33 in x 39 in)	250
263-0887	Extra-Heavy (15-17 micron)	208 L (55 gal)	91.44 cm x 144.78 cm (36 in x 57 in)	200

Garbage Bags, Heavy Duty

Warranty: Caterpillar® Six Months



- Made from the highest quality raw materials
- Mineral reinforced to enhance physical properties
- Exceptional strength
- Performance bottom seal resists leakage
- Individually-folded in space-saving packaging

Part No.	Size	Capacity	Color	Qty.
270-5346	1092 x 1193.8 cm (43 x 47 in) 212 L (56 gallon)	22.7 kg (50.04 lb)	HMW-HDPE Gray	100 bags/ case

CLEANING EQUIPMENT AND SUPPLIES

Cups, Paper

Warranty: Caterpillar® Six Months



- Two-piece construction with tightly rolled rim
- Fully wax coated inside and out with a satin finish

Part No.	Description	Capacity	Qty.
263-0884	Paper Cups	238.8 ml (8 oz)	2000 per case

Eye Loupe

Warranty: Caterpillar® Six Months



- 25.4 mm (1 in) depth
- 12X power
- Extremely portable

Part No.	Description
8S-2257	Loupe

Creeper

Warranty: Caterpillar® Six Months



- Rugged, one-piece, plastic body construction
- Easy-to-clean surface is resistant to solvents, greases, and fuels
- Body-fitting design, contoured to provide optimum comforte
- Low profile, gives maximum workspace but still clears air hoses
- Six pop-in urethane wheels resist corrosion and provide a smooth rid

Part No.	Description	Dimensions	Wheel Size	Clearance
172-0852	Creeper	965 x 445 x 102 mm (38.0 x 17.5 x 4.0 in)	51 mm (2 in)	22.2 mm (0.87 in)
172-0853	Replacement wheel	–	51 mm (2 in)	–

Funnel Kit

Warranty: Caterpillar® Six Months



- Includes one 1-pint funnel and two 1-quart funnels

Part No.	Description
268-5809	Funnel Kit

Funnel

Warranty: Caterpillar® Lifetime



Part No.	Description	Length	Material
268-5814	Funnel	457.2 mm (18 in)	Plastic

Sink Filter Sock Kit

Warranty: Caterpillar® Six Months



- Sock filter for solvent stands
- Removes oil from washer solvents
- Two Diatomaceous Earth-filled filter bags, one hose

Part No.	Description
189-5637	Sink Filter Sock Kit

Stopwatch, Digital

Warranty: Caterpillar® Six Months



- Large digits for easy viewing
- Start/Stop button on both left and right sides
- 10-hour maximum time setting
- Water Resistant
- Five-year battery

Part No.	Description
386-3238	Digital Stopwatch

Paint, Canada

Contact Information:

Global Dealer Solutions Network
Parts Technical Support Team
Toll Free - North America: 1-877-228-2420
International: +1-309-266-4421
Email: Tech_Support@Cat.com

- Meets requirements for 2.8 VOC

Part No.	Description	Size
12-Ounce (355 ml) Aerosols (sold by case of twelve)		
479-5400	Standard Performance Topcoat - Caterpillar yellow	12 oz (355 ml) Aerosol
479-5395	Standard Performance Primer – Yellow	12 oz (355 ml) Aerosol
479-5399	Standard Performance Topcoat - High Gloss Black	12 oz (355 ml) Aerosol
479-5398	Standard Performance Topcoat - Medium Gloss Black	12 oz (355 ml) Aerosol
479-5397	Standard Performance Topcoat - Low Gloss Black	12 oz (355 ml) Aerosol
479-5396	Hi-Temp Topcoat - Black	12 oz (355 ml) Aerosol
479-5402	Standard Performance Topcoat - Matterhorn White	12 oz (355 ml) Aerosol
479-5403	Standard Performance Topcoat - Power Module White	12 oz (355 ml) Aerosol
479-5401	Standard Performance Topcoat - Mohave Brown	12 oz (355 ml) Aerosol
479-5404	Standard Performance Topcoat - Safety Red	12 oz (355 ml) Aerosol
One-Gallon (3.79 L) Cans (sold by case of four)		
458-9626	Standard Performance Topcoat - Caterpillar yellow	1 Gal Can (3.79 L)
458-9631	Standard Performance Primer – Yellow	1 Gal Can (3.79 L)
458-9625	Standard Performance Topcoat - High Gloss Black	1 Gal Can (3.79 L)
458-9623	Standard Performance Topcoat - Medium Gloss Black	1 Gal Can (3.79 L)
458-9622	Standard Performance Topcoat - Low Gloss Black	1 Gal Can (3.79 L)
458-9630	Standard Performance Topcoat - Matterhorn White	1 Gal Can (3.79 L)
458-9629	Standard Performance Topcoat - Power Module White	1 Gal Can (3.79 L)
Five-Gallon Pails (19L)		
458-9627	Standard Performance Topcoat - Caterpillar yellow	5 Gal Pail (19L)
458-9632	Standard Performance Primer – Yellow	5 Gal Pail (19L)
458-9624	Standard Performance Topcoat - Medium Gloss Black	5 Gal Pail (19L)
55-Gallon Drums (208 L)		
458-9628	Standard Performance Topcoat - Caterpillar yellow	55 Gal Drum (208 L)

Paint, Countries in EUR, AMEC and APD Regions

Contact Information:

Global Dealer Solutions Network
Parts Technical Support Team
Toll Free - North America: 1-877-228-2420
International: +1-309-266-4421
Email: Tech_Support@Cat.com

Part No.	Description	Size
12-Ounce (355 ml) Aerosols (sold by case of twelve)		
479-5400	Standard Performance Topcoat - Caterpillar yellow	12 oz (355 ml) Aerosol
479-5395	Standard Performance Primer – Yellow	12 oz (355 ml) Aerosol
479-5399	Standard Performance Topcoat - High Gloss Black	12 oz (355 ml) Aerosol
479-5398	Standard Performance Topcoat - Medium Gloss Black	12 oz (355 ml) Aerosol
479-5397	Standard Performance Topcoat - Low Gloss Black	12 oz (355 ml) Aerosol
479-5396	Hi-Temp Topcoat - Black	12 oz (355 ml) Aerosol
479-5402	Standard Performance Topcoat - Matterhorn White	12 oz (355 ml) Aerosol
479-5403	Standard Performance Topcoat - Power Module White	12 oz (355 ml) Aerosol
479-5404	Standard Performance Topcoat - Safety Red	12 oz (355 ml) Aerosol
One-Gallon (3.79 L) Cans (sold by case of four)		
479-5392	Standard Performance Topcoat - Caterpillar yellow	1 Gal Can (3.79 L)
479-5394	Standard Performance Primer - Yellow	1 Gal Can (3.79 L)
479-5388	Standard Performance Topcoat - High Gloss Black	1 Gal Can (3.79 L)
479-5389	Standard Performance Topcoat - Medium Gloss Black	1 Gal Can (3.79 L)
479-5391	Standard Performance Topcoat - Matterhorn White	1 Gal Can (3.79 L)
Five-Gallon Pails (19L)		
479-5393	Standard Performance Topcoat – Caterpillar yellow	5 Gal Pail (19L)

Paint, America's South and United States (except CA, CT, DE, MD and Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber Counties, UT)

Contact Information:

Global Dealer Solutions Network
Parts Technical Support Team
Toll Free - North America: 1-877-228-2420
International: +1-309-266-4421
Email: Tech_Support@Cat.com

Part No.	Description	Size
	12-Ounce (355 ml) Aerosols (sold by case of twelve)	
458-9587	Standard Performance Topcoat - Caterpillar yellow	12 oz (355 ml) Aerosol
458-9582	Standard Performance Primer – Yellow	12 oz (355 ml) Aerosol
458-9586	Standard Performance Topcoat - High Gloss Black	12 oz (355 ml) Aerosol
458-9585	Standard Performance Topcoat - Medium Gloss Black	12 oz (355 ml) Aerosol
458-9584	Standard Performance Topcoat - Low Gloss Black	12 oz (355 ml) Aerosol
458-9583	Hi-Temp Topcoat - Black	12 oz (355 ml) Aerosol
458-9589	Standard Performance Topcoat - Matterhorn White	12 oz (355 ml) Aerosol
458-9590	Standard Performance Topcoat - Power Module White	12 oz (355 ml) Aerosol
458-9588	Standard Performance Topcoat - Mohave Brown	12 oz (355 ml) Aerosol
458-9621	Standard Performance Topcoat - Safety Red	12 oz (355 ml) Aerosol
	One-Gallon (3.79 L) Cans (sold by case of four)	
458-9576	Standard Performance Topcoat - Caterpillar yellow	1 Gal Can (3.79 L)
458-9579	Standard Performance Primer - Yellow	1 Gal Can (3.79 L)
458-9571	Standard Performance Topcoat - High Gloss Black	1 Gal Can (3.79 L)
458-9572	Standard Performance Topcoat - Medium Gloss Black	1 Gal Can (3.79 L)
458-9570	Standard Performance Topcoat - Low Gloss Black	1 Gal Can (3.79 L)
458-9574	Standard Performance Topcoat - Matterhorn White	1 Gal Can (3.79 L)
458-9581	Standard Performance Topcoat - Dawn Gray	1 Gal Can (3.79 L)
458-9575	Standard Performance Topcoat - Mojave Brown	1 Gal Can (3.79 L)
	Five-Gallon Pails (19L)	
458-9577	Standard Performance Topcoat - Caterpillar yellow	5 Gal Pail (19L)
458-9580	Standard Performance Primer - Yellow	5 Gal Pail (19L)
458-9573	Standard Performance Topcoat - Medium Gloss Black	5 Gal Pail (19L)
	55-Gallon Drums (208 L)	
458-9578	Standard Performance Topcoat - Caterpillar yellow	55 Gal Drum (208 L)

Paint - California, Connecticut, Delaware, Maryland and Box Elder, Cache, Davis, Salt lake, Tooele, Utah and Weber Counties, Utah

Contact Information:

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Toll Free - North America: 1-877-228-2420
International: +1-309-266-4421
Email: Tech_Support@Cat.com

- Meets requirements for 2.8 VOC

Part No.	Description	Size
	12-Ounce (355 ml) Aerosols (sold in cases of twelve)	
458-9587	Standard Performance Topcoat - Caterpillar yellow	12 oz (355 ml) Aerosol
458-9582	Standard Performance Primer – Yellow	12 oz (355 ml) Aerosol
458-9586	Standard Performance Topcoat - High Gloss Black	12 oz (355 ml) Aerosol
458-9585	Standard Performance Topcoat - Medium Gloss Black	12 oz (355 ml) Aerosol
458-9584	Standard Performance Topcoat - Low Gloss Black	12 oz (355 ml) Aerosol
458-9583	Hi-Temp Topcoat - Black	12 oz (355 ml) Aerosol
458-9589	Standard Performance Topcoat - Matterhorn White	12 oz (355 ml) Aerosol
458-9590	Standard Performance Topcoat - Power Module White	12 oz (355 ml) Aerosol
458-9588	Standard Performance Topcoat - Mohave Brown	12 oz (355 ml) Aerosol
458-9621	Standard Performance Topcoat - Safety Red	12 oz (355 ml) Aerosol
	One-Gallon (3.79 L) Cans (Sold by case of four)	
458-9626	Standard Performance Topcoat - Caterpillar yellow	1 Gal Can (3.79 L)
458-9631	Standard Performance Primer – Yellow	1 Gal Can (3.79 L)
458-9625	Standard Performance Topcoat - High Gloss Black	1 Gal Can (3.79 L)
458-9623	Standard Performance Topcoat - Medium Gloss Black	1 Gal Can (3.79 L)
458-9622	Standard Performance Topcoat - Low Gloss Black	1 Gal Can (3.79 L)
458-9630	Standard Performance Topcoat - Matterhorn White	1 Gal Can (3.79 L)
458-9629	Standard Performance Topcoat - Power Module White	1 Gal Can (3.79 L)
	Five-Gallon Pails (19L)	
458-9627	Standard Performance Topcoat - Caterpillar yellow	5 Gal Pail (19L)
458-9632	Standard Performance Primer – Yellow	5 Gal Pail (19L)
458-9624	Standard Performance Topcoat - Medium Gloss Black	5 Gal Pail (19L)
	55-Gallon Drums (208 L)	
458-9628	Standard Performance Topcoat - Caterpillar yellow	55 Gal Drum (208 L)

PAINT AND CHEMICALS

Dyes for Leak Detection, UV Visible

Warranty: Manufacturer's



- Detects leaks in light or dark oils, fuels, water solutions

Part No.	Description	Size	Dosage
To detect oil leaks in engines, transmission, hydraulic systems, etc.			
1U-5572	Oil Glo 22 Additive	28.4 g (1 oz) bottle	28.4 g (1 oz) per 7.58 L (2 gal) of oil
1U-5573	Oil Glo 22 Additive	0.47 L (1 pt) bottle	28.4 g (1 oz) per 7.58 L (2 gal) of oil
To detect fuel leaks or suspected fuel dilution			
1U-5574	Gas Glo 32 Additive	28.4 g (1 oz) bottle	28.4 g (1 oz) per 37.9 L (10 gal) of gasoline or diesel fuel
1U-5575	Gas Glo 32 Additive	0.47 L (1 pt) bottle	28.4 g (1 oz) per 37.9 L (10 gal) of gasoline or diesel fuel
To detect cooling system leaks, use:			
1U-5576	Water Glo 23 Additive	28.4 g (1 oz) bottle	28.4 g (1 oz) per 151.6 L (40 gal) of water
1U-5577	Water Glo 23 Additive	0.47 L (1 pt) bottle	28.4 g (1 oz) per 151.6 L (40 gal) of water

Ether Cylinder

Warranty: Manufacturer's



- Cold weather starting aid
- Heavy-duty construction
- Quick starts from -45.5°C (-50°F)
- Easy to install, hand tighten
- 7.6 cm (3 in) diameter
- For measured shot systems

Part No.	Qty.	Size
7X-1062	12	21 oz (595 g)
7N-0296	12	18 oz (510 g)
130-8414	12	8 oz (226 g)

Sprayers, Reusable, Bulk-Liquid

Warranty: Caterpillar® Six Months



- Used to apply oil and water-based bulk chemicals, such as cleaners, degreasers, penetrating oils, solvents, or lubricants
- Compressed air sprayers provide a cost effective, reusable alternative to traditional spray cans (eliminates both storage and disposal concerns)
- Cat compressed air sprayers use a special chemical-resistant internal seal which virtually eliminates seal replacement problems found in standard sprayers
- Eliminate using flammable and/or environmentally dangerous propellants
- Canisters pressurized with compressed air from any standard air compressor
- Both sprayers constructed with metal canisters (steel or brass), brass nozzles, and corrosion resistant internal parts
- Steel canister sprayers are used for oil and solvent-based materials while brass canisters can also be used for water-based materials
- Cannot be used for paint application
- Capacity: 0.9 l (32 oz)

Part No.	Description
231-7015	Steel Canister Sprayer
Service Parts	
231-7016	Adjustable Tube
231-7017	Seal
231-7018	Nozzle

Ultrasonic Couplant, Cat®

Warranty: Caterpillar® Six Months



- Required for use with Cat Ultrasonic Wear Indicator III tool, Ultrasonic Wear Indicator IV and the Intrinsically Safe Ultrasonic Thickness Gauges
- High viscosity, no-drip formula
- Operating ranges 10 to 220 degrees F (-12 to 104 degrees celcius)
- 94 ml (3.2 fl-oz)

Part Number	Description
505-8671	Cat® Ultrasonic Couplant
Service/Repair Parts	
1U-7445	Nicad Battery, rechargeable, package qty 1 (5 required to power Indicator III)
1U-9533	AA Alkaline Battery, non-rechargeable, package qty 96 (5 required to power Indicator III)
4C-5490	Couplant Holder
Optional Items (Sold Separately)	
4C-5488	Cable Assembly RS232 — to transfer thickness values to the CTS program in a PC AT version
4C-5489	Cable Assembly RS232 — to transfer thickness values to the CTS program in a PC XT version
4C-5897	Modem Cable
9U-6175	Soft Protective Case

Ultrasonic Couplant, VersaSonic High-Temperature, High-Viscosity

Warranty: Manufacturer's 5-Year Shelf Life and Performance. Contact 360-671-9121 or sales@echoultrasonics.com.



- An ultrasonic couplant for harsh conditions including rain, snow, mud and all temps
- 4 oz, biodegradable
- Operating Range: -10 to 750°F /-23 to 398°C
- Superior, long-term corrosion inhibition
- Compatible with plastics
- For use with Cat® Ultrasonic Wear Indicator IV and Intrinsically Safe Ultrasonic Thickness Gauges

Part No.	Description	Weight
545-8721	VersaSonic High-Temperature, High-Viscosity Ultrasonic Couplant	0.23 kg (0.5 lb)

Nozzle Cleaner

Model Usage: C7, C9, C13 and C15 Engines

Warranty: Caterpillar® Six Months



- For USA and Canada dealers only
- Required for cleaning the ARD Nozzle on Cat® engines equipped with purge air nozzles.
- Increases safety and reduces assembly time
- Sold by case only (case contains 12 units)

Part No.	Description	Dimensions	Weight
535-8931	Nozzle Cleaner	Package is 2.5 x 4.125 x 2 in	0.058 kg (0.128 lb)

PAINT AND CHEMICALS

Kynetx A/C Flushing Solvent

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@Chemtool.com or 815-389-0150



- Kynetx A/C Flushing Solvent is a refrigerant flushing solution used to flush out old A/C refrigerants and contaminants when changing and charging new refrigerant.
- Flushes lubricant contaminants and solids from A/C system lines
- Compatible with CFC, HCFC and HFC refrigerants
- Compatible with mineral, ester, and PAG oil lubricants
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1523	Kynetx A/C Flushing Solvent	190 x 132 x 61 mm (7.5 x 5.2 x 2.4 in)	3.8 L (1 gallon) 3.3 kg (7.25 lb)

Kynetx HD Cabinet and Spray Cleaner

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@Chemtool.com or 815-389-0150



- Replaces 174-6854 and 174-6855
- Kynetx HD Cabinet and Spray Cleaner is a concentrated liquid alkaline cleaner used primarily in industrial applications for in-process cleaning of ferrous metals.
- Highly effective for rust removal, paint stripping and zinc phosphate removal
- Residual films of HD Cabinet and Spray Cleaner can provide corrosion protection for parts in storage and during shipping.
- Extremely low foaming characteristics ideal for high-pressure spray and pressure washers
- Imperceptible thin film corrosion preventative offers superior rust protection and weldable surface.
- Exceptional hard water stability keeps washers clean.
- Ideal for removal of stearates and rust
- Lean concentrations assure low consumption and cost effectiveness.
- Contains no phosphates, nitrites or silicones
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1524	Kynetx HD Cabinet and Spray Cleaner	89 x 58 cm (35 x 23 in)	55 Gallon Drum 200 kg (440 lb)

Kynetx A/C PAG Oil ISO 100

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@Chemtool.com or 815-389-0150



- Replaces 4C-2959
- Low viscosity refrigerant oil for R-134a
- Provides superior protection against compressor wear
- Prevents lubrication breakdown
- Provides hydrodynamic, elasto-hydrodynamic, boundary and extreme pressure lubrication
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1528	Kynetx A/C PAG Oil ISO 100	95 x 69 mm (3.75 x 2.7)	8 fl oz (240 mL) Can 0.67 kg (1.5 lb)

Kynetx A/C PAG Oil 488

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 9U-7551
- Kynetx A/C PAG Oil 488 is a polyalkylene glycol (PAG) lubricant designed specifically for use with refrigerant R-134a.
- High-viscosity refrigeration lubricant that exhibits good miscibility in R-1324a
- Provides superior lubricity
- Polyalkylene glycol oil
- Formulated for use with R0-134a refrigerants
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1537	Kynetx A/C PAG Oil 488	3.75 high x 2.7 dia. in (95 x 69 mm)	8 fl oz (240 mL) Can 0.34 kg (0.75 lb)

Kynetx Assembly Lubricant

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 207-1601
- Kynetx Assembly Lubricant is a water-based emulsion designed to aid in the assembly process for the installation of all types of rubber tubing, rubber hoses and tires where the intention is not to swell or shrink.
- Provides a high degree of lubricity while wet
- Specially formulated to lubricate rubber for easier installation, removal and manipulation
- Provides temporary lubrication as lubricant disappears and surfaces return to original condition
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1525	Kynetx Assembly Lubricant	190 x 132 x 61 mm (7.5 x 5.2 x 2.4 in)	32 fl oz Bottle 0.9 kg (2 lb)

Kynetx Aluminum Safe Cabinet and Spray Cleaner

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 1U-5490
- Kynetx Aluminum Safe Cabinet and Spray Cleaner is a specially formulated liquid alkaline cleaner designed for industrial applications for in-process cleaning of sensitive aluminum alloys that are prone to staining in alkaline systems.
- Using the latest available additive technology for improved detergency and wetting, this cleaner offers exceptional cleaning properties for the removal of most industrial contaminants, particularly smut and fine particulate entrained into the substrates surface.
- Extremely low foaming characteristics, ideal for high-pressure washers
- Safe on sensitive aluminum alloys such as 5000-, 6000- and 7000-series alloys
- Exceptional hard water stability keeps washers clean.
- Lean concentrations assure low consumption and cost effectiveness.
- High detergency/surfactant package provides added cleaning power beyond alkalinity.
- Phosphate, nitrite and silicone free
- Contains silicates
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1526	Kynetx Aluminum Safe Cabinet and Spray Cleaner	375 x 238 x 298 mm (14.75 x 9.375 x 11.75 in)	5 Gallon Pail 22.7 kg (50 lb)

PAINT AND CHEMICALS

Kynetx Calibration Fluid

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@Chemtool.com or 815-389-0150



- Replaces 6V-6067 and 6V-6068
- Kynetx Calibration Fluid is specifically formulated for use as a calibrating fluid in fuel injector test benches and pop testers.
- Meets SAE J967d and ISO/DIS 4113
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
486-1533	Kynetx Calibration Fluid	375 x 238 x 298 mm (14.75 x 9.375 x 11.75 in)	5 Gallon Pail 19 kg (42 lb)

Kynetx Camshaft and Follower Lubricant

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@Chemtool.com or 815-389-0150



- Replaces 8T-2998
- Kynetx Camshaft and Follower Lubricant is designed to be used as a lubricant for potential wear surfaces prior to assembly. This prevents metal-to-metal contact upon startup before adequate lubrication is supplied.
- Provides three times greater film strength than conventional motor oils and will not clog oil filters
- Clings to all surfaces and is an excellent rust inhibitor, allowing the storage of parts for many months
- Mixes with motor oil and can be used on all lubricated parts, such as followers, pistons, bearings, and bolt threads
- Excellent corrosion inhibitor: can be used on machined surfaces to provide long-term corrosion protection
- Do not use on exhaust bolts or other high-temperature bolts which require an anti-seize.
- Can be used as a polishing oil for camshafts or crankshafts
- High viscosity enables it to cling to unassembled parts
- Excellent anti-wear package prevents excessive wear at startup.
- Low odor
- Excellent stick-slip lubrication assures smooth break in.
- Apply with brush or dip whole parts.
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions (H x Dia.)	Weight
486-1534	Kynetx Camshaft and Follower Lubricant	95 x 69 mm (3.75 x 2.7)	8 fl oz (240 mL) Can 0.34 kg (0.75 lb)

Kynetx Red Dye

Warranty: Manufacturer's Six Months

Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 9U-5031
- Highly concentrated oil-soluble dye adds color to lubricating oils, transmission oils, hydraulic oils and fuels.
- Visible at concentrations of 1 part per 10,000
- Codes oils to prevent mix-ups
- Identifies sources of leaks
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions (H x Dia.)	Weight
486-1535	Kynetx Red Dye	95 x 69 mm (3.75 x 2.7 in)	8 fl oz. Can 0.34 kg (0.75 lb)

Kynetx Blue Dye

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 9U-5032
- Highly concentrated oil-soluble dye adds color to lubricating oils, transmission oils, hydraulic oils and fuels.
- Visible at concentrations of 1 part per 10,000
- Codes oils to prevent mix-ups
- Identifies sources of leaks
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions (H x Dia.)	Weight
486-1536	Kynetx Blue Dye	95 x 69 mm (3.75 x 2.7 in)	8 fl oz. Can 0.34 kg (0.75 lb)

Kynetx VCI-F Oil

Warranty: Manufacturer's Six Months
Contact #ChemtoolCustomerAssistance@ Chemtool.com or 815-389-0150



- Replaces 4C-6794
- A vapor-phase corrosion inhibitor and flushing fluid which can be used to protect internal tanks from corrosion, enable flush tanks to disperse debris and offer protection for the external surfaces of parts
- Contains <15 ppm sulfur and is compatible with fuel, lubricating and hydraulic oils
- Contains a special low pour point synthetic ester contact-inhibitor blend, which will not varnish, harden or react with cleaner residues left in systems
- This volatile corrosion-inhibitor blend will protect the head space in "closed systems" such as engines, transmissions, hydraulic tanks and cylinders, gear housings, fuel tanks and steel drums.
- Duration of the vapor-phase protection provided depends on the tank seal.
- If tank is hermetically sealed or bagged with LDPE (>0.125 mm thick) plastic and sealed, several years' protection can be achieved.
- For incompletely sealed systems, periodic endoscope inspection and reapplication may be required.
- Distinguishable from conventional preservative oils providing both vapor-phase and contact corrosion protection
- Effective for the transport and storage of fuel tanks, hydraulic tanks and ferrous components
- Designed to lift, displace and encapsulate adsorbed water and washer residue from surfaces to protect against corrosion and staining
- Available for dealers in America's North and America's South regions, except Brazil

Part No.	Description	Dimensions	Weight
516-0277	Kynetx VCI-F Oil	375 x 238 x 298 mm (14.75 x 9.375 x 11.75 in)	5 Gallon Pail 19 kg (42 lb)

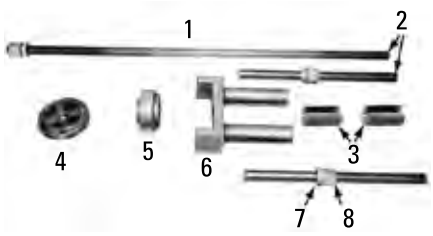
Track Roller Frame Boring Tools

Model Usage: D8H, D9G Tractors; 583H, 594 Pipelayers

Warranty: Caterpillar® Six Months

- Used to rework mounting pockets in frame to original size
- On D8H, D9G Tractors, and 583H, 594 Pipelayers, track roller assembly is bolted to integral part of roller frame; in severe applications, if bolts securing end collars to roller frame are allowed to work loose, roller shaft can wallow out mounting pockets in frame; once pockets become enlarged, it is impossible to hold shaft securely to frame

Tool Group



- Used for removal of recoil spring when front pilot is broken
- Tie bolt (1) and studs (2) must be made of high strength steel having minimum yield strength of 7030 kg/cm 2 (100,000 PSI)
- Will also control expansion after front cover has been removed
- Other parts can be fabricated using SAE1020 steel
- Large size drawings available

Item	Description	Quantity
1	Center Tie Bolt	
2	Studs	2
3	Spacers	2
4	Plate	
5	Pilot	
6	Fixture	
Not shown	Installation Plate	

Item	Part Number	Description	Quantity
7	3H-0467	Washer	3
8	3H-0466	Nut	3

⚠ WARNING

Make center tie bolt from high strength steel having a 7030 kg/cm^2 (100,000 PSI) minimum yield strength. Make studs from high strength steel having a 100,000 PSI minimum yield strength.

Compressor Group

Model Usage: D5K Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to contain spring (acts as a cage) when using a hydraulic shop press to disassemble and assemble recoil spring assembly
- Also used with 316-1494 Cylinder for field disassembly and assembly of recoil spring assembly
- Heavy-duty steel with black oxide coating
- Heat-treated plates for added durability
- 6B-6682 Nut and 5P-8248 Hard Washer are serviceable

Reference

- NEHS1013, Tool Operating Manual, 311-0964 Compressor Group

Part Number	Description
311-0964	Compressor Group

Spacer

Model Usage: 305 Excavator

Warranty: Caterpillar® Six Months



- Used to service recoil spring by providing smaller hole in bench
- Used with 4C-9540 Recoil Spring Disassembly and Assembly Bench

Part Number	Description
275-5820	Spacer

FRAME AND RECOIL SPRING

Track Recoil D&A Bench

Model Usage: 305.5-5090 Excavators & some Oval Design Track-Type Tractors

Warranty: Caterpillar® One Year

- Used to safely contain front roller frame recoil spring during disassembly and assembly procedure
- Used on excavators and some oval design track-type tractors
- Designed to withstand 75 tons of spring compression
- Used with 223-3506 Cylinder and Hose Group

Reference:

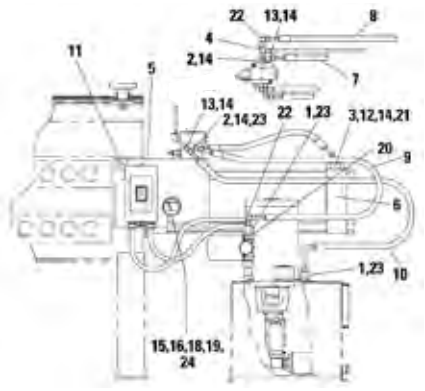
- NEHS0837, Tool Operating Manual

Part Number	Description
4C-9540	Track Recoil D&A Bench

Cylinder and Hose Group

Model Usage: Oval Track Undercarriage

Warranty: Caterpillar® Six Months



- Used with 4C-9540 Bench Group and power supply
- Used to compress undercarriage springs
- Applies up to 75 tons of compression force
- Long cylinder stroke eliminates or reduces the use of adapters
- Power supply must be ordered to meet specific electrical requirements of user

Reference

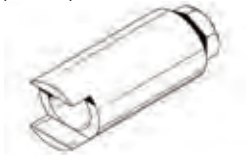
- SENR6159
- SENR1647
- SMHS8096

Item	Part No.	Description
—	223-3506	Cylinder and Hose Group
		Service/Repair Parts
1	030-6936	Flared Reducer
2	030-7936	O-ring Connector
3	030-7942	Elbow
4	061-9258	Swivel Tee
5	164-5778	Bracket
6	165-5422	Hydraulic Cylinder
7	166-7565	Hose Assembly (Not Serviced)
8	166-7566	Hose Assembly (Not Serviced)
9	166-7567	Hose Assembly (Not Serviced)
10	166-7568	Hose Assembly (Not Serviced)
11	1C-0569	Bolt
12	1U-1577	Plug
13	2P-7214	Elbow
14	3J-1907	O-ring Seal for 5P-9617 Adapter
15	3R-4437	Nut
16	3R-4463	Sleeve
17	4B-4994	Setscrew (3/8-16)
18	5P-6623	Tube (Not Serviced)
19	5P-8869	Flared Connector
20	5P-9172	Flared Connector
21	6K-6307	O-ring
22	6K-9194	Elbow
23	8M-0744	Flared Nut
24	8T-0852	Gauge Group — Pressure
		Power Supplies
—	140-6241	Power Supply Group (220/380/440 VAC, 50 Hz, 3-phase)
—	146-2460	Power Supply Group (220 VAC, 50/60 Hz, 1-phase)
—	146-2461	Power Supply Group (230/460 VAC, 50/60 Hz, 1-phase)
—	149-7359	Power Supply Group (115 VAC, 60 Hz, 1-phase)

Socket Wrench Assembly

Model Usage: 322 and 322B Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install retaining nut that holds recoil spring in compression
- Used with 4C-9540 Recoil Spring Disassembly and Assembly Bench
- Makes adjustment of recoil spring assembly length easier and safer

References

- SENR6159, Disassembly/Assembly 322, 322L, 322N and 322LN excavators machine systems
- SENR1647, Disassembly and Assembly 322B and 322BL Excavators Machine Systems

Specifications

- Outside diameter: 66.7 mm (2.63 in)
- Inside diameter: 47.6 mm (1.87 in)
- Overall length: 13.97 cm (5.50 in)
- Distance between flats: 47.6 mm (1.87 in)
- Drive size: 1 7/8 in Hex

Part Number	Description
142-4212	Socket Wrench Assembly

Seal Starter

Model Usage: D10N, D11N, D4H, D5H, D6H, D7H, D8L, D8N, D9N

Warranty: Caterpillar® Six Months



- Used for installation of large shear seals inside recoil spring housing on H and L Series track-type tractors; interference fit of these seals makes them difficult to start into housing without distortion or damage; 1U-5753 allows seal to be started squarely into bore without cocking or rebounding that can occur when using only a hammer
- Correct assembly of 1U-5753 aided by markings, such as 5D, stamped near curved ends of plates; numbers indicate tractor model and letters indicate use of plate end as pilot (P) or driving member (D) of assembly
- Pilot plates fit seal's inner diameter; driving plates push against outside ring of seal; reaction plates push against inner shoulder of recoil spring housing
- Tractor models up through D9 require reaction plates to be mounted on 6V-3009 Bar; larger housings on D10 and D11 tractors require reaction plates to be mounted 8B-7548 Bearing Puller Assembly

Item	Description
1	Center Plate
2	Driving Plate
3	Pilot Plate
4	Reaction Plate
6	Stud

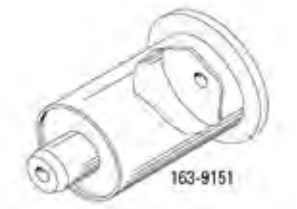
Item	Part Number	Description
—	1U-5753	Seal Starter
5	6V-3009	Cross Bar
5	8B-7548	Puller Assembly — Bearing

Pilot

Essential Tool

Model Usage: D9, D10, D11 Track-Type Tractors; 578, and 589 Pipe Layers

Warranty: Caterpillar® Six Months



- Used to remove or install recoil springs (provides correct spacing and size of tools)
- Requires three FT2631 Washers and one 163-9151 Pilot
- Read the specific machines Disassembly and Assembly (D&A) Instructions before working on any recoil assembly

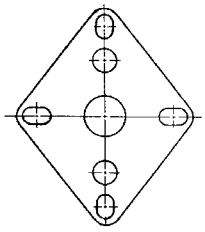
Part Number	Description
163-9151	Pilot

FRAME AND RECOIL SPRING

Plate

Model Usage: 943, 953, 963 and 973 Track Loaders

Warranty: Caterpillar® Six Months



- Used for compressing recoil springs
- 4C-6166 Plate adapts to 943 and 953 as well as the 963 and 973 Track Loaders, all of which now have stronger springs

Model	Maximum Assembly Force	Maximum Assembly Pressure with 8S-7172 Cylinder
943 Track Loader	77,900 N (17,500 lb)	5850 kPa (850 PSI)
953 Track Loader	89,000 N (20,000 lb)	6680 kPa (970 PSI)
963 Track Loader	151,000 N (34,000 lb)	11,350 kPa (1650 PSI)
973 Track Loader	231,400 N (52,000 lb)	17,000 kPa (2500 PSI)

Part Number	Description
4C-6166	Plate

WARNING

The 8S-7172 Cylinder shown in this setup can develop enough force to break the studs and/or 4C-6166 Plate if it is excessively pressurized. This can result in personal injury or death. Do not apply more than the maximum assembly pressure, listed below for each model, when using the 8S-7172 Cylinder in this application. If assembly requires higher pressures a problem exists; stop the procedure. Determine and correct the cause of the problem before proceeding with assembly.

Recoil Spring Retaining Nut Spanner Wrench

Essential Tool

Model Usage: 301.5 Mini Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove, install, and tighten 139-6266 Retaining Nut on idler recoil spring assembly
- Used with 1/2 inch square drive ratchet wrench or torque wrench
- Designed to fit properly onto retaining nut for ease of removal and installation — helps prevent damage to nut during removal
- Heat-treated for maximum wear and durability

Specifications

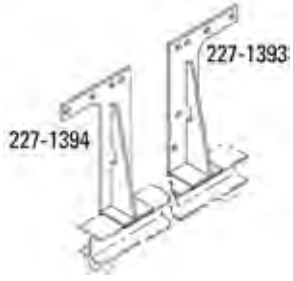
- Overall length: 92.7 mm (3.65 in)
- Inside diameter: 59.2 mm (2.331 in)
- Number of teeth: 4, equally spaced
- Tooth width: 6.02 mm (0.237 in)
- Square drive: 1/2 in

Part Number	Description
152-7159	Recoil Spring Retaining Nut Spanner Wrench

Upper Structure Support Brackets

Model Usage: 365B and 385B Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to lift and support rear upper structure of machine
- Used with hydraulic jack stands and FT2932 Support Beam
- Used when servicing swing gear and swing bearings

Reference

- 365B and 385B Disassembly and Assembly Manual, Machine Systems

Part Number	Description
227-1393	Support Bracket Assembly (LH)
227-1394	Support Bracket Assembly (RH)

Support Beam Assembly

Essential Tool

Model Usage: 307, E70, and E70B Excavators

Warranty: None

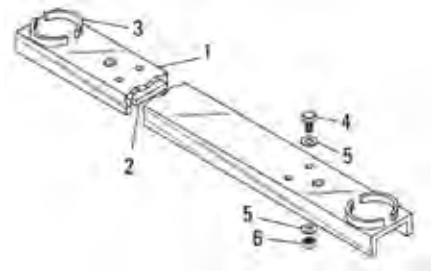


- Used to lift and support rear of upper structure during removal and installation of undercarriage
- Used with hydraulic jack stands
- Additional holes allow support beam to be used on E70 and E70B Excavators
- Designed to provide positive positioning of jack stands on support beam

Reference

- SENR6199, Disassembly and Assembly 307 Excavators Machine Systems

Support Beam Assembly



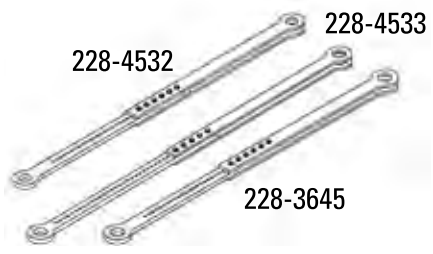
Item	Material	Description	Quantity
1	ASTM A36 steel	Channel	1
2	SAE 1020 steel	Plate	2
3	SAE 1026 steel	Ring	4

Item	Part No.	Description	Quantity
4	1D-4627	Bolt	4
5	5P-8249	Hard Washer (attaches 439-3939 link brackets to D7E EDPM)	8
6	2J-3505	Full Nut	4

Boom Cylinder Link Assemblies

Model Usage: 311 through 5090B Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to properly secure boom when removing upper structure during swing gear and bearing service
- Variable adjustment allows one link to fit several machines
- Installs in place of one boom cylinder
- Prevents cylinder drift while holding boom in a fixed position
- Link assembly bolts onto machine using previously removed cylinder hardware

Reference

- Disassembly and Assembly Manual, Machine Systems

Part Number	Use
228-3645	385B and 5090B Hydraulic Excavators
228-4532	311 through 325 Hydraulic Excavators (All Series), M300 Series Wheeled Excavators
228-4533	330 through 5080 Hydraulic Excavators

Boom Cylinder Link Assemblies

Model Usage: MH3027

Warranty: Caterpillar® Six Months



- Used to properly secure boom when removing upper structure during swing gear and bearing service
- Variable adjustment allows one link to fit several machines.

FRAME AND RECOIL SPRING

Large Special Taps for Tractor Undercarriage

Model Usage: D9N, D10N, D11N up to 74Z322, D11N 74Z322-Up, D11N

Warranty: Caterpillar® Six Months

- Used to recondition threads in bogies of track-type tractors
- Spiralock thread design provides improved bolt retention; if tap with standard thread form is substituted, that feature is lost
- Spiralock threads are internal threads only so a bolt with standard thread form is always used whether internal threads are Spiralock or standard

Part Number	Description	Model	Location
1U-6600	Spiralock Tap 1 1/8-7	D11N, up to 74Z322	Minor bogie
1U-9707	Plug Tap 1 1/8-7-2B	D9N	Major bogie
1U-9708	Spiralock Tap 1 1/4-7	D11N, 74Z322-Up	Minor bogie
1U-9709	Plug Tap 1 3/8-6-2B	D11N	Major bogie
4C-5051	Plug Tap 1 1/4-7-2B	D10N	Major bogie

Main Beam Repair Fixtures

Model Usage: 784B, 784C, 785, 785B, 785C, 785D, 789D, 789B, 789C, 793, 793B, 793C, 793D Off-Highway Trucks

Warranty: Caterpillar® Six Months

- Supports the frame during main beam removal
- Functions as locating fixture for new main beam
- Fixture can be adjusted for nominal ROPS bore spacing dimensions
- Can be set to actual ROPS bore location on existing frame
- Recommended pin locations be set to actual bore location
- Main beam locating fixture equipped with 2 mm shim
- Shim to compensate for weld shrinkage in the transverse fore/aft beam welds
- Made as ordered (MAO)

Reference

- SEPD1066, Service Magazine (upgrade instructions for 793B and 793C off-highway trucks)
- Special Instruction, REHS0541, "Procedure for the Inspection, Repair, and Component Replacement on the Frames of Off-Highway Truck/Tractor"

Part Number	Description	Weight	Quantity
350-1598	Tool Assembly (Not serviced separately)	544 kg (1200 lb)	1
350-1599	Support Assembly (Not serviced separately)	91 kg (200 lb)	2
353-4386	Main Beam Repair Fixtures	—	—

Compression Sleeve Assembly

Essential Tool

Model Usage: 279C, 289C, 299C Compact Track Loaders

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble track recoil spring assembly
- Used with a suitable hydraulic press to compress spring
- Contains spring when compressing recoil spring assembly to remove or install retainer nut
- Heavy-duty, welded-steel construction retains pieces of spring in event of breakage

Reference

- KENR8831, 279C, 289C, and 299C Compact Track Loaders Power Train, Disassembly and Assembly

Part Number	Description
330-0835	Compression Sleeve Assembly

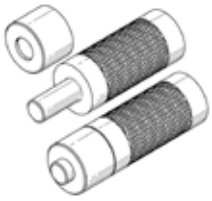
⚠ WARNING

Personal injury can result from being struck by parts propelled by are leased spring force. Make sure to wear all necessary protective equipment. Follow the recommended procedure and use all recommended tooling to contain the spring force.

Track Roller and Idler Stopper Installer Assemblies

Model Usage: D7R, D7H, D8R, D8N, D8L, D9R, D9N, D9L, D10R, D10N, D10, D11R, D11N, 517, 527, 561M, 572R

Warranty: Caterpillar® Six Months



- Used to install stoppers into rollers and idlers
- Provides fast, efficient method of installing stoppers while ensuring consistent installation depth

Part No.	Pusher	Installer	Use
228-0597	228-0598 (Not serviced)	228-0599 (Not serviced)	Idlers: D6H, D6R, D7R, D7H, 517, 527, 572R Rollers: D8R, D8N, D8L, D9L, D10, 578, 583 Idlers and Rollers: with 9G-5664 Stopper
228-0600	228-0601 (Not serviced)	228-0602 (Not serviced)	Idlers: D8L, D8N, D8R, D9L, D9R, D9N, D10R, D10N, 578, 583R Rollers: D9L, D9N, D9R, D10N, D10R, D11N, D11R, 583R, 589 Idlers and Rollers: with 9G-4872 Stopper
228-0603	228-0604 (Not serviced)	228-0605 (Not serviced)	Idlers: D10, D11N, D11R Idlers: with 9G-1368 Stopper
394-9580	394-9581 (Not serviced)	394-9583 (Not serviced)	Idlers: D4H, D5H, D5M, D5N, D6M, D6N, 561H, 561M, 561N

Peen Depth Gauge

Model Usage: All

Warranty: Caterpillar® Six Months



- Used to check peen depths on weldments
- Measures 4 peen depths ranging from 0.2 – 0.5 mm

Specifications

- Dimensions: 38.5 x 38.5 x 1.9 mm (1.5 x 1.5 x .074 in)
- Weight: .11 kg (0.74 lb)

Part Number	Description
386-0542	Peen Depth Gauge

Duo-Cone Installer

Essential Tool

Model Usage: 160M Motor Grader

Warranty: Caterpillar® Six Months



- Required to correctly install duo-cone floating ring seals and toric sealing rings
- Used to install 305-7976 Duo-Cone Seal on 160M Motor Grader
- Made from tough noncellular polyurethane to help protect seal during installation
- Proper installation requires a special tool (most seal failures result from mistakes made during installation)
- For longer service life, correct alignment of seal is critical
- Eliminates seal rolling and twisting — rubber toric rings (seals) hold the steel rings parallel and concentric while maintaining correct face contact pressure

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

Part Number	Description
317-3806	Duo-Cone Installer
Service/Repair Parts	
033-8755	Pan Head Screw
1F-1739	Wing Nut
5P-0537	Hard Washer

Socket

Model Usage: 320D, 3232D, 325C, 325D, 329D, 333D, 345C Excavator

Warranty: Caterpillar® Six Months

- Used to remove and install 215-4099 Nut from 149-3572 Recoil Spring Group
- Used with one inch ratchet wrench or breaker bar during disassembly
- Not for use with an impact wrench
- Used in conjunction with 4C-9540 Recoil Spring Disassembly and Assembly Bench

Part Number	Description
371-1080	Socket

ROLLER AND IDLER

Duo-Cone Installer

Model Usage: Most Cat® Track-Type Machines

Warranty: Caterpillar® Six Months



- Required to install Duo-Cone floating ring seals and toric sealing rings

Duo-Cone Seal Group	Toric Sealing Ring	Toric Seal Ring (Silicone)	Seal Installer Tool
Normal Applications			
1M-8746	8H-2265	—	1U-8841
1M-8747	8H-2262	—	1U-8840
1M-8748	6H-1309	—	—
3S-0303	3S-0302	—	—
6S-3285	6S-3284	—	1U-8850
6T-8440		—	1U-6443
Extreme Temperature Applications (Also 3N-0801 SiliconeToric Seal Ring)			
3P-1848	—	3P-1847	—
4S-8984	—	9M-9730	—
5K-6191	—	2S-2181	—
5P-0373	—	3N-3095	—
8L-5519	—	8L-5520	—
8S-5656	—	8S-5653	—

Duo-Cone Seal Installer Application List

Seal Group	Seal Ring	Seal Diameter	Toric Ring	Installer
107-4889		92 mm	9M-9730	224-9467
107-9621	107-9622	109.52 mm	8S-5653	129-1340
110-8882	9W-8877	92 mm	8H-2262	224-9467

Duo-Cone Seal Installer

Model Usage: PM200

Warranty: Caterpillar® Six Months



- Correctly installs Duo-Cone floating ring seals and Toric Seal rings in PM200 rollers
- Non-cellular polyurethane protects seal during installation
- Two piece assembly easily removed from roller without changing final seal position

Specifications

- Dimensions: 100 x 94 x 50 mm (3.94 x 3.70 x 1.97 in)
- Weight: 0.1 kg (0.22 lb)

Part Number	Description
383-1436	Duo-Cone Seal Installer

Duo-Cone Seal Installer

Model Usage: D3C, D3G, D4C, D4G, D4H, D5C, D5G, D5H, D5M, 320B, 320C, 325B, 325C, 330B, 330C, 561M, 933C, 939C, D8N, D8R, D9N, D9R, and 583R

Warranty: Caterpillar® Six Months



- Installs Duo Cone seals into track rollers
- Designed to eliminate "snagging" problems during installation

Reference

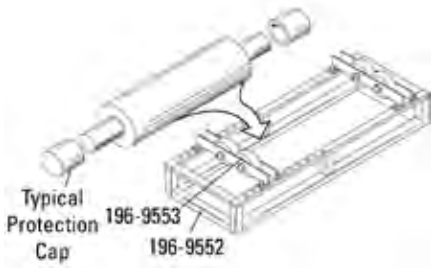
- RENR3962, Service Manual

Part No.	Description	Duo-Cone Seal	Outside Diameter of Seal Face
224-9466	Seal Installer		82.55 mm (3.25 in)
224-9467	Seal Installer	162-7862	92 mm (3.62 in)
227-4755	Seal Installer	9W-8878, 125-3267	102 mm (4.02 in)

Frame Assembly Protection Caps

Model Usage: All track-type machines with idler and rollers

Warranty: Caterpillar® Six Months



- Reconditions seal ramps on inverted style roller and idler shafts to regain surface finish
- Used with protection caps and gravity fed blast machine or pressure blasting system
- Saves money — recondition rather than replace shaft
- Reconditions smooth surface to help prevent toric ring slip
- Helps prevent oil leaks which can lead to component failure
- Protection caps protect shaft's thrust face and bearing surface from blasting overspray
- Replaceable 196-9553 Wheels can be ordered separately

Part Number	Description
196-9552	Frame Assembly
196-9553	Wheels

Reference

Part No.	Sleeve Diameter	Idler	Roller
196-9554	45 mm (1.77 in)	D4, D5H	D4, D5H, 939, 943, 953
196-9555	100 mm (3.94 in)	D10L, D11R/N	N/A
196-9556	74 mm (2.91 in)	D9L, D10N/R, 589	D10L, D11R/N
196-9557	68 mm (2.68 in)	D8R/N/L, D9R/N, 578	D9L, D10N/R, 589
196-9558	58 mm (2.28 in)	D5H, D6H/R/N, D7H/R/N, D8R/N/L, 517, 527	D6H, D7H, D9N/R 578, 579, 963, 973
196-9559	114.5 mm (4.51 in)	N/A	D7H, D8R/N/L, D9N/R, 578, 579, 973
197-8122	96 mm (3.78 in)	D4H, D5H	D4H, D5H, 939, 943, 953
197-8123	108 mm (4.25 in)	D5H, D6H/R/N, 517, 527	D6H, 963
197-8124	127 mm (5 in)	D7R/N/H, D8L/R/N, D9R/N, 578	D9L, D10R/L, 589
197-8125	136 mm (5.35 in)	D9L, D10R/N, 589	D10L, D11N/R
197-8126	163 mm (6.42 in)	D10L, D11N/R	N/A

Duo-Cone Seal Installer Assembly

Model Usage: D10N and D10R Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seal in track idler (used with 107-9621 and discontinued 125-3677 Seal Groups used in special application machines)
- Installer makes installation faster and easier, while helping to prevent seal damage (uses a 130-8364 Extension Spring to hold the 2 halves together)
- Using installer prevents rolling and twisting of rubber toric ring during installation

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

Specifications

- Outside diameter of installer: 114.30 mm (4.5 in)
- Outside diameter of seal: 109.52 mm (4.312 in)
- Overall length: 102.0 mm (4.016 in)
- Extension spring: 130-8364

Part Number	Description
129-1340	Duo-Cone Seal Installer Assembly

Duo-Cone Seal Installer Assembly

Essential Tool

Model Usage: Certain D11N and D11R Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install 155-9879 Seal Group used on certain D11N and D11R Track Idler Groups
- Makes installation faster and easier
- Helps to eliminate damage, twisting, or rotation during installation

Specifications

- Seal diameter: 137.57 mm (5.416 in)
- Overall OD: 158 mm (6.2 in)
- Length: 102 mm (4 in)
- Shoulder OD: 137.25 mm (5.404 in)

Part Number	Description
159-9843	Duo-Cone Seal Installer Assembly

ROLLER AND IDLER

Duo-Cone Seal Installer Assembly

Model Usage: D7H, D8L, D8N, D9N, and D9R Track-Type Tractor

Warrantv: Caterpillar® Six Months



- Used to install 107-4889 Seal Group and 110-8882 Seal Group with a seal diameter of 92.00 mm (3.622 in) used in special application arrangements of D7H track idler group and D8L, D8N, D9N, and D9R track roller group
- Makes installation faster and easier while helping to eliminate damage during seal installation
- Prevents toric seal ring from rolling or twisting during assembly
- Seal installer halves are held together with a 130-8364 Extension Spring

References

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals
- PELM0614, Information Release Memo

Specifications

- Overall diameter: 114.3 mm (4.5 in)
- Overall length: 102 mm (4 in)
- Outside shoulder diameter: 96.5 mm (3.8 in)

Part Number	Description
224-9467	Seal Installer

Duo-Cone Seal Installer Assembly

Model Usage: D8L, D8N, D9N, D9R, and D10N Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to install 9W-8878, 125-3267, and 111-9283 (discontinued) Seal Groups with a seal diameter of 102.00 mm (4.016 in) in D8L, D8N, D9N, and D9R track idler group and D10N track roller group
- Prevents toric seal ring from rolling or twisting during assembly
- Makes installation faster and easier while helping to eliminate damage during seal installation
- Seal installer halves are held together with a 130-8364 Extension Spring

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals
- PELM0614, Information Release Memo

Specifications

- Overall outside diameter: 114.3 mm (4.5 in)
- Length: 102 mm (4 in)
- Outside shoulder diameter: 106.5 mm (4.19 in)

Part Number	Description
227-4755	Seal Installer

Seal Installer

Model Usage: 385B and 5090B Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seals in track roller assemblies (very difficult to install correctly without this tool)
- Outside diameter: 177.5 mm (6.99 in)
- Makes installation faster and easier while eliminating seal rolling and twisting

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

Part Number	Description
4C-6206	Seal Installer

Tools for Installing Duo-Cone Seals in Track Rollers and Idlers

Model Usage: D4H, D5H, D6H, D7H, D8L, D8N, D9L, D9N, D10, D10N, D11N Tractors, 943, 953, 963, 973 Loaders

Warranty: Caterpillar® Six Months



- Used to install inverted Duo-Cone seals in track idlers and rollers on all H, L and N series tractors and hydrostatic loaders
- Seal installers have stop that helps to correctly position seal; stop also prevents seal from being installed too far on shaft
- Alignment sleeve keeps roller or idler concentric with shaft while retainer is bolted in place

Tool Part No. For Idler	Tool Part No. for Roller	Description
943 Loaders		
N/A	8T-0942	Retainer Seal Installer, Shaft Seal Installer
N/A	8T-0945	Alignment Sleeve
953 Loaders		
N/A	8T-0942	Retainer Seal Installer, Shaft Seal Installer
N/A	8T-0945	Alignment Sleeve
963 Loaders		
N/A	8T-0822	Alignment Sleeve
N/A	8T-0940	Retainer Seal Installer, Shaft Seal Installer
973 Loaders		
N/A	8T-0822	Alignment Sleeve
N/A	8T-0939	Retainer Seal Installer, Shaft Seal Installer
D9L Tractors		
8T-0824	8T-0823	Alignment Sleeve
8T-0830	8T-0829	Installer — Seal
D10 Tractors		
1U-9399	1U-9398	Spin Socket
8T-0825	8T-0824	Alignment Sleeve
8T-0826	8T-0827	Installer — Seal
D11N Tractors, w/ 8T-0827 Retainer Seal and Shaft Seal Installer		
1U-9399	1U-9398	Spin Socket
8T-0825	8T-0824	Alignment Sleeve

Seal Installer Assembly

Essential Tool

Model Usage: D5M and D6M Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install 161-7247 Duo-Cone Seal into track idler
- Provides fast, easy installation
- Prevents rolling or twisting of Toric seal during assembly

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals
- PELM0614, Information Release Memo

Specifications

- Overall diameter: 89.6 mm (3.5 in)
- Overall length: 102 mm (4 in)
- Outside shoulder diameter: 81.8 mm (3.2 in)

Item	Part Number	Description
1	179-7208	Seal Installer Assembly
2	9U-6259	Extension Spring

ROLLER AND IDLER

Duo-Cone Seal Installer

Model Usage: 330 and 375 Excavators

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seals in undercarriage rollers — makes installation fast and easy
- Proper installation requires a special tool (most seal failures result from mistakes made during installation)
- For longer service life, correct alignment of seal is critical (2 steel rings with mating faces must be positioned parallel to each other)
- Eliminates seal rolling and twisting — rubber toric rings (seals) hold the steel rings parallel and concentric while maintaining correct face contact pressure

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

Part Number	Model
9U-7537	330 Excavator
9U-7538	375 Excavator

Seal Installers



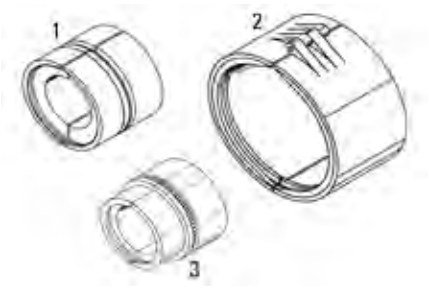
Seal Installer with Rigid Seal Attached

- Used to install new, improved rigid seals
- Simpler design, more durable than original installers
- More accurately locate new rigid seals (locate seals by inside diameter rather than outer portion of seal)
- Can hold installer and seal in 1 hand, even larger seal sizes, because diameter of handle, knurled portion of installer, is same size as outside diameter of seal

Duo-Cone Seal Installer Assembly

Model Usage: 307, 311, 311B, 312, 312B, 315, 320, 320B, 322, and 322B Excavators

Warranty: Caterpillar® Six Months



- Used to install Duo-Cone seal groups in track rollers, carrier rollers, and idlers
- For longest service life, 2 steel rings with their mating surfaces, must be positioned parallel to each other (most seal failures result from incorrect installation, many times caused by using improper installation tools)
- Prevents toric seal from rolling or twisting, making installation faster and easier (rubber toric rings hold steel rings parallel and concentric, while maintaining correct face contact pressure)

Reference

- SEHS8364, Special Instruction, Assembly and Installation of Duo-Cone Seals

Tool Usage and Seal Identification

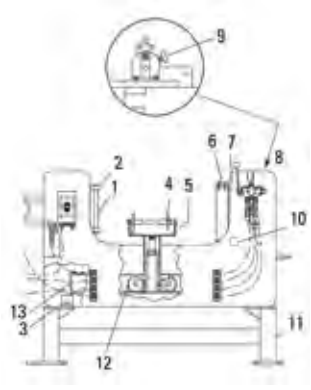
Component	Seal Group	Toric C/S Diameter	Seal Ring OD	Installation Tool	Model Usage
Track Roller	099-0193	9.47 mm (0.373 in)	94.48 mm (3.72 in)	1U-6145	311, 311B, 312, 312B
Carrier Roller	8E-5608	6.22 mm (0.245 in)	65.67 mm (2.585 in)	9U-5985	315, 320, 320B, 322, 322B
Idler	093-1414	7.9 mm (0.31 in)	84 mm (3.3 in)	123-3801	307

Item	Part Number	Description
1	123-3801	Duo-Cone Seal Installer
2	1U-6145	Duo-Cone Seal Installer
3	9U-5985	Duo-Cone Seal Installer

Roller Assembly Machine

Model Usage: All Cat® Roller Models

Warranty: Caterpillar® Six Months



- Designed to simplify the roller disassembly and assembly process
- Used on all Cat roller models, including snap ring, oval track, and duo-cone seal
- Reduces cycle times by simplifying the positioning and pressing of the roller
- Indexing worktable allows for the shaft and collar to be easily installed/removed without removing the roller from the bench
- Built-in fixturing for pulling collars
- Uses Cat part-numbered maintenance/parts
- Order 1 of the following power units (sold separately):
  - 149-7359 Power Supply Group (115 VAC, 60 Hz, 1-Phase)
  - 146-2460 Power Supply Group (220 VAC, 50/60 Hz, 1-Phase)
  - 146-2461 Power Supply Group (230/460 VAC, 60 Hz, 3-Phase)
  - 140-6241 Power Supply Group (220/380/440 VAC, 50 Hz, 3-Phase)
  - Dealership will connect power supply.

References

- NEHS0836, Roller Assembly Machine Tool Operating Manual
- RENR2059, Disassembly and Assembly Procedures for Rollers with Inverted Duo-Cone Seals
- RENR3961, Disassembly and Assembly Procedures for Rollers with Conventional Duo-Cone Seals
- RENR3962, Disassembly and Assembly Procedures for Snap Ring/Oval Track Rollers

Item	Part Number	Description	Quantity
—	264-0054	Cat® Roller Assembly Machine	—
1	264-0055	Pin	2
8	139-5449	Directional Valve	1

ROLLER AND IDLER

Lubricator Nozzle

Model Usage: Most Cat® Undercarriages

Warranty: Caterpillar® Six Months



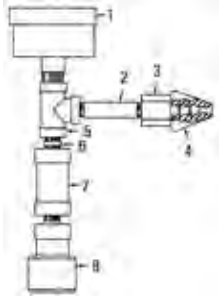
- Used to fill lifetime lubricated rollers and idlers after reconditioning

Item	Part Number	Description
—	5M-2080	Lubricator Nozzle
1	2F-1336	Fitting
2	2A-3307	Seal

Testing Tool

Model Usage: Most Cat® Track-type Machines

Warranty: None



- Used to test sealing capabilities of Duo-Cone seals in front idlers, track rollers, and carrier rollers on track-type machines

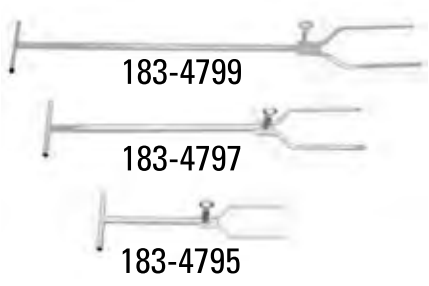
Item	Description
3	Adapter
4	No. 61-A Rubber Tip (Available from Rinck-McIlwaine Inc., Dumont, N.J.)
7	No. 1198-1PP Check Valve (James Pond Clark Check Valve, available from Circle Seal Products, Anaheim, CA)
8	No. 2900 Push-Tite Coupling (Available from Hansen Manufacturing, Cleveland, Ohio)

Item	Part Number	Description
1	8T-0848	Gauge GP — Pressure (3)
2	3B-7263	Nipple — Pipe
5	3B-7900	Tee (1/8 in)
6	5H-7826	Nipple (1/8 x 1 in) Pipe

Track Roller Lifting Fork Assemblies

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used in removal and installation of track rollers on track-type machines

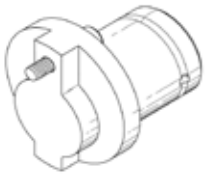
Part Number	Model
183-4795	D3, 931, 933
183-4797	D4, D4H, D5, D5H, D6, D6H, D7, D7H, 225, 235, 941, 943, 951, 953, 955, 963, 973, 977
183-4799	D8, D8L, D8N, D9, D9L, D9N, D10, D10N, D11N, 245, 983

Spanner Wrench

Essential Tool

Model Usage: D6K Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to rotate track idler eccentric system to adjust position of track idler wheel
- Used with 1 inch square drive ratchet
- Designed to engage idler eccentric once lock bolt and key are removed
- 8T-9515 Socket Head Bolt (included) is used in place of standard lock bolt and secures tool to idler eccentric during use
- Durable welded steel construction

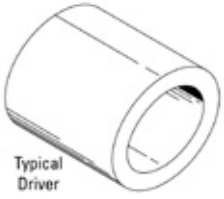
Reference

- SEBU8126-06, D6K Track-Type Tractor, Operation and Maintenance Manual

Part Number	Description
305-3015	Spanner Wrench

Drivers for Rollers and Idlers

Warranty: Six Months



- Used to push collar onto shaft of rollers and idlers
- Sets correct depth providing a positive stop during assembly that eliminates measuring
- Tool is easy to use
- Decreases setup and processing time

References

- SEBF8583, Disassembly and Assembly for Idlers with Conventional Duo Cone Seals
- SEBF8584, Disassembly and Assembly Procedures for Track Rollers with Conventional Duo Cone Seals

Roller Group

Model	Roller Group	Driver Part Number
D10R (SF) and D11R (DF)	125-3268	170-5408
D11R (SF) and D11R (DF)	156-1007	170-5404
D8R (SF) and D8R (DF)	132-7928	170-5407
D9R (SF) and D9R (DF)	104-3495	170-5410

Drivers for Idlers

Model	Idler Group	Driver Part Number
D10R	125-3537	170-5406
D11R		170-5405
D4H and D5M	160-9753	201-1582
D5H and D6M	161-7549	201-1581
D6R	149-2493	170-5412
D7R and D7R (E W)	135-9896	170-5411
D8R	111-1729 and 111-1730	170-5408
D9R	125-4655	170-5409
973D	386-1033	513-6995

Track Roller Assembly Tools

Essential Tool

Model Usage: D4H, D5M, D5H, D6M, D6H, D6R, D7H, and D7R Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install bushings into track roller (provides correct and consistent installation depth)

Reference

- SEHS8957, Special Instruction

Model	Roller Tool
D5H and D6M	123-6692
D6H and D6R	123-6693
D7H and D7R	123-6699

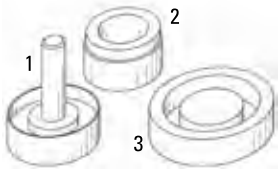
ROLLER AND IDLER

Installer Group

Essential Tool

Model Usage: 277C, 287C, and 297C Series Skid Steer Loaders

Warranty: Caterpillar® Six Months



- For idler assembly on 258-3031 Axle Group
- Used to maintain proper assembly depth of 258-3025 Sleeve
- Tools are sold individually or as complete set
- Steel construction with black oxide coating for corrosion resistance

Reference

- KENR5197-02, 277C, 287C, and 297C Multi-Terrain Loaders Disassembly and Assembly

Item	Part Number	Description
—	308-0711	Installer Group
1	307-6706	Sleeve Installer
2	308-0709	Seal Installer
3	308-0710	Bearing Installer

Tools for Replacing Track Roller and Idler Bearings

Model Usage: 245, 943, 953, 963, 973, D4H, D5H, D6H, D7H, D8L, D8N, D9L, D9N, D10, D10N, D11N

Warranty: Caterpillar® Six Months

- Used to remove, install, and hone track roller and idler bearings following weld rebuild or installation of new bearings on all elevated sprocket tractors (N, L and H series), 245 Excavators, and hydrostatic loaders

Reference

- SMHS8067, Special Instruction SEBF8586

Part Number	Description
Tool Function: Bearing Removal and Installation Tools, Illustration 1	
6V-6078	Pusher Plate
6V-6079	Pusher Plate
6V-6081	Pusher Plate
6V-6083	Pusher Plate
6V-6084	Stud (adaptable to Wolff and L and B roller / idler presses)
6V-6085	Pilot
6V-6086	Pilot
6V-6087	Pilot
6V-6095	Plate
8T-7716	Plate
8T-7717	Plate
8T-7718	Plate
8T-7719	Plate
8T-7720	Plate
8T-7721	Plate
8T-7722	Pilot
8T-7723	Pilot
8T-7724	Pilot
8T-7725	Pilot
8T-7726	Pusher Plate
8T-7727	Pusher Plate
8T-7728	Pusher Plate
8T-7729	Pusher Plate
8T-7730	Pusher Plate
8T-7731	Pusher Plate
8T-7732	Pusher Plate
8T-7734	Pusher Plate
8T-7735	Pusher Plate
8T-7736	Pusher Plate
8T-7737	Stud
Tool Function: Honing Tools, Illustration 2	
5P-8591	Holder, Stone
6V-6089	Stone Set
6V-6091	Stone Set
6V-6092	Stone Set
6V-6093	Stone Set
6V-6094	Hone

Illustration 1 — Bearing and Removal Installation Tools

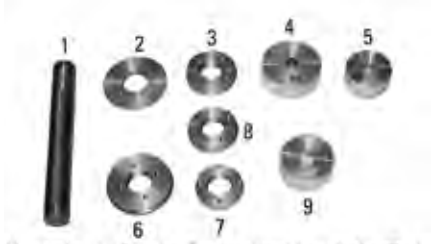


Illustration 1 - Bearing Removal and Installation Tools

Item	Part Number	Description
1	6V-6084	Stud (adaptable to Wolff and L and B roller/idler presses)
2	6V-6095	Plate
3	6V-6079	Pusher Plate
4	6V-6085	Pilot
5	6V-6087	Pilot
6	6V-6078	Pusher Plate
7	6V-6083	Pusher Plate
8	6V-6081	Pusher Plate
9	6V-6086	Pilot
	Not shown	
—	8T-7716	Plate
—	8T-7717	Plate
—	8T-7718	Plate
—	8T-7719	Plate
—	8T-7720	Plate
—	8T-7721	Plate
—	8T-7722	Pilot
—	8T-7723	Pilot
—	8T-7724	Pilot
—	8T-7725	Pilot
—	8T-7726	Pusher Plate
—	8T-7727	Pusher Plate
—	8T-7728	Pusher Plate
—	8T-7729	Pusher Plate
—	8T-7730	Pusher Plate
—	8T-7731	Pusher Plate
—	8T-7732	Pusher Plate
—	8T-7734	Pusher Plate
—	8T-7735	Pusher Plate
—	8T-7736	Pusher Plate
—	8T-7737	Stud

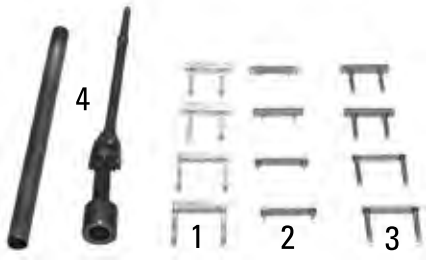
ROLLER AND IDLER

Bearing Removal and Installation Tools

Model	Component	Tools Needed
D11N, D10	Idler	8T-7721 Plate
		6V-6078 Pusher Plate
		6V-6085 Pilot
D11N, D10	Roller	6V-6079 Pusher Plate
		6V-6086 Pilot
		6V-6095 Plate
D10N	Idler	6V-6079 Pusher Plate
		6V-6086 Pilot
		6V-6095 Plate
D10N	Roller	8T-7720 Plate
		8T-7736 Pusher Plate
		6V-6087 Pilot
D9L	Roller	8T-7720 Plate
		6V-6081 Pusher Plate
		6V-6087 Pilot
D8L, D8N, D9N	Idler	8T-7720 Plate
		6V-6081 Pusher Plate
		6V-6087 Pilot
D8L	Roller	8T-7719 Plate
		8T-7725 Pilot
		8T-7735 Pusher Plate
D8N	Roller	8T-7719 Plate
		8T-7734 Pusher Plate
245	Idler	6V-6083 Pusher Plate
		6V-6087 Pilot
		6V-6095 Plate
D7H	Idler	8T-7719 Plate
		8T-7725 Pilot
		8T-7735 Pusher Plate
D7H, 973	Roller	8T-7719 Plate
		8T-7725 Pilot
		8T-7732 Pusher Plate
D6H	Idler	8T-7718 Plate
		8T-7724 Pilot
		8T-7731 Pusher Plate
D6H, 963	Roller	8T-7718 Plate
		8T-7724 Pilot
		8T-7730 Pusher Plate
D5H	Idler	8T-7717 Plate
		8T-7722 Pilot
		8T-7729 Pusher Plate
D5H, 953	Roller	8T-7717 Plate
		8T-7723 Pilot
		8T-7728 Pusher Plate
D4H	Idler	8T-7716 Plate
		8T-7722 Pilot
		8T-7727 Pusher Plate
D4H, 943	Roller	8T-7716 Plate
		8T-7722 Pilot
		8T-7726 Pusher Plate

Illustration 2 — Honing Tools

Illustration 2 Honing Tools



Item	Part Number	Description	Diameter
1	5P-8591	Holder, Stone	—
2	177-9709	Stone Set, D11, 280 Grit	101.14 – 406.4 mm (4.1 – 16.0 in)
3	177-9708	Stone Set, D10, 280 Grit	88.9 – 139.7 mm (3.5 – 5.5 in)
4	6V-6094	Hone	—
Not shown			
—	8B-3618	Wrench	2.38 mm (3/32 in)

Cooling Adapters

Model Usage: 973, 963, 953, 943, D5H, D4H, D6H, D7H, D8L, D9L, D8N, D9N, D10, D10N, D11N

Warranty: Caterpillar® Six Months, except One Year for 1U-5530



- Permit water-cooling welding
- Elevated sprocket tractors (H, L, and N series) and hydrostatic loaders (943-973) which are to be weld reconditioned, require water cooled procedure to prevent damage to bearing pressed into roller shell; rollers must be disassembled and cooling adapter installed to permit water-cooling welding

Reference

- SEBF8507-03, Undercarriage Reconditioning Guide, Bulletin MP — 3 (3/88), additional information for wet welding track rollers

Service/Repair Parts

Part Number	Description	Quantity
6V-6140 Cooling Adapter, D11N, D10, D10N, D9L		
2H-3933	O-ring Seal	—
8F-8733	O-ring Seal	2
8F-9516	O-ring Seal	2
9H-5604	Retainer Ring	—
9N-1545	Thrust Race	2
6V-6163 Cooling Adapter, D9N, D8L, D8N, D7H		
2H-3933	O-ring Seal	—
5F-3106	O-ring Seal	2
9H-5604	Retainer Ring	—
9J-0114	Thrust Race	2
1U-5530 Cooling Adapter, 973, 963, 953, 943, D6H, D5H, D4H		
2J-8163	O-ring Seal	2
3H-2652	O-ring Seal	—
5H-6734	O-ring Seal	2
7H-4574	Retainer Ring	—
9J-0114	Thrust Race	2

ROLLER AND IDLER

Idler/Roller Welder

Model Usage: All Cat roller models

Warranty: Caterpillar® Six Months



- Automated submerged-arc welding machine for resurfacing track idlers, rollers, and railroad rims
- Each weld head uses a dedicated power supply and automatic welder
- Three flux delivery options are available
- Chiller system for water-cooled roller welding is available separately
- Accommodates D3 through D11 idlers and rollers and 508 mm (23 in) wide railroad rims
- PLC program controls weld head motion
- 432 cm/min (170 in/min) maximum recommended wire feed rate increases production rate
- Direct drive motor/gearbox
- 45 degree yoke tilt allows flange welding
- Designed and supported exclusively by the Dealer Service Tools Division
- Offered in any configuration of 380/460/575 Volts and 50/60 Hz

Ordering Information

Contact the Caterpillar Dealer Service Tools Division for quotations and specifications. This product is purchased outside of the Cat parts network via a Purchase Order. See Contact Information.

References

- SEBF8507-03, Undercarriage Reconditioning Guide/ Water-cooled Welding

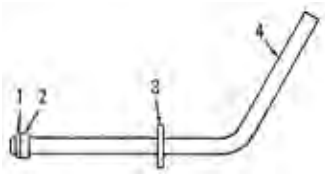
Related Tooling (Sold Separately)

Part Number	Description
170-5664	Test and Fill Machine
Water cooling adapters for roller welding:	
1U-5530	for D4H, D5H, D6H, 943-973
6V-6140	for D9L, D10, D10N, D11N
6V-6163	for D7H, D8N, D8L, D9N

Lubricator

Model Usage: 245 Excavator

Warranty: None



- Used to fill track rollers with oil while they are on or off the excavator
- 5M-2080 Nozzle Assembly will not correctly fill rollers on 245 Excavator
- Can be made from common service parts as shown in illustration
- Install in end of track roller shaft until 4B-4280 Washer makes contact with shaft; roller must be tilted to approximately 30° above horizontal plane when lubricant is added
- Excavator can be put in position on a slope; when roller is full of oil, oil will flow out around tube of lubricator

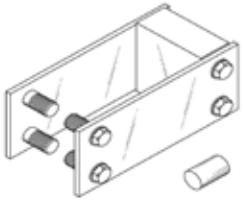
Item	Part Number	Description
1	8M-5251	Seal
2 and 4	5P-1202	Tube (bulk)
3	4B-4280	Washer

Puller Group

Essential Tool

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



- Used to remove 286-9353 Block from 309-6979 Idler Group
- Used with 6V-3175 Hydraulic Puller (55 Ton)
- 7X-2577 Bolt and 6V-8237 Hard Washer are serviceable

Part Number	Description
316-6042	Puller Group

Depth Gauge Modification

Model Usage: Most Cat® Track-type Machines

Warranty: Caterpillar® Six Months



- To help eliminate problems during field use of discontinued 6V-0012 and 6V-6190 Depth Gauges, use 6V-9411 Plunger and 4B-2049 Nut
- 6V-6190 Depth Gauge requires 19 plungers and nuts; 6V-0012 Depth Gauge requires 16 plungers and nuts

Application Procedure

1. Remove plastic set screws and springs from the depth gauges.
2. Place probe through vertical hole. (Probes can be easily pushed into the holes if ends are rounded.)
3. Screw 6V-9411 Plunger into threaded hole on side of gauge. Adjust plunger to the point where probe fits snug but is free to move.
4. Tighten 4B-2049 Nut over 6V-9411 Plunger while holding the plunger with a screwdriver to prevent it from turning. Probe should be able to be removed and installed without further adjustment.

Item	Part Number	Description
1	6V-9411	Plunger
2	4B-2049	Nut

Custom Track Service Kit

Model Usage: Most Cat® Track-type Machines

Warranty: Caterpillar® Six Months



- Used to quickly measure wear on undercarriage components
- Replaces discontinued 5P-3919 Customer Track Service Kit

Item	Part Number	Description
—	6V-9413	Custom Track Service Kit
1	6V-7784	Pouch
2	8H-8580	Scraper
3	5P-3920	Rule — Steel
4	5P-8617	Sprocket Gauge (D7-D9)
5	5P-8616	Sprocket Gauge (D4-D6)
6	5P-3277	Tape
7	4S-9405	Caliper, 304.8 mm (12 in)
8	4S-9404	Caliper, 101.6 mm (4 in)

Caliper

Model Usage: D11N

Warranty: Caterpillar® Six Months



- Used to measure track bushing wear
- 152 mm (6 in)
- Not intended to replace 102 mm (4 in) 4S-9404 Caliper and will not be added to Custom Track Service Kit

Part Number	Description
8T-7790	Caliper

Guard

Model Usage: D4H, D5H, D6H, DIFF, D7H, D8L, D9L, D9N

Warranty: Caterpillar® Six Months



- Flexible plastic strip 1320 mm (52 in) long that has a U-shaped cross section; one length is provided, and for any given application, guard must be cut to length to fit around inside surface of seal as shown
- Used to protect track roller frame seal (wiper) during installation or removal of track roller frame

Reference

- SMHS8519, Special Instruction

Part Number	Description
8T-5071	Guard

Track Tool Arrangement, 100 Ton

Model Usage: See Chart

Warranty: Caterpillar® Six Months



- Consists of 5P-2379 Press Frame and Tool Group, 8S-7172
- Hydraulic Cylinder, and 8S-9903 Rollover Group; part numbers need to be ordered separately
- Includes all tools from discontinued 1P-3490 Master Pin
- Used to separate track with master pins and fix leaking seals on sealed and lubricated track; sealed track bushings cannot be installed to correct depth using this tool group
- Master pins or standard pins on any Cat track-type tractor can be removed or installed in minimum time when this arrangement is used with auxiliary equipment and mounted on a standard 8S-9901 Tool Cart
- Can remove track pins in a single stroke when equipped with 8S-7172 Hydraulic Cylinder, 356 mm (14.00 in) stroke
- 5P-2380 Master Pin Press Arrangement with an overhead hoist (Special Instruction SMHS6954)
- 5P-2379 Group includes 1P-3481 Press Frame which can be used on all track-type tractors including later D8H and D9G Tractors; adapters for 8S-7172 Hydraulic Cylinder and essential items from former 2S-8210 Track Tool Group are also contained in 5P-2379
- 8S-9903 Rollover Group designed to handle master pin press around its center of gravity; greatly reduces effort required for positioning in close quarters; 8S-9903 Group also available separately for use by dealers who prefer to handle discontinued 2S-8210 Track Tool Group or discontinued 5P-2380 Master Pin Press Arrangement with an overhead hoist (Special Instruction SMHS6954

Item	Part Number	Description
5P-2379 Press Frame and Tool Group consists of:		
-	5P-2379	Press Frame and Tool Group
3	5F-3492	Bolt (2)
4	1P-3481	Press Frame
5	1P-3484	Adapter
5	1P-3483	Adapter
5	1P-3482	Adapter
5	1P-3485	Adapter
5	5P-2188	Adapter
6	8S-9975	Ram Adapter
8	8S-9978	Ram Adapter
9	8S-9971	Ram Adapter
10	8S-9969	Ram Adapter
11	8S-9968	Ram Adapter
12	6H-8567	Pilot Pin, 307.8 mm (12.12 in)
12	5F-9455	Pilot Pin, 304.8 mm (12.0 in)
12	5P-8734	Pilot Pin, 380.0 mm (15.0 in)
12	2S-8215	Pilot Pin, 354.0 mm (10.0 in)
12	5F-9447	Pilot Pin, 203.1 mm (8.0 in)
13	9S-0032	Plug
14	7S-8469	Bushing Adapter
15	2S-8228	Bushing Adapter
16	2S-8229	Bushing Adapter
16	2S-8235	Bushing Adapter
18	4K-0487	Wing Bolt
not shown	4C-6629	Ram Adapter
1	8S-7172	Cylinder Group
2	8S-9903	Rollover Group

CONTINUED...

Track Tool Arrangement, 100 Ton (Continued)

Track Pin

Model	Track Pitch	Removal Adapter	R & I Adapter	Install Adapter	Install Plug	Install Pilot Pin
D9, 594, DD9	260 mm (10.3 in)	8S-9975	1P-3485	8S-9968		5P-8734
D9	229 mm (9.0 in)	8S-9975	1P-3484	8S-9968		6H-8567
D8, 583, 983, 245	229 mm (9.0 in)	8S-9975	1P-3484	8S-9969		6H-8567
D8, 583	203 mm (8.0 in)		1P-3484	8S-9969		5F-9455
D7H, D7, 571, 572, 973, 977, 235	216 mm (8.5 in)		1P-3482	8S-9969		2S-8215
D7, 572, 977	203 mm (8.0 in)		1P-3482	8S-9969		5F-9455
D6H, D6, 562, 963, 955, 235	203 mm (8.0 in)		1P-3482	8S-9969		5F-9455
D5H	190 mm (7.5 in)	8S-9978	1P-3483	8S-9971		
D5, D6, 951, 955, 977, 255	176 mm (6.9 in)	8S-9978	1P-3483	8S-9971	9S-0032	
953	176 mm (6.9 in)	8S-9978	1P-3483	8S-9971	9S-0032	
D6, 951, 955, 977, 561, E180, EL180	172 mm (6.8 in)	8S-9978	1P-3483	8S-9971	9S-0032	
D4H, D4, 933, 941, 943, 955, 215, 225	171 mm (6.7 in)	8S-9978	5P-2188	8S-9971	9S-0032	5F-9447
MS110-8, MS110L-8, MS120-8, MS140-8	171 mm (6.7 in)	8S-9978	5P-2188	8S-9971	9S-0032	5F-9447
MS180-8, MS180LC-8, MS240-8, MS240LC-8	176 mm (6.9 in)	8S-9978	1P-3483	8S-9971	9S-0032	
MS300-8, E240, EL240	190 mm (7.5 in)	8S-9978	1P-3483	8S-9971	9S-0032	
MS300LC-8, EL300	203 mm (8.0 in)		1P-3482	8S-9969		5F-9455
MS450-8	216 mm (8.5 in)		1P-3482	8S-9969		2S-8215
MS45-8	216 mm (8.5 in)		1P-3482	8S-9969		2S-8215
MS580, MS650-8	229 mm (9.0 in)		1P-3482	8S-9969		2S-8215

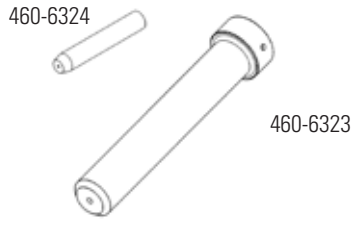
Track Bushing

Model	Track Pitch	Removal Ram Adapter	Removal Bushing Adapter	R & I Pusher	Install Ram Adapter	Install Adapter	Install Pilot Pin
D9, 594, DD9	260 mm (10.3 in)	8S-9975	2S-8228	2S-8235	8S-9971	1P-3485	5P-8734
D8, 583, 983, 245	229 mm (9.0 in)	8S-9975	2S-8229	2S-8235	8S-9971	1P-3484	6H-8567
MS580, MS650-8	229 mm (9.0 in)		2S-8229	2S-8235	8S-9971	1P-3482	
D7H, D7, 571, 572, 973, 977, 235, MS450-8	216 mm (8.5 in)		2S-8229	2S-8235	8S-9971	1P-3482	2S-8215
D6H, D6, 561, 963, 955, 235, EL300, MS300LC-8	203 mm (8.0 in)		2S-8229	2S-8235	8S-9971	1P-3482	5F-9455
D5H, MS240-8, MS240LC-8, MS300-8, E240, EL240	190 mm (7.5 in)	8S-9978	7S-8469	2S-8235	8S-9971	1P-3483	
D5, D6, 951, 955, 977, 225	176 mm (6.9 in)	8S-9978	7S-8469	2S-8235	8S-9971	1P-3483	
953	176 mm (6.9 in)	8S-9978	7S-8469	2S-8235	8S-9971	1P-3483	
E180, EL180, MS180-8, MS180LC-8	176 mm (6.9 in)	8S-9978	7S-8469	2S-8235	8S-9971	1P-3483	
D4H, D4, 933, 941, 943, 955, 215, 225	171 mm (6.7 in)	8S-9978	7S-8469	2S-8235	8S-9971	5P-2188	5F-9447

Ram Adapter and Pilot Pin

Model Usage: AP650B, D3K2, AP1055D, D3K, AP1050B, AP655D, D4G, BG655D, AP650B, D4K, D4K2

- Used with the 5P-2379 100T track tool group to press out the track pins on machines with the 28.65 mm 1-1/8 inch track pins



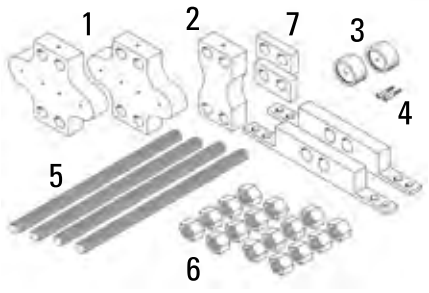
Part No.	Description
460-6323	Ram Adapter
460-6324	Pilot Pin

UNDERCARRIAGE AND TRACK

Large Multi-Pitch Track Press Tools for SystemOne™ Undercarriage

Model Usage: D6H, D6M, D6N, D6R, D8N, D8R, and D8T Track-Type Tractors, and 953, 963 Track-Type Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install track links on SystemOne™ undercarriage
- Used with 1U-7545 Air-Over-Hydraulic Power Supply, high-pressure hydraulic hose, and 6V-3170 or 265-8034 Hydraulic Cylinder
- Requires a 264-5776 Clear Guard Group (parts sold separately)
- Used for in-shop or on-site repairs
- Allows track link replacement at any location on track chain
- Sold as individual pieces

References

- NEHS0929, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool
- NENG2500, Tools and Shop Products Guide

Multi-Pitch Tooling for D6H, D6M, D6R, 953, and 963

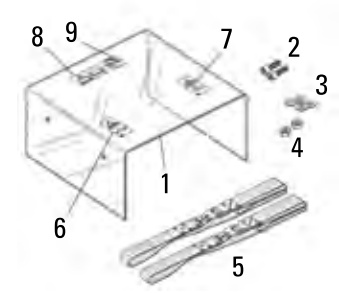
Item	Part Number	Description	Quantity
1	264-5768	Contact Plate	2
2	264-5770	Puller Plate	1
3	264-5778	Contact Tool (D6H, D6M, D6N, D6R, 953, 963)	2
4	4L-7124	Bolt — Hex Socket Head [a]	2
5	264-5769	Standard Threaded Rod	4
6	3K-9770	Nut — Full	12
7	264-5777	Cylinder Centering Block	4
8	264-5771	Plate As — Link	2

a. Part of 1P-0520 Driver Group

⚠ WARNING

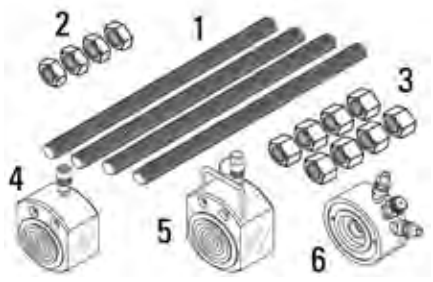
Always cover work with a protective guard when removing or installing a track link. With high forces being exerted on the part being removed/installed, breakage may sometimes result. By covering the work with a protective guard, the mechanic reduces the danger of personal injury or death by flying parts. Never apply pressure to the track press until a guard is in place.

Guard Group

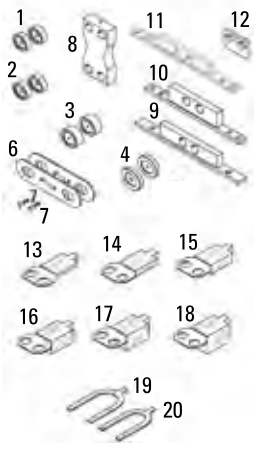


Item	Part Number	Description	Quantity
1	264-5776	Clear Plastic Guard	1
2	2J-5245	Bolt — Hex Socket Head	2
3	5M-2894	Washer	4
4	9S-8752	Nut — Full (3/8 – 16)	2
5	264-5772	Retaining Strap	2
6	261-7492	Film — warn (debris) (track pressure)	1
7	261-7491	Film — warn (hand) (oil)	1
8	224-0554	Warning Film	1
9	261-7493	FIlm, blue safety (eye/ear)	1

Additional Tooling to Increase Efficiency



Item	Part Number	Description	Quantity
1	264-5774	Acme Threaded Rod	4
2	265-9028	Acme Half Nut	4
3	265-8989	Nut — Full	8
4	265-8034	50 ton Cylinder	—
5	265-8035	75 ton Cylinder	—
6	6V-3170	55 ton Cylinder	—



Item	Part Number	Description
1	268-1698	Contact Rod End (Retro)
2	266-8997	Contact Rod End
3	272-1505	Removal Contact Tool (D8R, D8N, D8T)
4	8H-3128	Bolt — Hex Socket Head
6	268-1699	Installation Contact Plate (D3G, D4G, D5G, D5M, D5N)
7	2H-6120	Screw (used with 268-1699)
8	268-1700	Puller Plate (D3G, D4G, D5G, D5M, D5N)
9	270-4487	Top Plate (Pre-production D6R)
10	268-5658	Top Plate (D3G, D4G, D5G, D5M, D5N)
11	272-6559	Top Plate (D8N, D8R, D8T)
12	273-8788	Removal Spacer Plate (D8N, D8R, D8T)
13	268-7895	Shim, 12.7 mm (0.5 in) thick
14	268-7897	Shim, 25.4 mm (1.0 in) thick
15	268-7898	Shim, 38.1 mm (1.5 in) thick
16	268-7899	Shim, 50.8 mm (2.0 in) thick
17	268-7900	Shim, 63.5 mm (2.5 in) thick
18	268-7901	Shim, 76.2 mm (3.0 in) thick
19 a	279-0092	Contact Spacer Removal (D8N, D8R, D8T)
20 a	279-0095	Contact Spacer Removal

a. Suggested quantity of six

Large Multi-Pitch Track Press Group

Model Usage: D6H, D6M, D6N, D6R, D8N, D8R, D8T Track-Type Tractors; 953, 963 Loaders

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- Used to remove and install track links on SystemOne™ undercarriage
- Used with European Union compliant, CE marked approved power supply and high pressure hydraulic hose
- Allows track link replacement at any location on track
- Used for in-shop or on-site repairs
- Sold as a kit (includes guard group)

References

- NEHS0931, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne Track Press Tool
- NENG2500, Tools and Shop Products Guide

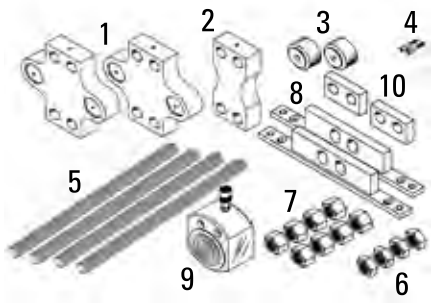
Part Number	Description
267-2107	Large Mult-Pitch Track Press Group

⚠ WARNING

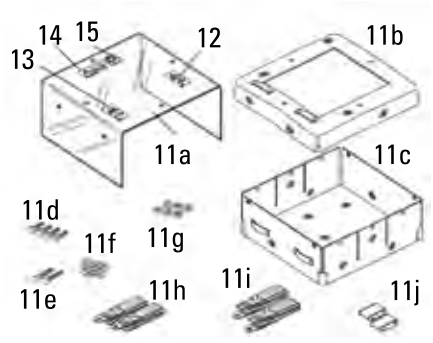
Always cover work with a protective guard when removing or installing a track link. With high forces being exerted on the part being removed/installed, breakage may sometimes result. By covering the work with a protective guard, the mechanic reduces the danger of personal injury or death by flying parts. Never apply pressure to the track press until a guard is in place.

UNDERCARRIAGE AND TRACK

Multi-Pitch Track Press Group



Item	Part Number	Description	Qty.
—	267-2107	Multi-Pitch Track Press Group	—
267-2107 Multi-Pitch Track Press Group Consists of:			
1	264-5768	Contact Plate	2
2	264-5770	Puller Plate	1
3	264-5778	Contact Tool (D6H, D6M, D6N, D6R, 953, 963)	2
4	4L-7124	Bolt — Hex Socket Head	2
5	264-5774	Acme Threaded Rod	4
6	265-9028	Acme Half Nut	4
7	265-8989	Nut — Full	8
8	264-5771	Plate As — Link	2
9	265-8034	50 ton Cylinder	1
10	264-5777	Cylinder Centering Block	2

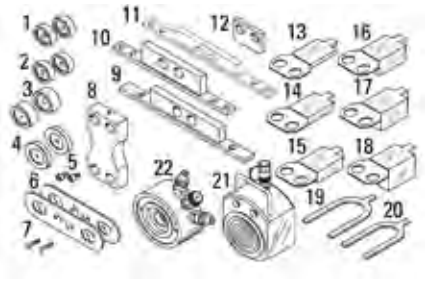


Item	Description	Qty
11a	Clear Plastic Guard	1
11b	Flexible Guard (Upper Half)	1
11c	Flexible Guard (Lower Half)	1
11d	Bolt	4
11e	Bolt	2
11f	Flat Washer	12
11g	Nut	6
11h	Retaining Strap	2
11i	Retaining Strap with Clip	2
11j	Retaining Strap Buckle	2

Item	Part Number	Description	Qty.
267-2107 Multi-Pitch Track Press Group Consists of:			
11 a	267-2108	Guard Group	1
12	261-7491	Film — warn (hand) (oil)	1
13	261-7492	Film — warn (debris) (track pressure)	1
15	261-7493	FIlm, blue safety (eye/ear)	1
14 Not shown	224-0554	Warning Film	2

a. Individual items not serviced separately

Additional Tooling to Increase Versatility (Purchased Separately)



Item	Part Number	Description
1	268-1698	Contact Rod End (Retro)
2	266-8997	Contact Rod End
3	272-1505	Removal Contact Tool (D8R, D8N, D8T)
5	8H-3128	Bolt — Hex Socket Head
6	268-1699	Installation Contact Plate (D3G, D4G, D5G, D5M, D5N)
7	2H-6120	Screw (used with 268-1699)
8	264-5770	Puller Plate
8	268-1700	Puller Plate (D3G, D4G, D5G, D5M, D5N)
9	270-4487	Top Plate (Pre-production D6R)
10	268-5658	Top Plate (D3G, D4G, D5G, D5M, D5N)
11	272-6559	Top Plate (D8N, D8R, D8T)
12	273-8788	Removal Spacer Plate (D8N, D8R, D8T)
13	268-7895	Shim, 12.7 mm (0.5 in) thick
14	268-7897	Shim, 25.4 mm (1.0 in) thick
15	268-7898	Shim, 38.1 mm (1.5 in) thick
16	268-7899	Shim, 50.8 mm (2.0 in) thick
17	268-7900	Shim, 63.5 mm (2.5 in) thick
18	268-7901	Shim, 76.2 mm (3.0 in) thick
19 [a]	279-0092	Contact Spacer Removal (D8N, D8R, D8T)
20 [a]	279-0095	Contact Spacer Removal
21	265-8035	75 ton Cylinder
22	6V-3170	55 ton Cylinder

a. Suggested quantity of six

Small Multi-Pitch Track Press Tools for SystemOne™ Undercarriage

Model Usage: D3G, D4G, D5G, D5M, and D5N Track-Type Tractors

Warranty: Caterpillar® Six Months

- Used to remove and install track links on SystemOne undercarriage
- Used with 1U-7545 Air-Over-Hydraulic Power Supply, high-pressure hydraulic hose, and 6V-3170 or 265-8034 Hydraulic Cylinder
- Requires a 264-5776 Clear Guard Group (sold separately)
- Used for in-shop or on-site repairs
- Allows track link replacement at any location on track chain
- Sold as individual pieces

References

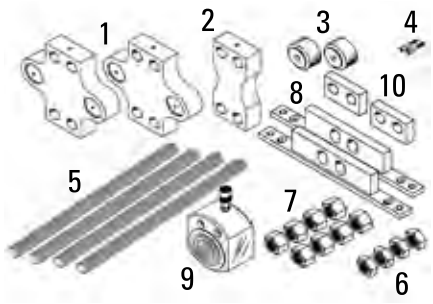
- NEHS0930, Tool Operating Manual, Operation and Parts for Multi-Pitch SystemOne™ Track Press Tool
- NENG2500, Tools and Shop Products Guide

⚠ WARNING

Always cover work with a protective guard when removing or installing a track link. With high forces being exerted on the part being removed/installed, breakage may sometimes result. By covering the work with a protective guard, the mechanic reduces the danger of personal injury or death by flying parts. Never apply pressure to the track press until a guard is in place.

UNDERCARRIAGE AND TRACK

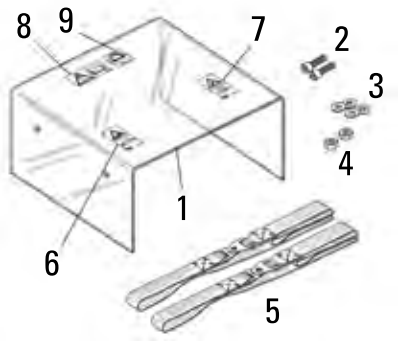
Multi-Pitch Tooling for D3G, D4G, D5G, D5M, and D5N



Item	Part Number	Description	Quantity
Multi-Pitch Tooling for D3G, D4G, D5G, D5M, and D5N			
1	266-8989	Contact Plate	2
2	266-8992	Puller Plate	1
3	266-8997	Contact Rod End	2
3	268-1698	Contact Rod End (Retro)	2
4	4L-7124	Bolt — Hex Socket Head [a]	2
5	266-8994	Acme Threaded Rod	4
6	266-8999	Acme Half Nut	4
7	266-8998	Acme Nut	8
8	266-8996	Cylinder Centering Block	2
9	266-8993	Top Plate	2
10	265-8034	50 ton Cylinder	1
11	6V-3170	55 ton Cylinder	1

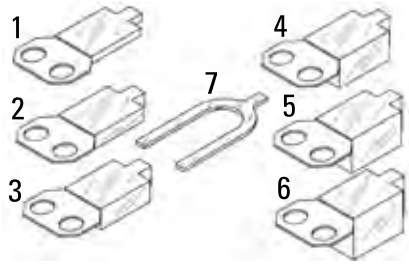
a. Part of 1P-0520 Driver Group

Guard Group



Item	Part Number	Description	Quantity
Guard Group			
1	264-5776	Clear Plastic Guard	1
2	2J-5245	Bolt — Hex Socket Head	2
3	5M-2894	Washer	4
4	9S-8752	Nut — Full (3/8 – 16)	2
5	264-5772	Retaining Strap	2
6	261-7492	Film — warn (debris) (track pressure)	1
7	261-7491	Film — warn (hand) (oil)	1
8	224-0554	Warning Film	1
9	261-7493	FIlm, blue safety (eye/ear)	1

Additional Multi-Pitch Track Press Tools

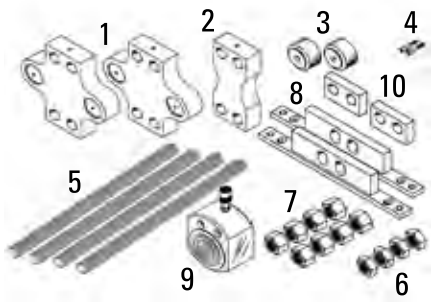


Item	Part Number	Description
Additional Multi-Pitch Track Press Tools		
1	268-7895	Shim, 12.7 mm (0.5 in) thick
2	268-7897	Shim, 25.4 mm (1.0 in) thick
3	268-7898	Shim, 38.1 mm (1.5 in) thick
4	268-7899	Shim, 50.8 mm (2.0 in) thick
5	268-7900	Shim, 63.5 mm (2.5 in) thick
6	268-7901	Shim, 76.2 mm (3.0 in) thick
7	279-0095	Contact Spacer Removal

Small Multi-Pitch Track Press Group

Model Usage: D3G, D4G, D5G, D5M, and D5N Track-Type Tractors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install track links on SystemOne undercarriage
- Used with CE Compliant approved power supply and high-pressure hydraulic hose
- Used for in-shop or on-site repairs
- Allows track link replacement at any location on track chain
- Sold as a kit (includes guard group)

References

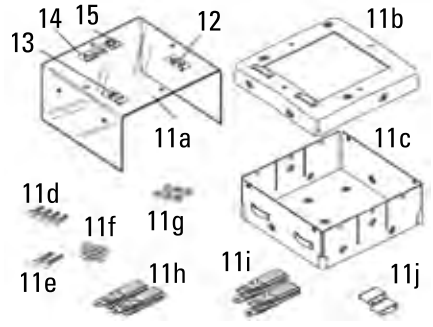
- NEHS0933, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool
- NENG2500, Tools and Shop Products Guide

Part Number	Description
267-2109	Small Multi-Pitch Track Press Group

⚠ WARNING

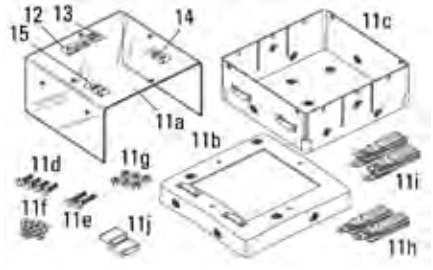
Always cover work with a protective guard when removing or installing a track link. With high forces being exerted on the part being removed/installed, breakage may sometimes result. By covering the work with a protective guard, the mechanic reduces the danger of personal injury or death by flying parts. Never apply pressure to the track press until a guard is in place.

Small Multi-Pitch Track Press Group Detail



Item	Part No.	Description	Quantity
—	267-2109	Multi-Pitch Track Press Group	—
		267-2109 Multi-Pitch Track Press Group Consists of:	
1	266-8989	Contact Plate	2
2	266-8992	Puller Plate	1
3	266-8997	Contact Rod End	2
3	268-1698	Contact Rod End (Retro)	2
4	4L-7124	Bolt — Hex Socket Head (Part of 1P-0520 Driver Group)	2
5	266-8994	Acme Threaded Rod	4
6	266-8999	Acme Half Nut	4
7	266-8998	Acme Nut	8
8	266-8996	Cylinder Centering Block	2
9	266-8993	Top Plate	2
10	265-8034	50 ton Cylinder	1

Guard Group

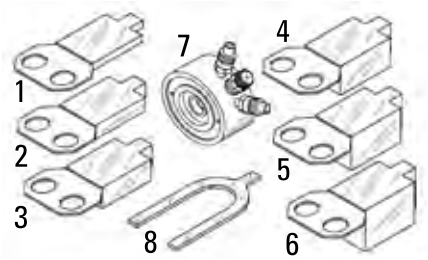


Item	Description	Quantity
	Item 11 267-2108 Guard Group Consists:	
11a	Clear Plastic Guard	1
11b	Flexible Guard (Upper Half)	1
11c	Flexible Guard (Lower Half)	1
11d	Bolt	4
11e	Bolt	2
11f	Flat Washer	12
11g	Nut	6
11h	Retaining Strap	2
11i	Retaining Strap with Clip	2
11j	Retaining Strap Buckle	2

Item	Part No.	Description	Quantity
11	267-2108	Guard Group (Individual items not serviced separately)	1
12	224-0554	Warning Film	2
13	261-7493	Film, blue safety (eye/ear)	1
14	261-7491	Film — warn (hand) (oil)	1
15	261-7492	Film — warn (debris) (track pressure)	1

UNDERCARRIAGE AND TRACK

Additional Tooling to Increase Versatility (Purchased Separately)



Item	Part Number	Description
1	268-7895	Shim, 12.7 mm (0.5 in) thick
2	268-7897	Shim, 25.4 mm (1.0 in) thick
3	268-7898	Shim, 38.1 mm (1.5 in) thick
4	268-7899	Shim, 50.8 mm (2.0 in) thick
5	268-7900	Shim, 63.5 mm (2.5 in) thick
6	268-7901	Shim, 76.2 mm (3.0 in) thick
7	6V-3170	55 ton Cylinder
8 (Suggested quantity of six)	279-0095	Contact Spacer Removal

Hydraulic Power Supply

Model Usage: D7 and Larger Track-Type Machines

Warranty: Manufacturer's



European Union Compliant, CE marked

- Use with 100T and 150T track repair groups
- 5-gallon tank allows full extension and retraction of large bore, long stroke cylinder.
- LED display can read out pressure or tonnage applied by cylinders.

Reference

- NEHS1206 Tool Operating Manual

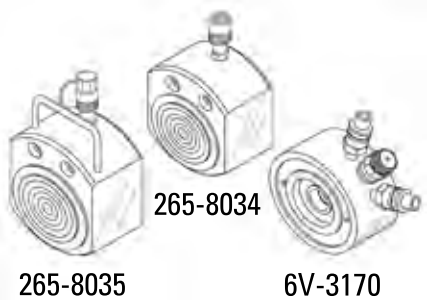
Part No.	Specifications	Diameter	Weight
457-0818	115V - 5 Gallon Tank	508 x 508 x 460 mm (24 x 24 x 18 in)	18 kg (40 lb)
457-0819	230V - 5 Gallon Tank	508 x 508 x 460 mm (24 x 24 x 18 in)	18 kg (40 lb)

Serviceable Parts	
346-6159	Breather Plug
447-0917	Repair Kit
447-2218	MPE Seal Kit
466-7455	Software Service Kit

Hydraulic Cylinders for Multi-Pitch Track Press Tool for SystemOne Undercarriage

Model Usage: D3 -D8 Track-Type Tractors; 953 and 963 Track-Type Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install track links on SystemOne undercarriage
- Used with all multi-pitch track press tooling for SystemOne undercarriage, power supply, and high pressure hydraulic hose
- 256-8034 (50 ton) and 6V-3170 (55 ton) Hydraulic Cylinders are used with small track press tooling for D3G, D4G, D5G, D5M, and D5N Track-Type Tractors
- 256-8034 (50 ton), 6V-3170 (55 ton), and 265-8035 (75 ton) Hydraulic Cylinders are used with large track press tooling for D6H, D6M, D6N, D6R, D8N, D8R, D8T Track-Type Tractors and 953, 963 Track-Type Loaders
- Sold individually

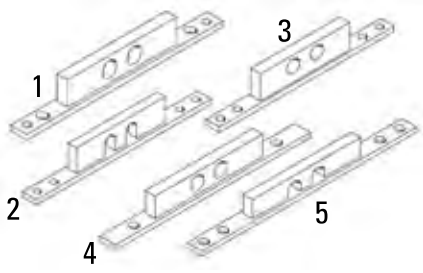
Hydraulic Cylinders Used With Multi-Pitch Track Press Tools

Part No.	Cylinder Capacity	Collapsed Height	Extended Height	Plunger Stroke	Plunger Diameter	Overall Size	Weight
265-8034	45 metric ton (50 ton)	67 mm (2.63 in)	83 mm (3.27 in)	16 mm (0.63 in)	57.0 mm (2.25 in)	140.0 x 114.0 mm (5.5 x 4.5 in)	7 kg (15.4 lb)
6V-3170	50 metric ton (55 ton)	76 mm (3 in)	89 mm (3.50 in)	13 mm (0.50 in)	—	138.0 mm (5.44 in) diameter	9.5 kg (21 lb)
265-8035	68 metric ton (75 ton)	79 mm (3.13 in)	95 mm (3.75 in)	16 mm (0.63 in)	83 mm (3.25 in)	165 x 140 mm (6.50 x 5.50 in)	11 kg (24.3 lb)

Top Plate Assembly for Large and Small SystemOne™ Track Press Tools

Model Usage: D3G — D8 Track-Type Tractors, and 953, 963 Track-Type Loaders

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used with track press tools for SystemOne undercarriage
- Used in place of track shoes during removal and installation of track link pins
- Adds versatility to existing groups of tools
- Order in pairs

References

- NEHS0929, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne Track Press Tool
- NEHS0930, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool
- NEHS0931, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool (European Union compliant, CE marked)
- NEHS0933, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool (European Union compliant, CE marked)

Item	Part No.	Used With
1	264-5771	Large SystemOne™ Track Press Tool for D6H, D6M, D6N, D6R Tractors and 953, 963 Loaders
2	266-8993	Small SystemOne™ Track Press Tool for D3G, D4G, D5G, D5M, and D5N Tractors
3	268-5658	Large SystemOne™ Track Press Tool for D3G, D4G, D5G, D5M, and D5N Tractors (Additional tools required. Refer to NEHS0929 Tool Operating Manual; Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool)
4	270-4487	Large SystemOne™ Track Press Tool for Pre-production D6R Tractor
5	272-6559	Large SystemOne™ Track Press Tool for D8N, D8R, and D8T Tractors

SystemOne Starter Links

Model Usage: All SystemOne Track Link Assemblies

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- Flat plates replace current forged components
- Simulates outer links and stabilizes track components during master link removal/ installation

Reference

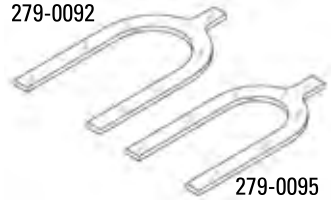
- NEHS0923, Tool Operating Manual

Part No.	Description	Models	Dimensions
357-9732	Starter Link	D3C, D3G, D3K, D4C, D4G, D4K	258 x 83 x 13 mm (10.2 x 3.3 x .5 in), 1.0 kg (2.04 lb)
357-9733	Starter Link	953, D5K, D6K	279 x 89 x 13 mm (11 x 3.5 x .5 in), 1.0 kg (2.02 lb)
357-9734	Starter Link	D3C, D3G, D3K, D4C, D4G, D4H, D4K, D5C, D5G, D5M, D5N, D6K	260 x 90 x 13 mm (10.3 x 3.6 x .5 in), 1.0 kg (1.88 lb)
357-9735	Starter Link	953, D5H, D6M, D6N	287 x 98 x 13 mm (11.3 x 4 x .5 in), 1.1 kg (2.37 lb)
357-9736	Starter Link	963, D6H, D6R, D6T, D7R	311 x 109 x 13 mm (12.3 x 4.3 x .5 in), 1.3 kg (2.83 lb)
357-9737	Starter Link	973, D7E, D7R	323 x 107 x 123 mm (12.7 x 4.2 x .5 in), 1.3 kg (2.91 lb)
357-9738	Starter Link	D8N, D8R, D8T	343 x 127 x 13 mm (13.5 x 5.0 x .5 in), 2.0 kg (4.04 lb)

SystemOne™ Tool Spacers

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used to evenly pull off SystemOne™ links from an assembled track chain

References

- NEHS0929, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool
- NEHS0930, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool
- NEHS0931, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool (European Union Compliant)
- NEHS0933 Tool Operating Manual; Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool (European Union Compliant)

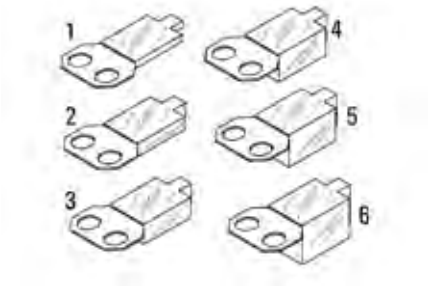
Part Number	Description	Model
279-0092	Tool Spacer	D8 Track-Type Tractor
279-0095	Tool Spacer	D3-D7 Track-Type Tractor

UNDERCARRIAGE AND TRACK

Shims for SystemOne™ Track Press Tool

Model Usage: D3 — D8 Track-Type Tractors, 953, 963 Track-Type Loaders with SystemOne™ Undercarriage

Warranty: Caterpillar® Six Months



- Used with large and small Multi-Pitch Track Press Tools
- Used to remove the inner track link when outer link is not installed
- Allows Multi-Pitch Tool to remove inner links from outer side of the chain
- Different thickness shims fit a variety of applications (shims may be stacked to required thickness)
- Shims are hung in positron on threaded rods of track press tool

References

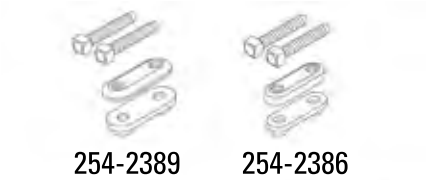
- NEHS0929, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool
- NEHS0930, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool
- NEHS0931, Tool Operating Manual, Operation and Parts for Large Multi-Pitch SystemOne™ Track Press Tool (European Union Compliant)
- NEHS0933, Tool Operating Manual, Operation and Parts for Small Multi-Pitch SystemOne™ Track Press Tool (European Union Compliant)

Item	Part Number	Size
1	268-7895	12.7 mm (0.5 in) thick
2	268-7897	25.4 mm (1.0 in) thick
3	268-7898	38.1 mm (1.5 in) thick
4	268-7899	50.8 mm (2.0 in) thick
5	268-7900	63.5 mm (2.5 in) thick
6	268-7901	76.2 mm (3.0 in) thick

Master Link Removal Tools for SystemOne™ Undercarriage

Model Usage: D3G, D4G, D5G, D6M, D5N, D6H, D6M, D6N, D6R, D8N, D8R, D8T Track-Type Tractors and 953, 963 Track-Type Loaders

Warranty: Caterpillar® Six Months





European Union compliant, CE marked

- Used to remove and install master link on SystemOne™ Undercarriage
- Used with various starter links and yoke plate groups (stabilizes track components during master link removal and installation)
- Simple forcing system provides easy way to release master link during assembly and disassembly
- Master kits contain one threaded plate, one contact plate, and two set screws

Reference

- NEHS0923, Tool Operating Manual, Using the Master Clamp Tools to Connect and Disconnect SystemOne Undercarriage Track

Master Kit Part No.	Used On	Service Parts	Used With Yoke Group No.
254-2356	D3G, D4G	254-2355 Set Screw (2 req.)	242-5383
254-2386	D5X, D5G (Phase IV), 953-T3	254-2374 Threaded Plate (not serviced), 254-2381 Contact Plate (not serviced), 254-2355 Set Screw (2 req.)	—
254-2387	D5G, D5M, D5N	Threaded Plate, Contact Plate, 254-2355 Set Screw (2 req.)	252-9399
254-2388	D6M, D6N, 953-T2	Threaded Plate, Contact Plate, 254-2355 Set Screw (2 req.)	252-9975
254-2389	D6H, D6R, 963	Threaded Plate, Contact Plate, 254-2355 Set Screw (2 req.)	242-5372
264-8119	D8N, D8R, D8T	263-5389 Threaded Plate, 263-5390 Contact Plate, 254-2355 Set Screw (2 req.)	—

Track Repair Group

Model Usage: D7 and Larger Track-Type Machines

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Portable hydraulic press hardware that, when combined with 457-0812 150T double-acting cylinder, is capable of installing and removing track pins.
- Reuse contact tooling from previous 150T track repair groups

Reference

- NEHS1206 Tool Operating Manual
- REHS2586 Field Service for Positive Pin Retention 2 (PPR 2)
- SEBF8612 Field Service for Positive Pin Retention Track
- SEBF8613 Field Service for Sleeve Bearing Track
- SEBF8614 Field Repair of Swaged Grease Lubricated Track
- SEBF8622 Field Removal and Installation of Single Tooth Master Links
- SEHS8957 Field Servicing Procedure for Non-Positive Pin Retention Sealed and Lubricated Track
- SEHS9542 Field Repair of Rotating Bushing Track (RBT)

Part No.	Description	Specifications
458-2111	Track Repair Group	380 x 380 x 1100 mm (15 x 15 x 44 in), 450 kg (1000 lb)

Serviceable Parts	
450-6675	100T Threaded Ram Adapter (1.75"-20)
450-6676	150T Threaded Ram Adapter (3.25"-12)
457-0812	150T Cylinder
458-2114	Back Plate
458-2115	Rod
458-2116	Front Plate
458-2117	Nut Guard
458-2118	Catch Basket
458-2119	Handle
458-2120	1-3/8 ACME Nut
458-2121	Smooth Adapter (38.00 dia.)
458-2122	Smooth Adapter (76.00 dia.)
458-2124	Lexan Guard Assembly

Track Repair Group, 100T

Model Usage: D9 and Smaller SALT Track-Equipped Machines, Excavators with GLT Track

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- 492-1988 press hardware only. Also order:
  - (1) 478-4034 100T Double-Acting Cylinder
  - (1) 493-0804 Threaded Ram Adapter
- A power supply for Double-Acting Cylinders is also required. See the Hydraulic Pumps & Presses section of the catalog.
- 478-4034 Cylinder, 493-0804 Threaded Adapter and a compatible power supply are not included and must be ordered seperately.
- Replaces canceled 5P-2379
- Reuse contact tooling from previous 5P-2379 100T track repair group.

Reference

- NEHS1249, Tool Operating Manual
- SEBF8614 Field Repair of Swaged Grease Lubricated Track
- SEHS8957 Field Servicing Procedure for Non-Positive Pin Retention Sealed/Lubricated Track

Part No.	Description	Dimensions	Weight
492-1988	Track Repair Group, 100T	380 x 350 x 800 mm (15 x 14 x 32 in)	311 kg (700 lb)

Serviceable Parts	
492-1989	Back Plate
492-1992	Rod
492-1993	Front Plate
492-1991	Nut Guard
458-2118	Catch Basket
458-2120	1-3/8" ACME Nut
492-1990	Lexan Guard Assembly
493-0804	Ram 100T Tooling Adapter

UNDERCARRIAGE AND TRACK

Contact Tooling for 100T Track Repair Group

Model Usage: 305.5, 307, 308 Excavators

Warranty: Caterpillar® Six Months



510-3917
Forcing Pin



510-3918 Removal Adapter
510-3920 Install Adapter
510-3921 Install Adapter



510-3919
Alignment Pin

- Tooling used with 492-1988 Track Repair Group
- Used to service 305.5, 307, and 308 link assemblies

Part No.	Description	Dimensions	Weight
510-3917	Forcing Pin	40 dia x 300 mm (1.6 x 12 in)	2.7 kg (6 lb)
510-3918	Removal Adapter	70 x 47 mm (2.75 x 1.9 in)	1 kg (2 lb)
510-3919	Alignment Pin	22 x 203 mm (0.9 x 8 in)	1 kg (2 lb)
510-3920	Install Adapter	70 x 47 mm (2.75 x 1.9 in)	1 kg (2 lb)
510-3921	Install Adapter	70 x 47 mm (2.75 x 1.9 in)	1 kg (2 lb)

Field Repair Tools for Positive Pin Retention Track

Model Usage: Cat® Track-Type Machines

Warranty: Caterpillar® Six Months



- Used for field repairs on positive pin retention track

Reference

- SEHS8870, Special Instruction, Field Repair Procedure for Positive Pin Retention Track

Item	Part Number	Description
1	1U-6321	Pin Adapter D9N
1	5P-9688	Pin Adapter D10N
1	8T-3210	Pin Adapter D10 and D9L
1	8T-3263	Pin Adapter D11N
2	8T-3208	Receiver D10 and D10N
2	8T-5133	Receiver D9L and D9N
2	8T-7785	Receiver D11N
3	8T-3209	Piston Rod Cap D11N and D9N
4	3D-2898	Seal
4	5B-2547	Spring
5	198-5341	Extruder Assembly, D11N
5	198-5343	Body, Extruder D9L and D9N
-	198-5350	Extruder Setscrew
5	203-0982	Extruder Assembly (198-5349 Body, Extruder) D8N
-	206-2868	Extruder Spring

Forcing Pin

Warranty: Caterpillar® Six Months

- Tooling used with discontinued 5P-9729 Track Repair Group

Part No.	Description	Dimensions
5P-8749	Forcing Pin	400 mm long, 98.4 mm Diameter

Post Turn Seal Installer



- Used to install Post Turn replacement seals when reworking track
- Seal has lip in new location — eliminates need to replace shaft
- Original installers can be used to install new rigid seals. The larger diameter of discontinued 8E-4512 seal assembly will not fit discontinued 6V-4811 installer. New-style installers can be used to install original rigid seals but care must be taken because in most cases there is a large clearance between original rigid seal and the new installer.

Post Turn Seal Installers

Model	Track Seal	Seal Installer	Groove Gauge
D10N, D10R	—	262-9822	4C-8612
D11N, D11R	—	241-1854	4C-8613

Track Bushing Groove Gauge

Model Usage: D8N, D8L, D7H

Warranty: Caterpillar® Six Months



- Used to check wear on track bushing ends
- Provide quick visual check for bushing reusability when track bushings are turned

Part Number	Model	Description
4C-8605	D8N, D8L, D7H	Track Bushing Groove Gauge
4C-8609	D9L	—
4C-8610	D9N	—
4C-8611	D10	—
4C-8612	D10N	—
4C-8613	D11N	—

UNDERCARRIAGE AND TRACK

Double-Acting Cylinder (150T)

Model Usage: D7 and Larger Track-Type Machines

Warranty: Manufacturer's



European Union Compliant, CE marked

- Serviceable parts: 457-0813 seal kit for 150T hydraulic cylinder
- 18" stroke cylinder for use with 458-2111 150T track repair group

Reference

- NEHS1206 Tool Operating Manual

Part No.	Description	Diameter	Weight
457-0812	150T Double-Acting Cylinder	205 x 254 x 508 mm (8 x 10 x 20 in)	160 kg (370 lb)

Extruder Group for 345 PPR2 Undercarriage

Essential Tool

Model Usage: 345 Excavator with Positive Pin Retention Undercarriage

Warranty: Caterpillar® Six Months



- Used for field repairs on positive pin retention track
- Used to assemble track links
- Used with 150T Portable Track Press

Reference

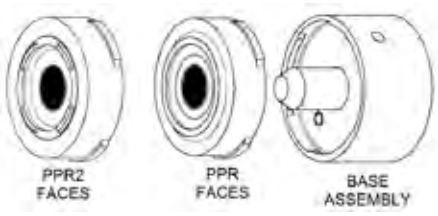
- SEHS8870, Special Instructions, Field Repair Procedure for Positive Pin Retention

Item	Part Number	Description
266-9698 Extruder Group		
1	198-5348	Extruder Base (not serviced)

PPR / PPR2 Extruder Tooling

Model Usage: See Chart

Warranty: Caterpillar® Six Months on Base Assembly



European Union Compliant, CE marked

- Replaces previous extruder groups that screwed together
- Easily centers onto end of track pin
- Base accepts all PPR and PPR2 extruder faces
- For shop and field service operations
- Quick replacement of faces that are in place with ball detent

Reference

- REHS2586 Field Service for PPR2 Track
- SEBF8612 Field Service for PPR Track
- SEBF8546 Shop Repair Procedure for PPR Track

Part No.	Description	Model	Dimensions	Weight
458-2137	Base	-	90 x 90 x 81 mm (3.6 x 3.6 x 3.3 in)	8.0 kg (18.0 lb)
458-2145	PPR Face	D8N	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2146	PPR Face	D9N	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2147	PPR Face	D10N	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2148	PPR Face	D11N	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2149	PPR2 Face	345	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2150	PPR2 Face	325	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2151	PPR2 Face	365/385	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
458-2152	PPR2 Face	325FM	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)
499-3422	Unlocking Face	All	81 x 81 x 25 mm (3.2 x 3.2 x 1.0 in)	0.73 kg (1.6 lb)

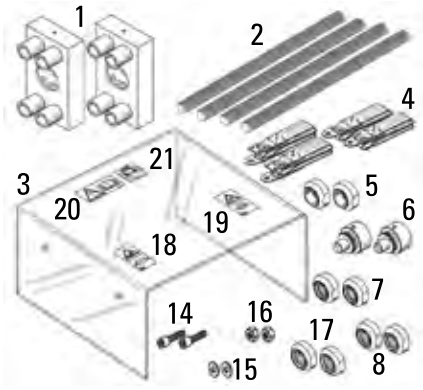
Serviceable Parts

458-2138	Base
458-2139	Cap
458-2140	Pin
458-2141	Spring Plunger
458-2142	Set Screw
458-2143	Die Spring
458-2144	Retaining Ring

Positive Pin Retention 2 Tooling

Model Usage: 325, 345 Hydraulic Excavator, D6R Track-Type Tractor

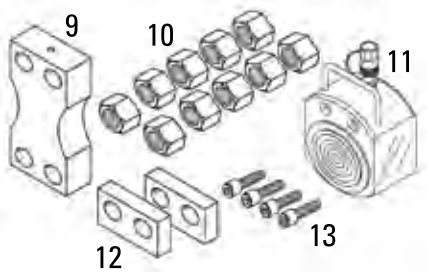
Warranty: Caterpillar® Six Months



- Used to swage cartridge pins on 325, 345, and D6R machines with PPR2 track
- Locks cartridge pins into assembled track
- Extrudes (swages) track link material in 4 places around end of cartridge pin
- Both ends of cartridge pin are swaged (locked) in 1 operation
- Once track link is swaged, compression forces in track link and cartridge pin are relieved using an unloader face
- Used in shop or out in field for on-site repairs
- Used with dealer-supplied hydraulic power supply (energy source) equipped with a 700 bar (10,000 PSI) maximum pressure relief valve, a high-pressure hose 700 bar (10,000 PSI) maximum pressure with a gauge, and a 265-8035 75-ton Hydraulic Cylinder

References

- REHS2586 Installation of Positive Pin Retention 2 (PPR2) Track
- SEBF8558 Guidelines for Reusable Track Parts
- SEBF8598 Track Shop Servicing for Greased and Lubricated Track
- SEBF8599 Undercarriage Reconditioning Guide
- SEBF8614 Field Repair of Swaged Greased and Lubricated Track



Item	Part No.	Description	Quantity
1	279-7148	Plate Assembly	2
2	279-7152	Threaded Rod	4
3	280-0946	Clear Plastic Guard (Guard must cover the tooling and track link whenever swaging cartridge pins)	1
4	280-2563	Retaining Strap	2
5	280-2565	Unloader Face	2
6	276-3746	Extruder Tool Base	2
7	276-3747	Extruder Tool, D6R (used with 276-3746)	2
8	276-3748	Extruder Tool, 325 (used with 276-3746)	2
9	264-5770	Puller Plate	1
10	265-8989	Nut — Full	10
11	265-8035	75 ton Cylinder	1
12	264-5777	Cylinder Centering Block	2
13	5S-2586	Bolt — Hex Socket Head	4
14	2J-5245	Bolt — Hex Socket Head	2
15	5M-2894	Washer	4
16	9S-8752	Nut — Full (3/8 – 16)	2
17	281-0201	Extruder Tool, 345 (used with 276-3746)	2
18	261-7492	Film — warn (debris) (track pressure)	1
19	261-7491	Film — warn (hand) (oil)	1
20	224-0554	Warning Film	1
21	261-7493	FIlm, blue safety (eye/ear)	1

Pin Remover Receiver, Pin Protrusion Adapter

Model Usage: D11 Machines with Single Tooth Master Links

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used with 150T track repair group
- Used to remove and install track pins at D11 Single Tooth Master Links
- Tooling has built in clearance to eliminate contact with link surfaces
- Recess in the Pin Protrusion Adapter automatically sets proper pin protrusion

Specifications

- Dimensions: 120.0 dia. x 77.0 mm (4.8 dia x 3.0 in)
- Weight: 7.5 kg (13 lb)
- Material: Steel

Part Number	Description
425-6824	Pin Remover Receiver
425-6825	Pin Protrusion Adapter

UNDERCARRIAGE AND TRACK

Track Bolt Sockets

Model Usage: See Chart

Warranty: Caterpillar® Six Months

- Impact sockets for use in removing and installing track bolts
- Specially designed for use with high torque impact wrenches
- In some cases undersize sockets are available for removal of worn track bolts
- Used with a 9S-4026 Drive Adapter, 1 1/2 inch female to 1 inch female, a 9S-4027 Extension, 1 inch male drive both ends, and a 5P-3588 Adapter, 1 inch female to 3/4 inch male
- Hydraulic Torque Wrenches are featured in the Torquing Tools Section.

Impact Sockets for Track Bolts

Inch	Metric Graduations	Part Number	Description	Drive	Application
—	19.0 mm	1U-7626	Tapered	1 in Square	E70, 307
—	22.0 mm	1U-7627	Tapered	1 in Square	E90
—	24.0 mm	1U-7628	Tapered	1 in Square	E110, E120, E140, 311, 312
—	27.0 mm	1U-7629	Tapered	1 in Square	E(L)180, E(L)200, E(L)240, E300
—	30.0 mm	1U-7630	Tapered	1 in Square	EL300, 320, 325
—	32.0 mm	1U-7631	Tapered	1 in Square	E450, E650, 330, 350
1 1/16 in	—	214-6559	Thin Wall [a]	3/4 in Square	E(L)180, E(L)200, E(L)240, E300
1 1/2 in	—	9S-6371	Standard	1 in Square	D9, D9L, D9N, 245
1 1/4 in	—	214-6562	Thin Wall [a]	3/4 in Square	E450, E650, 330, 350
1 1/8 in	—	9S-6373	Standard	1 in Square	D6, D7, 963, D6H, D7H
1 1/8 in	—	9S-6369	Thin Wall	1 in Square	955, 977, 235
1 11/16 in	—	1U-8586	Tapered	1 1/2 in Square	D10, D10N
1 15/32 in	—	5P-3581	Standard	1 in Square	D9, D9L, D9N, 245 worn bolts
1 3/16 in	—	214-6561	Thin Wall [a]	3/4 in Square	EL300, 320, 325
1 3/32 in	—	5P-3579	Standard	1 in Square	D6, D7, 963, D6H, D7H worn bolts
1 5/16 in	—	9S-6372	Standard	1 in Square	D8, 973, 983, D8L, D8N
1 5/8 in	41.0 mm [c]	1U-8798	Tapered	1 1/2 in Square	D10, D10N worn bolts and 375, 5080
1 9/32 in	—	5P-3580	Standard	1 in Square	D8, 973, 983, D8L, D8N worn bolts
15/16 in	—	9S-6370	Standard	1 in Square	D5, D6, D4H, D5H
15/16 in	—	9S-6374	Thin Wall	1 in Square	D4, 941, 943, 951, 953, 955, 215, 225
15/16 in	—	214-6557	Thin Wall [a]	3/4 in Square	E110, E120, E140, 311, 312
2 1/16 in	—	8T-9174	Standard	1 1/2 in Square	D11N, 5130
2 in	—	8T-9175	Standard	1 1/2 in Square	D11N worn bolts
29/32 in	—	6V-7928	Thin Wall	1 in Square	D4, 941, 943, 951, 953, 955, 215, 225 worn bolts
29/32 in	—	6V-2002	Standard	1 in Square	D5, D6, D4H, D5H worn bolts
3/4 in	—	214-6553	Thin Wall [a]	3/4 in Square	E70, 307
7/8 in	—	9S-6375	Thin Wall	1 in Square	D3, D4, 941, 933, 931
7/8 in	—	214-6556	Thin Wall [a]	3/4 in Square	E90

a. Do not use these sockets on standard impact wrenches

b. Chrome Finish

c. 41 mm Metric for 375 and 5080 Applications only

Track Presses, 375 Ton

Model Usage: All Cat® Track Types and Sizes

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Designed by and built exclusively for the Cat® Dealer Service Tools Division
- Disassembles and assembles track link assemblies to perform pin and bushing turns
- Increased ram speeds reduce cycle times.
- Individual hydraulic pressure control dials and gauges for each main ram — gauges read directly in tons to eliminate PSI conversion
- Two 436 L (115 gal) hydraulic tanks provide cool and efficient flow to the unique non-drift hydraulic system.
- 170-2503 Connecting Bars use "T-slot bolts" for easy mounting of contact tooling. Fine-tuning knobs allow for quick and precise positioning of tooling.
- Uses Cat part-numbered components when possible for simplified maintenance

References

- NEHS0800, Cat 375T Track Press Manual
- NEHS0802, Cat Track Press Tool Operating Manual — Introduction
- Included with the press:
  - Two connecting bars (170-2503)
  - 53 kN (12,000 lb) winch with pendant control for loading track on conveyor
  - Work area lights (2)
  - Hydraulic hold-down shoe
  - Saddle bolts and wedge bars
- Sold Separately:
  - Cat saddles and contact tooling for disassembly and assembly of track groups
  - Conversion groups to mount competitive contact tooling
- Related Tooling (Sold Separately):
  - 15.25 m (50 ft) conveyor-includes hydraulically activated track shoe lifter and 1.5 m (5 ft) ramp: Cat Track Torque Wrench
  - Chain Indexer

Part No.	Description	Specifications	Dimensions	Weight
453-5547	375 Ton Track Press	380-415 VAC, 50/60 hz	2,032 x 3,260 x 1,985 mm (80 x 128 x 78 in)	7,556 kg (16,623 lb)
453-5548		440-480 VAC, 60 hz		

Indexer and Hardware Group

Model: Cat® 375 Ton Track Press

Warranty: Manufacturer's



CE Compliant

- Designed and built exclusively for the Cat® Dealer Service Tools Division
- Mounts between a roller conveyor and the track press
- Attaches to pad lift cylinders of the press
- Heavy chain drive reliably moves track chain.
- Integrated extension arms move link assembly into saddles.
- A hydraulic motor is included and is powered by an auxiliary circuit on track press.
- This is heat-treated for added durability and longer life.

Part No.	Description	Dimensions	Weight
453-5545	Chain Indexer	813 x 3000 x 508 mm (32 x 118 x 20 in)	755 kg (1700 lb)
453-5546	Hardware Group	180 x 180 x 204 mm (7 x 7 x 8 in)	13.3 kg (30 lb)

Replacement Parts Available

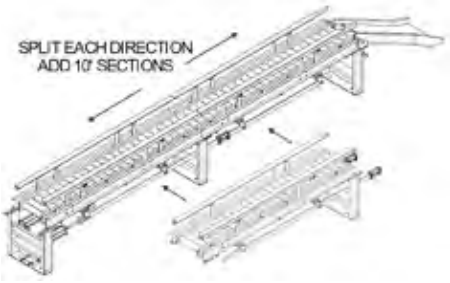
Part No.	Description	Specifications
453-5493	Drive Blocks (2)	5 in
453-5494	Drive Blocks (2)	7 in
Not Serviced	SHC Bolts (4)	5/8 in -11 x 5-1/2 in
Not Serviced	SHC Bolts (4)	5/8 in -11 x 7-1/2 in

UNDERCARRIAGE AND TRACK

Conveyor Group

Model: Cat® 375 Ton Track Press

Warranty: Manufacturer's



Order one 20' Conveyor Group which comes with pad lift system and ramp. One is required.

Part No.	Description	Dimensions	Weight
450-6680	Conveyor Group, 20'	716 x 6350 x 1372 mm (28.2 x 250 x 37 in)	1973 kg (4440 lb)

- 20' Roller Conveyor Group includes pad lift cylinders, leg attachments and ramp for the indexer.
- Hydraulic cylinders powered by track press hydraulics or auxiliary power unit.

Order as many 10' Conveyor Add-On Segments as required by your facility size. None are required.

Part No.	Description	Dimensions	Weight
450-6683	Conveyor Add-On Segment 10'	716 x 3708 x 932 mm (28.2 x 146 x 37 in)	731 kg (1645 lb)

- 10' long intermediate section of roller conveyor with integrated pad lift system
- Allows the splitting of the 20' long 450-6680 base conveyor to add these 10' sections in order to get required length

NOTE: A typical conveyor is 50 feet (15.25 m) which requires the 20-foot base conveyor group, plus three 10-foot add-on segments.

Winch Rope

Model Usage: 375T Track Press

Warranty: Manufacturer's



- Plasma® 12-strand winch rope is manufactured from High Modulus Polyethylene (HMPE).

Features & Benefits

- Steel cables have historically been used on track press winches to move track groups onto the conveyor for service work. Cables are difficult to wind onto the winch spool and are prone to wire strands being exposed which, in turn, creates safety issues for technicians.
- 1/2" Plasma 12 Rope is lightweight and has 31,300 lb tensile strength. Technician feedback shows that plasma rope is preferred when used side-by-side with steel cable.
- Rope has no memory and will easily re-wrap onto winch spools.
- End #1 has heavy-duty thimble with swivel hook and latch.
- End #2 has soft eye.

Applications

- Replacement for wire rope on the hydraulic winch mounted on track press
- Improves operator safety from steel splinters and provides lightweight, flexible rope to pull track groups onto conveyors for service

Part No.	Description	Specifications (Diameter x Length)	Weight
499-6303	Winch Rope	12 mm x 36.5 m (0.5 in x 120 ft)	10 kg (25 lb)

Cat® Track Torque Wrench and Installation Kit

Model: All Cat® Track Equipment

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- PLC-controlled hydraulic torque wrench used to remove and replace track shoe bolts during track reconditioning process
- Travels up and down the rails of the conveyor
- Performs the Cat® "Torque Turn" bolt-torqueing process by adding a 120 degree torque turn after reaching a selected pre-torque value that is input by the operator
- For non Cat track, the CTTW can also torque to a "final torque" setting, eliminating the 120 degree turn.
- Max torque of 9520 N·m (7000 ft-lb) at low speed (40 RPM max); 1496 Nm (1100 ft-lb) at high speed (195 RPM max)
- Load-sensing and horsepower-limiting pump
- Variable displacement fluid motor provides smoother and quieter shifting than mechani shifting wrenches, for reduced wear, maintenance and downtime.
- Joystick-controlled functions (forward and reverse torqueing, horizontal, vertical motio
- Hydraulic oil cooler
- Designed and built exclusively for Dealer Se Tools Division
- Uses Cat part-numbered hydraulic compone for simplified maintenance

References

- NEHS0830, CTTW Operation Manual
- NEHS0831, CTTW Maintenance
- NEHS0832, CTTW Parts and Schematics

Order one Cat® Track Torque Wrench based on your voltage needs.

Part No.	Description	Dimensions	Weight	Voltage
560-6607	Track Torque Wrench	1980 x 2134 x 2287 mm (78 x 84 x 90 in)	3800 lb	380-415VAC, 50/60Hz
560-6608	Track Torque Wrench	1980 x 2134 x 2287 mm (78 x 84 x 90 in)	3800 lb	440-480VAC at 60 Hz

Order one Installation Kit.

Part No.	Description	Contents
453-5544	Festoon Electrical Cable and Support System Installation Kit	includes 1 in and 1-1/2 in output drive extensions

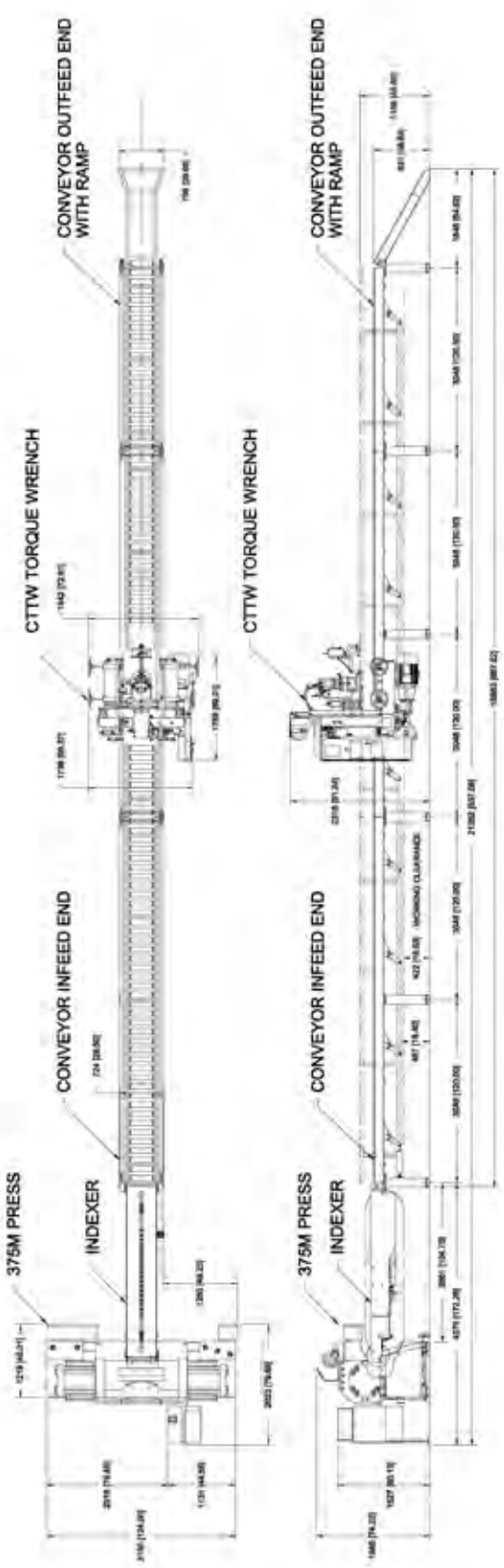
Replacement Parts Available for CTTW:
(Not Required)

Part No.	Description
499-8753	Tool Gp. Festoon Cable Repair
499-8754	Load Cell - Cttw
499-8755	Power Supply - 24V
499-8756	Relay Module 24V 10A
499-8757	Base-Plc (6 Slot)
499-8758	Cpu Card (D2-250-1)
499-8759	Input Card - Analog (F2-04Ad-1)
499-8760	Input Module (24V Dc)
499-8761	Output Module (Relay)
499-8762	Module - Analog Output (2 Ch)
499-8763	Socket - Relay
448-4424	Proximity Switch
499-8765	Operator Panel (Op1500)
499-8766	Cartridge - Check Valve
499-8768	Cartridge - Reducing Valve
499-8769	Cartridge - Relief Valve
499-8770	Cartridge - Counter Balance Valve
499-8771	Tool Gp. - Cttw Elec Switch
499-8772	Tool Gp. - Gearbox Repair
499-8773	Spline Adapter Assembly
501-0354	Control Stick
456-7593	Flange-Drive
456-7595	Gear-Cttw Turn Counter
499-6303	Rope-Winch (1/2 Inch Plasma)

UNDERCARRIAGE AND TRACK

TYPICAL TRACK SHOP CONFIGURATION

PRODUCT	DIMENSIONS	WEIGHT
375M PRESS	80"w x 128"l x 78"h	17000 lbs
INDEXER	32"w x 118"l x 20"h	1700 lbs
50' CONVEYOR WITH RAMP SECTION	28"w x 668"l x 37"h	7800 lbs
CTTW Torque Wrench	78"w x 84"l x 90"h	3800 lb



Shoe-Changing Station (Optional)

Warranty: Caterpillar® Six Months

European Union compliant, CE marked

- PLC-controlled hydraulic torque wrench used to remove and replace track shoe bolts during track reconditioning process
- CTTW travels on conveyors and has forward and reverse torqueing, with horizontal and vertical motion
- Hydraulic oil cooler
- Designed ramp
- Cat 375 Ton Track Press
- Steel construction

If separate Shoe-Changing Station is needed, order one of each of the following parts.

Part No.	Description	Dimensions	Weight
450-6680	Conveyor Group, 20'	716 x 6350 x 1372 mm (28.2 x 250 x 37 in)	1973 kg (4440 lb)
489-7289	Winch Assembly	661 x 483 x 1145 mm (26 x 19 x 45 in)	285 kg (640 lb)
524-2535	Hydraulic Power Supply	915 x 1016 x 1118 mm (36 x 40 x 44 in)	580 kg (1301 lb)
453-5544	Festoon Electrical Cable and Support System Installation Kit	Includes 1 in and 1-1/2 in Output Drive Extensions	100 kg (225 lb)

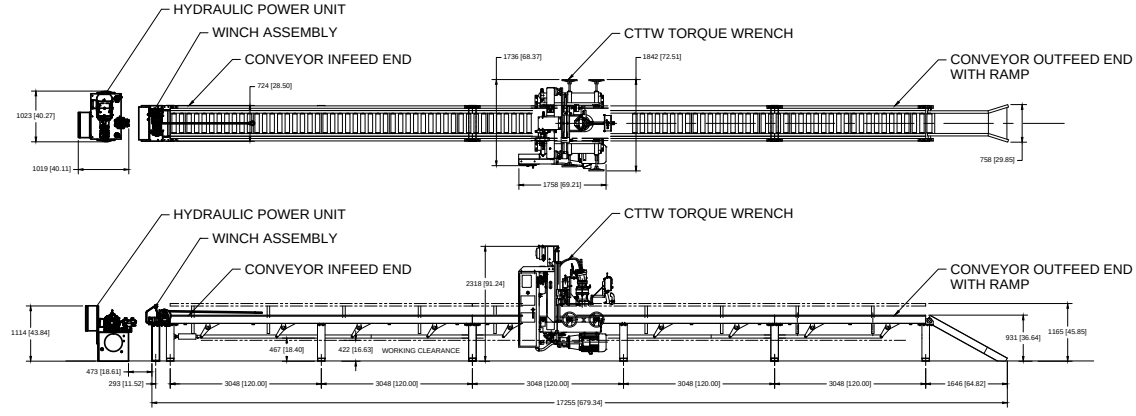
If separate Shoe-Changing Station is needed, order one Cat® Track Torque Wrench based on your voltage needs.

Part No.	Description	Dimensions	Weight	Voltage
560-6607	Track Torque Wrench	1980 x 2134 x 2287 mm (78 x 84 x 90 in)	3800 lb	380-415 VAC at 50/60Hz
560-6608	Track Torque Wrench	1980 x 2134 x 2287 mm (78 x 84 x 90 in)	3800 lb	440-480 VAC at 60 Hz

If separate Shoe-Changing Station is needed, order as many 10' Conveyor Add-On Segments as required by your facility size. None are required.

Part No.	Description	Dimensions	Weight
450-6683	Conveyor Add-On Segment 10'	716 x 3708 x 932 mm (28.2 x 146 x 37 in)	731 kg (1645 lb)

- 10' long intermediate section of roller conveyor with integrated pad lift system
- Allows the splitting of the 20' long 450-6680 base conveyor to add these 10' sections in order to get required length



SHOE ASSEMBLY STATION CONFIGURATION

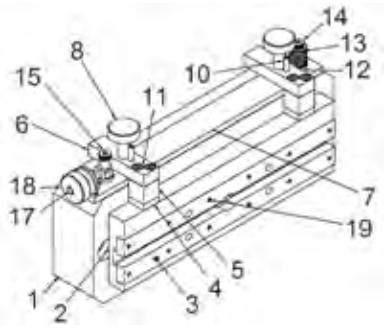
PRODUCT	DIMENSIONS	WEIGHT
524-2535 HYDRAULIC POWER SUPPLY	915 x 1016 x 1118 mm (36 x 40 x 44 in)	580 kg (1301 lb)
489-7289 WINCH ASSEMBLY	661 x 483 x 1145 mm (26 x 19 x 45 in)	285 kg (640 lb)
450-6680 TRACK CONVEYOR GP. (20') WITH RAMP SECTION	716 x 6350 x 1372 mm (28 x 250 x 37 in)	1973kg (4440 ib)
450-6683 TRACK CONVEYOR (10') INTERMEDIATE	716 x 3708 x 932 mm (28 x 146 x 37 in)	731 kg (1645 lb)
453-5542 or 4583-5543 CTTW TORQUE WRENCH	1980 x 2134 x 2287 mm (78 x 84 x 90 in)	1690 kg (3800 lb)
453-5544 WRENCH INSTALLATION GP.	500 x 500 x 250 mm (20 x 20 x 10 in)	100 kg (255 lb)

UNDERCARRIAGE AND TRACK

Connecting Toolbar Assembly, Serviceable Parts

Model: Cat® 375 Ton Track Press

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Heavy-duty connecting bar required for operation of the track press
- The connecting toolbar assembly is included on the press.

Part No.	Description	Dimensions	Weight
170-2503	Connecting Toolbar Assembly	640 x 340 x 150 mm (25.2 x 13.5 x 60 in)	133 kg (300 lb)

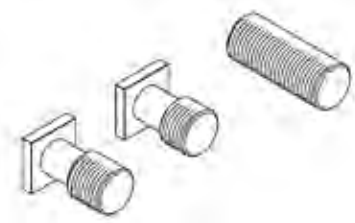
Replacement Parts Available (not required)

Item	Qty. Req.	Part No.	Description	Dimensions	Weight
1	1	170-2507	Connecting Bar	610 x 102 x 229 mm (24 x 4 x 8 in)	107 kg (240.8 lb)
2	1	170-2504	Slide Bar	534 x 153 x 38.1 mm (21 x 6 x 1.5 in)	15.5 kg (34.9 lb)
3	2	477-3882	Press Plate	534 x 38.1 x 19 mm (21 x 1.5 x 0.7 in)	3 kg (6.8 lb)
4	2	477-3881	Shim Block	38 x 38 x 38 mm (1.5 x 1.5 x 1.5 in)	0.2 kg (0.5 lb)
5	2	477-3880	Shim Block	38 x 38 x 13 mm (1.5 x 1.5 x 0.5 in)	0.4 kg (0.9 lb)
6	2	170-2505	Adjusting Bar	141 x 38 x 38 mm (5.6 x 1.5 x 1.5 in)	0.9 kg (2.0 lb)
7	1	170-2506	Slide Bar	578 x 62 x 13 mm (22.8 x 2.4 x 0.5 in)	3.3 kg (7.4 lb)
8	2	171-5890	Thumb Screw	58 x 58 x 102 mm (2.3 x 2.3 x 4 in)	0.6 kg (1.4 lb)
9	2	171-5893	Thrust Washer	31 x 31 x 7 mm (1.2 x 1.2 x 0.3 in)	0.03 kg (0.1 lb)
10	2	170-2508	Pin	10 x 10 x 68 mm (0.4 x 0.4 x 2.7 in)	0.04 kg (0.1 lb)
11	4	4L-8515	Bolt	20 x 20 x 90 mm (0.8 x 0.8 x 3.5 in)	0.1 kg (0.2 lb)
12	2	477-3879	Spacer Washer	31 x 31 x 7 mm (1.2 x 1.2 x 0.3 in)	0.03 kg (0.1 lb)
13	2	-	Spring (Not Stocked)	32 x 32 x 36 mm (1.3 x 1.3 x 1.4 in)	0.1 kg (0.2 lb)
14	1	-	Shoulder Bolt (Not Stocked)	22.3 x 22.3 x 80 mm (0.9 x 0.9 x 3.1 in)	0.13 kg (0.3 lb)
15	1	-	Shoulder Bolt (Not Stocked)	22.3 x 22.3 x 98 mm (0.9 x 0.9 x 3.9 in)	0.13 kg (0.3 lb)
17	1	171-5892	Swing Bolt	19 x 26 x 102 mm (0.7 x 1 x 4 in)	0.2 kg (0.5 lb)
18	1	171-5891	Thumb Nut	58 x 58 x 42 mm (2.3 x 2.3 x 1.7 in)	0.6 kg (1.4 lb)
19	12	2D-4534	Bolt	15 x 15 x 35 mm (0.6 x 0.6 x 1.4 in)	0.02 kg (0.04 lb)

T-Slot Bolts and Studs

Model: Cat® 375 Ton Track Press

Warranty: Caterpillar® Six Months



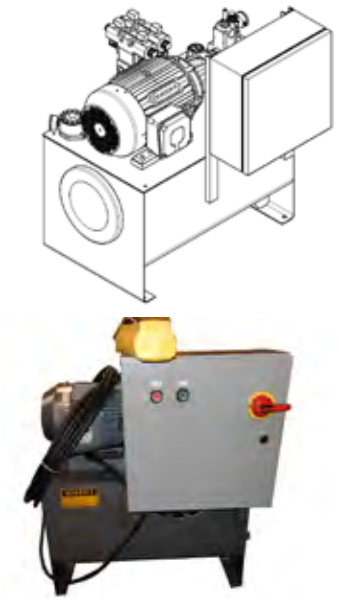
- Mounts contact tooling to the 170-2503 toolbar

Part No.	Description	Dimensions	Weight
1U-6263	T-Slot Bolt	32 x 32 x 51 mm (1.3 x 1.3 x 2 in)	0.19 kg (0.43 lb)
248-2072	T-Slot Bolt	32 x 32 x 45 mm (1.3 x 1.3 x 1.8 in)	0.19 kg (0.43 lb)
1U-6257	Stud	25 x 25 x 64 mm (1 x 1 x 2.5 in)	0.1 kg (0.23 lb)

Hydraulic Power Supply for Shoe Assembly Station

Model Usage: All Track Assemblies

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- This power supply will power the conveyor pad lift and winch assembly on the shoe assembly station.

Power Supply consists of:

- 50-gallon reservoir
- 20 GPM pressure comp. vane pump, 1500 psi
- 20 hp motor 230/460 VAC, 60Hz, 3Ph
- 2 manifolds w/relief valves (100-3000 psi)
- 2 open-center direction control valves
- Flow control valves for cylinders and winch
- 460/120v control transformer
- Pendant control with cable
- Dealer must provide hoses to connect to the pad lift cylinders and the hydraulic winch.

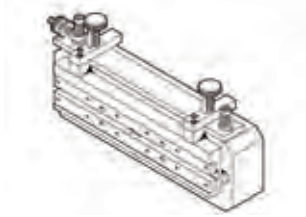
Reference

- NEHS1295 Hydraulic Power Unit Manual

Part No.	Description	Dimensions	Weight
524-2535	Hydraulic Power Supply for Shoe Assembly Station	1016 x 1093 x 1143 mm (40 x 43 x 45 in)	578 kg (1300 lb)

Connecting Bar Assembly

Warranty: Caterpillar® Six Months



- Heavy duty connecting bar
- Used with Cat® 300T, 350T, and 375T Track Presses

Part Number	Description
170-2503	Connecting Bars (2)
Service/Repair Parts	
170-2504	Slide Tool Mounting Bar
170-2505	Connecting Bar Assembly
170-2506	Slide Bar
170-2508	Pin
171-5890	Thumb Screw
171-5891	Thumb Nut
171-5892	Swing Bolt
171-5893	Thrust Washer

UNDERCARRIAGE AND TRACK

Toolbar

Model Usage: All Track-Type Vehicles

Warranty: Caterpillar® Six Months

European Union Compliant, CE marked

- Repair parts for existing 170-2503 toolbar

Reference

- NEHS0800, Cat® 375T Track Press Manual
- NEHS0802, Cat Press Tool Operating Manual

Part No.	Description	Dimensions	Weight
170-2503	Toolbar	64.8 x 33 x 14 cm (25.5 x 13 x 5.5 in)	133 kg (293 lb)

Item	Qty	Part No.	Description	Dimensions	Weight
1	1	170-2507	Bar-Connecting	610 x 102 x 229 mm (24 x 4 x 9 in)	107 kg (235.9 lb)
2	1	170-2504	Bar-Slide	534 x 153 x 38.1 mm (21 x 6 x 1.5 in)	15.5 kg (34.2 lb)
3	2	477-3882	Plate-Press	534 x 38.1 x 19 mm (21 x 1.5 x .7 in)	3 kg (6.6 lb)
4	2	477-3881	Block-Shim	38 x 38 x 38 mm (1.5 x 1.5 x 1.5 in)	0.2 kg (0.44 lb)
5	2	477-3880	Block-Shim	38 x 38 x 13 (1.5 x 1.5 x 0.5 in)	0.4 kg (0.88 lb)
6	2	170-2505	Bar-Adjusting	141 x 38 x 38 mm (5.6 x 1.5 x 1.5 in)	0.9 kg (1.98 lb)
7	1	170-2506	Bar-Slide	578 x 62 x 13 mm (22.8 x 2.4 x 0.5 in)	3.3 kg (7.28 lb)
8	2	171-5890	Screw-Thumb	58 x 58 x 102 mm (2.3 x 2.3 x 4 in)	0.61 kg (1.34 lb)
9	2	171-5893	Washer-Thrust	31 x 31 x 7 mm (1.2 x 1.2 x 0.3 in)	0.03 kg (0.07 lb)
10	2	170-2508	Pin	10 x 10 x 68 mm (0.4 x 0.4 x 2.7 in)	0.04 kg (0.09 lb)
11	4	4L-8515	Bolt	20 x 20 x 90 mm (0.8 x 0.8 x 3.5 in)	0.1 kg (0.22 lb)
12	2	477-3879	Washer-Spacer	31 x 31 x 7 mm (1.2 x 1.2 x 0.3 in)	0.03 kg (0.07 lb)
13	2	Not Stocked	Spring	32 x 32 x 36 mm (1.3 x 1.3 x 1.4 in)	0.1 kg (0.22 lb)
14	1	Not Stocked	Shoulder Bolt	22.3 x 22.3 x 80 mm (0.9 x 0.9 x 3.1 in)	0.13 kg (0.29 lb)
15	1	Not Stocked	Shoulder Bolt	22.3 x 22.3 x 98 mm (0.9 x 0.9 x 3.9 in)	0.13 kg (0.29 lb)
17	1	171-5892	Bolt-Swing	19 x 26 x 102 mm (0.7 x 1 x 4 in)	0.2 kg (0.44 lb)
18	1	171-5891	Nut-Thumb	58 x 58 x 42 mm (2.3 x 2.3 x 1.7 in)	0.6 kg (1.32 lb)
19	12	2D-4534	Bolt	15 x 15 x 35 mm (0.6 x 0.6 x 1.4 in)	0.02 kg (0.04 lb)

Wrench Drive Components, Cat® Track Torque (1-1/2" Replacement)

Model Usage: All Track-Type Machines

Warranty: Caterpillar® Six Months

Assembled View Exploded View



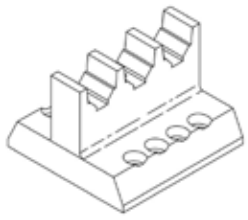
- Replacement parts for 1-1/2" square drive on 453-5542 and 453-5543 Track Torque Wrench (CTTW)
- Original drive and gear are one piece.
- Reduced cost components to replace worn or damage drive
- Attach with (8) 0S-1571 bolts, (2) 0S-1594 bolts and (2) 3/8" x 1-1/4" hardened dowels.
- Remove from spline adapter with (2) 3/8"-16 jacking screws.

Item	Qty	Part No.	Description	Dimensions	Weight
1	1	499-8773	Spline Adapter	134 x 134 x 86 mm (5.3 x 5.3 x 3.4 in)	6.2 kg (13.7 lb)
2	1	456-7593	1-1/2" Drive Flange	134 x 134 x 74 mm (5.3 x 5.3 x 2.9 in)	3.1 kg (13.5 lb)
3	1	456-7595	Turn Angle Gear	160 x 160 x 19 mm (6.3 x 6.3 x 0.75 in)	0.8 kg (1.8 lb)
4	2	NONE	3/8" x 1-1/4" Hard Dowel	10 x 10 x 51 mm (0.4 x 0.4 x 2 in)	0.02 kg (0.05 lb)
5	8	0S-1571	3/8"-16 x 1-3/4" Bolt Gr.8	17 x 17 x 45 mm (0.7 x 0.7 x 1.75 in)	0.02 kg (0.05 lb)
6	2	0S-1594	3/8"-16 x 1" Bolt Gr.8	10 x 10 x 32 mm (0.4 x 0.4 x 1.27 in)	0.02 kg (0.05 lb)

Saddle Assembly

Model Usage: 245 Excavator

Warranty: Caterpillar® Six Months



- Used to install and remove pins and bushings from track links
- Heat-treated for added durability and longer life

Part Number	Description
206-3087	Saddle Assembly

Saddle Tool Assembly, Saddle Plate

Model Usage: D8 Models with PPR Link Assemblies

Warranty: Caterpillar® Six Months



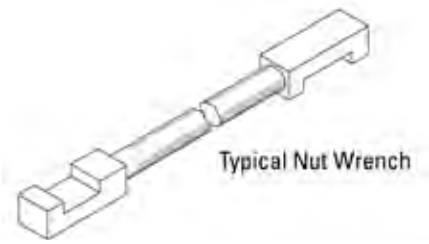
- Attaches securely to press base with standard saddle bolts and wedge bars
- Removable wear plate attaches to the side of the saddle to prevent gouging of bushing when servicing D8 PPR Link Assemblies

Part Number	Dimensions	Weight
440-5124	410 x 350 x 240 mm (16.2 x 13.8 x 9.5 in)	110 kg (240 lb)
440-5125	340 x 130 x 13 mm (13.5 x 5.2 x 0.05 in)	3.5 kg (8.0 lb)

Nut Wrenches

Model Usage: Cat® Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to hold nuts while removing or installing track shoe bolts
- Made from high-strength steel
- Double-ended design has a different nut size on each end

Part Number	Size
188-0956	32 and 42 mm (1.25 and 1.65 in)
188-0959	25 and 30 mm (0.98 and 1.18 in)
4C-8207	38.354 and 33.528 mm (1.51 and 1.32 in)
4C-8208	32.258 and 30.226 mm (1.27 and 1.19 in)
4C-8209	29.21 and 26.162 mm (1.15 and 1.03 in)
4C-8210	25.4 and 22.606 mm (1.0 and 0.89 in)

Single Tooth Master Link D&A Tooling

Model Usage: D10 Machines with a Single Tooth Master Link

Warranty: Caterpillar® Six Months



451-9196 451-9197 451-9198

CE Compliant

- Used with 150T track repair groups
- Used to remove and install track pins at D10 Single Tooth Master Links
- Tooling has built-in clearance to eliminate contact with link surfaces
- Recess in the Pin Protrusion Adapter automatically sets proper pin protrusion

Part No.	Description
451-9196	Cap-Piston Rod
451-9197	Receiver-Pin Removal
451-9198	Adapter-Pin Protrusion

UNDERCARRIAGE AND TRACK

Contact and Saddle Tooling

Model Usage: Cat® Track Components

Warranty: Caterpillar® Six Months



Contact tools and saddles required to service nine machine models in nine-inch pitch track group

- Used to easily install and remove pins and bushings from track links
- Used with Cat-designed track presses (includes current 300 and 375 ton models, as well as non-current 350 ton models)

Contact Tooling

- Tremendous cost savings to dealers (requires 50% fewer pieces than competitor tool packages)
- Allows for future cost-effective expansion for servicing of new track groups
- Reduces damage to track components (plunger-style assembly tools provide better pin and bushing alignment, resulting in less damage)
- Tools give outstanding durability (tools are made from high alloy steel, heat-treated to Rc44)
- Removable base on assembly tools allows work on many models of track, while using same body and plunger (this means servicing more track sizes with fewer tools)
- Recessed threads in removable base allow quick and easy tool setup and teardown
- All tools can be used on competitive track assembly and disassembly machines (Cat conversion group required)
- All contact tools can be ordered separately

Positive Pin Retention Tooling

- Used for D8, D9, D10, and D11 Track-Type Tractors with PPR Track
- Used to unload pin in positive pin retention (PPR) track during assembly
- Used with 300, 350, and 375 Track Presses
- Helps prevent thrust ring galling
- Heat-treated for added durability

Saddles (designed for use on Cat 300, 350, and 375 Ton Track Assembly and Disassembly Machine only)

- Requires only 1 saddle per pitch which eliminates saddle duplication within a pitch group (possible cost savings of up to 40% over many competitive units)
- Saddles use a semi vee-bushing pocket design that allows metal particles and dirt to fall away from bushing contact surfaces
- Bushing design also holds track securely in place for assembly and disassembly
- Saddles are secured in place with wedge bars or key

Conversion Groups for Cat Tools on Competitive Track Assembly and Disassembly Machines

To use the contact tooling with competitive units, order the appropriate conversion group. Cat® saddles are designed only for the 300, 350 and 375 Ton Track Presses.

- The saddles from OEM track presses are required in order to use Cat conversion groups and contact tooling.
- Centurion tooling requires adapter plates, which allow the tooling for the Centurion 250 ton track press to be used on Cat Track Presses; OEM saddles can also be used on the Cat® track presses using these same adapter plates in the conversion group

References



- NEHS0804, Caterpillar Track Press Contact Tooling
- NEHS0802, Caterpillar Track Press Tool Operating Manual — Introduction
- SEBF8557, Track Shop Servicing Procedure for Non-PPR Sealed and Lubricated Track
- SEBF8546, Track Shop Servicing Procedure for Positive Pin Retention Track

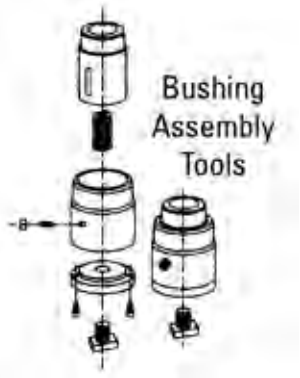
Contact and Saddle Tools by Pitch



Qty.	Description RH Link	D11N PPR 6T-8049	5130 Sealed 618643	MS1600 Sealed 96032
1	Link Spacer	—	9U-7793	9U-7792
	12.50 Inch Pitch Tracks			
1	Pin Assembly Plunger	9U-7564 (First Assembly Side)	9U-7564	N/A
1	Pin Assembly Plunger	9U-7565 (Other Side)	9U-7565	N/A
1	Saddle	9U-7767	9U-7767	N/A
1	Spacer Group	126-4041	126-4041	126-4041
2	Anvil Assembly	8T-3216	—	—
2	Bush Assembly Base	9U-7570	9U-7570	N/A
2	Bush Assembly Body	9U-7571	9U-7571	N/A
2	Bush Assembly Plunger	9U-7569	9U-7569	N/A
2	Bushing Disassembly	9U-7778	9U-7778	9U-7778
2	Extruder Assembly, D11N	198-5341	—	—
2	Extruder Base	9U-7829	—	—
2	Handle Assembly	8T-3211	—	—
2	Pin Assembly Base	9U-7567	9U-7566	N/A
2	Pin Assembly Body	9U-7568	9U-7568	N/A
2	Pin Disassembly	9U-7777	9U-7777	9U-7777
2	Stud	1U-6257	—	—
2	Unloading Pin	157-8547	—	—
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975

Pitch Tracks (10.25 in)

Qty.	Description RH Link	D10N PPR 7T-0715	D10, 591 PPR 9W-5933	D10N S-LT 9W-5265	D10 S-LT 9W-5723	375 Sealed 6Y-6721
1	S.R. Master Adapter			9U-7781	9U-7781	
1	Link Spacer					9U-7794
1	Pin Assembly Plunger (First Assembly Side)	9U-7578	9U-7578	9U-7578	9U-7578	9U-7578
1	Pin Assembly Plunger (Other Side)	9U-7579	9U-7579	9U-7579	9U-7579	9U-7579
1	Saddle	9U-7768	9U-7768	9U-7768	9U-7768	9U-7768
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041
2	Anvil Assembly	8T-3216	8T-3216	—	—	—
2	Bush Assembly Base	9U-7575	9U-7575	9U-7575	9U-7575	9U-7575
2	Bush Assembly Body	9U-7577	9U-7577	9U-7577	9U-7577	9U-7577
2	Bush Assembly Plunger	9U-7572	9U-7573	9U-7572	9U-7573	9U-7574
2	Bush Disassembly	9U-7780	9U-7780	9U-7780	9U-7780	9U-7780
2	Extruder Assembly	198-5342	198-5342	—	—	—
2	Handle Assembly	8T-3211	8T-3211	—	—	—
2	Pin Assembly Base	9U-7580	9U-7580	9U-7582	9U-7583	9U-7581
2	Pin Assembly Body	9U-7585	9U-7585	9U-7585	9U-7585	9U-7585
2	Pin Disassembly	9U-7779	9U-7779	9U-7779	9U-7779	9U-7779
2	Stud	1U-6257	1U-6257	—	—	—
2	Unloading Pin	157-8547	157-8547	—	—	—
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975



UNDERCARRIAGE AND TRACK

Pitch Tracks (9.45 in)

Qty.	Description RH Link	D9N PPR 7T-2275	DD9N S-LT 9W-2743
1	S.R. Master Adapter		9U-7784
1	Pin Assembly Plunge (First assembly side)	9U-7595	9U-7595
1	Pin Assembly Plunger (Other side)	9U-7596	9U-7596
1	Saddle	9U-7769	9U-7769
1	Spacer Group	126-4041	126-4041
2	Anvil Assembly	8T-3216	—
2	Bush Assembly Base	9U-7592	9U-7592
2	Bush Assembly Body	9U-7594	9U-7594
2	Bush Assembly Plunger	9U-7589	9U-7589
2	Bush Disassembly	9U-7783	9U-7783
2	Extruder Assembly D9L and D9N with PPR	198-5343	—
2	Handle Assembly	8T-3211	—
2	Pin Assembly Base	9U-7830	9U-7600
2	Pin Assembly Body	9U-7605	9U-7605
2	Pin Disassembly	9U-7782	9U-7782
2	Stud	1U-6257	—
2	Unloading Pin	157-8547	—
4	Jam Nut (100/pkg)	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448
4	Spring	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975

Pitch Tracks (9 in)

Qty.	Description RH Link	D9L, 589 PPR 7T-4137	D9L, 589 S-LT 7T-7629	350 Sealed 8E-6091	E650, MS580 Sealed 931985
1	Link Spacer			9U-7796	9U-7797
1	Pin Assembly Plunge (First assembly side)	9U-7595	9U-7595	9U-7595	9U-7597
1	Pin Assembly Plunger (Other side)	9U-7596	9U-7596	9U-7596	9U-7598
1	Saddle	9U-7770	9U-7770	9U-7770	9U-7770
1	Spacer Group	126-4041	126-4041	126-4041	126-4041
2	Anvil Assembly	8T-3216	—	—	—
2	Bush Assembly Plunger	9U-7588	9U-7588	9U-7590	9U-7591
2	Bush Disassembly	9U-7783	9U-7783	9U-7783	9U-7783
2	Extruder Assembly D9L and D9N with PPR	198-5343	—	—	—
2	Handle Assembly	8T-3211	—	—	—
2	Pin Assembly Base	9U-7601	9U-7604	9U-7602	9U-7599
2	Pin Assembly Body	9U-7605	9U-7605	9U-7605	9U-7605
2	Pin Disassembly	9U-7782	9U-7782	9U-7782	9U-7782
2	Stud	1U-6257	—	—	—
2	Unloading Pin	157-8547	—	—	—
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975

Pitch Tracks, 8.50 Inch

Qty.	Description RH Link	D8N, 578 PPR 8E-4613	D8N S-LT 8E-4505	D7H S-LT 9G-2417	D7H HD S-LT 61-9239	D7G, 977, 973 S-LT 7T-4657
1	S.R. Master Adapter		9U-7787			
1	Pin Assembly Plunge (First assembly side)	9U-7622	9U-7622	9U-7622	9U-7622	9U-7622
1	Pin Assembly Plunger (Other side)	9U-7623	9U-7623	9U-7623	9U-7623	9U-7623
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041
2	Anvil Assembly	8T-3216	—	—	—	—
2	Bush Assembly Base	9U-7613	9U-7612	9U-7612	4C-9412	9U-7614
2	Bush Assembly Body	9U-7620	9U-7620	9U-7620	4C-9029	9U-7620
2	Bush Assembly Plunger	9U-7606	9U-7606	9U-7606	4C-9307	9U-7607
2	Bush Disassembly	9U-7786	9U-7786	9U-7786	9U-7786	9U-7786
2	Extruder Assembly (198-5439 Body, Extruder) D8N	203-0982	—	—	—	—
2	Handle Assembly	8T-3211	—	—	—	—
2	Pin Assembly Base	9U-7632	9U-7633	9U-7634	4C-9413	9U-7633
2	Pin Assembly Body	9U-7644	9U-7644	9U-7644	9U-7644	9U-7644
2	Pin Disassembly	9U-7785	9U-7785	9U-7785	4C-9414	9U-7785
2	Stud	1U-6257	—	—	—	—
2	Unloading Pin	157-8547	—	—	—	—
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

Qty.	Description RH Link	D7G, 977, 235 S-LT 8S-2589	D7, 973 Sealed 7T-4657	D7, 977, 235 Sealed 8S-2589	330 Sealed 6Y-2589	235 Sealed 7T-9823	E450, MS450 Sealed 96-9944
1	Link Spacer		9U-7801	9U-7801	9U-7799	9U-7800	9U-7802
1	Pin Assembly Plunge (First assembly side)	9U-7622	9U-7622	9U-7622	9U-7626	9U-7622	9U-7624
1	Pin Assembly Plunger (Other side)	9U-7623	9U-7623	9U-7623	9U-7627	9U-7623	9U-7625
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7614	9U-7615	9U-7615	9U-7619	9U-7615	9U-7612
2	Bush Assembly Body	9U-7620	9U-7620	9U-7620	9U-7621	9U-7620	9U-7620
2	Bush Assembly Plunger	9U-7607	9U-7607	9U-7607	9U-7609	9U-7607	9U-7607
2	Bush Disassembly	9U-7786	9U-7786	9U-7786	9U-7786	9U-7786	9U-7786
2	Pin Assembly Base	9U-7633	9U-7633	9U-7633	9U-7634	9U-7633	9U-7633
2	Pin Assembly Body	9U-7644	9U-7644	9U-7644	9U-7644	9U-7644	9U-7644
2	Pin Disassembly	9U-7785	9U-7785	9U-7785	9U-7785	9U-7785	9U-7785
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

UNDERCARRIAGE AND TRACK

Pitch Tracks (8 in)

Qty.	Description RH Link	D6H HD S-LT 8E-7405	D6H S-LT 8E-2355	D6D, 955, 963 S-LT 7T-4645	D6D, 955 S-LT 3P-1112	D6, D7, 977 Sealed 1S-1863
1	Link Spacer					9U-7801
1	Pin Assembly Plunge (First assembly side)	9U-7628	9U-7628	9U-7628	9U-7628	9U-7628
1	Pin Assembly Plunger (Other side)	9U-7629	9U-7629	9U-7629	9U-7629	9U-7629
1	Saddle	9U-7772	9U-7772	9U-7772	9U-7772	9U-7772
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7619	9U-7619	9U-7616	9U-7616	9U-7618
2	Bush Assembly Body	9U-7621	9U-7621	9U-7621	9U-7621	9U-7621
2	Bush Assembly Plunger	9U-7608	9U-7608	9U-7610	9U-7610	9U-7610
2	Bush Disassembly	9U-7786	9U-7786	9U-7786	9U-7786	9U-7786
2	Pin Assembly Base	9U-7637	9U-7638	9U-7639	9U-7639	9U-7640
2	Pin Assembly Body	9U-7644	9U-7644	9U-7644	9U-7644	9U-7644
2	Pin Disassembly	9U-7785	9U-7785	9U-7785	9U-7785	9U-7785
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

Qty.	Description RH Link	D6, D7, 977 Sealed 1S-6433	D6, 955, 225 Sealed 3P-1112	325 Sealed 6Y-1607	EL300 Sealed 960264
1	Link Spacer	9U-7805	9U-7808	9U-7806	9U-7807
1	Pin Assembly Plunge (First assembly side)	9U-7628	9U-7628	9U-7628	9U-7628
1	Pin Assembly Plunger (Other side)	9U-7629	9U-7629	9U-7629	9U-7629
1	Saddle	9U-7772	9U-7772	9U-7772	9U-7772
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7618	9U-7618	9U-7619	9U-7617
2	Bush Assembly Body	9U-7621	9U-7621	9U-7621	9U-7621
2	Bush Assembly Plunger	9U-7610	9U-7610	9U-7611	9U-7610
2	Bush Disassembly	9U-7786	9U-7786	9U-7786	9U-7786
2	Pin Assembly Base	9U-7640	9U-7639	9U-7643	9U-7636
2	Pin Assembly Body	9U-7644	9U-7644	9U-7644	9U-7644
2	Pin Disassembly	9U-7785	9U-7785	9U-7785	9U-7785
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448
4	Spring	248-2069	248-2069	248-2069	248-2069
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975

Pitch Tracks (7.5 in)

Qty.	Description, RH Link	D5H HD S-LT 1061625	D5H S-LT 6Y-9267	315, 320, 322 Sealed 9W-3137
1	Link Spacer			9U-7812
1	Pin Assembly Plunge (First assembly side)	9U-7670	9U-7664	9U-7664
1	Pin Assembly Plunger (Other side)	9U-7671	9U-7665	9U-7665
1	Saddle	9U-7773	9U-7773	9U-7773
1	Saddle Spacer	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7661	9U-7652	9U-7654
2	Bush Assembly Body	9U-7663	9U-7662	9U-7662
2	Bush Assembly Plunger	9U-7651	9U-7646	9U-7645
2	Bush Disassembly	9U-7789	9U-7789	9U-7789
2	Pin Assembly Base	9U-7672	9U-7675	9U-7674
2	Pin Assembly Body	9U-7682	9U-7682	9U-7682
2	Pin Disassembly	9U-7788	9U-7788	9U-7788
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975

Qty.	Description, RH Link	E240, 3200B Sealed 966201	E240, E300 Sealed 965252	E300, EL240 Sealed 931981
1	Link Spacer	9U-7812	9U-7810	9U-7810
1	Pin Assembly Plunge (First assembly side)	9U-7664	9U-7666	9U-7666
1	Pin Assembly Plunger (Other side)	9U-7665	9U-7667	9U-7667
1	Saddle	9U-7773	9U-7773	9U-7773
1	Saddle Spacer	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7653	9U-7652	9U-7653
2	Bush Assembly Body	9U-7662	9U-7662	9U-7662
2	Bush Assembly Plunger	9U-7645	9U-7648	9U-7645
2	Bush Disassembly	9U-7789	9U-7789	9U-7789
2	Pin Assembly Base	9U-7675	9U-7672	9U-7673
2	Pin Assembly Body	9U-7682	9U-7682	9U-7682
2	Pin Disassembly	9U-7788	9U-7788	9U-7788
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975

Pitch Tracks (6.91 in)

Qty.	Description RH Link	D5B-, 951 S-LT 7T-4539	D5B-, 951, 953 S-LT 3P-7153	D5, 951, 955 Dealed 3P-7153	951 Sealed 7T-4539	E180, EL180 Sealed 957130
1	Link Spacer			9U-7813	9U-7813	9U-7814
1	Pin Assembly Plunge (First assembly side)	9U-7664	9U-7664	9U-7664	9U-7664	9U-7664
1	Pin Assembly Plunger (Other side)	9U-7665	9U-7665	9U-7665	9U-7665	9U-7665
1	Saddle	9U-7774	9U-7774	9U-7774	9U-7774	9U-7774
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7655	9U-7655	9U-7654	9U-7654	9U-7652
2	Bush Assembly Body	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662
2	Bush Assembly Plunger	9U-7645	9U-7645	9U-7645	9U-7645	9U-7645
2	Bush Disassembly	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789
2	Pin Assembly Base	9U-7675	9U-7675	9U-7675	9U-7675	9U-7675
2	Pin Assembly Body	9U-7682	9U-7682	9U-7682	9U-7682	9U-7682
2	Pin Disassembly	9U-7788	9U-7788	9U-7788	9U-7788	9U-7788
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070	248-2070	248-2070
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

UNDERCARRIAGE AND TRACK

Pitch Tracks (6.75 in)

Qty.	Description RH Link	D5C, D4H S-LT 6Y-9261	D4H S-LT 9G-8581	D4H HD S-LT 1080947	D4E, 941, 943 S-LT 9K-6629	943 S-LT 7T-4173	D4 Sealed 9Y-6629	D5, 561, 951B Sealed 2S-5959
1	Link Spacer						9U-7816	9U-7815
1	Pin Assembly Plunge (First assembly side)	9U-7668	9U-7668	9U-7664	9U-7668	9U-7668	9U-7668	9U-7664
1	Pin Assembly Plunger (Other side)	9U-7669	9U-7669	9U-7665	9U-7669	9U-7669	9U-7669	9U-7665
1	Saddle	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7652	9U-7652	4C-8055	9U-7657	9U-7657	9U-7652	9U-7656
2	Bush Assembly Body	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662
2	Bush Assembly Plunger	9U-7647	9U-7647	4C-6988	9U-7649	9U-7649	9U-7649	9U-7649
2	Bush Disassembly	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789
2	Pin Assembly Base	9U-7677	9U-7678	4C-8087	9U-7678	9U-7678	9U-7678	9U-7676
2	Pin Assembly Body	9U-7683	9U-7683	9U-7682	9U-7683	9U-7683	9U-7683	9U-7682
2	Pin Disassembly	9U-7788	9U-7788	4C-8125	9U-7788	9U-7788	9U-7788	9U-7788
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070	248-2070	248-2070	248-2070	248-2070
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

Qty.	Description RH Link	D4, 941 Sealed 7K-1825	941, 955 Sealed 5K-9457	933, 955 Sealed 5K-9423	213 Sealed 5W-4147	205, 211, 213 Sealed 8U-2927	E140 Sealed 931978	E110, E110B, E120 Sealed 990650
1	Link Spacer	9U-7820	9U-7815	9U-7819	9U-7818	9U-7816	9U-7816	9U-7816
1	Pin Assembly Plunge (First assembly side)	9U-7668	9U-7668	9U-7668	9U-7668	9U-7668	9U-7668	9U-7668
1	Pin Assembly Plunger (Other side)	9U-7669	9U-7669	9U-7669	9U-7669	9U-7669	9U-7669	9U-7669
1	Saddle	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775	9U-7775
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7658	9U-7659	9U-7659	9U-7652	9U-7652	9U-7652	9U-7660
2	Bush Assembly Body	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662	9U-7662
2	Bush Assembly Plunger	9U-7649	9U-7650	9U-7650	9U-7649	9U-7649	9U-7650	9U-7650
2	Bush Disassembly	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789	9U-7789
2	Pin Assembly Base	9U-7678	9U-7680	9U-7680	9U-7678	9U-7678	9U-7678	9U-7679
2	Pin Assembly Body	9U-7683	9U-7683	9U-7683	9U-7683	9U-7683	9U-7683	9U-7683
2	Pin Disassembly	9U-7788	9U-7788	9U-7788	9U-7788	9U-7788	9U-7788	9U-7788
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070	248-2070	248-2070	248-2070	248-2070
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975	9F-5975

Pitch Tracks (6.125 in)

Qty.	Description , RH Link	D3B, D3C, 931 S-LT 6Y-0935	D3, 931, SF250 Sealed 6Y-0935	TR225B Sealed 6S-8343	D3 Sealed 6S-8682
1	Link Spacer		9U-7824	9U-7824	9U-7823
1	Pin Assembly Plunge (First assembly side)	9U-7684	9U-7684	9U-7684	9U-7684
1	Pin Assembly Plunger (Other side)	9U-7685	9U-7685	9U-7685	9U-7685
1	Saddle	9U-7776	9U-7776	9U-7776	9U-7776
1	Saddle Spacer	9U-7749	9U-7749	9U-7749	9U-7749
1	Spacer Group	126-4041	126-4041	126-4041	126-4041
2	Bush Assembly Base	9U-7689	9U-7690	9U-7690	9U-7690
2	Bush Assembly Body	9U-7691	9U-7691	9U-7691	9U-7691
2	Bush Assembly Plunger	9U-7688	9U-7688	9U-7688	9U-7688
2	Bush Disassembly	9U-7791	9U-7791	9U-7791	9U-7791
2	Pin Assembly Base	9U-7686	9U-7686	9U-7686	9U-7686
2	Pin Assembly Body	9U-7687	9U-7687	9U-7687	9U-7687
2	Pin Disassembly	9U-7790	9U-7790	9U-7790	9U-7790
2	Spring (For the Bushing Assembly Tools)	248-2070	248-2070	248-2070	248-2070
2	Spring (For the Pin Assembly Tools)	9U-7748	9U-7748	9U-7748	9U-7748
4	Jam Nut (100/pkg)	1B-2578	1B-2578	1B-2578	1B-2578
4	Set Screw	5B-0448	5B-0448	5B-0448	5B-0448
4	Tee Slot Bolt	248-2072	248-2072	248-2072	248-2072
8	Socket Head Screw	9F-5975	9F-5975	9F-5975	9F-5975

Pin and Bushing Installation and Removal Tools

- Used to easily install and remove pins and bushings from 5.31 pitch tracks (links)

Part Number	Description
169-0641	Bushing, Disassembly
169-0642	Bushing, Plunger
169-0643	Pin, Disassembly

UNDERCARRIAGE AND TRACK

Tools for Servicing Sealed and Lubricated Track

Model Usage: Cat® Sealed and Lubricated Track

Warranty: Caterpillar® Six Months



- Tools and equipment for servicing Sealed and Lubricated Track
- Use 5P-3010 deburring tool to clear/chamfer oil reservoir hole and make new chamfer; track shoes do not need to be remove
- Undercarriage Reconditioning Bulletin MP-13.1 (12/87), Sealed and Lubricated Track Servicing Procedure for Non-Restrained Track (use of 5P-3010 Deburring Tool)
- Form SEBF8554 Track Press Assembly Specification Decals

Part No.	Description	Usage
5P-3010	Deburring Tool	Clear and rechamber the oil reservoir hole
5P-1725	Stopper Installation Tool Group	Install rubber stoppers in track pins on D11N, D10, D10N, D9L, D9N, D9, D8L, D8N, D8, D7H, D7, 983, 977 and 973
5P-7392	Stopper Installation Tool Group	Install rubber stoppers in track pins on D6H, D6, D5H, D5, D4H, 963, 955, 953, 951, 943, and 941
5P-7419	Plug Installer	Install plug in rubber stopper
6V-0136	Stopper Installation Tool Group	Install rubber stoppers in track pins on D3, 931, and 935

Vacuum Tank Assembly



Illustration 1

Item	Description	Detail
2	Tank	19 L (5 gal) capacity, air tight and capable of withstanding 635 mm (25 in) Hg. vacuum.
4	Carrying handle	

Item	Part Number	Description	Detail
1	5P-6014	Nylon Tubing	Connected to tank with 13 mm (0.50 in) minimum internal diameter rubber hose
3	5P-0306	Transducer — Vacuum	Connect vacuum side directly to tank

Lubricator Tip

Model Usage: Cat® Sealed and Lubricator Track

Warranty: Caterpillar® Six Months

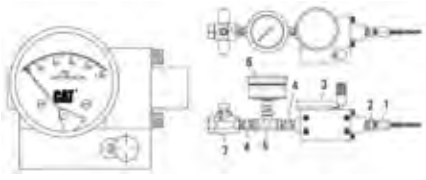


- Replaces discontinued 5P-2415 Lubricator Tip
- Diameter of tip has been increased from 3.20 to 4.80 mm (0.125 to 0.1875 in)
- Provides a better seal and will not break as easily

Part Number	Description
8T-0831	Tip — Lubricator

Gauge (500 PSI), Gauge Connection

Warranty: Caterpillar® Six Months170-5665 Gauge (500 PSI)



- Used to test roller, idler, and track joints (20 PSI pressure test procedure)

Item	Part Number	Description
1	8T-0831	Tip — Lubricator
2	4C-7099	Hex Nipple, 1/4 x 1/8 NPT
3	170-5665	Pressure Tester
4	5P-8998	Nipple — Pipe
5	006-0210	Pipe Tee
6	8T-0848	Gauge GP — Pressure (3)
7	4C-7090	Valve

Test and Fill Machine

Essential Tool

Model Usage: Cat Rollers, Idlers, and Track Joints

Warranty: Caterpillar® Six Months



- Pressure tests/fills undercarriage components such as rollers, idlers, and track joints
- Simple, easy-to-use controls are designed for one-person operation with a start button located on nozzle handle
- Accurately fills joints within 80 to 90% of total capacity (no fill charts required)
- Performs a nitrogen pressure test with improved test results over vacuum testing
- Pulls vacuum on rollers, idlers, and track joints to evacuate component for proper fill
- Fills components with oil through plug hole without using an adapter
- Equipped with LCD display
- Pneumatic wheels for added convenience

References

- NEHS0785, Using the 170-5664 Test and Fill Machine
- PEVN4776, Undercarriage Test and Fill Machine (Video)

Specifications

- Power: 120/220 V (single-phase)
- Frequency: 50 – 60 Hz
- Electric motor: 1/3 HP
- Pressure check period: 10 seconds
- System relief setting: 1379 kPa (200 PSI)
- Overall size: 1575 x 889 x 1575 mm (62 x 35 x 62 in)
- Weight: 136 kg (300 lb)

Part Number	Description
170-5664	Test and Fill Machine

Test Tube

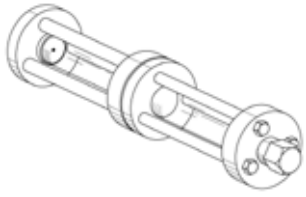


Item	Part Number	Description	Size
Test Tubes			
1	216-2856	Test Tube	50 ml
2	183-9303	Test Tube	1000 ml
Not shown			
—	188-5058	Blocking Valve	—
—	188-5059	Air Valve	—
—	188-5060	Solenoid	—
—	188-5061	Relief Solenoid	—
—	188-5062	Transducer	—
—	8T-0831	Tip — Lubricator	—

Test Tube

Model Usage: All track

Warranty: Caterpillar® Six Months



- Used to visually show operator how oil flows from inner cavity of pin to outer cavity — verifies "test and fill machine" is correctly filling track pins
- Simulates inner and outer cavity of track pins
- If oil fills first chamber and then stops, "test and fill machine" is not working properly and should be serviced or repaired
- 2 oil fill level marks make sure pin is filled between 80 and 90%
- Hex fitting is used to drain second chamber

References

- NEHS0785, Using the 170-5664 Test and Fill Machine
- PEVN4776, Undercarriage Test and Fill Machine (Video)

Part Number	Description
216-2856	Test Tube

UNDERCARRIAGE AND TRACK

Test and Fill Machine

Essential Tool

Model Usage: Cat Rollers, Idlers, and Track Joints

Warranty: Caterpillar® Six Months



- Used to test and fill track joints, rollers, and idlers to the recommended Cat specifications
- Used with FT1238 Trac Vac, for removing oil from components
- Proper testing and filling of undercarriage components (track pins, rollers, and idlers) is essential for extending service life of undercarriage components
- Test undercarriage components using a pressure test which measures loss-of-pressure over a ten second period
- Oil-fill-cylinder dispenses a pre-measured volume of oil with a single stroke capacity of 510.0 mL (17.3 oz)
- Pressure differential test is used to identify leaks and results in improved testing compared to vacuum testing
- Pulls a vacuum in rollers, idlers, and track joints to enable quick oil-fill times
- Accurately fills required volume of total joint capacity, which will ensure oil reaches seals
- In-line extractor/dryer and air regulator are built into cabinet to provide a clean, dry, regulated [138 kPa (20 PSI)] air supply
- Uses a remote, air-powered pump to dispense oil from a 19 L (5 gal) container
- Pump can be adapted to fit larger oil containers, such as 208 L (55 gal) drums
- Simple, easy-to-use controls are designed for 1-person operation
- Unit is portable for use on service trucks or shop carts

Reference

- NEHS0942, Using the 275-9607 Portable Test and Fill Machine

Specifications

- Pressure check differential: 10 seconds
- System pressure (relief valve setting): 1378 kPa (200 PSI)
- Oil-fill-cylinder capacity: 510 mL (17.3 oz)
- Minimum recommended oil temperature: 27°C (80°F)
- Maximum recommended oil temperature: 49°C (120°F)
- Oil Types
  - Sealed and lubricated track: 8T-9582; 80W-90 EP Gear Oil, 19 L (5 gal) pail
  - Sealed and lubricated (arctic) track: 242-3466 75W-140 EP Gear Oil, 19 L (5 gal) pail
  - Rollers and idlers: 8C-3698 SAE 30W Oil, 19 L (5 gal) pail
  - Rollers and idlers (arctic): 109-0926 a 1 SAE 30W Oil, 19 L (5 gal) pail

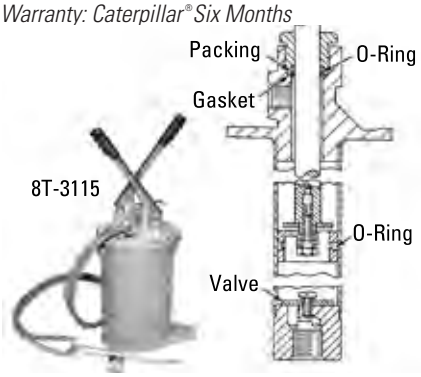


Part Number	Description
275-9607	Test and Fill Machine
Service Parts	
188-5058	Blocking Valve
282-9092	Graduated Cylinder
282-9093	Air Switch
4C-7146	Adapter Plate
4C-7159	Fitting
4C-7234	Pail Cover
4C-7359	Pump
4C-8858	Coupler
4C-8964	Bung Adapter
8T-0831	Tip — Lubricator

Portable Track Lubricator

Model Usage: D10, D10N, D11N, D7G, D8K, D9H, D9N, 589, 973

Warranty: Caterpillar® Six Months



- Provides easy method of lubricating track link joints in field
- Can be used to evacuate track link joints, and then to fill them to correct level
- Easier to transport than former Track Lubricator, and does not need compressed air to operate
- 6V-7921 Seal Kit is used to service the 8T-3115 Portable Track Lubricator; location of the seal kit components is shown in the illustration; gasket that goes between the lid and the body of the pump is included in the kit, but not shown in the illustration

Part Number	Description
6V-7921	Seal Kit
8T-3115	Portable Track Lubricator

Undercarriage Tools for Challenger 34, 45, and 55

Model Usage: Challenger 35, 45, and 55

Warranty: Caterpillar® Six Months



Guide Studs

- Used to guide undercarriage into place during assembly and make removal easier and faster
- For installation, put 1U-9785 in top hole of drive wheel; put 1U-6130 in bottom hole of drive wheel; put 1U-9817 in upper right hard bar mounting hole
- For removal, put 1U-9785 in top hole of drive wheel and put 1U-9817 in top center hard bar mounting hole
- Taper on end of stud helps align hole during installation
- Wrench flat on end of pin makes installation and removal of pins much easier
- Heat treated for hardness and durability

Part Number	Description	Length	Diameter	Wrench Flat Thickness	Thread
1U-6130	Guide Stud	254 mm (10 in)	23.9 mm (0.94 in)	19 mm (0.744 in)	M24 x 3
1U-9785	Guide Stud	279 mm (11 in)	23.9 mm (0.94 in)	19 mm (0.744 in)	M24
1U-9817	Guide Stud	305 mm (12 in)	23.9 mm (0.94 in)	19 mm (0.744 in)	M24 x 3

UNDERCARRIAGE AND TRACK

Grease Pin Kit

Model Usage: 354C, 364, 385C Excavators

Warranty: Caterpillar® Six Months



- Used to lubricate greased track link joints in field

Part Number	Description
254-8168	Grease Pin Kit
Service/Repair Parts	
3B-8489	Adapter STR (Dryseal to PTF)
5D-1152	O-ring Seal (2)

Grease Pin (D11)

Model Usage: D11T Track Pins in Custom Conveyor

Warranty: Caterpillar® Six Months



- Used to facilitate a temporary repair to rebuild the damaged track joint components until schedule maintenance can occur
- Made of Aluminum

Reference

- SEBF8598 Shop Repair Procedure for Grease Lubricated Track

Specifications

- Dimensions: 26 x 26 x 236 mm (1 x 1 x 9.3 in)
- Weight: 2.2 kg (1 lb)

Part Number	Description
456-7580	D11 Grease Pin

Track Installation Tools

Model Usage: Cat® Track-Type Machines

Warranty: Caterpillar® Six Months



- Can be used on all track-type tractors to make track installation much easier and safer

Item	Part Number	Description
1	1P-3533	Carrier Bar
2	1P-3532	Track Block Assembly
3	1P-3545	Chain Coupling Tool Group

Track Block Assembly

Model Usage: D3 Tractor, 931 Track-Type Loader

Warranty: Caterpillar® Six Months



- Can also be used on triple grouser track when larger 1P-3532 Track Block Assembly is too big to be used effectively

Part Number	Description
5P-6214	Track Block Assembly

Master Pin Plug Removal Tools

Model Usage: Cat® Track-Type Machines

Warranty: Caterpillar® Six Months



- Used for easy removal of threaded taper plugs used in some earlier master pins

Thread Size

Item	Description	12.7 mm (1/2 in NF)	9.5 mm (3/8 in NF)
2	Screw	3B-1027	—
3	Nut	—	7B-2710

Clamps for Shipping and Storage of Track Assemblies

Model Usage: See Chart

Warranty: Caterpillar® Six Months



Typical Track Clamp

- 8 clamps (10 on track groups for D10 and D11N Tractors) are equally spaced in sets of 2 around rolled track groups to keep them together during shipping and storage
- Use chart to find correct size and length of threaded rod to use with each clamp and track shoe width; order 2 clamps for each set required; threaded rod, nuts, and washers not included

Part No.	Machine Model	Standard Track Shoe Width	Threaded Rod Length	Rod Diameter
9A-0436 Clamp (Order 2 Clamps For Each Set Required.)	D11N	711 mm (28 in)	457 mm (18 in)	20.0 mm (0.75 in)
	D10	711 mm (28 in)	457 mm (18 in)	20.0 mm (0.75 in)
	D10N	610 mm (24 in)	356 mm (14 in)	20.0 mm (0.75 in)
	D9H, D9L, D9N	610 mm (24 in)	356 mm (14 in)	20.0 mm (0.75 in)
	931B and D3B	305 mm (12 in)	203 mm (8 in)	20.0 mm (0.75 in)
	973	508 mm (20 in)	305 mm (12 in)	20.0 mm (0.75 in)
	963	457 mm (18 in)	254 mm (10 in)	20.0 mm (0.75 in)
	953	381 mm (15 in)	279 mm (11 in)	20.0 mm (0.75 in)
	943 and D4H	356 mm (14 in)	254 mm (10 in)	20.0 mm (0.75 in)
	245	762 mm (30 in)	508 mm (20 in)	20.0 mm (0.75 in)
	D7G	508 mm (20 in)	305 mm (12 in)	16.0 mm (0.625 in)
	D6D	457 mm (18 in)	254 mm (10 in)	16.0 mm (0.625 in)
	227	711 mm (28 in)	508 mm (20 in)	16.0 mm (0.625 in)
	225	559 mm (22 in)	457 mm (18 in)	16.0 mm (0.625 in)
	215	508 mm (20 in)	406 mm (16 in)	16.0 mm (0.625 in)

UNDERCARRIAGE AND TRACK

Hydrostatic Pump and Track Installation Tools

Model Usage: 287 and 287B Multi-Terrain Loader

Warranty: Caterpillar® Six Months



Hex (Extension) Wrench

- Removes hydrostatic pump assembly mounting bolts
- 24 mm hex end wrench with 1/2" square drive
- 76.2 mm (3.0 in) center-to-center distance from drive to socket

Track Installer Assembly

- Used to install rubber tracks
- Significantly reduces installation time

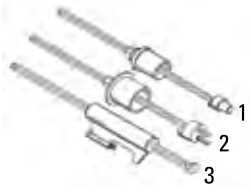
Part Number	Description
242-6163	Hex (Extension) Wrench
242-6165	Track Installer Assembly

Installers and Remover

Essential Tool

Model Usage: 277C (JWF1-UP), 287C (MAS1-UP), and 297C (GCP1-UP) Multi-Terrain Loader

Warranty: Caterpillar® Six Months



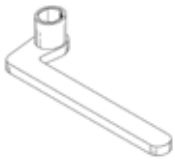
- 292-3838 and 292-3839 Installers are used together to push track roller frame onto front and rear torsion axles
- A pair of 292-3840 Removers are used to push track roller frame off torsion axles

Item	Part No.	Description
1	292-3838	Installer
2	292-3839	Installer
3	292-3840	Remover

Offset Wrench

Model Usage: 277C (JWF1-Up), 287C (MAS1-Up), 297C (GCP1-Up) Multi-Terrain Loader

Warranty: Caterpillar® Six Months



- Used to remove and install mounting bolts for bogie axles of Level II undercarriage
- Used with 194-4944 Ratchet and 3/4 inch socket
- Six point socket 3/4 inch

Part Number	Description
292-9203	Offset Wrench

Wrench



- Used to remove and install nut securing accumulator (nut located between the accumulator and right or left-hand manifold)
- Thin open end wrench easily fits onto nut (not enough space to insert thickness of standard wrench)
- Wrench opening: 47.625 mm (1 7/8 in)
- Thickness: 6.3 mm (0.25 in)

Part Number	Description
1U-9097	Wrench

Hose Group



- Used to adjust tension on Mobil-Trac belts
- Allows Challengers hydraulic system to increase tension by directing oil from implement valve through hose assembly and into tension cylinder
- Hose group directs oil from tension cylinder back into sump during detensioning
- One end of hose assembly attaches to tension cylinder and other end to implement valve located at the rear of Challenger
- Items (14), (15), and (16) are only required when cylinder guard is in place
- Includes a hose and hose clamp for bleeding oil from nitrogen accumulator (part of belt tensioning system)
- 5P-6442 Hose Length: 200 cm (79 in) Inside diameter: 6.3 mm (0.25 in)

Reference

- SENR8300, Service Manual

Item	Part Number	Description
—	1U-9058	Hose Group
1	5P-6442	Hose
2	1P-4278	Clamp Hose
3	6V-4144	Coupler Assembly (For 42000 kPa)
4	1U-9649	Hose Assembly
5	2D-7325	Tee — Pipe
6	8T-0859	Gauge — Pressure
7	8S-7169	Coupling — Pipe Hexagon
8	5P-8998	Nipple — Pipe
9	1S-8937	Valve — Needle
10	6V-3966	Pressure Test Valve, 1/4 in-18 NPTF external
11	1U-9650	Hose Assembly
12	6B-5072	Reducing Bushing (2)
13	9X-2018	Nipple Assembly
14	6V-4143	Coupler Assembly
15	3B-6552	Elbow — 90° Pipe
16	8T-3613	Valved Nipple, External, 1/8 in NPT
17	6V-7145	Case

Shop Repair Tools for Two-Piece Design Positive Pin Retention Track

Model Usage: Cat® Track-Type Machines

Warranty: Caterpillar® Six Months



- Repairs positive pin retention track
- New track press assembly tooling and new jaws (or modification of the original jaws) are required; new tooling and information for modifying original jaws is available from manufacturer of your track press
- Extruder assembly as used on PPR track is compatible with Wolfe, Centurion, and OTC Track Presses
- Allows easy service of extruder face

References

- SEBF8546, Undercarriage Reconditioning Bulletin, Shop Repair Procedure for Track Links with Positive Pin Retention
- SEVN1347, Video Tape, "Shop Repair Positive Pin Retention Track" Major Equipment Guide
- NEHC2008, Caterpillar 350 Ton Track Press

Item (includes)	Description
4	Extruder Assembly D10 and D10N
4	Extruder Assembly D9L and D9N
4	Extruder Assembly (198-5349 Extruder Body) D8N

Item	Part Number	Description
1	8T-3211	Handle Assembly
2	2L-6726	Ring
2	3K-6933	Pin
2	8T-3216	Anvil Assembly
3	3D-2898	Seal
4	5B-2547	Spring
Not Shown	198-5343	Extruder Assembly D9L and D9N with PPR

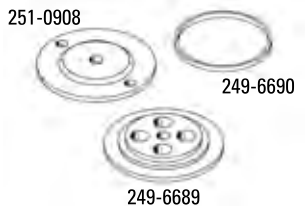
UNDERCARRIAGE AND TRACK

Pivot Shaft Seal Installation Tools for D9R and D10R Track-Type Tractor

Essential Tool

Model Usage: All D8L, D9L, D9N, D9R, D9T, D10N, D10R, and D10T Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to install pivot shaft seal into retainer and also to install retainer assembly onto roller frame
- Prevents damage to seal during assembly process

Reference

- RENR3927, Service Manual, Disassembly and Assembly

Part Number	Description
249-6689	Seal Installer
249-6690	Seal Installer
251-0908	Puller Plate

Axle Installation Fixture Groups

Model Usage: Challenger Tractor

Warranty: Caterpillar® Six Months

- Repairs Challenger 65 minor bogie axle assemblies if damaged due to worn axle shaft
- Not necessary to replace complete axle assy
- Accurately positions axle within axle assembly support (length axle extends beyond both sides of axle support is critical — it controls preload applied to metal-to-metal seal (duo-cone) at inside end of track roller)
- Axle Installation Fixture Group by Serial Number:
  - Challenger 65 (7YC)
  - Challenger 75 (4CJ)
  - MT116 (3YL)
  - MP73 (3YL)
  - MT73 (8KL)
  - MP116 (9HL)
  - MP128 (8ZL)
  - Challenger 65C (2ZJ1-499)
  - Challenger 75C (4KK1-499)

Dimensions

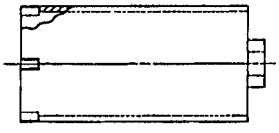
- 508 mm (20 in) L x 424.0 mm (16.7 in) W x 419.0 mm (16.5 in) H
- Weight: 48.8 kg (107 lb)

Axle Assembly	Axle	Retainer (Seal)
100-3153	8R-8780	8R-9006
8R-9022	8R-8780	8R-9006

Bearing Nut Spanner Wrench

Model Usage: Challenger 65 Tractor, Model T466

Warranty: Caterpillar® Six Months



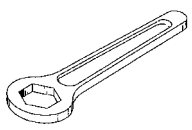
- Used to remove and install the bearing nut on the bogie axles
- Will not slip
- Provides fast, easy way to set bearing loads
- Use with 1/2 inch square drive
- Dimensions: 6.35 mm (2 1/2 in) diameter, 12.7 cm (5 in) long

Part Number	Description
4C-9439	Bearing Nut Spanner Wrench

Box End Wrench (Snubber Nut)

Model Usage: 525 Log Skidders Equipped with ESCO Series 2000 Sorting and Bunching Grapples

Warranty: Caterpillar® Six Months



- Used to adjust snubber nut to obtain proper front-to-rear and side-to-side grapple head dampening
- Required for daily maintenance of grapple
- Heavy-duty design and construction is necessary for proper maintenance

Specifications

- Wrench opening (box end): 3 in hex
- Overall length: 54.00 mm (21.25 in)

Part Number	Description
126-5762	Box End Wrench (Snubber Nut)

Additional Accessories To Make Your Track Shop Run Optimally

Track Seal Installers and Track Bushing End Groove Gauges for Rigid Seals

Model Usage: See Chart

Warranty: Caterpillar® Six Months

- Install and inspect track link assembly (S and L)



Seal Installers

End Groove Gauges

Model	UC Type	Bushing	Track Seal	Groove Gauge	Seal Installer
955, 963, 963B, 963C	SALT	8E-5257	250-3996	133-1537	133-1533
D3	SALT	6S-9051	250-4002	165-2572	133-1532
D3, D3B, D3C, D3G, D3K, D4B, D4C, D4G, D4K	SALT	188-6246	250-4002	165-2572	133-1532
D4H, 561H	SALT	9G-8588	250-4000	4C-8602	4C-8615
D5, 953, 953B, 953C, 955, 977	SALT	7T-4636	250-3990	197-6569	165-2571
D5H, D5H TSK, 953C	Hybrid	229-6915	250-3988	4C-8603	4C-8616
D4H, D4H TSK, D5M, D5N, 561H, 561M, 561N	HD	108-0944	250-3992	133-1535	133-1532
D6, D6H, 955, 963, 963B, 963C, 963D	SALT/Hybrid	230-4512	207-0544	133-1538	4C-8617
D6C, D6D, 955L, 963, 963B	SALT	3P-1109	250-3996	133-1537	133-1533
D6H	SALT	6Y-0930	207-0544	4C-8604	4C-8617
D5H, D5H TSK, 953C, D6K, D6M, D6N, 517	HD	106-1618	250-3988	133-1356	4C-8616
D6D, D6H, D6R, D6T	HD	8E-7222	207-0544	133-1538	4C-8617
D7, 973, 973C, 977	Ext Wear Life/Large OD Bushing	8E-5258	250-3998	133-1539	133-1534
D7, D7G, 977	SALT	3P-0621	250-3998	133-1539	133-1534
D7, D7H, 973, 973C, 973D, 977	Hybrid	237-3790	251-1659	4C-8605	4C-8919
D7E, D7H, D7R, 572R	HD	115-4924	239-7943	133-1540	4C-8919
D8, D9, 983	SALT	2P-9424	248-1537	4C-8608	4C-8916
D8L, D8N, D8R, D8T, 578	PPR, Non-PPR	6Y-3914	239-7943	4C-8607	4C-8916
D9L, 589	PPR, Non-PPR	6Y-2141	207-0545	4C-8609	4C-8917
D9N, D9R, D9T	PPR, Non-PPR	186-0781	207-0545	4C-8610	4C-8921
D10	PPR	143-0746	222-7001	4C-8611	4C-8622
D10N, D10R, D10T	PPR, Non-PPR	6Y-2057	222-7001	4C-8612	4C-8622
D11N, D11R, D11T	PPR	306-9425	222-7007	4C-8613	4C-8623
D10N, D10R	-	-	252-6327	4C-8612	262-9822
D11N, D11R	-	-	261-4338	4C-8613	241-1854

Track Bushing End Groove Gauges



- Designed for use with original rigid seals and new, improved rigid seals
- Simpler and more durable than original design
- Checks circumference of bushing for grooving without repeated attaching/removing

References

- SEBF8546 Shop Repair Procedure for Positive Pin Retention Track
- SEBF8557 Shop Repair Procedure for Non-PPR Sealed and Lubricated Track
- SEBF8558 Undercarriage Reconditioning Guide
- SEBF8565 Track Service Evaluation Checklist
- SEHS9371 Track Seal Installers and Track Bushing Gauges for Rigid Track Seals

Post Turn Seal Installer



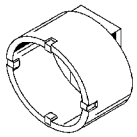
- Used to install Post-Turn replacement seals when reworking track
- Seal has lip in new location — eliminates need to replace shaft
- The larger diameter of discontinued 8E-4512 seal assembly will not fit discontinued 6V-4811 installer. (New-style installers can be used, but care must be taken in the large clearance between orig. and new installer.)

UNDERCARRIAGE AND TRACK

Axle Bearing Nut Spanner Wrench

Model Usage: 65C (2ZJ500-UP), 70C (2YL1-UP), 75C (4KK500-UP), and 85C (9TK1-UP) Challengers

Warranty: Caterpillar® Six Months



- Used to remove and install 4H-6507 Axle Bearing Nut
- Used with 3/4 inch square drive wrenches (can be used with torque wrench)
- Grips nut tightly — will not slip
- Reduces chance of damage and saves time — eliminates use of hammer and chisel

Specifications

- Height: 100 mm (4 in)
- Inside diameter: 114.3 mm (4.5 in)
- Distance between pins: 105.75 mm (4.16 in)
- Square drive: 3/4 in

Part Number	Description
1U-6230	Axle Bearing Nut Spanner Wrench

Seal Driver

Model Usage: D7R and D8R Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to correctly install new roller frame seals
- Made of lightweight, high strength aluminum

Part Number	Description
204-3513	Seal Driver

Seal Driver

Model Usage: D10R Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to correctly install roller frame seal
- Designed specifically for this application
- Quickly and accurately installs seal to correct depth
- Helps eliminate possible seal damage caused by other tooling
- Made from high-strength aluminum (lightweight, yet durable)

Part Number	Description
214-9540	Seal Driver

Seal Installer

Model Usage: D7E Track-Type Tractor (electric drive)

Warranty: Caterpillar® Six Months



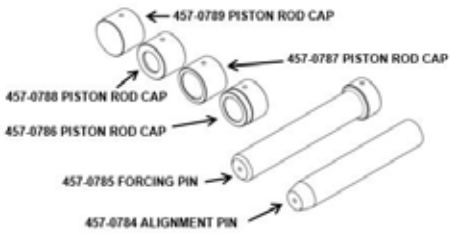
- Used to install 308-3053 Seal in track adjuster group
- Durable steel construction
- Hinged design for easy installation
- Replacement CL-6-BLPB-2.00 Lock-Pin available from Carr-Lane Mfg. Co.

Part Number	Description
316-3490	Seal Installer

Undercarriage Field Pin Press Contact Tools

Model Usage: 6015, 6015B, 6018, 6020B

Warranty: Manufacturer's



- These service tools enable qualified service personnel to remove or install track pins into undercarriage link assemblies on the track chain and can be used in the shop or the field
- Each track group requires specific undercarriage tooling. This tooling has been designed and validated for these specific Hydraulic Mining Shovels Model Numbers.
- Do not try to remove or replace track pins without these recommended service tools. Refer to the Undercarriage Reconditioning Guides for the proper tooling to be used.

Part Number	Description	Specifications
457-0784	Alignment Pin (HMS 6018)	75 X 75 X 435 mm (2.9 X 2.9 X 17.1 in) 3 kg (6.6 lb)
457-0785	Forcing Pin (HMS 6018)	100 X 100 X 490 mm (3.9 X 3.9 X 19.3 in) 8 kg (17.6 lb)
457-0786	Piston Rod Cap (HMS 6015)	100 X 100 X 77 mm (3.9 X 3.9 X 3.0 in) 2 kg (4.4 lb)
457-0787	Piston Rod Cap (HMS 6018)	100 X 100 X 77 mm (3.9 X 3.9 X 3.0 in) 2 kg (4.4 lb)
457-0788	Piston Rod Cap (HMS 6015)	100 X 100 X 77 mm (3.9 X 3.9 X 3.0 in) 2 kg (4.4 lb)
457-0789	Piston Rod Cap (HMS 6015)	100 X 100 X 77 mm (3.9 X 3.9 X 3.0 in) 2 kg (4.4 lb)

PPR2 Extruder Tooling

Model Usage: 6020B

Warranty: Caterpillar® Six Months on Base Assembly



European Union Compliant, CE marked

- Easily centers onto end of track pin
- Base accepts extruder and unlocking faces
- Quick replacement of faces that are in place with ball detent
- For shop and field service operations

Part No.	Description	Dimensions	Weight
489-7400	Base	118 x118 x 81 mm (3.6 x 3.6 x 3.3 in)	6 kg (13.5 lb)
489-7401	PPR2 Face	110 x110 x 25 mm (3.2 x 3.2 x 1.0 in)	1.5 kg (3.2 lb)
489-7403	Unlocking Face	110 x 110 x 25 mm (3.2 x 3.2 x 1.0 in)	1.5 kg (3.2 lb)

Part No.	Serviceable Parts
493-4430	Base
458-2139	Cap
458-2140	Pin
458-2141	Spring Plunger
458-2142	Set Screw
458-2143	Die Spring
458-2144	Retaining Ring

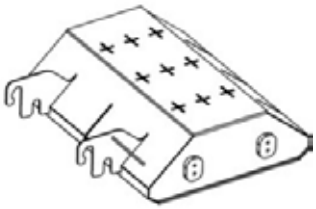
Part No.	Description	Quantity
494-9374	Plate Assembly	2
494-9375	Rod	2

SPECIALTY MINING TOOLS

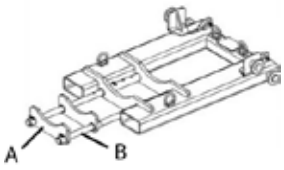
Undercarriage Load Roller Removal and Installation Tools

Model Usage: 6015-6090 Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



469-7607
Support Skid Assembly –
Undercarriage Load Roller
HMS Models 6015-6090



469-7608
Base Forklift Service Tool –
HMS Models 6015-6060



494-9376
Optional Attachment –
Required for HMS Model 6090

- Reduces capital expenditure (Previous method required tools for each model.)
- Provides reduction of load roller removal/ installation time by an estimated 30% vs. previous procedure (based on removal/ installation of (7) load rollers in one machine raise/lower setting vs. (2) machine raise/ lower settings of previous procedure)
- Estimated 35% time savings is achieved when complete machine undercarriage assembly is raised on both sides utilizing (4) support skids (469-7607)
- Result = Higher machine uptime

Support Skids (469-7607) durability & versatility:

- Steel construction support skids will not break vs. wood
- Meets tool functional requirements for all hydraulic mining shovel models (6015-6090)

Forklift Service Tool (469-7608) dual functionality:

- Support skid carrier
  - Provides increased safety by pushing each support skid under each end of the undercarriage assembly vs. previous procedure which required installation under suspended load
- Load roller carrier
  - Tremendous safety advantage: technician is not required to get underneath the machine to attach a forklift truck to each load roller vs. previous method.
  - Meets tool functional requirements for Models 6015-6060
  - Optional Attachment (494-9376): required for HMS Model 6090 – works with Forklift Service Tool (469-7608)

Reference

- NEHS1256 Tool Operating Manual

Part No.	Description	Quantity	HMS Model	Dimensions	Weight	WLL
469-7607	Support Skid Assembly	2	6015-6090	1720 x 1540 x 440 mm (68 x 61 x 17 in)	670 kg (1480 lb)	340,000 kg (750,000 lb)

Part No.	Description	Quantity	HMS Model	Dimensions	Weight	WLL
469-7608	Base Forklift Service Tool	1	6015-6060	1620 x 790 x 190 mm (64 x 31 x 7.5 in)	182 kg (400 lb)	4000 kg (8820 lb)
494-9376 Optional Attachment	Required for HMS Model 6090 (works with 469-7608)	2	6090	760 x 118 x 326 mm (30 x 5 x 13 in)	35 kg (76 lb)	4000 kg (8820 lb)

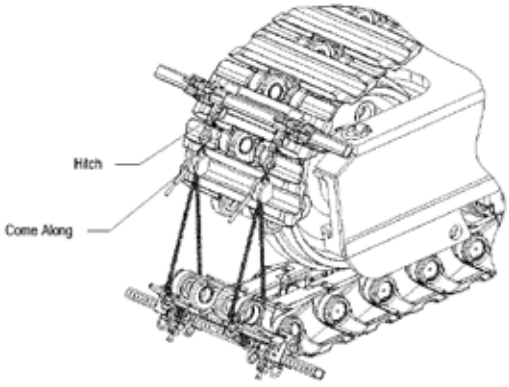
Serviceable Parts for 469-7608

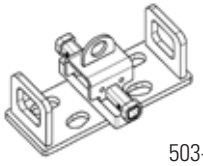
Item	Part No.	Description	Quantity	Dimensions	Weight
A	494-9374	Plate Assembly	2	382 x 60 x 133 mm (15 x 2.4 x 5.3 in)	6.3 kg (14 lb)
B	494-9375	Rod	2	1030 x 40 mm (41 x 1.6 in)	9 kg (20 lb)

Undercarriage Track Pin Alignment Tool

Model Usage: Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months





503-1856

- Assists in alignment of undercarriage track pin during installation of the track assembly
- Tool provides a much higher level of safety compared to previous pin alignment procedures
- Tool requires two Come-A-Longs (not included) rated at four metric tons each
- 503-1856 attaches to each 499-8803 undercarriage track pin alignment tool

Reference

- NEHS1256, Skid Assembly and Fork Lift Service Tool Assembly Operating Manual
- NEHS1257 (M0067586), Tensioner Assemblies Tool Operating Manual

Part No.	Description	Quantity Req.	Model Usage	Dimensions	Weight	WLL
499-8803	Pin Alignment Tool	2	6030-6090	2286 x 305.9 x 453.9 mm (90 x 12.04 x 17.87 in)	109.6 kg (241.6 lb)	8 tons
503-1856	Attachment for Pin Alignment Tool	2	6015-6020B	493 x 327 x 232 mm (19.4 x 13 x 9 in)	28 kg (62 lb)	-

Part No.	Description	Quantity Required
498-6321	Tube Assembly	2
498-6322	Block - Profile	2
498-6323	Hitch Assembly	2
498-6325	Tool Assembly	2
499-8774	Tool Assembly	2







Track Bolt Impact Socket, 60 mm

Model Usage: 6020B Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



- Enables technician to efficiently disassemble and assemble undercarriage assembly track bolts
- 1.5 inch square drive

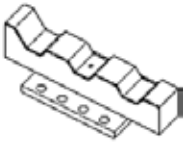
Part No.	Description	Dimensions	Weight
489-0344	Track Bolt Impact Socket, 60 mm	92 x 92 mm (3.62 x 3.62 in)	1.134 kg (2.5 lb)

SPECIALTY MINING TOOLS

Undercarriage Assembly Saddle

Model Usage: 6020B Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



- Assists in the removal and installation of track link pins and bushings
- Recessed threads in removable base allow for quick and easy tool set up and tear down
- Attaches securely to shop press base with standard saddle bolts and wedge bars
- Heat-treated for durability

Part No.	Description	Dimensions	Weight
484-2750	Undercarriage Assembly Saddle	240 x 560 x 166 mm (9.5 x 22 x 6.5 in)	75 kg (170 lb)

Undercarriage Track Indexer Dog Extension Arm

Model Usage: 6020B

Warranty: Caterpillar® Six Months



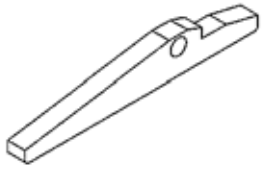
- Required during the first phase of the undercarriage track links assembly procedure to enable the track assembly conveyor dog to pull the track assembly onto the conveyor
- Increases safety and reduces assembly time

Part No.	Description	Quantity Required	Dimensions	Weight
511-6434	Undercarriage Track Indexer Dog Extension Arm	1	1026 x 405 mm (41 x 16 in)	8.3 kg (18.3 lb)

Undercarriage Hold-Down Shoe Plate

Model Usage: 6020B Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



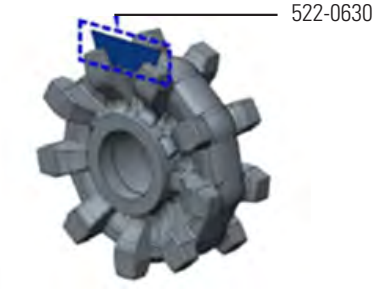
- Used with 375T undercarriage track press to raise and lower the track shoes during the disassembly and assembly procedure
- Enables technician to efficiently and safely disassemble and assemble the new Caterpillar® Design Series II Undercarriage

Part No.	Description	Dimensions	Weight
484-2753	Undercarriage Hold-Down Shoe Plate	476.6 x 72 x 26 mm (18.76 x 2.83 x 1.02 in)	6.182 kg (13.63 lb)

Idler Tumbler Sprocket Rebuild Template Tool

Model Usage: 7495, 7495 HF

Warranty: Caterpillar® Six Months



- Template used to determine placement of weld buildup during salvage of 7495 and 7495 HF sprockets
- If the tooth is slightly worn, it may be possible to build-up the tooth with weld metal utilizing the template.
- Template is used to check contour after finish grinding tooth profile.
- Helps technician determine proper pitch and profile of sprocket tooth

Reference

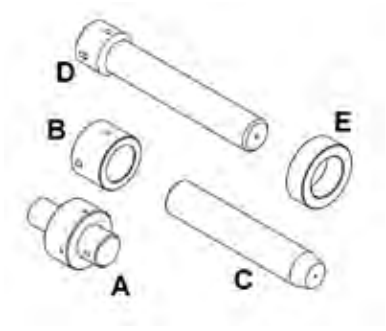
- M0072574

Part No.	Description	Qty. Required	Dimensions	Weight
522-0630	Template - Tooth Wear	1	278 x 175 x 3 mm (11 x 7 x 0.12 in)	1.6 kg (3.5 lb)

Contact Tools for Track Repair Group

Model Usage: 6020B

Warranty: Caterpillar® Six Months



- These field press contact tools are compatible with the 300-Ton Field Track Pin Press (478-4036) and 300-Ton Double-Acting Hydraulic Cylinder (478-4036)
- These service tools enable qualified service personnel to remove and install track pins to perform field repairs on 6020B Link Assemblies.
- Do not try to remove or replace track pins without the recommended service tools. Refer to the Undercarriage Reconditioning Guides for the proper tooling to be used.

Part No.	Item	Description	Diameter	Weight
484-2747	A	Adapter – Ram 300 Tons	140 x 212 mm (5.5 x 8.4 in)	12 kg (27 lb)
484-2745	B	Cap – Piston Rod	130 x 90 mm (5.1 x 3.6 in)	6.4 kg (14.5 lb)
484-2748	C	Pin - Alignment	80 x 415 mm (3.2 x 16.3 in)	7.3 kg (16.5 lb)
484-2746	D	Adapter – Ram 6020B	100 x 500 mm (4 x 19.7 in)	17.3 kg (39 lb)
484-2749	E	Bolster Adapter	151 x 70 mm (6 x 2.8 in)	4 kg (9 lb)

Link Assembly Gauge

Model Usage: 6020B

Warranty: Caterpillar® Six Months



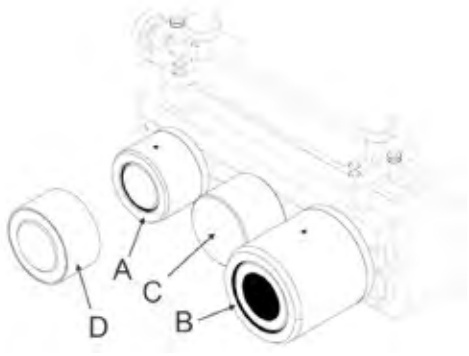
- Allows technician to confirm that track links are properly pressed together
- Measures spacing of track bolt holes so that track shoes can be properly installed

Part No.	Description	Dimensions	Weight
501-4328	Link Assembly Gauge	376 x 181 x 81 mm (14.8 x 7.2 x 3.2 in)	6 kg (13.5 lb)

Undercarriage Shop Press Contact Tools

Model Usage: 6020B

Warranty: Caterpillar® Six Months



- These plunger-style contact tools are compatible with shop track presses and enable qualified technicians to assemble track pins, bushings and links and set pin/bushing protrusion.
- Do not remove or replace track pins without these tools. Refer to the Undercarriage Reconditioning Guides for the proper tooling.
- Anvil is mounted to the center of toolbar to support swagging and unlocking tools.
- Dolly block corrects improper pin protrusion
- By using it on the non-nominal side, you can push pin farther into the nominal side tooling so that proper pin protrusion is achieved.

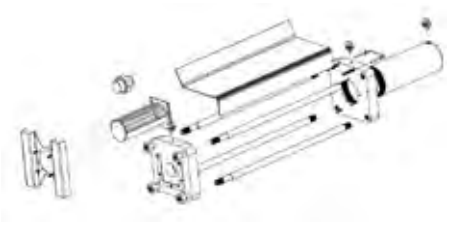
Part No.	Item	Description	Dimensions	Weight
480-8846	A	Base – Pin	127 x 127 x 23 mm (5 x 5 x 1 in)	1.8 kg (3.9 lb)
480-8847	A	Body – Pin	127 x 127 x 80 mm (5 x 5 x 3.2 in)	4 kg (9.2 lb)
480-8848	A	Plunger – Pin	86 x 86 x 71 mm (3.4 x 3.4 x 2.8 in)	2.6 kg (5.9 lb)
480-8849	A	Plunger – Pin	86 x 86 x 71 mm (3.4 x 3.4 x 2.8 in)	2.6 kg (5.9 lb)
480-8843	B	Base Bushing	170 x 170 x 23 mm (6.7 x 6.7 x 1 in)	5.5 kg (12.3 lb)
480-8844	B	Body - Bushing	170 x 170 x 156 mm (6.7 x 6.7 x 6.2 in)	11.9 kg (26.7 lb)
480-8845	B	Plunger - Bushing	127 x 127 x 148 mm (5 x 5 x 5.8 in)	9.9 kg (22.2 lb)
489-7405	C	Anvil	127 x 127 x 90 mm (5 x 5 x 3.6 in)	8.5 kg (19.2 lb)
489-7404	D	Dolly Block	135 x 135 x 77 mm (5.3 x 5.3 x 3 in)	3.3 kg (7.5 lb)

SPECIALTY MINING TOOLS

Track Repair Group (300T)

Model Usage: 6020B Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Portable hydraulic press hardware that when combined with 478-4036 300T double-acting cylinder, power supply, hoses and contact tooling is capable of installing and removing track pins

Reference

- NEHS1266, Tool Operating Manual
- REHS2586, Field Service for Positive Pin Retention 2 (PPR 2)
- SEBF8614, Field Repair of Swaged Grease Lubricated Track, Retention Sealed and Lubricated Track

Part No.	Description	Dimensions	Weight
490-7505	300T Track Repair Group	2784 x 959 mm (110 x 38 in)	469 kg (1034 lb)

Part No.	Serviceable Parts
490-7506	Back Plate Assembly
490-7507	Lexan Guard Assembly
490-7508	Nut Guard
490-7509	Tie Rod
490-7510	Front Plate Assembly
492-6097	Nut
492-6098	Rear Cylinder Plate
395-1100	Eyebolt Assembly – Lift
422-5476	Eyebolt Assembly
458-2118	Catch Basket
1P-2377	Plug Assembly - Dust
447-6426	Coupler – Force

Idler Adjustment Block Removal Tool

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



European Union Compliant, CE

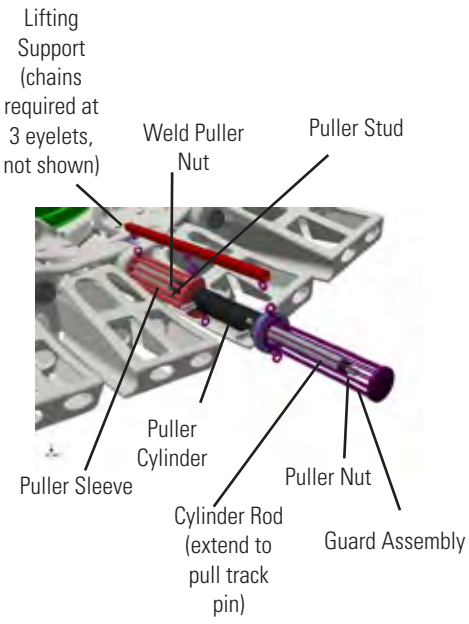
- Allows use of hollow hydraulic cylinder to remove sprocket adjustment block from undercarriage
- Offers a safe, efficient method of block removal
- Tool has built-in lifting points for handling.

Part No.	Description	Dimensions	Weight	WLL
546-5748	Idler Adjustment Block Removal Tool	711 x 446 x 318 mm (28 x 17.6 x 12.5 in)	176 kg (387 lb)	27,216 kg (60,000 lb)

Crawler Belt Track Pin Removal & Installation Tools

Model Usage: All 7495 Models

Warranty: Caterpillar® Six Months



- These tools allow for the service technician to safely remove and install the crawler track link pins.
- These tools enable the service technician to replace individual track links or a complete removal of the crawler belt assembly.

Qty	Part No.	Description	Dimensions	Weight	WLL
1	487-8637	Pin Puller Group	1579 x 202 x 1131 mm (62 x 8 x 45 in)	47 kg (103 lb)	227 kg (500 lb)
1	535-7754	Adapter*	210 x 210 x 51 mm (8.3 x 8.3 x 2 in)	4 kg (9 lb)	-

* For use ONLY on 7495HF machines

Serviceable Parts

Qty	Part No.	Description	Dimensions	Weight	WLL
1	487-8631	Lifting Assembly	1050 x 64 x 903 mm (42 x 2.5 x 36 in)	18 kg (40 lb)	227 kg (500 lb)
1	487-8632	Guard Assembly	570 x 237 x 237 mm (23 x 9.3 x 9.3 in)	8 kg (17.4 lb)	-
1	487-8633	Frame Assembly – Pin	581 x 130 x 228 mm (23 x 5 x 9 in)	15 kg (33 lb)	-
3	487-8634	Nut	41.3 x 25.4 m	0.2 kg (0.45 lb)	-
10	528-0403	Nut – Weld (Puller)	64 x 64 x 42 mm (2.5 x 2.5 x 1.7 in)	1.2 kg (2.7 lb)	-
1	487-8636	Rod - Threaded	L x Thread Type: 1100 mm x 1-5 ACME– 2G 43 in x 1-5 ACME-2G	4.4 kg (9.7 lb)	-

Specifications

Qty	Part No.	Description	Dimensions
1	526-5510	Cylinder Assembly CE Compliant	15 kg (33 lb)
		Maximum Force (Advance)	25.3 T (22.95 MT)
		Maximum Force (Retract)	15.7 T (14.24 MT)
		Stroke	14 in (355.6 mm)
		Effective Area (Advance)	5.07 in^2 (32.72 cm^2)
		Effective Area (Retract)	3.14 in^2 (20.26 cm^2)
		Oil Capacity (Advance)	70.9 in^3 (1161.84 cm^3)
		Oil Capacity (Retract)	43.9 in^3 (719.39 cm^3)
		Collapsed Height	19.45 in (494.03 mm)
		Extended Height	33.45 in (849.63 mm)
		Plunger Diameter	2.17 in (55.12 mm)
		Maximum Pressure	1000 PSI (689.47 bar)

Serviceable Parts

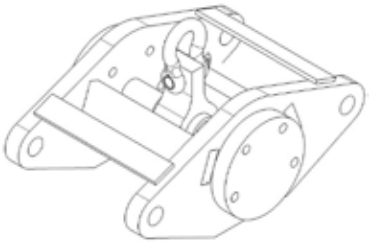
Qty	Part No.	Description	Dimensions	Weight
1	1P-2377	Plug Assembly - Dust	L x Ø 132 x 33 mm (5.2 x 1.3 in)	0.6 kg (1.3 lb)
1	451-0444	Coupler – Quick Disconnect	72 x 35.4 mm (2.8 x 1.4 in)	0.3 kg (0.6 lb)

SPECIALTY MINING TOOLS

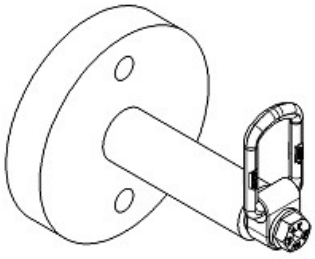
Propel Shaft Counterbalance Tool Assembly

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



512-7870 Counterbalance Tool As.
(Main Lifting As.)



512-7870 Counterbalance Tool As.
(Balance Lift As.)



Lifting Configuration

European Union Compliant, CE marked

- Provides safe method to lift, remove and install 7495 propel shaft
- Requires two 10-ton hydraulic cylinders (360-6957, 360-6958 or equivalent) for propel shaft removal
- Utilizes existing propel shaft as counterbalance weight to remove/install a propel shaft
- Significantly reduces propel shaft removal/install time
- Reduces the number of overhead lift devices necessary for a propel shaft removal/install without a counterbalance weight

Reference

- M0073765

Part No.	Description	Dimensions	Weight	WLL
512-7870	Main Lifting Assembly	609.6 x 860 x 513.4 mm (24 x 33.9 x 20.2 in)	307 kg (677 lb)	4,990 kg (11,000 lb)
	Balance Lift Assembly	Dia 254 x 311.8 (Dia 10 x 12.3 in)	26 kg (57 lb)	2,494 kg (5,500 lb)

Brake and Clutch Adjusting Tool

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used to adjust brakes and flywheel clutches on earlier motor graders and to adjust flywheel clutches on DW10, DW15, DW20 and DW21 Tractors

Part Number	Description
5B-3032	Brake and Clutch Adjusting Tool

Brake Gauge

Model Usage: TH103 Telehandler, B-Series Telehandlers, and Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to check brake disc wear (checks minimum thickness between brake discs)
- Easily determines if replacement is needed (if gauge fits between brake discs, they do not require replacement)
- Gauge is inserted through axle housing inspection port
- Stamped with "This Side Up" to eliminate misuse of the gauge

Specifications

- Overall size: 6.35 mm (0.25 in) square x 180.0 mm (7.1 in) long
- Material: Steel with black oxide coating

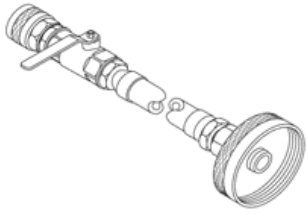
Part Number	Description
242-0992	Brake Gauge

Brake Purge Group

Essential Tool

Model Usage: TH210 (CEC1-Up, MHT1-Up), TH215 (CEG1-Up, MHS1-Up) Telehandler

Warranty: Caterpillar® Six Months



- Used to purge air from auxiliary brake line for trailers, implements, and other similar types of equipment

Part Number	Description
273-3148	Brake Purge Group

Brake Adjusting Tool

Model Usage: 12F, 14, 112E, 112F and 120 Motor Graders

Warranty: Caterpillar® Six Months



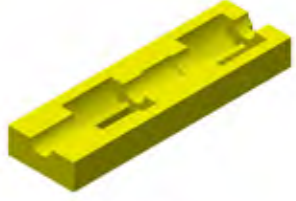
- Used to adjust brakes

Part Number	Description
5S-9925	Brake Adjusting Tool

Alignment Plate for Brake Cooling

Model Usage: 793D and 793F

Warranty: Caterpillar® Six Months



- New gear pump shaft alignment tray for brake-cooling pumps
- New timing tray allows technician to set the timing between dual-gear pump sections on brake-cooling pumps on 793D and F trucks to reduce vibration and increase life of the discharge tubes.

Part No.	Description	Dimensions	Weight
558-4612	Alignment Plate for Brake Cooling	548 x 165 x 65 mm (21.6 x 6.5 x 2.6 in)	5.9 kg (13 lb)

BRAKE AND STEERING SYSTEMS

Spring Compressor Assembly

Model Usage: 623E

Warranty: Caterpillar® Six Months



- Used for the assembly and disassembly of spring-actuated emergency and parking brake air chamber mechanisms
- Prevents the spring jumping out when the brake chamber is being worked on
- Material: SAE 1020 Steel
- Assembly includes all items in figure

Part Number	Description
7S-6704	Spring Compressor Assembly

Brake Bleeder

Essential Tool

Model Usage: B-Series Telehandlers

Warranty: Caterpillar® Six Months

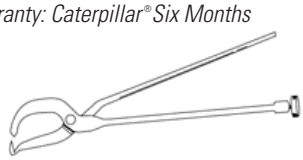


- Allows brake system to be bled by one person
- Requires two 132-3056 O-ring Seals (provided) when used with hydraulic oil
- Capacity: 4 L (1 gal)
- Features a self-contained, hand-pressurized pump, more than 3 m (10 ft) hose with a shutoff, pressure gauge, and quick coupler for use with other brake bleeder adapters to provide easy hookup to brake bleeder valves

Part Number	Description
253-0987	Brake Bleeder

Pliers

Warranty: Caterpillar® Six Months



- Replaces discontinued 1P-0541 Pliers
- Used to compress brake shoe springs

Part Number	Description
9U-6265	Pliers

Brake Spring Pliers

Model Usage: M312 Wheeled Excavators

Warranty: Caterpillar® Six Months



- Removes and install extra-heavy brake springs
- Replaceable tip ensures long tool life
- Overall length: 66.0 cm (26.0 in)
- Replaceable tip: 135-9879

Part Number	Description
135-9811	Brake Spring Pliers

Steering Lines Adapter Tools

Model Usage: 631B, 641, 651 and 657 Tractors

Warranty: Caterpillar® Six Months



- Used on tractors with steering swivel joints
- Makes it possible to tow a tractor-scraper unit with tractor wheels on lowboy and scraper wheels on the ground
- A junction block (part of steering lines adapter group) is bolted to swivel joint with steering cylinder lines bolted to junction block; junction block permits hydraulic steering oil to flow freely between steering cylinders

Part Number	Description	Quantity
1B-5174	Plug	—
3B-4507	Lock Washer	8
3H-5368	Bolt	4
4F-7226	Bolt	4
4J-0522	Seal (not shown)	4
4J-7570	Block	—

Displacement Gauge Assembly

Model Usage: 768B, 768C, 772, 772B Track-Type Tractors, 769B, 769C, 773, 773B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Formerly available as FT1097; inventoried due to dealer interest
- Used to measure and check piston movement in master cylinder and brake cylinder on the models listed above (9J-1254 and 9J-1255 Brake Cylinder Groups)
- Movement indicates leaking seals on pistons
- Assembly includes all items in figure

References

- SENR2940, Service Manual
- SENR2960, Service Manual
- SENR4763, Service Manual
- SENR7868, Service Manual

Part Number	Description
1U-9360	Displacement Gauge Assembly

Bearing Puller Adapter

Model Usage: 613B Scraper

Warranty: Caterpillar® Six Months



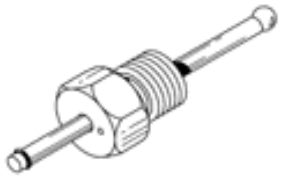
- Used with 9S-5559 Stud and 6V-3160 Hydraulic Puller to remove 7J-6862 Steering Link Bushing from draft frame

Part Number	Description
5P-7428	Bearing Puller Adapter

Plug Gauge

Model Usage: 772B, 773B, 777, 785, 789

Warranty: Caterpillar® Six Months



- Used to check brake disc wear on service brakes
- Installed stack height of brake disc pack is measured with brake piston in applied and retracted positions; if difference between the two measurements is 14.07 mm (0.554 in) or more, brake discs should be replaced
- Installed in place of the top 9D-6125 Brake Bleeder Screw Adapter
- Can be used with 1U-7425 Displacement Gauge Assembly for measurement reading
- Service part: 6V-5722 O-ring Seal

Specifications

- Overall length: 70.0 mm (2.75 in)
- Hex size: 25.4 mm (1.0 in)
- Thread size: 7/8 — 14
- A measurement of installed stack height of brake disc pack should be taken and recorded with brakes applied after new discs have been "run in". Measurements should again be taken at prescribed intervals. If difference between initial and subsequent measurements exceed machine specifications, the brake discs should be replaced.

Part Number	Description
5P-9726	Plug Gauge

Brake Drum Gauge

Model Usage: 600 Series Wheel Tractor-Scrapers, with the exception of 613 and 613B

Warranty: Caterpillar® Six Months



- Used to quickly and easily check brake drums for reusability
- Also, markings on gauge indicate whether standard or oversize brake linings will be needed

References

- SEBF8035, Guideline for Reusable Parts, Inspecting and Machining Brake Drums
- SMHS6826, Special Instruction, Installation of Oversize Brake Linings

Part Number	Description
6V-0114	Brake Drum Gauge

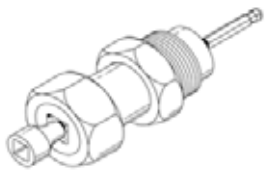
BRAKE AND STEERING SYSTEMS

Brake Adjuster Assembly

Essential Tool

Model Usage: 735 Articulated Truck (SN# AWR451-UP), 740 Articulated Truck (SN# AXM856-UP), 740 Articulated Ejector Truck (SN# AZZ294-UP)

Warranty: Caterpillar® Six Months



- Replaces 221-2589 Brake Adjuster Assembly
- Used to simultaneously adjust check nut and adjuster screw on service brakes
- Used with 1 1/2 inch wrench and 3/8 inch square drive ratchet
- Use only on trucks with mechanical slack adjusters (not for use on hydraulically operated slack adjusters)
- Use a 1 1/2 inch wrench to remove plug from service brake, install adapter, and rotate socket
- Use a 3/8 inch drive ratchet to turn 6 mm ball socket hex bit
- Designed to keep socket and hex bit perfectly aligned during adjustment procedure
- Assembly includes all items in figure

References

- 735/740 Articulated Truck Disassembly and Assembly Manual
- 735/740 Articulated Truck, Brake System Module, in Machine Systems Test and Adjusting

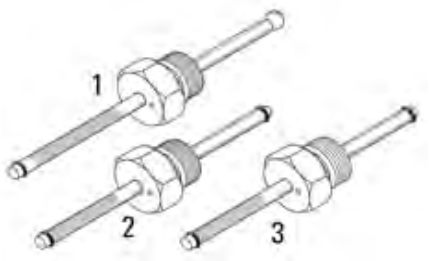
Part Number	Description
251-6568	Brake Adjuster Assembly

Disc Brake Wear Gauges

Essential Tool

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used to check brake disc wear on service brakes
- May be used with 1U-7425 Displacement Gauge Assembly for measurement reading
- Installed in place of brake inspection plug
- Service/Repair Part: 6V-5722 O-ring Seal
- A measurement of installed stack height of brake disc pack should be taken and recorded with brakes applied after new discs have been "run in." Measurements should again be taken at prescribed intervals. If difference between initial and subsequent measurements exceed machine specifications, the brake discs should be replaced.

Item	Part Number	Overall Length	Hex Size	Thread Size	Tip Style	Model
1	160-1726	158.0 mm (6.22 in)	25.4 mm (1.0 in)	7/8 – 14	Ball nose	D350E, D400E, 735, and 740 Articulated Trucks; 797 and 797B Off-highway Trucks
2	344-9164	135.0 mm (5.31 in)	25.4 mm (1.0 in)	7/8 – 14	Bullet nose	733F, 775F, and 777F Off-highway Trucks
3	345-7976	135.0 mm (5.31 in)	25.4 mm (1.0 in)	3/4 – 16	Bullet nose	770 and 772 Off-highway Trucks

Shim Kit

Model Usage: 966H and 972H Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to check and set adjustment of brake light switch on machines with dual brake pedals
- With 3.5 mm (.14 in) thick shims installed under pedal heel, brake lights should be ON
- With 1.5 mm (.06 in) thick shims installed under pedal heel, brake lights should be OFF
- Brake light switch adjustments are simultaneously done with shims in place under both pedals
- Shim sets are connected by a 50.2 cm (19.8 in) long chain which organizes the tooling yet allows both pedals to be checked at the same time
- Each shim is stamped by size for easy identification
- Steel components are plated for corrosion resistance and long service life

Reference

- RENR8855, Testing and Adjusting, 966H Wheel Loader and 972H Wheel Loader

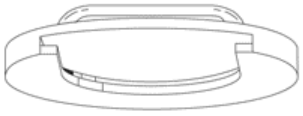
Part Number	Description
338-3572	Shim Kit

Brake Piston Puller

Essential Tool

Model Usage: D250E Series II and D300E Series II Articulated Dump Trucks

Warranty: Caterpillar® Six Months



- Used to remove brake piston
- Slides onto top of piston, fitting into piston groove
- Grips piston for easier removal — reduces repair time
- Helps eliminate potential damage to brake piston during removal

Reference

- SENR9129, Service Manual

Specifications

- Overall diameter: 79.4 mm (3.13 in)
- Inside diameter (brake piston): 67.5 mm (2.66 in)
- Inside groove dimension: 61.3 mm (2.41 in)

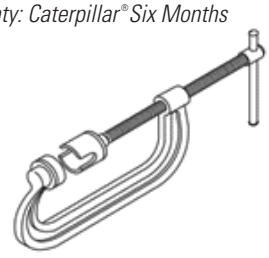
Part Number	Description
132-1415	Brake Piston Puller

Clamp Assembly

Essential Tool

Model Usage: 785C and 793C Large Mining Truck, 24H Motor Grader

Warranty: Caterpillar® Six Months



- Used to compress parking brake piston guide spring
- Required to disassemble and assemble brake group
- Safely compresses guide spring
- Locates over spring and guide — prevents tool from disengaging

Specifications

- Clamp opening (max): 143.0 mm (5.63 in)
- Clamp throat depth: 89.0 mm (3.50 in)
- Spring diameter (max): 34.0 mm (1.34 in)

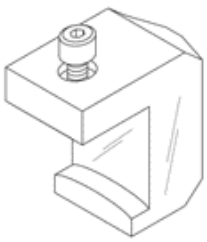
Part Number	Description
164-4622	Clamp Assembly

Stop Group

Essential Tool

Model Usage: 24M Motor Grader

Warranty: Caterpillar® Six Months



- Used to stall steering pump for testing
- C-style clamp fits into bore
- Cap screw used to lock stop in place
- 8T-2223 Socket Head Bolt serviced separately
- Material: lightweight aluminum

Reference

- KENR6022, 24M Machine System, Disassembly and Assembly

Part Number	Description
292-1274	Stop Group

Spacer

Model Usage: All "G" Series Motor Graders

Warranty: Caterpillar® Six Months



- Provides space necessary to pull front axle spindle king pins on
- Has capacity to safely withstand compression load of both 6V-3160 and 6V-3175 Hydraulic Puller at full 703 kg/cm² (10,000 PSI) maximum working pressure

Part Number	Description
5P-4197	Spacer

BRAKE AND STEERING SYSTEMS

Transparent Plug Assembly, Punch Assembly

Model Usage: 120G Motor Graders beginning with 87V-2262

Warranty: Caterpillar® Six Months



- Used to determine brake wear
- At rebuild, punch assembly is installed in housing port and used to mark piston
- Plug assembly, which contains a transparent plastic rod, is installed in spindle housing port for viewing a mark on brake piston; with brakes applied, position of mark as viewed through transparent plug assembly, is indicator of brake service life remaining; when mark is no longer visible, brake should be rebuilt

Item	Part Number	Description
—	3K-0360	Seal — O-ring — STOR
1	5P-7389	Transparent Plug Assembly
2	5P-8678	Punch Assembly
Not Shown		
1	4K-2039	Seal
2	5F-9144	Seal

Tire Lifting Bracket

Model Usage: 621H, 623H, 627H

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to safely and easily remove and install tire assemblies on 621H, 623H and 627H series Wheel Tractor-Scrapers.
- Use with 142-1664 C-hook
- 397-4794 Roller Assemblies are black oxide coated for corrosion resistance

Specifications

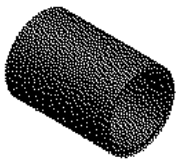
- Dimensions: 1775 x 1217 x 902 mm (69.9 x 47.9 x 35.5 in)
- Working Load Limit: 1451 kg (3200 lb)
- Weight: 150 kg (331 lb)

Part Number	Description
386-3378	Tire Lifting Bracket
Serviceable Parts	
397-4794	Roller Assembly

Wheel Alignment Tube Assembly

Model Usage: 621H, 623H, 627H

Warranty: Caterpillar® Six Months



- Used to guide wheel assembly onto the spindle during installation
- Helps prevent damage to Duo-Cone seals during wheel assembly installation
- Black oxide coated for corrosion resistance

Reference

- KENR9488, KENR8883 621H and 627H Wheel Tractor-Scraper Power Train Disassembly & Assembly

Specifications

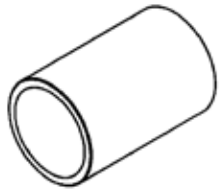
- Dimensions: 280 x 203 mm (11 x 7.9 in)
- Weight: 5.5 kg (12 lb)

Part Number	Description
390-0479	Wheel Alignment Tube Assembly

Wheel Alignment Tool Assembly

Model Usage: 631K and 637K

Warranty: Caterpillar® Six Months



- Wheel alignment tool for aiding in assembly of the wheel assembly onto the spindle
- Helps prevent damage to the duo cone seals

Part No.	Description	Dimensions	Weight
485-9697	Wheel Alignment Tool Assembly	632 x 241 mm (25 x 9.5 in)	36 kg (79 lb)

Parking Brake Spanner Wrench

Model Usage: 446 Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to adjust parking brake linkage — makes adjustment much faster and easier

References

- SENR3971, Service Manual Service Magazine, April 11, 1991

Part Number	Description
9U-6736	Parking Brake Spanner Wrench

BRAKE AND STEERING SYSTEMS

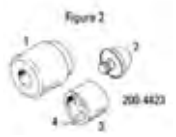
Spring Compressor, Adapter Set

Essential Tool

Model Usage: D250, D300, D350, D400 Articulated Truck

Warranty: Caterpillar® Six Months





- Used to replace parking brake activation spring
- Spring compressor is used with adapter set
- Used on Wabco parking brake actuator
- Square drive for guide (3): 1/2 inch
- Center to center pin distance: 38.1 mm (1.50 in)
- Set includes all items in Figure 2

Reference

- HENR8086, Service Manual

Item	Description
1	Thrust Pad
2	Guide
3	Guide, 1/2 in square drive

Item	Part Number	Description
4	045-5106	Pin
—	200-4422	Spring Compressor

Piston Press

Model Usage: 910, 920, 930 and 950 Wheel Loaders; 518 and 528 Logskidders; and Tree Harvesters

Warranty: Caterpillar® Six Months



- Used to facilitate installation of caliper disc brake pistons
- Minimizes seal damage during piston installation

Part Number	Description
5P-3569	Piston Press

Brake Piston Puller

Model Usage: 769D, 771D, 773D, 775D, 776D, and 777D Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install 114-9306 Brake Pistons located in back side of brake caliper
- Can be used on other pistons having same shape and size (refer to specifications)

References

- SENR1421, 773D Truck and 775D Quarry Truck Machine Systems
- SENR1422, 769D Truck and 771D Quarry Truck Machine Systems

Specifications

- For use on brake pistons with:
  - Groove width: 2.54 mm (0.1 in)
  - Groove outside diameter: 75.1 mm (2.96 in)
  - Piston outside diameter: 79.25 mm (3.12 in)

Part Number	Description
1U-9003	Brake Piston Puller

Steering Spline Gauge

Essential Tool

Model Usage: All compact, small, and medium wheel loaders

Warranty: Caterpillar® Six Months



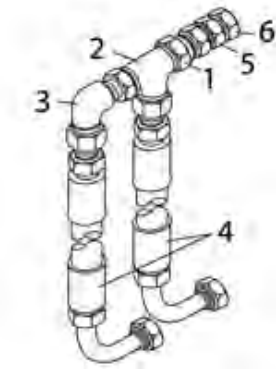
- Used to inspect steering column spline which fits into hydraulic metering unit
- Gauge is a go/no-go style gauge
- If gauge does not fit over spline, shaft is reusable
- If gauge fits over spline, shaft must be replaced

Part Number	Description
297-6383	Steering Spline Gauge

Adapter Group, Brake Release for Towing

Model Usage: D4H, D5H, D6H and D7H Tractors; later D8L, D9L, D8N and D9R Tractors

Warranty: None



- Adaptable to D4H, D5H, D6H and D7H Tractors from first production; adaptable to following the models, effective with serial numbers indicated: D9L — 4Y-3134 D8L — 3Y-3485 D8L S.A. — 4FB339NB D8N — 5TJ1-Up and 9TC1-Up D9R — 7TL1-Up and 8BL1-Up
- Used with FT1845 Pump Group to release brakes for towing and 123-0525 Brake Release Adapters and 123-0526 Brake Release Adapters
- See 8T-2857, 123-0525 and 123-0526 Adapters for machine usage; when tooling is installed, these adapters extend past spool bores in tractor steering valve, isolating brake circuit and allowing pump pressure to be applied directly to brake release pistons
- With leakage minimized, brake release can be maintained with low volume pump
- Before connecting pump and adapter group to tractor steering valve, maximum pressure relief valve opening pressure must be checked and adjusted in order to prevent possible damage to brake piston seals

Checking Maximum Pressure Relief Valve Opening Pressure

1. Plug the main pressure hose where it connects to the FT1973 Adapter Group.
2. Turn the bypass valve handle to the closed position.
3. While building pressure with the pump handle, observe the relief valve opening pressure.
4. Adjust relief valve opening pressure to 410 (10 PSI).

Installing Tooling on Tractor

The FT1973 Adapter Group is connected to the steering valve under the tractor seat.

1. Remove the quick-disconnect fittings from the ports marked BRK on the steering valve.
2. Install the adapters in the ports and connect the remainder of the FT1973 Adapter Group to the adapters and to the pressure hose from the pump.
3. It is usually convenient to route the pressure hose under the floorboard (leaving the floorboard loose) to the pump which is temporarily placed on the fender or deck.
4. Replace the seat and floorboard, leaving floorboard bolts out on 1 side to allow space for hose.
5. Place the FT1845 Pump Group in front of the operator in a position convenient for observing the pressure gauge, working the pump handle and with ready access to the bypass valve. Place the tractor parking brake control in the "unlocked" position.
6. Preparation for releasing the brakes is now complete. Before towing, the operator should fasten the seat belt for safety if an emergency requires brake re-application.

Brake Release and Re-application

1. Turn the bypass valve handle to the closed position.
2. Work the pump handle rapidly to produce a large volume of oil flow. This flow is sometimes necessary to cause the brake piston seals to seat.
3. Brake piston seal seating will be evidenced by a sudden rise in oil pressure. At this point, oil flow will drop to near zero and pressure will rise to maximum.
4. An occasional pump stroke will maintain maximum pressure.

- Do not let pressure drop below 375 PSI while towing. To do so will risk partial brake engagement which can result in serious damage.

5. To re-apply the brakes, turn the bypass valve 90° to fully dump oil.

- Do not use brakes to retard the tractor. Absence of cooling oil flow will result in extensive damage to the brakes and system contamination. Brakes must be fully released while the towed tractor is moving. If an emergency calls for brake re-application, apply brakes fully and allow tractor to come to a stop before proceeding.

6. Brakes can be re-applied ONLY by turning the bypass valve to the open position. Using the steering levers and brake pedals is not effective.

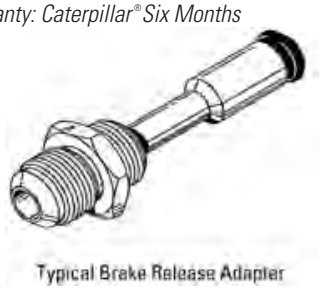
Be sure to follow all other towing instructions and precautions published in the Operation and Maintenance Manual.

BRAKE AND STEERING SYSTEMS

Brake Release Adapters

Model Usage: D8N, D9N and D9R Track-Type Tractors

Warranty: Caterpillar® Six Months



Typical Brake Release Adapter

- Used to supply oil from an external source to disengage spring applied parking brake whenever towing is required
- Used with FT1845 Pump Group, Brake System and FT1973 Adapter Group, Brake Release for Towing
- Tractors with disabled engine or power train hydraulic system cannot be moved without supplying oil to release parking brake — refer to Service Manuals and Operation and Maintenance Manuals for detailed instructions
- Adapters extend into control valve and isolate brake circuit (applies pressure directly to brake release pistons)
- Requires two adapters installed into ports of brake control valve

8T-2857 Adapter
Used for tractors with steering clutch control

- D4H, D5H, D6H, D7H (all)
- D5M: 4BR, 4JS, 3DR, 5FS
- D8N: 9TC1-UP PIN, 1XJ1-UP PIN
- D6M: 9ZM, 2YS, 5WR, 2RN, 4GS
- D9N: 1JD1-UP PIN, 6XJ1-UP PIN
- D8L: 53Y-3485-UP
- D9L: 14Y-3134-UP
- D8L S.A.: 4FB339NB-UP
- D9R: 8BL1-UP PIN

123-0525 Adapter
Used for (refer to Operation and Maintenance Manual for additional information)

- D8N: 5TJ1-UP PIN
- D8R (all)

123-0526 Adapter
Used for tractors with differential steering control

- D9R: 7TL1-UP
- Can also be used on D8N's and D8R's

425-8104 Adapter

- Adapter fits brake valve groups 389-1531, 375-4096, 426-1510
- Used for (refer to Operation and Maintenance Manual for additional information):
  - D6T
  - D8T
  - D9T
  - 572
  - 583
  - 587

450-4258 Adapter

- Adapter fits valve group 345-6789
- Used for (refer to Operation and Maintenance Manual for additional information)

NOTICE

Before connecting pump and adapter group, check and adjust maximum pressure setting on relief valve to prevent possible damage to brake piston seals which could occur if the system is over-pressurized.

References

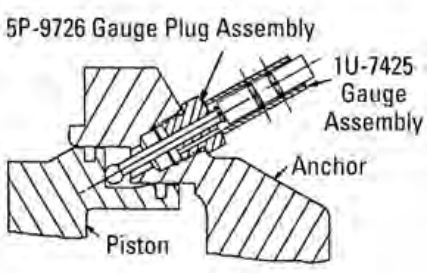
- SEBU6422 and SEBU6028, Service Manual Module, D8N Operation and Maintenance
- SEBU6029 and SEBU6668, Service Manual Module, D9N Operation and Maintenance
- SEBU6892, Service Manual Module, D9R Operation and Maintenance [for tractors (8BL1-UP) with steering clutch control]
- SEBU6923, Service Manual Module, D9R Operation and Maintenance [for tractors (7TL1-UP) with differential steering control]
- SEBU6891, D8R Service Manual Module, D8R Operation and Maintenance

Part Number	Description	Overall Length	Engagement Depth (spot face to O-ring seal)	Connection to Brake Valve	Connection To Adapter Group	Seal For Brake Valve Passage	Seal For #8 STOR Connection	Seal for #10 STOR Connection
123-0525	Brake Release Adapter	110 mm (4.3 in)	74 mm (2.91 in)	7/8-14 (#10 STOR port)	3/4-16 (#8 JIC male connector)	2J-6274 Seal	—	2M-9780 Seal
123-0526	Brake Release Adapter	85 mm (3.3 in)	49 mm (1.93 in)	7/8-14 (#10 STOR port)	3/4-16 (#8 JIC male connector)	2J-6274 Seal	—	2M-9780 Seal
8T-2857	Brake Release Adapter	110 mm (4.3 in)	75.4 mm (2.97 in)	3/4-16 (#8 STOR port)	3/4-16 (#8 JIC male connector)	2J-6274 Seal	3K-0360 Seal	—
425-8104	Brake Release Adapter	52.3 mm (2.059 in)	22.5 mm (.886 in)	3/4-16 (#8 STOR port)	3/4-16 (#8 JIC male connector)	1H-1023 Seal	6V-6609 Seal	—
450-4258	Brake Release Adapter	52.3 mm (2.059 in)	22.5 mm (.886 in)	3/4-16 (#8 STOR port)	3/4-16 (#8 JIC male connector)	1H-1023 Seal	6V-6609 Seal	—

Displacement Gauge Assembly

Model Usage: 772B/773B, 776B/777B, 785 and 789 Off-Highway Tractors and Trucks

Warranty: Caterpillar® Six Months



- Eliminates difficulty of making brake wear measurements directly from 5P-9726 Gauge Plug (Brake wear on 772B/773B, 776B/777B, 785 and 789 Off-Highway Tractors and Trucks measured with 5P-9726 installed in service brake hydraulic port; when installed, 5P-9726 can be reached with only one hand making direct measurement very difficult)
- Brake piston travel, difference between minimum (actuated) and maximum (retracted), measured to determine brake wear
- Service Part: 6V-9028 O-ring Seal (2)
- Allows serviceman to transport needed dimension away from vehicle for easy reading of measurement; gauge assembly placed over gauge plug to allow easy measurement of 5P-9726 rod piston; standard calipers or inside micrometer can then be used to determine plug position within tube of 1U-7425

References

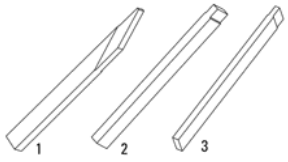
- Technical Information Bulletin 7-22-87
- Component Code 4250, Brake Wear Measurement Procedures and Specifications Service Manual

Part Number	Description
1U-7425	Displacement Gauge Assembly

Brake Disc Wear Gauges

Model Usage: 924G and 928G Wheel Loaders

Warranty: Caterpillar® Six Months



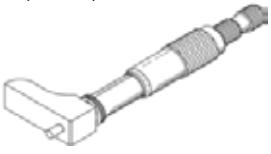
- Measures usable thickness of brake disc
- Quickly and easily determines if replacement is necessary
- Used by placing wear gauge through slot in brake housing (amount of material between step of tool and brake housing is the usable thickness of brake disc)

Item	Part Number	Model
1	221-6892	928G
2	221-6893	924G Standard
3	221-6894	924G Dual Disc

Brake Wear Gauge

Model Usage: 950G, 962G, and 966G Wheel Loaders

Warranty: Caterpillar® Six Months



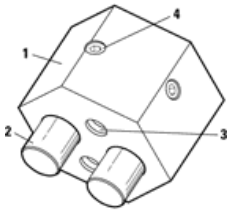
- Used to measure brake wear
- Easier to use and provides greater accuracy than tools previously available

Part Number	Description
185-5784	Brake Wear Gauge

Cylinder Spanner Wrench

Model Usage: 785, 789 and 793 Trucks

Warranty: Caterpillar® Six Months



- Removal and installation of ball studs, particularly during installation, requires ball stud to be held and kept from turning when nut is being torqued; usually friction of taper alone is not enough to keep ball stud from turning
- Wrench Assembly (1) consists of a 63.5 mm (2 1/2 in) hex body that is easily held with a 63.5 mm (2 1/2 in) wrench or socket (5S-6078 Socket shown)
- Two C-4887 Pins (19.05 mm [3/4 inch] diameter) (2), and two 4C-3387 Pins (9.53 mm [3/8 in] diameter] (3) are easily positioned into or out of the hex body and retained in the desired position with detent grooves and ball spring plungers (4)
- The 2 different sized pins allow the tool to be used on all ball studs used on 785 and 789 Trucks
- Currently the ball studs contain 9.52 mm (3/8 in) diameter holes. Future ball studs will have 19.05 mm (3/4 in) diameter holes.

Part Number	Description
4C-3386	Cylinder Spanner Wrench

BRAKE AND STEERING SYSTEMS

Solid Taper Reamers

Essential Tool

Model Usage: 785, 789, 793, 797(A), and 797B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Repairs tapered steering arm linkage joints
- 202-8960 and 202-8961 used on 785 through 797(A) (up to 5YW-1) trucks
- 258-5684 used on 797(A) (5YW-1 and UP) and 797B (JSM-1 and UP) trucks
- Can be resharpened for continued usage

Reference

- SEBF8271, Guideline for Reusable Parts and Salvage Operations, Salvage of Tapered Steering Bores (785-797B)

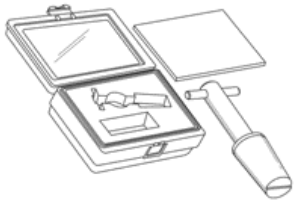
Item	Part No.	Description	Large End Diameter	Small End Diameter	Flutes	Flute Length	Taper	Overall Length	Shank
1	202-8960	Solid Taper Reamer (roughing)	84.14 mm (3.31 in)	66.37 mm (2.61 in)	5	142.2 mm (5.6 in)	1:8	393.7 mm (15.5 in)	Number 5 Morse Taper
1	202-8961	Solid Taper Reamer (finishing)	84.14 mm (3.31 in)	66.75 mm (2.63 in)	8	139.2 mm (5.48 in)	1:8	393.7 mm (15.5 in)	Number 5 Morse Taper
2	258-5684	Solid Taper Reamer	113.48 mm (4.47 in)	92.12 mm (3.63 in)	12	171.0 mm (6.73 in)	1:8	349.0 mm (13.75 in)	Number 5 Morse Taper

Plug Gauges with Case

Essential Tool

Model Usage: 769, 770 (BZZ), 771, 772 (RLB), 773, 773F (EED), 775, 775F (DLS), 777, 777F (JRP), 784, 785, 789, 793, and 797 Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used with Blueing Paste (sold separately) to inspect steering arm linkage joints with 1:8 ratio on steering/center arms
- Gauges have incorporated a "Go" and "No Go" step to determine wear condition of specific steering joint tapered bores
- Durable waterproof case included
- Foam insert protects gauge from damage and provides storage for Blueing Paste
- Heat-treated and black-oxide coated for added durability

References

- SEBF9054, Guideline for Reusable Parts, Reusability of Tapered Steering Bores (769 Through 777 Trucks and Tractors)
- SEBF9055, Guidelines for Reusable Parts, Reusability of Tapered Steering Bores (784 Tractor Through 797B Trucks)

Part No.	Description	Model Usage
265-9215	Plug Gauge Group	769, 771, 772
265-9216	Plug Gauge Assembly (not serviced separately)	769, 771, 772
265-9217	Foam Block Group (serviced separately)	761,771, 772
265-9218	Plug Gauge Group	773, 775, 777
265-9219	Plug Gauge Assembly (not serviced separately)	770 (BZZ), 772 (RLB)
265-9220	Foam Block Group (serviced separately)	773F (EED), 775F (DLS), 777F (JRP)
265-9221	Plug Gauge Group	785
265-9222	Plug Gauge Assembly (not serviced separately)	785
265-9223	Foam Block Group (serviced separately)	—
265-9224	Plug Gauge Group	789, 793, 797(A)
265-9225	Plug Gauge Assembly (not serviced separately)	789, 793, 797 (A)
265-9226	Foam Block Group (serviced separately)	—
265-9227	Plug Gauge Group	797B
265-9228	Plug Gauge Assembly (not serviced separately)	797B
265-9229	Foam Block Group (serviced separately)	—

Disc Brake Alignment Group

Essential Tool

Model Usage: D350E and D400E Series II, 735 and 740 Articulated Dump Trucks

Warranty: Caterpillar® Six Months



- Provides easy installation of disc brakes
- Diameter across pins: 351.5 mm (13.84 in)
- Aligns disc brake splines before brake package installation onto wheel station

Item	Part Number	Description
1	162-8231	Disc Brake Alignment Group
2	0S-1590	Bolt (English)

Lapping Tool (Ball Stud)

Model Usage: 769 through 797B Quarry and Off-Highway Trucks

Warranty: Caterpillar® Six Months



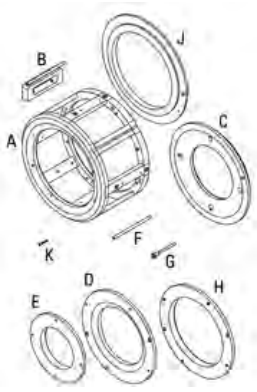
- Used to finish-lap tapered steering arm linkage joints on steering arms, center arms, and steering boxes
- Used with 176-6538 Ball Stud Spanner Wrench (797) to rotate lapping tool or a 4C-3386 Cylinder Spanner Wrench, 5S-6078 Socket (2 1/2 inch), and 1 inch square drive ratchet is required to remove ball studs on 769 through 793 Off-Highway Trucks
- Used with 226-6624 Lapping Compound
- Laps bore to proper specifications
- Heat-treated for added durability

Reference

- SEBF8271, Guideline for Reusable Parts and Salvage Operations,
- Salvage to Tapered Steering Bores (785-797)

Part Number	Taper	Weight	Use
226-2378	1:8 ratio	7.4 kg (16.3 lb)	785 through 793 Off-Highway Trucks
265-9213	1:8 ratio	2.3 kg (5.1 lb)	769 through 777 Off-Highway Trucks
265-9214	1:8 ratio	10.6 kg (23.4 lb)	797 Off-Highway Trucks

Tooling Chart



Item	Description	Qty.	Used On
A	Fixture Assembly	1	All
B	Adapter Assembly	4	775 Rear (O.C.), 775 Rear (I.C.), 777 Rear (O.C.), 777 Rear (I.C.)
C	Plate Assembly	1	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 775 Rear (O.C.), 777 Front (I.C.), 777 Rear (O.C.)
D	Plate Assembly	1	770 Rear (I.C.), 772 Rear (I.C.), 773 Rear (I.C.), 777 Front (I.C.)
E	Plate Assembly	1	777 Front (I.C.)
F	Rod	4	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 770 Rear (I.C.) 772 Rear (I.C.), 773 Rear (I.C.)
G	Guide Pin Assembly	4	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 777 Front (O.C.)
H	Plate Assembly	1	775 Rear (I.C.), 777 Front (O.C.)
J	Plate Assembly	1	770 Rear (I.C.), 772 Rear (I.C.), 773 Rear (I.C.)
K	Socket Head Screw [a]	20	All — Quantity used varies per application
(O.C.) = Out-of-Chassis.			
(I.C.) = In-Chassis.			

a. McMaster-Carr part number 91251A346, 10-32 x 22.2 mm (.875 in) long.

Ball Stud Removers

Model Usage: 769 through 797B OHTs

Warranty: Caterpillar® Six Months



- Used to separate ball stud from steering joint
- Reduces damage to steering components (strike remover tool, no impact in steering components necessary)

References

- SENR1561, Disassembly and Assembly, 769D and 771D Off-Highway Trucks
- SENR1584, Disassembly and Assembly, 773E and 775E Off-Highway Trucks
- RENR3365, Disassembly and Assembly, 776D and 777D Off-Highway Trucks
- SENR1500, Disassembly and Assembly, 784C and 785C Off-Highway Trucks
- SENR1534, Disassembly and Assembly, 789C Off-Highway Truck
- RENR2535, Disassembly and Assembly, 793C and 793C XQ Off-Highway Trucks
- RENR2588, Disassembly and Assembly, 797B Off-Highway Truck

Part Number	Use	Weight
231-4902	769 and 771 Off-Highway Trucks	1.827 kg (4.03 lb)
231-4903	773 through 777 Off-Highway Trucks including 777 HAA	3.142 kg (6.93 lb)
231-4904	785 Off-Highway Trucks including 785 HAA	7.119 kg (15.69 lb)
231-4905	789 through 793 Off-Highway Trucks	8.506 kg (18.75 lb)
287-5796	797 Off-Highway Trucks	12.600 kg (27.78 lb)

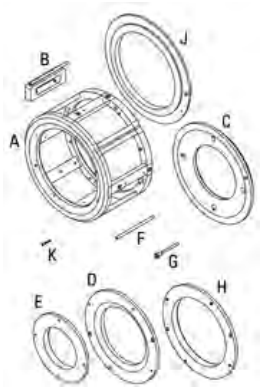
BRAKE AND STEERING SYSTEMS

Brake Alignment Tool Group

Essential Tool

Model Usage: 770, 772, 773, 775, & 777 OHTs

Warranty: Caterpillar® Six Months



- Used to precisely align plates and friction discs; helps eliminate damage of brake pack and mating components during brake assembly-helps ensure proper brake operation
- Versatile tool group can be easily configured to fit several different brake assemblies
- Lightweight aluminum, for ease of handling
- For easy identification, aluminum components are stamped with the identification mark A, B, C, D, E, F, H, or J
- Tool assembly chart in NEHS1004 Tool Operating Manual provides precise assembly instructions for each application
- Tool Group includes protective storage case 51 x 51 x 51 cm (20.0 x 20.0 x 20.0 in)
- Simplifies assembly, reduces installation time
- For convenience, each component is attached to main fixture assembly with a single size socket head cap screw

References

- NEHS1004, Tool Operating Manual, 318-2943 Brake Alignment Tool for 773, 775, and 777 Off-Highway Trucks
- RENR8273, 770/772 Off-Highway Truck, Disassembly and Assembly Manual
- RENR8286, 773/775F Off-Highway Truck, Disassembly and Assembly Manual
- RENR8312, 777F Off-Highway Truck, Disassembly and Assembly Manual
- NEEG3102 Decal

Part Number	Description	Quantity
318-2943	Brake Alignment Tool Group	1
	Service/Repair Parts a	
292-3211	Brake Alignment Tool	1
318-2927	Storage Case Foam Insert	1

a. Includes: Brake Alignment Tool, Storage Case Foam insert, and NEEG3102 Decal.

Tooling Chart

Item	Description	Qty.	Used On
A	Fixture Assembly	1	All
B	Adapter Assembly	4	775 Rear (O.C.), 775 Rear (I.C.), 777 Rear (O.C.), 777 Rear (I.C.)
C	Plate Assembly	1	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 775 Rear (O.C.), 777 Front (I.C.), 777 Rear (O.C.)
D	Plate Assembly	1	770 Rear (I.C.), 772 Rear (I.C.), 773 Rear (I.C.), 777 Front (I.C.)
E	Plate Assembly	1	777 Front (I.C.)
F	Rod	4	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 770 Rear (I.C.) 772 Rear (I.C.), 773 Rear (I.C.)
G	Guide Pin Assembly	4	770 Rear (O.C.), 772 Rear (O.C.), 773 Rear (O.C.), 777 Front (O.C.)
H	Plate Assembly	1	775 Rear (I.C.), 777 Front (O.C.)
J	Plate Assembly	1	770 Rear (I.C.), 772 Rear (I.C.), 773 Rear (I.C.)
K	Socket Head Screw a	20	All — Quantity used varies per application
(O.C.) = Out-of-Chassis.			
(I.C.) = In-Chassis.			

a. McMaster-Carr part number 91251A346, 10-32 x 22.2 mm (.875 in) long.

Brake Alignment Tool

Model Usage: 797F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used to align plates and friction discs to eliminate damage to brake pack and mating components during brake assembly.
- Simplifies assembly and reduces installation time.
- Tool is black oxide coated to increase corrosion resistance.

Specifications

- O.D.: 793.7 mm (31.25 in)
- Height: 218 mm (8.58 in)
- Weight: 19.39 Kg (42.75 lb)

Part Number	Description
346-8608	Brake Alignment Tool

Brake Alignment Tool

Model Usage: 777G Off-Highway Truck

Warranty: Caterpillar® Six Months



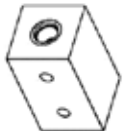
- Used to align plates and friction discs to eliminate damage to brake pack and mating components during brake assembly
- Simplifies assembly/reduces installation time
- Tool is black oxide coated to increase corrosion resistance

Part Number	Description
366-6542	Brake Alignment Tool

Test and Adjust Manifold

Model Usage: 950G, 962G, 966H, 966G, IT62G and 972H

Warranty: Caterpillar® Six Months



- Used with hydraulic test bench
- Allows for off-machine pressure setting of the steering crossover relief valve (129-8222)

Reference

- RENR4314, Test and Adjust Procedures/Specs

Specifications

- Dimensions: 60 X 60 X 107.8 mm (2.36 X 2.36 X 4.24 in)
- Weight: 3.203 kg (7.06 lbs)

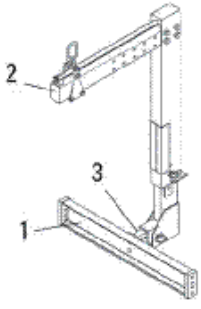
Part Number	Description
378-4530	Test and Adjust Manifold

Adapter Bracket Assembly

Essential Tool

Model Usage: 795F AC Off-Highway Truck

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install 291-6885 Brake Cooler Group from 795F AC Off-Highway Truck
- Used with 226-2380 C-Frame Lifting Bracket Assembly and 226-2381 Short Slide Tube Assembly
- Adapter bracket is attached to slide tube assembly with two 8T-4779 Bolts and two 3E-9402 Washers (dealer supplied) — tighten bolts to standard torque value
- Provides stability during brake cooler removal and installation
- Outside ends of adapter bracket attach to brake cooler assembly with (8) 8S-4755 Bolts and (8) 7K-0897 Washers (dealer supplied) — tighten bolts to standard torque value
- Meets ANSI B30.20.2006, ASME AS 4991 2004 standards

Specifications

- Working load limit: 181.5 kg (400 lb)
- Weight: 75 kg (165 lb)
- Length: 1132 mm (44.6 in)
- Height: 213 mm (8.4 in)
- Width: 70 mm (2.7 in)

Item	Part Number	Description
1	226-2380	Multi-Purpose “C” Style Lifting Bracket Assembly
2	226-2381	Short Slide Tube Assembly (included with 226-2380 Lifting Bracket Assembly)
—	317-5304	Adapter Bracket Assembly

Line Relief Test Block

Model Usage: F2 Series Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to test and adjust line relief pressure
- Made of steel
- One port for M28 X 1 relief valve (396-4902)
- Tested to 6,000 psi capacity of hydraulic pump or bench testing
- Inlet and outlets are SAE No. 6 ports

Specifications

- Dimensions: 70 mm x 50.8 mm x 101.6 mm

Reference

- UENR5025 backhoe loader machine systems, hydraulic and steering system

Part Number	Description
478-8367	Line Relief Test Block

Tools for Flushing Scraper Hydraulic Systems

Model Usage: Wheel Tractor-Scrapers

Warranty: Caterpillar® Six Months



- When flushing contaminated oil from hydraulic system, other parts are required to bypass cylinders to permit free flow of oil.

Reference

- FM055145

Item	Qty.	Part No.	Description	Size
2	6	1P-4579	Flange	(1 1/2 in) SAE
3	8	1A-1460	Bolt (1/2 – 13) (fork mounting hardware)	51.0 mm (1/2 in – 13 x 2 in)
4	10	1P-4578	Flange	(1 1/4 in) SAE
5	8	1D-4707	Bolt	57.0 mm (7/16 in – 14 x 2.25 in)
6	12	1P-4576	Flange	(3/4 in) SAE
7	4	0T-0318	Bolt	25.0 mm (7/16 in – 14 x 1 in)
8	12	7F-0192	Bolt	51.0 mm (3/8 in – 16 x 2 in)
9	22	4H-4581	Plug	19.05 mm (3/4 in)
10	8	2D-1767	Plug	12.7 mm (1/2 in)
11	8	1D-4719	Nut	(1/2 in – 13)
12	4	6H-1717	Bolt	29.0 mm (1/2 in – 13 x 1 1/8 in)
13	2	3H-5521	Plate	(1 1/4 in) SAE
14	8	1D-4718	Nut	(7/16 in – 14)
15	3	3H-5522	Plate	(3/4 in) SAE
16	12	1D-4717	Nut	(3/8 in – 16)
17	1	9U-6219	Tool Box	—
			Not Shown	
—	1	2P-8289	Holder Block	—
—	2	6H-3621	Plug	—

Bolt

Model Usage: 225B, 229, 235C, 245B

Warranty: Caterpillar® Six Months



- Used to provide way to manually engage pilot-operated control valves when testing and adjusting excavator hydraulic systems
- Installed directly into pressure tap hole in end cover to allow variable positioning of valve without using pilot controls in cab
- Makes testing and adjusting a 1-person job instead of requiring 2
- Grade 5 bolt, 10.16 mm (4 in) long and threaded 9/16 inch-18 to fit covers on excavator control valves

Part Number	Description
5P-7336	Bolt

WARNING

Always remove the 5P-7336 Bolts immediately after completion of the testing or adjusting procedure and reinstall the 9/16 inch - 18 O-ring plug before operating the machine in a normal manner. Injury to personnel and damage to equipment can result if this is not done.

Fittings for 22 mm (7/8 in) JIC Connectors

Model Usage: Wain-Roy Backhoe

Warranty: Caterpillar® Six Months



- 9S-0176 Tee and 9S-0177 Union used for tapping into 22.22 mm (7/8 in) JIC connectors on Wain-Roy Backhoes to check pressure relief valve settings

Item	Part Number	Description
1	9S-0177	Union
2	9S-0176	Adapter — Tee (37°)

Portable Hydraulic Tester

Model Usage: All Models Including E and MS Series Excavators

Warranty: Six Months

- Used to test hydraulic flow, pressure, and temperature in any hydraulic system (used in field or shop by simulating system working conditions)
- Range and versatility extended with use of externally connected flow meters
- Troubleshoot or adjust hydraulic circuits at low or high flows ("Interpass" protection prevents dangerous external oil spray in event of over-pressure)
- Unit is self contained and bi-directional (easily installed into hydraulic circuit using hoses and quick disconnects)
- Uses discontinued 6V-3136 Photo Pickup and 6V-2198 Cable, saving tool accessory costs
- Uses standard batteries with automatic power-off feature
- Use 9U-5229 Adapter or 9U-5228 Adapter to reduce ports to 41.27 mm (1 5/8 in) or 33.33 mm (1 5/16 in) STOR (Straight Thread O-ring) respectively [makes a close-coupled connection with 41,000 kPa (6,000 PSI) pressure rating]

References

- NEHS0565, Operating Manual, Portable Hydraulic Tester
- NEHS0576, Operating Manual, Portable Hydraulic Tester Repair Manual

4C-9910 Portable Hydraulic Tester

- Flow range: 13.0 – 475.0 lpm (3.5 – 125.0 gpm)
- Digital readout scales: Metric, US or British
- Accuracy: ±1% full scale over normal range
- Analog output: 0 – 1.5 VDC = 0 – 475.0 lpm (0 – 125 gpm)
- External input socket for flow meters: 0.2 – 795 lpm (0.05 – 210 gpm) range
- Continuous working pressure (analog readout): 0 – 500 bar (0 – 6,800 PSI)
- Pressure accuracy: ±1.6% full scale
- Temperature (analog readout): 10° to 120°C (50° to 250°F)
- Temperature accuracy: ±1°C (±2°F)
- Speed: 0 – 6000 RPM (digital readout)
- Accuracy: ±1% full scale
- Ports: 1 7/8-12 UNF SAE O-ring

4C-9911 Flowmeter (typical)

- Flow accuracy: ±1% full scale of normal range; ±2% full scale of extended range
- Temperature: 10° to 120°C (50° to 250°F)
- Temperature accuracy: ±1°C (±2°F)

Part No.	Description	Normal Flow Range	Extended Flow Range	Max. Pressure	Port Size
Specifications for Flow Meters					
4C-8686	Flow Meter, 795 lpm (210 gpm)	60 – 700 lpm (15 – 180 gpm)	30 – 800 lpm (7 – 210 gpm)	350 bar (5075 PSI)	1 1/2 SAE Flange
4C-8687	Flow Meter, 490 lpm (130 gpm)	45 – 450 lpm (10 – 100 gpm)	20 – 500 lpm (4 – 130 gpm)	350 bar (5075 PSI)	1 1/2 SAE Flange
4C-9436	Flow Meter, 110 lpm (30 gpm)	12 – 120 lpm (3 – 25 gpm)	5 – 150 lpm (1 – 30 gpm)	420 bar (6090 PSI)	1 1/16-12, 12 SAE
4C-9911	Flow Meter, 55 lpm (15 gpm)	8 – 50 lpm (2 – 12 gpm)	2 – 60 lpm (0.5 – 15 gpm)	420 bar (6090 PSI)	1 1/16-12, 12 SAE
4C-9912	Flow Meter, 245 lpm (65 gpm)	20 – 220 lpm (5 – 50 gpm)	10 – 300 lpm (2 – 65 gpm)	420 bar (6090 PSI)	1 5/16-12
4C-9913	Flow Meter, 380 lpm (100 gpm)	30 – 300 lpm (8 – 80 gpm)	10 – 400 lpm (3 – 100 gpm)	420 bar (6090 PSI)	1 5/16-12
4C-9914	Flow Meter, 645 lpm (170 gpm)	50 – 550 lpm (12 – 150 gpm)	25 – 650 lpm (6 – 170 gpm)	350 bar (5075 PSI)	1 1/2 SAE Flange

HYDRAULIC SYSTEM TOOLS

Adapters for Portable Hydraulic Tester

- Working pressure rating: 41,000 kPa (6,000 PSI)
- Burst pressure rating: 165 MPa (24,000 PSI)
- Size of hex across flats: 53.97 mm (2 1/8 in)

Part No.	Description	Size	Use
9U-5228	Adapter	—	Adapts 1 7/8 12 STOR male fitting to 1 5/16-12 male union
9U-5229	Adapter	—	Adapts 1 7/8 12 STOR male fitting to 1 5/8-12 male union
Service/Repair Parts			
2S-4078	Seal — O-ring — STOR	41.27 mm (1 5/8 in)	—
6K-6307	Seal — O-ring — STOR	47.62 mm (1 7/8 in)	—
7M-8485	Seal — O-ring — STOR	33.33 mm (1 5/16 in)	—

Portable Hydraulic Tester



Item	Part Number	Description
1	127-9353	Disc — Burst
2	4C-9625	Pressure Gauge
3	4C-9922	Load Valve
—	4C-9910	Portable Hydraulic Tester
Not shown		
—	4C-9626	Seal — Transducer
—	4C-9918	Seal Kit

Hydraulic Flow Testers

Model Usage: All Models

Warranty: Caterpillar® Six Months

Hydraulic Flow Testers

- Used to diagnose hydraulic flow, pressure and temperature symptoms in any hydraulic system, including E and MS Family Excavators
- Allows testing in field or shop; built-in load valve allows simulation of operation
- Can be used to troubleshoot or set hydraulic circuits to specifications at low or high flows
- If over pressure, "interpass" protection protects from dangerous external oil spray
- May be used in-line or for tee test operation
- Self-contained, bi-directional, capable of reading all parameters and loading systems regardless of flow direction; easily installed with hoses into a circuit; high-pressure quick disconnects readily available from Dealer Service Tools to work with these units
- Analog display of all parameters for quick check of system/component performance
- Accept Cat® discontinued 6V-3136 Photo Pickup and 6V-2198 Cable to read RPM; saves tool accessory costs
- Uses standard batteries with auto "power off"
- 1U-8761 Hydraulic Flow Tester discontinued/replaced by 4C-9437; 1U-9551 Hydraulic Flow Tester discontinued/replaced by 4C-9675

4C-9436 Flow Meter

- When used with hydraulic flow testers, extends their range and versatility, keeping present tooling from becoming obsolete

References

- NEHS0572, Tool Operating Manual, Portable Hydraulic Tester
- NEHS0573, Tool Operating Manual, Turbine Flow Meter
- NEHS0576, Tool Operating Manual, Repair of Portable Hydraulic Tester

Item	Part Number	Description
2	4C-9625	Pressure Gauge
3	4C-9627	Load Valve, 4C-9437 Tester
Not Shown		
—	4C-4083	Rupture Disc for 4C-9437 Tester
—	4C-4084	Rupture Disc for 4C-9675 Tester
—	4C-9626	Seal — Transducer

Flowmeter (typical)



Item	Part Number	Description
—	4C-9911	Flowmeter (typical)
2	4C-9626	Seal — Transducer

Hydraulic Flow Testers



FOR CABLE, CONTACT:

Webster Instruments
1290 East Waterford Avenue
Milwaukee, WI 53207
Phone: 414-769-6400
Fax: 414-769-6591

Specifications

- Flow range: 0 – 100 gpm or 0 – 25 gpm metric or US scales
  - Accuracy: ±2% full scale over normal range External input socket calibrated for 4C-9436 Flow Meter only; use Cable to connect external flow meter. *Contact Webster Instruments for cable.
- Continuous working pressure: 0 – 420 bar (0 – 6,000 PSI)
  - Accuracy: ±1.6% full scale
- Temperature (dual scale): 10° to 120°C (50° to 250°F)
  - Accuracy : ±2% full scale
- Speed, will measure: 0 – 10,000 photo tach 0 – 3,000 mech. tach
  - Accuracy: ±2% full scale
- Uses discontinued 6V-3136 Pickup and 6V-2198 Cable Ports: 1 5/16 in-12 UNF SAE O-ring port

4C-9675 Hydraulic Flow Tester

The 4C-9675 has the same design characteristics as the 4C-9437 except for flow capacity of 0-200 or 0-40 g/m and working pressure of 5000 PSI.

- Flow range (dual): 0 – 200 gpm or 0 – 40 gpm metric or US scales
  - Accuracy: ±2% full scale over normal range

External input socket calibrated for 4C-9436 Flow Meter only; use Cable to connect external meter.

- Contact Webster Instruments for cable.
- Continuous working pressure: 0 – 350 bar (0 – 5,000 PSI)
  - Accuracy: ±1.6% full scale
- Temperature (dual scale): 10° to 120°C (50° to 250°F)
  - Accuracy: ±2% full scale
- Speed, will measure: 0 - 7,500 photo tach; 0 - 2,500 mech. tach
  - Accuracy: ±2% full scale

Uses disc. 6V-3136 Pickup/6V-2198 Cable

- Ports: 1 1/2 in SAE 4 bolt flange (XT-3)

Part Number	Description
4C-9437	Hydraulic Flow Testers

Flowmeter



Specifications

- Flow range: 3 – 25 gpm (1 – 30 extended range)
- Working pressure: 0 – 420 bar max. (6,300 PSI)
- Temperature: 10° to 120°C (50° to 250°F)
- Ports: 1 1/16 in-12 SAE O-ring (#12 port)

The 4C-9436 Flowmeter is not a standalone flowmeter. It is a flow block with a flow/temperature transducer. It must be used with a hydraulic flow tester or another device with readout capabilities. A Cable is used to couple the flowmeter to a readout device. Contact Webster Instruments for cable.

Item	Part Number	Description
—	4C-9436	Flowmeter
—	4C-9626	Seal — Transducer

HYDRAULIC SYSTEM TOOLS

Rupture Discs

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months

- Replacement discs for 2 different portable hydraulic testers; disc will blow out if over-pressure conditions have occurred in portable hydraulic tester

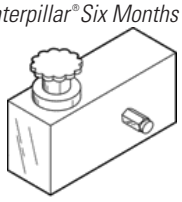
Reference

- NEHS0508-01, instructions to replace discs (designated as safety discs in instruction manual)

Part No.	Outside Diameter	Nominal Rupture Pressure	Pkg. Qty.	Use
4C-4083	15.875 mm (0.625 in)	41,343 kPa (6,000 PSI)	4	4C-9437 and 160-2513 Portable Hydraulic Tester
4C-4084	19.913 mm (0.784 in)	41,343 kPa (6,000 PSI)	4	4C-9675 and 160-2515 Portable Hydraulic Tester

Flowmeter-Testers

Warranty: Caterpillar® Six Months



- Used to regulate hydraulic flow with built-in load valve
- Used with DataView

Part Number	Flow Range	Maximum Pressure	Connections
160-2513	19 – 190 lpm (5 – 50 gpm)	41,343 kPa (6,000 PSI)	1 5/16-12 (No. 16) O-ring ports
160-2514	15 – 474 lpm (4 – 125 gpm)	48,230 kPa (7,000 PSI)	1 7/8-12 (No. 24) O-ring ports
160-2515	57 – 682 lpm (15 – 180 gpm)	34,450 kPa (5,000 PSI)	38.1 mm (1.5 in) SAE 4-bolt flange

REPAIR INFORMATION

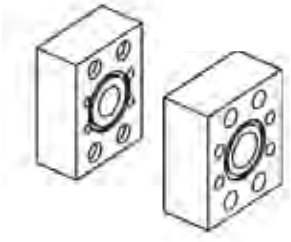
Webster Instruments
1290 East Waterford Avenue
Milwaukee, WI 53207
Phone: (414) 769-6400
Fax: (414) 769-6591

A "Return Material Authorization" number is required.

Adapter Flange

Model Usage: Large Excavators

Warranty: Caterpillar® Six Months



- Used to connect large excavators to 348-6504 load valve during main hydraulic flow test
- Material: Steel
- Allows different sized code 62 to be connected using SAE standard bolt patterns
- Meets SAE J518 and ISO standards

Part Number	Dimensions	Weight
434-6930	133.35 x 101.6 x 50.8 mm (5.25 x 4.0 x 2.0 in)	4.15 kg (9.16 lb)
434-6931	133.35 x 114.3 x 57.15 mm (.25 x 4.5 x 2.25 in)	5.22 kg (11.5 lb)

DHCR1500 Flowmeter, HV1500 Load Valve

Model Usage: All Models

Warranty: Caterpillar® Six Months



REPAIR INFORMATION

Webster Instruments
1290 East Waterford Avenue
Milwaukee, WI 53207
Phone: (414) 769-6400
Fax: (414) 769-6591

A "Return Material Authorization" number is required.

- Used together to measure hydraulic flow, pressure, temperature in any hydraulic system
- Diagnosises problems in hydraulic systems
- Meets EU requirements (No CE markings req.)

348-9503 DHCR1500 Flowmeter

- Flow rated up to 1500 lpm (400 gpm)
- Pressure rated up to 420 bar (6000 PSI)
- Code 62 four-bolt flange connections
- Accuracy of ± 1% of indicated reading
- Remote inputs: flow, temperature — 2, pressure — 1, speed — 1
- Quickly checks hydraulic pumps, motors, valves, cylinders, hydrostatic transmissions
- Low battery power consumption with automatic "power off" feature
- Infra-red photo-tachometer with "on target" indicator
- Measures flow in both directions (uni-directional when used with 348-9504 HV1500 Load Valve)

348-9504 HV1500 Load Valve

- Progressive pressure control
- High-strength aluminum body rated up to 420 bar (6000 PSI)
- Includes connecting flange, seals, and bolts for use with 348-9503 DHCR1500 Flowmeter
- Pilot operated, over-pressure internal bypass valve
- Includes spare burst discs
- Uni-directional flow

348-9503 DHCR1500 Flowmeter

Item	Quantity
DHCR1500 Unit	1
Cable Hose Assembly	1
LT1500-FR-F-S-6 Unit	1
Carry Case	1

348-9504 HV1500 Load Valve

Item	Quantity
HV1500 Load Valve Unit	1
Spool	1
Carry Case	1

Part Number	Description
348-9503	DHCR1500 Flowmeter
348-9504	HV1500 Load Valve

Flowmeter Adapters

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Tests of pump flow rate without removing pump from machine, saving time and money
- Perform flow test on hydraulic systems of Cat® and competitive machines
- Through drilled with 90° intersecting port
- 3 ports allow the adapter to be used as a straight through or 90° connection
- 2 through ports can be connected into the system, leaving third port for pressure or flow rate tap
- Connects flowmeter into a hydraulic circuit
- 1 end of the through hole and intersecting port are SAE 16 O-ring ports (1 5/16-12), making the ports compatible with Cat® high pressure fittings
- 1 series adapter has holes for 4-bolt flanges
- 1 series of adapter has tapped holes which allow a flowmeter to be connected to pump outlet hose
- Pressure rating: 41,340 kPa (6,000 PSI)

Item	Part Number	Description
1	9U-5273	Adapter, 25.4 mm (1 in) flange
2	9U-5272	Adapter, 31.75 mm (1.25 in) flange
3	9U-5936	T-Test Adapter, 31.75 mm (1.25 in) hose
	Service/Repair Parts	
—	1P-3703	D-ring used on 9U-5273
—	1P-3704	D-ring used on 9U-5272

HYDRAULIC SYSTEM TOOLS

Load Valve and Cable Tool Groups

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used to allow accurate flow testing including power testing of the 349 Excavators
- Equipped with same ports as 4C-9910
- Additional load valve allows for multiple load testing and versatility in testing for the next generation of electronically controlled pumps
- Load valves to be used in tandem with 436-8662 or with the 4C-9910
- Low-flow solution provides accurate flow measurement of small HEX
- Accuracy: Up to 1% of indicated reading
- Top Ports: 7/16" -20UN #4 SAE ORB
- 5 m cable included

Part No.	Description	Flow Range	Main Ports	Max Pressure
436-8661	Load Valve and Cable Tool Group	5 – 210 gal/min	1-7/8" -12UN #24 SAE ORB	7000 PSI
436-8663	Load Valve and Cable Tool Group	2.5– 100 gal/min	1-5/16" -12UN #16 SAE ORB	6000 PSI

Digital Hydraulic Testers

Model Usage: All Models

Warranty: Caterpillar® Six Months

- Used to allow accurate flow testing including power testing of the 349 Excavators
- Additional load valve will allow for multiple load testing and versatility in testing for the next generation of electronically controlled pumps
- Load valve to be used in tandem with 436-8662 or with the 4C-9910
- Low flow solution provides accurate flow measurement of small HEX
- Internal Temp. Range: 0-120 degree celcius (32-250 degree fahrenheit)
- Remote Flow Input: external input is easily configured in the field to any LT series flow meter

Dimensions

- 436-8662: 246.4 x 226.1 x 226.1 mm (9.7 x 8.9 x 8.9 in)
- 436-8664: 241.3 x 200.7 x 200.7 mm (9.5 x 7.9 x 7.9 in)

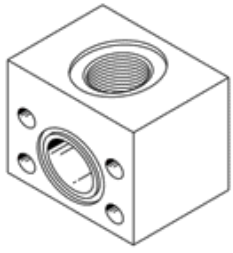
Part No.	Description	Flow Range	Main Ports	Max Pressure
436-8662	Digital Hydraulic Tester	5 – 210 gal/min	1-7/8" -12UN #24 SAE ORB	7000 PSI
436-8664	Digital Hydraulic Tester	2.5– 100 gal/min	1-5/16" -12UN #16 SAE ORB	6000 PSI

Hydraulic Test Adapter

Essential Tool

Model Usage: M312, M315, M318, and M320 Wheeled Excavators

Warranty: Caterpillar® Six Months



- Used to connect flowmeter return line into hydraulic circuit
- Test pump flow rate without removing pump from machine
- Directs oil from flowmeter through oil cooler (prevents overheating during pump testing)
- Adapter is through-drilled with 90 degree intersecting port

Reference

- SENR6261, Testing and Adjusting M300 Family Excavators Hydraulic Systems

Specifications

- Female connection (STOR): Dash Size — 16, 1 5/16-12 thread
- Through hole connection: Code 61 Split Flange
- Hole size: 30.0 mm (1.181 in)
- Fits flange dash size: 20
- Fits head size: 50.8 mm (2.0 in)
- Use 4J-0522: O-ring seal

Part Number	Description
146-3661	Hydraulic Test Adapter

Adapters for Hydraulic System Component Testing

- The same improved adapters are recommended for use with discontinued 5P-3600 Flow Meter and discontinued 9S-2000 Flow Meter, with one additional C-2 hose assembly being required with 9S-2000 Flow Meter; refer to following tool lists and Tee Test Tool Chart for adapter components required for each machine
- All adapter components are high pressure, 103,500 kPa (15,000 PSI) minimum burst pressure, fittings and, where convenient, duplication of components has been eliminated
- Some components are seldom used and have been removed from "recommended" status to an "available if needed status"
- For convenience, 5P-8687 Tool Group, consisting of an E-2 Tachometer Adapter, blocking plate assemblies, and certain special tools, is available
- Oil flow should always be from a nipple into a valved coupler and never from a coupler into a valved nipple.

⚠ WARNING

Always make certain that the valved coupler on the C5 and C8 Connecting Hose Assemblies are connected to the valved nipple on the pump adapter before starting the diesel engine. If this connection is not made properly, injury to personnel or damage to the machine can occur when performing the pump test. Refer to Form REG00791-01 for procedural information for testing hydraulic systems and components.

Tee Test Tool Group

Model Usage: See Charts

Warranty: Caterpillar® Six Months



- For use with 1U-8761 and 1U-9551 Portable Hydraulic Testers (all blocking plate assemblies, most needed tachometer adapters, and 2 tool bits available under 1 part number)
- All parts stored in compact box with decal in lid for quick parts reference

Item	Part No.	Description	Qty.
—	5P-8687	Tee Test Tool Group	—
1	2P-9697	Plug (7/8 in — 14 thd)	2
1	3R-6789	Cap (1 5/16 in — 12 thd)	—
1	5P-2299	Plug (1 5/16 in — 12 thd)	—
1	5P-2909	Plug (3/4 in — 16 thd)	2
1	5P-4299	Plug (1 3/16 in — 12 thd)	—
1	6J-7366	Cap (7/8 in — 14 thd)	2
1	8L-9137	Cap (1 3/16 in — 12 thd)	—
1	8S-4950	Cap (9/16 in — 18 thd)	2
1	8S-4951	Cap (3/4 in — 16 thd)	2
1	9L-8493	Cap (7/16 in — 20 thd)	—
1	9S-8895	Plug (1 1/16 in — 12 thd))	2
1	9S-8896	Cap (1 1/16 in — 12 thd))	2
1	9S-8927	Plug (9/16 in — 18 thd))	2
2	1W-2316	Adapter Assembly	—
2	4M-8303	Seal — O-ring (outside)	—
2	5P-0537	Hard Washer	—
3	5P-1758	Shaft Assembly	—
4	4N-0538	Coupling	—
5	9U-7419	Bit, 19.05 mm (3/4 in)	—
6	1P-3566	Bit, 14.28 mm (9/16 in)	—
7	4F-7391	Seal	2
7	4F-7952	Seal	2
7	4J-8996	Seal	2
7	5F-1678	Seal	2
7	5F-7054	Seal	2
7	7F-8267	Seal	4
7	8F-6711	Seal	—
7	9S-7358	Plate Assembly, 12.7 mm (1/2 in)	2
7	9S-7359	Plate Assembly, 19.05 mm (3/4 in)	2
7	9S-8092	Plate Assembly, 25.4 mm (1 in)	2
7	9S-8093	Plate Assembly, 31.75 mm (1 1/4 in)	2
7	9S-8094	Plate Assembly, 38.1 mm (1 1/2 in)	4
7	9S-8095	Plate Assembly, 50.8 mm (2 in)	—
7	9S-8894	Plate Assembly, 15.87 mm (5/8 in)	2
9	6V-3073	Case — Plastic	—
10	6V-7029	Block — Top	—

HYDRAULIC SYSTEM TOOLS

5P-8687 Tee Test Tool Group Assemblies (Continued)

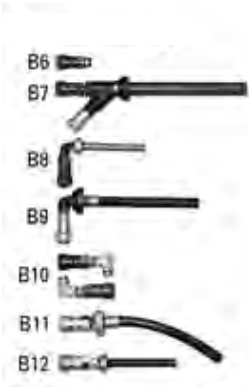
Part No.	Description	Qty.
	A-1 Assembly	
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
2S-4078	Seal — O-Ring STOR (SAE 1 5/8 — 12) (Part of 8S-9967) [c]	1
9S-9967	Adapter	3
	A-2 Assembly	
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
3D-2824	O-Ring Seal [c]	1
9S-7336	Adapter	1
	A-4 Assembly	
030-7976	Adapter — 45° Union	1
1P-5596	Pipe Nipple	1
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
3D-2824	O-Ring Seal [c]	1
	A-5 Assembly	
031-5744	Adapter — Elbow, 90°	1
1P-5597	Nipple — Pipe, 25.4 x 31.75 mm (1 x 1 1/4 in) [b]	1
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
5P-2242	Tee — Swivel — 37° Flared	1
5P-2244	Union — Adapter — 37° Flared Swivel	1
	A-6 Assembly	
004-3099	Fitting	1
2P-8337	Valved Coupler	1
3B-7257	Bushing	1
9S-0247	Hose	1
	A-7 Assembly	
030-7980	Adapter, 90°	2
1P-5598	Pipe Nipple 31.75 x 31.75 mm (1 1/4 x 1 1/4 in)	2
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
2S-7078	O-ring Seal	2
	A-8 Assembly	
1D-4717	Nut	4
1P-5597	Nipple — Pipe, 25.4 x 31.75 mm (1 x 1 1/4 in) [b]	1
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
4F-7391	O-Ring Seal	1
5P-3032	Adapter, 25.4 mm (1 in) hose	1
8S-9191	Bolt (4)	4
	A-9 Assembly	
1D-4718	Nut	4
1P-5597	Nipple — Pipe, 25.4 x 31.75 mm (1 x 1 1/4 in) [b]	1
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
4F-7952	O-Ring Seal	1
5P-3033	Adapter, 31.75 mm (1 1/4 in) hose	1
7H-3472	Bolt	4
	A-10 Assembly	
1D-4719	Nut	4
1P-5598	Pipe Nipple 31.75 x 31.75 mm (1 1/4 x 1 1/4 in) [a]	2
2H-6488	Bolt	4
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
5P-3034	Adapter, 38.1 mm (1 1/2 in) hose	1
7F-8267	O-Ring Seal	1
	A-11 Assembly	
004-4977	Elbow, 45°	1
2P-8336	Nipple As — High Pressure (Valved) [a] [b]	3
8S-9967	Adapter	1

a. Use from A-7 Assembly No.

b. Use from A-8 Assembly No.

c. Recommended spare parts

B — Return Line Assemblies



B — Return Line Assemblies

- Return oil to hydraulic tank
- To determine assembly number required for a machine model, refer to Section B of Tee Test Tool Chart and following list

Part Number	Description	Quantity
	B-6 Assembly	
2P-8335	Coupler As — High Pressure	1
6V-0001	Seal Kit (Part of 2P-8337)	1
8S-9967	Adapter	1
	B-7 Assembly	
2P-8337	Valved Coupler [a]	1
3B-7750	Pipe Nipple	2
4J-3815	Gasket	1
6V-0001	Seal Kit (Part of 2P-8337)	1
	B-8 Assembly	
2P-8337	Valved Coupler [a]	1
3B-6555	Street Ell	1
3B-7257	Bushing	1
3B-7749	Nipple	1
6V-0001	Seal Kit (Part of 2P-8337)	1
9H-6454	Gasket	1
	B-10 Assembly	
030-7980	Adapter, 90°	2
1P-5598	Pipe Nipple	2
2P-8335	Coupler As — High Pressure	1
2S-4078	O-Ring Seal	1
6V-0001	Seal Kit (Part of 2P-8337)	1

a. Use 2P-8337 Valved Coupler instead of discontinued 8S-9974

HYDRAULIC SYSTEM TOOLS

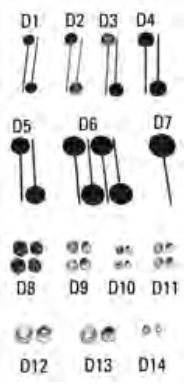
C — Tachometer Drive Group



- Required to attach Flow Meter Tachometer Generator to all machines which are adaptable to "Tee Testing"
- To determine assembly number required for a machine model, refer to Section C of Tee Test Tool Chart and then to list below

Part Number	Description	Quantity
C-1 Assembly (Used on very early 988 and 992 only)		
1B-9575	Bolt	2
1M-5061	Tachometer Drive Group	1
3B-4505	Lock Washer	2
C-2 Assembly		
4M-8303	Seal (Part of 5P-1759)	1
4N-0538	Coupling (Part of 5P-1759)	1
5P-1758	Shaft Assembly (Part of 5P-1759)	1
5P-1759	Tachometer Adapter (Included in 5P-8687 Tool Group)	1
9N-3018	Adapter Group (Part of 5P-1759)	1
9S-0211	Clamp (Part of 5P-1759)	2
9S-3032	Clamp (Part of 5P-1759)	2
C-3 Assembly (Used on 977H, 955H, 933F and G and 966 with serial numbers below 75A-1092 only)		
1B-2714	Bolt (1/4 in-20 x 2 1/2 in)	2
1D-4539	Bolt (5/16 in-18 x 2 1/2 in)	1
3B-4504	Lock Washer, 6.35 mm (1/4 in)	2
3B-4505	Lock Washer	2
C-4 Assembly (Used on 977H machines not equipped with 2S424 Service Meters only)		
1D-4539	Bolt (5/16 in-18 x 2 1/2 in)	1
2B-2695	Bolt (5/16 in-18 x 7/8 in)	1
2S-0424	Service Meter Group	1
3B-4505	Lock Washer	2
C-5 Assembly (Used on D3, 910 and 931 only)		
1B-7182	Bolts	2
5P-0935	Adapter Group	1
C-6 Assembly (Used on all U.S. production 3204 Engines)		
0S-1617	Bolt	2
4M-8303	Seal (Part of 5P-1759)	1
8N-5945	Tachometer Drive Adapter	1
9M-1974	Washer	2
9S-3032	Clamp (Part of 5P-1759)	2
C-7 Assembly (Used on 3204 Engines 10X-2936-up)		
0S-1617	Bolt	2
4M-8303	Seal (Part of 5P-1759)	1
5P-1758	Shaft Assembly (Part of 5P-1759)	1
6N-1345	Tachometer Drive Adapter	1
9M-1974	Washer	2
9S-3032	Clamp (Part of 5P-1759)	2

D — Blocking Plate Assemblies



- Available by ordering 5P-8687 Tool Group
- Isolate various system components when troubleshooting hydraulic system
- To determine assembly number required for a machine model, refer to the Service Manual for Testing Hydraulic Systems and Components, and then to the list below

Part Number	Description	Quantity
	D-1 Assembly	
5F-7054	Seal — O-Ring	2 a
9S-7358	Blocking Plate Assembly, 12.7 mm (1/2 in)	2 a
	D-2 Assembly	
4J-8996	Seal — O-Ring	2 a
9S-8894	Blocking Plate Assembly, 15.87 mm (5/8 in)	2 a
	D-3 Assembly	
5F-1678	Seal — O-Ring	2 a
9S-7359	Blocking Plate Assembly, 19.05 mm (3/4 in)	2 a
	D-4 Assembly	
4F-7391	Seal — O-Ring	2 a
9S-8092	Blocking Plate Assembly, 25.4 mm (1 in)	2 a
	D-5 Assembly	
4F-7952	Seal — O-Ring	2
9S-8093	Blocking Plate Assembly, 31.75 mm (1 1/4 in)	2
	D-6 Assembly	
7F-8267	Seal — O-Ring	4 a
9S-8094	Blocking Plate Assembly, 38.1 mm (1 1/2 in)	4 a
	D-7 Assembly	
8F-6711	Seal — O-Ring	1 a
9S-8095	Blocking Plate Assembly, 50.8 mm (2 in)	1 a
	D-8 Assembly	
9S-8895	Plug (1 1/16 in — 12 thd))	2 a
9S-8896	Cap (1 1/16 in — 12 thd))	2 a
	D-9 Assembly	
2P-9697	Plug (7/8 in — 14 thd)	2 a
6J-7366	Cap (7/8 in — 14 thd)	2 a
	D-10 Assembly	
8S-4950	Cap (9/16 in — 18 thd)	2
9S-8927	Plug (9/16 in — 18 thd)	2
	D-11 Assembly	
5P-2909	Plug (3/4 in — 16 thd)	2 a
8S-4951	Cap (3/4 in — 16 thd)	2 a
	D-12 Assembly	
3R-6789	Cap (1 5/16 in — 12 thd)	1 a
5P-2299	Plug (1 5/16 in — 12 thd)	1 a
	D-13 Assembly	
5P-4299	Plug (1 3/16 in — 12 thd)	1 a
8L-9137	Cap (1 3/16 in — 12 thd)	1 a
	D-14 Assembly	
9L-8493	Cap (7/16 in — 20 thd)	1 a

a. Included in 5P-8687 Tool Group

HYDRAULIC SYSTEM TOOLS

E — Special Tools



- Available by ordering 5P-8687 Tool Group
- 2 special hex bits required to remove and install SAE O-ring plugs
- Wrench used to couple supply line adapters and some of return line assemblies
- All Parts are included in 5P-8687 Tool Group except 0V-0455 Wrench

Assembly No.	Part Number	Description	Qty.
1	1P-3566	Bit — Tool 14.29 mm (9/16 in)	1 [a]
2	9U-7419	Bit — Tool 19.05 mm (3/4 in)	1 [a]
5	0V-0455	Wrench	1
6	6V-3073	Box Assembly	1
6	6V-7029	Block (Lid)	1 [a]

a. Included in 5P-8687 Tool Group

Tee Test Tool Charts: Hydraulic Implement System — A-1 thru A-11

Machine Model	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11
D3						1					
D7G		1		1							
D8K	1			1							
D9H	1			1							
D10L	1	1									
613B		1									
621	1										
621B	1										
623		1						1			
623B	1			1							
627	1										
627B	1										
631C	1										
631D	1										
633	1								1		
633D	2										1
641B	1										
650B	1										
651B											
657B	1										
660B	1										
666B	1										
814		1									
815		1									
816		1									
824	1										
824B	1										
826B	1										
834	1										
835	1										
931						1					
941		1									
943, 953		1									
951		1									
955	1		— a								
977	1		— a								
983	1										
518				1							
528		1									
910		1									
920		1									
930		1									
950	1										
966	1										
980	1										
988	1										
992	2						2 b				
992C	1										1
120G					1						
130G					1						
140G					1						
12G					1						
14G	1				— c						
16G	1				— c						
215	2										
225	3										
235	3										
245	3										1 d

a. See "Adapter for Hydraulic System Component Testing"

b. Machines with ROPS cabs only

c. Required on early machines with "Tee Taps"

d. Machines with serial numbers 95V960-Up, 825X543-Up, 94L443-Up and 84X555-Up

HYDRAULIC SYSTEM TOOLS

Hydraulic Implement System — B

Machine Model	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
D3				1				
D7G	1			1				
D8K	1			1				
D9H	1			1				
D10L					1			
613B		1						
621		1						
621B		1						
623		1						
623B		1						
627		1						
627B		1						
631C		1						
631D		1						
633		1						
633D		1						
641B		1						
650B		1						
651B		1						
657B		1						
660B		1						
666B		1						
814		1						
815		1						
816		1						
825B		1						
826B		1						
834		1						
835		1						
931			1					
941			1					
943, 953		1						
951			1					
955			1					
977			1					
983			1				1	
518			1				1	
528				1		1		
910			1				1	
920		1						
930		1						
950		1						
966		1						
980		1						
988		1						
992			1					
992C					2 a			
120G		1						
130G		1						
140G		1						
12G		1						
14G		1						
16G		1						
215		1	1					
225		1	1					
235		1	1					
245		1	1					

1= Machines with ROPS cabs only

a. See "Adapter for Hydraulic System Component Testing"

Hydraulic Implement System — C

Machine Model	C-1	C-2	C-3	C-4	C-5	C-6	C-7
D3		1			1		
D7G		1					
D8K		1					
D9H		1					
D10L		1					
814		1					
815		1					
816		1					
824		1					
825B		1					
826B		1					
834		1					
835		1					
931					1		
941		1					
943, 953						1	1
951		1					
955		1					
977		1		— a			
983		1					
518		1					
528		1					
910					1		
920		1					
930		1					
950		1					
966		1	— a				
980		1					
988	— a	1					
992	— a	1					
120G		1					
130G		1					
140G		1					
12G		1					
14G		1					
16G		1					
215							1
245		1					

a. Required on early machines without "Tee Taps."

Steering Systems — A-1 thru A-11

Machine Model	A-1	A-2	A-4	A-7	A-11
920		1			
930		1			
966		1			
988	1				
992C				1	
814		1			
815		1			
816		1			
621B					1
623B					1
627B					1
631D					1
633D	1				
637D					1
528			1		

HYDRAULIC SYSTEM TOOLS

Steering Systems — B thru C

Machine Model	B-6	B-9	C-2
920	1		1
930	1		1
966	1		1
988	1		1
992C	1		
814			1
815			1
816			1
621B	1		
623B	1		
627B	1		
631D	1		
633D	1		
637D	1		
528		1	1

Tee Test Adapters

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Used to perform Tee Tests on Cat® or competitive machines which are not equipped with Tee Test taps in pump outlet line
- Each adapter through-drilled with 90° intersecting port which allows adapter to be used as straight-through or 90° connection with remaining port being used for Tee tap
- Intersecting port and one end of through-drilled hole are tapped with NPTF threads to facilitate installation of pipe nipples and valved nipples for connection to Tee Test hose
- All 3 ports have 4 bolt holes for connecting pump outlet hoses with 4 bolt flanges; since the 4 bolt flange holes for through-drilled passage are also through-drilled, longer bolts are required to install adapters
- Bolts listed with associated parts and nuts which allow convenient storage of bolts in adapter
- Correct O-ring seal for inlet port of each adapter given in figure below
- Instructions for using adapters on future Cat® machines not equipped with Tee taps will be covered in the Service Manual

Typical Adapter and Associated Parts for Tee Test Adapters



Typical adapter and associated parts

Required Associated Parts

Part Number	Description
5P-3033 Adapter, 31.75 mm (1 1/4 in) hose	
1D-4718	Nut (4)
1P-5597	Pipe Nipple, 25.4 x 31.75 mm (1 x 1 1/4 in)
2P-8336	Nipple As — High Pressure (Valved)
4F-7952	O-ring Seal
7H-3472	Bolt (4)
5P-3032 Adapter, 25.4 mm (1 in) hose	
1D-4717	Nut (4)
1P-5597	Pipe Nipple, 25.4 x 31.75 mm (1 x 1 1/4 in)
1P-8336	Valved Nipple
4F-7391	O-ring Seal
8S-9191	Bolt (4)
5P-3034 Adapter, 38.1 mm (1 1/2 in) hose	
1D-4719	Nut (4)
1P-5598	Pipe Nipple, 31.75 x 31.75 mm (1 1/4 x 1 1/4 in)
2H-6488	Bolt (4)
2P-8336	Nipple As — High Pressure (Valved)
7F-8267	O-ring Seal

Quick Disconnect Couplings for Hydraulic Test Equipment

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- All quick disconnect couplings used for Cat® hydraulic test equipment summarized in chart
- Couplings listed within each group are interchangeable
- Disconnects rated by operating pressure, pressure at which no failure expected to occur in normal cyclic usage

Item	Part No.	Description	Type	Connection Thread (Type)	Nominal Size	Operating Pressure
1	2P-8334	Nipple	Open	1 1/4 NPT (Int)	1 1/4 in	34,500 kPa (5000 PSI)
2	2P-8335	Coupler	Open	1 1/4 NPT (Int)	1 1/4 in	34,500 kPa (5000 PSI)
3	2P-8336	Nipple	Valved	1 1/4 NPT (Int)	1 1/4 in	34,500 kPa (5000 PSI)
4	2P-8337	Coupler	Valved	1 1/4 NPT (Int)	1 1/4 in	34,500 kPa (5000 PSI)

Not Shown:

Part No.	Description	Type	Connection Thread (Type)	Nominal Size	Operating Pressure
Not Shown					
1P-2375	Nipple	Valved	3/8 NPT (Ext)	3/8 in	69 000 kPa (10,000 PSI) (Normal Service Press coupled operation only)
1P-2376	Coupler	Valved	1/4 NPT (Int)	3/8 in	69 000 kPa (10,000 PSI) (Normal Service Press coupled operation only)
2P-8335	Coupler	Open	1 1/4 NPT (Int)	1 1/4 in	12,070 kPa (1750 PSI)
2P-8336	Nipple	Valved	1 1/4 NPT (Int)	1 1/4 in	12,070 kPa (1750 PSI)
2P-8337	Coupler	Valved	1 1/4 NPT (Int)	1 1/4 in	12,070 kPa (1750 PSI) and 34,500 kPa (5000 PSI)
3P-2232	Coupler	Valved	3/8 NPT (Int)	3/8 in	20,700 kPa (3000 PSI)
3P-2233	Coupler	Valved	3/8 NPT (Ext)	3/8 in	20,700 kPa (3000 PSI)
3P-2234	Nipple	Valved	3/8 NPT (Int)	3/8 in	20,700 kPa (3000 PSI)
3P-2235	Nipple	Open	3/8 NPT (Int)	3/8 in	20,700 kPa (3000 PSI)
3P-2236	Nipple	Open	3/8 NPT (Ext)	3/8 in	20,700 kPa (3000 PSI)
6V-3965	Nipple	Valved	9/16 SAE (Ext)	1/4 in	41,500 kPa (6000 PSI)
6V-3966	Nipple	Valved	1/4 NPT (Ext)	1/4 in	41,500 kPa (6000 PSI)
6V-3989	Nipple	Open	1/4 NPT (Int)	1/4 in	41,500 kPa (6000 PSI)
6V-4142	Nipple	Open	1/8 NPT (Int)	1/4 in	41,500 kPa (6000 PSI)
6V-4143	Coupler	Valved	1/8 NPT (Int)	1/4 in	41,500 kPa (6000 PSI)
6V-4144	Coupler	Valved	1/4 NPT (Int)	1/4 in	41,500 kPa (6000 PSI)

HYDRAULIC SYSTEM TOOLS

Quick Disconnect Couplings

Model Usage: Most Cat® Models with pressure up to 41,500 kPa (6000 PSI)

Warranty: Caterpillar® Six Months



- Small quick disconnect couplings with good sealing ability for pressures up to 41,500 kPa (6,000 PSI)
- Valved nipples can be permanently installed in test points of current Cat® hydraulic, transmission, engine oil, or cooling systems so that pressures can be quickly determined throughout machine
- 2 types of valved couplers available for connecting gauges, hoses, and snubber valves to valved nipples on machine
- 2 additional plain nipples available for hose to gauge or snubber valve to gauge connection
- 6V-0852 Protective Dust Caps are available for the 6V-3965 and 6V-3966 Valved Nipples

Item	Part No.	Description
Valved Couplers		
1	6V-4144	Coupler Assembly Internal, 1/4 in NPT
2	301-7445	Valved Coupler, Internal, 9/16 in-18 STOR
2	6V-4143	Coupler Assembly Internal, 1/8 in NPT
Valved Nipples		
—	8T-3613	Valved Nipple, External, 1/8 in NPT
3	6V-3965	Nipple Assembly, External, 9/16 in SAE thd
4	6V-3966	Nipple Assembly, External, 1/4 in NPT
Plain Nipples		
5	6V-3989	Plain Nipple, Internal, 1/4 in NPT
6	6V-4142	Plain Nipple, Internal, 1/8 in NPT
High Temp. Valved Nipples		
—	6V-4433	Valved Nipple, External, 9/16 in SAE thd
Auto Brake Fluid Valved Nipples		
—	6V-7691	Valved Nipple, External, 1/4 in NPT
—	8T-3614	Valved Nipple, External, 1/8 in NPT
Auto Brake Fluid Valved Coupler		
—	6V-7690	Valved Coupler, Internal, 1/4 in NPT
ORFC Valved Nipple		
—	8C-6416	Valved Nipple, ORFC; use with 6V-8554 Nut

Quick Disconnect Couplings and Hoses

Model Usage: M300 Series Wheeled Excavators; 953C, 963C, 973C, 933, and 939 Track Loaders; and D3C, D4C, D5C, D6R, D7R, D8R, and D9R Differential Steering Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to diagnostically test any component or machine requiring 68,950 kPa (10,000 PSI) hoses and fittings
- Highest pressure-rated hose and fittings of this type in the industry
- Rated at 4:1 minimum burst pressure

Quick Disconnect and Hoses

- Used to diagnostically test pumps and transmissions rated at 68,950 kPa (10,000 PSI)
- Used with 344-7922, 344-7923, and 344-7924 Hose Assemblies
- Valved coupler and nipple will not interchange with lower pressure 41,500 kPa (6,000 PSI) nipple and coupler
- Hoses made of tough thermoplastic material

Dust Cap and Plug

- Used to provide contamination protection
- Used with 187-3546 Coupler and 183-3547 Nipple
- Made of plastic compound

Specifications

- Pressure rating: 68,950 kPa (10,000 PSI)
- Minimum hose burst ratio rating: 4:1
- Nipple threads: 9/16-18, male STOR
- Coupler threads: 9/16-18, female STOR
- Hose end threads: 9/16-18, male STOR
- Hose inside diameter: 4.78 mm (0.188 in)

Item	Part Number	Description
1	187-3546	Quick Disconnect Coupler
2	187-3547	Quick Disconnect Nipple
3	187-9010	Dust Plug
4	187-9008	Dust Cap
not shown	344-7922	Hose Assembly, 3.1 m (10.0 ft)
not shown	344-7923	Hose Assembly, 4.3 m (14.0 ft)
not shown	344-7924	Hose Assembly, 5.5 m (18.0 ft)

Connector Plates for Hydraulic System Flushing

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months



- Used for flushing hydraulic systems on Cat® machines
- Used between hose flanges which are joined together during flushing process; provide sealing surface for O-ring seals in flange faces

Plate	Bolt Hole Spacing	Bolt Hole Diameter	Center Hole Diameter	Thickness
5C-2268	23.80 x 50.80 mm (0.937 x 2.000 in)	10.49 mm (0.413 in)	19.05 mm (0.75 in)	5.99 mm (0.236 in)
5P-9707	36.50 x 79.38 mm (1.437 x 3.125 in)	16.66 mm (0.656 in)	38.10 mm (1.50 in)	6.35 mm (0.250 in)
8K-2574	31.75 x 66.68 mm (1.250 x 2.625 in)	13.13 mm (0.517 in)	31.75 mm (1.25 in)	6.35 mm (0.250 in)
8K-4977	27.76 x 57.15 mm (1.093 x 2.250 in)	11.99 mm (0.472 in)	25.40 mm (1 in)	6.71 mm (0.264 in)

Quick Disconnect Fittings

Model Usage: All Models

Warranty: Caterpillar® Six Months

Quick Disconnect Couplers and Nipples

- Used to quickly connect high pressure hoses (extensively used for hydraulic flow testing with hydraulic test benches and portable flow meters, for hydraulic hammers on excavators, and any application where high pressure quick disconnects are needed)
- Designed as screw-to-connect high pressure fittings (will not come uncoupled during rugged use or abuse)
- Burst pressure provides 3 1/2 to 1 safety factor
- Valved for clean, non-spill field application
- Dust caps and dust plugs available where dirt and other contaminates are present
- Repair kits available for all sizes and contain all seals to overhaul quick disconnects
- Used with 1U-9551 Portable Hydraulic Flowmeter and 1U-8761 Portable Hydraulic Flowmeter
- Working pressure of all couplers and nipples: 41,340 kPa (6000 PSI)
- Flow rate: 303 lpm (80 gpm) with a 690 kPa (100 PSI) pressure drop
- Operating pressure: 41,340 kPa (6000 PSI)
- Burst pressure: 137,800 kPa (20,000 PSI)

Flow Test Fittings

- Used to adapt various applications when STOR, ORFS, or metric threads are present
- Working pressure: 41,340 kPa (6,000 PSI)
- 4C-5089 Elbow: 1 5/16 in-12 STOR x 1 3/16 in-12 ORFS 90° Swivel
- 4C-5090 Coupling: 1 5/16 in-12 STOR (M30 x 2) Swivel
- 4C-5091 Coupling: 1 5/16 in-12 STOR (M30 x 2)

Hose End Fittings

- Used to make hydraulic hoses for field flow testing, test benches, or shop oil filtering
- Used with 5P-1010 and 5P-0477 XT5 Sleeves (assembled with Cat® Hose Press Tooling)
- Helps eliminate leaks and need for additional thread adapters
- Available with STOR (Straight Thread O-ring) style threads
- Working Pressure: 41,340 kPa (6,000 PSI)
- 4C-8767 Coupling: 25.4 mm (1 in) XT5 Hose x 1 5/16 in-12 External STOR with O-ring
- 4C-6461 Coupling: 31.75 mm (1 1/4 in) XT5 Hose x 1 5/8 in-12 External STOR with O-ring
- 4C-6462 Coupling: 31.75 mm (1 1/4 in) XT5 Hose x 1 5/16 in-12 External STOR with O-ring

Connection

- for 9U-5075 and 9U-5076: 19.05 mm (3/4 in) NPT female port
- for 4C-6481 and 4C-6482: 1 5/16 in-12 STOR
- for 4C-5093 and 4C-5094: 1 5/8 in-12 STOR

Thread Adapters

- Working pressure: 41,340 kPa (6,000 PSI)
- 4C-5092 Coupling: 1 5/16 in-12 Internal STOR x 1 5/8 in-12 External STOR
- 4C-5088 Coupling: 25.4 mm (1 in) NPT Internal Pipe thd x 1 5/8 in-12 External STOR
- 4C-5087 Coupling: 1 5/8 in-12 x 1 5/8 in-12 STOR Male Union

Reference

- NEHT5000, Tool Operating Manual

HYDRAULIC SYSTEM TOOLS

Couplers and Nipples Usage Chart



Coupler and Nipple Usage Chart

Size	Description	Part No.	Dust Cap	Dust Plug	Repair Kit
19.05 mm (3/4 in)	Coupler	9U-5076	—	9U-5083	—
19.05 mm (3/4 in)	Nipple	9U-5075	9U-5085	—	—
25.4 mm (1 in)	Coupler	4C-6481	—	9U-5084	9U-5078
25.4 mm (1 in)	Nipple	4C-6482	9U-5086	—	9U-5081
31.75 mm (1 1/4 in)	Coupler	4C-5094	—	—	9U-5079
31.75 mm (1 1/4 in)	Nipple	4C-5093	—	—	9U-5082

Item	Part Number	Description	Size
1	9U-5076	QD Coupler	19.05 mm (3/4 in)
2	9U-5083	Dust Plug	19.05 mm (3/4 in)
3	9U-5085	Dust Cap	19.05 mm (3/4 in)
4	9U-5075	QD Nipple	19.05 mm (3/4 in)
5	4C-6481	QD Coupler	25.4 mm (1 in)
6	9U-5084	Dust Plug	25.4 mm (1 in)
7	9U-5086	Dust Cap	25.4 mm (1 in)
8	4C-6482	QD Nipple	25.4 mm (1 in)
9	4C-5094	QD Coupler (263-2839 Dust Cap)	31.75 mm (1 1/4 in)
10	4C-5093	QD Nipple (201-8057 Dust Cap)	31.75 mm (1 1/4 in)
Not shown			
—	9U-5078	Coupler Repair Kit	25.4 mm (1 in)
—	9U-5079	Coupler Repair Kit	31.75 mm (1 1/4 in)
—	9U-5081	Nipple Repair Kit	25.4 mm (1 in)
—	9U-5082	Nipple Repair Kit	31.75 mm (1 1/4 in)

Flow Test Fittings and Thread Adapters



Item	Part No.	Description
1	4C-5088	Coupling
2	4C-5087	Coupling
3	4C-5091	Coupling
4	4C-5090	Coupling
5	4C-5089	Elbow
6	4C-5092	Coupling

Hose End Fittings



Part No.	Description
4C-8767	Hose Coupling

Dust Cap, Plug, and Nipple Assembly

Model Usage: All Cat® Machines

Warranty: Caterpillar® Six Months



- Used to seal valved and non-valved nipples and couplings
- Provide positive sealing and padded protection for nipples and couplings

7X-7646 Nipple Assembly

- Low pressure quick disconnect nipple:
  - Working pressure: 3000 PSI
  - Burst pressure: 12,000 PSI

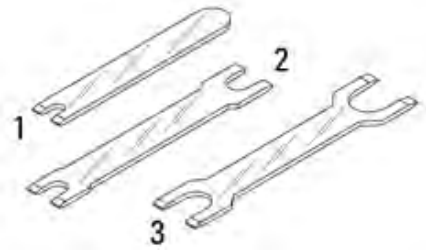
Item	Part Number	Description	Use
1	7X-7645	Dust Cap	7X-7646 Nipple Assembly, 8C-9024 Nipple Assembly
2	7X-7646	Nipple Assembly	Machines, tool groups, and dealer shop equipment
3	7X-7647	Dust Plug	8C-9025 Coupler
4	7X-7648	Dust Cap	8C-7545 Nipple Assembly

Tool Kit

Essential Tool

Model Usage: 450E Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to properly disconnect snap-to-connect hydraulic fittings during service procedures
- Comes in pouch which includes 3 wrenches for 5 coupler sizes

Reference

- KENR5485, Power Train Disassembly and Assembly Service Manual

Item	Part Number	Description	Size
—	304-1165	Tool Kit	—
Service/Repair Parts			
1 [a]	304-1166	STC Wrench	-06
2 [a]	304-1167	STC Wrench	-08 and -10
3 [a]	304-1168	STC Wrench	-12 and -16
Not Shown	304-2721	Tool Pouch	—

a. Not Serviced

Adapter Assembly, Hose Assembly

Model Usage: 205, 206, 211, 212, 213, 214 and 224 Excavators

Warranty: Caterpillar® Six Months



- Needed when pressure testing hydraulic excavators
- Both have working capacity of 41,400 kPa (6,000 PSI)
- 8T-5115 Hose Assembly has M16X2-6H female threaded couplings, which are compatible with pressure nipples on the hydraulic excavators
- 8T-5114 Adapter Assembly has M16X2-6G male threads and 9/16-18-2B female threads
- 8T-5114 used with 6V-3965 Nipple makes 8T-5115 Hose Assembly and pressure nipples on machines compatible with standard Quick Disconnect Couplings used on Cat® test equipment; 8T-5114 Adapter Assembly and 6V-3965 Nipple must always be installed in one end of 8T-5115 Hose Assembly before attaching hose assembly to pressure nipple on machines

Part Number	Description
8T-5114	Adapter Assembly
8T-5115	Hose Assembly

Hydraulic Hose for Diagnostic Testing

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

- For diagnostic test applications primarily with 5P-3600 Flow Meter and discontinued 6V-4160 Transmission Test Groups
- Lightweight, easy to coil and resist expansion, minimizing accumulator effect

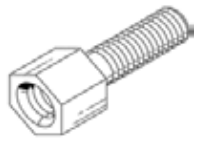
Part No.	Pressure Rating	Thread Connections	Hose Inside Diameter	Hose Length
177-7860	41,500 kPa (6,019.06 PSI)	1/8-27-NPTF (both ends)	3.2 mm (0.13 in)	304 cm (10 ft)
177-7861	41,500 kPa (6,019.06 PSI)	1/8-27-NPTF (both ends)	3.2 mm (0.13 in)	427 cm (14 ft)
177-7862	41,500 kPa (6,019.06 PSI)	1/8-27-NPTF (both ends)	3.2 mm (0.13 in)	549 cm (18 ft)
1U-5757	41,500 kPa (6,019.06 PSI)	1/8-27-NPTF 7/16-20-thread	2 mm (0.08 in)	183 cm (6 ft)

HYDRAULIC SYSTEM TOOLS

Test Adapter

Model Usage: M312, M315, M318, M320 Wheeled Excavators

Warranty: Caterpillar® Six Months



- Used to test and adjust travel motor de-stroke point
- Adapter has #6 SAE O-ring port for 6V-3965 Valved Quick Disconnect Nipple and 3J-1907 O-ring Seal
- Allows use of standard quick disconnect couplers used on Cat® test equipment

Reference

SENR6261, Testing and Adjusting M300 Family Excavators Hydraulic Systems

Specifications

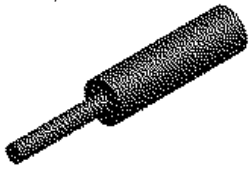
- Working pressure: 41,500 kPa (6,000 PSI)
- Male end: M12 x 1.0 thread
- Female end: #6 SAE O-ring port

Part Number	Description
126-3993	Test Adapter

Track Blocks

Model Usage: 307C thru 349E Excavators

Warranty: Caterpillar® Six Months



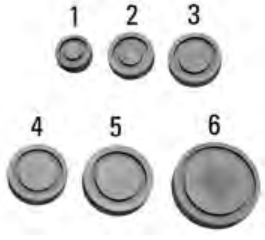
- Used to retain track movement on machines for testing relief pressure
- Material, steel

Part No.	Models Used	Dimensions	Weight
418-3610	311D, 312E/D, 313D, 314E/D	350 x 60 mm (13.8 x 2.4 in)	5.1 kg (11.2 lb)
418-3611	315D, 316E, 318E/D, 319D, 320E/D, 321D, 323E/D, 324E/D, 325E/D, 326D, 328D, 329E/D	350 x 65 mm (13.8 x 2.6 in)	7.0 kg (15.4 lb)
418-3612	336E/D, 340D, 345E/D, 349E/D	420 x 75 mm (16.5 x 3.0 in)	11.6 kg (25.6 lb)
421-2325	307C/D, 308C/D/E	350 x 52 mm (13.8 x 2.05 in)	4 kg (8.8 lb)

Blocking Covers for Hydraulic Components

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



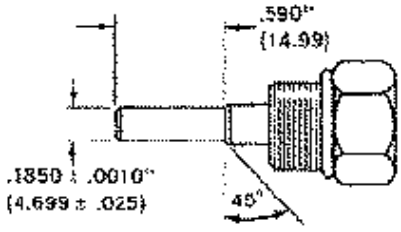
- Used to provide correct fit in the 4 bolt flanges when disconnecting hydraulic hose on machines equipped with XT-5 Hose (34,500 kPa [5,000 PSI]) hydraulic system
- With these covers installed, full system pressure can be applied without loss of hydraulic fluid or damage to seal
- Can also be used to isolate relief valve pressure readings

Item	Blocking Cover	Seal	Hydraulic Hose Size
1	5P-0045	1P-3700	12.70 mm (0.50 in)
2	5P-0046	1P-3702	19.05 mm (0.75 in)
3	5P-0047	1P-3703	25.40 mm (1 in)
4	5P-0048	1P-3704	31.75 mm (1.25 in)
5	5P-0049	1P-3705	38.10 mm (1.50 in)
6	5P-0050	1P-3709	50.80 mm (2 in)

Stop

Model Usage: 12G, 14G, 16G, 130G and 140G Motor Graders

Warranty: Caterpillar® Six Months



- Used to block pump servo valve when testing maximum pressure relief valve on 14G and 16G Motor Graders
- Stop assembly can be modified, as indicated below, so it can be used to obtain maximum pressure relief valve setting when tee testing 12G, 130G and 140G Motor Graders

Part Number	Description
5P-2683	Stop

Medium Pressure Quick Disconnect Couplings

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



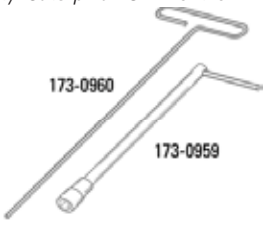
- Replacement parts for earlier adapters for hydraulic system component testing
- Use of these components should be limited to testing at pressures below 34,500 kPa (5,000 PSI)

Item	Part No.	Description
1	2P-8334	Nipple, 1 1/4 in Plain 1 1/4 in NPT
2	2P-8335	Coupler, 1 1/4 in Plain 1 1/4 in NPT
3	190-8317	Nipple, 1 in Valved with 1 1/4 in NPT
3	190-8319	Nipple
3	2P-8336	Nipple, 1 1/4 in Valved with 1 1/4 in NPT
4	2P-8337	Coupler As — High Pressure Valved with 1 1/4 in NPT 190-8316 Coupler — 1 in Valved with 1 1/4 in NPT 190-8318 Coupler — 1 in Valved with 1 in NPT

T Handle Hex Wrench

Model Usage: HH45, HH55, HH65, and HH75 Skogsjan Tree Harvester Heads

Warranty: Caterpillar® Six Months



- Adjusts bypass relief valve (both tools used together)
- Easy one-hand operation makes adjustment procedure much faster and easier
- Eliminates need for open end wrenches
- Used in tight spaces where conventional tools will not work
- Socket size: 14 mm (0.55 in)
- Hex wrench: 4 mm (0.15 in)

Part Number	Description
173-0960	T Handle Hex Wrench

Needle Valve

Model Usage: All Challengers

Warranty: Caterpillar® Six Months



- Used in circuit when testing and adjusting hydraulic pump margin pressure
- Used with FT2220 Hydraulic System Test Hose Assembly
- May be used in any hydraulic circuit with pressure of 34,450 kPa (5000 PSI) or less
- Valve body made from steel; needle from stainless steel

Reference

- SENR3346, Service Manual SENR4969, Service Manual

Specifications

- Maximum flow: 57 lpm (15.0 gpm)
- Maximum pressure: 34,450 kPa (5,000 PSI)
- Pressure at maximum flow: 330 kPa (48.0 PSI)
- Port size: 1/2-12 NPTF

Part Number	Description
9U-5841	Needle Valve

Fitting Groups — JIC and ORFS

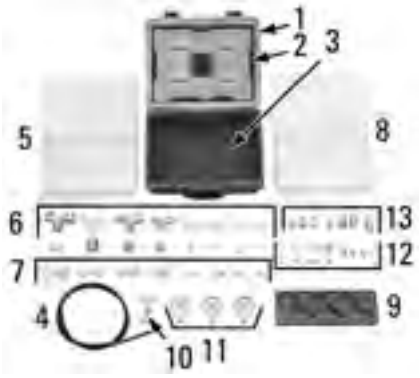
Model Usage: All Models

Warranty: Caterpillar® Six Months

- 4C-4890 JIC Fitting Group replaces discontinued 6V-4161 Pressure Gauge Kit; 4C-4890 contains essentially the same fittings as discontinued 6V-4161 but costs less
- 4C-4890 and 4C-4892 Fitting Groups used to pressure test pilot, main hydraulic and steering systems on all Cat® products; can be used on competitive machines when JIC or ORFS fittings are needed
- Groups 4C-4890 and 4C-4892 include all items in figures
- Included with tees, plugs, caps, adapters, hose, valve and quick disconnects are 3 oil-filled gauges with test ranges of 4,000 kPa (580 PSI), 25,000 kPa (3600 PSI) and 60,000 kPa (8,700 PSI)
- Packaged in lightweight, durable carrying case containing 2 modular fitting boxes; limited space for expansion of number and type of fittings; lid decals list each fitting part number, description and location
- Compact, time-saving fitting kits

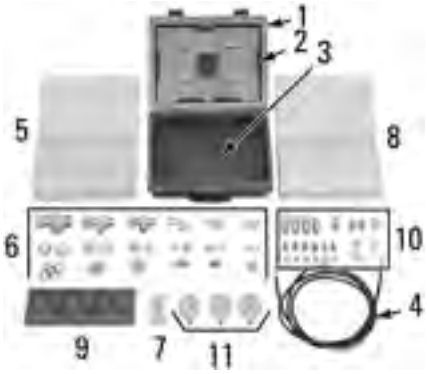
HYDRAULIC SYSTEM TOOLS

JIC Fitting Group



Item	Part No.	Description
—	4C-4890	JIC Fitting Group
1	4C-3975	Plastic Case
2	4C-3721	Foam Block
3	4C-3719	Foam Block
4	1U-5757	Hose Assembly
5	4C-3725	Utility Box
6	052-0572	Swivel Tee (7/16 JIC)
6	061-9258	Swivel Tee (9/16 JIC)
6	5P-2242	Swivel Tee (1 5/16 JIC)
6	5P-4982	Swivel Tee (1/2 JIC)
6	5P-4984	Swivel Tee (1 3/16 JIC)
6	5P-5003	Reducer (7/16 JIC Ext. x 1 5/16 JIC Int.)
6	5P-5004	Reducer (7/16 JIC Ext. x 1 3/16 JIC Int.)
6	5P-5005	Reducer (7/16 JIC Ext. x 1 1/16 JIC Int.)
6	5P-5006	Reducer (7/16 JIC Ext. x 7/8 JIC Int.)
6	5P-5007	Reducer (7/16 JIC Ext. x 3/4 JIC Int.)
6	5P-5008	Reducer (7/16 JIC Ext. x 9/16 JIC Int.)
6	5P-5009	Reducer (7/16 JIC Ext. x 1/2 JIC Int.)
6	6S-5693	Swivel Tee (3/4 JIC)
6	6V-4144	Valved Coupler, (1/4 NPT Int.)
6	7D-0978	Swivel Tee (1 1/16 JIC)
6	9S-0176	Swivel Tee (7/8 JIC)
7	2P-9697	Plug (7/8 JIC)
7	3R-6789	Cap (1 5/16 JIC)
7	5P-0405	Cap (1/2 JIC)
7	5P-2299	Plug (1 5/16 JIC)
7	5P-2909	Plug (3/4 JIC)
7	5P-4299	Plug (1 3/16 JIC)
7	5P-4996	Plug (1/2 JIC)
7	6J-7366	Cap (7/8 JIC)
7	8L-9137	Cap (13/16 JIC)
7	8S-4950	Cap (9/16 JIC)
7	8S-4951	Cap (3/4 JIC)
7	9L-8493	Cap (7/16 JIC)
7	9S-5518	Plug (7/16 JIC)
7	9S-8895	Plug (1 1/16 JIC)
7	9S-8896	Cap (1 1/16 JIC)
7	9S-8927	Plug (9/16 JIC)
8	4C-4463	Utility Box
8	4C-4464	Foam Block
10	1S-8937	Needle Valve
11	8T-0855	Gauge 4000 kPa (0 – 580 PSI)
11	8T-0859	Gauge 25,000 kPa (0 – 3600 PSI)
11	8T-0861	Gauge 60,000 kPa (0 – 8700 PSI)
12	1J-9671	O-ring Seal
12	2P-1314	Connector (7/16 JIC Ext. x 9/16 – 18 Ext.)
12	3J-1907	O-ring Seal
12	3J-7352	Connector (7/16 JIC Ext. x 7/16-20 Ext.)
12	3J-7354	O-ring Seal
12	3K-0360	O-ring Seal
12	4S-6399	Connector (7/16 JIC Ext. x 1/4 NPT Ext.)
12	7J-4026	Elbow (90°, 7/16 JIC Ext. x 9/16-18 Ext.)
12	8L-6557	Connector (7/16 JIC Ext. x 1/8 NPT Ext.)
13	5P-8998	Nipple (1/4 NPT Ext.)
13	6V-3966	Valved Nipple Assembly (1/4 NPT Ext.)
13	6V-3989	Non-Valved Nipple (1/4 NPT Int.)
13	6V-4143	Valved Coupler, (1/8 NPT Int.)

ORFS Fitting Group



Item	Part No.	Description
—	4C-4892	ORFS Fitting Group
1	4C-3975	Plastic Case
2	4C-3721	Foam Block
3	4C-3719	Foam Block
4	177-7860	Hose
5	4C-3725	Utility Box
6	4J-5477	O-ring Seal
6	5K-9090	O-ring Seal (not serviced)
6	6V-3966	Nipple, QD, (1/4 EXT NPT)
6	6V-8397	O-ring Seal
6	6V-8398	O-ring Seal
6	6V-9507	Plug (9/16 EXT ORFS)
6	6V-9508	Plug (11/16 EXT ORFS)
6	6V-9509	Plug (13/16 EXT ORFS)
6	6V-9510	Plug (1 EXT ORFS)
6	6V-9511	Plug (1 3/16 EXT ORFS)
6	6V-9512	Plug (1 7/16 EXT ORFS)
6	6V-9746	O-ring Seal
6	6V-9828	Cap (9/16 INT ORFS)
6	6V-9829	Cap (11/16 INT ORFS)
6	6V-9830	Cap (13/16 INT ORFS)
6	6V-9831	Cap (1 INT ORFS)
6	6V-9832	Cap (1 3/16 INT ORFS)
6	6V-9833	Cap (1 7/16 INT ORFS)
6	7J-9108	O-ring Seal
6	7X-0871	Swivel Tee (13/16 INT ORFS x 13/16 EXT ORFS x 9/16 INT SAE)
6	7X-0872	Swivel Tee (1 INT ORFS x 1 EXT ORFS x 9/16 INT SAE)
6	7X-0873	Swivel Tee (1 3/16 INT ORFS x 1 3/16 EXT ORFS x 9/16 INT SAE)
6	7X-2444	Swivel Tee (9/16 INT ORFS x 9/16 EXT ORFS x 9/16 INT SAE)
6	8T-4834	Swivel Tee (1 7/16 INT ORFS x 1 7/16 EXT ORFS x 9/16 INT SAE)
6	8T-8902	Swivel Tee (11/16 INT ORFS x 11/16 EXT ORFS x 9/16 INT SAE)
7	1S-8937	Needle Valve
8	4C-4463	Utility Box
9	4C-4464	Foam Block
10	3J-1907	O-ring Seal
10	3K-0360	O-ring Seal
10	5P-6944	Adapter (3/4 EXT SAE x 9/16 INT SAE)
10	5P-8998	Nipple (1/4 EXT NPT x 1/4 EXT NPT)
10	6V-3965	Nipple, QD, (9/16 EXT SAE)
10	6V-4143	Coupler, QD, (1/8 INT NPT)
10	6V-4144	Coupler, QD, (1/4 INT NPT)
10	8T-4188	Adapter Union (1/8 INT NPT x 1/4 INT NPT)
11	8T-0855	Gauge 4,000 kPa (0 – 580 PSI)
11	8T-0859	Gauge 25,000 kPa (0 – 3600 PSI)
11	8T-0861	Gauge 60,000 kPa (0 – 8700 PSI)

HYDRAULIC SYSTEM TOOLS

Hydraulic Testing Group



- Designed for general purpose pressure measurements
- Provides versatile and simple method for checking pressure in implement and steering hydraulic systems
- Replaces discontinued 6V-7940 Hydraulic Test Group
- Also replaces discontinued 5S-5123 Hydraulic Testing Group
- Liquid filled gauges, which are more durable and accurate
- Pressure tap assemblies equipped with 6V-3966 Nipple Assembly which allows a single gauge to be quickly connected to hydraulic system
- More flexible hose with higher working and minimum burst pressure than former hose
- Group includes all items in figure

Item	Part No.	Description	Qty.
—	8T-5320	Hydraulic Testing Group	—
1	6V-7145	Case	—
3	8T-7686	Block — Tool Holder	—
4	3J-1907 a	Seal-O-Ring — STOR (SAE 9/16-18)	5
4	7M-8489	Adapter Assembly	—
5	8T-0859	Gauge, 25,000 kPa (3600 PSI)	—
6	8T-0857	Gauge, 13,800 kPa (2000 PSI)	—
7	1J-9671	Seal	6
7	3D-2824	Seal-O-Ring — STOR (SAE 1 1/16-12)	—
7	3J-7354	Seal	6
7	3K-0360	Seal-O-Ring — STOR (SAE 3/4-16)	6
7	5P-2937	Adapter — O-ring to Pipe	—
7	5P-3415	Adapter	—
7	5P-3501	Adapter — STOR	—
7	5P-4674	Adapter — Straight Thread — O-Ring	—
7	5P-4675	Adapter — STR	—
8	8S-7169	Coupling — Pipe Hexagon	2
9	6V-3965	Nipple Assembly	—
10	2N-2543	Plug	—
10	2S-4078	Seal-O-Ring — STOR (SAE 1 5/8-12)	—
11	2J-2668	Cover	—
11	4F-7391	Seal	5
11	4F-7952	Seal	5
11	4J-8996	Seal	5
11	5F-1678	Seal	5
11	5F-7054	Seal	5
11	5H-4017	Cover, 12.70 mm (0.50 in) line	—
11	5H-4018	Cover, 19.05 mm (0.75 in) line	—
11	5H-4019	Cover, 25.40 mm (1.00 in) line	—
11	5H-4020	Cover, 31.75 mm (1.25 in) line	—
11	7F-8267	Seal	5
11	8S-7668	Cover, 15.75 mm (0.62 in) line	2
12	0S-1587	Bolt	4
12	0S-1591	Bolt	4
12	0T-0768	Bolt	4
12	1A-9579	Bolt	4
13	6V-7944	Plate Assembly, 33.3 mm (1.312 in) diameter 12.70 mm (0.50 in) hose	—
13	6V-7945	Plate Assembly, 41.4 mm (1.63 in) diameter 19.05 mm (0.75 in) hose	—
13	6V-7946	Plate Assembly, 47.5 mm (1.87 in) diameter 25.4 mm (1.0 in) hose	—
13	6V-7947	Plate Assembly, 54.1 mm (2.13 in) diameter 31.75 mm (1.25 in) hose	—
13	6V-7948	Plate Assembly, 63.5 mm (2.50 in) diameter 38.10 (1.50 in) hose	—
13	6V-7949	Plate Assembly, 38.1 mm (1.50 in) diameter 15.75 mm (0.62 in) hose	—
14	6V-3966	Nipple Assembly	3
15	177-7860	Hose Assembly	—
16	6V-4143	Coupler Assembly	2

a. Item 4 and item 7

Test Kit

Essential Tool

Model Usage: All Cat Oil Coolers

Warranty: Caterpillar® Six Months



- Used to test all Cat® oil coolers for leaks
- Prevents unnecessary oil cooler replacement 136-3602 Drive Adapter

Reference

- REHS1758, Test Procedure

Part Number	Description
NEEG2976	Decal

Part Number	Description
1P-3703	Seal, 38.66 mm (1.52 in) outside diameter
1P-3704	Seal, 44.75 mm (1.76 in) outside diameter
1P-3708	Seal, 64.2 mm (2.52 in) outside diameter
210-6990	Digital Pressure Gauge (0 to 500 PSI)
242-7135	Test Kit
4C-7056	Hose
4C-8858	Coupler
6V-7145	Case
8T-2885	Seal, 83.4 mm (3.28 in) outside diameter

Flushing Adapter

Model Usage: 245 Excavator

Warranty: Caterpillar® Six Months



- Required for flushing stick cylinder
- Has 3 interconnecting ports so that a loop of 3 hoses can be connected to the three ports on stick cylinder

Part Number	Description
6V-0102	Flushing Adapter

Flowmeter

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

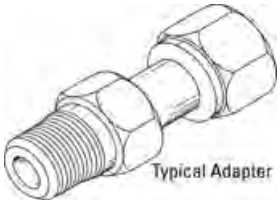


- Low cost flowmeters for measuring hydraulic flow in applications within their capacities
- Can be installed in any position and are not affected by shock or vibration
- Similar to 6V-7788 Flowmeter; all 3 flowmeters incorporate a variable orifice which measures line flow with less restriction (pressure drop) than 5P-3600 Flowmeter

Part Number	Description	Range	Maximum Pressure	Length	Inlet/Outlet Connections
8T-0454	Flowmeter	20 — 200 lpm (5 — 50 gpm)	20,700 kPa (3,002 PSI)	Approx. 300 mm (12 in)	1 1/4 in NPT
8T-0456	Flowmeter	50 — 550 lpm (10 — 150 gpm)	20,700 kPa (3,002 PSI)	Approx. 300 mm (12 in)	1 1/4 in NPT

Adapter

Warranty: Caterpillar® Six Months



- Used to adapt fluid ports for measuring flow in hydraulic and cooling systems
- Low-cost adapters are used with other field service components
- Three sizes fit most Cat® machines

Part Number	Male End	Female End
197-8947	1/4 NPTF	9/16-18 ORFS swivel
197-8948	1/2 NPTF	13/16-16 ORFS swivel
197-8949	3/4 NPTF	1 3/16-12 ORFS swivel

HYDRAULIC SYSTEM TOOLS

Tools needed for checking transmission cooler flow



Tools needed for checking transmission cooler flow on 943, 953, 963 and 973 Track-Type Loaders (Sold Separately)

Item	Part Number	Description
1	8T-0454	Flowmeter
2	1P-5598	Pipe Nipple, 1 1/4 in NPT
3	1Y-7453	Tee
4	9B-3523	Reducing Bushing
5	6V-3966	Nipple Assembly
6	6V-4144	Coupler Assembly
7	8T-0854	Gauge — Pressure, 9-1000 kPa (1-150 PSI)
8	8F-8306	Reducing Bushing, 1 1/4 in NPT to 3/4 in NPT (2)
9	4S-6678	Flared Connector, 37° (2) (Use for 943 and 953)
10	9D-9262	Hose (Use for 943 and 953)
11	6K-3459	Flared Connector, 37° (2) (Use for 963 and 973)
12	134-8416	Hose (Use for 963 and 973)

Flowmeter

Model Usage: D8L, D9L and D10 Tractors

Warranty: Caterpillar® Six Months



- Used for measuring flow when diagnosing steering problems using a field test procedure developed to determine amount of leakage in steering clutch and brake compartments
- Direct reading device installed in oil line
- Mounting position, shock, and vibration have little or no effect on operation of new flowmeter

Reference

- SMHS8284, Special Instruction

Specifications

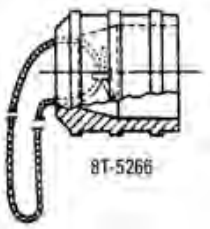
- Range: 5 – 60 lpm (2 – 15 gpm)
- Max. pressure: 20,670 kPa (3,000 PSI)
- Accuracy: ±5% of full scale reading

Part Number	Description
6V-7788	Flowmeter

Cap Assemblies

Model Usage: Most Cat® Models

WWarranty: Caterpillar® Six Months



- For 1 1/4 — 11 1/2 NPTF threaded quick disconnect nipples and couplers
- Designed to prevent contamination when fittings not in use

Part Number	Description
8T-5266	Cap Assembly
2P-8334	Nipple
2P-8336	Nipple

Pressure Limiting Valve

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Protects gauges with maximum working pressures ranging from 30 to 5000 PSI
- Prevents calibration failure, interior damage, and blow out caused by excessive pressure
- Works in 3 pressure ranges: 30 to 120 PSI, 100 to 1100 PSI, and 1000 to 5000 PSI
- Supplied with 3 springs used for adjustment throughout 3 pressure ranges
- Whenever pressure pulses or overpressure occurs, valve automatically shuts off pressure instrument at desired setting
- Needle built into valve for adjusting amount of dampening and can also be used as manual shut off
- Easy to install; uses common 1/4-18 FNPT thread
- Quickly pays for itself in savings from cash repair and replacement charges
- Can also be used to set up 2-gauge system similar to 6V-7830 Tetragauge Group
- Adjustable from 30 to 5000 PSI (210 to 34,500 kPa)
- 1/4-18 FNPT thread
- Maximum working pressure: 5000 PSI (34,500 kPa)

Item	Description
2	Spring, black, 100 — 1,100 PSI (690 — 7,600 kPa)
3	Spring, gold, 1,000 — 5,000 PSI (6,900 — 34,500 kPa)

Item	Part Number	Description
1	1U-9161	Valve-Pressure Limiting [Spring, silver, 30 — 120 PSI (210 — 830 kPa) installer at shipment]

Pressure Differential Gauge Group

Model Usage: See Below

Warranty: Caterpillar® Six Months

- Required to verify and set margin pressure on load-sensing hydraulic systems
- Typical examples for use are 416 and 426 Backhoe Loader hydraulic systems, D8N Track-Type Tractor differential steering, and all current motor grader hydraulic systems
- Can also be used in other applications requiring measurement of differential pressure (deltaP)
- Eliminates need for using 2 gauges and then subtracting to find difference between gauges to obtain margin pressure
- Measures differential pressure continuously, regardless of fluctuations in system pressure

Reference

- 1U-7425 Displacement Gauge Assembly SEHS8979, Special Instruction

Specifications

- Maximum line pressure: 52,400 kPa (7,500 PSI)
- Maximum measurable pressure differential: 3,500 kPa (500 PSI)
- The differential gauge has a magnetic movement.
- Over pressure and pressure spikes will not damage the unit.

Part Number	Description
177-7861	Hose Assembly
1U-5793	Pressure Gauge
1U-5796	Pressure Differential Gauge Group
3J-1907	Seal-O-Ring — STOR (SAE 9/16 — 18)
6V-0484	O-ring Adapter
6V-3072	Case — Plastic
6V-3965	Nipple Assembly
6V-4143	Coupler Assembly
6V-4144	Coupler Assembly
6V-6105	Block
8C-8431	Tee
8T-0859	Gauge — Pressure
8T-0861	Gauge — Pressure

HYDRAULIC SYSTEM TOOLS

Drive Adapter

Model Usage: 205, 206, 211, 212, 213, 214, 224 and Series B, Wheel-Type Excavators

Warranty: Caterpillar® Six Months



- Used to connect drive shaft on hydraulic pumps to drive shaft on test benches
- Adapters bolt directly to 1U-9832 Drive Shaft (SAE 27) found on test benches
- Also used with 1U-9359 Adapter and coupled with standard drive shaft (SAE 55)
- Adapters are internally splined hubs

Item	Part Number	Corresponding Splines	Model
1	9U-5277	45 x 2 x 21 x 9G DIN5480	211B, 212B, 213B, 214B, 224B
2	9U-5275	40 x 2 x 18 x 9G DIN5480	205B
3	9U-5230	B40 x 36 DIN5482 213, 214, 224	—

Splined Adapter

Model Usage: D4H

Warranty: Caterpillar® Six Months



- Internally-splined drive hub used when bench testing D4H hydraulic pumps
- Bolts directly to 1U-9832 Drive Shaft (SAE size 27) or when used with 1U-9359 Adapter can be coupled to size SAE 55 drive shaft supplied standard on large hydraulic test center
- Fits any pump shaft with spline size of 19-tooth, 24/48 pitch

Reference

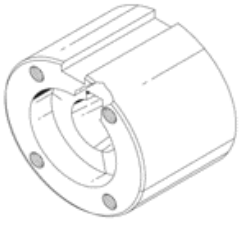
- SEHS6022, "9T-0290 Pump, D4H Implement" Test Procedure, adapter and other required tooling to bench test D4H implement pump

Part Number	Description
4C-4385	Splined Adapter

Drive Adapter

Model Usage: 14H and 16H Motor Graders

Warranty: Caterpillar® Six Months



- Used to connect test bench drive shaft to tapered end of hydraulic pump
- Works on any pump with a SAE J501 44.45 mm (1 3/4 in) diameter tapered pump shaft

Specifications

- Adapter taper: 44.45 mm (1 3/4 in), SAE J501
- Outside diameter: 97.5 mm (3.84 in)
- External keyway width: 16.2 mm (0.637 in)
- Material: Steel

Part Number	Description
136-3602	Adapter

Splined Adapter

Model Usage: Backhoe Loaders

Warranty: Caterpillar® Six Months



- Internally-splined drive hub used when bench testing backhoe loader hydraulic pumps
- Fits any pump shaft with spline size of 15-tooth, 16/32 pitch
- Bolts directly to 1U-9832 Drive Shaft (SAE size 27) or when used with 1U-9359 Adapter can be coupled to standard drive shaft (SAE size 55) on lg. hydraulic test center

References

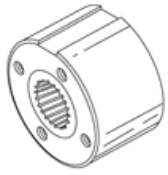
- NEHT6022, Test Procedure; 9T-6857 Pump, 416/428 Backhoe Loader
- NEHT6027, Test Procedure; 9T-4833 Pump, 426, 436, 438 Backhoe Loader (adapter and other required tooling to bench test Backhoe Loader pump)

Part Number	Description
4C-4088	Splined Adapter

Drive Adapter

Model Usage: D3C Track Type Tractor and 933C Track Type Loader

Warranty: Caterpillar® Six Months



- Used to connect test bench drive shaft to spline shaft of pump

Specifications

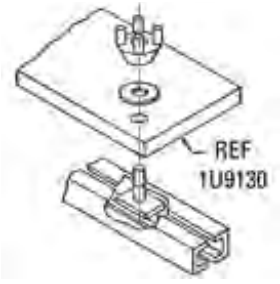
- Number of spline teeth: 21
- Spline pitch: 16/32
- Pressure angle: 30 degrees
- Pitch diameter: 20.638 mm (0.8255 in)
- Keyway width: 16.2 mm (0.64 in)

Part Number	Description
133-2329	Drive Adapter

Bolt Mounting Group

Model Usage: Most Cat Models

Warranty: Caterpillar® Six Months

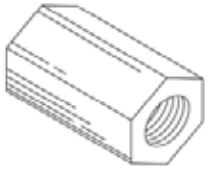


- Provides way to secure 1U-9130 Pump Stand or Transmission Mounting Group to hydraulic test bench bed
- Bolt weldment slides inside rail mounting grooves on most test beds
- Comes complete w/speed bar knob & washer
- Improves speed and ease of mounting and moving components on hyd. test bench bed
- Accepts any mounting rail within 63.5 mm (2.50 in) inside clearance and 20.6 mm (0.81 in) clearance slot

Part Number	Description
4C-4103	Bolt Mounting Group

Adapter Fitting

Warranty: Caterpillar® Six Months



- Used for high pressure testing
- Used with 68,900 kPa (10,000 PSI) high pressure hoses
- Threaded at each end to adapt 1 thread size to another

Specifications

- Maximum working pressure: 68,900 kPa (10,000 PSI)
- Burst ratio: 4:1
- Thread size: 1/4-18 NPT
- Thread size: #6 port, 9/16-18

Part Number	Description
171-1879	Adapter Fitting

Hydraulic Test Fittings and Adapters

Model Usage: "MS" and "E" Family Excavators

Warranty: Caterpillar® Six Months



- Used to connect Cat® hydraulic service tools to hydraulic ports on excavators
- Hydraulic fittings and ports on these excavators are British standard connections; Cat® service tools use SAE standard connections
- Fittings and adapters available for both flow and pressure measurements
- All fittings rated at 6000 PSI working pressure
- Eliminate time spent searching for, and then "stacking" fittings to convert port
- BSPT = British Standard Pipe Tapered Threads
  BSPP = British Standard Pipe Parallel Threads

HYDRAULIC SYSTEM TOOLS

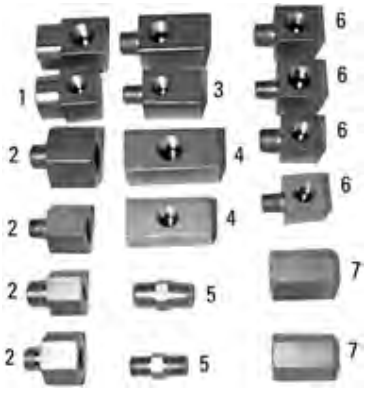
Hydraulic Test Fittings and Adapters for "MS" and "E" Family Excavators (Continued)

Item	Part No.	Description	Application
		Flow Meter Adapters	
1 a	7X-2430	Adapter 1 in SAE standard flange x 5/16 in-12 SAE O-ring male thread	Used to install flow meter in-line between pump and control valve on models 180 thru 450
1 b c	7X-2608	Adapter — 1 1/4 in SAE standard flange x 1 5/16 in-12 SAE O-ring male thread	Used to install flow meter in-line between pump and control valve on models 580 thru 1600
2 b	7X-2612	Adapter — 3/4 in-14 BSPP female x 1 5/16 in-12 SAE O-ring male thread	Used to install flow meter in-line between pump and control valve on models 70 thru 140
3 b	7X-2432	Adapter — 3/4 in-14 BSPP male x 1 5/16 in-12 SAE O-ring male thread	Installs flow meter in-line between pump and control valve on models 70 thru 140
4 c	7X-2470	Adapter — 1 5/8 in-12 SAE O-ring male x 1 5/16 in-12 SAE O-ring female thread	Adapts flow meter return back into the oil return line on models 300 and up
5 a	8C-9029	Adapter — STR 1 5/16 in x 1 5/16 in SAE O-ring male thread union	Used to adapt flow meter return back into the oil return line
		Pressure Test Port Adapters	
10	6V-0407	Seal-1 required	—
10	7X-2431	Adapter — 1/2 in-14 BSPP male x 9/16 in-18 SAE O-ring port	Used to convert BSPP threads in pressure taps to SAE threads
6	7X-2613	Adapter — 1/8 in-28 BSPP male x 9/16 in-18 SAE O-ring port	Used to convert BSPP threads on the model 300 travel drive motor control valve
7	7X-2614	Adapter — 1/4 in-19 BSPP male x 9/16 in-18 SAE O-ring port	Used to convert BSPP threads on the model 180 thru 240 travel drive motor control valve
8	6V-0405	Seal-1 required	—
8	8T-7910	Adapter — 1/4 in-19 BSPP male x 9/16 in-18 SAE port	Used to convert BSPP threads in pressure taps to SAE threads on control valve pilot piston ends
9	7X-2615	Adapter — 3/8 in-19 BSPT male x 9/16 in-18 SAE O-ring port	Used to convert BSPT threads on models 580 thru 1600
		In-Line Tee Fittings	
11	7X-2433	Tee — 1/2 in-14 BSPP swivel x 1/2 in-14 BSPP male x 9/16 in-18 SAE female branch	—
11	7X-2434	Tee — 1/4 in-19 BSPP swivel x 1/4 in-19 BSPP male x 9/16 in-18 SAE female branch	Used to tap into various lines on the machine where pressure taps do not exist
11	7X-2435	Tee — 3/8 in-19 BSPP swivel x 3/8 in-19 BSPP male x 9/16 in-18 SAE female branch	—
		Elbows	
12	7X-2609	Elbows 1/4 in-19 BSPP male x 1/4 in-19 BSPP swivel	Used with pressure port adapters in close quarters on all machines
12	7X-2610	Elbows 3/8 in-19 BSPP male x 3/8 in-19 BSPP swivel	—
12	7X-2611	Elbows 1/2 in-14 BSPP male x 1/2 in-14 BSPP swivel	—
		Plugs (Part 8T-7910 Adapter (1/4 in BSPP) is used to plug hose ends when running diagnostic tests)	
—	8T-7911	Adapter (3/8 in BSPP)	—
—	9S-4685	Plug (3/8 in)	—
—	3J-1907	Seal — O-Ring — STOR (SAE 9/16 — 18)	—

a. Part 7M-8485 Seal — 2 required
b. Part 7M-8485 Seal — 1 required
c. Part 2S-4078 Seal — 1 required

Fittings for 68,900 kPa (10,000 PSI) Hydraulic System

Warranty: Caterpillar® Six Months

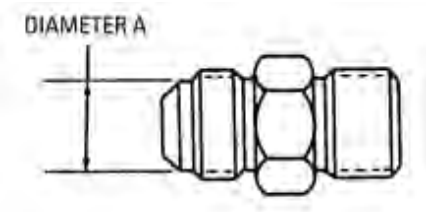


Item	Part No.	Description	Type	Thread A	Thread B	Thread C
1	135-2537	Adapter	90° Elbow	3/8-18 NPT Female	3/8-18 NPT Female	—
1	136-2069	Adapter	90° Elbow	1/4-18 NPT Female	1/4-18 NPT Female	—
2	135-2532	Adapter	Straight	3/8-18 NPT Male	1/4-18 NPT Female	—
2	136-2061	Adapter	Straight	1/4-18 NPT Male	3/8-18 NPT Female	—
2	136-2063	Adapter	Straight	3/8-18 NPT Male	1/2-14 NPT Female	—
2	136-7203	Adapter	Straight	9/16-18 UNF #6 Male	3/8-18 NPT Female	—
3	135-2534	Adapter	Tee	1/4-18 NPT Male	1/4-18 NPT Female	1/4-18 NPT Female
3	136-2062	Adapter	Tee	3/8-18 NPT Male	3/8-18 NPT Female	3/8-18 NPT Female
4	136-2067	Adapter	Tee	1/4-18 NPT Female	1/4-18 NPT Female	1/4-18 NPT Female
4	136-2068	Adapter	Tee	3/8-18 NPT Female	3/8-18 NPT Female	3/8-18 NPT Female
6	135-2533	Adapter	90° Elbow	1/4-18 NPT Male	1/4-18 NPT Female	—
6	135-2535	Adapter	90° Elbow	3/8-18 NPT Male	1/4-18 NPT Female	—
6	136-2059	Adapter	90° Elbow	3/8-18 NPT Male	3/8-18 NPT Female	—
6	136-2060	Adapter	90° Elbow	1/4-18 NPT Male	3/8-18 NPT Female	—
7	136-2065	Adapter	Straight	1/4-18 NPT Female	1/4-18 NPT Female	—
7	136-2066	Adapter	Straight	3/8-18 NPT Female	3/8-18 NPT Female	—

Copper Seals for JIC Fittings (Joint Industry Conference)

Model Usage: JIC Fittings

Warranty: Caterpillar® Six Months



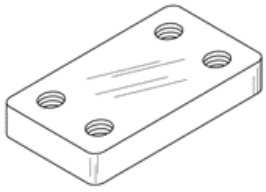
- Used to repair leaking joints between JIC fittings
- Formerly, if JIC connection leaked and slight additional tightening would not stop leak, leaking components had to be replaced; cone shaped soft copper seals can be fitted between sealing surfaces of connection; when connection tightened, soft copper seal deforms and fills scratches or nicks that caused a leak
- To determine size of seal needed, find diameter A as shown in illustration; then use chart to find correct seal part number for diameter A
- After copper seal installed, tighten JIC connection to torque shown in chart

Diameter A	Seal Part Number	Torque
8.6 mm (0.34 in)	6V-7333	30 – 34 N·m (22 – 25 ft-lb)
11.4 mm (0.45 in)	6V-7332	51 – 56 N·m (38 – 41 ft-lb)
14.2 mm (0.56 in)	6V-7331	73 – 79 N·m (54 – 58 ft-lb)
23.9 mm (0.94 in)	6V-7330	102 – 113 N·m (75 – 84 ft-lb)
30.2 mm (1.19 in)	6V-7329	136 – 158 N·m (101 – 117 ft-lb)
38.1 mm (1.50 in)	6V-7328	172 – 190 N·m (127 – 141 ft-lb)
44.4 mm (1.75 in)	6V-7327	215 – 237 N·m (159 – 175 ft-lb)

Cover Plate

Model Usage: Miscellaneous Excavators

Warranty: Caterpillar® Six Months



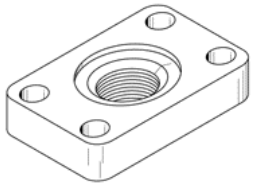
- Used during main hydraulic pump flow test

Part Number	Description
7I-7133	Cover Plate

Flange

Model Usage: Miscellaneous Excavators

Warranty: Caterpillar® Six Months



- Used during main hydraulic pump flow test

Part Number	Description
7I-7151	Flange

HYDRAULIC SYSTEM TOOLS

Hydraulic Test Bench Adapters

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

- Hydraulic test benches have been developed for bench testing hydraulic components such as transmissions, pumps, valves and hydraulic cylinder
- A large number of special adapters are needed to couple the various components to hydraulic test bench for testing; adapters available from bench manufacturers

- SEHS7972, Bench Testing Hydraulic Components, includes list of adapters and their application

Reference

- SEHS7972, Bench Testing Hydraulic Components, list of adapters and their application

Suction Fitting Adapter

Model Usage: RH200/6050, RH400/6090

Product Family: Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months



- Enables dealers to test pumps on large hydraulic test bench after rebuild
- Used in test of Rexroth LA7VSL1000HD5
- Used in test of Rexroth A28VLO280C5H3

Specifications

- Dimensions: 184 x 180 x 50 mm (7.2 x 7.1 x 1.97 in)
- Weight: 2.27 kg (5 lb)

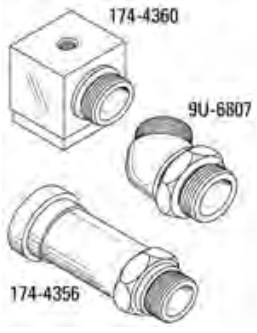
Part Number	Description
457-2323	Suction Fitting Adapter

Adapter, XT-6/STOR; Elbow, 90 Degree; Coupling, 45 Degree

Essential Tool

Model Usage: 365B Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Adapts high pressure hose from pump fitting to flowmeter fitting of hyd. portable tester
- Used with 4C-9910 Portable Hydraulic Tester
- Working pressure: 42,000 kPa (6,000 PSI)

Reference

- RENR1967, Service Manual; System Operation — Test and Adjust

Part Number	Description
174-4356	Adapter, XT-6/STOR
174-4360	Elbow, 90 Degree
9U-6807	Coupling, 45 Degree

Swivel Elbow SAE 45° Flare 90°

Model Usage: CT15

Warranty: Manufacturer's



- Used with 373-4728 High Pressure Return Line tester on the CT15
- Used to easily disassemble and assemble repeatedly for a leak-proof connection
- Fitting resists mechanical pullout

Specifications

- Dimensions: 9.7 x 16 – 457.2 mm (3/8 x 5/8-18 in)
- PSI: 1000 (68.03 bar)
- Min/Max Temperature: -53.89 – 121.11°C (-65-250°F)
- Weight: .05 kg (.12 lb)
- Material: Brass

Part Number	Description
417-3724	Swivel Elbow SAE 45°Flare 90°

Elbow 90°, Coupling Assembly, ORFS to STOR BOSS

Essential Tool

Model Usage: 307 Excavator

Warranty: Caterpillar® Six Months



- Tests pump flow rate without removing pump

1U-7641

- Connects high pressure oil line from main hydraulic pump to flowmeter
- 90° Elbow Swivel makes hookup to flowmeter faster and easier

1U-7642

- Connects return line from flowmeter into hydraulic circuit
- Prevents hydraulic oil from over heating during pump testing by directing oil through the oil cooler

References

- SENR9005, Testing and Adjusting 307 Excavator Hydraulic Systems
- SENR9205, Testing and Adjusting 307 Excavator Hydraulic Systems

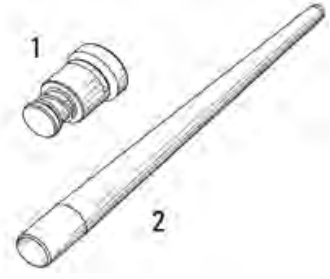
Item	Part No.	Description	Working Pressure	Male Thread (STOR)	Female Thread (ORFS)	O-ring Seal for STOR BOSS Thread
1	1U-7641	Elbow, 90° ORFS to STOR BOSS	41,000 kPa (5947 PSI)	Dash size 16, 1 5/16-12 thd	Dash size 10, 1-14 thd	7M-8485
2	1U-7642	Coupling Assembly, ORFS to STOR BOSS	41,000 kPa (5947 PSI)	Dash size 16, 1 5/16-12 thd	Dash size 8, 13/16-16 thd	7M-8485

STOR and ORFS O-Ring Seal Installers

Essential Tool

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Used to install O-ring seals onto STOR and ORFS style fittings
- Helps prevent damage to the seal during assembly
- Specific tools for each size fitting for proper seal installation
- ORFS seal installers use a spring-loaded design to install O-ring seals into end groove of fitting
- STOR seal installers use a smooth tapered design with a recess for sliding O-ring seals past threads and into groove of fitting

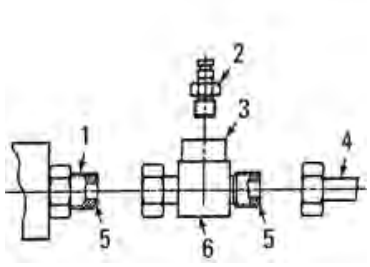
Part Number	Description	Fitting Size
(1) ORFS Seal Installer		
179-6884	Seal Installer	ORFS-4
179-6885	Seal Installer	ORFS-5
179-6886	Seal Installer	ORFS-8
179-6887	Seal Installer	ORFS-10
179-6888	Seal Installer	ORFS-12
179-6889	Seal Installer	ORFS-16
179-6890	Seal Installer	ORFS-20
179-6891	Seal Installer	ORFS-24
(2) STOR Seal Installer		
336-0739	Seal Installer	STOR-3
336-0740	Seal Installer	STOR-4
336-0741	Seal Installer	STOR-6
336-0742	Seal Installer	STOR-8
336-0744	Seal Installer	STOR-10
336-0750	Seal Installer	STOR-12
336-0784	Seal Installer	STOR-16
371-9041	Seal Installer	STOR-12

HYDRAULIC SYSTEM TOOLS

Swivel Tees

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

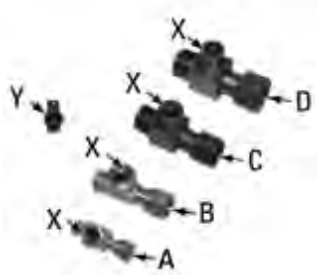


- Used for in-line pressure testing of hydraulic systems where tubing and hoses have ORFS connections
- Tee has #6 SAE O-ring Port (X) to accept 6V-3965 Valved Quick Disconnect Nipple and 3J-1907 O-ring Seal (Y), providing necessary fittings and location to connect pressure gauge; tee can be left in place for future use or removed after testing
- Quick and easy way to provide diagnostic test port on ORFS tubes and hoses where none were previously available
- Supplement tees already available for 3/8 inch and 1 inch ORFS tube sizes; fittings rated at 6000 PSI working pressure and fit tube sizes as shown in chart; O-ring seals for ORFS tees must be ordered separately

Item	Description
1	Existing ORFS Connection
3	#6 SAE O-ring Port (X)
4	Existing ORFS Tube or Hose
5	Required O-ring Seal

Item	Part Number	Description
2	6V-3965	Adapter STR (Quick disconnect and 3J-1907 O-Ring Seal (Y))
6	7X-0871	Swivel Tee
6	7X-0872	Swivel Tee
6	7X-0873	Swivel Tee
6	7X-2444	Swivel Tee

Tees

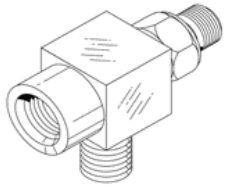


Item	Tee Part Number	O-ring Seal Part Number (Not shown)	Tube Outside Diameter
A	7X-2444	4J-5477	6.35 mm (1/4 in)
A	8T-8902	6V-8397	9.52 mm (3/8 in)
B	7X-0871	6V-8398	12.70 mm (1/2 in)
C	7X-0872	7J-9108	15.88 mm (5/8 in)
D	7X-0873	6V-9746	19.05 mm (3/4 in)
D	8T-4834	5K-9090 (Not Serviced)	25.40 mm (1 in)

Tee Fitting

Model Usage: Challenger 35, 45, and 55 Agricultural Tractors

Warranty: Caterpillar® Six Months



- Used to allow mechanic to more easily test lube oil pressure (oil supply for PTO clutch pack and bearings)
- Used with quick disconnect and pressure gauge
- Installs in place of elbow on center housing (used for testing only; do not permanently install)
- Requires 6V-3965 Nipple Assembly, two 3J-7354 O-ring Seals, and one 3J-1907 O-ring Seal

Reference

- SENR8304, Service Manual, Challenger 35, 45, and 55 Agricultural Tractor Transmission Systems Operation Testing and Adjusting

Specifications

- Wrench flat: 22.26 mm (7/8 in)
- Center housing connection: 7/16-20 male O-ring
- Nipple connection: 9/16-18 female O-ring
- Supply line connection: 11/16-16 male ORFS

Part Number	Description
128-5890	Tee Fitting

Lube Block Adapter, U-Joint Adapter

Model Usage: D6H (discontinued Arrangement 7G-4636), D7H (Arrangement 8P-8973), D8N (Arrangement 9W-9613)

Warranty: Caterpillar® Six Months 1U-7044 Lube Block Adapter and 1U-8856 U-Joint Adapte

- Required for bench testing D6H (discontinued Arrangement 7G-4636), D7H (Arrangement 8P-8973) and D8N (Arrangement 9W-9613) transmissions
- Previously available tooling also used with these adapters/support legs during bench test
- Provide method for connecting transmissions to test bench oil supply, flowmeters and drive shaft, and to support transmission during bench test

Reference

- NEHT6010

Part Number	Description
1U-7044	Lube Block Adapter
1U-8856	U-Joint Adapter

Front Supports

Model Usage: 916 (discontinued Arrangement 7G-3030); 926 and 926E (discontinued Arrangement 8P-9853); IT18 and IT18B (discontinued Arrangement 9W-3906); IT28 and IT28B (discontinued Arrangement 8P-9853)

Warranty: Caterpillar® Six Months



- Required for bench testing 916 (discontinued Arrangement 7G-3030); 926 and 926E (discontinued Arrangement 8P-9853); IT18 and IT18B (discontinued Arrangement 9W-3906); and IT28 and IT28B (discontinued Arrangement 8P-9853) transmissions
- Previously available tooling used with supports and cover during bench test
- Provide way to connect transmission to hydraulic test center and to support transmission during bench testing

Reference

- NEHT6023 Special Instruction

Part Number	Description
4C-3999	Front Supports

Plates

Model Usage: 950 and 962M

Warranty: Caterpillar® One Year



- Used with 4C-9998 Bracket Assembly and 1U-9035 Cross Member Assembly
- Increases alignment of transmission when mounting transmission on hydraulic test bench worktable

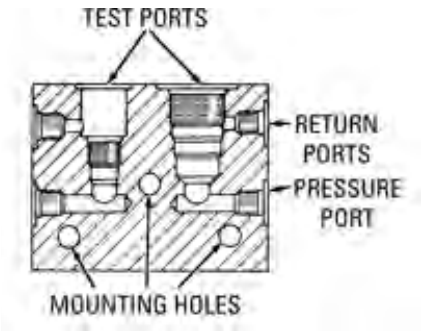
Part Number	Dimensions	Description
457-2335	50 x 243.8 mm (2 x 9.6 in)	Plate
457-2336	158.7 x 225.7 mm (6.2 x 8.9 in)	Plate

HYDRAULIC SYSTEM TOOLS

Manifold for Backhoe Loader Line Relief Valves

Model Usage: 12G, 120G, 130G, 14G, 140G, 16G, 41G, 428, 436

Warranty: Caterpillar® Six Months



- Used to test and adjust line relief valves on 416, 426 and 428 Backhoe Loaders prior to installation
- 68,900 kPa (10,000 PSI) capacity hydraulic pump and pressure gauge (not included) also required for bench testing of valves with this manifold
- 2 different-sized SAE ports, modified No. 8 and standard No. 14, provided on manifold for testing both sizes of backhoe loader line relief valves; these 2 independent test ports each have two SAE No. 6 ports for hydraulic pressure and return connections
- Quick disconnect O-ring SAE port 6V-3965 Nipples and 3J-1907 O-rings can be ordered for installation on manifold for easy coupling to hydraulic pump
- Three 11 mm (7/16 in) holes in manifold for mounting convenience

Reference

- SENR3195-01 Hydraulic System Manual for 416 and 426 Backhoe Loaders SENR3472, Hydraulic System Manual for 428 Backhoe Loader

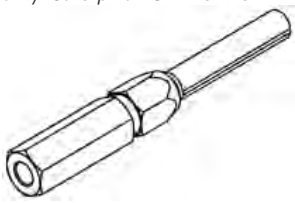
Part Number	Description
1U-5216	Manifold for Backhoe Loader Line Relief Valves

Bore Gauge

Essential Tool

Model Usage: 416D, 420D, 424D, 428D, 430D, 432D, and 442D Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to measure bores for valve spools
- Provides a quick and easy method to determine if valve requires reconditioning

Part Number	Description
280-7987	Bore Gauge

Anti-Drift Valve Disassembly and Assembly Tools

Essential Tool

Model Usage: 420E (KMW, HLS), 430E (DDT, EAT) Backhoe Loaders, 312DL (DXH) Excavator

Warranty: Caterpillar® Six Months



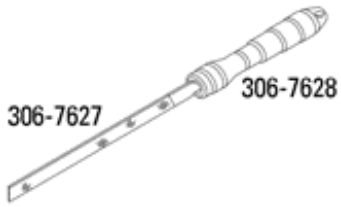
- Used to disassemble and assemble anti-drift valves
- Spanner wrench used to remove plug holding spring above anti-drift valves
- Pin guide used to install pin and opens anti-drift valve
- 264-6681 Spool Clamp used to hold spool for disassembly and assembly on BHLs only
- 325-3777 Spool Clamp used to hold spool for disassembly and assembly on DL Excavator only

Part Number	Description
264-6679	Wrench
264-6680	Pin Guide
264-6681	Clamp

File, Handle

Model Usage: 416E (SHA1-UP, CBD1-UP), 420E (HLS1-UP, KMW1-UP), 430E (EAT1-UP, DDT1-UP), 446D (DBL1-UP) Backhoe Loaders; 924G (RTA1-UP, WGX1-UP, DDA1-UP, RBB1-UP, WMB1-UP), 928G (DJD1-UP, WLG1-UP), 930G (TWR1-UP, TFW1-UP) Wheel Loaders

Warranty: Manufacturer's



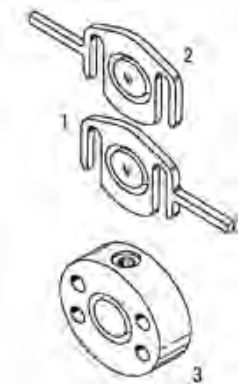
- Used to check hardness of chrome plating on cylinder rods

Part Number	Description
306-7627	File
306-7628	Handle

Blocking Plates

Model Usage: Challenger 65C, 70C, 75C and 85C

Warranty: Caterpillar® Six Months



- Used to block steering pump oil flow at the differential steering motor in order to measure steering circuit maximum pressure
- Provides on-machine measurement of pressure — much faster and easier
- Can be used on either the standard steering circuit, or on the attachment, high torque steering circuit

9U-7831 (right hand) and 9U-7832 (left hand)

- Installed at the steering circuit hose connections on the differential steering motor; installed at the ends of the hoses adjacent to the motor without requiring complete removal of the hoses
- Can be slipped into position between the face of the hose coupling and the mounting face on the motor by loosening the four hose flange bolts; the bolts specified for this connection are long enough to permit insertion of the plates without the need to install longer bolts
- If this connection has been previously "disturbed", check individual bolt length to be sure that a short bolt has not been substituted in this location; the bolts should be 57.15 mm (2.25 in) in length
- Steering circuit pressure is measured at the pressure tap locations on the discharge ports of the steering pump.

Reference

- SENR5262, Service Manual Module

Item	Part No.	Description	Thickness	Width	Outside Diam.	Overall Length	Used with
1	9U-7831	Blocking Plate (right-hand)	8.0 mm (0.31 in)	70 mm (2.76 in)	—	119.0 mm (4.69 in)	—
2	9U-7832	Blocking Plate (left-hand)	8.0 mm (0.31 in)	70 mm (2.76 in)	—	119.0 mm (4.69 in)	—

Adapters and Support Legs

Model Usage: D11N (discontinued Arrangement 9G-7061)

Warranty: Caterpillar® Six Months

- Required for bench testing D11N (discontinued Arrangement 9G-7061) transmission
- Previously available tooling used with these adapters and support legs during bench test
- Provide way to connect transmission to test bench oil supply, flowmeters, and drive shaft, and also support transmission during bench test

Item	Part Number	Description
1	4C-3490	Input Shaft
6	8V-4099	Bearing Pillow Block (bearing not included)

HYDRAULIC SYSTEM TOOLS

Line Relief Valve Test Manifold

Essential Tool

Model Usage: 963D and 973D Track-Type Loaders

Warranty: Caterpillar® Six Months



- Used with a plug-in electric motor/pump to test relief valves
- Allows testing of relief valves off of the machine
- Includes two ORFS-8 ports
- Simplifies testing — significantly reduces time spent testing each relief valve
- Made from durable hardened steel (RKW C34-39) with black oxide coating for corrosion resistance

Item	Description
474-8877	Line Relief Valve Test Manifold

Test Manifold

Model Usage: 735C Articulated Trucks

Warranty: Caterpillar® Six Months



- Test manifold for the 469-6290 relief valve with 1-1/16 -12 threads
- Made of Steel
- Used for testing and adjusting the relief valve

Part No.	Description	Dimensions	Weight
541-9340	Test Manifold	80 x 50 x 100 mm (3.1 x 2 x 4 in)	3 kg (7 lb)

Line Relief Test Manifold

Model Usage: Relief Valves with 1-1/16 -12 Thread Size

Warranty: Caterpillar® Six Months



- Valve test manifold is required for testing and adjusting manual relief valves used in track loaders.

Part No.	Description	Dimensions	Weight
507-7389	Line Relief Test Manifold	127 x 50 x 127 mm (5 x 2 x 5 in)	6 kg (13 lb)

Manifold Assembly

Model Usage: 797B, 797F

Warranty: Caterpillar® Six Months



- Test and adjust tool to help set the steering pump high pressure cutoff setting
- Helps set the 797 steering pump high pressure cutoff on the machine without inadvertently over-pressurizing the steering system components

Part No.	Description	Dimensions	Weight
526-5526	Manifold Assembly	83 x 51 x 177.4 mm (3.3 x 2 x 7 in)	3 kg (7 lb)

Relief Valve Manifolds

Model Usage: Challenger 65, 65B, and 75 and D8N Track-Type Tractor

Warranty: Caterpillar® Six Months



- Tests and adjust cartridge type relief valves
- Used with discontinued 1U-8900 Cartridge Relief Valve Tester and discontinued 4C-4441 Cartridge Relief Valve Tester
- Greatly simplifies testing — significantly reduces time spent testing each relief valve
- Each manifold has 2 separate ports with independent pump and tank connections
- One port tests: 6E-3578 Steering Pump Charge Pressure Relief Valves used in Challenger 65B and 75

Reference

- NEHT6031, Test Procedure

Specifications

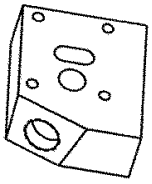
- Length x Width x Height: 127 x 50 x 101 mm (5.0 x 2.0 x 4.0 in)
- Weight: 5 kg (11.0 lb)

Part Number	Description
9U-5829	Relief Valve Manifold

Manifold

Model Usage: D6T Series II, D8T Series II, PL83

Warranty: Manufacturer's



- Used to test for lube flow/relief while testing transmissions on hydraulic test bench

Specifications

- Dimensions: 121.0 x 103.0 x 50.0 mm (4.76 x 4.05 x 1.97 in)

Part Number	Description
364-6747	Manifold

Manifold

Essential Tool

Model Usage: 216, 226, 232, 236, 242, 246, 246, 248, 252; 262, 268, 256, 272 Skid Steer Loaders 247, 257, 267, 277, 287, 287, 297 Multi-Terrain Loaders

Warranty: Caterpillar® Six Months



- Used to test 216-6160, 216-6161, and 289-0850 Relief Valves

Part Number	Description
299-1731	Manifold

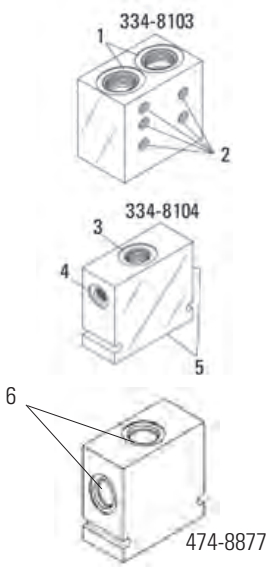
HYDRAULIC SYSTEM TOOLS

Line Relief Valve Test Manifolds

Essential Tool

Model Usage: 963D and 973D Track-Type Loaders

Warranty: Caterpillar® Six Months



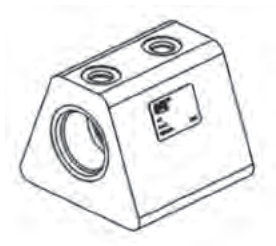
- Used to test and adjust cartridge type relief valves with -6, -12, and -16 ORFS threads
- Used with cancelled 1U-8900 Cartridge Relief Valve Tester and cancelled 4C-4441 Cartridge Relief Valve Tester
- 334-8103 Valve Test Manifold is used for testing 973D Track Type Loader relief valves
- 334-8104 Valve Test Manifold is used for testing 963D Track Type Loader relief valves
- 474-8877 Valve Test Manifold is used for testing relief valves with SAE-8 ports
- Simplifies testing — significantly reduces time spent testing each relief valve
- Made from durable hardened steel (RKW C34-39) with black oxide coating for corrosion resistance

Item	Port Fitting
334-8103 Valve Test Manifold	
1	Two ORFS-16 ports (1 5/16-12)
2	Five 1/4-18 NPTF ports
334-8104 Valve Test Manifold	
3	One ORFS-12 ports (1 5/16-12)
4	One ORFS-6 port (9/16-18)
5	Two ORFS-2 ports (1 5/16-12) not visible
474-8877 Valve Test Manifold	
6	Two ORFS-8 ports

Manifold Assembly – Relief Valve Test

Model Usage: 322, 325, 330, 350, 365, 375, 385, 5230, 5130, 5110, 988, 992, 993, 994, 834, 836, 797

Warranty: Manufacturer's



- Used to test and adjust relief valves before installation on the machine
- Simplifies testing relief valves by using a Hydraulic Test Bench
- Port accommodates relief valves with a thread size of 1 – 5/8 – 12 UN -2B

Specifications

- Dimensions: 101.6 x 101.6 x 85.6 mm (4 x 4 x 3.37 in)
- Weight: 4.39 kg (9.69 lb)
- Thread Size: 1 – 5/8 – 12 UN -2B
- Material: Steel

Part Number	Description
451-0835	Manifold Assembly – Relief Valve Test

Part Number	Description
334-8103	Valve Test Manifold
334-8104	Valve Test Manifold
474-8877	Valve Test Manifold

Coupling, XT5 Hose

Model Usage: All Models

Warranty: Caterpillar® Six Months

- Used with 1U-9551 and 1U-8761 Portable Hydraulic Testers for testing hydraulic oil flows and pressures
- With 4C-6481 and 4C-6482 Quick Disconnect Fittings, it creates a safer connection for higher working pressure of 6000 PSI
- For XT5 hose 1 inch, 1 5/16 inch SAE O-ring straight thread
- Used with 5P-1010 Sleeve for XT5 hose 1 1/4 inch
- Working pressure: 6000 PSI

Part Number	Description
4C-8767	Hose Coupling

Wear Gauge Pins

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months

- Used to accurately measure spline wear on hydraulic pump and motor shafts and to determine shaft reusability
- Placed in spline teeth 180° apart; distance across or between pins determined by using micrometer

Reference

- Process should be done as illustrated in reusability guidelines SEBF8133 and SEBF8136.

Part Number	Description
4C-5852	Wear Gauge Pin
4C-5858	Wear Gauge Pin
4C-6367	Wear Gauge Pin
4C-6368	Wear Gauge Pin

Filter Carts

Auxiliary Filtration System Cart Selection

Recent trends requiring increased production and efficiency of construction and mining equipment have forced heavy equipment manufacturers to design hydraulic and powertrain systems with increasingly sophisticated components. These components require a high level of cleanliness, not only in the manufacture, but also in the rebuild practices and operating fluids.

Caterpillar® auxiliary filter systems are designed for dealers to effectively clean fluid to current machine ISO specifications. Each system incorporates frames, connections, pumps, filter housings and elements for specific systems and fluids. When incorporated with the Contamination Control guidelines and procedures, along with particle trend analysis, the dealer can develop an effective tool to drastically increase component life, eliminate early hour failures and add value to Customer Service Agreements.

It is important to match the filtration system and procedure to the machine system and fluid. This will greatly increase the value and reduce the time needed to filter fluids to the appropriate ISO specification. The chart illustrates specific applications of the filter systems as well as general information, Tool Operating Manual and Contamination Control Guideline media numbers.

Many of the systems shown can be modified to perform multiple functions. Please contact Service Tool Division, Capital and Shop Products for more information.

Part Number	Description
174-9158	Transfer/Filter Cart (Air Motor Driven)
188-3242	Hydraulic Filter Cart
231-6284	30 Gallon Filter Cart
245-1769	Oil Filter Cart

HYDRAULIC SYSTEM TOOLS

Oil Filter Cart



245-1769

- Application:
  - Final drive and rear axles with more than 380 L (100 gal) capacity
- Air powered 340 lpm (90 gpm) Diaphragm pump:
  - Oil: 50W+
  - Standard filtration: 10-micron absolute element

Hydraulic Filter Cart



188-3242

- Application:
  - Reservoirs with greater than 115 L (30 gal) and less than 380 L (100 gal) capacity
- Air powered 227 lpm (60 gpm) Diaphragm pump:
  - Oil: 10W – 30W
  - Standard filtration: 25-, 10-, 5-, 2-micron or 5-micron H20 separator element available

Reference

- SEBF8447-02 Contamination Control Guideline NEHS0778 Tool Operating Manual
- Kit version of 188-3242: 227-2479

Transfer/Filter Cart



174-9158

- Application:
  - Reservoirs with less than 115 L (30 gal) capacity
- Air powered 64 lpm (17 gpm) Gear pump:
  - Oil: 10W – 30W
  - Standard filtration: 25-, 10-, 5-, 2-micron absolute or 5-micron H20 separator element available

Filter Cart, 30 Gallon



231-6284

- Application:
  - Track-type tractor axles and final drives with less than 115 L (30 gal) capacity
- Air powered 115 lpm (30 gpm) with 115 L (30 gal) reservoir Diaphragm pump:
  - Oil: 10W – 60W
  - Standard filtration: 25-, 10-, 5-, 2-micron absolute

Reference

- SEBF8493-02 Contamination Control Guideline NEHS0848 Tool Operating Manual
- 204-7392: This cart is similar to 174-9158 Filter Cart, but has Cat® 844 hose with Flush Face Quick Disconnects.

Vehicle Guidelines for Filtration Procedures

The following guidelines and procedures were developed to assist the dealer in implementing and maintaining a consistent contamination control program. These documents provide a method and process to effectively maintain specific machine systems, utilizing Cat® Auxiliary Filtration System Carts. Refer to Service Information System (SIS) for periodic updates.

Vehicles and Ranges	Hydraulic	Trans.	Axles	Other
Off Highway Trucks				
769-797	SEBF8446-01			
769-793B		SEBF8445		
769D-797 (Without Trans. Tank)		SEBF8460-01		
769-777			SEBF8454	
785-797			SEBF8438	
785-789 Cleaning Rear Axle Housings				SEBF8366
793 Cleaning Rear Axle Housings				SEBF8370
785-793 Cleaning Rear Housings (Video)				SEVN4142
793C 797 Spindles (Cleaning)				SEBF8490
793C 797 Spindles (Kidney Looping)				SEBF8483
785 789 Rear Axle Housing (Cleaning)				SEBF8366
793 Rear Axle Housing (Cleaning				SEBF8370
769-797 OHT Steering				SEBF8724
Wheel Loaders				
910-980 Wheel Loader	SEBF8493-01			
988-994 Wheel Loader	SEBF8494-01			
990-994 Wheel Loader Steering				SEBF8725
Wheel Loaders with E/D		SEBF8452-03		
Wheel Loaders W/O E/D		SEBF8458-04		
994D		SEBF8459		
988B-992G 994 Wheel Loader			SEBF8464	
IT14G-IT62G	SEBF8493-01			
Track Type Tractors Pipe Layers				
D3-D6 561H-583R	SEBF8455-01			
D7-D11 589	SEBF8456-02			
D6R-D11 561M-589		SEBF8465-03		
Excavators				
5080-5230	SEBF8703			
M312-M325B	SEBF8706-01			
311-385B L	SEBF8447-02			
All Models — Filtering Auxiliary Circuit				SEBF8757-01
Engines				
Filtering				SEBF8405
Particle Counting while on Dyno				SEBF8442-02
Motorgraders				
All	SEBF8453			
All except 24H		SEBF8461		
24H		SEBF8462		

HYDRAULIC SYSTEM TOOLS

Vehicle Guidelines for Filtration Procedures (Continued)

Vehicles and Ranges	Hydraulic	Trans.	Axles	Other
Wheel Tractor Scrapers				
All	SEBF8457			
611-651E		SEBF8463		
623-651 G&E		SEBF8481		
627-657 G&E		SEBF8750		
Articulated Dump Trucks				
D25D-D400E and 725-730	SEBF8489-03			
D25D-D400E and 725-730		SEBF8486		
735-740	SEBF8798-01			
Generic Contamination Control Procedures				
Proper Oil Changing Procedures	SEBF8470			
Proper SOS Sample Collection	SEBF8482			
Procedure for using Filtration Carts				SEBF8279
Adding Filtration Capability to Solvent Parts Washers				SEBF8448
Procedure for Filtering F/D, Rear Axles, and Differentials			SEBF8797	SEBF8797
Challenger Ag Tractors				
Row Crop 35-55	SEBF8484	Hydraulic and Transmission Oil is combined in one sump		
Backhoe Loaders				
416-438	SEBF8333			
416D-442D	SEBF8780			
Forestry Products				
554-574B Forwarder	SEBF8788			
554-574B Forwarder		SEBF8788		
508-545 Skidders	SEBF8779			
533-543 Wheel Feller Buncher	SEBF8786			
550-580B Wheel Harvester	SEBF8787			
550-580B Wheel Harvester		SEBF8787		
Track Loaders				
931C-973C	SEBF8758			
Telescopic Handlers				
TH62-TH103	SEBF8785			
TH210-TH215	SEBF8802			
TH220B-TH460B	SEBF8803			
Paving Product				
Cleaning Asphalt Pavers	SEBF8440			
CS323-583D	SEBF8781			
CP323E-334D	SEBF8781			
CB335D-634C	SEBF8781			
PF209B-PS360B	SEBF8792			
Underground Mining				
R1300-R2900 Load haulers	SEBF8791			
AE40-55 Trucks	SEBF8790			
69D-73D Trucks	SEBF8789			
Compact Construction Equipment				
301.5-305, 902-908, 216-277	SEBF8726			

Bulk Fuel Filtration System (BFFS) Service Repair Parts



Caterpillar currently offers four different models of the Bulk Fuel Filtration system with the following Part numbers and rated flow capacities:

- 370-8568 (50 GPM)
- 370-8569 (100 GPM)
- 370-8570 (200 GPM)
- 370-8571 (300 GPM)

The Servicability of the above systems has been improved with the addition of the following part numbers, that can be used on any of the 4 BFFS and its Slug valve assemblies.

Reference

NEHS 1125-02

Bulk Fuel Filtration System (BFFS) and Slug Valve Assembly Service Repair Parts

Part No.	Part Name	Description
462-2011	Sight Glass Tube (Rubber Grommet)	Minimum Order Quantity is 10.
462-2012	CV Flow Control valve	Opening and closing speed control
462-2013	Repair Kit (9170019F) — Slug Valve	Kit contains Gasket STR X40 and O-Ring 010
462-2014	Valve Position Indicator X101 - Slug Valve	
462-2015	Washer V0555C — Slug Valve	
462-2016	Gasket C1234J — Slug Valve	
462-2017	Sight Glass Tube Hardware 20260701J	
462-2018	Differential Shutoff Pilot CDHS3A — Slug Valve	
462-2019	Repair Kit, RPPT CDHS3C-A2 TEBS (24657K) — Slug Valve	Kit contains O-Rings 024, 010, 008, Diaphragm CDHS3 and Gasket CRA
462-2020	Hytrol Check Valve (81-01) — Slug Valve	
462-2021	Repair Kit, RPPT 100 TESR (9169801K) — Slug Valve	Kit contains O-Ring 5-102, Spring 100, Diaphragm 100 and Retainer A Disc 01 3/8
462-2022	Flow Limiting Pilot (CDHS18) — Slug Valve	
462-2023	Repair Kit, RPPT CDHS18 TESR (20153403G) — Slug Valve	Kit contains Diaphragm CDHS, Retainer A Disc CRD, Gasket Body and SCR FILH10-32X0.50
462-2024	Three way Hytrol (102B1) — Slug Valve	
462-2025	Repair Kit, RPPT 102B-1 H NBR (1502201F) — Slug Valve	Kit contains Diaphragm 105AF2, Stem Retainer A 105AF, O-Rings 5-147 and 019.
462-2026	Main Valve (100-34) — Slug Valve	
462-2027	Repair Kit, RPPT 100KX VUL 2 NBR (2221702A) — Slug Valve	Kit contains Diaphragm 100M, Disc 100KB, O-Ring 014 and Red Space Washer.
462-2028	3 lb Light Spring (C3147A) — Slug Valve	For Low Pressure System only.
462-2029	O-Ring Seal (Vessel cover - BFFS)	Vessel cover seal for Pre-filter vessel on 50, 100, 200 GPM BFFS and Coalescer vessel on 50 GPM BFFS
462-2030	O-Ring Seal (Vessel cover - BFFS)	Vessel cover seal for Coalescer vessel on 100 GPM BFFS
464-8507	O-Ring Seal (Vessel cover - BFFS)	Vessel cover seal for Coalescer vessel on 200 GPM BFFS
464-8508	O-Ring Seal (Vessel cover - BFFS)	Vessel cover seal for Coalescer vessel on 300 GPM BFFS
464-8509	O-Ring Seal (Vessel cover - BFFS)	Vessel cover seal for Pre-Filter vessel on 300 GPM BFFS
464-8514	Adapter 1/4" — Fuel Sampling (BFFS)	Adapter for connecting Fuel sampling probe on BFFS to Particle counters.

HYDRAULIC SYSTEM TOOLS

Transfer Pump Filter Cart

Model Usage: All Hydraulic Systems

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Removes contamination from hydraulic system fluid without removing/replacing fluid
- Environmentally safe method of off-loading used fluid during changes
- As part of normal hydraulic system maintenance, helps prolong seal life and life of other wearing parts and aids in smooth valve and control actuation

Reference

- SEHS9242, Special Instruction
- NEEG2735, Decal (CE)

Specifications

- Motor: 115 VAC, 60-cycle (or 220 VAC, 50 Hz), single phase, HP TEFC, 16 amps full load
- Filtration capability: 13-micron, absolute Spin On filter
- Gear pump flow: 26 lpm (7 gpm)
- Inlet strainer: 100 mesh Spin On
- Cart wheels: 20.2 cm (8 in) semi pneumatic
- Magnetic plug: Removable for cleaning
- Hose: 19.05 mm (3/4 in) diameter, 182.88 cm (6 ft) long, end fitting 3/4 NPT

Part Number	Description
169-7158 (replaces discontinued 4C-9828)	Transfer Pump Filter Cart, 220 Volt AC, 50 Hz
169-7160	Electric Motor (220 VAC, 50 Hz)
4C-9475	Transfer Pump Filter Cart, 115 Volt AC, 60 Hz
4C-9476	Gear Pump
4C-9479	Filter Element
9U-6987	Filter Head

Portable Filtration Cart

Essential Tool

Model Usage: All Models

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to filter bulk quantities of hydraulic oil during transfer or kidney loop operations
- Filters oil through 149-micron wire mesh element to protect pump from debris in unfiltered oil
- 10- and then a 5-micron spin-on filter removes contaminants to provide clean fill oils
- Adjustable flow control from 0 to 40.0 lpm (0 to 10.6 gpm)
- Compact design uses extendable handles for mobility in shop or field applications
- Spin-on filters provide quick and easy maintenance
- Built-in drip tray prevents ground contamination from spilled oil
- Dirty filter indicators are attached to both output filter housings
- 2 S·O·S ports allow oil sampling before and after filtration
- Requires dealer-installed plug on 6 m cord
- Rolls easily on rubber tires

References

- NEHS0962, Tool Operating Manual,
- 273-3273 Portable Filtration Cart
- SEBF9086, Oil Sample Pre-treatment Procedure for Use with Auto Particle Counters

Specifications

- Input voltage: 200 – 240 VAC Single-Phase
- Frequency: 50/60 Hz
- Power cord: 16-3 gauge, 600 V, 6 m (20 ft)
- Power cord plug: Dealer-supplied
- Motor speed: 0-3200 RPM
- Pump flow: 0 – 40 lpm (0 – 10.6 gpm)
- Pressure bypass valve: 414 kPa (60 PSI)
- Handle length:
- 79 cm (31 in) retracted
- 129 cm (51 in) extended
- Height: 51 cm (20 in)
- Width: 61 cm (24 in)
- Dry weight: 66 kg (145 lb)
- Wheels: 25 cm (10 in) diameter hard rubber

Part Number	Description
273-3273	Portable Filtration Cart
190-8318	Suction Quick Disconnect
190-8319	Nipple
201-8057	Dust Cap (Suction)
201-8059	Dust Cap (Return)
6V-0852	Dust Cap (Blank) (not pictured)
7X-3387	S·O·S Sampling Valve
9U-5870	Element – Filter, 10-Micron
9U-6983	Filter Element, 5-Micron
9U-6985	Filter Element, 149-Micron Suction

Transfer Carts and Kidney Loop Cart

Model Usage: All Models

Warranty: Caterpillar® Six Months



Typical Transfer Cart (Electrical)

- 169-7159 replaces discontinued 127-8782; 174-9158 replaces discontinued 129-0849
- Filters petroleum-based fluids when transferring from barrel/reservoir to machine
- Ensures contamination-free oil transferring
- Easily portable in shop or field
- Fast maintenance with easy-change spin-on filters — dirty filter indicators on both suction and discharge lines
- Allows easy "top off" of hydraulic/engine oil
- Can be used with glycols when proper filter is incorporated

127-8781 Transfer Cart, 110 Volt AC, 60 Hz
169-7159 Transfer Cart, 220 Volt AC, 50 Hz

- "Gas type" discharge shut off nozzle for convenience
- Barrel suction stand pipe (included)
- 9U-7448 Hoses also act as hose extensions (order extra for length needed)

174-9158 Transfer Cart (Air Motor Driven)

- Can be used for kidney looping
- "Gas type" discharge shut off nozzle
- Barrel suction stand pipe (included)
- 9U-7448 Hoses also act as hose extensions (order extra for length needed)

204-7392 Kidney Loop Cart (Air Motor Driven)

- Comes with two 25.4 mm (1 in) Cat® 844 hoses, one with a male, one with a female Quick Disconnect fitting

References

- NEHS0634, Tool Operating Manual, Procedures for using Transfer/Filter Cart (127-8781, 169-7159, and 174-9158)
- NEEG2735, (CE)
- NEHS0848, Tool Operating Manual, 204-7392 Air Motor Driven Filtering Cart (for use on all Caterpillar products)
- SEBF8405, Kidney Loop Filtration Process for Rebuilt Engines (uses 174-9158 and 204-7392)
- SEBF8453, Bulletin, Procedure for Filtering Motor Grader (all models) Hydraulic Oil (uses 174-9158)
- SEBF8455, Bulletin, Procedure for Filtering Track-Type Tractor (D3-D6) Hydraulic Oil (uses 174-9158)

	127-8781	169-7159	174-9158	204-7392
Voltage	110 VAC 60 Hz	220 VAC 50 Hz	—	—
Motor	1.5 HP electric motor	1.5 HP electric motor	—	—
Motor (air)	—	—	4 HP @ 100 PSI	4 HP @ 100 PSI
Pump (air)	—	—	56 lpm (15 gpm)	56 lpm (15 gpm)
Pump capacity (50 Hz)	—	53 lpm (14 gpm)	—	—
Pump capacity (60 Hz)	64 lpm (17 gpm)	—	—	—
Filtration (suction)	100 mesh screen	100 mesh screen	100 mesh screen	100 mesh screen
Filtration (discharge)	13 micron (absolute)	13 micron (absolute)	13 micron (absolute)	13 micron (absolute)
Hose (suction)	31.8 mm x 3 m (1.25 in x 10 ft) translucent hose	31.8 mm x 3 m (1.25 in x 10 ft) translucent hose	31.8 mm x 3 m (1.25 in x 10 ft) translucent hose	—
Hose (suction)	—	—	—	25 mm x 3 m (1.0 in x 10 ft) Cat® 844 with female Quick Disconnect
Hose (discharge)	25 mm x 3 m (1.0 in x 10 ft) black hose	25 mm x 3 m (1.0 in x 10 ft) black hose	25 mm x 3 m (1.0 in x 10 ft) black hose	—
Hose (discharge)	—	—	—	25 mm x 3 m (1.0 in x 10 ft) Cat® 844 with male Quick Disconnect
Barrel suction stand pipe	1.2 m (4.0 ft) long	1.2 m (4.0 ft) long	1.2 m (4.0 ft) long	—
Tires	203 mm (8 in) semi-pneumatic	203 mm (8 in) semi-pneumatic	203 mm (8 in) semi-pneumatic	203 mm (8 in) semi-pneumatic

HYDRAULIC SYSTEM TOOLS

Transfer Carts and Kidney Loop Cart (Continued)

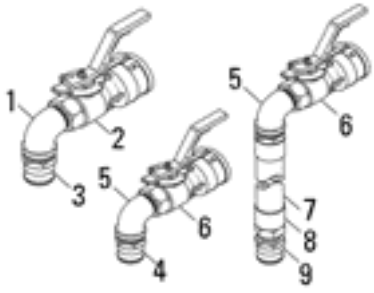
Part Number	Description
—-	Barrel Suction Stand Pipe
127-8781	Transfer Cart, 110 Volt AC, 60 Hz
127-8783	Electric Motor, 110 VAC, 60 Hz, 1.5 HP single-phase, TEFC
127-8784	Electric Motor, 220 VAC, 50 Hz, 1.5 HP, single-phase, TEFC
169-7159	Transfer Cart, 220 Volt AC, 50 Hz
174-9158	Transfer/Filter Cart (Air Motor Driven)
188-7027	Element, 25-micron
198-3188	Element, 2-micron
204-7392	Kidney Loop Cart (Air Motor Driven)
9U-5870	Element — Filter, 10-Micron
9U-6983	Filter Element, 5-Micron
9U-6984	Engine Oil
9U-6985	Filter Element, 149-Micron Suction
9U-7448	Suction Hose, 6.1 m (20 ft)
9U-7449	Discharge Nozzle (not shown)
9U-7450	Gear Pump

Hose Assembly Adapters

Essential Tool

Model Usage: 769, 771, 773, 775, 777, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to provide an ON/OFF valve for hoses on 245-1769 Filter Cart Group
- 90 degree elbow relieves stress on coupling and adapters and helps when clearance is a problem
- ON/OFF valve keeps oil contained inside hose(s) — environmentally safe
- Makes installation and removal quicker and cleaner

Item	Part No.	Description	Size	Use	Req.
1	7B-7138	Street Elbow 90°	50.8 mm (2 in)	Used on inlet side of filter cart	1
2	190-8323	Quick Disconnect Coupler	63.5 mm (2 1/2 in)	—	—
3	190-8325	Quick Disconnect Nipple	50.8 mm (2 in)	—	—
4	9U-5974	Quick Disconnect Nipple	1 1/2 x 1 1/2 male NPT thread	—	—
5	5B-7666	Street Elbow 90°	38.1 mm (1 1/2 in)	Used on outlet side	2
6	190-8321	Quick Disconnect Coupler	50.8 mm (2 in)	—	—
7	8X-6295	Hose Assembly (NPTF)	—	—	—
8	3B-6492	Coupling	38.1 mm (1 1/2 in) with 4.5 m (15 ft) hose	Used on outlet side when additional hose length is required	2
9	199-2713	Nipple	38.1 mm (1 1/2 in)	—	—

Quick Disconnect Adapters, 1 1/2 and 2 inch

Essential Tool

Model Usage: 769, 771, 773, 775, 777, 785, 789, 793, and 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



Typical Quick Disconnect Adapters

- Connects filter carts to final drive housing and differential case or other applications

Reference

- NEHS0779, Tool Operating Manual

Part Number	Size	Use
1 1/2 in Quick Disconnect Fittings		
190-9935	1 1/16-12 thd	—
190-9937	1 1/8-12 thd	769, 771, 773, 775, 777 final drive housing
190-9939	1 5/16-12 thd	—
190-9941	1 1/2-12 thd	—
190-9943	1 5/8-12 thd	785, 789, 793, and 797 final drive housing
2 in Quick Disconnect Fittings		
190-9936	1 1/16-12 thd	—
190-9938	1 1/8-12 thd	—
190-9940	1 5/16-12 thd	—
190-9942	1 1/2-12 thd	769, 771, 773, 775, 777, 785, 789, 793 differential case
190-9944	1 5/8-12 thd	797 differential case

Filter Cart Group

Model Usage: 769, 771, 773, 775, 777 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Replaces discontinued 194-2897
- Used to flush and clean rear axle and final drive assemblies; also can be used in many filtering applications for oil contamination control
- Filters hydraulic fluids from 5W to 90W
- Standard 10-micron filter element with 2271 lpm (600 gpm) capacity — large capacity extends time between filter element changes
- Easily moved around in field conditions on three 30 cm (12.0 in) pneumatic tires
- Oil is pumped through filter cart using an air-powered, diaphragm pump
- Maximum output pressure of fluid being pumped is equal to air inlet air pressure
- Add-on differential pressure gauge (dirty filter indicator) to indicate filter element changes
- All hose assemblies are made from Cat® 844 wire-reinforced hose (will not collapse when filtering hot oil)
- Extra tall hose hook for ease of hose storage
- Built-in storage box to hold optional adapter fittings

Reference

- NEHS0809, 194-2897 and 246-1157 Filter Cart Group

Specifications

- Operating pressure: 138 – 827 kPa (20 – 120 PSI)
- Variable delivery: 0 – 409 lpm (0 – 90 gpm)
- Supply air consumption: 0.47 L/s (1 cfm) per 4.55 lpm (1 gpm) of fluid pumped
- Suction lift: Up to 5.5 m (18 ft)
- Operating temperature: 0° to 93°C (2° to 200°F)
- Liters (gallons) per cycle: 1.9 L (0.5 gal)
- Standard filtration: 10-micron absolute
- Outlet hoses (2): 61 cm (20 ft) long with 38.1 mm (1.5 in) diameter ends
- Inlet hose (1): 30 cm (10 ft) long with 50.8 mm (2.0 in) diameter end
- Storage box: 612.0 x 273.0 x 241.0 mm (24.0 x 11.0 x 9.5 in)
- Noise level: 82 dB @ 758 kPa (110 PSI) air pressure
- Overall dimensions: 1295 x 915 x 1219 mm (51 x 36 x 45 in) without 609 mm (24 in) hook bar
- Weight: 163 kg (360 lb)
- Filter working pressure: 1034 kPa (150 PSI)

Part Number	Description
185-1375	Filter Element, 25-micron absolute
188-7018	Diaphragm Repair Kit
188-7019	Pump
188-7020	Filter Element, 5-micron absolute
192-1560	Filter Element, 10-micron
195-3164	Air Muffler
196-9504	Air Valve Repair Kit
212-7125	Filter Element, 3-micron
246-1157	Filter Cart Group
6Y-8134	O-ring Filter Cover Seal (smaller diameter)
8J-8879	O-ring Cover Seal (larger diameter)
Not shown	
218-8445	Differential Pressure Gauge
Dust Caps/Plugs Used with discontinued 194-2897 Filter Cart Group	
201-8128	63.5 mm (2 1/2 in) diameter aluminum male plug used with 190-8321 Quick Disconnect Coupler or suction line
201-8129	50.8 mm (2 in) diameter aluminum male plug used with 190-8321 Quick Disconnect Coupler or return line
201-8552	63.5 mm (2 1/2 in) diameter aluminum female cap used with the following adapters: 190-9936, 190-9938, 190-9940, 190-9942, or 190-9944
201-8553	50.8 mm (2 in) diameter aluminum female cap used with the following adapters: 190-9935, 190-9937, 190-9939, 190-9941, or 190-9943
8C-3451	Dust Cap (not pictured)

HYDRAULIC SYSTEM TOOLS

Cat® Filtration Skid

Model Usage: Hydraulic Mining Shovels (HMS 6015-6090)

Warranty: Caterpillar® Six Months





The offboard filtration skid is specifically designed to offer the most efficient, cost-effective method to clean oil on Cat® mining shovels, improving equipment uptime.

Standards Compliance

- ISO 19/16/13 cleanliness spec
- CE compliant
- AU compliant

Flexibility

- Electric 3Ph 230/415/460VAC, 60/50 Hz
- Dealer-supplied hoses
- On-board particle counter with auto shut-off

Reliability

- Designed for use at a mine site
- Equipped with fork pockets and lifting eyes

Specifications

- Dimensions: 1.6 x 1.5 x 1.1 m (65 x 60 x 42 in)
- Weight of base skid: 620 kg (1,366 lb)
- Required external electric power source (not included): 3 phase, 40 kW (recommended)
- Oil Types: SAE 10W, 20W, 30W
- Flow Rate: 454/367 liters per minute (at 60/50Hz)
- Operating temperature range: 30-66 °Celcius
- Operating pressure: approx 130 psi
- Sample interval: continuous/auto shut-off when cleanliness level achieved

Reference

- M0073390 Tool Operating Manual
- M0080900 Contamination Control Guidelines for HMS

Part No.	Description	Power Settings	Standards Compliance
514-4590	Base Filtration Skid	230VAC, 50Hz	CE
514-4591	Base Filtration Skid	230VAC, 60Hz	CE
514-4592	Base Filtration Skid	460VAC, 60Hz	CE
514-4593	Base Filtration skid with on-board contamination sensor	230VAC, 50Hz	CE
514-4594	Base Filtration skid with on-board contamination sensor	230VAC, 60Hz	CE
514-4595	Base Filtration skid with on-board contamination sensor	460VAC, 60Hz	CE
514-4596	Base Filtration skid with on-board contamination sensor	415VAC, 50Hz	AU

Serviceable Parts

Part No.	Description
514-4600	5 Micron Filter Element
514-4601	10 Micron Filter Element
514-4602	5 Micron Filter Housing
514-4603	10 Micron Filter Housing
525-7232	Contamination Sensor
514-4597	Polycarbonate Top Cover
526-6467	Suction Header - 6040 (Retrofit)
527-3199	Block Tee - Suction Hose Connection
537-6068	Canvas Cover for Filtration Skid

Additional Equipment Required for Machine Connection

Part No.	Description	Where Required
FT3321	Hose Group - Suction and Return Lines	All HMS
FT3322	Return Hose Adapter Group	All HMS
FT3333	Suction Hose Adapter Group	6040
FT3325	Suction Hose Adapter Group	6060
526-6467	Modified Suction Header	6040
527-3199	Flanged Run Tee	6050/6060

Hydraulic Filter Cart Group, Hydraulic Filter Cart in Kit Form

Model Usage: All Cat® Models

Warranty: Caterpillar® Six Months



- Used to flush and clean hydraulic tanks or hydraulic systems; can also be used in any filtering application for oil contamination control
- Allows oil filtering directly from hydraulic tank — eliminates placing oil in separate filtering cart/container
- Filters hydraulic fluids from 5W to 90W
- Easily moved around in field conditions on three 30 cm (12.0 in) pneumatic tires
- Oil is pumped through the filter cart using an air-powered, diaphragm pump
- Maximum output pressure of fluid being pumped is equal to air inlet air pressure
- Differential pressure gauge (dirty filter indicator) indicates filter element change time
- All hose assemblies are made from Cat® 844 wire-reinforced hose (will not collapse when filtering hot oil)
- Extra tall hose hook for ease of hose storage
- Built-in storage box to hold optional adapter fittings

227-2479 (Not European Union Compliant)

- Includes every part needed to build 188-3242 Hydraulic Filter Cart
- Frame provided as item-numbered, unpainted steel pieces to be assembled and welded together
- Hoses not assembled
- Prints provided for welding and assembly

Reference

- NEHS0778, 188-3242 Hydraulic Filter Cart Group

Specifications

- Operating pressure: 138 – 827 kPa (20 – 120 PSI)
- Variable delivery: 0 – 409 lpm (0 – 90 gpm)
- Supply air consumption: 0.47 L/s (1 cfm) per 4.55 lpm 1 gpm) of fluid pumped
- Suction lift: Up to 5.5 m (18 ft)
- Operating temperature: 0° to 93°C (2° to 200°F)
- Liters (gallons) per cycle: 1.9 L (0.5 gal)
- Four (4) gang parallel filter head: Permits 4 times filter area to capture particulates and extends filter life
- Standard filtration: 10-microns
- Outlet hose (one): 30 cm (10 ft) long with a female quick-disconnect end
- Inlet hose (one): 30 cm (10 ft) long with a male quick-disconnect end
- Storage box: 736 x 406 x 305 mm (29 x 16 x 12 in)
- Noise level: 82 dB @ 758 kPa (110 PSI) air pressure
- Overall dimensions: 1295 x 889 x 1143 mm (51 x 35 x 45 in) with hook bar 1956 mm (77 in)
- Weight: 163 kg (360 lb)

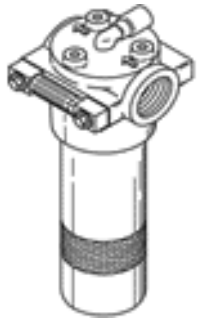
Part Number	Description
188-3242	Hydraulic Filter Cart Group
188-7019	Pump
188-7027	Water Removal Element, optional
195-3164	Air Muffler
227-2479	Hydraulic Filter Cart in Kit Form
3H-0976	O-ring (Element to Head)
8T-0846	Working Pressure Gauge
9U-5870	Filter Element, 10-Micron
9U-6983	Filter Element, 5-Micron, optional
9U-6984	Filter Element, 25-Micron, optional
9U-6985	Pre-filter Element, 100-Mesh
9U-6986	Differential Gauge
Dust Caps/Plugs Used with 188-3242 Hydraulic Filter Cart Group	
201-8057	66.8 mm diameter plastic/rubber plug used on 190-8316 and 190-8318 Quick Disconnect Coupler (female end)
201-8059	44 mm diameter plastic/rubber cap used on 190-8317 and 190-8319 Quick Disconnect Coupler (male end)
8C-3451	1/2 in diameter rubber cap for S·O·S port

HYDRAULIC SYSTEM TOOLS

Filter

Model Usage: All Cat® Service Vehicles

Warranty: Caterpillar® Six Months



- Used to filter oil in high-volume applications
- Provides extended time between element changes
- Uses synthetic fiber filter elements
- Filter head is made of cast aluminum and bowl is made of steel for strength and durability
- Visual dirty element indicator shows when to change element
- Elements contain no metal
- Elements can be incinerated, crushed, or shredded

Specifications

- Working pressure: 9,650 kPa (1,400 PSI)
- Burst pressure: 27,573 kPa (4,000 PSI)
- Nominal flow: 64 lpm (17 gpm)
- In/out ports: SAE #12
- Dirty element indicator: Pop-up style
- Material: Aluminum head, steel housing with 3-micron cellulose media
- Overall dimension: 239 x 89 mm (9.4 x 3.5 in)
- Weight: 1.4 kg (3.0 lb)
- Body-style: Canister

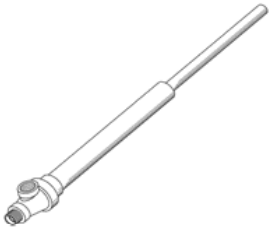
Nominal Micron Rating	Media Material	Dirt Holding Capacity	Height / Diameter	Part No.	Description
—	—	—	—	192-6432	Filter Group

Barrel Adapter

Essential Tool

Model Usage: All Models

Warranty: Caterpillar® Six Months

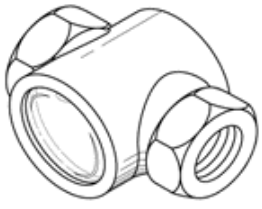


- Used to attach filtering units to 208 L (55 gal) barrels
- Used with 204-7392 Kidney Loop Filter Cart or equivalent
- All steel design is easy to clean
- Unit does not come with quick disconnect fittings
- Inserts into 2 inch NPT port of 208 L (55 gal) barrel
- Top port is return side (1 inch NPT male), and side port is suction side (1 inch NPT female)

Part Number	Description
274-6783	Barrel Adapter

Flow Indicator with Tempered Sight Glass

Warranty: Caterpillar® Six Months



- Used to provide a means of viewing flow
- Made of brass with tempered sight glass on opposing sides
- Installs down stream of pump
- Stainless steel flapper shows the movement of fluid and prevents back flow to pump
- Does not restrict flow away from pump
- Viton seals provide long life
- Female NPT ports at each end

Part No.	Inlet and Outlet Thread Size	Sight Glass Diameter	Overall Size L x H x W	Maximum Pressure	Operating Temp.	Maximum Temp.
257-8843	1 1/2 in NPT	69.0 mm (2.72 in)	141.0 x 79.0 x 70.0 mm (5.6 x 3.125 x 2.75 in)	1034 kPa (150 PSI)	-17° to 121°C (1° to 250°F)	204°C (400°F)

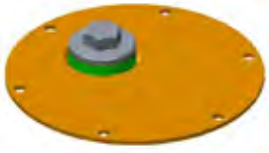
Hydraulic Tank Adapters

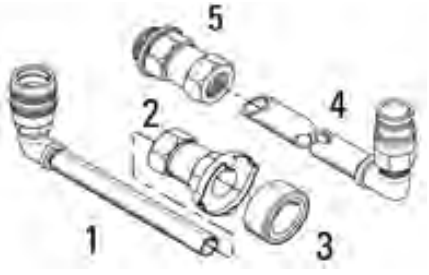
Essential Tool

Model Usage: All 311 through 375 Hydraulic Excavators

Warranty: Caterpillar® Six Months







- Used to connect oil filter cart to hydraulic tank on excavator
- Used with 188-3242 Oil Filter Cart
- Provides a quick-disconnect feature to quickly hook up filter cart
- Suction and return stand pipes are easily adjusted depending on depth of hydraulic tank
- For more efficient operation, permanently install 198-1053 Cover Assembly on each 345 and 365 Excavator

Reference

- NEHS0778, Tool Operating Manual, 188-3242 Filter Cart Group (Used on Hydraulic Tanks or Hydraulic Systems)
- SEBF8446, Procedure for Filtering 300 Series Excavator Hydraulic Oil
- SEBF8447, Procedure for Filtering Excavator (311-375) Hydraulic Oil

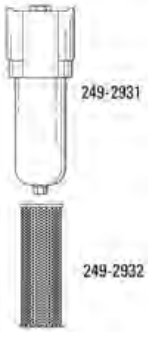
Item	Part No.	Description
Parts for 345 and 365 Excavators		
1	198-8796	Return Line Group
2	198-1052	Adapter Assembly (return)
3	198-1053	Cover Assembly (return)
	462-4312	Cover Assembly 320D GC
	462-7502	Cover Assembly 326D 2 and 329D 2
	464-6025	Cover Assembly 316F
	464-6026	Cover Assembly 312F
	465-2945	Cover Assembly 355F
	467-0289	Cover Assembly 336F
	467-3471	Cover Assembly 349F
	480-7274	Cover Assembly 314F
4	198-8795	Suction Line Group
5	198-1052	Adapter Assembly (suction)
6	4I-0722	Plug
7	381-8839	Adapter for E-Series tanks (use in place of item 3)

Parts for 311 through 375 Excavators (excluding 345 and 365)

Item	Part Number	Description
1	198-8796	Return Line Group
2	198-1051	Adapter Assembly (return)
3	199-1003	Seal Assembly (return)
4	198-8795	Suction Line Group
5	198-1052	Adapter Assembly (suction)

Model Usage: All Cat® Service Vehicles

Warranty: Caterpillar® Six Months



- Used to provide no-bypass filtering of hydraulic oils
- Used in service bays with drop-down oil lines or any other application requiring filtered, petroleum-based oil
- Non-collapsible filter elements work well with higher viscous hydraulic oils
- Filter head is made of cast aluminum with steel bowl for strength and durability

Specifications

- Filter Head
  - Body-style: Canister
  - Mounting holes: 5/16-18
  - Inlet and outlet ports: 3/4 NPT
  - Operating temperature range: -29° to 107°C (-20° to 225°F)
  - Material: Aluminum head with steel housing
  - Overall size: 90.0 mm (3.5 in) square x 238.0 mm (9.4 in) long
- Filter Elements
  - Filter media: Synthetic
  - Overall size: 50 mm (2 in) diameter x 150 mm (6 in) long
  - Collapse rating: 206.8 bar (3000 PSI)

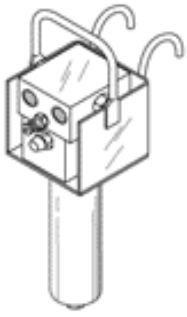
Part Number	Description
249-2931	Filter Housing
249-2932	Filter Element, 10-Micron

HYDRAULIC SYSTEM TOOLS

Filter Head Kidney Loop Group

Model Usage: 301.5 (3YW), 301.6 (BDH), 301.8 (BFA), 302.5 (4AZ), 303 (DMA), 303.5 (AFW), 304.5 (ANR), 305 (DSA) Mini Hydraulic Excavators; All Skid Steer Loaders, and All Small Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to kidney loop filter a hydraulic system or filter hydraulic oil returning from detachable work tools
- Hoses attach to a rectifier head which allows input flow from either 26.98 mm (1 1/16 in) O-ring ports
- Handle for easier carrying; hooks allow filter group to be hung on machine near work area
- Comes with 225-3116 Filter Element (3 micron) — optional 225-3115 Filter Element (6-micron) can be purchased separately
- Dirty filter indicator shows when to change element
- Optional components enable filtering for specific machines (refer to charts)

Specifications

- Weight of filter unit: 15.88 kg (35 lb)
- Maximum working pressure rating: 31,716 kPa (4,600 PSI)
- Maximum flow rating: 151.4 lpm (40 gpm)
- Collapse pressure rating: 20,995 kPa (3,045 PSI)
- Dirty filter rating: 517 kPa (75 PSI)

Part Number	Description	Quantity
301.8 (BFA) and 302.5 (4AZ) Mini Hydraulic Excavator		
030-8190	Adapter (-12 to -10)	2
152-8181	Male Coupler	1
152-8182	Female Coupler	1
165-0018	XT-3 ES Bulk Hose 15.9 mm (-10) ID	305 cm (10 ft)
221-0575	Permanent Hose Coupling	4
225-3114	Filter Housing	1
3D-2824	Seal — O-ring — STOR (SAE 1 1/16 — 12)	2
3J-1907	O-ring Seal for 5P-9617 Adapter	2
6V-4362	Adapter (-10 to -6)	2
301.5 (3YW), 301.6 (BDH), and 303.5 (AFW) Mini Hydraulic Excavator		
030-8190	Adapter (-12 to -10)	2
152-2996	Male Coupler	1
152-2997	Female Coupler	1
165-0018	XT-3 ES Bulk Hose 15.9 mm (-10) ID	305 cm (10 ft)
221-0575	Permanent Hose Coupling	4
225-3114	Filter Housing	1
2P-7636	Adapter (-10 to -8)	2
3D-2824	Seal — O-ring — STOR (SAE 1 1/16 — 12)	2
3K-0360	Seal — O-ring — STOR (SAE 3/4 — 16)	2
303 (DMA), 304.5 (ANR), 305 (DSA, 3YS), Mini Hydraulic Excavator; All Skid Steer Loaders, and All Small Wheel Loaders		
030-8190	Adapter (-12 to -10)	2
153-2994	Female Coupler	1
153-2995	Male Coupler	1
165-0018	XT-3 ES Bulk Hose 15.9 mm (-10) ID	305 cm (10 ft)
221-0575	Permanent Hose Coupling	4
225-3114	Filter Housing	1
2M-9780	Seal - O-ring - STOR (SAE 7/8 - 14)	2
3D-2824	Seal - O-ring - STOR (SAE 1 1/16 - 12)	2
9M-4584	Adapter (-10 to -10)	2

Adapters and Extensions

Recommended Tool

Model Usage: All Models with hydraulic tanks having 2 or 4 inch filler caps

Warranty: Caterpillar® Six Months



- Used to filter oil directly from hydraulic tank (eliminates placing oil in separate filtering cart/container)
- In tight places the extensions will extend the adapters for easy access
- Used with 188-3242 Filter Cart Group
- Easy-to-use; simply remove filler cap and screen, and then screw adapter onto neck of filler tube
- 2 adapters (1 for 50.8 mm [2 in] and 1 for 101.6 mm [4 in] hydraulic tank filler necks)
- Designed with quick disconnect fittings for quick hookup of hoses from filter cart (designed to prevent incorrect hookup)
- Oil is removed and replaced through adapter into tanks filler hole
- Uses an S·O·S fitting to release pressure buildup prior to removing adapter assembly (in some cases as oil heats up inside hydraulic tank, pressure can build up, resulting in possible hot oil spray, if pressure is not released before adapter is removed)
- Made from lightweight aluminum for easier handling and steel fittings for added durability
- Requires dealer supplied length of 25.4 mm (1 in) ID suction hose (hose length should allow end of hose to be within 15.24 cm [6 in] from bottom of tank) and S·O·S Sampling Adapter
- Overall size (W x L x H): 12.7 x 15.2 x 38.1 cm (5 x 6 x 15 in)

Reference

- NEHS0778, Using the 188-3242 Filter Cart Group

Part Number	Description	Weight
193-5900	Adapter	5 kg (11 lb)
193-5903	Adapter	4 kg (9 lb)
197-4626	Extension	1.58 kg (3.5 lb)
197-4627	Extension	0.68 kg (1.5 lb)

Hydraulic Tank Adapters for 554 and 574B Forwarders

Essential Tool

Model Usage: 554 and 574B Forwarders

Warranty: Caterpillar® Six Months



- Used to connect oil filter cart or kidney loop cart to hydraulic tank
- Used with 204-7392 Kidney Loop Cart (Air Motor Driven), CE
- Provides a quick-disconnect feature to quickly hook up filter cart
- Suction and return stand pipes are easily adjusted depending on depth of hydraulic tank
- Another adapter is listed in the table which works on any hydraulic tank with correct thread specifications

References

- NEHS0848, Tool Operating Manual, 204-7392 (Air Motor Driven) Filter Cart (Use on All Caterpillar Products)
- SEBF8788, Contamination Control Guideline, Procedure for Kidney Looping Forwarder Power Train and Hydraulic Oil

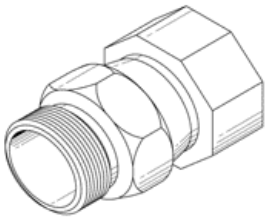
Part No.	Description	Model	ID of Sch 40 Black Pipe	Thread Size	Replaceable O-ring
198-1052	Adapter Assembly (suction)	—	1 in	M42 x 2	095-1608
228-6507	Adapter Assembly	554	3/4 in	1 5/16-12	7M-8485
236-2516	Adapter Assembly	574B	1/2 in	1 1/16-12	3D-2824
337-8034	Adapter Assembly	—	1 in	M52 x 2	095-1610

HYDRAULIC SYSTEM TOOLS

Adapter Assembly

Model Usage: Forwarders

Warranty: Caterpillar® Six Months



- Used to connect machine to filter cart for kidney loop cleaning of hydraulic system
- Used with 5P-7701 or 7M-8485 O-ring
- Provides easy, clean connection to hydraulic tank (helps to meet Contamination Control Initiative)
- Made of durable steel with rubber locking mechanism (allows tube to be locked in desired location)
- See reference manual for additional parts required for procedure

Reference

- SEBF8788, Procedure for Kidney Looping Forwarder Hydraulic Oil

Specifications

- Tank connecting thread: SAE 1 5/16-12
- Tube size: 3/4 in ID pipe
- Overall length: 63.4 mm (2.50in)

Part Number	Description
228-6507	Adapter Assembly

Fluid Recovery Unit

Model Usage: All Models

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Designed to reduce time and trouble associated with the handling and filtration of contaminated petroleum-based fluids and water glycol
- Sized to handle most hydraulic, transmission, crankcase or cooling system filtering/handling jobs on construction equipment
- Efficient — everything is there! No extra pans, drop cords, hoses, buckets or barrels are needed; short term fluid storage is no longer a messy problem
- Portable — operates on shop or portable air systems; easily moved by 1 person when full; fold-away tow bar is standard
- Easily operated — 3 quick operating ball valves change operation of unit from vacuum to discharge to recycling — easily changed spin-on filters are used throughout
- Economical — eliminates time consuming handling and disposal of seemingly contaminated fluids; eliminates the purchase of new fluids in many cases; decreases disposal and permit expenses
- Safe operation — tank safety relief valve and wheel locking device are standard
- Compact — storage and job accessibility is no problem due to compact design of the unit
- Environmentally safe — although it will not turn "bad" fluids into "new" fluid, it will convert contaminated fluids into clean, ready-to-use fluids; this eliminates hazardous waste and landfill problems
- Air supply — requires 65 to 80 PSI shop compressed air
- Pump unit — vacuum 60.6 to 68.1 lpm (16 to 18 gpm); discharge 60.3 lpm (16 gpm)
- Easy to clean — large 20.32 x 25.4 cm (8 x 10 in) cleanout door allows cleaning of unit
- Tank unit — 567.8 L (150 gal) holding tank is mounted on rubber tired wheels and caster; completely portable with fold-away tow bar
- Hoses — 31.75 mm x 6.10 m (1 1/4 in x 20 ft) clear industrial suction hose is lightweight and flexible; equipped with a quick 25.4 mm x 3.66 m (1 in x 12 ft) black discharge hose with quick coupling and fluid shutoff fill nozzle (standard)
- Drain pan — lightweight aluminum, 469.9 x 520.7 x 76.2 mm (18 1/2 x 20 1/2 x 3 in) drain pan; equipped with quick coupling connection; steel ball type rollers permit rolling on floor; low profile gets where other pans cannot
- Filtration — serviceman has the option of filtering fluids three separate times (three filters: suction, recycle and discharge; all have visual "dirty filter" indicators)

1. When fluid is initially being vacuumed from the sump or pan to the unit; the fluid passes into the tank through dual filters at a rate of 60.6 to 68.1 lpm (16 to 18 gpm).
2. While the fluid is in the holding tank it can be continually circulated through the dual recycle filters until the acceptable contamination level is attained.
3. When fluid is being pumped back into the vehicle, it goes through yet another set of dual discharge filters at a rate of 60.6 lpm (16 gpm)

Reference

- NEHS0648, Tool Operating Manual

Part Number	Description
173-8839	Fluid Recovery Unit
140-7992	Pump Group for 173-8839
Standard Replacement Filters [a]	
9U-5870	Recirculating and Discharge Filter Element, 13-micron absolute, synthetic media, spin-on
9U-6985	Suction Filter Element, 100-mesh, stainless steel media, spin-on
Optional Replacement Filters	
9U-6983	Replacement Filter, 5-micron absolute
9U-6984	Replacement Filter, 22-micron absolute

a. All spin-on filters listed have synthetic filtering media for compatibility with petroleum-based and water-based fluids.

Filter Cart Group

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Used to flush and clean final drive, rear axle, differential, small hydraulic tanks, and/or hydraulic systems with less than 110 L (30 gal) capacity; can also be used in any filtering application for oil contamination control
- Allows oil filtering directly from hydraulic tank — eliminates placing oil in separate filtering cart/container
- Filters hydraulic fluids from 5W to 90W
- Easily moved around in field conditions on two 30 cm (12 in) pneumatic tires
- Oil is pumped through the filter cart using an air-powered, diaphragm pump
- Maximum output pressure of fluid being pumped is equal to air inlet air pressure
- A dirty filter indicator indicates when to change filter elements
- Protective rails help prevent damage during transportation
- A 161-7059 Diaphragm Repair Kit and a 196-9504 Air Valve Repair Kit are sold separately

References

- SEBF8797, Procedure for Filtering Final Drives, Rear Axles, and Differentials on Caterpillar Machines
- NEHS0899, Tool Operating Manual, Using the 231-6284 30 Gallon Filter Cart

Specifications

- Capacity: 114 L (30 gal)
- Maximum free flow: 159 lpm (42 gpm)
- Maximum size of pumpable solids: 3.0 mm (0.12 in)
- Air inlet: 12.7 mm (0.5 in)
- Recommended operating pressure: 414 kPa (60 PSI)
- Maximum air pressure: 827 kPa (120 PSI)
- Minimum air pressure: 138 kPa (20 PSI)
- Overall size (H x D x W): 953.0 x 762.0 x 673.0 mm (37.5 x 30.0 x 26.5 in)
- Weight: 82.6 kg (182 lb)

Part Number	Description
231-6284	30 Gallon Filter Cart

Diesel Fuel Flushing Cart

Model Usage: All Cat® Products

Warranty: Caterpillar® Six Months



- Used to flush and clean diesel fuel systems; with an additional quick disconnect added to the cart it can be used to filter fuel tanks
- Easily moved around in field conditions on two 30 cm (12.0 in) pneumatic tires
- Oil is pumped through the filter cart using an air-powered, diaphragm pump
- Maximum output pressure of fluid being pumped is equal to air inlet air pressure
- A dirty filter indicator indicates when to change filter elements
- Protective rails help prevent damage during transportation
- A 161-7059 Diaphragm Repair Kit and a 196-9504 Air Valve Repair Kit are sold separately

Specifications

- Capacity: 114 L (30 gal)
- Maximum free flow: 159 lpm (42 gpm)
- Maximum size of pumpable solids: 3.0 mm (0.12 in)
- Air inlet: 12.7 mm (0.50 in)
- Recommended operating pressure: 137 – 276 kPa (20 – 40 PSI)
- Maximum air pressure: 310 kPa (45 PSI)
- Minimum air pressure: 138 kPa (20 PSI)
- Overall size (H x D x W): 953.0 x 762.0 x 673.0 mm (37.5 x 30.0 x 26.5 in)
- Weight: 89.4 kg (197 lb)

Reference

- NEHS0969, Tool Operating Manual

Part Number	Description
292-8713	Diesel Fuel Flushing Cart

HYDRAULIC SYSTEM TOOLS

Filter Cart Group

Essential Tool

Model Usage: Diesel Fuel Engines

Warranty: Caterpillar® Six Months



- Used to clean diesel fuel systems by removing contaminants in fuel
- Lightweight, portable design for easy transport to work site
- Use before engine re-start, or after replacement of a failed fuel system component
- Kidney loop fuel through filter element, reservoir tank, and engine fuel system until desired level of cleanliness is achieved
- Air powered diaphragm pump for dependable pumping action
- Dirty filter indicator shows when filter elements require service
- Includes basic suction/return hose and discharge/pressure hose assemblies (additional dealer-supplied adapters are required)

Specifications

- Air diaphragm pump: 138 to 414 kPa (20 to 60 PSI) (operating pressure range)
- Pressure air relief valve: 483 kPa (70.0 PSI)
- Maximum output pressure: Pressure of the fluid pumped should be equal to the air inlet pressure
- Tank capacity: 18.9 L (5.0 gal)
- Fluid cycle: 0.57 lpm (0.15 gpm)
- SOS valve: Standard
- Operating temperature: 4.4° to 65.5°C (40° to 150°F)
- Noise level: 78 dB at 483 kPa (70 PSI) air pressure
- Overall dimensions (W x D x H): 365.0 x 466.0 x 535.0 mm (14.37 x 18.35 x 21.06 in)
- Ground strap length: 305 cm (10 ft)
- Suction/return hose length: 427 cm (14 ft)
- Discharge/pressure hose length: 671 cm (22 ft)
- Weight: 13.6 kg (30 lb)

Reference

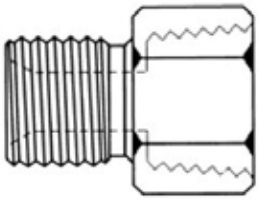
- NEHS0989, Tool Operating Manual, 295-5490 Portable Diesel Fuel System Filtration Unit

Item	Part Number	Description
—	295-5490	Filter Cart Group
Service/Repair Parts		
1	295-5589	Pump (Not Serviced)
2	295-8469	Dust Cap
3	295-8468	Dust Cap
Not Shown		
—	295-5590	Air Repair Kit
—	295-5591	Diaphragm Repair Kit

Pump Test Fittings

Model Usage: See Chart

Warranty: Six Months



- Fittings adapt expanded mining pumps to hydraulic test bench

Fitting	Thread (Male x Female)	Pump Usage	Model Usage
533-1169	M33 STOR x ½" NPTF	471-5739	6018
533-1170	M33 STOR x 1" NPTF	468-9838 417-9308 417-9312	6015, AP300F AP300D
533-1171	M42 STOR x 1" NPTF	437-0161 437-0159 485-8432 484-6741 467-9656 468-9837 468-9838 468-9840 471-5739	6015, 6018, 6030, 6050, 6060, 6090
533-1172	M22 STOR x M14 STOR	437-0163	6040, 6050
533-1173	M26 STOR x ¾" NPTF	162-9592 180-0459 233-6702 484-6741 485-8432	MTC735, MTC745, MTC755, MTC765, MTC835, MTC845, MTC855, MTC865, MT735, MT745, MT755, MT765, MT835, MT845, MT855, MT865, 6030, 554
533-1174	¾ JIC x M20 Swivel	437-0161 467-9658	6015, 6018, 6030

Heavy Weight Oil Filter Cart

Model Usage: Hydraulic Systems on 785, 789, 793 Off-Highway Trucks and Power Train Oils

Warranty: Caterpillar® Six Months



- Replaces discontinued 201-8131 and discontinued 183-9301 Carts
- Used to filter fluids from 5W (lightweight oils) to 90W (final drive lubricants)
- Variable pump delivery
- Powered by compressed air
- A differential pressure gauge is provided to monitor filter element condition
- Extra large capacity filter for extended time between dirty element change
- Wire-reinforced hoses; will not collapse with "hot" oil
- Built-in tool box
- Convenient hose caddy for ease of storage
- Mobile cart on hard plastic casters

Reference

- NEHS0847, Tool Operating Manual

Performance Note:

- Fluid flow through filter for maximum efficiency is dependent upon fluid temperature, fluid viscosity, supply air pressure, supply air volume, and filter media rating.

Specifications

- Prime mover: Air diaphragm pump
- Operating pressure: 138 – 689 kPa (20 – 100 PSI)
- Variable delivery: 0 – 340 lpm (0 – 90 gpm)
- Supply air consumption: 0.47 liter/s (1 cfm) per 3.78 liter/m (1 gpm) of fluid pumped
- Maximum output pressure of fluid being pumped equals: Air inlet pressure
- Hydraulic fluids: 5W to 90W
- Operating temperature: 0° to 66°C (0° to 150°F)
- Standard filtration: 10-micron, absolute
- Extra large filter: 27.3 cm diameter x 82.5 cm (10.7 in diameter x 32.5 in)
- Outlet hoses: Two #844, 38.1 mm (1 1/2 in) diameter x (25 ft) long (1 1/2 in Cam-lok fittings)
- Inlet hose: #844, 50.8 mm (2 in) diameter x 4.27 m (14 ft) long (1 1/2 in Cam-lok fittings)
- Tool box: 40.6 x 25.4 x 22.8 cm (16 x 10 x 9 in)
- Overall dimensions: 122 x 157 x 102 cm (48 x 62 x 40 in)
- Noise level: 82dB (at 110 PSI air pressure)
- Weight: 318 kg (700 lb)

Part Number	Description
245-1769	Oil Filter Cart
161-7059	Diaphragm Repair Kit
185-1375	Filter Element, 25-micron absolute
188-7020	Filter Element, 5-micron absolute
192-1560	Filter Element, 10-micron
196-9504	Air Valve Repair Kit
212-7125	Filter Element, 3-micron
3H-0976	O-ring (Element to Head)
4C-6786	Pump (complete)
Dust Caps/Plugs Used with245-1769	
201-8128	63.5 mm (2 1/2 in) diameter aluminum male plug used with 190-8321 Quick Disconnect Coupler or suction line
201-8129	50.8 mm (2 in) diameter aluminum male plug used with 190-8321 Quick Disconnect Coupler or return line
201-8552	63.5 mm (2 1/2 in) diameter aluminum female cap used with the following adapters: 190-9936, 190-9938, 190-9940, 190-9942, or 190-9944
201-8553	50.8 mm (2 in) diameter aluminum female cap used with the following adapters: 190-9935, 190-9937, 190-9939, 190-9941, or 190-9943
8C-3451	Dust Cap (not pictured)

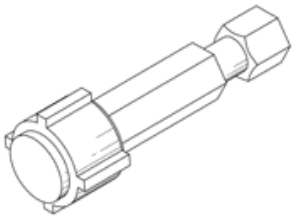
HYDRAULIC SYSTEM TOOLS

Spanner Kit

Essential Tool

Model Usage: 416E Backhoe Loader

Warranty: Caterpillar® Six Months



- Used to remove and install relief valve in 259-6758 Valve Group
- Used with 6mm socket wrench (dealer supplied)
- Spanner head fits inside hydraulic valve body
- Four equally spaced teeth engage relief valve for proper removal and installation
- Includes sealable rust inhibitor bag for proper tool storage

References

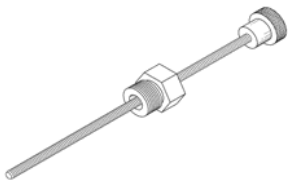
- RENR7164, Service Manual, 414E, 416E, 420E, 422E, 428E, 430E, 432E, 434E, 442E, and 444E Backhoe Loaders Machine Systems
- KENR7659, Service Manual, 416E, 420E, and 430E Backhoe Loaders Machine Systems
- RENR8043, Service Manual, 422E, 428E, 432E, 434E, 442E, and 444E Backhoe Loaders Machine System

Part Number	Description
341-4073	Spanner Kit

Valve Adjuster

Model Usage: E-Series Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to manually lower boom during engine stall
- Temporarily replaces boom lower pilot line on main control valve
- Remove pilot line and thread plug into control valve
- Slowly turn knob to depress internal valve stem and relieve oil back into reservoir tank
- Allows controlled lowering of boom without a power source

Part Number	Description
308-4547	Valve Adjuster

Nitrogen Booster System

Model Usage: 336E, D7E

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to charge Nitrogen accumulators requiring pressures up to 3,100 psi
- Runs on compressed shop air or using the gas from nitrogen bottle
- Comes with Manual start & stop, safety relief valve, gas inlet and outlet gauges
- Provides an efficient and quick way to charge accumulators where high pressure Nitrogen bottles are not available

Part Number	Description	Dimensions	Weight
455-0126	Nitrogen Booster System	762 X 305 X 305 mm (30 X 12 X 12 in)	27.2 kg (60 lb)
Service Repair Parts			
455-0127	Seal Kit - Gas booster Air section	-	0.4 kg (1 lb)
455-0129	Seal Kit - Gas booster Air section	-	0.4 kg (1 lb)

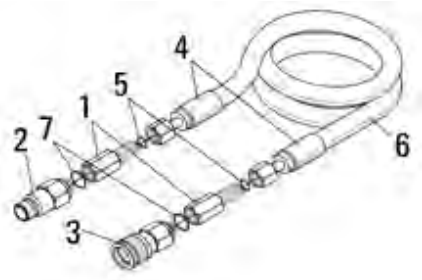
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Hose Assembly

Essential Tool

Model Usage: 248B, 268B, 246C, 256C, 262C, 272C, 277C, 287C, and 297C Skid Steer Loaders

Warranty: None



- Used to test and adjust high-flow, hydraulic systems
- Used on both B and C-Series models

Reference

- RENR8747, Service Manual (248B, 268B)
- KENR5113, Service Manual (246C, 256C, 262C, 272C)
- KENR5196, Service Manual (277C, 287C, 297C)

Item	Part Number	Description
1	8C-8835	Bulkhead Adapter
2	218-5843	Nipple
3	218-5845	Coupler
4	153-0785	Coupling Assembly
5	6V-8397	O-ring Seal
6	161-1815	Hose, 152 cm (60 in)
7	3K-0360	Seal – O-ring – STOR (SAE 3/4 – 16)

Spanner Tool, Sleeve

Model Usage: 994 Wheel Loaders

Warranty: Caterpillar® Six Months





9U-5919 Spanner Tool

- Used to disassemble and assemble 6E-0512 and 101-9571 Threaded Piston in 9T-9021, 9T-9022, 9T-9024, and 9T-9025 Tilt Cylinder Groups
- Used with torque wrench
- Plastic ID of spanner to prevent damage to cylinder rod threads during use
- Enables required piston assembly torque of 816 N·m (600 ft-lb) to be achieved (not possible with conventional spanner tools)
- Use of any other tool can result in damage to piston or rod, and result in improper assembly
- Provides positive, non-slip engagement of spanner pins

Specifications

- Construction: Steel
- Outside diameter: 203 mm (8 in)
- Inside diameter: 114.0 mm (4.5 in)
- Length: 152 mm (6 in)
- Weight: 15 kg (33 lb)
- Square drive: 1 in

Part Number	Description
9U-5919	Spanner Tool
9U-5920	Sleeve

Lock Nut

Model Usage: D6T

Warranty: Caterpillar® Six Months



- Required for removal and installation of the angle cylinder piston on D6T VPAT Track-Type Tractors
- Features replaceable 7.5 mm diameter pins 458-3598
- Can be used with a standard 46 mm socket (matching the piston locknut) for manual torque wrenches
- The spanner can also be used with a hydraulic cylinder bench for R&I of the piston
- Set screws are provided for securing the spanner to the piston when using a manual torque wrench

Specifications

- OD: 114 mm (4.9 in)
- ID: 30 mm (1.2 in)
- Overall Height: 85 mm (3.3 in)
- Weight: 2.16 kg (4.8 lb)

Part Number	Description
455-7436	Lock Nut

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Piston Spanner Assemblies

Model Usage: D25C and D, D30C and D, D35C and HP, D40D, D44B, D250B, D300B and D, D350C and D, D400, D400D, D550B Articulated Trucks

Warranty: Caterpillar® Six Months

- Removes/installs pistons on cylinder rods
- Used with 3/4 inch square drive torque wrench, ratchet, or breaker bar
- Quick and easy assembly and disassembly
- Maintains positive engagement and eliminates damage to rod surface
- Saves part replacement costs by eliminating damage by destructive methods such as cutting torch or welding

9U-6110 Spanner Wrench

- Used to remove and install threaded pistons in 6U-3247 and 5U-6864 Suspension Cylinders
- Pins inside of tool provide positive non-slip engagement during torquing (using standard adjustable-type spanner is ineffective and usually results in damaged rod or piston)
- "Tubular" design provides slip fit around piston; 3 set screws also provide assurance wrench will not become disengaged during tightening or loosening

Reference

- SENR8220, Service Manual, D300D Vehicle Systems Disassembly and Assembly

Part No.	Description	Inside Diameter	Depth	Width	Length (to end of handle)	Number of Pins	Pin Size	Bolt Circle of Pins	Weight	Square Drive
9U-6110	Spanner	101.6 mm (4.00 in)	61 mm (2.4 in)	—	—	2	3L-3324 Pin; 9.50 mm (0.375 in)	72.00 mm (2.834 in)	2 kg (4.5 lb)	3/4 in

Spanner Wrench



Spanner Wrench Usage Chart

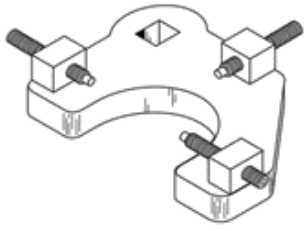
Spanner Wrench Part	9U-6110
Piston Serviced	6U-3247
Type Cylinder	Suspension
Vehicle Models	D250B
	D35C
	D25C
	D300B
	D300D

Adjustable Cylinder Spanner Wrench

Essential Tool

Model Usage: Duece

Warranty: Caterpillar® Six Months



- Used to remove threaded glands from hydraulic cylinders
- Used with torque wrench (installation only)
- Adjustable for different diameter heads (must have 4 radial holes on outer diameter)

Specifications

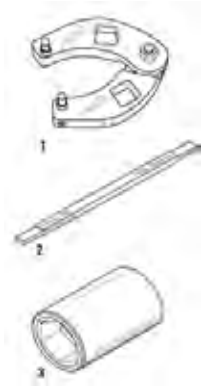
- Minimum gland adjustment: 104.78 mm (4.125 in)
- Maximum gland adjustment: 139.70 mm (5.500 in)
- Square drive: 3/4 in
- Maximum installation torque: 510 N·m (375 ft-lb)
- Setscrew: 9X-6405

Part Number	Description
160-0261	Adjustable Cylinder Spanner Wrench

Repair Tools for Backhoes and B-Series Telehandlers

Model Usage: TH220B, TH330B, TH350B, TH360B, TH460B, TH560B, TH580B, and Backhoe Loader

Warranty: Caterpillar® Six Months



242-0780 Spanner Wrench

- Used to service B-series Telehandlers only
- Used to disassemble and assemble tow hitch cylinder
- Used with a 1/2 inch square drive ratchet
- Comes with 4 dowels (1/4 in, 5/16 in, 4.5 mm, and 5.5 mm) to fit pin holes
- Fits Nut Sizes up to 84.5 mm (3.327 inch) max spread

242-0992 Brake Gauge

- Used to service B-series Telehandlers and Backhoe Loaders
- Replaces canceled 208-5524 Brake Gauge
- Used to check brake disk wear and determine whether disk replacement is needed
- Checks for minimum thickness between brake disks
- Gauge is inserted through inspection port in axle housing

242-0779 Socket

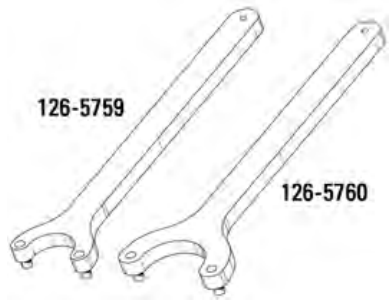
- Used to service B-series Telehandlers only
- Used to remove/install tilt cylinder lock valve
- 36 mm deep socket with 1/2 inch square drive

Item	Part Number	Description
1	242-0780	Spanner Wrench
2	242-0992	Brake Gauge
3	242-0779	Socket

Cylinder Spanner Wrench

Model Usage: 525 Log Skidders Equipped with ESCO Series 2000 Sorting and Bunching Grapples

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble grapple boom and tong cylinders (1 wrench removes gland from cylinder tube, the other removes piston from rod)
- Designed to clear cylinder rod guard
- Two 9.6 mm (0.38 in) pins provide positive engagement with gland or piston
- Using other tools to remove glands and piston can cause part damage resulting in increased machine downtime
- HEX for socket to apply specified torque

Part No.	Distance Between Pins	Pin Diameter	Overall Width	Overall Length	Hex Size
126-5759	68.3 mm (2.69 in)	9.6 mm (0.38 in)	93 mm (3.66 in)	406 mm (15.98 in)	1 1/8 in
126-5760	92.2 mm (3.63 in)	9.6 mm (0.38 in)	117 mm (4.61 in)	406 mm (15.98 in)	1 5/16 in

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Spanner Wrench

Essential Tool

Model Usage: 246C (JAY1-UP), 256C (DWS1-UP), 262C (MST1-UP), 272C (RED1-UP) Skid Steer Loader, 277C (JWF1-UP), 287C (MAS1-UP), 297C (GCP1-UP) Multi-Terrain Loader

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble tilt and lift cylinders



Part No.	Description	Capacity	Overall Length	Pin Diameter	Square Drive
292-9213	Spanner Wrench	31.8 – 76.2 mm (1.25 – 3.00 in)	204.7 mm (8.06 in)	4.8 mm (0.188 in)	—
292-9214	Spanner Wrench	50.8 – 120.7 mm (2.00 – 4.75 in)	285.6 mm (11.24 in)	6.0 mm (0.250 in)	—
292-9215	Offset Spanner Wrench	31.8 – 76.2 mm (1.25 – 3.00 in)	135 mm (5.31 in)	4.8 mm (0.188 in)	1/2 in
292-9216	Offset Spanner Wrench	50.8 – 120.7 mm (2.00 – 4.75 in)	162 mm (6.38 in)	6.0 mm (0.250 in)	1/2 in

Hydraulic Cylinder Rod Seal Guides

Warranty: Caterpillar® Six Months

- Needed for installation of hydraulic cylinder heads with polyurethane seals used on square shoulder rods
- Chart correlates guides with cylinder rod diameter, thread size, and application

Seal Guide Number	Rod Larger Outer Diameter	Rod Smaller Outer Diameter	Rod Thread Inner Diameter	Length	Cylinder Where Used
129-4539	137.16 mm (5.40 in)	130.05 mm (5.12 in)	120.73 mm (4.75 in)	101.60 mm (4.00 in)	992G Tilt Cylinder
129-4541	146.05 mm (5.75 in)	139.70 mm (5.50 in)	127.07 mm (5.00 in)	99.06 mm (3.90 in)	—
132-5139	114.30 mm (4.50 in)	99.57 mm (3.92 in)	82.55 mm (3.25 in)	114.30 mm (4.50 in)	5230 Bucket Dump
132-5141	152.40 mm (6.00 in)	132.59 mm (5.22 in)	82.55 mm (3.25 in)	152.40 mm (6.00 in)	5130 Front Shovel
134-9803	88.65 mm (3.49 in)	76.20 mm (3.00 in)	63.50 mm (2.50 in)	88.90 mm (3.50 in)	D10N Bulldozer Lift
134-9804	88.65 mm (3.49 in)	81.79 mm (3.22 in)	76.20 mm (3.00 in)	99.06 mm (3.90 in)	D11N Bulldozer Lift
158-0511	44.96 mm (1.77 in)	25.40 mm (1.00 in)	31.75 mm (1.25 in)	128 mm (5.0 in)	CS531, CS533, CS563, CS583, CP533, CP Eccentric Group
162-7704	121.00 mm (4.76 in)	105.40 mm (4.15 in)	76.20 mm (3.00 in)	125.00 mm (4.92 in)	—
187-1054	127.00 mm (5.00 in)	95.25 mm (3.75 in)	88.90 mm (3.50 in)	157.48 mm (6.20 in)	D11R Carrydozer Tilt
1P-0763	38.10 mm (1.50 in)	34.29 mm (1.35 in)	31.75 mm (1.25 in)	57.15 mm (2.25 in)	950 Steering
1P-0765	57.15 mm (2.25 in)	53.34 mm (2.10 in)	38.10 mm (1.50 in)	57.15 mm (2.25 in)	834 Steering; 657 Hitch; 920 Bucket Lift
1P-0766	57.15 mm (2.25 in)	53.34 mm (2.10 in)	44.45 mm (1.75 in)	57.15 mm (2.25 in)	966, 980, 977K Logging Fork
1P-0767	57.15 mm (2.25 in)	56.00 mm (2.20 in)	44.50 mm (1.75 in)	57.15 mm (2.25 in)	769B Steering
1P-0768	63.50 mm (2.50 in)	59.18 mm (2.33 in)	50.80 mm (2.00 in)	57.15 mm (2.25 in)	992 Steering; 983 Demolition Bucket; 8R, 9R Blade Rip Tooth; 950, 955K, 966C Bucket Lift; 950, 988, 966C Bucket Tilt; Pitch; 988B Logging Fork
1P-0769	69.85 mm (2.75 in)	63.50 mm (2.50 in)	57.15 mm (2.25 in)	57.15 mm (2.25 in)	977K Bucket Tilt
1P-0770	76.20 mm (3.00 in)	71.70 mm (2.82 in)	57.15 mm (2.25 in)	57.15 mm (2.25 in)	980 Bucket Tilt
1P-0772	82.55 mm (3.25 in)	78.05 mm (3.07 in)	57.15 mm (2.25 in)	57.15 mm (2.25 in)	8D Ripper Lift
1P-0773	82.55 mm (3.25 in)	78.05 mm (3.07 in)	63.50 mm (2.50 in)	57.15 mm (2.25 in)	983 Ripper Lift, 988B Bucket Tilt
1P-0774	82.55 mm (3.25 in)	78.05 mm (3.07 in)	69.85 mm (2.75 in)	57.15 mm (2.25 in)	983, 988 Bucket Lift, 9D Ripper Lift
1U-8606	89.97 mm (3.54 in)	82.00 mm (3.23 in)	72.15 mm (2.84 in)	196.00 mm (7.72 in)	MS240-8, E240
221-5385	101.60 mm (4.00 in)	92.66 mm (3.65 in)	82.55 mm (3.25 in)	211.00 mm (8.31 in)	854G, D11R Tilt
233-7206	44.40 mm (1.75 in)	38.00 mm (1.50 in)	32.00 mm (1.26 in)	82.00 mm (3.23 in)	TH360B, TH460B Rear Frame Lock
233-7207	44.40 mm (1.75 in)	38.00 mm (1.50 in)	32.00 mm (1.26 in)	100.00 mm (3.94 in)	TH460B Frame Level
233-7208	50.75 mm (2.00 in)	46.00 mm (1.81 in)	38.25 mm (1.51 in)	87.30 mm (3.44 in)	TH350B, TH360B Frame Level
485-0088	129.97 mm (5.12 in)	105 mm (4.13 in)	90 mm (3.54 in)	248 mm (9.76 in)	988K

Hydraulic Cylinder Rod Seal Guides (Continued)

Seal Guide Number	Rod Larger Outer Diameter	Rod Smaller Outer Diameter	Rod Thread Inner Diameter	Length	Cylinder Where Used
233-7209	64.95 mm (2.56 in)	54.00 mm (2.13 in)	44.60 mm (1.76 in)	92.00 mm (3.62 in)	TH360B, TH460B Stabilizer Cylinder
233-7211	74.95 mm (2.95 in)	62.00 mm (2.44 in)	52.15 mm (2.05 in)	118.00 mm (4.65 in)	TH360B/460B Fork Cylinder
233-7213	101.55 mm (4.00 in)	69.00 mm (2.72 in)	57.20 mm (2.25 in)	97.00 mm (3.82 in)	TH360B Boom Raise Cylinder
233-7215	101.55 mm (4.00 in)	69.00 mm (2.72 in)	57.20 mm (2.25 in)	117.00 mm (4.61 in)	TH360B Boom Raise Cylinder
244-8857	79.95 mm (3.15 in)	54.00 mm (2.13 in)	44.45 mm (1.75 in)	93.00 mm (3.66 in)	TH330B Boom Raise
2P-8284	69.85 mm (2.75 in)	66.04 mm (2.60 in)	50.80 mm (2.00 in)	57.15 mm (2.25 in)	988 Bucket Tilt
2P-8301	63.50 mm (2.50 in)	59.18 mm (2.33 in)	44.45 mm (1.75 in)	57.15 mm (2.25 in)	623 Ejector
365-1766	64.95 mm (2.56 in)	59.21 mm (2.33 in)	50.80 mm (2.00 in)	57.15 mm (2.25 in)	420E Stick Cylinder
4C-6746	101.60 mm (4.00 in)	95.25 mm (3.75 in)	162.56 mm (6.40 in)	162.05 mm (6.38 in)	D10N Tilt Cylinder
4C-8122	107.95 mm (4.25 in)	101.60 mm (4.00 in)	82.55 mm (3.25 in)	57.15 mm (2.25 in)	994
4C-8123	139.70 mm (5.50 in)	133.10 mm (5.24 in)	82.55 mm (3.25 in)	82.55 mm (3.25 in)	—
430-4385	84.95 mm (3.34 in)	75 mm (2.95 in)	64.5 mm (2.54 in)	150 mm (5.91 in)	950K Wheel Loader
5P-0320	50.80 mm (2.00 in)	46.48 mm (1.83 in)	38.10 mm (1.50 in)	57.15 mm (2.25 in)	J613 Steering and Bowl Lift; 920, 930, 951B; 920, 930, 951B Multi-Purpose Bucket; Side Dump Bucket; 920, 930 Bucket Tilt
5P-3537	38.10 mm (1.50 in)	34.29 mm (1.35 in)	28.58 mm (1.13 in)	57.15 mm (2.25 in)	920, 930 Steering
5P-5191	76.15 mm (3.00 in)	72.39 mm (2.85 in)	50.80 mm (2.00 in)	57.15 mm (2.25 in)	623B Elevating Scraper; D9H Dozer Lift
5P-6155	66.04 mm (2.60 in)	50.80 mm (2.00 in)	44.45 mm (1.75 in)	57.15 mm (2.25 in)	D8 Bulldozer Tilt
5P-6156	88.90 mm (3.50 in)	85.09 mm (3.35 in)	63.50 mm (2.50 in)	57.15 mm (2.25 in)	225 Clamshell; 980C Lift
5P-7382	101.60 mm (4.00 in)	97.10 mm (3.82 in)	69.85 mm (2.75 in)	57.15 mm (2.25 in)	988B Bucket Lift
5P-8565	63.50 mm (2.50 in)	59.18 mm (2.33 in)	44.45 mm (1.75 in)	57.15 mm (2.25 in)	D7F, D7G Dozer Lift
5P-8725	101.60 mm (4.00 in)	97.10 mm (3.82 in)	63.50 mm (2.50 in)	57.15 mm (2.25 in)	D10 Bulldozer Lift
6V-3036	82.55 mm (3.25 in)	78.05 mm (3.07 in)	50.80 mm (2.00 in)	57.15 mm (2.25 in)	D9L Bulldozer Lift
6V-3038	95.25 mm (3.75 in)	88.90 mm (3.50 in)	63.50 mm (2.50 in)	57.15 mm (2.25 in)	963 Bucket Tilt
6V-4938	95.25 mm (3.75 in)	88.90 mm (3.50 in)	69.85 mm (2.75 in)	57.15 mm (2.25 in)	227 Stick
6V-6013	76.20 mm (3.00 in)	71.70 mm (2.82 in)	44.45 mm (1.75 in)	57.15 mm (2.25 in)	D8L Bulldozer Lift
6V-6159	28.58 mm (1.13 in)	21.84 mm (0.86 in)	16.00 mm (0.63 in)	38.10 mm (1.50 in)	—
6V-9052	59.94 mm (2.36 in)	59.94 mm (2.36 in)	50.80 mm (2.00 in)	38.10 mm (1.50 in)	—
6V-9072	44.45 mm (1.75 in)	43.94 mm (1.73 in)	39.62 mm (1.56 in)	38.10 mm (1.50 in)	—
8T-9156	53.34 mm (2.10 in)	33.02 mm (1.30 in)	33.02 mm (1.30 in)	74.93 mm (2.95 in)	—
8T-9158	45.72 mm (1.80 in)	36.32 mm (1.43 in)	32.26 mm (1.27 in)	45.47 mm (1.79 in)	—
8T-9159	50.80 mm (2.00 in)	30.48 mm (1.20 in)	44.70 mm (1.76 in)	83.82 mm (3.30 in)	—
9U-7456	127.00 mm (5.00 in)	119.89 mm (4.72 in)	97.00 mm (3.82 in)	299.72 mm (11.80 in)	—
9U-7953	101.60 mm (4.00 in)	97.10 mm (3.82 in)	82.55 mm (3.25 in)	57.15 mm (2.25 in)	992C Bucket Lift
445-4924	84.95 mm (3.34 in)	75.0 mm (2.95 in)	64.5 mm (2.53 in)	150.0 mm (5.90 in)	980K Wheel Loader

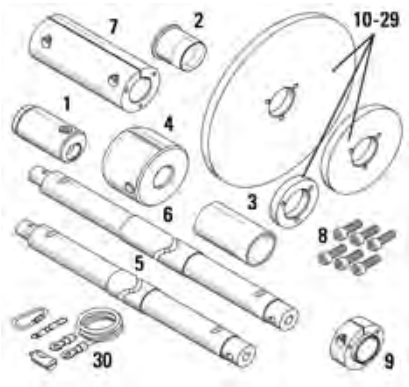
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Sensor Installation Tools

Essential Tool

Model Usage: D8T (KPZ, J8B); D9T (RJS); D10T (RJG) Track -Type Tractors 416E (SHA); 420E (HLS, KMW); 430E (EAT, DDT); 432E (BXE); 434E (FSH); 442E (GKZ) Backhoe Loaders 988G (BNH); 980H (JMS) Wheel Loaders 824H (ASX); 834H (BTX); 825H (AZW); 826H (AWF); 836H (BXD) Wheel Dozers

Warranty: Caterpillar® Six Months

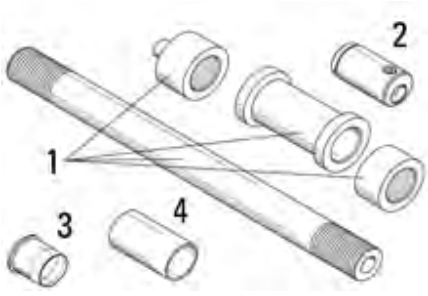


265-4177 Service Group

- Used to install sensors in clevis-mounted, position-sensing hydraulic cylinders (PCS)
- Ensures accurate alignment of sensor
- Reduces possibility of damage to seal on sensor
- Reduces chances of damaging cylinder bore during installation

Item	Part Number	Description	Qty.
—	4C-9662	Instrument Case, 355 x 832 x 115 mm (14.0 x 32.8 x 4.5 in)	1
1	265-4180	Installer Group	1
2	265-4181	Sleeve	1
3	265-4182	Sleeve Removal Tool	1
4	265-4183	Driver Group (includes driver cap and bolt)	1
5	265-4184	Extension Tube, 50.0 cm (19.7 in)	2
6	265-4185	Extension Tube, 75.0 cm (29.5 in)	3
7	265-4186	Coupler Group	2
8	8T-0269	M6 x 1 Bolt	6
9	265-4187	Support Collar Group	1
10	265-4188	Support Disc, 266.50 mm (10.49 in)	1
11	265-4189	Support Disc, 253.80 mm (9.99 in)	1
12	265-4190	Support Disc, 234.75 mm (9.24 in)	1
13	265-4191	Support Disc, 219.80 mm (8.65 in)	1
14	265-4192	Support Disc, 196.65 mm (7.74 in)	1
15	265-4193	Support Disc, 179.80 mm (7.08 in)	1
16	265-4194	Support Disc, 158.55 mm (6.24 in)	1
17	265-4195	Support Disc, 149.80 mm (5.89 in)	1
18	265-4196	Support Disc, 139.80 mm (5.50 in)	1
19	265-4197	Support Disc, 133.05 mm (5.24 in)	1
20	265-4198	Support Disc, 129.80 mm (5.11 in)	1
21	265-4199	Support Disc, 126.80 mm (4.99 in)	1
22	265-4200	Support Disc, 120.45 mm (4.74 in)	1
23	265-4201	Support Disc, 119.80 mm (4.72 in)	1
24	265-4202	Support Disc, 114.10 mm (4.49 in)	1
25	265-4203	Support Disc, 107.75 mm (4.24 in)	1
26	265-4204	Support Disc, 95.05 mm (3.74 in)	1
27	265-4205	Support Disc, 88.70 mm (3.49 in)	1
28	265-4206	Support Disc, 84.80 mm (3.34 in)	1
29	265-4207	Support Disc, 76.00 mm (2.99 in)	1
30	265-4208	Wire Guide Group	1

Sensor Installation Tools



265-4209 Service Group

- Used to install sensors in trunnion-mounted, position-sensing hydraulic cylinders (PCS)
- Ensures accurate alignment of sensor
- Reduces possibility of damage to seal on sensor

Reference

- NEHS0935, Tool Operating Manual, Using the 265-4177 and 265-4209 Service Tool Groups to Install Sensors in Position-Sensing Hydraulic Cylinders

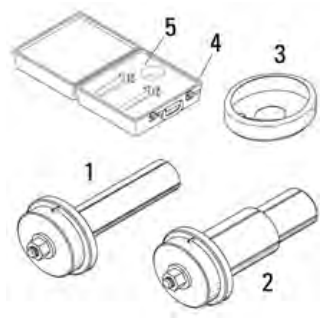
Item	Part Number	Description	Qty
—	265-4211	Foam Insert	1
—	4C-9662	Instrument Case, 355 x 832 x 115 mm (14.0 x 32.8 x 4.5 in)	1
1	265-4212	Slide Hammer Group	1
2	265-4180	Installer Group	1
3	265-4181	Sleeve	1
4	265-4182	Sleeve Removal Tool	1

Position Sensor Cylinder (PSC) Gauge Tools

Essential Tool

Model Usage: 12M, 14M, 16M, and 24M Motor Graders 120M, 140M, 160M Motor Graders, 966K, 966L, 972K, 980K

Warranty: Caterpillar® Six Months



- Used to precisely measure center-to-center distances between rod ends of steering cylinders
- Used with two 5P-8637 V-Blocks
- Measures cylinders in closed and open position
- Obtaining accurate measurements are necessary after servicing cylinders
- Measurements are necessary to input trim values into ECM (controls steering logic)
- Each gauge group includes two pins; a stepped gauge pin for cylinder rod ends and a straight gauge pin for cylinder tube ends and a precision measuring tape

Reference

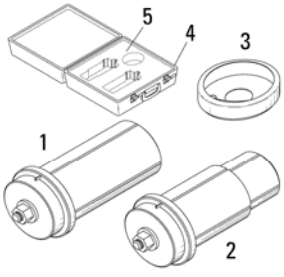
- NEHS1038, Tool Operating Manual, 307-7586 PSC Gauge Group, 321-5932 PSC Gauge Group, Used For Manual Length Measurement of Position Sensing Steering Cylinders on M-Series Motor Graders

307-7586 PSC Gauge Group for 120M, 140M, and 160M Motor Graders

Item	Description
Not shown	NEEG3106 Decal
Not shown	NEHS1038 Tool Operating Manual

Item	Part Number	Description
—	307-7586	Gauge Group
—	321-5932	Gauge Group
307-7586 PSC Gauge Group for 120M, 140M, and 160M Motor Graders		
1	307-6222	Gauge Pin Assembly
2	307-6223	Gauge Pin Assembly
3	307-6224	Pi Tape (with case)
4	4C-3975	Storage Case
5	307-7585	Foam Insert

Gauge Group for 24M Motor Grader



321-5932 PSC Gauge Group for 24M Motor Grader

Item	Description
Not shown	NEEG3107 Decal
Not shown	NEHS1038 Tool Operating Manual

Item	Part Number	Description
321-5932 PSC Gauge Group for 24M Motor Grader		
1	321-5644	Gauge Pin Assembly
2	321-5646	Gauge Pin Assembly
3	307-6224	Pi Tape (with case)
4	4C-3975	Storage Case
5	307-7584	Foam Insert

Gauge Group for 966K, 966L, 972K Wheel Loaders

384-3757 PSC Gauge Group for 966K, 966L, 972K Wheel Loaders

Item	Part Number	Description
Not Shown	—	NEEG3126 Decal
Not Shown	—	NEHS1138 Tool Operating Manual
1	384-3758	Pin Assembly
2	384-3758	Pin Assembly
3	384-3759	Pin Tape
4	4C-3975	Storage Case
5	—	Foam Insert

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Gauge Group for 980K Wheel Loaders

384-3760 PSC Gauge Group for 980K Wheel Loaders

Item	Part Number	Description
Not Shown	—	NEEG3126 Decal
Not Shown	—	NEHS1139 Tool Operating Manual
1	384-3761	Pin Assembly
2	384-3761	Pin Assembly
3	384-3759	Pin Tape
4	4C-3975	Storage Case
5	—	Foam Insert

Position Sensor Tools for Hydraulic Sensors

Model Usage: 950M, 962M, 966M, 972M, 980M, 982M

Warranty: Caterpillar® Six Months



- Ensures accurate alignment of sensor
- Reduces possibility of damage to seal
- Reduces chance of damaging cylinder bore during installation
- Plastic construction

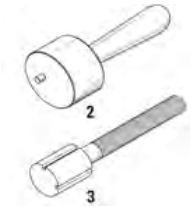
Part Number	For Sensor Number	Diameter	Length	Weight
476-3486	395-0395, 395-0388, 388-4776	85 mm (3.34")	1015 mm (39.9")	1.58 Kg (3.48 lbs)
476-3487	384-8716, 399-8901, 424-3491	85 mm (3.34")	850 mm (33.4")	1.34 Kg (2.95 lbs)
476-3488	387-0838 and 387-1119	85 mm (3.34")	1260 mm (49.6")	1.94 Kg (4.27 lbs)

Sensor Installer Group

Essential Tool

Model Usage: 430E (DDT1-Up, EAT1-Up) Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to install sensor into position-sensing hydraulic cylinder (PCS)
- Ensures accurate alignment of sensor
- Reduces possibility of damage to seal or cylinder bore
- Includes protective storage case

Reference

- RENR6485, Service Manual
- NEHS0999, Tool Operating Manual, 301-9788 Sensor Installer Group

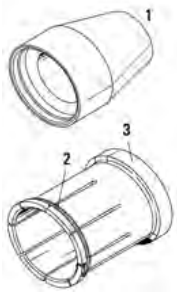
Item	Part Number	Description
—	301-9788	Sensor Installer Group
—	302-1472	Foam Inserts (for case)
—	6V-3073	Case
2	302-1474	Alignment Pin (with handle)
3	302-1475	Installer

Seal Installer Group

Essential Tool

Model Usage: 318B, 320, 320B, 322, 322B, and 325 Excavators

Warranty: Caterpillar® Six Months



- Used to install 096-7803 Seal onto 4I-3614 Cylinder Piston
- Inside diameter of pusher can be used to size outside diameter of seal after installation
- Helps prevent seal damage during installation
- Made from durable plastic

Specifications

- Tapered Seal Guide:
  - O.D.: (large end): 121.0 mm (4.76 in)
  - O.D.: (small end): 105.4 mm (4.15 in)
  - Counterbore diameter: 119.6 mm (4.71 in)
  - Inside diameter: 76.2 mm (3.00 in)
- Pusher:
  - Inside diameter: 120.1 mm (4.73 in)
  - Length: 152.4 mm (6.00 in)

Items with no Part Number

Item	Part Number	Description
—	162-7704	Seal Installer Group
2	130-8364	Extension Spring

Piston Seal Installation Tool for Hydraulic Cylinder

Model Usage: Hex Machines

Warranty: Caterpillar® Six Months



- Installs the seal in one quick movement without damaging the seal
- Inside diameter of pusher can be used to size outside diameter of seal after installation.
- Installs the plastic portion of the 096-1570 two-piece piston seal on 105-2593 and 247-8873 pistons

Specifications

- Tapered Seal Guide
  - O.D. large end: 154 mm (6.06 in)
  - O.D. small end: 94 mm (3.70 in)
  - Counter bore diameter: 150 mm (5.90 in)
  - Inside diameter: 76.2 mm (3.00 in)
  - Length : 215 mm (8.46 in)
- Sealing Ring Pusher
  - Inside diameter: 154 mm (6.06 in)
  - Length: 247.4 mm (9.74 in)

Part No.	Item	Description
473-9443	-	Piston Seal Installation Tool for Hydraulic Cylinder
-	1	Tapered Seal Guide
-	2	Sealing Ring Pusher
130-8364	3	Extension Spring

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Seal Installer Group

Model Usage: 312B to 385B, 312C, and 330C Excavators

Warranty: Caterpillar® Six Months



- Used to install hydraulic cylinder piston seals
- Tapered mandrel (1) stretches seal over piston — helps prevent seal damage during installation
- Sealing ring pusher (2) uniformly pushes seal over mandrel (1) and into piston groove
- Two different length mandrels (1) are required to install seals on double groove pistons
- Inside diameter of sealing ring pusher (2) can be used to "size" outside diameter of seal after installation
- Sealing ring pushers are made from durable plastic, tapered mandrels are steel construction

Tapered Mandrel (Item 1)

Part No.	Outside Diameter Large End	Outside Diameter Small End	Counter Bore Diameter	Inside Diameter	Counter Bore Length	Overall Length
318-2322	52 mm (2.05 in)	36.9 mm (1.45 in)	50.03 mm (1.98 in)	33.9 mm (1.33 in)	15 mm (0.59 in)	60 mm (2.36 in)
318-2323	62 mm (2.44 in)	41.9 mm (1.65 in)	60.03 mm (2.37 in)	38.9 mm (1.53 in)	13 mm (0.51 in)	72 mm (2.83 in)
318-2324	72 mm (2.83 in)	50.3 mm (1.98 in)	70.03 mm (2.77 in)	47.3 mm (1.86 in)	17 mm (0.67 in)	82 mm (3.23 in)
318-2325	77 mm (3.03 in)	54.6 mm (2.15 in)	75.03 mm (2.96 in)	51.6 mm (2.03 in)	20 mm (0.79 in)	85 mm (3.35 in)
318-2326	82 mm (3.23 in)	58.7 mm (2.31 in)	80.03 mm (3.16 in)	55.7 mm (2.19 in)	20 mm (0.79 in)	90 mm (3.54 in)
318-2327	92 mm (3.62 in)	67.2 mm (2.65 in)	90.03 mm (3.55 in)	64.2 mm (2.53 in)	20 mm (0.79 in)	95 mm (3.74 in)
318-2328	102 mm (4.02 in)	75.6 mm (2.98 in)	100.03 mm (3.95 in)	72.6 mm (2.86 in)	20 mm (0.79 in)	100 mm (3.94 in)
318-2329	132 mm (5.20 in)	100.9 mm (3.97 in)	130.03 mm (5.13 in)	97.9 mm (3.85 in)	24 mm (0.94 in)	114 mm (4.49 in)
318-2972	52 mm (2.05 in)	36.9 mm (1.45 in)	50.03 mm (1.98 in)	33.9 mm (1.33 in)	35 mm (1.38 in)	80 mm (3.15 in)
318-2973	62 mm (2.44 in)	41.9 mm (1.65 in)	60.03 mm (2.37 in)	38.9 mm (1.53 in)	31 mm (1.22 in)	90 mm (3.54 in)
318-2974	72 mm (2.83 in)	50.3 mm (1.98 in)	70.03 mm (2.77 in)	47.3 mm (1.86 in)	35 mm (1.38 in)	100 mm (3.94 in)
318-2975	77 mm (3.03 in)	54.6 mm (2.15 in)	75.03 mm (2.96 in)	51.6 mm (2.03 in)	40 mm (1.57 in)	105 mm (4.13 in)
318-2976	82 mm (3.23 in)	58.7 mm (2.31 in)	80.03 mm (3.16 in)	255.7 mm (2.19 in)	40 mm (1.57 in)	110 mm (4.33 in)
318-2977	92 mm (3.62 in)	67.2 mm (2.65 in)	90.03 mm (3.55 in)	64.2 mm (2.53 in)	40 mm (1.57 in)	115 mm (4.53 in)
318-2978	102 mm (4.02 in)	75.6 mm (2.98 in)	100.03 mm (3.95 in)	72.6 mm (2.86 in)	40 mm (1.57 in)	120 mm (4.72 in)
318-2979	132 mm (5.20 in)	100.9 mm (3.97	130.03 mm (5.13 in)	97.9 mm (3.85 in)	45 mm (1.77 in)	135 mm (5.31 in)

Sealing Ring Pusher (Item 2)

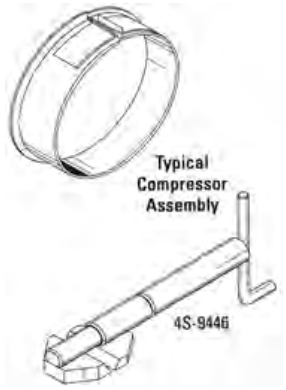
Part Number	Inside Diameter	Length
318-2314	43.4 mm (1.70 in)	44 mm (1.73 in)
318-2315	49.3 mm (1.94 in)	48 mm (1.89 in)
318-2316	59.2 mm (2.33 in)	60 mm (2.36 in)
318-2317	64.2 mm (2.53 in)	64 mm (2.52 in)
318-2318	69.1 mm (2.72 in)	72 mm (2.83 in)
318-2319	79.0 mm (3.11 in)	80 mm (3.15 in)
318-2320	88.9 mm (3.50 in)	88 mm (3.46 in)
318-2321	118.7 mm (4.67 in)	120 mm (4.72 in)

Clamp Assembly

Compressor Assemblies

Model Usage: All models with hydraulic cylinders

Warranty: Caterpillar® Six Months



- Used to expand or compress hydraulic cylinder seals before installation

Part Number	Size	Description
4S-9446	—	Clamp Assembly
Compressor Assemblies		
4S-9450	114.3 – 120.7 mm (4.5 – 4.75 in)	–
4S-9453	152.4 – 158.8 mm (6.0 – 6.25 in)	–
9S-0289	38.1 – 72.2 mm (1.5 – 3.0 in)	–

Wiper Seal Installation Tool

Model Usage: 740 Articulated Truck

Warranty: Caterpillar® Six Months



- This tool is used to install the 506-5669 wiper seal in the front suspension cylinder.
- Designed for use with a common shop press

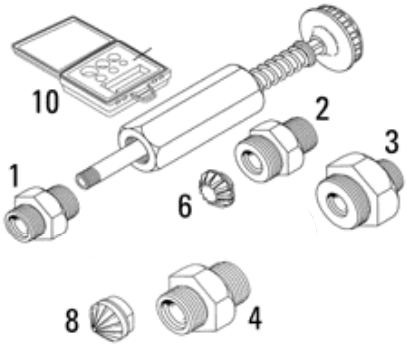
Part No.	Description	Diameter	Weight
515-8207	Wiper Seal Installation Tool	150 x 30 mm (6 x 1.2 in)	3 kg (6.6 lb)

Relief Valve Tool Assembly

Essential Tool

Model Usage: Cat® Hydraulic Control Valves

Warranty: Caterpillar® Six Months



- Used to repair/recondition worn valve seats in hydraulic control valve body (line relief valve seats only)
- Restores valve seat to factory specifications
- No need to remove valve; repair is performed "in-chassis"
- In most cases, valve assembly is repaired and not replaced — saves time and expense

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Sleeves, Impact Rod

Model Usage: Cat Worktool Auto Connect-40

Warranty: Caterpillar® Six Months



- Sleeves 416-8216 and 416-8217 are used to install seals onto sleeve assembly

Reference

- KENR6576, Assembly and Disassembly Procedures

Part Number	Dimensions	Weight
416-8216	145 x 45 mm (5.7 x 1.8 in)	.67 kg (1.5 lb)
416-8217	163.52 mm (6.4 x 2.1 in)	.67 kg (1.5 lb)

Cutter, Adapter Assembly

Essential Tool

Model Usage: 311C, 312C, 313C, 314C, 315C, 311D, and 314D Excavators

Warranty: Caterpillar® Six Months



- Used to repair/recondition worn valve seats in hydraulic control valve body (line relief valve seats only)
- Used with 229-3612 relief valve tool assembly
- Restores valve seat to factory specifications
- No need to remove valve; repair is performed "in-chassis"
- In most cases, valve assembly is repaired and not replaced — saves time and expense
- 361-1591 Cutter features 10 teeth at a 117 degree angle with a zero degree rake
- 361-1593 adapter assembly threads into 229-3612 relief valve tool then attaches to line relief port on main hydraulic control valve

Reference

- NEHS0871, Repairing Line Relief Valve Seats using the 229-3612 Hydraulic Valve Seat Repair Kit

Part Number	Description
361-1591	Cutter for M27 threaded port
361-1593	Adapter Assembly for M27 x 1.5 mm threaded port

Sling Assembly

Model Usage: 992 Wheel Loader

Warranty: Caterpillar® Six Months

- Removes/installs lift cylinders without heavy crane or removing lift arms and bucket

Part Number	Description
9S-9101	Sling Assembly

Auto Connect Seal Installers

Model Usage: Work Tools with Auto Connect

Warranty: Caterpillar® Six Months



- Required for the Auto Connect Seal Installers on Cat® work tools
- Nylon-type material construction
- Replaces existing 416-8216 and 416-8217
- Improves installation quality of the seals

Part No.	Part Name	Dimensions	Weight
529-7617	Tool Group (Piston-Seal Installer) 3/4 in	65 x 415 mm (2.6 x 16.3 in)	3.1 kg (7 lb)
529-7621	Tool Group (Piston-Seal Installer) 1/2 in	57.5 x 389 mm (2.3 x 15.3 in)	2.4 kg (5.3 lb)

Serviceable Parts

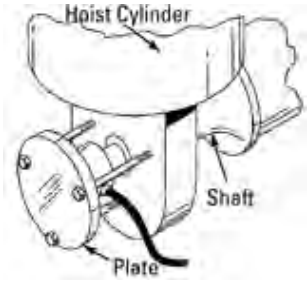
For Part No.	Part No.	Description
529-7617	529-7618	Sleeve-Distant
529-7617	529-7619	Sleeve
529-7617	529-7620	Sleeve-Slitted
529-7621	529-7622	Sleeve-Distant
529-7621	529-7623	Sleeve
529-7621	529-7624	Sleeve-Slitted
-	529-7625	Sleeve-Resizing Tool (1/2 in Sleeve Assembly-Female)
-	529-7626	Sleeve-Resizing Tool (3/4 in Sleeve Assembly-Female)

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Puller Plate

Model Usage: 793 and 793B, 795F AC and 797 Off-Highway Trucks

Warranty: None



- Hydraulically separates lower eye of body lift cylinder from 8X-1213 Shaft (part of frame) — very difficult to remove without puller tooling
- Used with three 9X-6151 Bolts, 1 cylinder, 3 7X-0533 Washers, and hydraulic power source
- Current lift cylinders have puller holes to accommodate tooling — former cylinders without puller holes can be reworked per Service Magazine article 6/28/93

Reference

- Service Magazine, 6/28/93 "Puller Holes Added to Hoist Rod Assembly for Easy Removal"

Specifications

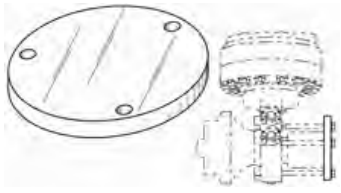
- Diameter: 365 mm (14.37 in)
- Thickness: 40 mm (1.57 in)
- Weight: 29.7 kg (13.5 lb)

Part Number	Description
463-0278	Puller Plate

Puller Plate

Model Usage: 784, 785, and 789 Off-Highway Truck

Warranty: None



- Used to hydraulically separate lower eye of 9T-2807 Hoist Cylinder from 6G-6499 Axle Group
- Material: A36 Plate Steel
- Used with dealer-supplied hardware and components: three 4J-7945 Bolts, three 5P-8248 Washers, one single acting, spring return hydraulic lifting cylinder, 6G-8221 Retainer Plate, and a hydraulic power supply and hose

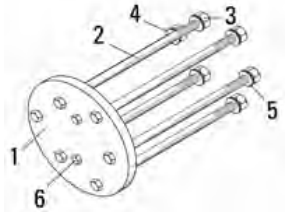
Part Number	Description
465-4092	Puller Plate

Hoist Cylinder Puller Assembly

Essential Tool

Model Usage: 770, 772, 773F, 775F, and 777F Off-Highway Trucks

Warranty: None



- Used to separate lower eye of hoist cylinder from axle group
- Used with 6V-3160 Hydraulic Cylinder Group
- Make puller plate from SAE 4140 Steel, hardened to RKW C27-33

Item with no Part Number

Item	Description	Part Number
1	Puller Plate	465-4093

Item	Part Number	Description	Quantity
2	6V-6546	Bolt, 1/2-13 x 356 mm (14 in) long	6
3	1F-7958	Full Nut, 1/2-13	6
4	5P-1076	Hard Washer, 13.5 mm ID x 30 mm OD	3
5	5P-8245	Hard Washer, 13.5 mm ID x 25.5 mm OD	3
6	6V-1943	Bolt, 3/8-16 x 28.6 mm (1.13 in) long	2

Telehandler Boom Support

Essential Tool

Model Usage: All Telehandler Models

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to support main boom in a raised position during maintenance and service
- Bolts in place of rubber bumper pad centered on top of telehandler machine body
- Designed to clear tubes on bottom of boom
- Designed with heavy-duty square tubing

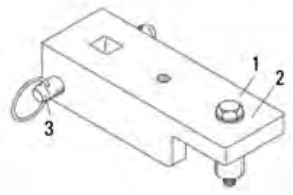
Part Number	Description
174-7525	Telehandler Boom Support

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Hydraulic Filter Removal Adapter

Model Usage: All 300B Series Excavators

Warranty: Caterpillar® Six Months



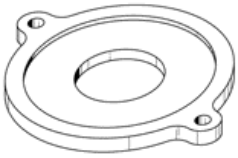
- Used to take out hard-to-remove hydraulic filter capsules
- Eliminates possible damage to filter capsule during removal
- 3/8-16 threaded hole for eyebolt
- 1/2 inch square drive for ratchet wrench

Item	Part Number	Description
—	191-3557	Hydraulic Filter Removal Adapter
1	1H-5403	Bolt
2	9M-1974	Washer
3	3W-9402	Pin

Plate Assembly

Model Usage: Cat® Designed Hydraulic Piston Pumps

Warranty: Caterpillar® Six Months



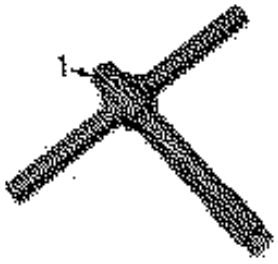
- Plate assembly holds rotating group, swashplate, and shaft together as one unit while removing or installing this assembly from/into the pump housing
- Bolt plate assembly in place using 2 customer-supplied bolts and washers
- Black oxide coated
- Material: steel

Part Number	Application	Center Distance Between Bolt Holes
129-1028	250 cc pump	188.7 mm (7.43 in)
424-6902	180 cc Pump	173 mm (6.81 in)

Gauge Tool Group

Model Usage: 225 and 235 Excavators

Warranty: Caterpillar® Six Months



- Used to set pump drive bearing clearance to an accuracy of ±0.03 mm (±0.0001 in)
- Fits directly into all 3 gears of 225 Excavator pump drive and center gear of 235 Excavator pump drive
- Can also be adapted to outer 2 gears of 235 Excavator pump drive, which have larger splines, by using 38.0 mm (1.5 in) length piece of 25.0 mm (1.0 in) internal diameter XT-3 Hose which has been cut through on 1 side
- When used in outer gears of 235 Excavator pump drive, dial indicator stylus must be placed directly on gear hub, rather than the end of tool group, to achieve desired accuracy

Item	Part Number	Description
—	5P-2390	Gauge Tool Group
1	1B-4330	Nut
1	1K-6872	Locknut
1	5H-6554	Setscrew

Wrench Assembly

Model Usage: MP318, MP324

Warranty: Caterpillar® Six Months



- Used to torque nuts to correct amount by placing wrench assembly on top
- 436-6651 — used to tighten or R&I nut 399-4290 (MP318) or nut 386-9836 (MP324)
- 436-6652 — used to tighten or R&I conversion ring 394-3428 (MP318)
- 436-6653 — used to tighten or R&I conversion ring 382-4931 (MP324)
- Made of steel
- Easy to install

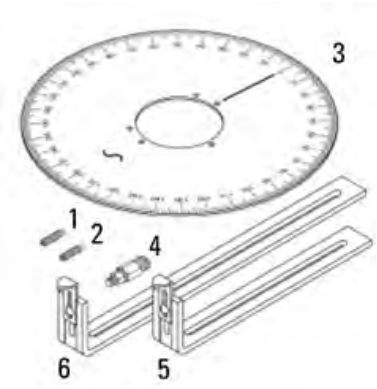
Part Number	Dimensions	Weight
436-6651	200 x 180 mm (7.87 x 7.08 in)	3.24 kg (7.15 lb)
436-6652	182 x 106 mm (7.16 x 4.17 in)	5.15 kg (11.36 in)
436-6653	162 x 106 mm (6.37 x 4.17 in)	5.65 kg (12.47 in)

Timing Tools for Scrap Shear Rotators

Essential Tool

Model Usage: All Scrap Shears

Warranty: Caterpillar® Six Months



- Used to provide accurate timing of 190 degree rotating scrap shears after repair
- Two spiral gears are timed to obtain 95 degree rotation from zero in each direction
- Makes installation and timing process quicker and easier
- Use 170-0545 Degree Wheel and Alignment Stud Group on all models
- Use locator screws, timing ring assemblies, and pointer groups on specific models only
- Tools serviced separately to help lower cost

Reference

- RENR4423, Service Manual, Scrap Shear Rotators

Item	Part Number	Description	Models
2	170-0544	Locator Screw	S80, S90, S280, S290
3	170-0545	Degree Wheel	All Models

Timing Ring Assembly



Typical
Timing Ring Assembly

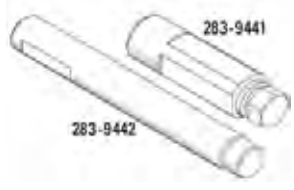
Part Number	Description	Models
170-0550	Timing Ring Assembly	S80, S280
Service Repair Parts: Timing Ring Assembly		
095-7992	Dowel	—
8T-4200	Bolt	—
8T-4224	Washer	—
Pointer Group		
1D-4669	Carriage Bolt	—
1F-1739	Wing Nut	
Locator Screw		
6V-8188	Nut — Full	—
8T-4223	Washer — Hard M12	—

Wear Sleeve Driver (Install), Wear Sleeve Driver (Remove)

Essential Tool

Model Usage: PH 126 Hydraulic Hammer

Warranty: Caterpillar® Six Months



- Used to remove and install 275-0756 Wear Bushing in main body of hydraulic hammer
- Used with hydraulic press to remove and install bushing
- 283-9441 Driver is used to install and 283-9442 Driver is used to remove hex-shaped bushing
- Heat-treated for strength and durability
- Hex end of driver fits ID of hex bushing
- Made from alloy steel

Reference

- RENR6996, Hydraulic Hammer Disassembly and Assembly

Part Number	Description
283-9441	Wear Sleeve Driver (Install)
283-9442	Wear Sleeve Driver (Remove)

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Bushing Puller Plates

Essential Tool

Model Usage: H75E, H95E, H115, H120, H130, H140, H160, and H180 Hydraulic Hammers

Warranty: Caterpillar® Six Months



- Used to remove upper and lower tool bushings from hydraulic hammers
- Used with hydraulic cylinder, power pack, and threaded rod (see Service Manuals)
- Various sizes fit each model of hydraulic hammer

Reference

- RENR4422, Service Manual, H140 and H160 Hammers

Specifications

- Maximum pulling capacity: 27,216 kg (60,000 lb)

Part Number	Description
193-1169	Puller Plate, H140 (Upper Bushing)
193-1214	Puller Plate, H115 (Upper Bushing)
193-1217	Puller Plate, H120 (Upper Bushing)
193-1218	Puller Plate, H130 (Upper Bushing)
193-1229	Puller Plate, H160 (Upper Bushing)
442-8460	Puller Plate, H75E (Upper Bushing)
442-8461	Puller Plate, H95E (Upper Bushing)

Typical Puller Plate



Part Number	Description
193-1230	Puller Plate, H115 (Lower Bushing)
193-1231	Puller Plate, H120 (Lower Bushing)
193-1232	Puller Plate, H130 (Lower Bushing)
193-1236	Puller Plate, H180 (Lower and Upper Bushing)

Part Number	Description
193-1233	Puller Plate, H140 (Lower Bushing)
193-1234	Puller Plate, H160 (Lower Bushing)

Washer



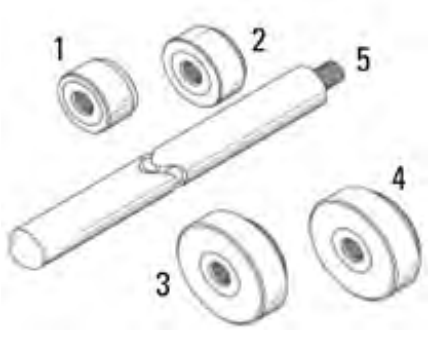
Part Number	Description
112-9837	Washer (all models)

Sleeve Driver Assemblies, Driver Handle

Essential Tool

Model Usage: H35D, H45D, H55D, and H65D Hydraulic Hammer

Warranty: Caterpillar® Six Months



- Used to remove and install piston sleeves without damage to cylinder
- Used with threaded driver handle
- Head of sleeve driver is made from nylon to eliminate scratching/damage to cylinder wall
- Threaded portion of sleeve driver is made from steel to provide extended tool life

Reference

- RENR4478, Service Manual, Hydraulic Hammer Disassembly and Assembly

Item	Part Number	Description	Used On	Outer Diameter
1	293-6551	Sleeve Driver	H35D	40.0 mm (1.57 in)
2	293-6552	Sleeve Driver	H45D	50.0 mm (1.97 in)
3	293-6553	Sleeve Driver	H55D	65.0 mm (2.56 in)
4	293-6554	Sleeve Driver	H65D	75.0 mm (2.95 in)
5	293-6555	Driver Handle	—	—

Oil Loss Control Tools

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



Fig. 1
Special Vacuum
Cap Assembly

- Used to minimize oil loss when hydraulic system must be disassembled for some reason other than failure
- Several sizes of blocker plates available (Figure 2) for use in pump suction line and/or tank return line joints
- Special vacuum cap assembly, consisting of parts illustrated in Figure 1, is installed in place of hydraulic tank filler cap; by applying pressure air to 5P-0306 Vacuum Transducer, continuous vacuum is produced in tank
- With 3.5 kg/cm² (50 PSI) air pressure applied, transducer uses 4.65 CFM of compressed air and pulls 8.75 CFM of vacuum flow at 0 PSI
- Maximum of 406 mm (16 in) Hg is pulled at 5.6 kg/cm² (80 PSI) or 254 mm (10 in) Hg at 3.5 kg/cm² (50 PSI)
- For use on hydraulic systems onl

Item	Part Number	Description
1	5P-0306	Transducer — Vacuum
2	5K-5068	Nipple — Pipe Hexagon
2	6V-4142	Nipple, Unvalved (for 42000 kPa)

Blocker Plates



FIG.2

Item	Part Number	Description	Size
1	5P-1750	Plate	31.8 mm (1.25 in) ID line
2	5P-1751	Plate	38.1 mm (1.5 in) ID line
3	5P-1752	Plate	50.8 mm (2.0 in) ID line
4	5P-1753	Plate	63.5 mm (2.5 in) ID line
5	5P-1754	Plate	76.2 mm (3.0 in) ID line
6	5P-1755	Plate	88.9 mm (3.5 in) ID line
7	5P-1756	Plate	101.6 mm (4.0 in) ID line

Plug Vacuum Assembly

Essential Tool

Model Usage: M-Series Motor Graders and C-Series Skid Steer Loaders

Warranty: Caterpillar® Six Months



- Used to create a vacuum within the hydraulic tank and hydraulic system (minimizes oil loss during repairs)
- Used with shop air supply
- Used when hydraulic system is disassembled for reasons other than component failure
- Applying air pressure to transducer creates a continuous vacuum in hydraulic system
- Used at maximum pressure of 138 kPa (20 PSI) to prevent damage to hydraulic tank
- Install tool in place of hydraulic tank filler plug
- Requires a dealer-supplied 1/4 inch NPT adapter to connect air supply

Item with no Part Number

Item	Description
8	Safety Valve (not serviced separately)

Item	Part Number	Description
—	311-1362	Plug Vacuum Assembly
1	308-6636	Plug Assembly
2	5P-0306	Transducer — Vacuum
3	3B-6552	Elbow — 90° Pipe
4	6K-1019	Pipe Nipple
5	3B-7762	Tee Fitting
6	5P-8998	Nipple — Pipe
7	4C-8852	Air Regulator

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Air Pressurizer Assembly

Model Usage: 300E Series

Warranty: Caterpillar® Six Months



- Used to pressurize hydraulic tank to purge air from new installations on hydraulic pumps
- Sets air pressure to a safe 7 PSI when connecting to an external source
- Connects to almost any air source

Specifications

- Dimensions: 342.9 x 106.7 x 88.9 mm (13.5 x 4.2 x 3.5 in)
- Weight: 1.6 kg (3.5 lb)

Part Number	Description
440-0524	Air Pressurizer Assembly

Implement Pump 90 Degree Custom Wrench (30 mm)

Model Usage: Medium Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to aid in removing the implement pump that is installed on medium wheel loaders
- Block oxide-coated hardened steel
- 3/4-inch square drive
- 6.5 inch offset with a 90 degree head

Specifications

- Length: 189 mm (7.44 inches)
- Width: 99.75 (3.92 inches)
- Thickness: 20 mm (0.78 inches)
- Weight: 1.0 kg (2.2 lbs)

Part Number	Description
472-7514	Implement Pump 90 Degree Custom Wrench (30 mm)

Hole Finder Tool (Bushing Style)

Model Usage: 299D, 272D

Warranty: Manufacturer's



- Used to mark new hole when installing 394-6140 auxiliary cooker kit, 430-9628 new debris kit, or 345-5840 debris kit
- Light weight made of steel

Specifications

- Dimensions: 342.9 mm (13.5 in)

Part Number	Description
434-6932	Hole Finder Tool (Bushing Style)

Brace Assembly

Model Usage: 943, 953 to 953D Track Loaders

Warranty: Caterpillar® Six Months



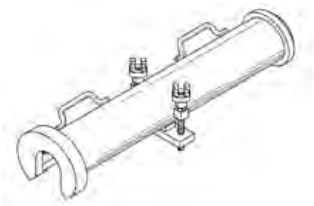
- Should be used on lift cylinder to support lift arms during repair work
- Made from high strength alloy steel
- Has bar to hold it to extended lift cylinder rod
- Only 1 brace needed to hold lift arms in raised position

Part Number	Description
6V-3155	Brace Assembly

Lift Cylinder Brace Assembly

Model Usage: 963 and 973 Track-Type Loaders

Warranty: Caterpillar® Six Months



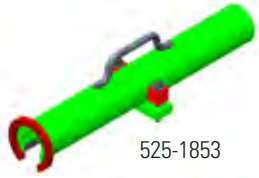
- Used to support weight of linkage arms and loader bucket, in raised position, during machine maintenance and repair
- Prevents lift arms and bucket from lowering due to an accidental loss of hydraulic pressure
- Made from high-strength alloy steel
- Only 1 brace assembly required
- Built-in cross bar keeps brace assembly attached to cylinder rod

Part Number	Description
236-1192	Lift Cylinder Brace Assembly

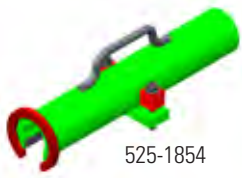
Lift Cylinder Brace Assembly

Model Usage: PM620 and PM622 Cold Planer

Warranty: Caterpillar® Six Months



525-1853



525-1854

- Supports the side skirt cylinders when the rotor housing is removed from under the machine
- The cylinders need to be extended and then supported for safe removal.
- 525-1853 cylinder brace is used on the 481-7155 cylinder.
- 525-1854 cylinder brace is used on the 481-7156 cylinder.

Part No.	Description	Dimensions	Weight
525-1853	Brace As	502 x 127 x 129 mm (19.7 x 5 x 5.1 in)	8.1 kg (18 lb)
525-1854	Brace As	392 x 127 x 129 mm (15.5 x 5 x 5.1 in)	6.6 kg (15 lb)

Cylinder Spanner Wrench

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Used with two 6V-6182 Pins to remove head retaining wire from servo cylinders for hydrostatic transmissions (pin can also be used in other applications)
- Use for the alignment, installation or removal of the cylinder gland nuts on lift trucks, the removal of head retaining wire from the servo cylinders for hydrostatic transmission
- Can also be used for general purpose application using pin hole spacings of 25.4 to 177.8 mm (1 to 7 in)
- 19.05 mm (3/4 in) diameter handle allows the use of wrench extension handles, such as the 5P-8675 Extension Handle
- 5P-3523 Screw
- Chart lists all pins for 5P-3520 Cylinder Spanner Wrench

Part Number	Description	Diameter of Large End	Diameter of Small End
5P-3520	Cylinder Spanner Wrench	—	—
5P-3521	Pin, 4.64 and 6.24 mm (0.183 and 0.246 in)	6.24 mm (0.245 in)	4.64 mm (0.182 in)
5P-3522	Pin, 7.81 and 9.41 mm (0.307 and 0.370 in)	9.41 mm (0.37 in)	7.81 mm (0.307 in)
6V-2113	Pin	4.66 mm (0.183 in)	3.06 mm (0.12 in)
6V-6182	Pin	11.08 mm (0.436 in)	6.96 mm (0.274 in)

Extension Handle for 5P-3520 Cylinder Spanner Wrench

Warranty: Caterpillar® Six Months



- Provides a 3/4 in drive handle for the 5P-3520 Spanner Wrench
- Reading will be half the applied torque if 9S-7352 Torque Wrench is combined with the 5P-3520 Spanner Wrench and the 5P-8675 Extension Handle

Item	Part Number	Description
1	5P-8675	Extension Handle
2	5P-3520	Cylinder Spanner Wrench
3	6H-3956	Spring Pin

Pin Number	Diameter Size	Max Torque Spec (LBF=FT) @ FOS 3.0
5P-3521	.185/.181 (4.7/4.6 in)	03
	.248/.244 (6.3/6.2 in)	48
6V-2113	.122/.119 (3.1/3 in)	20
	.185/.182 (4.7/4.6 in)	30
5P-3522	.309/.306 (7.8/7.8 in)	60
	.309/.306 (7.8/7.8 in)	63
6V-6182	.438/.434 (11.1/11 in)	96
	.276/.272 (7/6 in)	50

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Ejector Cylinder Service Parts

Essential Tool

Model Usage: D400E II, 730, and 740 Articulated Truck with Ejector Cylinder

Warranty: Caterpillar® Six Months

- Used to disassemble and assemble ejector cylinder

Part Number	Description	Model
1U-2218	Wear Ring	D400E, 740
205-7845	Seal Installer Guide Group	—
209-6756	Cylinder Rod Clamp Assembly	D400E, 740, 730
209-6757	Adjustable Clamp Assembly	D400E, 740
212-8165	Stop Clamp Assembly	D400E, 740
213-1818	Ring Expander Group	D400E, 740
213-5138	Oil Tube Guide Group	D400E, 740, 730
297-2791	Rod Adapter Assembly	730
297-2792	Stop Clamp Assembly	730
297-2793	Adjustable Clamp Assembly	730
297-2794	Guide — Seal (730)	730
346-8394	Fit Up Aid Group	D400E, 740, 730
3E-7424	Hose Clamp	D400E, 740, 730
5F-9059	Ring Expander Group	730
6E-0248	Wear Ring	D400E, 740
8C-4810	Wear Ring	730
8C-4832	Wear Ring	D400E, 740, 730
8C-9112	Wear Ring	D400E, 740, 730
8T-4986	Hose Clamp	730
8T-4987	Hose Clamp	D400E, 740, 730
8T-4989	Hose Clamp	D400E, 740
8T-4990	Hose Clamp	D400E, 740

Ejector Cylinder Seal Installer Guide Group

Essential Tool

Model Usage: D400E, 730, and 740 Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to protect the seals while assembling the load ejector cylinders
- Seal guides have a 30° chamfer angle for optimum installation

References

- RENR5140, Machine Systems Disassembly and Assembly, 740
- RENR3461, Machine Systems Disassembly and Assembly, D400E

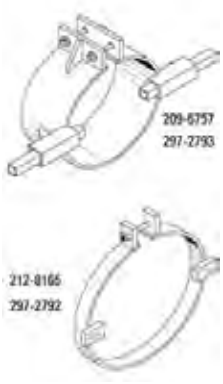
Part Number	Description	Outside Diameter	Model
193-3955	Ejector Cylinder Seal Guide [a]	128 mm (5.04 in)	D400E, 730, 740
193-3958	Ejector Cylinder Seal Guide	152 mm (5.98 in)	D400E, 730, 740
193-3959	Ejector Cylinder Seal Guide	180 mm (7.09 in)	D400E, 740
193-3960	Ejector Cylinder Seal Guide	212 mm (8.35 in)	D400E, 740
205-7845	Seal Installer Guide Group	—	—
Sold Separately			
297-2794	Guide — Seal (730)	104.7 mm (4.12 in)	730

a. May be used on the 730 Ejector Cylinder. However, a 0.94 mm (0.037 in) thick spacer is needed.

Adjustable Clamp and Stop Clamp Assemblies

Model Usage: D400E Series II, 730, and 740 Articulated Dump Truck

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble load ejector cylinder
- Makes disassembly and assembly operation into a 1-man job

209-6757 and 297-2793 Adjustable Clamp Assemblies

- Prevents cylinder sections from sliding during disassembly and assembly
- Easily adjustable clamp for holding each cylinder stage

212-8165 and 297-2792 Stop Clamp Assemblies

- Keeps first stage cylinder rod in position during disassembly and assembly

References

- RENR5140, Machine Systems Disassembly and Assembly for 740 Articulated Dump Truck
- RENR3461, Machine Systems Disassembly and Assembly for D400E Series II Articulated Dump Trucks

Part Number	Description	Model
209-6757	Adjustable Clamp Assembly	—
212-8165	Stop Clamp Assembly	—
297-2792	Stop Clamp Assembly	—
297-2793	Adjustable Clamp Assembly	—
209-6757		
0L-1329	Bolt (1/2-13)	D400E, 740
1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)	D400E, 740
4B-4994	Setscrew (3/8-16)	D400E, 740
5P-8245	Hard Washer	D400E, 740
9S-8752	Nut — Full (3/8 — 16)	D400E, 740
297-2793		
3S-1546	Full Nut (7/16-14)	730
4B-4994	Setscrew (3/8-16)	D400E, 740
7X-0599	Washer	730
9K-2429	Bolt (7/16-14)	730
9S-8752	Nut — Full (3/8 — 16)	D400E, 740
212-8165		
0T-0573	Bolt (3/8-16)	D400E, 740
9S-8752	Nut — Full (3/8 — 16)	D400E, 740
297-2792		
1M-0644	Bolt (3/8-16)	730
9S-8752	Nut — Full (3/8 — 16)	D400E, 740

Ring Expander Group

Model Usage: D400E Series II, 730, and 740 Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install seal rings on load ejector cylinders
- Expands the seal ring to eliminate possible scratching of the cylinder surface.

References

- RENR5140, Machine Systems Disassembly and Assembly for 740 Articulated Trucks
- RENR3461, Machine Systems Disassembly and Assembly for the D400E Series II Articulated Trucks

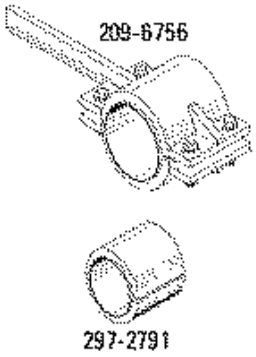
Part Number	Description	Inside Diameter	Model
211-9306	Ring Expander	137.5 mm (5.41 in)	D400E, 730, 740
211-9323	Ring Expander	161.5 mm (6.36 in)	D400E, 730, 740
213-1818	Ring Expander Group	—	D400E, 740
Sold Separately			
5F-9059	Ring Expander Group	114.3 mm (4.50 in)	730
Service/Repair Parts			
3B-9762	Spring	—	—
3C-8388	Roll Pin	—	—

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Rod Adapter Assembly, Cylinder Rod Clamp Assembly

Model Usage: D400E Series II, 730, and 740 Articulated Dump Trucks

Warranty: Caterpillar® Six Months



209-6756

- Used to hold fourth stage piston rod while removing or installing rod-eye
- Helps eliminate potential damage to fourth stage cylinder rod
- Clamps directly onto cylinder rod
- Reacts against hydraulic cylinder bench when removing or installing rod-eye

297-2791

- Sold separately for 730 Articulated Dump Truck
- Use with 209-6756 Cylinder Rod Clamp Assembly
- Use 8T-3330 Wear Ring (2) with 297-2791 Rod Adapter Assembly

References

- RENR5140, Machine Systems Disassembly and Assembly for 740 Articulated Dump Truck
- RENR3461, Machine Systems Disassembly and Assembly for D400E Series II Articulated Dump Truck

Part Number	Description
209-6756	Cylinder Rod Clamp Assembly
297-2791	Rod Adapter Assembly
Service/Repair Parts	
1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)
5P-8245	Hard Washer
8T-3331	Wear Ring
9S-1366	Bolt (1/2-13)

Oil Tube Guide Group



- Used to install oil tube/rod eye into fourth stage piston
- Provides smooth installation and prevents damage to oil tube
- Helps prevent O-ring, located inside piston, from being cut
- Made from durable plastic
- Service part: 095-1696 O-ring

References

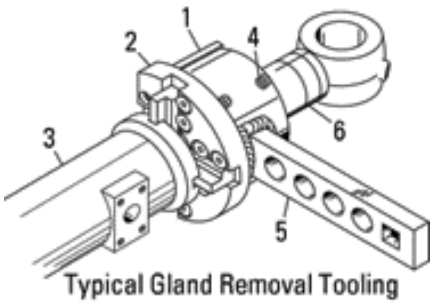
- RENR5140, Machine Systems Disassembly and Assembly (740)
- RENR3461, Machine Systems Disassembly and Assembly (D400E)

Part Number	Description
213-5138	Oil Tube Guide Group

Threaded Gland Cylinder Tools

Model Usage: All Models with Hydraulic Cylinders

Warranty: Caterpillar® Six Months



Typical Gland Removal Tooling

Spanner Wrench Assemblies

- Used to remove and install threaded gland heads on hydraulic cylinders
- Spanner wrench virtually eliminates chance of disengagement when removing or installing gland
- Eliminates damage to gland caused by hammering, welding, or other destructive means of gland removal
- Designed to pilot around cylinder rod (fits most sizes of cylinder rods)
- 2 wrench sizes for convenience: 9U-7868 for 25 to 80 mm (1.0 to 3.2 in) rod diameter and 9U-7869 for 76 to 115 mm (3.0 to 4.5 in) rod diameter
- Spanner wrench is held in place with cover and 6 adjustable screws (can be tightened so wrench will not disengage even when rod is at a downward angle)
- Screws are fitted with nylon pads to protect cylinder rod (screws also center wrench on rod, making installation and removal on gland much faster and easier)
- Handle is heat-treated for additional strength, and wrench body is zinc-plated to prevent rusting
- Used with 5S-6090 Sliding Tee-Wrench Head, 5S-6089 Handle, 8T-9294 Torque Wrench, or equivalent, 2P-8261 19.05 to 25.4 mm (3/4 to 1 in) Adapter, hydraulic cylinder repair stand, and universal-position adapter plates

Universal-Position Adapter Plates

- 4 universal-position adapter plates work on any gland, within size range, having slots or holes in face and/or flats on outside diameter
- Minimum storage space is required
- Universal-position adapter plates may also be used on cylinders other than Cat® cylinders

Eliminates need for fixed-position adapters when servicing threaded gland cylinders

Pin/Key Group

- Used with the 127-8064 Universal Adapter Plate Group
- Pin/key group is used on glands with pin holes located in the face of the gland
- Assortment of pin sizes are provided to fit various sized holes in the face of the gland
- Keys can easily be adjusted to fit various hole patterns in the face of the gland
- Pins are stored in the keys to help prevent the pins from being lost
- Cylinder barrels should be honed before assembling new parts into cylinder.

References

- NEHS0629, Tool Operating Manual, Using the 9U-7868, 9U-7869 Cylinder Spanner Wrench
- NEHS0627, Tool Operating Manual, 1U-9001 and 1U-9002 Automatic Honing Tooling
- SEHS9538, Tool Operating Manual, Using the 9U-6463 Hone Group and Attachments
- NEHC2004, Major Equipment Guide, Hydraulic Cylinder Repair Stands

Threaded Gland Cylinder Tools

Item	Description
1	Locking Plate
2	Universal-Position Adapter Plate
3	Cylinder
4	Swivel Screws
5	Spanner Wrench
6	Cylinder Rod

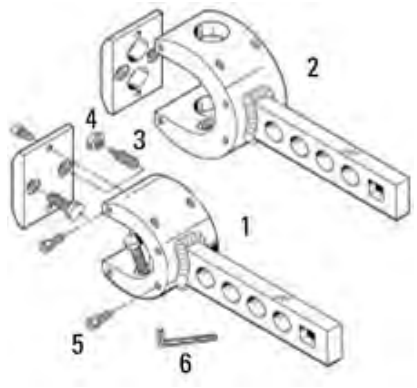
Part No.	Description	Inside Diameter (adjustable)	Width	Overall Size	Length [a]	Square Drive	Weight
9U-7868	Cylinder Spanner Wrench	25.0 — 80.0 mm (1.0 — 3.2 in)	101 mm (4 in)	377 mm (14.9 in)	304 mm (12 in)	1 in	13.6 kg (30 lb)
9U-7869	Cylinder Spanner Wrench	76.0 — 115.0 mm (3.0 — 4.5 in)	101 mm (4 in)	396 mm (15.6 in)	304 mm (12 in)	1 in	16 kg (35 lb)

a. Centerline of square drive to centerline of bore

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

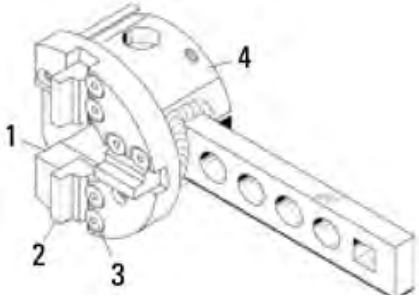
Threaded Gland Cylinder Tools (Continued)

Cylinder Spanner Wrench



Item	Part Number	Description
1	9U-7868	Cylinder Spanner Wrench (fits 25 — 80 mm [1.0 — 3.2 in] rod diameter)
2	9U-7869	Cylinder Spanner Wrench (fits 76 — 115 mm [3.0 — 4.5 in] rod diameter)
6	9U-7870	Swivel Screw Body
4	121-8872	Swivel Screw Foot
5	9X-6032	Hex Socket Bolt (M10 x 1.5 x 30 mm [1.18 in] long)
6	1U-7566	Hex Wrench

Universal-Position Adapter Plates

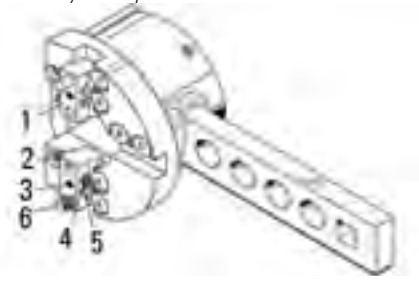


Using universal-position adapters will eliminate need for fixed-position adapters when servicing threaded gland cylinders

Item	Part Number	Description
1	204-6213	Adjustable Adapter Plate
	Additional Tooling Required	
2	127-8066	Key, 12.5 mm (0.50 in) wide
2	127-8067	Key, 9.5 mm (0.38 in) wide
2	127-8068	Key, 6.5 mm (0.25 in) wide
2	130-1810	Pin/Key Group
3	6V-7726	Screw
4	9U-7869	Cylinder Spanner Wrench (fits 76 — 115 mm rod diameter)

130-1810 Pin/Key Group

Warranty: Caterpillar® Six Months

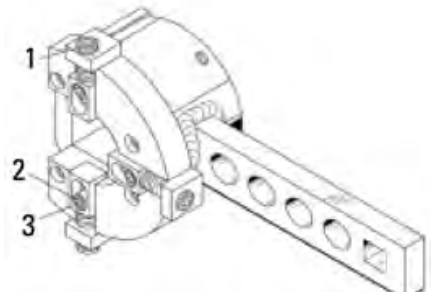


This pin/key group is used to remove glands with holes machined in the face.

Item	Description
3	Plug (make from a 1M-3097 Toric Sealing Ring)

Item	Part Number	Description
—	130-1810	Pin/Key Group
1	130-1811	Key
2	5P-3523	Retaining Screw
4	5P-3521	Pin, 4.64 and 6.24 mm (0.183 and 0.246 in)
5	5P-3522	Pin, 7.81 and 9.41 mm (0.307 and 0.370 in)
6	130-3856	Pin, 6.96 and 11.08 mm (0.274 and 0.436 in)
	Additional Required Tooling (not part of group)	
—	127-8064	Adjustable Adapter Plate Group
—	9U-7868	Cylinder Spanner Wrench

127-8069 Adapter Plate Group



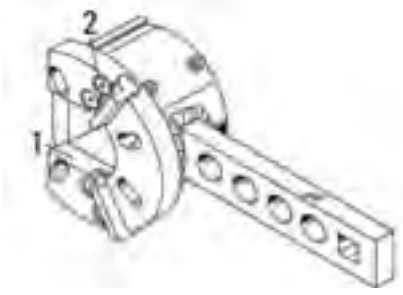
This adapter plate is used on glands with 80 to 116 mm (3.1 to 4.5 in) across flats

Item	Description
1	Setscrew

Item	Part Number	Description
—	127-8069	Adapter Plate Group
2	9X-6032	Socket Head Bolt
3	127-8071	Key
Additional Required Tooling (not part of group)		
—	9U-7868	Cylinder Spanner Wrench

162-7189 Adjustable Adapter Plate Group

Adapter Plate Usage



This adapter plate is used on glands with slots machined in the face

Item	Part Number	Description
1	162-7189	Plate Adapter Group (120°) [a]
2	6V-7726	Screw
Additional Required Tooling (not part of group)		
—	127-8066	Key, 12.5 mm (0.50 in) wide [b]
—	127-8067	Key, 9.5 mm (0.38 in) wide [b]
—	127-8068	Key, 6.5 mm (0.25 in) wide [b]
—	9U-7868	Cylinder Spanner Wrench
—	9U-7869	Cylinder Spanner Wrench

a. Plate adapter fits both 9U-7868 and 9U-7869 Cylinder Spanner Wrenches

b. Keys from 127-8064 can be used with this plate

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Universal-Position and Fixed-Position Adapter Plate Specifications

Adapter Plate Usage

Chart A will help determine which wrench matches a specific gland. The chart includes a list of each available adapter, the part number of the threaded gland, and the model number of the machine. Use Chart A to select the adapter plate required for disassembly of the cylinder.

Chart A — Universal-Position and Fixed-Position Adapter Plate Usage

Universal-Position Adapter Plate Part Number	Fixed-Position Adapter Plate Part Number	Threaded Gland Head Part No.	Model
162-7189	9U-7872	6I-6835	Excavators: 307B, 311, 311B, 312, 312B, 313B, 315B, 317B, 320, 320B
		099-0596	Excavators: 307B, 311, 311B, 312, 312B, 313B, 315B, 317B, 320, 320B
127-8064	9U-7873	6E-0775	Ag Tractors: 65, 65C, 70C, 75, 75C, 85C
		6E-1501	Backhoe Loaders: 416, 416B, 426, 426B, 428B, 436, 436B, 438, 438B, 446, 446B
		6E-1816	Construction Mining Trucks: 768C, 769C, 771C, 772, 772B, 773B, 775B, 776, 776B, 776C, 777, 777B, 777C
		6E-4976	Excavators: 350, 375
		6E-4978 [a]	Integrated Toolcarriers: IT18F, IT28F
		9T-2822	Motor Graders: 14G, 14H, 16G, 16H
		9T-6388 [a]	Track-Type Tractors: D3C, D4C, D5H, D6H, D7H, D8N, D9N, D10N, D11N
			Wheel Loaders: 950F, 966D, 966F, 970F
			Wheel Tractors-Soil/Landfill Compactors: 814B, 815B, 816B
162-7189	9U-7874	099-0668 [a]	Excavators: 307, 311, 311B, 312, 312B, 313B
162-7189	9U-7875	099-0686 [a]	Excavators: 312, 312B, 313B
127-8064	9U-7876	6E-0277 [a]	Backhoe Loaders: 416B, 426B, 428B, 436B, 438B
		6E-1113 [a]	Integrated Toolcarriers: IT18F, IT24F, IT28F
		6E-1405	Motor Graders: 14G, 14H, 16G, 16H
		6E-1943	Track-Type Tractors: D5H, D8N
		6E-1953 [a]	Track Loaders: 953, 953B
		6E-3570	Wheel Loaders: 910E, 918F, 928F, 936F, 938F, 950F, 980C, 980F
		6E-5406 [a]	Elevating Scrapers: 615C
		9T-3609 [a]	
		9T-8080 [a]	
		2U-7690 [a]	
		6U-4157 [a]	
		7U-1775 [a]	
		7U-2661 [a]	
		7U-6038 [a]	
		7U-7867 [a]	
		104-4971	
—-	226-5755	—-	Articulated Truck: D400E, 740 (ejector cylinder)
127-8064 and 130-1810	123-0389	104-9657	Grapple Arrangements for the following models:
		8C-9356	Skidders: 518, 518C
		8C-9436	Track Skidders: D4H, D5H
127-8064 and 130-1810	123-0390	105-9121	Grapple Arrangement for the following Model Usage:
			Skidders: 530B
127-8064 and 130-1810	-	105-7738	Grapple Arrangement for the following Model Usage:
		105-9099 [a]	Skidders: 530B
162-7189	123-3802	099-7009	Excavator: 307
162-7189	123-3803	085-7990	Excavator: 307

a. Not serviced

Adapter Plate Specifications

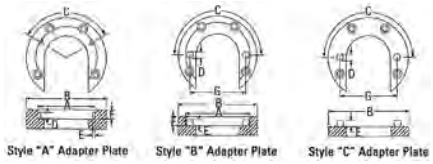


Chart B can be used to identify adapter plates or to determine if an adapter plate can be used on a gland not listed in Chart A. There are 3 styles of adapter plates, as shown in the illustrations.

Specifications

- Style "A" Adapter Plate: Pins engage radially; counterbore surrounds outside diameter of gland
- Style "B" Adapter Plate: Pins engage axially; counterbore surrounds outside diameter of gland
- Style "C" Adapter Plate: Pins engage axially; no counterbore; plate and gland faces contact each other

Chart B — Adapter Plate Specifications

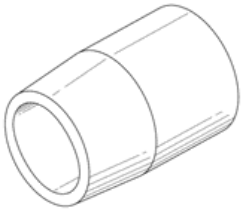
Adapter Plate Part No.	Adapter Style	C Bore Diameter (A) mm (in)	Outside Diameter (B) mm (in)	Angle Between Pins (C)	Pin Diameter (D) mm (in)	Pin Height (E) mm (in)	Depth of C Bore (F) mm (in)	Pin Spacing (G) mm (in)
9U-7872	Style A [a]	123 mm (4.84 in)	160 mm (6.30 in)	120°	11.1 mm (0.44 in)	5 mm (0.20 in)	16 mm (0.63 in)	—
9U-7873	Style B [a]	132 mm (5.20 in)	152 mm (6 in)	180°	12.7 mm (0.50 in)	12.8 mm (0.50 in)	19.1 mm (0.75 in)	110 mm (4.33 in)
9U-7874	Style A [a]	133 mm (5.24 in)	170 mm (6.69 in)	120°	11.1 mm (0.44 in)	5 mm (0.20 in)	16 mm (0.63 in)	—
9U-7875	Style A [a]	143 mm (5.63 in)	180 mm (7.09 in)	120°	11.1 mm (0.44 in)	5 mm (0.20 in)	16 mm (0.63 in)	—
9U-7876	Style B [b]	156.5 mm (6.16 in)	177 mm (6.97 in)	180°	12.7 mm (0.50 in)	12.8 mm (0.50 in)	19.1 mm (0.75 in)	130 mm (5.12 in)
123-0389	Style C [a]	—	152.4 mm (6 in)	180°	7.9 mm (0.31 in)	8.7 mm (0.34 in)	—	85.7 mm (3.37 in)
123-0390	Style C [a]	—	152.4 mm (6 in)	180°	7.9 mm (0.31 in)	8.7 mm (0.34 in)	—	101.6 mm (4 in)
123-3802	Style A [a]	108 mm (4.25 in)	155 mm (6.10 in)	120°	11.1 mm (0.44 in)	5 mm (0.20 in)	16 mm (0.63 in)	—
123-3803	Style A [a]	118 mm (4.65 in)	155 mm (6.10 in)	120°	11.1 mm (0.44 in)	5 mm (0.20 in)	16 mm (0.63 in)	—
226-5755	Style B [a]	61.9 mm (2.44 in)	152.2 mm (5.99 in)	180°	8 mm (0.31 in)	6.4 mm (0.25 in)	6.4 mm (0.25 in)	48 mm (1.89 in)

a. Use with 9U-7868 Cylinder Spanner Wrench
b. Use with 9U-7869 Cylinder Spanner Wrench

Seal Guide

Model Usage: 740 Ejector Articulated Truck and D400E Articulated Truck

Warranty: Caterpillar® Six Months



- Used to cover threads on end of rod assembly during assembly process
- Protect seals from damage as rod assembly is pushed through gland (improves quality of service repair)
- Made of light-weight nylon for faster, easier assembly
- Resists nicks and scratches better than steel guides, providing extended tool life

Reference

- RENR5176, 740 Load Ejector Machine System (Supplement)

Part Number	Description
226-5756	Seal Guide

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Cylinder Spanner Wrench

Model Usage: 769C, 771C, 773B, 775B, 776B, 777C, 777B, 785, 785B, 789, 789B, 793, 793B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to remove and install intermediate cylinder heads in off-highway truck lift cylinders
- Used with 1 1/2 inch socket and ratchet, breaker bar, or torque wrench
- Each wrench fits a specific cylinder head
- Piloting tube provides positive, non-slip, spanner pin engagement
- Designed with replaceable spanner pins — light press fit enables replacement if required

Item	Part No.	Description	Number of Pins	Pin Diameter	Pin Spacing	Pilot Tube Outside Diameter	Head Part Number	Model
4	9U-7434	Cylinder Spanner Wrench	4	9.4 mm (0.37 in)	222.2 mm (8.75 in)	183.6 mm (7.23 in)	6E-6444 and 6E-6485	785, 785B, 789, and 789B
Service/Repair Parts								
—	3H-0703	Dowel, 6.19 mm (1/4 in) diameter	—	—	—	—	—	—
—	5B-5821	Pin, 9.37 mm (3/8 in) diameter	—	—	—	—	—	—

Locknut Spanner Wrench

Model Usage: 140G Motor Grader

Warranty: Caterpillar® Six Months

- Required to adjust 5T-1428 Bearing Locknut [136.5 mm (5 3/8 in) outside diameter] during assembly of optional front wheel drive hydraulic motors
- Has 1/2 inch square drive; can be used with 9S-7353 or 6V-7915 Torque Wrenches
- Slide rule type torque computer, SEHS7150, can be used to determine torque wrench reading for different extensions
- Service Part: 1J-2198 Pin

Part Number	Description
1U-7042	Locknut Spanner Wrench

Spanner Socket

Model Usage: 511, 521, 522, 532, 541, 551, and 552 Feller Buncher with 305-3742 Gear Reduction Group (not serviced)

Warranty: Caterpillar® Six Months



- Used to easily remove and install 303-4212 Locknut on 305-3742 Gear Reduction Group (not serviced)
- Used with 3/4 inch square drive ratchet, breaker bar, or torque wrench
- Durable steel construction

Reference

- Feller Buncher Disassembly and Assembly Manuals with 306-2065 Tilt Arrangement

Specifications

- Outside diameter: 76.75 mm (3.02 in)
- Overall height: 30 mm (1.18 in)
- Square drive: 3/4 in
- Number of teeth: eight (evenly spaced)
- Tooth height: 20 mm (.79 in)
- Tooth diameter: 14.3 mm (.56 in)

Part Number	Description
324-3723	Spanner Socket

Service Tools for 20 and 25 Series Tyrone Pumps

Model Usage: 20 and 25, Series Tyrone Pumps

Warranty: Caterpillar® Six Months

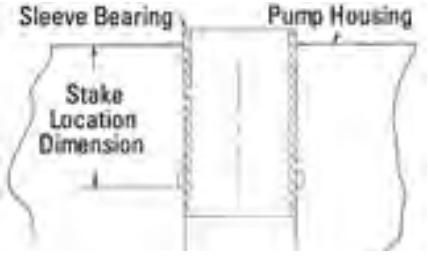


- Used to remove and install sleeve bearings; sleeve bearings serviced separately
- The following tool lists are for either single or tandem version pumps manufactured after 1979; pumps produced prior require different bearing installing tools because stake location varies
- Because Tyrone pumps do not have date codes, measure stake location dimension in housing and refer to Chart A to determine which staking sleeve is needed

Reference

- SEHS8428, Special Instruction, complete repair procedure for Tyrone Pumps

Item	Part Number	Description	Qty.
		20 Series	
1	5P-1075	Hard Washer	1
1	8T-0871	Collet Assembly	1
1	9F-2773	Bolt	1
2	8T-9137	Bearing Remover (formerly 8T-0870, discontinued)	—
3	1K-6979	Set Screw	2
3	8T-0878	Staking Tool	2
		25 Series	
1	5P-1075	Hard Washer	1
1	8T-9135	Collet Assembly	1
1	9F-2773	Bolt	1
2	8T-9128	Bearing Remover	—
3	1K-6979	Set Screw	2
3	8T-0878	Staking Tool	2
3	8T-9129	Punch Assembly	1
3	8T-9132	Staking Sleeve	1



Pump Series	Stake Location Dimension (in)	Staking Sleeve Part Number
25 Current	1.630 ± 0.005	8T-9132

Piston Nut Spanner Wrench

Model Usage: See Below

Warranty: Caterpillar® Six Months



- Used to remove and install 9T-2004 Nut
- Used with torque wrench if specific torque is required
- Provides best method of tightening nut — decreases chance of slipping off and/or damaging nut or other components

Models

- Tractors: D6H, D7H, D8N
- Excavators: 215, 215B, 215C, 215D, 219, 219D, 225, 225B, 225D, 227, 229, 229D, 231D, E120B, 320, 322, 325, 330
- Wheel Loaders: 988F
- Front Shovels: 5130, 5230
- Wheel Tractor Scrapers: 623E, 623F

Specifications

- Outside diameter: 82.5 mm (3.25 in)
- Overall length: 146.0 mm (5.75 in)
- Socket depth: 127 mm (5.0 in)
- Square drive: 3/4 in
- Number of teeth: 6, evenly spaced
- Tooth width: 6.75 mm (0.266 in)
- Width between teeth: 68.3 mm (2.69 in)

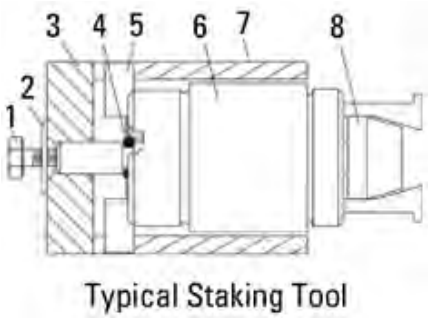
Part Number	Description
1U-7643	Piston Nut Spanner Wrench

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Service Tools for FP/FL/HP-7 and FP/HP-8 Series Tyrone Pumps

Model Usage: D11N, 834B, 988B, 988F, 992, 980, D10, D7H, 578, 589

Warranty: Caterpillar® Six Months



Typical Staking Tool

- Easier to use and less expensive than previous staking tools
- 130-5946 Staking Tool Group replaces discontinued 8T-3057 and 4C-9647 Groups
- 135-7275 Staking Tool Group replaces the discontinued 8T-9123 and 4C-9648 Groups
- Used to install and then secure (stake) sleeve bearing into pump/motor housing or head assembly (very easy to use and understand)
- Used with 4.5 t (5 ton) arbor or hydraulic press
- These two combination tools work on both iron and aluminum housings, series 7 and 8 pumps and motors (simply rotate guide 180° depending on pump type and series)
- Automatically assembles sleeve bearing to proper depth and stakes each sleeve bearing precisely in place (no measuring is required)
- Made of high-grade steel and plated for many years of trouble free service

Reference

- NEHS0660, Tool Operating Manual, Replacing Sleeve Bearings in Tyrone Gear Pumps and Motors (used on Series 7 and 8, Iron and Aluminum Housings)

Specifications

- Overall size: 70.0 mm (2.75 in) diameter
- Length: 146.0 mm (5.75 in)
- Weight: 2.5 kg (5.5 lb)

Item	Part Number	Description
130-5946 Staking Tool Group (FP/HP8)		
1	8T-8908	Bolt
2	6V-7646	Washer
4	125-8247	O-ring Seal (Not Serviced)
5	129-1875	Staking Leg
8	129-1873	Driver
135-7275 Staking Tool Group (FP/HP7)		
1	8T-8908	Bolt
2	6V-7646	Washer
3	135-7277	Cap
4	125-8247	O-ring Seal (Not Serviced)
5	129-1875	Staking Leg
7	135-7276	Sleeve
8	135-7269	Driver

Excavator Pump and Motor Service Tools

Model Usage: 205, 206, 211, 212, 213, 214 and 224 Excavators

Warranty: Caterpillar® Six Months



Typical Excavator Hydraulic Pump and Motor Service Tools

- Used to service hydraulic pump, swing motor, and drive motors
- Various combinations of these tools required for disassembly and assembly of these hydraulic pumps and motors, manufactured by Linde (see chart)
- 1U-6671 Flange Puller Group used to remove rotating gears from main housings; also considered general usage tool
- BMF75 Motor also used as differential steering motor on Challenger 65

Reference

- SENR3358, Service Manual Supplement, Disassembly and Assembly for Hydraulic Pumps and Motors for Excavators, details on use of each service tool

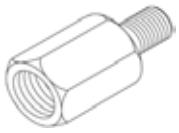
Item	Description
1	Spanner Wrench (not serviced)
3	Handle (not serviced)
4	Punch (not serviced)
5	Bearing Puller Group (not serviced)
7	Key (not serviced)
10	Template (not serviced)
11	Template Assembly (not serviced)

Threaded Adapter

Essential Tool

Model Usage: 5110B Swing Drive Hydraulic Motor

Warranty: Caterpillar® Six Months



- Used to remove rotating group from swing motor
- Used with 8B-7548 Bearing Puller Assembly
- Male thread (5/8 -11) and female thread (1-14)

Reference

- RENR3374, Service Manual, 5110B Machine Systems Disassembly and Assembly Manual

Specifications

- Maximum capacity: 8,165 kg (9 tons)

Part Number	Description
293-6365	Threaded Adapter

Flange Puller Group



Item	Description
1	Puller Plate

Item	Part Number	Description	Quantity
—	1U-6671	Flange Puller Group	—
1U-6671 Flange Puller Group			
2	1U-6693	Forcing Screw	—
3	0S-1619	Bolt	3
4	6F-7031	Bolt	3

Machine Model, Motor, Pump

Machine Model/Pump or Motor/Pump or Motor Model

Part No.	Description	205, 206, 211, 212 Pump B2PV50	213, 214, 224 Pump B2PV75
1U-6671	Flange Puller Group	1	1

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Service Tools for 9T-1208 Track Motor

Model Usage: 227, 229, 229D, 231D, 235, 235B, 235C, 235D, 245, 245B, 245D Excavators

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble 9T-1208 Track Motor
- Makes repairs easier and faster

References

- SENR3402, Service Manual SENR4269, Service Manual

Item	Part Number	Description
2	1U-5474	Fixture
4	1U-5477	Ring
Not shown		
—	1U-7565	Allen Key
—	1U-8825	Forcing Screw

Sleeve Bearing Installation Group

Model Usage: All Cat® Gear Pumps with Sleeve Bearings, 1M3780, 1M3909, 2M3868, 2S7931, 3S1292, 5M3320, 7M9338, 9M4370, 131-0167, 131-0825

Warranty: Caterpillar® Six Months



- Used for installation of sleeve bearings into the gear pumps and pump covers while keeping the bearing walls rigid
- Equipped with internal sliding rod which allows operator to adjust for different lengths
- Equipped with interchangeable external sleeve for setting different bearing depths
- Tool parts packaged together for protection in foam-lined plastic case

Specifications

- Dimensions: 342.9 x 266.7 x 129.0 mm (13.5 x 10.5 x 5.1 in)
- Weight: 4.85 kg (10.67 lb)
- Material: Black oxide coated Steel

Item	Part Number	Description
—	385-8731	Sleeve Bearing Installation Group
Serviceable Parts		
1	373-5841	Support Tube
2	378-4532	Sleeve Assembly
3	378-4533	Insert Rod
4	378-4534	Support Tube

Seal Installers For Seal Change Kit

Essential Tool

Model Usage: Motor Graders, Wheel Loaders, Integrated Toolcarriers, Off-Highway Trucks, Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to install seals in hand metering units

257-8474 Seal Installer

- Used on Motor Graders (12H, 14H, 16H, 120H, 135H, 140H, 143H, 160H, 163H) Wheel Loaders (914G, 924G, 928G, 938G, 966H, 972H) Integrated Toolcarriers (IT14G, IT28G, IT38G)

262-6020 Seal Installer

- Used on Off-Highway Trucks (784B, 784C, 785, 785B, 785C, 789C, 793C Articulated Trucks (D350E, D400E, 735, 740) Integrated Toolcarriers (IT18, IT18B, IT28B) Wheel Loaders (916, G916)

262-6021 Seal Installer

- Used on Off-Highway Trucks (769D, 770, 771D, 772, 773D, 773E, 773F, 775D, 775E, 775F, 776D, 777D, 777D (HAA), 777F)

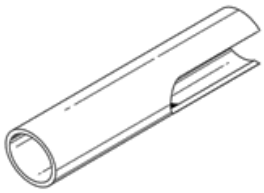
Part Number	Description
257-8474	Seal Installer
262-6020	Seal Installer
262-6021	Seal Installer

Spring Compressor

Essential Tool

Model Usage: D3C, D4C, and D5C Track-Type Tractor, Hystat Drive; 933C and 939C Track-Type Loader, Hystat Drive

Warranty: Caterpillar® Six Months



- Used to compress flow control valve spring to remove or install retainer locks and snap rings
- Used with shop arbor press
- Designed to provide easy access to retainers and snap ring
- Makes removing and installing retainers and snap ring easier

References

- SENR1255, Disassembly and Assembly D3C, D4C, D5 C Track-Type Tractor Machine Systems
- SENR1271, Disassembly and Assembly 933C, 939C Track Type Loader Machine Systems

Specifications

- Outside diameter: 48.3 mm (1.9 in)
- Inside diameter: 40.9 mm (1.61 in)
- Overall length: 203.2 mm (8.0 in)

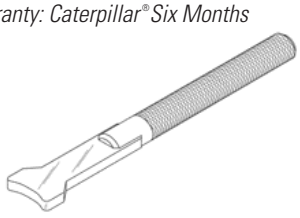
Part Number	Description
147-3497	Spring Compressor

Split Ring Remover

Essential Tool

Model Usage: RM350 and RM350B Road Reclaimer/Soil Stabilizer

Warranty: Caterpillar® Six Months



- Used to remove split ring from Rexroth hydraulic motors
- Knurled handle for improved grip
- Overall length: 215 mm (8.46 in)

Reference

- KENR3125, Service Manual, RM350B Road Reclaimer/Mixer Power Train Piston Motor (Rear Propel) Disassemble

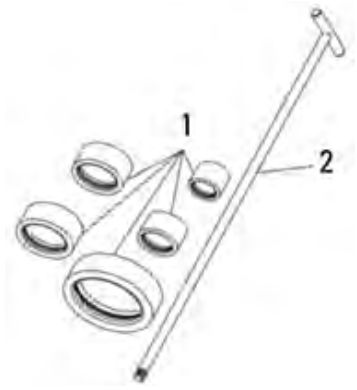
Part Number	Description
287-3672	Split Ring Remover

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Cap Assemblies (Hydraulic Tank) and Handle

Model Usage: Most Hydraulic Excavators

Warranty: Caterpillar® Six Months



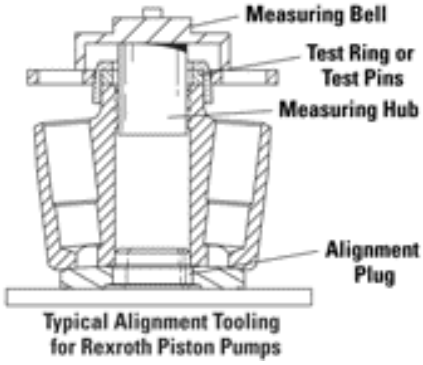
- Used to seal suction port in hydraulic tank
- Seal caps thread onto handle assembly
- Fits over hydraulic tank suction port from inside tank (suction screen must be removed first)
- Eliminates draining hydraulic oil tank to make system repairs (tank cap should be reinstalled to prevent oil contamination)
- Order parts separately (must order at least one handle)
- To verify correct cap is being used, inside diameter measurement of suction screen should match ID of cap assembly

Item	Part No.	Description	Inside Diameter	Used on	Service/Repair parts
1	227-4683	Seal Cap	115.5 mm (4.55 in)	318C, 320C, 320D, 322C, 325C, 325D, 330B, 330C, 330D, 345B, and 345C Excavators	5H-5672 O-ring
1	227-4685	Seal Cap	160 mm (6.30 in)	350, 365B, 365C, 375, 385B, 385C, 5080, and 5090B Excavators	5L-5032 O-ring
1	234-1613	Seal Cap	61.7 mm (2.43 in)	307ABC, 308BC, 311AB, 312AB, and 313B Excavators	099-4780 O-ring
1	234-1614	Seal Cap	75.7 mm (2.98 in)	311C, 312C, 315ABC, and 318B Excavators	095-1552 O-ring
1	234-1615	Seal Cap	90.4 mm (3.56 in)	320A and 322A Excavators	1H-0474 O-ring
2	227-4690	Handle (fits all cap sizes)	—	—	—

Pump Measuring Tools

Model Usage: Machines with A20V, A11V and A4V Rexroth Hydraulic Piston Pumps

Warranty: Caterpillar® Six Months



Typical Alignment Tooling for Rexroth Piston Pumps

- Used to properly set and hold alignment between port plate, barrel, and slipper retaining plate when determining measurement for pump barrel lift-off shim thickness
- Allows easy measurement of commonly used Rexroth pumps within A20V, A11V and A4V model ranges
- Tools are precision ground for accurate measurements and nickel plated for long, corrosion free life

Reference

- Service Manual Module, M318 Disassembly and Assembly, M320 Disassembly and Assembly

Model	Pump Number	Rexroth Model	Tools Required
M312, M315	—	A4VG40	135-8293 Measuring Hub, 128-2744 Measuring Bell, 135-8295 Test Ring, 135-8291 Alignment Plug
D3G, D4G, D5G	178-4415	A4VG40	135-8293 Measuring Hub, 128-2744 Measuring Bell, 135-8295 Test Ring, 316-0053 Alignment Plug
M318, CB434, CB444, CB534, CB634	—	A4VG56	128-2743 Measuring Hub, 128-2744 Measuring Bell, 128-2745 Test Ring, 128-2741 Alignment Plug
CB544, D3C, PR750, PR1000, 914G, 933C	113-9222, 130-1807	A4VG71	135-8294 Measuring Hub, 128-2744 Measuring Bell, 135-8296 Test Ring, 135-8292 Alignment Plug
D4C, D5C, IT14G, 914G, 939C, PS150, PS200, PR750, PR1000	—	A4VG90	128-2747 Measuring Hub, 128-2744 Measuring Bell, 129-3877 Test Ring, 129-3882 Alignment Plug
D8N	—	A4VG125	129-3873 Measuring Hub, 128-2744 Measuring Bell, 129-3878 Test Ring, 129-3883 Alignment Plug
631E, 637E	—	A4VG180	129-3875 Measuring Hub, 129-3876 Measuring Bell, 129-3879 Test Ring, 129-3884 Alignment Plug
651E	156-7034	A4V0250	171-1113 Measuring Hub, 129-3876 Measuring Bell, 171-1112 Test Pin (requires 3), 171-1114 Alignment Plug

Required Tools for Pump Measuring

Model	Pump Number	Rexroth Model	Tools Required
M312	130-7673	A11VO95	129-3873 Measuring Hub, 128-2744 Measuring Bell,
M315, M318	111-3727, 130-2447	A11VO130	129-3874 Measuring Hub, 128-2744 Measuring Bell, 128-2746 Test Ring, 128-2742 Alignment Plug
M316D, M318D, M322D, M318D MH, M322D MH	251-8032	A11V0145	437-5508 Alignment Plug
M320	128-4325	A11VO190	137-1326 Measuring Hub, 129-3876 Measuring Bell, 137-1329 Test Pin (requires 3), 137-1331 Alignment Plug
375, 990, 5080	7Y-4007, 105-7282	A11VO200	129-3875 Measuring Hub, 129-3876 Measuring Bell, 129-3880 Test Ring, 129-3903 Alignment Plug
375, 992, 994, 5080, 5110, 5130, 5230	9T-8993	A11VO250	130-9890 Measuring Hub, 129-3876 Measuring Bell, 129-3881 Test Ring, 129-3904 Alignment Plug
365B, 797, 5230	—	A11V0260	171-1113 Measuring Hub, 129-3876 Measuring Bell, 171-1112 Test Pin (requires 3), 171-1114 Alignment Plug
365B	—	A20VL0260	171-1113 Measuring Hub, 129-3876 Measuring Bell, 171-1112 Test Pin (requires 3), 171-1114 Alignment Plug
CB224, CB434, CB534	1G-4116, 122-0014	A11VG35	138-2120 Test Ring, 138-2117 Alignment Plug
CB444, CB534, CB544, CB545, CB634	119-3135	A11VG50	135-8293 Measuring Hub, 135-8295 Test Ring, 138-2118 Alignment Plug

Test Ring and Alignment Plug

Model Usage: Rexroth Pumps

Warranty: Manufacturer's



- Used to properly set/hold alignment between port plate, barrel, and slipper retaining plate when determining measurement for pump barrel liftoff shim thickness
- Replaces 137-1328 and 137-1330

Reference

- KENR603

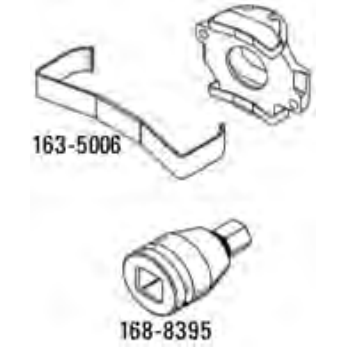
Part Number	Diameter	Weight	Description
464-4892	56 x 6 mm	0.04 kg	Test Ring
464-4893	44 x 21 mm	0.3 kg	Alignment Plug

Spring Clip, Drive Impact Socket

Essential Tool

Model Usage: Machines with 1.1 Series A11V Rexroth Hydraulic Piston Pumps

Warranty: Caterpillar® Six Months



163-5006 Spring Clip

- Used to properly retain roller bearing cages against swash plate during assembly
- Attaches quickly — reduces assembly time
- Packaged individually, 2 required

168-8395 Drive Impact Socket

- Used to tighten housing bolts to 830 N·m (612 ft-lb)
- Used with 9S-7352 Torque Wrench, 6V-9451 Torque Tube, 8F-4678 Adapter 19.05 mm (3/4 in), and two 6V-9452 (discontinued) drive adapters
- Use torque computer with SEHS7150 to determine torque setting prior to tightening

Reference

- Machine Systems Disassembly and Assembly Manuals

Specifications

- 163-5006 Spring Clip
  - Overall size: 140 x 50.8 x 12.7 mm (5.5 x 2.00 x 0.500 in)
- 168-8395 Drive Impact Socket
  - Hex size: 17 mm
  - Overall length: 61.7 mm (2.43 in)
  - Square drive: 3/4 in
  - Replacement bit: 169-0782 Bit, Hex

Part Number	Description
163-5006	Spring Clip
168-8395	Drive Impact Socket

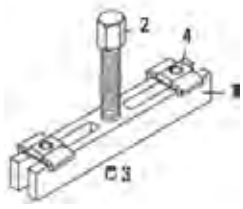
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Measuring Plate Group

Essential Tool

Model Usage: A2FO Rexroth Pumps, A2FM and A2FE Rexroth Motors (sizes 28 cc through 160 cc)

Warranty: None



- Used to check critical lift-off dimension when assembling pumps and motors
- Used with standard depth micrometer
- Works on any A2 pump or motor up to 160 cc
- Simple design reduces cost (made from standard parts)
- 1P-0456 Plate Drive is part of 1P-0500 Bearing and Seal Driver Group or 1P-0510 Bearing and Seal Driver Group

Reference

- RENR4023, Service Manual, M312 and M315 Excavator Disassembly and Assembly Supplement for Swing Drives
- RENR4024, Service Manual, M318 and M320 Excavator Disassembly and Assembly Supplement for Swing Drives

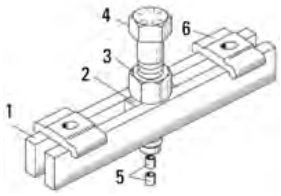
Item	Part Number	Description	Quantity
1	6V-3009	Cross Bar	1
2	6V-4832	Screw	1
3	1P-0456	Drive Plate	1
4	126-7181	Sliding Plate	2

Measuring Plate Group

Essential Tool

Model Usage: Machines with A2FO Rexroth Pumps, A2FM and A2FE Rexroth Motors (180 through 250 cc)

Warranty: None



- Used to check critical lift off dimension when assembling A2 pumps and motors
- Used with a standard depth micrometer
- Works on A2 pumps and motors from 160 to 250 cc
- Simple design reduces cost of tooling (made from standard Cat® parts)
- Requires machining to cross block and welding

Item	Part Number	Description
2	1U-9895	Cross block
3	5B-0637	Nut
4	5P-8715	Forcing Bolt
5	1P-0456	Drive Plate
6	3H-0465	Puller Plate

Valve Puller

Essential Tool

Model Usage: M312, M315, M318, and 539 Knuckleboom Loader

Warranty: Caterpillar® Six Months



- Used to remove safety pop-off valve cartridge in main control valve of Linde hydraulic swing and drive motors
- Cartridge must be replaced with new part after removal

Part Number	Description
176-5513	Valve Puller

Pump and Motor Measuring Group (A6, A7 and A8)

Essential Tool

Model Usage: Machines with Rexroth A6, A7, and A8 Pumps and Motors

Warranty: Caterpillar® Six Months



- Used to determine correct shim thickness (critical lift off dimension)
- Used with dial caliper or suitable measuring devices
- Simple design reduces cost and simplifies procedure
- Used on 55, 80, 107, 160, and 200 cc (A6 and A7) pumps and motors
- Additional gauge plates included for 107 and 160 cc (A8) pumps
- 184 g (6.5 oz) package of gauge balls is included, allowing approximately 200 measurements before reordering (149-5141)
- Disposable gauge balls provide accurate thickness measurement (each ball used once)
- Punch included for easy removal of gauge balls after recording measurements
- Overall size: 64.0 x 178.0 x 216.0 mm (2.5 x 7.0 x 8.5 in)
- Overall weight: 0.73 kg (1.6 lb)

References

- SENR1255; D3C, D4C, D5C, and Series 3 Hystat Track-Type Tractor Machine System Disassembly and Assembly
- NEHS0699; Tool Operating Manual, Using the 149-4935 Measuring Group on A6, A7 and A8 Rexroth Hydraulic Pump and Motor Group

Item	Part Number	Description
—	149-4935	Pump and Motor Measuring Group (A6, A7 and A8)
1	149-4928	Gauge Plate (A6VM55, A7VO55 and A8)
2	149-4930	Gauge Plate (A6VM80 and A7VO80)
3	149-4931	Gauge Plate (A6VM107 and A7VO107)
4	149-4932	Gauge Plate (A6VM160 and A7VO160)
5	149-4934	Gauge Group (A6VM200)
6	149-5141	Gauge Ball Group 184 g (6.5 oz)
7	226-1901	Drive Pin Punch (3/32 in)
9	151-5251	Pump Measuring Group Foam Insert

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Gauge Plate

Essential Tool

Model Usage: All Cat Machines with Rexroth A8 Pumps

Warranty: Caterpillar® Six Months



- Used to determine correct shim thickness (critical lift-off dimension)
- Used with 149-4935 Pump and Motor Measuring Group (A6, A7 and A8)
- Simple design reduces cost and simplifies assembly procedure
- Tools are precision ground for accurate measurements
- Heat-treated for durability

References

- NEHS0699-01, Tool Operating Manual, Using the 149-4935 Measuring Group on A6, A7, and A8 Rexroth Hydraulic Pump and Motor Groups
- SENR1934, Disassembly and Assembly, 345B Excavator, Machine Systems
- REHS1607, Rotating group adjustment and instructions for Bosch Rexroth pumps/motors

Part No.	Description	Use
149-4928	Gauge Plate (part of 149-4935)	Rexroth models A6V55 and A7V55 pumps
272-1417	Gauge Plate	Rexroth model A8VO160 pumps
372-6543	Gauge Plate	Rexroth model A8V0107 pumps
372-6544	Gauge Plate	Rexroth model A8VO200 pumps

Bearing Nut Spanner Wrench

Model Usage: 330, 330B, and 330B LL Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install 5I-4479 Nut used to preload bearings in rotating group
- Used with torque wrench to obtain specified torque
- Provides best method of tightening nut
- Greatly decreases chance of wrench slipping off of nut and damaging nut and/or other pump components

Reference

- SEPD0269, Service Magazine Article, August 28, 1995

Specifications

- Outside diameter: 95.3 mm (3.75 in)
- Overall length: 219.0 mm (8.6 in)
- Socket depth: 200.0 mm (7.9 in)
- Square drive: 3/4 in
- Number of teeth: 6
- Tooth width: 6.4 mm (0.25 in)
- Width between teeth: 73.3 mm (2.89 in)

Part Number	Description
126-6901	Bearing Nut Spanner Wrench

Lifting Tool

Model Usage: 375, 990, 5080, 5110, 5130, 5230 Excavators

Warranty: Caterpillar® Six Months

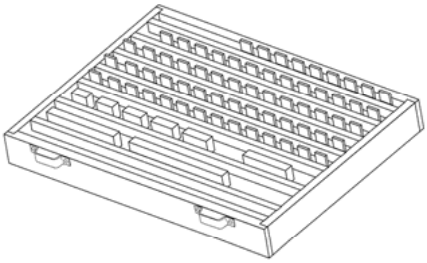


- Used to remove rotating group of Rexroth pump from pump housing
- Used with suitable hoist-type lifting device
- Tool easily attaches to pump shaft with spring-loaded plungers (plungers provide visual indication of whether tool is properly installed, and seated before lifting)
- One tool handles 2 sizes of pump shafts (swivel bail allows tool to be quickly changed to accept both pump shaft sizes)

Gauge Block Group

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Used to compare hydraulic pump and motor measurements with a known "standard" dimension
- Blocks are hardened to Rockwell 65, stress relieved, lapped to accurate size, and inspected to ensure parallelism and flatness
- Set includes 36 standard sizes (each block is individually serialized)
- Conforms to Grade 3 tolerances for National Institute of Standards and Technology
- Set comes complete with fitted wooden storage case

Specifications

- Material: Rectangular steel
- Hardness: Rockwell 65
- Gauge set size ranges: (0.00010 – 4.00000 in)
- Size range (9 blocks): (0.1001 – 0.1009 in) in steps of (0.0001 in)
- Size range (9 blocks): (0.101 – 0.109 in) in steps of (0.001 in)
- Size range (9 blocks): (0.110 – 0.190 in) in steps of (0.010 in)
- Size range (5 blocks): (0.100 – 0.500 in) in steps of (0.100 in)
- Size range (3 blocks): (1.0000, 2.0000, and 4.0000)
- Size range (1 block): (0.050 in)

Part Number	Description
141-4803	Gauge Block Group

Motor Turning Tool

Essential Tool

Model Usage: 315C Excavator

Warranty: Caterpillar® Six Months



- Used to turn 185-6953 Piston Motor (travel motor) to check rolling torque
- Also used to bench test brake

Reference

- RENR5525, Service Manual

Specifications

- Overall length: 145 mm (5.7 in)
- Diameter: 37 mm (1.5 in)
- Number of teeth: 14
- Hex drive: 30 mm (1.2 in)

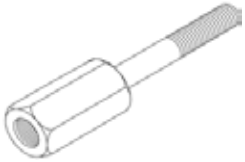
Part Number	Description
206-3689	Motor Turning Tool

Threaded Adapter

Essential Tool

Model Usage: 330C and 345B Excavator

Warranty: Caterpillar® Six Months



- Used to remove 242-6775 Pilot Pump Shaft
- Used with a 1P-0074 or 1U-7603 Slide Hammer
- Converts a 5/8-18 threaded slide hammer to an M12 x 1.5 thread
- 90 mm (3.5 in) long adapter is heat-treated for strength and durability

Reference

- RENR5438, Service Manual, 330C Excavator Systems Disassembly and Assembly

Part Number	Description
250-6142	Threaded Adapter

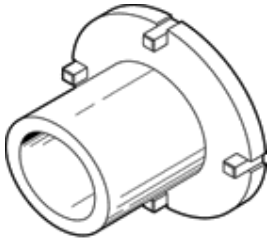
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Motor Nut Spanner Wrench

Essential Tool

Model Usage: CB544 and CB545 Vibratory Compactors

Warranty: Caterpillar® Six Months



- Used to remove and install 142-1271 Spanner Nut
- Used with 3/4 inch socket or wrench
- Required to disassemble and assemble Poclain Model MC08 drum propel motors
- Pilots from inside diameter of motor shaft (provides positive engagement of nut)
- Heat-treated for added durability

Reference

- KENR3039, Machine Systems Disassembly and Assembly, CB544/CB545 Vibratory Compactor

Specifications

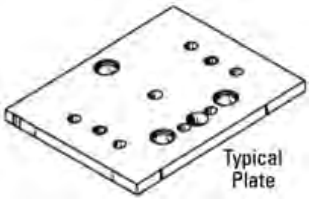
- Inside diameter of teeth: 85.73 mm (3.375 in)
- Pilot diameter: 59.0 mm (2.32 in)
- Tooth width: 5.5 mm (0.22 in)
- Overall height: 70.0 mm (2.76 in)
- Number of teeth: 4, evenly spaced

Part Number	Description
171-1110	Motor Nut Spanner Wrench

Plates for Measuring Swashplate Position

Model Usage: 35, 45, and 55 Challengers; RR-250 Road Reclaimer; SS-250 Soil Stabilizer; PM-565 Cold Planer; RM-350 Reclaimer Mixer and SM-350 Stabilizer Mixer; CP/CS323C, CS-533, CP-533, CS-563, CP-563, CS-573, CS-583 Vibratory Compactors

Warranty: Caterpillar® Six Months



- Used to measure swashplate position for "zero" displacement in 42, 55, 75, and 100 cc pumps
- Used with 6V-2012 Depth Gauge Group
- Plate preloads pump swashplate neutral mechanism to allow easier and more accurate measurements to be taken (allows neutral adjustment to be made during assembly rather than during testing on test stand)
- Installs directly onto pump and measurements are taken through two slotted holes
- Plate remains on pump while swashplate is adjusted (makes rechecking adjustment very fast and simple)
- All plates are made from steel and precisely machined
- Plates are heat-treated for durability and years of repeated use

References

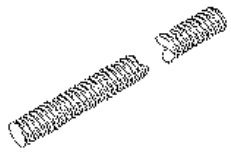
- KENR1899, Service Manual Module, Disassembly and Assembly (CS-533, CP-533) KENR1627, Service Manual Module, Disassembly and Assembly (CS-563, CP-563)
- KENR1884, Service Manual Module, Disassembly and Assembly (CS-573, CP-583) Service Magazine, August 15, 1994, "Tooling Plate Simplifies Swashplate Neutral Adjustment on Drum Propel Pump"

Part Number	Description	Overall Size	Pump Series	Pump Output
469-7636	Neutral Plate	229 x 216 x 19.0 mm (9.0 x 8.5 x 0.75 in)	95	75 cc
4C-8498	Plate	165 x 203 x 19.0 mm (6.5 x 8.0 x 0.75 in)	93	42 cc — Drum Propel
4C-9419	Plate	178 x 216 x 19.0 mm (7.0 x 8.5 x 0.75 in)	94	55 cc — Axle Propel

Threaded Rod (Metric)

Model Usage: All Challenger Ag Tractors

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble steering motors using a metric threaded rod — makes repairs easier and faster
- Rod can be cut to length for this specific application or used in other applications
- Conforms to metric property class 8.8

Specifications

- Threads: M16 x 2
- Overall length: 1000 mm (39.0 in) long
- Working load: 60.25 kN (13,550 lb)

Part Number	Description
9U-7692	Threaded Rod (Metric)

Expanding Rod and Collet

Model Usage: Any Machines with Sundstrand Pumps (Mostly Paving Products)

Warranty: Caterpillar® Six Months

Part Number	Description	Diameter
424-0191	Expanding Rod	5/8 – 18 internal threads 1/2 – 20 external threads
	Collet	7/16" – 1/2"

Shrink Tubing for Spline Shafts

Model Usage: All Models

Warranty: Caterpillar® Six Months



Typical Shrink Tubing



Typical example — shrink tubing installed on hydraulic motor spline shaft

- Used to protect seal from damage caused by spline during assembly
- An inexpensive and versatile system for making seal protectors
- Various sizes to fit outside diameters from 6.4 to 101 mm (0.25 to 4.0 in)
- Tubing can be reused on other spline shafts with the same profile
- Shrink tubing can decrease in size by 50% of its original diameter
- Standard 9U-6070 Heat Gun (110 V) or 9U-6072 Heat Gun (220 V) can be used to shrink tubing

Part Number	Inside Diameter x Length	Wall Thickness [a]
9U-5716	12.7 x 1220 mm (0.50 x 48 in)	0.33 mm (.013 in) – 0.63 mm (.025 in)
9U-5717	19 x 304 mm (0.75 x 12 in)	0.38 mm (.015 in) – 0.76 mm (.030 in)
9U-5718	25.4 x 304 mm (1 x 12 in)	0.46 mm (.018 in) – 0.89 mm (.035 in)
9U-5720	50.8 x 304 mm (2 x 12 in)	0.58 mm (.023 in) – 1.14 mm (.045 in)

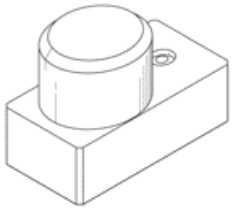
a. On wall thickness, the first set of numbers are before shrinking and the second set, after shrinking.

Disc Installer

Essential Tool

Model Usage: 416D, 420D, 424D, 428D, 430D, 432D, 438D, and 442D Backhoe

Warranty: Caterpillar® Six Months



- Used to install disc to correct index position
- Reduces valve body or disc damage during installation
- Black-oxide coated to eliminate corrosion
- Overall size: 25 x 50 x 50 mm (1.0 x 2.0 x 2.0 in)

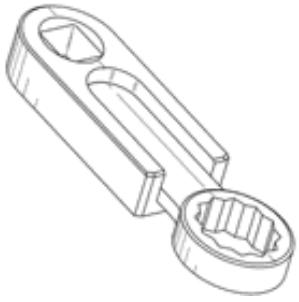
Part Number	Description
199-4384	Disc Installer

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Hex Wrench

Model Usage: Skid Steer Loaders, Multi-terrain Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install hydrostatic pump mounting bolts
- Used with 1/2 inch drive extension, ratchet wrench and/or torque wrench
- 12 point, 21 mm box end wrench with 1/2 inch drive
- Extension distance 76.2 mm (3.0 in) — center of square drive to center of wrench for ease of torque calculations
- Allows easier access to loosen, remove, and tighten pump mounting bolts
- Heavy-duty welded steel construction designed for maximum torque of 244 N·m (180 lb ft)
- Heat-treated for added durability

Reference

- KENR5114, 236B, 246B, 246C, 252B, 256C, 262B, 262C and 272C Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- KENR5115, 246C, 256C, 262C and 272C Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- KENR5197, 277C, 287C and 297C Multi Terrain Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- KENR8831, 279C, 289C and 299C Compact Track Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR2857, 216, 226 and 228 Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR2868, 236, 246, 248, 252 and 262 Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR2872, 236, 246 and 248 Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4808, 236, 246, 252 and 262 Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4814, 267, 277 and 287 Multi Terrain Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4833, 216 and 232 Skid Steer Loaders, 3024 Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4834, 226 and 242 Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4843, 226 and 242 Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4851, 247 and 257 Multi Terrain Loaders, 3034 Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4863, 236B, 236B2, 246B, 252B, 252B2 and 262B Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4864, 236B, 236B2, 246B, 252B, 252B2 and 262B Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4873, 247B, 247B2, 257B and 257B2 Multi Terrain Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4874, 247B, 247B2, 257B and 257B2 Multi Terrain Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4884, 267B, 277B and 287B Multi Terrain Loaders, Machine Systems, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR4893, 216B, 216B2, 226B, 226B2, 232B, 232B2, 242B and 242B2 Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR4894, 216B, 226B, 232B and 242B Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)
- RENR8743, 248B and 268B Skid Steer Loaders, Engine Supplement, Disassembly and Assembly, Engine Remove and Install
- RENR8744, 248B and 268B Skid Steer Loaders, Power Train, Disassembly and Assembly, Piston Pump (Hydrostatic)

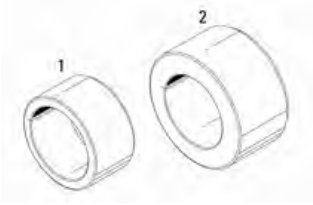
Part Number	Description
159-3327	Hex Wrench

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Cylinder Head Seal Guides

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months



- Required to install cylinder head seals over square shoulder of cylinder rods
- Installation without them is difficult and will likely damage seals

Part Number	Cylinder Rod Diameter	Cylinder Rod Thread Size
4C-8122	108 mm (4.25 in) guide OD/large end	3.25 in — guide ID
4C-8123	139.7 mm (5.50 in) guide OD/large end	3.25 in — guide ID

Coupling Socket

Model Usage: 35, 45 and 55 Challenger

Warranty: Caterpillar® Six Months



- Used to quickly, and easily remove and install implement hydraulic coupling sleeve
- Used with 1/2" square drive ratchet or torque wrench (torque wrench used at installation to obtain correct torque on coupling)
- Designed with 2 set screws to provide positive engagement with coupling (also helps prevent damage during removal/installation)
- Hardened coupling for durability and long life

Reference

- SENR8312, Service Manual

Specifications

- Outside diameter: 50.8 mm (2.0 in)
- Length: 33.27 mm (1.31 in)
- Square drive: 1/2 in
- Set screw: 10-24 x 3/8 in dog point

Part Number	Description
127-5090	Coupling Socket

Universal Wrench, Extra Large

Model Usage: 245, E450, E650, MS380, MS400, MS450 and MS580

Warranty: Caterpillar® Six Months

- Used with Tuxco Cylinder Repair Stand to disassemble and assemble hydraulic cylinders
- Extra large universal wrench used on larger cylinder piston retaining nuts on Cat® and competitive products that are too large for standard wrench on Tuxco Repair Stand
- Adjustable to sizes that would otherwise require other adapters and many large, expensive sockets with greatly reduced torque
- Services large nuts up to 25,000 ft-lb torque
- Extra large high torque wrench
- Adjustable from 102 through 165 mm (4 through 6 1/2 in)
- Capable of up to 25,000 ft-lb of torque
- Used with 1U-9900, 1U-9901, 1U-9902, 4C-4405, 4C-4406, 4C-4407, 4C-4408, 4C-4868

Reference

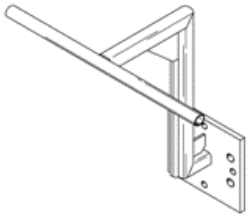
- NEHC2004-01 Capitol Equipment Guide

Part Number	Description
4C-8092	Extra Large Adjustable Torque Wrench

Pump Removal Handle Assembly

Model Usage: All Skid Steer Loaders and Multi-Terrain Loaders

Warranty: Caterpillar® Six Months



- Used to help remove and install main hydraulic pump
- Used with 439-3940 Link Brackets and overhead lifting device
- Allows 2 mechanics to manually position and install pump
- Makes pump alignment during installation faster and easier
- 2 bolt hole patterns allow 1 tool to fit all pumps

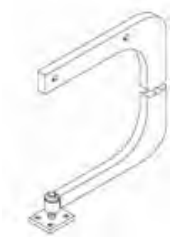
Part Number	Description
247-4296	Pump Removal Handle Assembly

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Swivel Bracket Assembly

Model Usage: 992G Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove or install hydraulic control valve located on front frame (attaches directly to top of valve body)
- Swivel mount design allows valve body to be rotated or repositioned during valve body removal or installation
- One lifting point is provided at "center of gravity" of valve body, keeping it level during removal or installation
- Second lifting point is provided at "center of gravity" of tool, holding bracket level while attaching it to valve body

Specifications

- Lifting hole diameter: 30.0 mm (1.12 in)
- Overall length: 1760.0 mm (69.3 in)
- Width: 757.0 mm (29.8 in)
- Weight: 110 kg (242 lb)
- Lifting capacity: 590 kg (1300 lb)

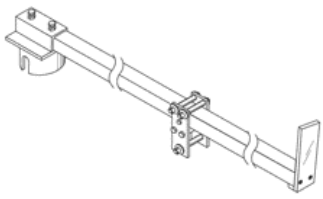
Part Number	Description
137-4369	Swivel Bracket Assembly

Pump Support Group

Essential Tool

Model Usage: 246C (JAY), 256C (DWS), 262C (MST), 272C (RED) Skid Steer Loaders, 277C (JWF), 287C (MAS), 297C (GCP) Multi-Terrain Loaders

Warranty: Caterpillar® Six Months



- Used to remove hydrostatic pump from C-Series Skid Steer Loaders and Multi-Terrain Loaders
- Used with 8S-7640 Stand Group and discontinued 1U-9199 Aluminum Alloy Lever Puller

Specifications

- Working load limit: 113 kg (250 lb)

Part Number	Description
304-8952	Pump Support Group
Service/Repair Parts	
304-8950	Tube Assembly
304-8951	Trolley Assembly
305-0041	Base Assembly

Wrench Assembly

Essential Tool

Model Usage: G310B, G315B Grapple

Warranty: Caterpillar® Six Months



- Used to properly remove and install bearing retainer nut without damage
- Used with 3/4 inch square drive torque wrench
- Provides accurate torquing method

Specifications

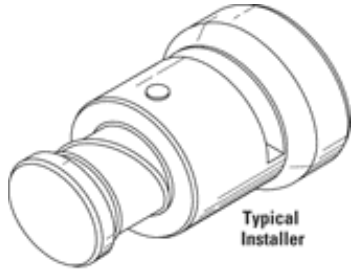
- Drive size: 3/4 in
- Spanner ID: 105.75 mm (4.163 in)
- Number of teeth: 4
- Tooth width: 7.38 mm (0.291 in)
- Distance between teeth: 99.0 mm (3.9 in)

Part Number	Description
279-4142	Wrench Assembly

O-ring Installers

Model Usage: All Models

Warranty: Caterpillar® Six Months



- Reduces leaks due to improper O-ring installation in face seal fittings
- Used to install O-ring seals in dove tail O-ring grooves of tube fittings
- Each tool is designed for a specific size O-ring (makes installation easier)
- Prevents damage to O-ring during installation
- Installer snaps O-ring in place creating positive retention
- O-rings installed by hand will not seat properly and usually will roll-out of fitting at installation

Specifications

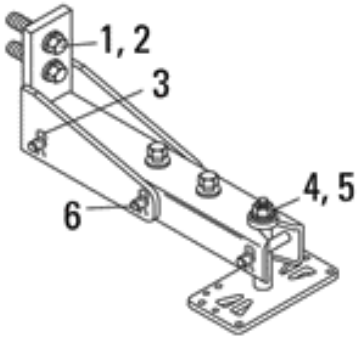
- 179-6884 (-4) : 2-011 O-ring
- 179-6885 (-6): 2-012 O-ring
- 179-6886 (-8): 2-014 O-ring
- 179-6887 (-10): 2-016 O-ring
- 179-6888 (-12): 2-018 O-ring
- 179-6889 (-16): 2-021 O-ring
- 179-6890 (-20): 2-025 O-ring
- 179-6891 (-24): 2-029 O-ring

Lift Fixture Assembly (988G Main Valve)

Essential Tool

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and repair the main hydraulic valve
- Used with 142-1664 Lift Bracket Group
- 3-piece unit bolts directly to lift bracket group
- Allows minimal machine disassembly to remove or install main hydraulic valve
- Lower, rotate, and quickly remove valve with reversible support bracket

Specifications

- Base unit: 350 x 110 mm (13.5 x 4.3 in)
- Lift arm: 594 x 101 mm (23.5 x 4 in)
- Base plate: 150 x 261 mm (6 x 10.3 in)
- Weight: 38.6 kg (85 lb)
- Lift capacity: 317.5 kg (700 lb)

Item	Part Number	Description
—	180-0472	Lift Fixture Assembly (988G Main Valve)
1	6B-9194	Bolt
2	5P-8250	Hard Washer
3	5P-0370	Lock Pin
4	2J-3505	Full Nut
5	8C-6913	Hard Washer
6	6S-6808	Pin

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Pump Removal Tool

Model Usage: 328F

Warranty: Caterpillar® Six Months



- Used with a 346-6598 adaptor assembly so that the 328F pump can be removed
- Includes four 3/4 x 16 - 31.75 bolts

Specifications

- Dim: 178mm h x 140mm w x 25 mm thick
- Weight: 5.2 kg

Part No.	Description
416-4664	Pump Removal Tool

Plate Assembly

Model Usage: 323 Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Plate assembly is needed to remove the 489-3485 main hydraulic pump of 323 Hex machines.
- Used in place of the existing plate of the 346-6598 adapter and the 226-2380 multi-purpose C-style lifting bracket assembly

Part No.	Description	Dimensions (L x W x H)	Weight
546-5744	Plate Assembly	203 x 140 x 178 mm (8 x 6 x 7 in)	5 kg (11 lb)

Socket, 5.5 mm Deep

Model Usage: Longwall Mining PMC-R

Warranty: Manufacturer's (Snap-on)



- 5.5 mm six-point deep-length socket for removing and tightening hex nuts during PMC-R rebuilds

Part No.	Description	Dimensions	Weight
549-6790	5.5 mm Deep Socket	12.1 dia x 31.8 mm (0.48 x 1.25 in)	0 .01 kg (0.02 lb)

Allen Head Wrench, 4mm T-Handle

Model Usage: Longwall Mining PMC-R

Warranty: Manufacturer's (Snap-on)



- 4 mm Hex T-Handle for removing and tightening screws during PMC-R rebuilds

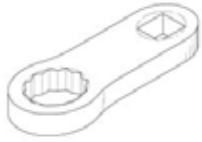
Part No.	Description	Dimensions	Weight
549-6791	4mm T-Handle Allen Head Wrench	167 x 76 x 15 mm (6.6 x 3 x 0.6 in)	.06 kg (0.13 lb)

Hex Wrench, 30 mm

Essential Tool

Model Usage: 966H Wheel Loader

Warranty: Caterpillar® Six Months



- Used to tighten hydraulic pump bolts
- Fits into limited clearance around bolt heads (sockets or other tools will not fit)
- Used with a 3/4 inch square drive 9U-5007 Torque Wrench or equivalent
- Essential for applying proper bolt torque

Reference

RENR8881-00, Hydraulic Pump Removal

Specifications

- Hex: 30 mm, 12 point
- Square drive: 3/4 in
- Center-to-center distance of square drive to socket: 76.2 mm (3.0 in)

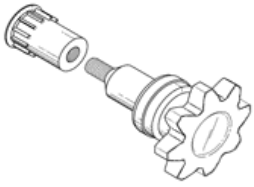
Part Number	Description
369-9937	Hex Wrench (30 mm)

Compressor

Essential Tool

Model Usage: CB-113 and CB-114 Compactor

Warranty: Caterpillar® Six Months



- Used for piston pump (drum propel) disassembly and assembly
- Used to compress barrel assembly
- Large knob easily adjusts tension on compressor assembly

Reference

- KENR6008, Disassembly and Assembly, CB14 Vibratory Compactor Machine Systems

Part Number	Description
314-9716	Compressor

Part Number	Description
340-8014	Sleeve

Sleeve Installer

Model Usage: Asphalt and Vibratory Compactors Using the 081-9927 Seal that is Installed on the 269-4699 Shafts

Warranty: Caterpillar® Six Months



- Sleeve used to install the 081-3814 seal
- Also used on variety of large compactors

Part No.	Description	Specifications	Weight
541-9353	Sleeve Installer	Dia 35 x 122 mm (Dia 1.4 x 5 in)	1 kg (2.2 lb)

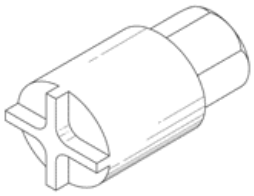
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Socket Screw Wrench

Essential Tool

Model Usage: Model Usage: D3G, D4G, and D5G Hystat Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble hydraulic control valve
- Used with 13 mm socket
- Required for proper disassembly and assembly of valve spool assembly
- Machined, four-point tang securely engages screw in valve spool
- Helps prevent damage to valve
- Black oxide coated to resist corrosion

Reference

- RENR7484, D3G, D4G and D5G Hystat Track-Type Tractors Machine Systems Disassembly and Assembly, Bank Valve (Main Hydraulic) — Disassemble

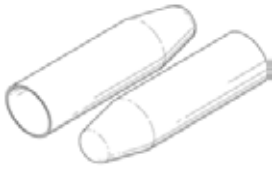
Part Number	Description
238-8670	Socket Screw Wrench

Sleeve

Essential Tool

Model Usage: 414E, 416E, 420E, 422E, 428E, 430E, 432E, 434E, 442E, 444E, and 450E Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to install lip seal in hydraulic control valve
- Made from hardened steel (RKW C28-32) with a chrome plated finish
- Fits over control valve spool and seal is installed over tool and into groove in spool
- Helps prevent damage to new seals during installation

References

- RENR6485; 414E, 416E, 420E, 422E, 428E, 430E, 432E, 434E, 442E and 444E Backhoe Loaders Machine Systems
- KENR7659; 416E, 420E and 430E Backhoe Loaders Machine Systems
- KENR5491; 450E Backhoe Loader Machine Systems

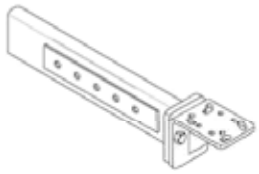
HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Adapter Assembly

Essential Tool

Model Usage: 320E, 324E, 329E, 336E, and 349E Excavator

Warranty: Caterpillar® Six Months



European Union Compliant, CE Marked

- Used to remove hydraulic pump on E-Series excavators with Tier 4 after-treatment package
- Used with 226-2380 Multi-Purpose "C" Style Lifting Bracket Assembly
- Tool eliminates need to remove after-treatment package prior to removing pump
- Mounts to suction port on bottom of pump
- Dual purpose tool works with horizontally mounted pumps (320E, 324E, 336E, and 349E) and pumps mounted on an angle (329E)

Reference

- NEHS1103, Tool Operating Manual

Specifications

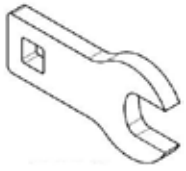
- Working Load Limit: 1366 kg (3000 lb)
- Weight: 29 kg (64 lb)
- Dimensions (L x H x W): 883.6 x 184.8 x 139.7 mm (34.7 x 7.27 x 5.5 in)

Part Number	Description
346-6598	Adapter Assembly

Offset Wrench, 30 mm

Model Usage: 797F OHTs

Warranty: Caterpillar® Six Months



- Used to torque nuts on 272-3411 pump drive
- Heat-treated
- Black-oxide coated

Specifications

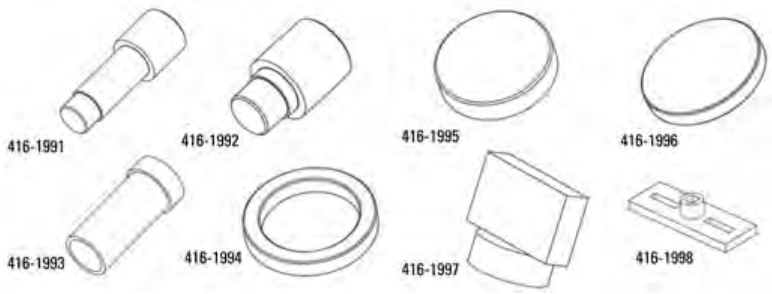
- 4" offset crows foot in 30 mm size wrench
- Hex dimensions: 30 mm

Part Number	Description
474-7114	Offset Wrench , 30 mm

Fan Drive Service Tooling

Model Usage: Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble fan drive
- Material: Steel

Part No.	Replaces	Description	Dimensions	Weight
416-1991	FT2814	Bearing Remover	165.1 x 57.2 mm (6.5 x 2.3 in)	2.3 kg (5 lb)
416-1992	FT2816	Bearing Tool	92.1 x 57.2 mm (3.6 x 2.3 in)	1.5 kg (3.2 lb)
416-1993	FT2462	Pressing Tube	190 x 87.2 mm (7.5 x 3.4 in)	2.6 kg (5.6 lb)
416-1994	FT2463	Ring	86.9 x 64.9 x 13 mm (3.4 x 2.6 x .51 in)	.26 kg (.57 lb)
416-1995	FT2464	Plate	57.2 x 13 mm (2.3 x .51 in)	.26 kg (.57 lb)
416-1996	FT2465	Plate	93.9 x 13 mm (3.7 x .51 in)	.7 kg (1.5 lb)
416-1997	FT2466	Mounting Plate Assembly	89 x 73.2 mm (3.5 x 2.9 in)	1.12 kg (2.5 lb)
416-1998	FT2467	Rotating Plate Assembly	216 x 43 mm (8.5 x 1.7 in)	2 kg (4.4 lb)

HYDRAULIC COMPONENT DISASSEMBLY AND ASSEMBLY

Linde Pump Service Tools

Model Usage: 924K, 930K, and 938K Small Wheel Loaders

Warranty: Caterpillar® Six Months



- Used for pump rebuilds

Part No.	Use with Pump	Description
465-7596	341-7638	Linde Pump Service Tools
465-7597	307-3065	Linde Pump Service Tools

Hex Wrench, 30 mm

Essential Tool

Model Usage: 966H Wheel Loader

Warranty: Caterpillar® Six Months



- Used to tighten hydraulic pump bolts
- Fits into limited clearance around bolt heads (sockets or other tools will not fit)
- Used with a 3/4 inch square drive 9U-5007 Torque Wrench or equivalent
- Essential for applying proper bolt torque

Reference

- RENR8881-00, Hydraulic Pump Removal

Specifications

- Hex: 30 mm, 12 point
- Square Drive: 3/4 in
- Center-to-center distance of square drive to socket: 76.2 mm (3.0 in)

Part Number	Description
369-9937	Hex Wrench, 30 mm

Crowfoot Wrench

Model Usage: All Cat Products

Warranty: Caterpillar® Six Months



- Used to torque the jam nuts on the 369-3921 Brake Assembly
- 4" offset crows foot in a 32 mm size wrench
- Heat treated
- Black oxide coated

Specifications

- Dimensions: 32 mm, 4" offset, 0.75" square drive
- Weight: .57 kg (1.26 lb)

Part Number	Description
448-9373	Crowfoot Wrench

Spanner Wrench

Model Usage: 793F OHT

Warranty: Caterpillar® Six Months



- Services 345-9197 bypass valve in the field
- 2-pin Spanner Wrench
- Requires a 9/16 socket

Specifications

- Diameter: 69.9 mm (2.8 in)
- Length: 32.8 mm (1.3 in)
- Weight: 14 oz (0.9 lb)

Part Number	Description
472-6185	Crowfoot Wrench

Wrench Adapter

Model Usage: BCP Skid Steer, Multi Terrain and Compact Track Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install new 14 mm 12-pt socket-head bolt (361-2657) used to retain the Hystat pump to the engine housing
- 1/2" drive, 2" offset

Specifications

- Dimensions: 77 x 24 x 10 mm (3 x 0.9 x 0.4 in)
- Weight: 0.1 kg (0.2 lb)

Part Number	Description
387-9124	Wrench Adapter

Hydraulic Cylinder Rod and Piston Seal Guides

Model Usage: Surface Drills

Warranty: Caterpillar® Six Months



Piston Seal Guide



Rod Seal Guide

- Piston seal guides protect piston seals from damage while inserting piston and rod into threaded body hydraulic cylinders.
- Piston seal guides are hinged so they can be opened and removed over rod eye after use.
- Durable steel construction
- Rod seal guides protect rod seals from damage while installing piston over threaded end of rod.
- Assembly without damage to seal is difficult without the use of these tools, due to threads being very close to the diameter of the seals.

Part No.	Description	Diameter	Weight
491-7496	Piston Seal Guide	165 x 115 mm (6.5 x 4.5 in)	3.5 kg (7.7 lb)
491-7497	Piston Seal Guide	191 x 122 mm (7.5 x 4.8 in)	4.1 kg (9 lb)
489-1497	Piston Seal Guide	203 x 110 mm (8 x 4.3 in)	4.4 kg (9.7 lb)
491-7498	Piston Seal Guide	229 x 135 mm (9 x 5.3 in)	5.2 kg (11.4 lb)
491-7499	Piston Seal Guide	254 x 135 mm (10 x 5.3 in)	5.8 kg (12.8 lb)
491-7500	Piston Seal Guide	280 x 135 mm (11 x 5.3 in)	6.5 kg (14.3 lb)
492-5664	Rod Seal Guide	101 x 161 mm (3.97 x 6.3 in)	0.7 kg (1.6 lb)
492-5665	Rod Seal Guide	113.5 x 161 mm (4.47 x 6.3 in)	0.9 kg (2 lb)
492-5666	Rod Seal Guide	120.7 x 161 mm (4.75 x 6.3 in)	1 kg (2.2 lb)
492-5667	Rod Seal Guide	127 x 161 mm (5 x 6.3 in)	1.1 kg (2.5 lb)

Hydraulic Cylinder Piston Seal Guides			
Part No.	**Cylinder I.D.**	**Cylinder Thread**	**Cylinder Where Used**
491-7496	139.7 mm (5.5 in)	5.688"-12	Jack Cylinders
491-7497	165.1 mm (6.5 in)	6.688"-12	Hoist and Pulldown, Jack Cylinders
489-1497	177.8 mm (7 in)	7.375"-10	Hoist and Pulldown, Mast elevating, Jack Cylinders
491-7498	203.2 mm (8 in)	8.375"-10	Hoist and Pulldown, Mast elevating, Jack Cylinders
491-7499	228.6 mm (9 in)	9.375"-10	Mast Hoist, Jack Cylinders
491-7500	254 mm (10 in)	10.375"-12	Mast Elevating Cylinders

Hydraulic Cylinder Rod Seal Guides			
Part No.	**Rod Diameter**	**Rod Thread**	**Cylinder Where Used**
492-5664	100.84 mm (3.97 in)	3.875"-12	Hoist and Pulldown, Jack Cylinders
492-5665	113.54 mm (4.47 in)	4.375"-12	Hoist and Pulldown Cylinders
492-5666	120.65 mm (4.75 in)	4.625"-12	Hoist and Pulldown Cylinders
492-5667	127 mm (5 in)	4.875"-12	Jack Cylinders

Check Valve Installation Tool

Model Usage: MD6420, MD6540

Warranty: Caterpillar® Six Months



- Tool enables technician to efficiently remove/install check valve in mast raise cylider.
- Saves time and effort having the right tool designed for the job at hand
- Avoids parts damage and rework time from using improper tooling

Part No.	Description	Diameter	Weight
496-3101	Check Valve Installation Tool	76.2 x 127 mm (3 x 5 in)	0.25 kg (0.6 lb)

Tools for 55, 56, 57, 58 and 59 Towing Winches

Model Usage: 55, 56, 57, 58 and 59 Towing Winches

Warranty: Caterpillar® Six Months

- 4 special tools for assembly operations on Cat® towing winches — 2 available from Parts Department, 2 fabricated

Item	Part Number	Description	No. Req	Winch Models	Use
1	6V-9454	Wrench, 1 7/8 inch	1	All	Tighten mounting stud nuts on 55, 56, 57, 58 and 59 Towing Winches.

Bearing Puller Studs

Model Usage: "G" Series and 120G Motor Graders

Warranty: Caterpillar® Six Months



- 5P-4184 Stud used with other standard 1.25 inch-12 thread bearing puller adapters and 6V-3175 Hydraulic Puller to remove and install articulated hitch bearing and collar on all "G" series motor graders; can also be used for other applications
- 5P-4776 Stud used with 6V-3160 Hydraulic Puller and standard bearing puller adapters that have 1.00 inch-14 threads; fully adjustable and especially useful when working in area with close clearance, such as when removing centershift lockplate bushings on 120G Motor Graders

Part Number	Length	Threaded
5P-4184	457 mm (18 in)	1.25 in-12 NF
5P-4776	457 mm (18 in)	1.00 in-14

Bearing Puller Adapter

Model Usage: "G" Series Motor Graders

Warranty: Caterpillar® Six Months



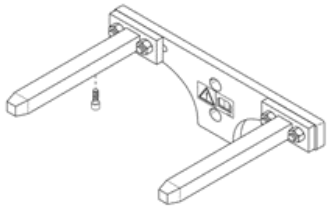
- 5P-2145 Puller Adapter used with loader linkage pin tools to install wheel lean arm bearing on No. 16G Motor Graders
- 5P-4749 Puller Adapter used to install centershift lock plate bushings on 12G, 130G, and 140G Motor Graders

Lift Adapter Assembly

Essential Tool

Model Usage: 14M, 140M, 16M, and 160M Motor Grade

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install air conditioner unit
- Used with 226-2380 Multi-Purpose Lifting Bracket Group
- Adjustable for various sizes of air conditioner units

Reference

- NEHS0979, 271-2769 Lifting Adapter

Part Number	Description
271-2769	Lift Adapter Assembly
Service/Repair Parts	
1A-1460	Bolt (1/2 — 13) (fork mounting hardware)
1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)
1L-0509	Socket Head Cap Screw (3/8-16)
224-0554	Warning Film
5P-8245	Hard Washer

Scarifier Tooth Removing Tool

Model Usage: Most Cat® Motor Graders

Warranty: Caterpillar® Six Months

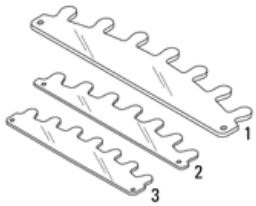


Part Number	Description
6B-3260	Scarifier Tooth Removing Tool

Templates

Model Usage: 12G, 14G, 16G, 120G, 130G and 140G Motor Graders

Warranty: Caterpillar® Six Months



- Used to hold and align motor grader circle tooth segments for faster, easier installation

Reference

- SMHS7268-0, Special Instruction

Item	Part Number	Model
1	319-5038	12G (61M), 120G, 130G (74V, 12W), 140G (72V, 81V, 13W)
2	6V-6037	16G (93U)
3	6V-6039	14G (96U)

Grease Bucket Mounting Template

Model Usage: M and K versions of the 12, 14, 120, 140, and 160 Motor Graders

Warranty: Caterpillar® Six Months



Template

Grease Bucket



- A template that allows precise drilling locations for mounting a 447-1655 grease bucket for lubing the pinion gear
- Proper hole locations prevent contact of the bucket with the ring gear.

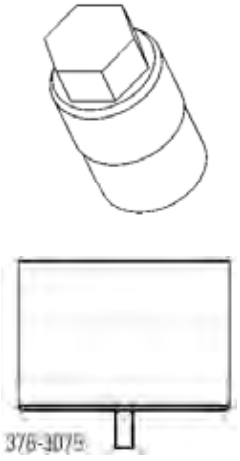
Part No.	Description	Dimensions	Weight
504-2258	Grease Bucket Mounting Template	278 x 130 x 6 mm (11 x 5.11 x 0.23 in)	0.868 kg (1.913 lb)

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Accugrade Installation Alignment Dowels

Model Usage: 349E, 336E, 329E, 324E, 320/323E, 320ERR, 316E, 312E, 314E, 311E Excavators

Warranty: Caterpillar® Six Months



- JIG dowels used for the installation of Accugrade Systems
- Temporary JIG dowels are screwed into place to allow centering of the mounting plate
- Once mounting plates have been installed, JIG dowels can be removed and attachment of the sensors for the Accugrade can take place.

	349E	336E	329E	324E	320/323E	320ERR	316E	312E
Boom								
Pin No.	234-3945	251-2544	341-5040	341-5032	315-0802	315-0802	180-7719	348-0630
Sensor Plate	349-5451	349-5428	349-5534	349-5533	356-7663	—	356-7796	—
JIG	376-3072	376-3073	376-3073	376-3073	376-3074	376-3074	376-3074	376-3445
Stick								
Pin No.	336-2622	359-5718	323-9254	343-9252	264-1705	—	107-9738	—
Sensor Plate	349-5430	—	349-5537	—	356-7667	—	356-7742	—
JIG	376-3073	376-3073	376-3074	376-3074	376-3075	—	376-3075	—

Part Number	Description	Dimensions	Weight
376-3072	Boom JIG	49.9 x 55 mm	1.2 kg (2.67 lb)
376-3073	Boom/Stick JIG	49.9 x 55 mm	0.9 kg (2.01 lb)
376-3074	Boom/Stick JIG	49.9 x 55 mm	0.8 kg (1.87 lb)
376-3075	Stick JIG	49.9 x 35 mm	0.5 kg (1.19 lb)
376-3445	Boom JIG	49.9 x 55 mm	0.8 kg (1.68 lb)

Bucket Linkage Pin Removal and Installation Tools

Model Usage: Most Cat® Loaders and Excavators

Warranty: Caterpillar® Six Months



- Used for linkage pin removal/installation on loaders and excavators with linkage pins equipped with the following puller holes:
  - 22.23 mm (7/8 in) — 14
  - 25.40 mm (1 in) — 14
  - 31.75 mm (1 1/4 in) — 12
  - 38.10 mm (1 1/2 in) — 12
  - 50.80 mm (2 in) — 12
- To clean puller holes in loader linkage pins, use the following thread taps:
  - 1P-7421 Tap, 1 inch — 14 thd
  - 1P-3042 Tap, 1 1/4 inch — 12 thd
  - 1P-3044 Tap, 1 1/2 inch — 12 thd
  - 1P-7422 Tap, 2 inch — 12 thd

Reference

- GMG00806, Special Instruction

Item	Part Number	Description
1	9S-5556	Adapter, 1 1/2 in
2	9S-5557	Adapter, 2 in
3	5H-6197	Pin (3)
3	8S-6377	Lock (3)
3	9S-5433	Puller Adapter Accessories
4	9S-5431	Sleeve Assembly
5	9S-5565	Sleeve Assembly
6	8S-6586	Forcing Screw, 1 in
7	9S-5564	Sleeve Assembly
9	9S-5561	Pin Driver Caps
10	9S-5563	Pin Driver Caps
10	9S-5562	Pin Driver Caps
11	8S-6587	Adapter, 1 1/4 in
12	5P-6581	Adapter, 215 Excavator (not shown)
12	5P-7288	Sleeve Assembly, 215 Excavator
Not Shown	1P-0543	Fast Runner Nut
Not Shown	1P-0544	Fast Runner Nut

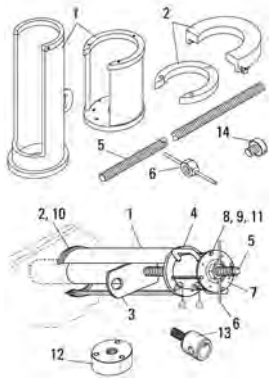
Pin Removal/Installation Tooling

Model Usage: M300 Series Wheeled Excavator; 300 Series Track Excavators; 5080 Front Shovel; General Purpose Pin Pulling

Warranty: Six Months

Receiving Sleeves and Adapter Plates

- Used to easily and quickly remove and install linkage and/or cylinder pins located in front linkages of hydraulic excavators and front shovels
- Longer boom pins, with an M30 or smaller threaded puller hole, are easily removed by using 9U-5266 Sleeve Assembly and 9U-5340 Sleeve Extension and 9U-5341 Adapter Plate
- Large linkage pins, with M36 or M48 threaded puller holes, are easily removed with 9U-6751 and 9U-6752 Receiving Sleeves and 1U-6150, 9U-6754, 9U-6755, and 9U-6757 Adapter Plates



- Adapter plates attach to bottom of 9U-6751 and 9U-6752 Receiving Sleeves, allowing removal of smaller diameter linkage pins with larger diameter receiving sleeves, thus eliminating a need for many additional sleeves
- 141-1785 Sleeve Assembly is used to remove boom pin from 322B, 322B LL, 325B, 325B LL, 330B, 330B LL, and 345B (provides necessary clearance to hydraulically remove boom pin without first removing fuel tank)
- Most adapter plates are attached using 6V-5192 Socket Head Cap Screws (except 9U-5341 Adapter Plates)
- 287-2153 Sleeve Assembly is used to remove boom-to-stick pin on 330D Hydraulic Excavator

Threaded Puller Studs and Fast Runner Nuts

- Fast runner nuts make removal of linkage pins faster and easier
- Metric puller studs are essential for the removal of linkage pins used in the M300-Series Wheeled Excavators, 300-Series Track Excavators, and 5080 Front Shovels

Pin Driver Caps

- Used to protect end of linkage pins during installation
- Caps can be hit with sledge hammer to drive pins into bores
- 4 sizes of caps are available to fit various pin sizes

9U-6753 Retaining Plate

- Used to attach 1U-5197 Cylinder (80 ton) to 9U-6751, 9U-6752, and 141-1985 Receiving Sleeves
- Used with four 9R-3979 Rods, four 8T-4121 Washers, four 8T-4133 Nuts, and 9U-6753 Retaining Plate to safely lift receiving sleeve and hydraulic cylinder as one complete unit

References

- M300-Series Service Manuals
- 300 Series Service Manuals
- 5080 Front Shovel Service Manuals
- Tools and Shop Products Guide article "Bucket Linkage Pin Removal and Installation Tools
- RENR8648, 330D Machine Systems

Item	Description
1	Sleeve Assembly
2	Adapter Plate
3	Pin Assembly
5	Puller Stud
6	Fast Runner Nut
7	Retaining Plate
14	Pin Driver Cap

Item	Part Number	Description
4	316-1491	Cylinder Group (100T) 6 in stroke
8	9R-3979	Rod
9	8T-4133	Nut (M10)
10	6V-5192	Socket Head Bolt
11	8T-4121	Washer (M10)

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Receiving Sleeve Assemblies

Part Number	Description	Maximum Pin Diameter	Maximum Pin Length	Max. Width of Tear Drop or Flag Retainer	Maximum Puller Stud Diameter	Max. Capacity
141-1785	Sleeve Assembly — Receiving	146 mm (5.7 in)	1,143 mm (45 in)	146 mm (5.7 in)	68 mm (2.7 in)	90 t (100 tons)
287-2153	Sleeve Assembly	152 mm (6 in)	812 mm (32 in)	152 mm (6 in)	68 mm (2.7 in)	72 t (80 tons)
4C-8163	Sleeve Assembly	165 mm (6.5 in)	890 mm (35 in)	—	70 mm (2.8 in)	136 t (150 tons)
9U-5266	Sleeve Assembly	127 mm (5 in)	366 mm (14.4 in)	114 mm (4.5 in)	35 mm (1.4 in)	54 t (60 tons)
9U-5340	Receiver Sleeve	127 mm (5 in)	303 mm (11.9 in)	114 mm (4.5 in)	35 mm (1.4 in)	54 t (60 tons)
9U-6751	Sleeve Assembly	216 mm (8.5 in)	330 mm (13 in)	164 mm (6.5 in)	52 mm (2 in)	90 t (100 tons)
9U-6752	Sleeve Assembly	216 mm (8.5 in)	1,143 mm (45 in)	164 mm (6.5 in)	52 mm (2 in)	90 t (100 tons)

Adapter Plates (2)

Part Number	Description	Maximum Pin Diameter	Max. Width of Tear Drop or Flag Retainer	Maximum Width	Max. Capacity
1U-6150	Adapter Plates	44 mm (1.7 in)	156 mm (6.1 in)	130 mm (5.1 in)	90 t (100 tons)
9U-5341	Adapter Plate Assembly	104 mm (4.1 in)	114 mm (4.5 in)	—	54 t (60 tons)
9U-6754	Adapter Plates	31.8 mm (1.3 in)	187 mm (7.4 in)	130 mm (5.1 in)	90 t (100 tons)
9U-6755	Adapter Plates	38.1 mm (1.5 in)	118 mm (4.6 in)	—	90 t (100 tons)
9U-6757	Adapter Plates	25.4 mm (1 in)	196 mm (7.7 in)	164 mm (6.5 in)	90 t (100 tons)

Puller Studs (5)

Part Number	Description	Thread Size	Length	Max. Capacity
137-8460	Puller Stud	M30 x 3.5	1,980 mm (78 in)	45 t (50 tons)
9U-5343	Puller Stud	M24 x 3	650 mm (25.6 in)	27 t (30 tons)
9U-5344	Puller Stud	M30 x 3.5	800 mm (31.5 in)	45 t (50 tons)
9U-6811	Puller Stud	M36 x 4	1,575 mm (62 in)	72 t (80 tons)
9U-6812	Puller Stud	M48 x 5	381 mm (15 in)	90 t (100 tons)
9U-6813	Puller Stud	M48 x 5	508 mm (20 in)	90 t (100 tons)
9U-6814	Stud — Puller (M48 x 5)	M48 x 5.0	920 mm (36.2 in)	90 t (100 tons)
9U-6815	Puller Stud (M48) 62 in	M48 x 5	1,575 mm (62 in)	90 t (100 tons)
9U-7998	Puller Stud	M36 x 4	920 mm (36.2 in)	72 t (80 tons)

Part Number	Description	Thread Size	Hex Size
9U-5345	Fast Runner Nut Assembly	M24 x 3.0	36 mm (1.4 in)
9U-5346	Fast Runner Nut, M30	M30 x 3.5	46 mm (1.8 in)
9U-6809	Nut — Fast Runner, (M36 x 4)	M36 x 4.0	55 mm (2.2 in)
9U-6810	Nut — Fast Runner (M48 x 5.0)	M48 x 5.0	75 mm (3 in)

Brace Assembly

Model Usage: MH3049

Warranty: Caterpillar® Six Months



- Lockout collar for the cab riser used to stabilize the cab riser structure during removal and installation of the boom.
- Support the cab riser without relying on hydraulics
- Material: Steel

Specifications

- Dimensions: 756.5 (29.78 in)
- Weight: 14.9 kg (32.84 lb)

Part Number	Description
435-9467	Brace Assembly

Receiving Sleeve

Model Usage: MH3049

Warranty: Caterpillar® Six Months



- Used to easily and quickly remove and install cab riser pins from material handlers
- Used on flagged pins
- Contains pins up to 865 mm (34.05 in) long
- Made of steel

Specifications

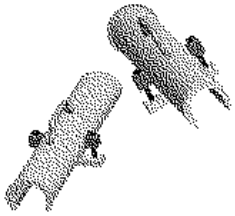
- Dimensions: 931.0 x 170.0 mm (36.6 x 6.7 in)
- Weight: 16.2 kg (35.7 lb)

Part Number	Description
425-7251	Receiving Sleeve

Short Brace Assembly

Model Usage: MH3049

Warranty: Caterpillar® Six Months



- Used to stabilize the cab riser for MH3049 structure during R&I of the boom
- Used to lockout collar to mechanically support the cab riser for a long period of time without relying on hydraulics
- Made of steel

Specifications

- Overall Length: 558.8 mm (21.99 in)
- Weight: 10.6 kg (23.36 lb)

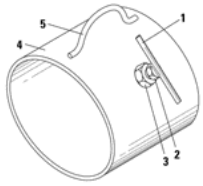
Part Number	Description
441-6517	Short Brace Assembly

Part Number	Description	Thread Size
	Pin Driver Caps (14)	
4C-9485	Pin Driver Caps	M30 x 3.5
9U-5342	Pin Driver Caps	M24 x 3.0
9U-6225	Pin Driver Caps	M36 x 4.0
9U-6758	Pin Driver Cap (installation only)	M48 x 5.0

Pin Holder Assembly

Model Usage: Most Cat® Loaders and Excavators

Warranty: None



- Used for linkage pin removal and installation on loaders and excavators

Item	Description
1	Steel Rod
4	Steel Tubing
5	Steel Rod

Item	Part Number	Description
2	4B-3617	Setscrew
3	1D-4719	Nut

Adapter Plate

Essential Tool

Model Usage: 994D Wheel Loader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to lift and install hollow linkage pins with 38 mm (1.5 in) center hole (loader arm)
- Used with 128-4775 Lifting Bracket Assembly

Reference

- RENR2038, Service Manual

Part Number	Description
419-6576	Adapter Plate

Front Shovel Linkage Pin Puller Tools (245)

Model Usage: Most Cat® Loaders and Excavators

Warranty: Caterpillar® Six Months



- 5P-7370 Sleeve Assembly and three to six adapters are used with 9S-8901 Cylinder Group for linkage pin removal on 245 Front Shovel
- Can be used for pins not more than 165.1 mm (6.50 in) in diameter and will also accommodate 152.4 mm (6.00 in) and 165.1 mm (6.50 in) diameter pins with teardrop or flag retainers welded to end

Item	Part Number	Description
1	5P-7370	Sleeve Assembly

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Wheel Loader Tools (994)

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install loader arm linkage

References

- SENR4755, 994 Vehicle Systems Disassembly and Assembly
- SEHS9272, 994 Field Assembly

4C-9493 Receiving/Handling Sleeve (Item 1)

- Supports hydraulic cylinder and serves as receiving sleeve during hydraulic removal/ pulling of collets during disassembly
- Through hole allows use with 50.8 mm (2 in) or smaller puller stud
- ID = 228 mm (9 in)
- Overall length = 185 mm (7.28 in)
- Through hole = 52.5 mm (2 in)
- Maximum force = 100 tons

4C-9491 Receiving/Handling Sleeve (Item 2)

- Serves as receiving sleeve for linkage pins and bearings during disassembly
- ID = 228 mm (9 in)
- Overall length = 300 mm (11.8 in)
- Maximum force = 100 tons

4C-9488 Adapter (Item 4)

- Used to remove and install 22.2 mm (8.74 in) outside diameter bearings
- Outside diameter = 21.80 cm (8.58 in)
- Pilot diameter = 20.2 cm (7.95 in)
- Center hole for puller stud = 11/2 in-12 thd
- Maximum force = 100 tons
- Threads: 1 1/2 inch-12 (female), in each end
- Maximum force = 70 tons

4C-9490 Bearing Step Plate (Item 5)

- Assures 22.2 cm (8.74 in) diameter. bearings are pulled in to proper depth during installation
- Step = 22.0 cm (8.66 in) diameter, 10.25 mm (0.40 in) deep
- Center hole diameter = 52.5 (2 in)
- Maximum force = 100 tons

4C-9492 Head Plate (Item 6)

- Used between either 4C-9491 Sleeve (2)
- Maximum force = 100 tons

4C-9489 Bearing Step Plate (Item 7)

- Assures that 18.4 cm (7.24 in) diameter. bearings are pulled in to proper depth during installation
- Two 18.2 cm (7.17 in) diameter pilots: 8.6 mm (0.34 in) deep, 10.5 mm (0.41 in) deep

4C-9487 Coupler (Item 10)

- Used to connect 2 puller studs"Rolled threads" 1 in — 14
- Hex heads = 38.1 mm (1.5 in)
- Overall length: 4C-9431 = 244 mm (9.6 in) 4C-9432 = 140 mm (5.5 in)

4C-9486 Adapter/Coupler (Item 11)

- Used to adapt or connect 2 different threads when required
- Threads: 1 1/4 inch-12 (female), in one end; and M30 x 3.5 (female) threads in the other

4C-9432 (Item 12) and 4C-9431 (Item 13) Forcing Bolts

- Both have rolled threads which provide greater strength

4C-9485 Cap Driver (Item 14)

- Used to provide striking surface other than collet itself when installing lift arm to main frame collet (striking collet could result in damage to threaded holes from "mushrooming")
- Flat striking surface
- Thread: M30 x 3.5 (male)

4C-6722 Rethreading Die (Item 15)

- Used for repair or threading of M30 x 3.5 threads
- Threads on rods in 994 loader linkage can become damaged or rusted — repair much less expensive than replacement

Item	Part Number	Description
1	4C-9493	Sleeve
2	4C-9491	Receiving Sleeve
4	4C-9488	Adapter
5	4C-9490	Bearing Step Plate
6	4C-9492	Plate
7	4C-9489	Bearing Step Plate
10	4C-9487	Coupler
11	4C-9486	Adapter — Coupler
12	4C-9432	Forcing Bolts
13	4C-9431	Forcing Bolts
14	4C-9485	Pin Driver Caps
15	4C-6722	Rethreading Die

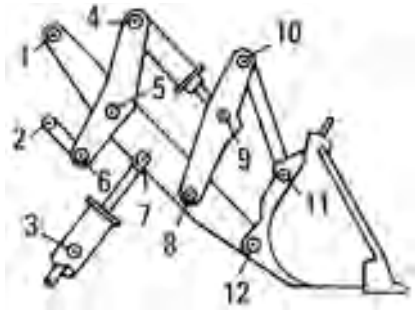
Loader Linkage Pin Tool

955 Pin Removal (Pin Location)

Part No.	Tools Required	1	2	4	5	6	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	—	—	—	—	1	1	—	1	1	1
1P-3042	Tap (1 1/4 -12)	1	1	1	—	1	—	—	1	—	—	—
1P-3044	Tap (1 1/2 -12)	—	—	—	1	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	—	—	—	—	1	1	—	1	1	1
4C-9634	Stud (1 1/4 -12)	1	1	1	—	1	—	—	1	—	—	—
5H-6197	Pin	—	—	—	1	—	—	—	—	—	—	—
5P-6581	Adapter (7/8 -14)	—	—	—	—	—	1	1	—	1	1	1
6H-4158	Pin	—	—	—	2	—	—	—	—	—	—	—
6V-3160	Puller (30 ton) (also requires 350-7768 (115 V) or 350-7769 (230 V) pump)	—	—	—	—	—	1	1	—	1	1	1
6V-3170	Puller (50 ton) (also requires 350-7768 (115 V) or 350-7769 (230 V) pump)	1	1	1	—	1	—	—	1	—	—	—
7M-9772	Pin	—	—	—	1	—	—	—	—	—	—	—
7M-9774	Adapter Coupling	—	—	—	1	—	—	—	—	—	—	—
8S-6377	Lock	—	—	—	1	—	—	—	—	—	—	—
9S-5431	Sleeve Assembly	—	—	—	1	—	—	—	—	—	—	—
9S-5533	Adapter	—	—	—	1	—	—	—	—	—	—	—
9S-5556	Adapter (1 1/2 -12)	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	1	1	—	1	—	—	1	—	—	—
9S-5565	Sleeve Assembly	—	—	—	—	—	1	1	—	1	1	1
9S-8901	Cylinder (90 ton in) (also requires 350-7768 (115 V) or 350-7769 (230 V) pump)	—	—	—	1	—	—	—	—	—	—	—
9U-6832	Fast Runner Nut	1	1	1	—	1	—	—	1	—	—	—
	Other Parts Required											
—	Stud (1-14)	—	—	—	—	—	1	1	—	1	1	1

992 Pin Removal (Pin Location)

Part No.	Tools Required	1	2 [a]	4	5	6	7	8	9	10	11	12
1P-3042	Tap (1 1/4 -12)	—	—	1	—	—	—	—	—	1	1	—
1P-3044	Tap (1 1/2-12)	—	1	—	—	1	—	1	1	—	—	1
1P-7422	Tap (2-12)	1	—	—	1	—	1	—	—	—	—	—
4C-9634	Stud (1 1/4 -12)	—	—	1	—	—	—	—	—	1	1	—
5H-6197	Pin	3	1	—	2	—	—	1	2	—	—	2
6H-4158	Pin	2	2	—	2	2	2	2	2	—	—	2
6V-3170	Puller (50 ton) [c]	—	—	1	—	—	—	—	—	1	1	—
7M-9772	Pin	1	1	—	1	1	1	1	1	—	—	1
7M-9774	Adapter Coupling	1	1	—	1	1	1	1	1	—	—	1
8S-6377	Lock	3	1	—	2	—	—	1	2	—	—	2
9H-3992	Head	—	—	—	—	—	1 [b]	—	—	—	—	—
9S-5431	Sleeve Assembly	1	1	—	1	1	1 [d]	1	1	—	—	1
9S-5433	Puller Adapter	3	1	—	2	—	—	1	2	—	—	1
9S-5556	Adapter (1 1/2 -12)	—	1	—	—	1	—	1	1	—	—	1
9S-5557	Adapter (2-12)	1	—	—	1	—	1	—	—	—	—	—
9S-5564	Sleeve Assembly	—	—	1	—	—	—	—	—	1	1	—
9S-8900	Cylinder (55 ton in) [c]	—	—	—	1	—	—	—	—	—	—	—
9S-8901	Cylinder (90 ton in) [c]	1	1	—	—	1	1	1	1	—	—	1
9U-6832	Fast Runner Nut	—	—	1	—	—	—	—	—	1	1	—



a. Inside pin can be driven inward after suggested tooling is used to pull outside pin.

b. 5K1-25K698.

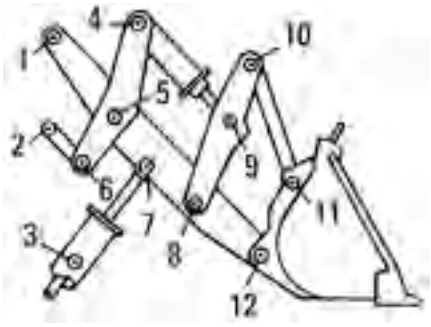
c. Also requires one of the following pumps: 350-7768 (115 V), 350-7769 (230 V).

d. 5K-699-Up.

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

983 Pin Removal (Pin Location)

Part No.	Tools required	1	2	4	5	6	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	—	—	—	—	—	1	—	—	1	—
1P-3042	Tap (1 1/4-12)	1	1	1	—	1	1	—	1	—	—	1
1P-7421	Tap (1-14)	—	—	—	—	—	—	1	—	—	1	—
1P-7422	Tap (2-12)	—	—	—	1	—	—	—	—	—	—	—
4C-9634	Stud (1 1/4-12)	1	1	1	—	1	1	—	1	—	—	1
5H-6167	Pin	—	—	—	1	—	—	—	—	—	—	—
6H-4158	Pin	—	—	—	2	—	—	—	—	—	—	—
6V-3160	Puller (30 ton) a	—	—	—	—	—	—	1	—	1	1	—
6V-3170	Puller (50 ton) a	1	1	1	—	1	1	—	1	—	—	1
7M-9772	Pin	—	—	—	1	—	—	—	—	—	—	—
7M-9774	Adapter Coupling	—	—	—	1	—	—	—	—	—	—	—
8S-6377	Lock	—	—	—	2	—	—	—	—	—	—	—
9S-5431	Sleeve Assembly	—	—	—	1	—	—	—	—	—	—	—
9S-5433	Puller Adapter	—	—	—	1	—	—	—	—	—	—	—
9S-5557	Adapter (2-12)	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	1	1	—	1	1	1	1	—	—	1
9S-5565	Sleeve Assembly	—	—	—	—	—	—	—	—	1	1	—
9S-8901	Cylinder (90 ton in) a	—	—	—	1	—	—	—	—	—	—	—
9U-6832	Fast Runner Nut	1	1	1	1	1	—	1	—	1	—	—
Other Parts Required												
—	Stud (1-14)	—	—	—	—	—	—	1	—	—	1	—



a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

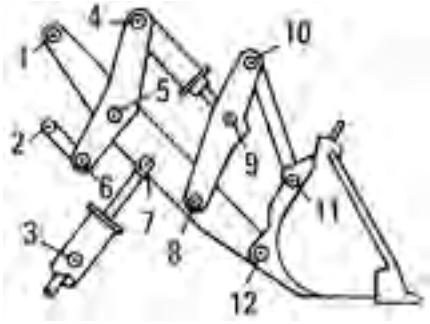
988 Pin Removal (Pin Location)

Part No.	Tools Required	1	2 a	4	5	6 a	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	1	1	—	1	—	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	—	—	—	—	—	—	—	—	—	—
1P-3044	Tap (1 1/2-12)	—	—	—	1	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	1	1	—	1	—	1	1	1	1	1
4C-9634	Stud (1 1/4-12)	1	—	—	—	—	—	—	—	—	—	—
5H-6167	Pin	—	—	—	2	—	—	—	—	—	—	—
6H-4158	Pin	—	—	—	2	—	—	—	—	—	—	—
6V-3160	Puller (30 ton) b	—	1	1	—	1	—	1	1	1	1	1
6V-3170	Puller (50 ton) b	1	—	—	—	—	—	—	—	—	—	—
7M-9772	Pin	—	—	—	1	—	—	—	—	—	—	—
7M-9774	Adapter Coupling	—	—	—	1	—	—	—	—	—	—	—
8B-7548	Bearing Puller Assembly	—	—	—	—	—	1	—	—	—	—	—
8B-7563	Handle	—	—	—	—	—	1	—	—	—	—	—
8H-0684	Wrench-Ratchet	—	—	—	—	—	1	—	—	—	—	—
8S-6377	Lock	—	—	—	2	—	—	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	—	—	—	1	—	—	—	—	—
8S-6587	Adapter (1 1/4 -12)	—	—	—	—	—	1	—	—	—	—	—
9S-5431	Sleeve Assembly	—	—	—	1	—	—	—	—	—	—	—
9S-5433	Puller Adapter	—	—	—	2	—	—	—	—	—	—	—
9S-5556	Adapter (1 1/2-12)	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	—	1	—	—	—	—	1	—	—	—
9S-5565	Sleeve Assembly	—	1	—	—	1	—	1	—	1	1	1
9S-8901	Cylinder (90 ton in) b	—	—	—	1	—	—	—	—	—	—	—
9U-6832	Fast Runner Nut	1	—	—	—	—	—	—	—	—	—	—
Other Parts Required												
—	Stud (1-14)	—	1	1	—	1	—	1	1	1	1	1

a. Inside pin can be driven inward after suggested tooling is used to pull outside pin.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

980 Pin Removal (Pin Location)



Part No.	Tools Required	1	2 a	4	5	6 a	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	1	1	—	1	—	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	—	—	—	—	—	—	—	—	—	—
1P-3044	Tap (1 1/2 -12)	—	—	—	1	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	1	1	—	1	—	1	1	1	1	1
4C-9634	Stud — Puller	1	—	—	—	—	—	—	—	—	—	—
5H-6167	Pin	—	—	—	2	—	—	—	—	—	—	—
6H-4158	Pin	—	—	—	2	—	—	—	—	—	—	—
6V-3160	Puller Group (30 ton) b	—	1	1	—	1	—	1	1	1	1	1
6V-3170	Cylinder Group (450 KN) b	1	—	—	—	—	—	—	—	—	—	—
7M-9772	Pin	—	—	—	1	—	—	—	—	—	—	—
7M-9774	Adapter Coupling	—	—	—	1	—	—	—	—	—	—	—
8B-7548	Bearing Puller Assembly	—	—	—	—	—	1	—	—	—	—	—
8B-7563	Handle	—	—	—	—	—	1	—	—	—	—	—
8H-0684	Wrench-Ratchet	—	—	—	—	—	1	—	—	—	—	—
8S-6377	Lock	—	—	—	2	—	—	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	—	—	—	1	—	—	—	—	—
8S-6587	Adapter (1 1/4 -12)	—	—	—	—	—	1	—	—	—	—	—
9S-5431	Sleeve Assembly c	—	—	—	1	—	—	—	—	—	—	—
9S-5433	Puller Adapter	—	—	—	2	—	—	—	—	—	—	—
9S-5556	Adapter (1 1/2 -12)	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	—	—	—	—	—	—	1	—	—	—
9S-5565	Sleeve Assembly	—	1	1	—	1	—	1	—	1	1	1
9S-8901	Cylinder Group Hyd b	—	—	—	1	—	—	—	—	—	—	—
9U-6832	Nut Assembly — Fast Runner	1	—	—	—	—	—	—	—	—	—	—
Other Parts Required												
—	Stud (1-4)	—	1	1	—	1	—	1	1	1	1	1

a. Inside pin can be driven inward after suggested tooling is used to pull outside pin.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

c. Used for removal only.

977 Pin Removal (Pin Location)

Part No.	Tools Required	1L	1R	2	4	5	6	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	—	—	—	—	—	—	1	—	1	1	1
1P-3042	Tap (11/4 -12)	—	1	1	1	—	1	1	—	1	—	—	—
1P-3044	Tap (1 1/2 -12)	1	—	—	—	—	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	—	—	—	—	—	—	1	—	1	1	1
1P-7422	Tap (2-12)	—	—	—	—	1	—	—	—	—	—	—	—
4C-9634	Stud (1 1/4 -12)	—	1	1	1	—	1	1	—	1	—	—	—
5H-6167	Pin	1	—	—	—	1	—	—	—	—	—	—	—
6H-4158	Pin	2	—	—	—	2	—	—	—	—	—	—	—
6V-3160	Puller (30 ton) a	—	—	—	—	—	—	—	1	—	1	1	1
6V-3170	Puller (50 ton) a	—	1	1	1	—	1	1	—	1	—	—	—
7M-9772	Pin	1	—	—	—	1	—	—	—	—	—	—	—
7M-9774	Adapter Coupling	1	—	—	—	1	—	—	—	—	—	—	—
8S-6377	Lock	1	—	—	—	1	—	—	—	—	—	—	—
9S-5431	Sleeve Assembly	1	—	—	—	1	—	—	—	—	—	—	—
9S-5433	Puller Adapter	1	—	—	—	1	—	—	—	—	—	—	—
9S-5556	Adapter (1 1/2-12)	1	—	—	—	—	—	—	—	—	—	—	—
9S-5557	Adapter (2-12)	—	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	—	1	1	1	—	1	1	—	1	—	—	—
9S-5565	Sleeve Assembly	—	—	—	—	—	—	—	1	—	1	1	1
9S-8901	Cylinder (90 ton in) a	1	—	—	—	1	—	—	—	—	—	—	—
9U-6832	Fast Runner Nut	—	1	1	1	—	1	1	—	1	—	—	—
Other Parts Required													
—	Stud (1-4)	—	—	—	—	—	—	—	1	—	1	1	1

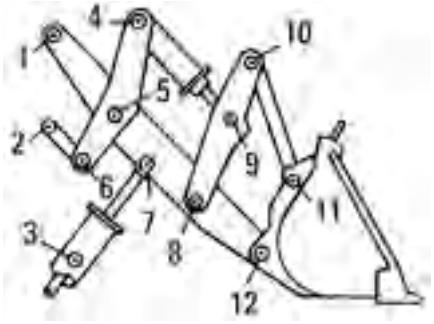
a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

950 Pin Removal (Pin Location)

Part No.	Tools Required	1	2	4	5	6L	6R	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	1	1	—	1	—	1	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	—	—	1	—	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	1	1	—	1	—	1	1	1	1	1	1
4C-9634	Stud (1 1/4 -12)	1	—	—	1	—	—	—	—	—	—	—	—
5P-6581	Adapter (7/8 -14)	—	—	—	—	—	1	—	—	—	—	—	—
6V-3160	Puller (30 ton) a	—	1	1	—	1	—	1	1	1	1	1	1
6V-3170	Puller (50 ton) a	1	—	—	1	—	—	—	—	—	—	—	—
8B-7548	Bearing Puller Assembly	—	—	—	—	—	1	—	—	—	—	—	—
8B-7563	Handle	—	—	—	—	—	1	—	—	—	—	—	—
8H-0684	Wrench-Ratchet	1	—	—	—	—	—	—	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	—	—	—	1	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	—	1	—	—	—	—	—	—	—	—	—
9S-5565	Sleeve Assembly	1	—	1	—	1	—	1	1	1	1	1	1
9U-6832	Fast Runner Nut	1	—	—	1	—	—	—	—	—	—	—	—
Other Parts Required													
—	Stud (1-4)	—	1	1	—	1	—	1	1	1	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

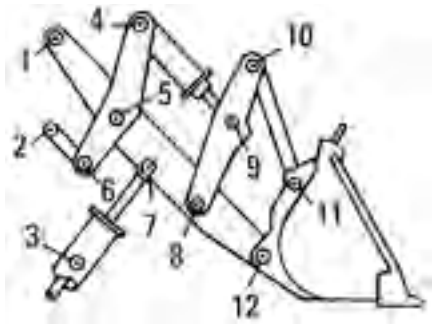


941 and 951 Pin Removal (Pin Location)

Part No.	Tools required	1	2	3	4	5	6	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	—	—	1	—	—	1	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	1	—	—	1	1	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	—	—	1	—	—	1	1	1	1	1	1
4C-9634	Stud (1 1/4 -12)	1	1	—	—	1	1	—	—	—	—	—	—
6V-3160	Puller (30 ton) a	—	—	—	1	—	—	1	1	1	1	1	1
6V-3170	Puller (50 ton) a	1	1	—	—	1	1	—	—	—	—	—	—
8B-7548	Bearing Puller Assembly	—	—	1	—	—	—	—	—	—	—	—	—
8B-7549	Push Puller Leg	—	—	2	—	—	—	—	—	—	—	—	—
8B-7563	Handle	—	—	1	—	—	—	—	—	—	—	—	—
8H-0684	Wrench-Ratchet	—	—	1	—	—	—	—	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	1	—	—	—	—	—	—	—	—	—
9S-5431	Sleeve Assembly	—	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	—	—	—	—	—	—	—	—	—	—	—
9S-5565	Sleeve Assembly	—	1	—	1	—	1	1	1	1	1	1	1
9U-6832	Fast Runner Nut	1	1	—	—	1	1	—	—	—	—	—	—
Other Parts Required													
—	Stud (1-4)	—	—	—	1	—	—	1	1	1	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

930 Pin Removal (Pin Location)



Part No.	Tools Required	1	2	3	4	5	6L	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	1	1	1	—	1	1	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	—	—	—	1	—	—	—	—	—	—	—
1P-7421	Tap (1 -14)	—	1	1	1	—	1	1	1	1	1	1	1
6V-3160	Puller Group (30 ton) [a]	—	1	1	1	—	1	1	1	1	1	1	1
6V-3170	Stud (1 1/4 -12)	1	—	—	—	1	—	—	—	—	—	—	—
6V-3175	Puller Group (50 ton) [a]	1	—	—	—	1	—	—	—	—	—	—	—
9S-5564	Sleeve Assembly	—	—	—	—	1	—	—	—	—	—	—	—
9S-5565	Sleeve Assembly	1	1	1	1	—	1	1	1	1	1	1	1
9U-6832	Fast Runner Nut	1	—	—	—	1	—	—	—	—	—	—	—
Other Parts Required													
—	Stud (1-4)	—	1	1	1	—	1	1	1	1	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

920 Pin Removal (Pin Location)

Part No.	Tools Required	1	2	3	4	5	6L	7	9
1P-0544	Fast Runner Nut	1	—	—	—	1	—	—	—
1P-3042	Tap (1 1/4 -12)	1	—	—	—	1	—	—	—
1P-7421	Tap (1-14)	—	1	—	1	—	1	1	1
4C-9634	Stud (1 1/4 -12)	1	—	—	—	1	—	—	—
6V-3160	Puller Group (30 ton) [a]	—	1	—	1	—	1	1	1
6V-3170	Puller Group (50 ton) [a]	1	—	—	—	1	—	—	—
8B-7548	Bearing Puller Assembly	—	—	1	—	—	—	—	—
8B-7563	Handle	—	—	1	—	—	—	—	—
8H-0684	Wrench-Ratchet	—	—	1	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	1	—	—	—	—	—
9S-5565	Sleeve Assembly	1	1	—	1	1	1	1	1
9U-6832	Fast Runner Nut	—	1	—	1	—	1	1	1
Other Parts Required									
—	Stud (1-4)	—	1	1	1	—	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V),

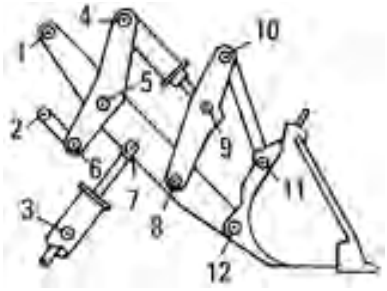
966 Pin Removal (Pin Location)

Part No.	Tools Required	1	4	5	6L	6R	7	8	9	10	11	12
1P-0543	Fast Runner Nut	—	1	—	1	—	1	1	1	1	1	1
1P-3042	Tap (1 1/4 -12)	1	—	1	—	—	—	—	—	—	—	—
1P-7421	Tap (1-14)	—	1	—	1	—	1	1	1	1	1	1
4C-9634	Stud (1 1/4 -12)	1	—	1	—	—	—	—	—	—	—	—
5P-6581	Adapter (7/8 -14)	—	—	—	—	1	—	—	—	—	—	—
6V-3160	Puller (30 ton) [a]	—	1	—	1	—	1	1	1	1	1	1
6V-3170	Puller (50 ton) [a]	1	—	1	—	—	—	—	—	—	—	—
8B-7548	Bearing Puller Assembly	—	—	—	—	1	—	—	—	—	—	—
8B-7563	Handle	—	—	—	—	1	—	—	—	—	—	—
8H-0684	Wrench-Ratchet	—	—	—	—	1	—	—	—	—	—	—
8S-6586	Screw, Forcing (1-14)	—	—	—	—	1	—	—	—	—	—	—
9S-5564	Sleeve Assembly	1	—	1	—	—	—	—	—	—	—	—
9S-5565	Sleeve Assembly	—	1	—	1	—	1	1	1	1	1	1
9U-6832	Fast Runner Nut	1	1	—	—	—	—	—	—	—	—	—
Other Parts Required												
—	Stud (1-4)	—	1	—	1	—	1	1	1	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

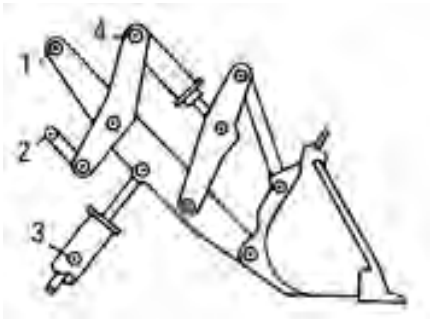
LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Pin Installations All Machines



Part No.	Tools Required	2 in Puller Holes	1 1/2 in Puller Holes	1 1/4 in Puller Holes	1 in Puller Holes
1P-3042	Tap (1 1/4 -12)	—	—	1	—
1P-3044	Tap (1 1/2 -12)	—	1	—	—
1P-7421	Tap (1-14)	—	—	—	1
1P-7422	Tap (2-12)	1	—	—	—
9S-5561	Cap	—	1	—	—
9S-5562	Cap	—	—	1	—
9S-5563	Cap	—	—	—	1

Loader Lift Arm Bearing Tool



920 and 922 Wheel Loaders (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push-Puller [a]	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1831	Adapter-Bearing Pulling	—	1	1
1P-1835	Adapter-Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) [b]	—	1	1
6V-3170	Puller Group (50 ton) [b]	1	—	—
8B-7548	Bearing Puller Assembly	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	Fast Runner Nut	1	—	—
Other Parts Required				
—	Stud (1-4)	—	1	1

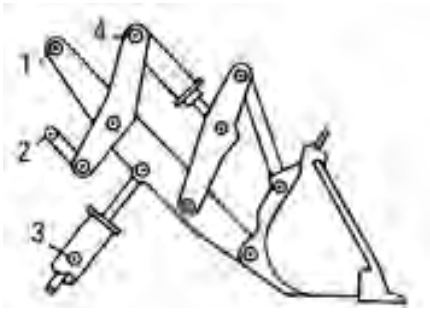
930 Wheel Loader (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push Puller [a]	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1832	Adapter-Bearing Pulling	—	1	1
1P-1836	Adapter-Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) [b]	—	1	1
6V-3170	Puller Group (50 ton) [b]	1	—	—
8B-7548	Bearing Puller Assembly [a]	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	Fast Runner Nut	1	—	—
Other Parts Required				
—	Stud (1-4)	—	1	1

a. Use crossbar from Push-Puller for installation only.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT



944 and 950 Wheel Loaders (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push-Puller a	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1832	Adapter-Bearing Pulling	—	1	1
1P-1833	Adapter- Bearing Pulling	—	1	—
1P-1836	Adapter-Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) b	—	1	1
6V-3170	Puller Group (50 ton) b	1	—	—
8B-7548	Bearing Puller Assembly a	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	Fast Runner Nut	1	—	—
	Other Parts Required			
—	Stud (1-4)	—	1	1

966 Wheel Loader (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push-Puller a	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1833	Adapter- Bearing Pulling	—	1	1
1P-1838	Adapter- Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) b	—	1	1
6V-3170	Puller Group (50 ton) b	1	—	—
8B-7548	Bearing Puller Assembly a	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	—	1	—	—
	Other Parts Required			
—	Stud (1-4)	—	1	1

980 Wheel Loader (Bearing Location)

Part No.	Tools Required	1	2	3	4
1H-3107	Push-Puller a	1	1	1	1
1P-1835	Adapter-Bearing Pulling	—	—	1	1
1P-1839	Adapter-Bearing Pulling	1	—	—	—
1P-1841	Adapter-Bearing Pulling	—	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	1	1
6V-3170	Puller Group (50 ton) b	1	1	1	1
9S-5431	Sleeve Assembly	1	1	—	—
9S-5564	Sleeve Assembly	—	1	1	—
9U-6832	Fast Runner Nut	1	1	1	1

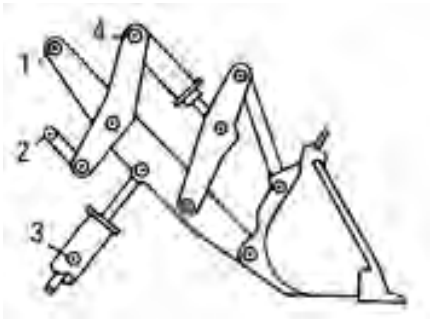
988 Wheel Loader (Bearing Location)

Part No.	Tools Required	1	2	3	4
1H-3107	Push-Puller a	1	1	1	1
1P-1835	Adapter-Bearing Pulling	—	—	1	1
1P-1841	Adapter-Bearing Pulling	1	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	1	1
6V-3170	Puller Group (50 ton) b	1	1	1	1
9S-5431	Sleeve Assembly	1	1	—	—
9S-5564	Sleeve Assembly	—	—	1	1
9U-6832	Fast Runner Nut	1	1	1	1

a. Use crossbar from Push-Puller for installation only.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT



988G Wheel Loader (Bearing Location)

Part No.	Tools Required	1	2	3
134-8466	Sleeve Assembly	—	—	1
137-8460	Rod	—	1	—
220-1776	Puller Stud	—	—	1
316-1489	Cylinder	1	1	—
4C-8163	Sleeve Assembly	—	1	—
8T-4121	Washer	—	—	4
8T-4132	Nut	—	—	4
9R-3979	Rod	—	—	1
9U-5346	Fast Runner Nut	1	1	—
9U-6751	Sleeve Assembly	1	—	—
9U-6753	Plate — Retaining	—	—	1
9U-6809	Fast Runner Nut	—	—	1
9U-6811	Rod	1	—	—

992 Wheel Loader (Bearing Location)

Part No.	Tools Required	1	2	3	4
1H-3107	Push-Puller [a]	1	1	1	1
1P-1841	Adapter-Bearing Pulling	—	—	1	1
1P-1844	Adapter-Bearing Pulling	1	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	1	1
6V-3170	Puller Group (50 ton) [b]	1	1	1	1
9S-5431	Sleeve Assembly	1	1	1	1
9U-6832	Fast Runner Nut	1	1	1	1

933 Track-Type Loader (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push-Puller [a]	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1831	Adapter-Bearing Pulling	—	—	1
1P-1832	Adapter-Bearing Pulling	—	1	—
1P-1835	Adapter-Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) [b]	—	1	1
6V-3170	Puller Group (50 ton) [b]	1	—	—
8B-7548	Bearing Puller Assembly [a]	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	Fast Runner Nut	1	—	—
	Tools with No Part Number			
—	Stud (1-14)	—	1	1

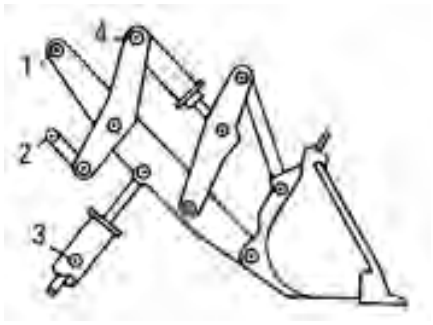
941 and 951 Track-Type Loaders (Bearing Location)

Part No.	Tools Required	1	2	3	4
1H-3107	Push-Puller [a]	1	1	—	—
1P-0543	Fast Runner Nut	—	—	1	1
1P-1832	Adapter-Bearing Pulling	—	—	1	—
1P-1833	Adapter-Bearing Pulling	—	—	—	1
1P-1837	Adapter-Bearing Pulling	1	—	—	—
1P-1841	Adapter-Bearing Pulling	—	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	—	—
6V-3160	Puller Group (30 ton) [b]	—	—	1	1
6V-3170	Puller Group (50 ton) [b]	1	1	—	—
8B-7548	Bearing Puller Assembly [a]	—	—	1	1
9S-5564	Sleeve Assembly	1	—	—	—
9S-5565	Sleeve Assembly	—	—	1	1
9U-6832	Fast Runner Nut	1	1	—	—
	Other Parts Required				
—	Stud (1-14)	—	—	1	1

a. Use crossbar from Push-Puller for installation only.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT



955H Track-Type Loaders (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push Puller a	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1832	Adapter-Bearing Pulling	—	—	1
1P-1833	Adapter-Bearing Pulling	—	1	—
1P-1838	Adapter-Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) b	—	1	1
6V-3170	Puller Group (50 ton) b	1	—	—
8B-7548	Bearing Puller Assembly a	—	1	1
9S-5564	Sleeve Assembly	1	—	—
9S-5565	Sleeve Assembly	—	1	1
9U-6832	Fast Runner Nut	1	—	—
	Other Parts Required			
—	Stud (1-14)	—	1	1

955K Track-Type Loader (Bearing Location)

Part No.	Tools required	1	2	3	4
1H-3107	Push-Puller a	1	1	—	—
1P-0543	Fast Runner Nut	—	—	1	1
1P-1833	Adapter-Bearing Pulling	—	—	1	1
1P-1839	Adapter-Bearing Pulling	1	—	—	—
1P-1843	Adapter-Bearing Pulling	—	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	—	—
6V-3160	Puller Group (30 ton) b	—	—	1	1
6V-3170	Puller Group (50 ton) b	1	1	—	—
8B-7548	Bearing Puller Assembly a	—	—	1	1
9S-5431	Sleeve Assembly	—	1	—	—
9S-5564	Sleeve Assembly	1	—	—	—
9S-5565	Sleeve Assembly	—	—	1	1
9U-6832	Fast Runner Nut	1	1	—	—
	Other Parts Required				
—	Stud (1-14)	—	—	1	1

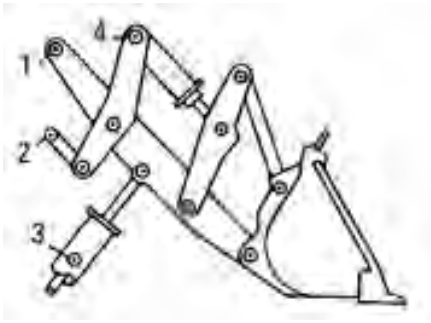
977H Track-Type Loaders (Bearing Location)

Part No.	Tools Required	1	3	4
1H-3107	Push-Puller a	1	—	—
1P-0543	Fast Runner Nut	—	1	1
1P-1833	Adapter- Bearing Pulling	—	—	1
1P-1834	Adapter- Bearing Pulling	—	1	—
1P-1839	Adapter- Bearing Pulling	1	—	—
4C-9634	Stud (1 1/4 -12)	1	—	—
6V-3160	Puller Group (30 ton) b	—	1	1
6V-3170	Puller Group (50 ton) b	1	—	—
8B-7548	Bearing Puller Assembly a	—	1	1
9S-5431	Sleeve Assembly	—	1	—
9S-5564	Sleeve Assembly	1	—	—
9U-6832	Fast Runner Nut	1	—	—
	Other Parts Required			
—	Stud (1-14)	—	1	1

a. Use crossbar from Push-Puller for installation only.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT



977K Track-Type Loader (Bearing Location)

Part No.	Tools Required	1	2	3	4
1H-3107	Push-Puller [a]	1	1	1	1
1P-1835	Adapter-Bearing Pulling	—	—	1	1
1P-1841	Adapter-Bearing Pulling	1	—	—	—
1P-1844	Adapter-Bearing Pulling	—	1	—	—
4C-9634	Stud (1 1/4 -12)	1	1	1	1
6V-3170	Puller Group (50 ton) [b]	1	1	1	1
7F-6068	Sleeve Assembly	—	—	—	1
9S-5431	Sleeve Assembly	1	1	1	—
9U-6832	Fast Runner Nut	1	1	1	1
Other Parts Required					
—	Stud (1-14)	—	—	1	1

a. Use crossbar from Push-Puller for installation only.

b. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

983 Track-Type Loader (Bearing Location)

Part Number	Tools Required	1	2	3	4
1H-3107	Push-Puller [a]	1	1	1	1
1P-1836	Adapter-Bearing Pulling	—	—	1	—
1P-1839	Adapter-Bearing Pulling	—	—	—	1
1P-1842	Adapter-Bearing Pulling	1	—	—	—
1P-1844	Adapter-Bearing Pulling	—	1	—	—
4C-9634	Stud — Puller	1	1	1	1
6V-3170	Cylinder Group (450 KN) [a]	1	1	1	1
9S-5431	Sleeve Assembly [b]	1	1	1	—
9U-6832	Nut Assembly — Fast Runner	1	1	1	1

a. Also requires one of the following pumps: 350-7768 (115 V) 350-7769 (230 V).

b. Used for removal only.

Tools for Servicing 990 Loader Linkage Pins and Collets

Essential Tool

Model Usage: 990 Wheel Loader

Warranty: Caterpillar® Six Months

- Removes/installs loader arm linkage pins
- Used with 350-7768 Hydraulic Pump (115 V), 350-7769 Hydraulic Pump (230 V), or 9U-6600 Hydraulic Hand Pump
- A 6D-7726 Hose Assembly is also required

Optional Receiving Sleeves

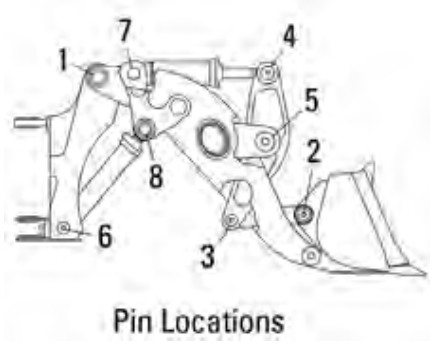
- These optional receiving sleeve assemblies are used with the same tools as other sleeves in this group
- Sleeves work especially well for handling pins weighing as much as 125 kg (335 lb) and 60 cm (2 ft) long, located high on machine
- Both receiving sleeve assemblies are suspended with straps

Part No.	Description	Size	Pin (1)	Pin (2)	Pin (3)	Pin (4)	Pin (5)	Pin (6)	Pin (7)	Pin (8)
316-1489	Cylinder Group (60 Ton)	62 ton	—	—	—	—	—	—	1	1
3E-8009	Bolt	M30 x 500 mm, (19.7 in) long	—	—	—	—	—	—	1 [a]	1 [a]
4C-8149	Sleeve Assembly	203.2 mm, (8.00 in)	1	1	1	1	1	1	—	—
4C-8150	Rod Assembly — Threaded	M64 x 1829 mm, (72 in) long	1	1	1	1	1	1	—	—
4C-8151	Forcing Bolt	M24 102.5 mm, (4.04 in) long	—	—	—	—	—	—	3 [b]	3 [b]
4C-8152	Retaining Plate	—	1	1	1	1	1	1	—	—
4C-9486	Adapter — Coupler	1 1/4-12 x M30	—	—	—	—	—	—	1 [a]	1 [a]
4C-9491	Receiving Sleeve	—	—	—	—	—	—	—	1	1
4C-9492	Plate	—	—	—	—	—	—	—	1 [a]	1 [a]
4C-9634	Stud — Puller	1 1/4-12 x 735 mm, (29 in) long	—	—	—	—	—	—	1 [a]	1 [a]
5P-8712	Bushing	62 ton cylinder	—	—	—	—	—	—	2 [a]	2 [a]
8T-4121	Washer (M10)	—	4	4	4	4	4	4	—	—
8T-4133	Nut (M10)	—	4	4	4	4	4	4	—	—
9T-2240	Rod (M10)	—	4	4	4	4	4	4	—	—
9U-6800	Nut — Speed (M64)	M64	1	1	1	1	2	1	—	—
9U-6832	Speed Nut	1 1/4 in — 12	—	—	—	—	—	—	1 [a]	1 [a]

a. Use to remove pin.

b. Use to remove collet.

Linkage Pin Installation (Collet)



Pin Locations

Specifications

- Pins 1, 4, and 6: 160 mm (6.3 in) diameter (flag style)
- Pins 2 and 3: 150 mm (5.9 in) diameter (flag style)
- Pin 5: 220 mm (8.7 in) diameter (flag style)
- Pins 7 and 8: 160 mm (6.3 in) diameter (cartridge style)

Part Number	Description	Size	Pin 7	Pin 8
1P-0544	Fast Runner Nut	1 1/4 — 7	1	1
316-1489	Cylinder Group (60 Ton)	62 ton	1	1
3E-8009	Bolt	M30 x 500 mm (19.7 in) long	1	1
3S-7023	Washer-Hard	—	1	1
4C-9485	Pin Driver Caps	M30 x 3.5	1	1
4C-9486	Adapter — Coupler	1 1/4-12 x M30	1	1
5P-8712	Bushing	62 ton cylinder	1	1
5P-8714	Stud — Pin Puller	1 1/4-12 x 1 1/4-7, 356 mm (14.0 in) long	1	1

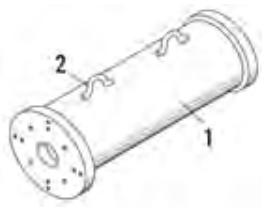
LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Receiving/Handling Sleeve (Optional)

Item	Description
1	Tube, SAE 1026 steel

Item	Part Number	Description
2	1P-7407	Eyebolt (1/2 — 13)
3	1F-7958	Full Nut (1/2 — 13) (fork mounting hardware)

Sleeve Assembly



Item	Description
2	Lift Eye

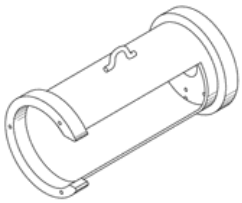
Item	Part Number	Description
1	9U-6752	Sleeve Assembly

Receiver Sleeve Assembly

Essential Tool

Model Usage: 990G Series II Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install bucket linkage pin
- Used with 350-7768 Hydraulic Pump (115 V), 350-7769 Hydraulic Pump (230 V), or 9U-6600 Hydraulic Hand Pump; and other tooling found in Tools for Servicing 990 Loader Linkage Pins and Collets
- A 6D-7726 Hose Assembly is also required

Reference

- RENR6266, Service Manual

Part Number	Description
237-9180	Receiving Sleeve Assembly

Tools for Servicing 992 Loader Linkage Pins and Collets

Model Usage: 992 Loader

Warranty: Caterpillar® Six Months



- Special tools used with other hydraulic service tools to remove and install loader linkage pins and collets on 992C Wheel Loaders
- Refer to tool charts on following pages for tools required for each location
- In most cases, 992C loader linkage pins and collets can be removed with 5P-8715 Forcing Bolts; if additional force required, these tools used with 316-1491 Cylinder, provide 100 ton capability for removal; refer to Pin Removal tool chart

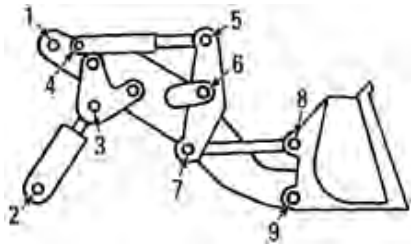
Item	Part Number	Description
1	6V-2072	Sleeve Assembly
2	6V-2074	Stud
3	6V-2073	Bushing
4	8T-5270	Adapter

Additional Tools for 992 Loader Linkage Pins and Collets



Item	Part Number	Description
2	5P-8714	Stud — Pin Puller
3	5P-8712	Bushing
4	5P-8623	Coupler
5	5P-8713	Plate
6	5P-8715	Forcing Bolt

Servicing 992C Loader Linkage Pins and Collets



Part Number	Tools Required	1	7	8	9
	Collet Removal 1 (Pin Location) [a]				
316-1491	Cylinder [b]	1	1	1	1
5P-8715	Forcing Bolt	3	3	4	4
6V-2072	Sleeve Assembly	1	1	1	1
6V-2073	Bushing	1	1	1	1
6V-2074	Stud	1	1	1	1
8H-3390	Nut	1	1	1	1

Pin Removal (Pin Location)

Part Number	Tools Required	3	8	9
316-1491	Cylinder [b]	1	1	1
6V-2072	Sleeve Assembly	1	1	1
6V-2073	Bushing	1	1	1
6V-2074	Stud	1	1	1
8H-3390	Nut	1	1	1
8T-5270	Adapter	1	1	1

Pin and Collet Installation (Pin Location)

Part No.	Tools Required	1	2	3	4	5	5 (1) [c]	6	Pin 7	9
316-1489	Cylinder [b]	1	1	1	1	1	1	1	1	1
4C-9634	Stud — Puller	1	1	1	—	1	—	1	—	1
4K-0684	Washer — Hard	1	1	—	1 [d]	1	—	1	1	1
4V-3241	Rod	—	—	—	1 [d]	—	—	—	—	—
5P-4184	Stud	—	—	—	—	—	1	—	1	—
5P-8623	Coupler	1	1	—	1	1	1	1	1	1
5P-8712	Bushing	1	1	1	1	1	1	1	1	1
5P-8713	Plate	—	—	1	—	—	—	—	—	—
5P-8714	Stud	1	1	—	1	—	1	1	1	1
7H-7539	Nut	—	—	—	1 [d]	—	—	—	1	—
9U-6832	Nut Assembly — Fast Runner	1	1	1	1	1	1	1	1	1

Installation

Part Number	Tools Required	Pin Location 8	Collet Location 8
3K-9770	Nut	1	—
3P-1573	Cylinder [b]	1	1
3S-6162	Washer	2	—
4C-9634	Stud — Puller	1	—
4K-0684	Washer — Hard	1	1
5P-8623	Coupler	1	1
5P-8712	Bushing	1	1
5P-8713	Plate	1	—
5P-8714	Stud	1	1
9U-6832	Nut Assembly — Fast Runner	1	—

a. Collets normally can be removed with forcing bolts. If, for some reason, the collets at locations 3, 8 and 9 cannot be removed with forcing bolts, use the other tools with hydraulic force.

b. One of the hydraulic pumps which follows is necessary: 350-7768 (115 V) or 350-7769 (230 V).

c. Serial numbers 42X804-Up, on right side.

d. Part is a component of the linkage.

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Installation (Bearing Location)

Part No.	Tools Required	1	2	3	4	5	6	7
1P-1844	Adapter-Bearing Pulling	—	—	—	1	1	—	1
3J-1770	Lock Pin	3	3	3	—	—	3	—
4C-9634	Stud — Puller	—	—	—	1	1	—	1
5D-0764	Washer	—	—	—	1	1	—	1
5H-6197	Pin	1	1	2	—	—	2	—
5P-0972	Adapter	1	1	1	—	—	1	—
5P-4181	Adapter	1	1	1	—	—	1	—
5P-7370	Sleeve Assembly	1	1	1	—	—	1	—
5P-8713	Plate	—	—	—	1	1	—	1
6V-0027	Adapter	1	1	1	—	—	1	—
6V-3170	Cylinder Group (450 KN) [a]	—	—	—	1 [a]	1 [a]	—	1 [a]
7M-9772	Pin	3	3	3	—	—	3	—
7M-9773	Adapter	2	2	2	—	—	2	—
7M-9774	Adapter Coupling	1	1	1	—	—	1	—
8S-6377	Lock	1	1	2	—	—	2	—
9S-5557	Adapter	1	1	1	—	—	1	—
9S-8901	Cylinder Group Hyd [a]	1 [a]	1 [a]	1 [a]	—	—	1 [a]	—
9U-6832	Nut Assembly — Fast Runner	—	—	—	1	1	—	1

Removal (Bearing Location)

Part Number	Tools Required	1	2	3	4	5	6	7
1P-1844	Adapter-Bearing Pulling	—	—	—	1	1	—	1
3J-1770	Lock Pin	2	2	2	—	—	2	—
4C-9634	Stud — Puller	—	—	—	1	1	—	1
5D-0764	Washer	—	—	—	1	1	—	1
5H-6197	Pin	2	2	2	—	—	2	—
5P-0972	Adapter	1	1	1	—	—	1	—
5P-7370	Sleeve Assembly	1	1	1	—	—	1	—
5P-8713	Plate	—	—	—	1	1	—	1
6V-0027	Adapter	1	1	1	—	—	1	—
6V-3170	Cylinder Group (450 KN) [a]	—	—	—	1 [a]	1	—	1
7M-9772	Pin	2	2	2	—	—	2	—
7M-9773	Adapter	1	1	1	—	—	1	—
7M-9774	Adapter Coupling	1	1	1	—	—	1	—
8S-6377	Lock	2	2	2	—	—	2	—
9S-5557	Adapter	1	1	1	—	—	1	—
9S-8901	Cylinder Group Hyd [a]	1 [a]	1 [a]	1 [a]	—	—	1 [a]	—
9U-6832	Nut Assembly — Fast Runner	—	—	—	1	1	—	1

a. One of the hydraulic pumps which follows is necessary: 350-7768 (115 V) or 350-7769 (230 V).

Linkage Pin and Sleeve Bearing Removal and Installation Tools

Model Usage: 992G, 992K, 993K Wheel Loader

Warranty: Caterpillar® Six Months

- Used to remove and install sleeve bearing linkage pins
- Used with service presses: 9U-7764 (150 ton), 6V-2073 (100 ton), 6V-4131 (80 ton), and 3P-2228 (60 ton)
- Special receiving sleeve assemblies are used with other hydraulic service tools to remove and install linkage pins
- Sleeves work especially well for handling pins weighing as much as 284 kg (626 lb) and 146 cm (4.8 ft) long which are located high on the machine
- Retaining bolts are built into sleeves allowing linkage pin to be locked into sleeve when working overhead
- Receiving sleeve assembly is easily suspended with eyebolts
- Complete range of sleeve bearing puller plates and installer plates are available for servicing each pin location
- Threaded rod and speed nut provides time saving means of pulling large pins
- Refer to charts for tools required for each pin location (only tooling required for the new SBC pins is listed)

Ring-Wear Sleeve

Model Usage: 314E, 16M, D8T (see SIS for additional models, 4.5 inch bore engines)

Warranty: Caterpillar® Six Months



- Used to remove pins, bushings, wear sleeves or bearings from excavator booms or sticks and from blade tip cylinders on dozers or motor graders, along with pins in roller frames or equalizer bars
- Replaces 9S-8536

Reference:

- KENR9852, 314E Excavator systems
- KENR6018, 16M Motorgrader Machine Systems
- SMHS6959, Installing Crankshaft Seals and Wear Sleeves

Specifications

- Dimensions: 107.95 x 98.75 mm (4.25 x 3.88 in)

Part Number	Description
444-1076	Ring-Wear Sleeve

992G SBC Linkage Pin Locations

Part Number	Description	A	B
Linkage Pin Installation and Removal Tooling			
318-2121	Sleeve Puller Assembly	1	1
3E-3879	Eyebolt, M16x2	1	1
7Y-0725	Hard Washer	2	2
8T-7781	Nut	2	2
9U-7763	Stud — Puller, 2 in	1	1
9U-7764	Bushing	1	1
Retainer Extraction Tooling			
009-3020	Washer, 1 1/4	4	4
322-5589	Extractor	1	1
7B-2289	Bolt, 1 1/4 -12, 57.15 mm	1	1

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

992K SBC Linkage Pin Locations

Part No.	Description	A	B	K	Y
	Linkage Pin Removal Tooling				
9U-7763	Puller Rod, 2 in.	1	1	1	1
9U-7764	Bushing	1	1	1	1
7Y-0725	Hard Washer	2	2	2	2
3E-3879	Eyebolt, M16x2	1	1	1	1
8T-7781	Nut	2	2	2	2
318-2121	Puller Assembly	1	1	1	1
	Part of Linkage Pin Installation Tooling				
289-0011	Spacer	—	—	1	1
	Linkage Pin Installation Tooling				
289-0013	Puller Rod, 1 1/2 -12	—	1	—	—
318-2117	Inside Installation Plate	—	1	—	—
318-2121	Sleeve Puller Assembly	—	—	1	1
322-0101	Outside Plate Installer	—	1	—	—
322-0102	Adapter Assembly Spacer	—	—	1	1
3E-3879	Eyebolt, M16 x 2	1	—	1	1
3S-6162	Hard Washer	—	4	—	—
6V-2073	Bushing	—	1	—	—
7Y-0725	Hard Washer	2	—	2	2
8H-3390	Nut — Full Threaded, 1.5	—	4	—	—
8T-3220	Eyebolt, M12 x 1.75	—	1	—	—
8T-7781	Nut	2	—	2	2
9U-7763	Stud — Puller, 2 in	1	—	1	1
9U-7764	Bushing	1	—	1	1
	Retainer Extraction Tooling				
009-3020	Washer, 1 1/4	4	—	—	—
2K-0439	Bolt, 1 1/4 -12, 88.9 mm	1	—	—	—
322-5589	Extractor	1	—	—	—
322-5590	Extractor	—	1	—	—
7Y-7992	Bolt, M12 x 1.75, 75 mm	—	1	—	—
8T-4223	Washer — Hard M12	—	4	—	—

993K SBC Linkage Pin Locations

Part No.	Description	A	B	C	D	E	F	G	Y	K
	Linkage Pin Installation Tooling									
146-1799	Hard Washer	—	—	4	4	4	—	4	—	—
289-0008	Puller Rod, 1 1/4 -12	—	—	1	1	1	—	1	—	—
289-0013	Puller Rod, 1 1/2 -12	1	1	—	—	—	1	—	1	1
318-2115	Outside Installation Plate	1	—	—	—	—	—	—	—	—
318-2116	Outside Installation Plate	—	—	—	—	—	—	—	1	—
318-2117	Inside Installation Plate	1	1	1	1	1	1	1	1	1
318-2118	Outside Installation Plate	—	1	1	1	1	1	1	—	1
318-2119	Backup Installation Plate	—	—	1	1	1	—	1	—	—
318-2120	Backup Installation Plate	1	1	—	—	—	1	—	1	1
3P-2228	Insert Plain	—	—	1	1	1	—	1	—	—
3S-6162	Hard Washer	4	4	—	1.59 in	—	4	—	4	4
6V-2073	Bushing	1	1	—	—	—	1	—	1	1
7H-7539	Nut — Full, 1 1/4 — 12	—	—	4	4	4	—	4	—	—
8H-3390	Nut — Full Threaded, 1.5	4	4	—	—	—	4	—	4	4
8T-3220	Eyebolt, M12 x 1.75	1	1	1	1	1	1	1	1	1
	Retainer Extraction Tooling									
172-9966	Bolt, M12 x 1.75, 65 mm	—	1	—	—	—	—	—	—	—
322-5590	Extractor	1	1	—	—	—	—	—	—	—
8T-0646	Bolt, M12 x 1.75, 110 mm	1	—	—	—	—	—	—	—	—
8T-4223	Washer — Hard M12	4	4	—	0.53 in	—	—	—	—	—

Linkage Pin Removal Tooling (Pull)

Part No.	Description	A	B	C	D	E	F	G	Y	K
318-2121	Sleeve Puller Assembly	1	1	—	—	—	—	—	1	—
318-2122	Adapter Ring	—	1	—	—	—	—	—	—	—
318-2123	Adapter Ring	1	—	—	—	—	—	—	1	—
318-2124	Puller Assembly	—	—	1	1	1	1	—	—	1
318-2125	Puller Assembly	—	—	—	—	—	—	1	—	—
3E-3879	Eyebolt, M16 x 2	1	1	—	—	—	1	—	1	1
3S-6162	Hard Washer	—	—	2	2	2	—	2	—	—
6V-2073	Bushing	—	—	1	1	1	—	1	—	—
7Y-0725	Hard Washer	2	2	—	—	—	2	—	2	2
8H-3390	Nut — Full Threaded, 1.5	—	—	2	2	2	—	2	—	—
8T-3220	Eyebolt, M12 x 1.75	1	1	1	1	1	—	1	1	—
8T-7781	Nut	2	2	—	—	—	2	—	2	2
9U-6698	Stud — Puller, 1 1/2 in	—	—	—	1	1	1	—	1	—
9U-7763	Stud — Puller, 2 in	1	1	—	—	—	1	—	1	1
9U-7764	Bushing	1	1	—	—	—	1	—	1	1

Linkage Pin Removal Tooling (Push)

Part No.	Description	A	B	C	D	E	F	G	Y	K
439-3940	Bracket — Link	4	—	—	—	—	—	—	4	—
172-9966	Bolt, M12 x 1.75, 65 mm	1	1	—	—	—	—	—	1	—
1U-5197	Cylinder Group (80T)	—	—	1	—	—	—	1	—	—
267-4850	Bolt, M12 x 1.75, 55 mm	6	6	—	—	—	—	—	6	—
318-2126	Push Insert Plate	1	1	—	—	—	—	—	1	—
318-2127	Push Tube	1	—	—	—	—	—	—	1	—
318-2128	Push Cylinder Plate	1	1	—	—	—	—	—	1	—
320-4790	Push Support Tube	—	1	—	—	—	—	—	—	—
320-4791	Push	—	—	—	—	—	—	1	—	—
320-4792	Push	—	—	1	—	—	—	—	—	—
320-4793	Push	—	—	—	—	—	1	1	—	—
320-4794	Alignment Rod	1	1	—	—	—	—	—	1	—
320-9698	Alignment Rod	—	—	1	—	—	1	1	—	—
320-9699	Spacer, 20 mm thick 40 mm ID	—	—	—	—	—	4	—	—	—
320-9700	Spacer, 40 mm thick 40 mm ID	—	—	—	—	—	4	—	—	—
320-9701	Spacer, 20 mm thick 53 mm ID	4	—	—	—	—	—	—	4	—
320-9702	Spacer, 40 mm thick 53 mm ID	4	—	—	—	—	—	—	4	—
3E-3879	Eyebolt, M16 x 2	3	3	1	—	—	1	1	3	—
3H-7654	Hard Washer	4	—	—	—	—	—	—	4	—
3P-2228	Insert Plain	—	—	—	—	—	1	—	—	—
6V-2073	Bushing	1	1	—	—	—	—	—	1	—
6V-4131	Cap Assembly Load	—	—	1	—	—	—	1	—	—
6V-8336	Bolt, M12	3	3	—	—	—	—	—	3	—
6V-8675	Bolt	4	—	—	—	—	—	—	4	—
7X-0622	Hard Washer, M13 ID	10	10	—	—	—	—	—	10	—
8T-4194	Bolt, M12 x 1.75, 50 mm	1	1	—	—	—	—	—	1	—
8T-4223	Washer — Hard M12	3	3	—	1/2 in	—	—	—	3	—
9R-2640	Boss	4	—	—	—	—	—	—	4	—

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Pin Joint Group

Essential Tool

Model Usage: 992 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove and install Sleeve Bearing Cartridge (SBC) pin joint assemblies
- Heat-treated for strength and durability
- Group includes all items in Figure

Reference

- REHS2560, Special Instruction

Item	Part Number	Description
—	263-7808	Pin Joint Group
	Service/Repair Parts	
1	246-0498	Pin Puller Assembly
2	246-0499	Puller Plate
3	246-0500	Puller Plate

Bearing Puller Plate

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months



- Removes 2 sleeve bearings from F pin location
- Bearing puller plate has center swivel point for easy installation
- Hydraulic removal of bearings is preferred over other methods, such as burning, cutting, or drilling
- Heat-treated for added durability

Reference

- RENR2173, Service Manual, 988G Machine Systems

Specifications

- Overall outside diameter: 152.0 mm (5.98 in)
- Small outside diameter: 136.0 mm (5.35 in)
- Hole diameter: 31.0 mm (1.22 in)

Part Number	Description
217-4428	Bearing Puller Plate

Bearing Puller Plate

Model Usage: 988G Wheel Loader and 836G Landfill Compactor

Warranty: Caterpillar® Six Months



- Used to remove 2 bearing cups and cones from lower hitch articulation joint
- Used with 9U-6810 Speed Nut
- Hydraulic removal of bearings preferred over other methods (ie. burning, cutting, drilling)
- M48 threads provide a maximum of 890 kN (100 tons) of hydraulic pulling force

Reference

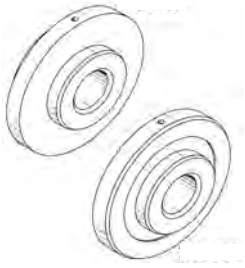
- RENR2173, Service Manual, 988G Machine Systems

Part Number	Description
218-2143	Bearing Puller Plate

Bearing Installation Plate, Adapter Plate

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months



- Used to install 152-3749 Sleeve Bearing into pin bores for lift cylinder (locations K and Y)
- 212-8164 designed to quickly and accurately set depth of sleeve bearing
- Heat-treated for added durability

Reference

- RENR2173, Service Manual, 988G Machine Systems

Part Number	Description
212-8164	Bearing Installation Plate
215-2596	Adapter Plate

Installer Ring, Seal Plunger

Essential Tool

Model Usage: 992G Wheel Loader

Warranty: Caterpillar® Six Months



- Used to properly install maintenance free linkage (MFL) 1R-1056 Seal Assembly into collar
- Eliminates inconsistent installation of seal (saves time and eliminates possible seal damage during installation)

Reference

- REHS0146, Special Instruction, Installation of Maintenance Free Linkage Seal

Part Number	Description
156-1639	Installer Ring
156-1643	Seal Plunger

Seal Driver

Essential Tool

Model Usage: 992G Wheel Loader

Warranty: Caterpillar® Six Months



- Used to properly install 160-5875 Lip Seal in 161-5808 Bearing
- Quickly and easily installs seal while reducing possibility of damage (eliminates hammer and punch method)
- Made from durable steel tubing

Specifications

- Outside diameter: 203.2 mm (8.00 in)
- Inside seal diameter: 94.5 mm (7.66 in)

Part Number	Description
164-5848	Seal Driver

Stud

Model Usage: 988B

Warranty: Caterpillar® Six Months



- Used with 6V-3170 Hydraulic Cylinder, 5B-0637 Nut, and suitable hydraulic pump to install collets in lift arm and bucket linkage on 988B Loaders, 50W1-50W-2264
- On later 988's, 50W-2265-50W-4321, the tools can be used at bucket to lift arm pin only

Reference

- Service Manual (tools needed at other locations and later serial numbers)

Specifications

- Capacity: 490 kN (55 tons)

Part Number	Description
6V-2078	Stud

Coupler

Model Usage: D9L

Warranty: Caterpillar® Six Months

- Connects 2 or more studs together to get needed length for D9L Impact Ripper Pin disassembly; requires 38.1 mm diameter high-strength puller stud, greater in length than longest stud formerly available, 6V-2074 Stud
- Made from heat-treated alloy steel, 60.45 mm (2.38 in) hexagon stock, similar to existing coupling adapters
- Contains internal stops to control length of thread engagement with studs

Part Number	Capacity	Description
1U-7646	100 Tons	Coupler

Forcing Bolts for Linkage Pin Collets

Model Usage: 980C and 988B Wheel Loaders

Warranty: Caterpillar® Six Months



- Used to remove linkage pin collets

Item	Part Number	Description
1	5P-5264	Forcing Bolt, 1.50 in-12 thd
2	5P-5265	Forcing Bolt, 0.875 in-14 thd (3 required)
3	6V-0187	Forcing Bolt, 1.50 in-12 thd

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Sleeve Assembly

Model Usage: 980C and 943 Loaders

Warranty: Caterpillar® Six Months



- Used to remove bucket linkage or cylinder mounting pins which have retainer plates up to 114 (4.5 in) width; wider retainer plates used on 980C and 943 Loaders
- Used with center hole 316-1489, 6V-3170, 6V-3165, 6V-3160, or 316-1493 Cylinders

Specifications

- Capacity: 553 kN (62 tons)
- Length: 284 (11.18 in)

Part Number	Description
6V-4035	Sleeve Assembly

Adapter

Model Usage: 950, 966C, 980 and 988 Wheel Loaders

Warranty: None



- Use with two 3L-2227 Forcing Bolts and bolts and washers listed below to remove lift cylinder trunnion bearing retainers

Model	Part Number	Description	Qty.
950, 966C	1A-1460	Bolt (1/2 — 13) (fork mounting hardware)	2
950, 966C	4B-4280	Washer	2
980	4B-5059	Washer	2
980	8S-4734	Bolt	2
988	1A-1135	Bolt	2
988	4B-4281	Washer	2

Lift Arm Repair Fixtures (988)

Model Usage: 988

Warranty: Caterpillar® Six Months

- 9K-4992 Lift Arm Repair Group provides new right and left lift arm supports for 988 lift arms that have experienced excessive wear or failure in area of lift cylinder pinbores

Reference

- GMG00467, Reworking Procedure

Pin Puller Adapter

Model Usage: 235, 245

Warranty: Caterpillar® Six Months



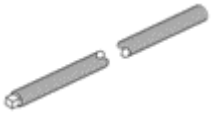
- Similar to 9S-5556 Adapter in all dimensions except threaded length; additional length of threads needed during installation of sprocket wheels on 235 and 245 excavators and for installation of large final drive gear onto 235 excavator sprocket shaft; in these applications, 8T-3194 adapter is to be used instead of currently specified 9S-5556
- Also a general usage service tool for use in applications where greater thread engagement is needed than can be obtained with 9S-5556 Adapter
- 9S-5556 Adapter has not been discontinued, as there are still applications where shorter thread length is required

Part No.	Description	Threads	Length
8T-3194	Adapter	12-2A	64 mm (2.5 in) (increase of 25.4 mm (1.0 in) from 9S-5556 Adapter)
9S-5556	Adapter, 1 1/2 in	12-2A	38.1 mm (1 1/2 in)

Puller Stud (M36 x 4)

Model Usage: 988G, 992G Large Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove front linkage pins (Y) and (K)
- Used with 134-8466 Receiving Sleeve Assembly
- Helps safely remove pins up to 1775 mm (70.0 in) long
- Heat-treated for added durability and long life

Specifications

- Thread: M36 x 4
- Square drive: 19 mm (3/4 in)
- Overall length: 2000 mm (78.75 in)
- Maximum capacity: 72 t (80 tons)

Part Number	Description
220-1776	Puller Stud (M36 x 4)

Adapter

Model Usage: 992C, 994

Warranty: Caterpillar® Six Months



- Replaces discontinued 6V-2071 Adapter
- Made from stronger and heavier hex stock
- Reduces 2.00-12 internal threads to 1.50-12 internal threads; will accommodate 6V-2074 Stud
- Used primarily to remove linkage pins from 992C Wheel Loaders
- Also general usage tool wherever reduction of thread size from 2.00-12 to 1.50-12 required

Specifications

- Working capacity: 890 kN (100 short tons)

Part Number	Description
8T-5270	Adapter

Pin Pulling Threaded Adapter

Model Usage: 385B Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove boom pins and boom cylinder foot pins
- Reduces M48 x 5.0 threaded hole to M30 x 3.5
- Heat-treated for durability and long life
- 50 tons maximum pulling capacity

Reference

- 385B Disassembly and Assembly Manual, Machine Systems

Part Number	Description
221-9575	Pin Pulling Threaded Adapter

LOADER LIFT ARM AND EXCAVATOR IMPLEMENT

Puller Assembly

Essential Tool

Model Usage: 320D FM Excavator

Warranty: Caterpillar® Six Months



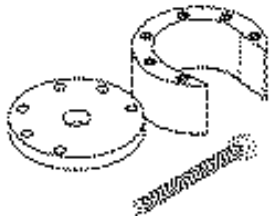
- Used to remove 4I-4812 Pin Assembly from boom foot
- Used with five 4M-6957 Forcing Bolts, 5/8 -11 x 17.8 cm (7 in) long (dealer supplied)
- Tool consists of two parts: puller plate and spacer
- Forcing screws are then loosened and spacer is inserted to allow puller plate to fully remove pin from boom
- Puller plate used with forcing screws to partially remove pin
- Steel tools are black oxide coated to resist corrosion
- Puller plate has five threaded holes and is hardened to provide long service life
- Opening in spacer fits over pin without removing puller plate and features locator holes for correct forcing bolt alignment

Part Number	Description
340-4318	Puller Assembly

Puller Assembly

Model Usage: 325E, 329E, 336E, 339E Excavators

Warranty: Caterpillar® Six Months



- Used to remove 186-5663 pin assembly on excavators at boom foot location where traditional means are not applicable
- Tool includes both puller plate and spacer
- Used with six 5/8" — 11 x 17.8 cm (7 in) forcing screws (purchase separately)
- Black oxide coated to resist corrosion
- Hardened puller plate provides long life
- Opening in spacer fits over pin without removing puller plate
- Spacer features locator for correct forcing of bolt alignment

Specifications

- Dimensions: 175 X 95.25 mm (6.69 X 3.75 in)
- Weight: 8.75 kg (19.29 lbs)

Part Number	Description
373-5842	Puller Assembly

Seal Installation Ring, Seal Installation Plunger

Essential Tool

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months

- Used to install 160 mm (6.3 in) MFL seals in front linkage
- Installation tool and plunger provides consistent seat depth without damaging seal

Part Number	Description
173-6747	Seal Installation Ring
173-6748	Seal Installation Plunger

Seal Installation Tooling

Model Usage: MP318 and MP324 Multi-Processors

Warranty: Caterpillar® Six Months



- Correctly installs seal kit 450-8787

Reference

- REHS7115

Part No.	Description	Diameter	Weight
456-8912	Seal Installation Tool Group	-	-
456-2103	Spacer	50 x 45.4 mm	0.079 kg
456-2104	Spacer	50 x 29 mm	0.051 kg
456-2105	Mandrel Tool	60 x 105 mm	0.131 kg
456-2106	Sleeve	52 x 105 mm	0.128 kg

Seal Installation Ring, Seal Installation Plunger

Essential Tool

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months

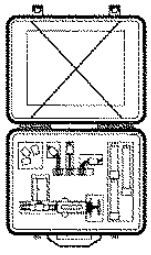
- Used to install 120 mm (4.7 in) MFL seals in front linkage
- Installation tool and plunger provides consistent seat depth without damaging seal

Part Number	Description
173-6745	Seal Installation Ring
173-6746	Seal Installation Plunger

Void Meter Group

Model Usage: 994D, 980G, 990 Wheel Loaders

Warranty: Caterpillar® Six Months



- Provided fast, accurate method of checking oil level in aintenance Free Linkage pin joints
- MFL pins must have specified air void and not filled completely; otherwise, joint must be drained completely, cleaned and refilled with specified amount of oil or filled to overflowing with specific amount removed
- Compares pressures between calibration tubes (part of tool group) and pin joint
- End fittings have O.R.F.S. connections which can be quickly changed to accommodate various port locations
- O.R.F.S. connection can be hand tightened and are leak-proof (no hand tools required)
- Syringe can add or remove oil

Reference

- NEHS0608 Tool Operating Manual

Specifications

- Syringe Assembly Capacity: 1 to 25 cc
- Pressure Gauge: 0 to 250 kPa (0 to 35 PSI)
- Calibration Tube Capacities: 20cc, 25cc, 30cc (Void Volumes)
- Port Access End Fittings: 90°, 45°, straight

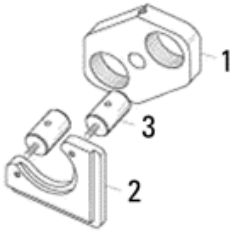
Part Number	Description
9U-7960	Void Meter Group

Boom Removal Tools

Essential Tool

Model Usage: 365B, 365C, 375D, 385C and 385D Excavators

Warranty: Caterpillar® Six Months



- Removes 208-1941 Pin from lower boom foot
- Removes pins 234-3956, 367-1432, and 208-1941 with 373-5147
- Used with two 360-6960 Cylinders (50 Ton), one 9U-6812 Puller Stud [M48 x 5.0 by 381 mm long], and one 9U-6810 Fast Runner Nut (M48 x 5.0) or 9U-6903 Fast Runner Nut (M48 x 5.0)
- All tools are sold separately; requires one 369-3528 Puller Plate, one 369-3530 Pusher Plate or one 373-5147 Pusher Plate, and two 369-3531 Spacer Assembly
- Hydraulic power supply is also required
- A 9M-4021 Eyebolt (1-8 in) threads into puller plate to support weight of cylinders and pusher plate
- Tools are symmetrical and can be used to remove both right and left side pins
- All parts are heat treated for added durability

Specifications

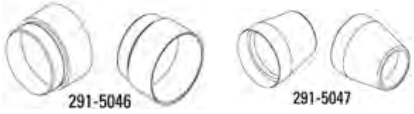
- Combination weight without hydraulic cylinder: 47.48 kg (105.4 lb)

Item	Part Number	Description
1	369-3528	Puller Plate
2	369-3530	Pusher Plate (Lower)
3	369-3531	Spacer Assembly
	Not Shown	
4	373-5147	Pusher Plate (Upper)

Piston Tool, Seal Tool

Model Usage: 777F, 793F, 795F, 797B, 797F

Warranty: Caterpillar® Six Months



- Used to prevent seal damage when assembling piston into a steering or brake accumulator.
- Material(s): Zinc phosphate coated steel
- 291-5046 is for pistons that have a 180 mm diameter, and 291-5047 is used to install those seals

Part Number	Description	Dimensions
291-5046	Piston Tool	185.5 x 206 x 145 mm (7.30 x 8.11 x 5.70 in)
291-5047	Seal Tool	179.8 x 135 x 180 mm (7.07 x 5.31 x 7.08 in)

Bracket for Magnetic Angle Finder

Warranty: Caterpillar® Six Months



- New metal bracket allows adjustment of the radar angle of the non-metallic object detection enclosure.
- Allows the magnetic angle finder (437-4620) to show the face angle of the enclosure while the technician loosens/tightens the adjustment bolts
- Bracket installs over object detection enclosure so the magnetic angle finder can then be attached to the bracket

Part No.	Description	Dimensions	Weight
533-1164	Bracket for Magnetic Angle Finder	96 x 30 x 114 mm (4 x 1.2 x 4.5 in)	0.15 kg (0.3 lb)

Nitrogen Charging Group

Model Usage: Most Cat® Machines

Warranty: Caterpillar® Six Months



- Used to charge accumulators with pressures up to 20,666 kPa (3000 PSI)
- Replaces 1S-8940 Nitrogen Charging Group; 1S-8940 can be updated and then can charge up to 12,400 kPa (1800 PSI) (see chart below for parts to purchase)
- Gauges in group have bourdon tube assembly; this type of gauge gives its most accurate reading in center of dial; important to use gauge that will record desired pressure in or near center third of calibrated dial
- Quick disconnect couplings allow gauge to be changed quickly and easily

Item	Part Number	Description
—	175-5507	Nitrogen Charging Group
1	9U-6219	Tool Box
2	2P-8289	Holder Block

Reference

NEHS0742, Tool Operating Manual



- Not recommended for tire inflation because of the associated higher pressures and increased line flow restrictions

Item	Part Number	Description
Optional tool used with 175-5507:		
1	162-4147	Hose Assembly
2	8S-4600	Nipple (2) [a]
3	8S-1506	Disc Coupling Assembly, MPT
4	8T-0859	Gauge — Pressure
5	162-4146	Regulator Assembly
6	7S-5106	Air Chuck
7	1S-8938	Air Chuck
8	1S-8941	Hose Assembly
9	2D-7325	Tee — Pipe
10	2S-5244	Quick Disconnect Nipple
11	1S-8937	Valve — Needle
12	8S-4599	Coupling Assembly — Quick Disconnect
Not Shown		
—	8S-5098	Warning Film
Optional tool used with 175-5507		
—	4Z-8499	Gas Charging Kit, for D10 Impact Ripper

a. Other nipples available for gauge attachment are: 2S-5244, 1/4 in NPT External Thread.

Valve Adapter for Struts and Accumulators

Model Usage: All

Warranty: Caterpillar® Six Months



- High pressure inflating connector adapts to any valve with the thread dimensions of .305" — 32 THD
- Adapter and hose assembly can be used with both 9U-5617 oil refill unit and 175-5507 nitrogen charging group
- Valve has JIC 37° flare 7/16" — 20 THD
- One end 1/4 — 18 NPTF male and other end JIC 37° flare 7/16" — 20 female THD

Reference

- KENR8106

Part Number	Description	Dimensions
	SAE 100R2 Type Hose	
Working Pressure	33,000 kPa (4786.2 PSI)	—
Min Burst Pressure	132,000 kPa (19145 PSI)	—

Part Number	Description	Dimensions	Weight
382-7486	Valve Assembly Adapter	39.3 x 17.5 mm (1.55 x .69 in)	.01 kg (.02 lb)
382-7487	Copper Sealing Washer	3.2 x 15.6 x 8.2 mm (.125 x .61 x .32 in)	.001 kg (.002 lb)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Nitrogen Charging Group

Model Usage: Most Cat® Machines

Warranty: Caterpillar® Six Months

- Used to charge accumulators with pressures up to 20,666 kPa (3000 PSI)
- Not included in group are pressure regulator and pressure gauge (must be locally purchased to meet regulations and certifications for use in Australia)
- Quick disconnect couplings allow gauge to be changed quickly and easily

NOTICE

The 361-3889 Group is not recommended for tire inflation because of the associated higher pressures and increased line flow restrictions.

Specifications

- Size: 25 x 25 x 52 mm (.98 x. 98 x 2.04 in)
- Weight (estimated): 10.3 kg (22.7 lb)

Reference

- NEHS0742, Tool Operating Manual

Part Number	Description
162-4147	Hose Assembly
1S-8937	Needle Valve
1S-8938	Air Chuck
1S-8941	Hose Assembly
2D-7325	Pipe Tee
2P-8289	Holder Block
2S-5244	Nipple
361-3889	Nitrogen Charging Group
7S-5106	Chuck
8S-1506	Disc Coupling Assembly, MPT
8S-4599	Coupling Assembly
8S-4600	Nipple FPT
8S-5098	Warning Film

Machinist Level

Product Family: Draglines

Model Usage: 8000, 8200, 8750

Warranty: Manufacturer's



- Required tool used in the assembly of a dragline
- Used to measure flatness of surfaces, inclination, tapers or concentricity
- Used to set up tools

Specifications

- Adj. Micrometer Spirit Level Dimensions: .00025" per 12"
- Base Measurement Dimensions: 150 X 44.5 X 44.5 mm (5.9 X 1.75 X 1.75 in)

Part Number	Description
385-5582	Machinist Level

Regulator Assembly

Model Usage: All Cat Machines

Warranty: Caterpillar® Six Months



- Used to charge accumulators with high-pressure nitrogen gas
- Used with 361-3889 Nitrogen Charging Group
- Single-stage, high pressure regulator
- Delivery and supply pressure gauges have dual readings (PSI/bar)
- Easy-to-read gauges are 63.5 mm diameter
- Meets Australian Regulations

Specifications

- Dimensions: 127 x 177 mm (5.0 x 7.0 in)
- Maximum Inlet Pressure: 379 Bar (5500 PSI)
- Delivery Pressure Range: 0 – 206 Bar (0 – 3000 PSI)
- Supply Pressure Range: 413 Bar (6000 PSI)
- Inlet Connection: CGA 680
- Outlet Connection: 1/4 inch NPT Stainless Steel Swage lock Tube Fitting

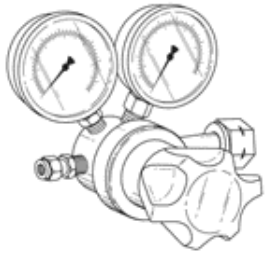
Part Number	Description
426-1890	Regulator Assembly

Regulator Assembly

Essential Tool

Model Usage: All Cat® machines

Warranty: Caterpillar® Six Months



- Used to charge accumulators with high-pressure nitrogen gas requirement of 400 Bar (6000 PSI)
- Used with 346-3622 Pop-off Valve and 175-5507 Nitrogen Charging Group
- Single-stage, high-pressure regulator
- One piece encapsulated valve design with CTFE seats and an internal filter
- Delivery and supply pressure gauges have dual readings (PSI/bar)
- Easy-to-read gauges are 63.5 mm diameter

Specifications

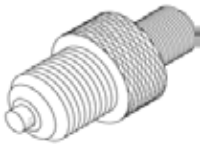
- Maximum inlet pressure: 500 Bar (7500 PSI)
- Delivery pressure range: 689 Bar (10,000 PSI)
- Supply pressure range: 689 Bar (10,000 PSI)
- Inlet connection: CGA 677
- Outlet connection: 1/4 inch NPT stainless steel Swagelock tube fitting
- Overall size: 77 x 158 x 127 mm (3.0 x 6.2 x 5.0 in)

Part Number	Description
338-0500	Regulator Assembly

Charging Adapter

Model Usage: Various Cat® Machines

Warranty: Caterpillar® Six Months



- Used with 175-5507 Nitrogen Charging Group to pressure check and charge accumulator for 8D-8920 Bostrom-Norseman Suspension Seat Group used on Cat® Wheel Tractor-Scrapers
- 0.311 in-32 thd x 0.500 in-20 thd
- Service part: 4J-7533 Seal

References

- SEBP3775, SEBD9268, KENR5019, SEBF8272-01, RENR4183, SENR1429, REGO1569

Part Number	Description
5P-2963	Charging Adapter

Nitrogen Charging Adapters

Model Usage: Expanded Mining Unit Rig Mining Trucks

Warranty: Caterpillar® Six Months

- Used to adapt to the Nitrogen Charging Group

Part Number	Description
385-6142	Charging Adapter (Quick Connect)
385-6143	Charging Adapter (90 degree JIC)



385-6142



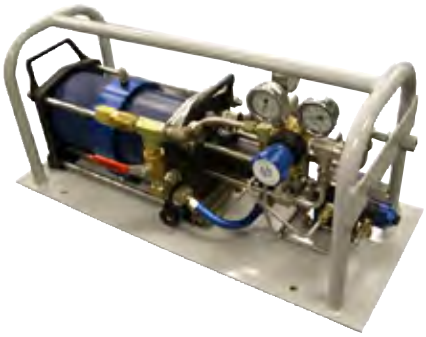
385-6143

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Portable Nitrogen Charging Package

Model Usage: Hybrid Hydraulic Excavators

Warranty: Caterpillar® Six Months



European Union Compliant, CE Marked

- Provides an efficient and quick way to charge accumulators where high pressure nitrogen bottles are not available
- Air-driven single-acting double-drive gas booster configuration
- Automatic control to stop/restart the booster when the outlet pressure exceeds set point-pre-selected pressure set to 2900-psi
- Manual start-and-stop
- Operated with high-pressure air controls (HP regulator, relief valve, inlet regulated outlet gauges and on/off valve)
- Driven by compressed shop air or gas from nitrogen bottle
- Safety relief valve set @ 3100-psi
- Gas inlet-outlet pressure gauges
- Lightweight and robust
- Safe and user friendly

Specifications

- Dimensions (l x d x h): 762 x 304.8 x 304.8 mm (30 x 12 x 12 in)
- Weight: 27.2 kg (60 lb)
- Displacement per cycle: 3.1 cu-in
- Maximum outlet pressure: 6,000-psi

Reference

- Tool Operating Manual NEHS1214

Part No.	Description
455-0126	Portable Nitrogen Charging Package

Charging Adapter, Charge Hose Assembly

Essential Tool

Model Usage: 797B Off Highway Trucks

Warranty: Caterpillar® Six Months



- Used to charge steering accumulator
- Used with 175-5507 Nitrogen Charging Group
- Long charging hose allows supply bottle to remain on ground during charging process
- 227-1415 Charging Adapter adapts current nitrogen charging group regulator to fit 227-9942 Charge Hose Assembly
- 227-1415 male 1/2 -14 NPT thd x female W26.41 x 1/14 thd
- 227-9942 female M14 x 1.5-6H thd x male W26.41x 1/14 thd

References

- RENR2579-02
- RENR2581-06

Specifications

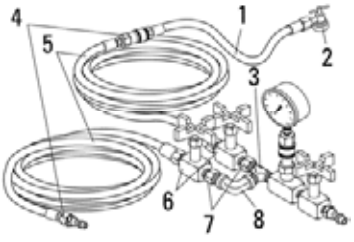
- Hose length: 10 m (32 ft)
- Maximum pressure: 37,921 kPa (5500 PSI)

Part Number	Description
227-1415	Charging Adapter
227-9942	Charge Hose Assembly

Auxiliary Fitting Group

Model Usage: Articulated Dump Trucks, Off-Highway Trucks, Underground Mining Dump Trucks

Warranty: Caterpillar® Six Months



- Modifies 175-5507 nitrogen charging group to permit charging 2 cylinders at same time
- Particularly convenient in charging of truck suspension cylinders

References

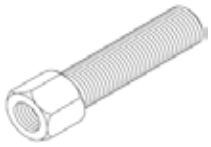
- RENR8317-00, SENR1557-02, REHS1507-02, REHS0878-04, SEHS9411-04, NEHS0742

Item	Part Number	Description	Qty.
—	175-7410	Auxiliary Fitting Group	—
1	1S-8941	Hose Assembly	—
2	7S-5106	Air Chuck	—
3	2D-7325	Tee — Pipe	—
4	8S-7169	Coupling — Pipe Hexagon	2
5	175-6857	Hose Assembly	2
6	1S-8937	Valve — Needle	2
7	5P-8998	Nipple — Pipe	2
8	3D-8884	Elbow (90°)	—

Extension

Model Usage: Various Cat® Machines

Warranty: Caterpillar® Six Months



- Used with 175-5507 Nitrogen Charging Group to charge 9J-2019 steering accumulator on 777 trucks
- .482 in-26 thd (male and female)
- Service part: 8S-4344 Washer
- Maximum working pressure: 435 kPa (3000 PSI)

References

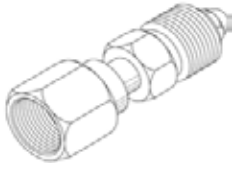
- RENR3826-08, SENR1934-08, SEBU6316-01, SEPD0683-00

Part Number	Description
7S-5439	Extension

Nitrogen Regulator Adapter

Model Usage: Most Cat® Models

Warranty: Caterpillar® Six Months



- Connects 162-4146 regulator and 6V-4037 regulator to nitrogen bottles from some sources outside the U.S.
- 0.960-14 NGO internal righthand thread and 5/8 BSP external righthand thread
- Permits 162-4146 and 6V-4037 Regulators to be used on nitrogen bottles with shutoff valves having 5/8 BSP internal righthand thread

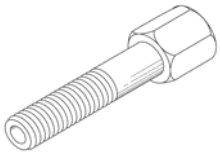
Part Number	Description
6V-7879	Nitrogen Regulator Adapter

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Valve Extension

Model Usage: Various Cat® Machines

Warranty: Caterpillar® Six Months



- Accessory to 175-5507 Nitrogen Charging Group needed to test and charge 785 and 789 Off-Highway Truck hydraulic nitrogen-charged steering system accumulators with recessed ports (ports now recessed due to accumulator design change that allows nitrogen bladder servicing)
- Can also be used to test and charge non-recessed accumulator ports
- Couples to chuck of 175-5507 Nitrogen Charging Group
- Maximum pressure: 435 kPa (3000 PSI)
- 0.305 in-32 thd (male and female)

References

- SEBF8383-05, RENR2535-10, SENR1463-07, SEPD0506

Part Number	Description
1U-5551	Valve Extension

Accumulator Charging Group

Model Usage: E180, EL180, EL240, EL300, MS120-8, MS180 LC-8, MS240 LC-8, MS300-5, MS300 LC-8, 214B and 224B Excavators, CB-314, CS-551, CP-323 and CS-323 Compactors

Warranty: Caterpillar® Six Months



- 9U-6740 replaces discontinued 4C-4166 Accumulator Charging Group
- Allow accumulator charge to be checked and/or serviced — necessary for proper operation and performance of affected circuits
- Specifically designed to charge 7X-5626, 5W-9971, and 8U-3661 Diaphragm Accumulators that do not utilize a "Schrader" charging valve which is common to most other accumulators
- Gauge and bleed valve permit direct connection to nitrogen charging cylinder
- Valve connects to accumulator's M28 x 1.5 thd
- Fitting connects directly to nitrogen charging cylinder having male W24.32 x 1/14 thd (DIN 477 #10 Type A, nitrogen)
- The 9U-6740 Tool Group is assembled with the W24.32 x 1/14 Fitting. If Adapter is required (for 0.960-14 NGO, U.S. Nitrogen Bottles), simply remove fitting from assembly, and replace with adapter.
- 6V-7879 Adapter (not included) must be ordered separately to provide method of connecting to U.S. nitrogen charging cylinders having a female 5/8-14 BSP thd (BSP #341 nitrogen); 6V-7879 Adapter is used along with Adapter

Reference

- NEHS0598, Tool Operating Manual

9U-6740 Accumulator Charging Group

- Consists of:
  - Charging Valve, with Bleed-Off
  - Gauge
  - Hose
  - Protective Case
- Weight: 2.3 kg (5.00 lb)

9U-6739 Hose Assembly

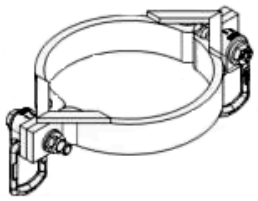
- Length: 250 cm (8 ft.)
- Diameter: 10.0 mm (0.394 in)
- Swivel nut connection (female): W24.32 x 1/14 thd (DIN 477 #10 Type A, nitrogen)
- Swivel nut connection (female): M14 x 1.5 thd
- Working pressure: 20,670 kPa (3,000 PSI)

Part Number	Description
9U-6740	Accumulator Charging Group
9U-6739 Service/Repair Parts	
1P-7326	Gasket (service repair for 9U-6741 Adapter)
9U-6738	Seal
9U-6739	Hose Assembly
9U-6741	Charging Adapter

⚠ WARNING

Dry nitrogen is the only gas approved for use in the accumulator. Charging the accumulator with oxygen gas will cause an explosion. This danger will not happen if nitrogen cylinders with standard CGA (Compressed Gas Association, Inc.) number 580 connections are used. When you order nitrogen gas, be sure that the cylinders are equipped with CGA No. 580 connections. Do not use color codes or other methods of identification to tell the difference between nitrogen and oxygen cylinders.

Lifting Clamps



European Union Compliant, CE marked

- Removes/installs steering accumulators
- Two eyebolt assemblies (part of lifting clamp) provide balanced anchor points to assist with placement and pickup
- All grease, oil and dirt must be removed from accumulators and lifting clamp before installing clamp
- Used with truck crane, other boom-type crane and chain/sling/hooks
- Working Load Limit (all part numbers): 625 kg

Part No.	Used with Accumulators (part number provided)	Dimensions	Weight
426-5675	348-9277 (Accumulator Gp-service)	293.8 x 189.6 x 44.5 mm (11.56 x 7.46 x 1.75 in)	3.5 kg (7.71 lb)
426-5691	253-4120 (Accumulator Gp-180-47(A)	339.4 x 235 x 44.5 mm (13.36 x 9.25 x 1.75 in)	3.5 kg (7.71 lb)
426-5702	214-1736 (Accumulator Gp-Bladder)	350.4 x 246.1 x 44.5 mm (13.79 x 9.68 x 1.75 in)	3.5 kg (7.71 lb)

Adapter

Essential Tool

Model Usage: E180, EL180, EL240, EL300, MS120-B, MS180 LC-8, MS300-5, MS300 LC-8, 214B and 224B Excavators. CB-314, CS-551, CP-323, and CS-323 Compactors

Warranty: Caterpillar® Six Months



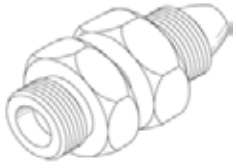
- Connects charging hose to nitrogen regulator
- Used with 9U-6741 Adapter and 9U-6740 Accumulator Charging Kit
- Maximum pressure: 20,684 kPa (3000 PSI)
- W24.32 x 1/14 int. threads (DIN 477 #10 Type A, nitrogen) and 1/4 NPT ext. threads
- Solid brass construction

Part Number	Description
334-1071	Adapter

Charging Adapter

Model Usage: Various Excavators, Material Handlers, Hydraulic Hammers, and Articulated Trucks

Warranty: Caterpillar® Six Months



- Adapter connects hose to U.S. nitrogen bottles (low pressure)
- Used with 334-1071 Adapter

References

- RENR4478-00, SEBE8658-03, SEPD0673-00, RENR9125-01, RENR6728-00, RENR4478-00

Specifications

- Male connection: W24.32 x 1/14 thd (DIN 477 #10 Type A, nitrogen)
- Male swivel: (0.960 – 14) U. S. thd CGA #580

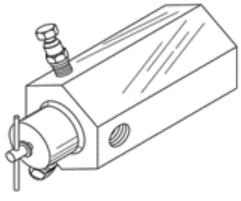
Part Number	Description
9U-6741	Charging Adapter

Charging Adapter

Essential Tool

Model Usage: 785 A, B, and C; 789 A, B, and C; 793 A, B, C, CXQ, and D; 797 Off-Highway Trucks

Warranty: Caterpillar® One Year



- Used to charge or check charge pressure on Greer accumulators with Schrader valve
- Used with 8T-0859 Pressure Gauge with 0 to 3600 PSI range and 175-5507 Nitrogen Charging Group
- Thread engages accumulator body instead of Schrader valve
- T-handle depresses Schrader valve on accumulator
- Adapter has bleed valve and Schrader valve connection for charging group

References

- SEPD0438
- RENR8336
- SENR1452-10

Specifications

- Body size: 38.1 mm (1.50 in) hex
- Overall length (without handle): 92.0 mm (3.6 in)
- Body thread size: 7/8-14
- Pressure gauge thread size: 1/4-18 NPTF

Part Number	Description
150-2332	Charging Adapter

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Accumulator Charging Group

Warranty: Manufacturer's

For repair information, contact Hydac. (Refer to Tool Repair section of this catalog



- Used only on high pressure nitrogen bottles
- Used to charge various accumulators on 206B, 212B, 214B, 224B Wheel-Type Excavators; CB314, CS551, CP323, CS323 Compactors; and all Excavators and Backhoe Loaders using hydraulic hammer attachment; Challenger 35, 45 and 55
- Packaged in protective carrying case for convenience and to reduce damage
- Hose assembly connects directly to nitrogen bottle with DIN specifications
- 334-1071 Adapter, 9U-6741 Adapter and 9U-6739 Hose Assembly required to connect hose to U.S. nitrogen bottles (low pressure)
- An additional 6V-7879 Adapter (not shown) must be ordered separately to provide a method of connecting to English nitrogen charging cylinders having a female 5/8-14 BSP thd (BSP #341 nitrogen); the 6V-7879 Adapter is used along with the 9U-6741 Adapter
- 151-8856 Charging Seal is required on 130-7623 Accumulators (130-7623 used only on Challenger 35 S/N 8DM00201 and Up, Challenger 45 S/N 1DR00201 and Up, and Challenger 55 S/N 7DM00201 and Up); the 151-8856 needs to be ordered separately

⚠ WARNING

Dry nitrogen is the only gas approved for use in the accumulator. Charging the accumulator with oxygen gas will cause an explosion. This danger will not happen if nitrogen cylinders with standard CGA (Compressed Gas Association, Inc.) number 580 connections are used. When you order nitrogen gas, be sure that the cylinders are equipped with CGA No. 580 connections. Do not use color codes or other methods of identification to tell the difference between nitrogen and oxygen cylinders.

- When charging the accumulators on machines equipped with hydraulic hammers, some additional tools will be required. The parts listed below may be required with the 9U-6740 or 152-2023 Accumulator Charging Group.

Includes:

  - 186-6225 Charging Adapter Assembly
  - Charging valve, with bleed-off and Gauge
  - 199-9040 Hose
  - 152-2024 Seal
  - Protective Case
- Weight: 2.3 kg (5.0 lb)

199-9040 Hose Assembly

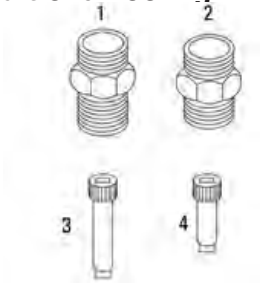
- Length: 250 cm (8 ft.)
- Diameter: 10.0 mm (0.394 in)
- Swivel connection (male): CGA 680
- Swivel nut connection (female): M14 x 1.5 thd
- Working pressure: 385 bar (5500 PSI)

152-2024 O-ring Seal

- Plastic seal:
  - OD 20 mm (0.787 in)
  - ID 11.5 mm (0.453 in)
  - thickness 2.0 mm (0.079 in)
- It is recommended that a 175-5507 Nitrogen Charging Group be connected between the 9U-7640 or 152-2023 Accumulator Charging Group and the nitrogen bottle. This will allow the pressure to be controlled and regulated. See NEHS0598 Tool Operating Manual for additional instructions.

Part Number	Description
152-2023	Accumulator Charging Group

Additional Tooling



Additional Tooling Required for Hydraulic Hammers

Item	Part Number	Description
1	7Q-8501	Adapter
2	7Q-8498	Adapter
3	7Q-8502	Pin
4	7Q-8499	Pin
Not Shown		
—	2M-9780	Seal — O-ring — STOR (SAE 7/8 – 14)
—	3K-0360	Seal — O-ring — STOR (SAE 3/4 – 16)
—	4J-0522	Seal (not shown)

Nitrogen Adapter

Model Usage: MT735, MT745, MT765, MT835, MT855, and MT865 GEN 111 Challenger Tractor

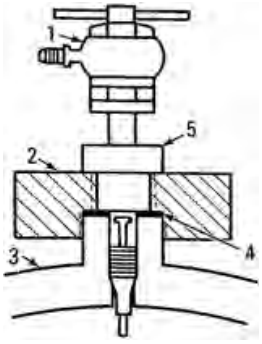
Warranty: Caterpillar® Six Months



- Used to provide required connection between charging kit and accumulator
- Used with 152-2023 Nitrogen Charge Kit
- Male M28 x 1.5 thd x female M16 x 2 thd

Part Number	Description
209-2112	Nitrogen Adapter

Adapter



- Used to adapt threads of accumulator filling valve neck to 5P-2963 Adapter and 1S-8938 Chuck
- Hose from 175-5507 Nitrogen Charging Group is then connected to fitting on 1S-8938 Chuck
- 1/2 -20-2B thd x female 5/8 -18-2B thd

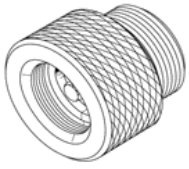
Item	Part Number	Description
1	1S-8938	Air Chuck
2	4C-4321	Adapter (Includes 247-2708 Gasket)
3	094-1043	Accumulator
4	247-2708	Gasket (part of 4C-4321 Adapter Group; also part of accumulator cap or available as separate part)
5	5P-2963	Charging Adapter

Nitrogen Adapter Group

Essential Tool

Model Usage: M313C, M315C, M316C, M318C, M322C, M312C, M315, M318 and M320 Wheel Excavators

Warranty: Caterpillar® Six Months



- Used to connect nitrogen charging kits to Leduc accumulators
- Used with 9U-6740 or 152-2023 Accumulator Charging Group
- Connects to accumulators on feeder housing hydraulic system
- Male M28 x 1.5-6g thd x female ISO 228-G 3/4 thd

References

- RENR6984
- RENR6999

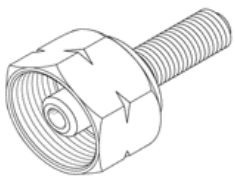
Part Number	Description
185-4458	Nitrogen Adapter Group

Nipple Assembly

Essential Tool

Model Usage: Cat® Excavators and Track-Type Tractors

Warranty: Caterpillar® Six Months



- Used with 338-0500 Pressure Regulator and high pressure nitrogen gas bottle
- Durable stainless steel construction
- 1/4 inch NPT male end connects to 41,368 kPa (6000 PSI) pressure regulator CGA677 female end connects to 41,368 kPa (6000 PSI) high pressure nitrogen gas bottle

Part Number	Description
334-0802	Nipple Assembly

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Accumulator Piston Installer, Accumulator Seal Installer

Essential Tool

Model Usage: 797B Off Highway Truck

Warranty: Caterpillar® Six Months



- Used to assemble piston into steering accumulator without damaging new seals
- Piston installer is placed into accumulator and piston is pressed through installer — prevents seal damage by accumulator threads
- Seal installer makes seal installation onto piston much easier and prevents damage

Reference

- SEPD0740-00

Part Number	Description
247-3359	Accumulator Piston Installer
247-3361	Accumulator Seal Installer

Accumulator Tools for Hydraulic Hammer

Essential Tool

Model Usage: PH 126 Hydraulic Hammer

Warranty: Caterpillar® Six Months



- Used with 121-6583 Accumulator Charging Kit

Reference

- RENR6996, Hydraulic Hammer
- Disassembly and Assembly

Part No.	Description	Use
281-2587	Spanner Wrench	Remove and install top cover of accumulator for servicing
282-8718	Charging Adapter	Recharge nitrogen-filled accumulator

Strut Charging Cart / Nitrogen Fill Cart

Model Usage: LMT

Warranty: See Individual Part Numbers







Note: Images of FT3315 Dealer-Fabricated Cart are for visual reference only.

- Tool group 520-1415 supplies all the loose piece parts and service repair items (including but not limited to valves, gauges, adapters, casters, pump and toolbox) needed to fabricate FT3315 which is a dealer-fabricated mobile cart used to charge/adjust the entire suspension system on large mining trucks in a timely manner.

Reference

- SEHS9411 – Special Instruction for Servicing Suspension Cylinders

Specifications

- Reservoir Capacity of Each Oil Tank Assembly on Strut Charging Cart: 98 L (26 gal.)
- Hydraulic Pressure of Pump on Strut Charging Cart: 8200 kPa (1200 psi) with 820 kPa (120 psi) air pressure

Part No.	Description
520-1415	Strut-Charging Cart Tool Group

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Oil Refill Unit

Model Usage: 769, 773, 777, 785, 789, and 793 Trucks

Warranty: Caterpillar® Six Months



- Refills suspension cylinder with oil without the need of circulating oil to remove trapped nitrogen
- No need to evacuate old suspension cylinder oil
- System will compress nitrogen remaining in suspension cylinder oil
- Reservoir: 38 liters (10 gal)
- Hydraulic pressure: 8200 kPa (1200 PSI) with 820 kPa (120 PSI) air pressure

Reference

- SEHS9411, Special Instruction, Suspension Cylinder Servicing

Part Number	Description
7S-5106	Air Chuck
9U-5618	Bracket
9U-5619	Block
9U-5672	Barrel Assembly
9U-5675	Valve
9U-5676	Coupler
9U-5677	Nipple (Valved)
9U-5679	Strainer
9U-5680	Check Valve
9U-5682	Nipple
9U-5683	Coupler Valve
9U-5684	Breather

H-Link Bore Rework Tools for Cushion Hitch Tractors-Scrapers

Model Usage: 621, 623, 627, 631, 633, 637, 641, 651 and 657 Cushion Hitch Tractors-Scrapers

Warranty: Caterpillar® Six Months

- Fabricated tools used with parts of 1P-4000 Line Boring Tool Group and other tools to remove bushings, rebore, and install oversized bushings in H-Link bores in bracket and hitch castings of cushion hitch tractor-scrapers
- Standard and oversized bushings available

Reference

- SMHS6872, Special Instruction

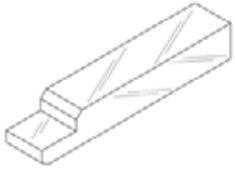
Part Number	Description	Qty.	Remove	Rebore	Install
1P-1838	Adapter	1	—	—	X
1P-2344	Centering Ring	2	—	1	—
1P-2366	Holder Assembly [a]	1	—	X	—
5B-0637	Nut	1	X	—	X
5F-7353	Thrust Washer	1	X	—	X
5F-7366	Screw — Forcing	1	X	—	X
5P-1630	Drive Adapter [a]	1	—	X	—
5P-2981	Feed Assembly [a]	1	—	X	—
6V-3160	Cylinder Group	1	X	—	X
7F-5283	Head	1	X	—	X
8S-6587	Adapter, 1 1/4 in	1	X	—	X

a. Part of 1P-4000 Line Boring Tool Group

Strut Gauge

Model Usage: 785 and 789 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to measure/check for proper oil/nitrogen charge in front suspension cylinders
- Hold strut and spindle a specific distance apart, 265 mm (10.43 in), during nitrogen charging process (used with 175-5507 Nitrogen Charging Group)
- Weight: 5.1 kg (11.2 lb)

References

- SENR4016; Service Manual; 785 Suspension Cylinders, Systems Operation, Testing and Adjusting
- SENR3436; Service Manual; 789 Suspension Cylinders, Systems Operation, Testing and Adjusting

Part Number	Description
1U-9364	Strut Gauge

Chain Clamp Assembly

Model Usage: Elevating Scraper

Warranty: Caterpillar® Six Months

- Elevating scraper chain disassembly and assembly is simplified with the use of this tool
- Chain clamp jaws are applicable to the narrowest elevator chain currently in the Cat® products line
- Usable on the heaviest current elevator chain

Specifications

- Chain clamp jaws width: 34.1 mm (1.38 in)
- Load capacity: 2 ton

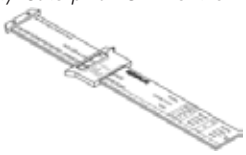
Part Number	Description
5P-2706	Chain Clamp Assembly
Service/Repair Parts	
1A-1935	Nut
1B-7411	Nut
2J-3507	Nut
3K-8282	Pin

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Wear Gauge

Model Usage: TH350B (SLD1-Up), TH355B (JRK1-Up), TH360B (SLE1-Up), TH460B (SLF1-Up), TH560B (SLG1-Up)

Warranty: Caterpillar® Six Months



- Used to measure chain elongation on telescoping boom chain

Reference

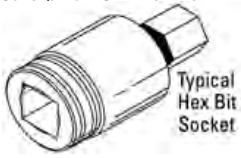
- RENR5188-03; Service Manual; Testing and Adjusting TH350B, TH355B, TH360B, TH460B and TH560B Telehandlers Hydraulic System

Part Number	Description
6V-0028	Wear Gauge

Hex Bit Sockets

Model Usage: General Usage and 5000 Series Mining Excavators

Warranty: Caterpillar® Six Months



- Used to remove and install metric socket head cap screws from pumps
- Used with 3/4 inch and 1 inch drive ratchet and breaker bar
- 129-4552 Hex Bit Socket replaces discontinued 1U-9475

Reference

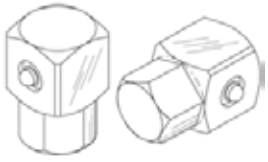
- SENR6058, Service Manual

Part No.	Drive	Hex Size Bit	Max. Torque	Capscrew Size
1U-9474	1 in	22 mm	3075 N·m (2275 ft-lb)	M30

Adapter Assembly

Model Usage: 793 Off-Highway Trucks (4AR246-UP, 4GZ, ATY, CBR)

Warranty: Caterpillar® Six Months



- Removes/installs the six 7Y-5217 Socket Head Bolts used on rear suspension cylinder pins (3/4 inch Square Drive x 17 mm Hex)
- Used with 162-8718 torque wrench and the 6V-4170 3/4 inch female square drive adapter
- Required to access bolts in confined area with limited clearance between bolt head and tire
- Works on any 793 Off-Highway Truck starting with 4AR246, or any 793 Off-Highway Truck earlier models that have been retrofitted with the anti-rotation flag plate
- Heat treated for added strength
- Equipped with retention pin to stay engaged in square drive adapter

References

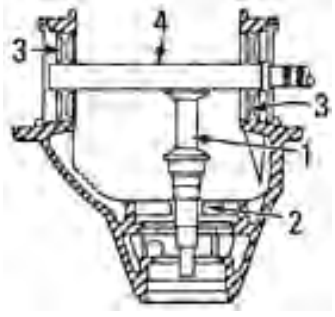
- 793 Off-Highway Truck Disassembly and Assembly Manual, Rear Suspension Cylinder Remove and Install
- SEPD0774, Service Magazine Article

Part Number	Description
251-8155	Adapter Assembly

Rotary Axle Pinion and Bevel Gear Tooling

Model Usage: RM350 Reclaimer/Mixer

Warranty: Caterpillar® Six Months



Pinion Bevel Gear Tooling

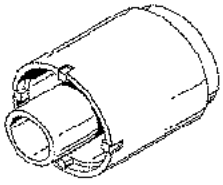
- Used to measure and align pinion to bevel gear (1U-5847, 129-7156, 129-7157, and 129-1758)
- Tools are precisely machined to provide correct and accurate assembly adjustment using procedures provided in Service Manual
- When completely assembled in differential housing, tools provide stackup dimension of gear set and provide method to obtain shim pack measurement

Item	Part Number	Description
1	129-7158	Measuring Pin
2	129-7157	Thrust Washer
3	129-7156	Shim
4	1U-5847	Measuring Shaft

Locknut Spanner Wrench

Model Usage: AP-1050, AP-1000 and AP-800C Asphalt Pavers

Warranty: Caterpillar® Six Months



- Used to quickly and easily remove and install both 2H-3778 Spanner Nuts, the locknuts for Extend-A-Mat® B Screed extender sloper pivot pins (assembly requires an inner spanner nut, star washer, and outer spanner locknut)
- Used with 3/4 inch square drive torque wrench — torque specification for 2 nuts is 545 ± 25 N·m (400 ± 20 ft-lb)
- Due to its location, nut is extremely difficult to access using any other tooling
- Wrench uses an inner pilot to prevent it from slipping off during removal and installation of inner spanner nut (makes removal and installation much easier)
- Wrench is heat-treated for improved durability
- Pilot also keeps wrench teeth engaged in spanner nut when removing and installing outer locknut (helps prevent slippage, resulting in damage to nut or injury to mechanic)

Reference

- KENR2527, Service Manual, Disassembly and Assembly

Specifications

- Outside diameter: 88.9 mm (3.50 in)
- Overall length: 76.2 mm (3.00 in)
- Spanner teeth: 4, equally spaced
- Tooth width: 6.0 mm (0.24 in)
- Square drive: 3/4 in
- Approximate weight: 2 kg (5 lb)

Part Number	Description
4C-9416	Locknut Spanner Wrench

Hitch Bearing Puller Adapters

Model Usage: See Below

Warranty: Caterpillar® Six Months

Part Number	Step Plate Diameter	Thread Size	Use	Model
5P-7398	95.3 x 101.6 mm (3.75 x 4.0 in)	1.25 in-12 thd	Removal and installation of hitch lateral pitch bushings	631D, 633D and 637D Tractor-Scrapers
5P-7399	108 x 121 mm (4.25 x 4.75 in)	1.25 in-12 thd	Removal and installation of vertical hitch bearings	631D, 633D and 637D Scrapers
5P-8601	82.6 x 88.9 mm (3.25 x 3.50 in)	1.25 in-12 thd	Removal and installation of appropriate size bushings and bearings	621B, 623B and 627B Scraper hitches

Socket

Essential Tool

Model Usage: TS220 Towed Scraper

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble rear horizontal hitch
- 4 3/8 inch, 6-point socket
- 3/4 inch square drive
- Welded steel construction
- Not recommended for use with impact wrench

Part Number	Description
336-6457	Socket

Socket Wrench

Essential Tool

Model Usage: RT80, RT100, TH82, TH83, and TH103 Telehandler

Warranty: Caterpillar® Six Months



- Used to make removal and installation of 081-6212 Nut faster and easier
- Provides adequate length to engage nut
- Socket pilots around nut for positive engagement
- Cross hole provided for bar or handle

Specifications

- Outside diameter: 88.9 mm (3.50 in)
- Inside diameter: 76.2 mm (3.00 in)
- Overall length: 114.3 mm (4.50 in)
- Cross hole diameter: 27.0 mm (1.06 in)
- Distance across flats: 65.52 mm (2.580 in)

Part Number	Description
147-3508	Socket Wrench

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Spacer

Model Usage: D6D Tractor

Warranty: Caterpillar® Six Months



- 5P-7321 Spacers and two plates needed for positioning dash on tractor when tilting or removing cab or when installing new cab
- Required to tilt/install semi-modular cab

Reference

- SMHS7062, Special Instruction

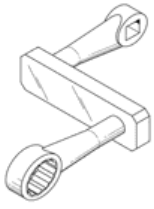
Item	Part Number	Description
2	5P-7321	Spacer
3	1A-1460	Bolt (1/2 — 13) (fork mounting hardware)

Offset Wrench

Essential Tool

Model Usage: 140M and 160M Monarch Series Motor Graders

Warranty: Caterpillar® Six Months



- Used to remove and install cab bolts without removing fuel tank
- Reduces service time by eliminating fuel tank removal
- Required to properly tighten cab bolts to required 635 N·m of torque during installation
- Durable welded construction
- 3/4 inch square drive x 36 mm, 12 point, box-end wrench

Reference

- Service Manual, 140M and 160M Disassembly and Assembly

Part Number	Description
318-1491	Offset Wrench

Impact Socket

Essential Tool

Model Usage: 789A (9ZC1-UP), 789B (7EK1-UP), and 789C (2BW1-UP) Off- Highway Trucks

Warranty: Caterpillar® Six Months



- Removes/installs bolts securing cab support assemblies (outriggers) to frame assembly
- Used with 222-3054 impact wrench or other similar tool
- 2-step outside dia provides required clearance
- Industrial finish prevents rust and corrosion
- 1 inch square drive with 1 1/2 inch 6-point socket opening

Reference

- SEBE9071, Service Letter, Product Improvement Program for Inspecting and/or Replacing the Rear Cab Support on Certain 789 Off-Highway Trucks

Part Number	Description
258-5686	Impact Socket

Impact Socket

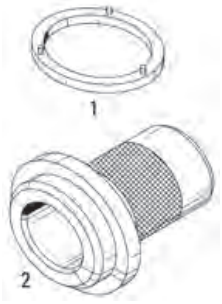
Warranty: Caterpillar® Lifetime



- Socket for tightening engine mount bolts in OHT using 3500 and C175 engines
- Applications include repair of heavy duty trucks and off-road equipment

Part Number	Description
432-8907	¾ Inch Drive 1-inch, Shallow, 12 Point , Black

Measuring Ring and Seal Driver



129-7159 Measuring Ring

- Used to determine thickness of shim required for correct assembly of pinion input shaft
- No other measuring method will provide results as fast and accurately as using this tool

129-7160 Seal Driver

- Used to install differential oil seal after pinion and bevel gear have been assembled
- Driver ensures seal is installed to correct depth (also ensures seal is installed exactly perpendicular to shaft; eliminates cocked seals)
- Eliminates seal damage which can be caused during seal installation using conventional tooling
- Heat-treated for durability

References

- KENR2560, Service Manual KENR2573, Service Manual

Item	Part Number	Description
1	129-7159	Measuring Ring
2	129-7160	Seal Driver

Bearing Nut Spanner Wrench

Model Usage: 988B

Warranty: Caterpillar® Six Months



- Used to remove and install spanner nut which retains bearing in implement pump drive on 988B Wheel Loaders

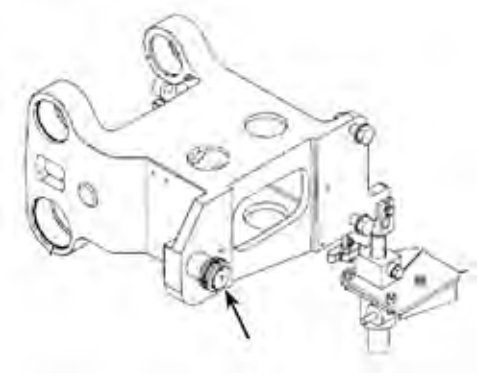
Part Number	Description
5P-7323	Bearing Nut Spanner Wrench

Spanner Wrench Assembly

Model Usage: SE60 Screed Pavers

Warranty: Caterpillar® Six Months





- Removes and installs bearing locknuts 5P-8513 on the power sloper for SE60 screeds
- Low profile spanner wrench
- ½ inch square drive ratchet
- Used to remove and install the bearing locknut 5P-5813

Part No.	Description	Dimensions	Weight
472-4269	Spanner Wrench Assembly	92.25mm (3.6") I.D., 4 equally spaced spanner teeth, 12.7mm (0.5") length of ring to grip the locknut	1.23Kg (2.7lb)

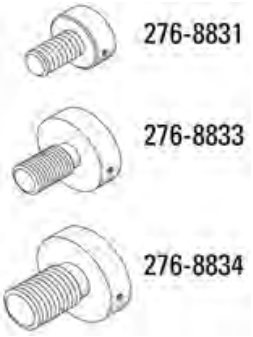
IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Pin Driver Caps

Essential Tool

Model Usage: 345C, 365C, 385C Hydraulic Excavators

Warranty: Caterpillar® Six Months



- Used to protect linkage pins from damage during installation
- Longer thread engagement for thicker flag pins
- Heat-treated for added durability
- Side holes in head allow pins to be installed or removed using a spanner wrench

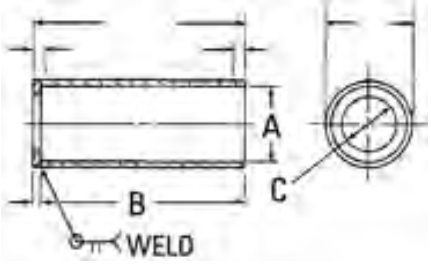
Reference

- Disassembly and Assembly Service Manual for 345C, 365C, and 385C

Part Number	Thread Size	Thread Length
276-8831	M30 x 3.5	51.1 mm (2.01 in)
276-8833	M36 x 4.0	58.5 mm (2.30 in)
276-8834	M48 x 5.0	71.5 mm (2.81 in)

Receiving Sleeves, Adapter Plates, Pin Driver Caps

Receiving Sleeves

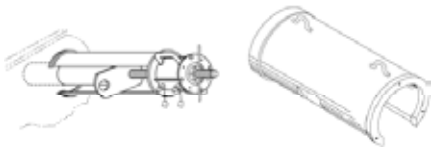


Part Number	Description	(A) Maximum Pin Diameter	(B) Maximum Pin Length	(C) Stud Hole Diameter
124-4640	Sleeve Assembly — Receiving	254 mm (10 in)	450 mm (17.72 in)	—
124-4641	Sleeve — Receiving	263 mm (10.35 in)	216 mm (8.50 in)	Open end (9U-6501)
134-8466	Sleeve Assembly — Receiving	200 mm (7.87 in)	1,322 mm (52.05 in)	68.0 mm (2.68 in)
134-8470	Receiving Sleeve (Accessories)	160 mm (6.30 in)	—	Open end
1M-6756	Sleeve Assembly	166 mm (6.54 in)	202 mm (7.95 in)	33.0 mm (1.30 in)
4C-8163	Sleeve Assembly	163 mm (6.42 in)	890 mm (35.04 in)	70.0 mm (2.76 in)
4C-9491	Receiving Sleeve	227 mm (8.94 in)	300 mm (11.81 in)	52.5 mm (2.07 in)
4C-9493	Sleeve	227 mm (8.94 in)	160 mm (6.30 in)	52.5 mm (2.07 in)
5P-7370	Sleeve Assembly	198 mm (7.80 in)	180 mm (7.09 in)	101.0 mm (3.98 in)
6V-2072	Sleeve Assembly	176 mm (6.93 in)	240 mm (9.45 in)	40.0 mm (1.58 in)
6V-2097	Receiving Sleeve	130 mm (5.12 in)	75 mm (2.95 in)	39.0 mm (1.54 in)
6V-2098	Sleeve	112 mm (4.41 in)	76 mm (2.99 in)	39.0 mm (1.54 in)
6V-2108	Receiving Sleeve	106 mm (4.17 in)	74 mm (2.91 in)	Open end (129-6672)
6V-6982	Sleeve Assembly	28 mm (1.10 in) [a]	125 mm (4.92 in) [a]	Approx. 25.0 mm (0.98 in)
7F-6068	Sleeve Assembly	100 mm (3.94 in)	215 mm (8.46 in)	Open end (5P-8713)
9S-5431	Sleeve Assembly	149 mm (5.87 in)	187 mm (7.36 in)	101.6 mm (4.00 in)
9S-5564	Sleeve Assembly	115 mm (4.53 in)	431 mm (16.97 in)	33.0 mm (1.30 in)
9S-5565	Sleeve Assembly	74 mm (2.91 in)	355 mm (13.98 in)	33.0 mm (1.30 in)
9U-5671	Receiver Sleeve Adapter [b]	36 mm (1.42 in)	98 mm (3.86 in)	Open end
9U-6706	Puller Assembly (Cylinder Pins)	182 mm (7.17 in)	438 mm (17.24 in)	83.0 mm (3.27 in)
9U-6792	Puller Assembly — Pin	201 mm (7.91 in)	1,825 mm (71.85 in)	83.0 mm (3.27 in)
9U-7765	Receiving Sleeve	284 mm (11.18 in)	762 mm (30 in)	Open end (9U-6501)

a. Approximate Size.

b. 9U-5671 Sleeve 36.0 mm (1.42 in) 98.0 mm (3.86 in) Open end.

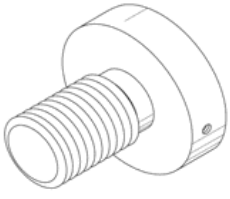
Receiving Flag Sleeves



Part Number	Description	Maximum Pin Diameter	Maximum Pin Length	Stud Hole Diameter	Flag Clearance Size
9U-6752	Receiving Sleeve	214.0 mm (8.43 in)	1143.0 mm (45.00 in)	70.0 mm (2.76 in)	164.0 mm (6.46 in)

Part Number	Description	Maximum Pin Diameter	Maximum Pin Length	Stud Hole Diameter	Flag Clearance Size
137-8792	Sleeve Assembly — Bearing	238 mm (9.37 in)	305 mm (12.01 in)	68.0 mm (2.68 in)	135.0 mm (5.31 in)
141-1785	Sleeve Assembly — Receiving	144 mm (5.67 in)	1,140 mm (44.88 in)	68.0 mm (2.68 in)	146.0 mm (5.75 in)
155-8191	Sleeve Group (992G)	313 mm (12.32 in)	1,473.8 mm (58.02 in)	68.0 mm (2.68 in)	234.0 mm (9.21 in)
237-9180	Receiving Sleeve Assembly	247.7 mm (9.75 in)	545 mm (21.46 in)	68.0 mm (2.68 in)	165.0 mm (6.50 in)
287-2153	Sleeve Assembly	152 mm (5.98 in)	812 mm (31.97 in)	36.0 mm (1.40 in)	152.0 mm (6.00 in)
323-7335	Sleeve Assembly	298 mm (11.73 in)	660 mm (25.98 in)	70.0 mm (2.76 in)	203.2 mm (8.00 in)
4C-8149	Sleeve Assembly	298 mm (11.73 in)	660 mm (25.98 in)	70.0 mm (2.76 in)	203.2 mm (8.00 in)
5P-7288	Sleeve Assembly, 215 Excavator	106 mm (4.17 in)	419 mm (16.50 in)	32.5 mm (1.28 in)	95.0 mm (3.74 in)
6V-4035	Sleeve Assembly	125 mm (4.92 in)	250 mm (9.84 in)	35.0 mm (1.38 in)	118.57 mm (4.67 in)
8T-3198	Sleeve Assembly	42.5 mm (1.67 in)	190 mm (7.48 in)	17.5 mm (0.69 in)	28.0 mm (1.10 in)
9S-5433	Puller Adapter	150.9 mm (5.94 in)	158.8 mm (6.25 in)	Open end	147.3 mm (5.80 in)
9U-5266	Sleeve Assembly	125 mm (4.92 in)	415 mm (16.34 in)	35.0 mm (1.38 in)	138.6 mm (5.46 in)
9U-5340	Receiver Sleeve	125 mm (4.92 in)	300 mm (11.81 in)	Open end	138.6 mm (5.46 in)
9U-6751	Sleeve Assembly	214 mm (8.43 in)	330 mm (12.99 in)	52.0 mm (2.05 in)	164.0 mm (6.46 in)
9U-6752	Sleeve Assembly	214 mm (8.43 in)	1,143 mm (45 in)	52.0 mm (2.05 in)	164.0 mm (6.46 in)

Pin Driver Cap Specifications



Part Number	Description	Thread Size	Head Diameter	Thread Length
276-8831	Pin Driver Caps	M30 x 3.5	63.5 mm (2.50 in)	51.1 mm (2.01 in)
276-8833	Pin Driver Caps	M36 x 4.0	88.9 mm (3.50 in)	58.5 mm (2.30 in)
276-8834	Pin Driver Caps	M48 x 5.0	101.6 mm (4 in)	71.5 mm (2.81 in)
4C-9485	Pin Driver Caps	M30 x 3.5	63.5 mm (2.50 in)	29.5 mm (1.16 in)
9S-5561	Pin Driver Caps	1 1/2-12	88.9 mm (3.50 in)	35.8 mm (1.41 in)
9S-5562	Pin Driver Caps	1 1/4-12	63.5 mm (2.50 in)	29.5 mm (1.16 in)
9S-5563	Pin Driver Caps	1-14	50.8 mm (2 in)	23.1 mm (0.91 in)
9U-5342	Pin Driver Caps	M24 x 3.0	50.8 mm (2 in)	31.8 mm (1.25 in)
9U-6225	Pin Driver Caps	M36 x 4.0	88.9 mm (3.50 in)	38.6 mm (1.52 in)
9U-6758	Pin Driver Cap (installation only)	M48 x 5.0	101.6 mm (4 in)	51.6 mm (2.03 in)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Adapter Plates



Part Number	Description	Maximum Pin Diameter
124-4637	Adapter Plate	102 mm (4.02 in)
9U-5341	Adapter Plate Assembly	104 mm (4.09 in)
9U-6501	Plate — Head Puller	276 mm (10.87 in)
9U-6755	Adapter Plates	235 mm (9.25 in)

Adapter Flag Plates



Part Number	Description	Maximum Pin Diameter	Flag Clearance Size
162-7189	Adapter Group — Plate	93 mm (3.66 in)	93 mm (3.66 in)
192-5510	Adapter Plate	260 mm (10.24 in)	234.0 mm (9.21 in)
1U-6150	Adapter Plates	156 mm (6.14 in)	130.0 mm (5.12 in)
9U-6754	Adapter Plates	187 mm (7.36 in)	130.0 mm (5.12 in)
9U-6757	Adapter Plates	196 mm (7.72 in)	164.0 mm (6.46 in)

Receiving Sleeves with Adapters

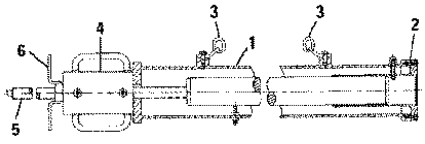


Adapter Plate Part No.	Used with Receiving Sleeve Part No.
124-4637	124-4640, 124-4641
154-7387	9U-6751, 9U-6752
192-5510	155-8191
1U-6150	9U-6751, 9U-6752
9U-5341	9U-5266
9U-6501	9U-7765
9U-6754	9U-6751, 9U-6752
9U-6755	9U-6751, 9U-6752
9U-6757	9U-6752

Linkage Pin and Bearing Removal Tools

Model Usage: 5110 Excavator

Warranty: Caterpillar® Six Months



- Used to remove all linkage pins and bearings
- Receiving sleeve assembly is easily suspended with lifting link brackets (supplied with receiving sleeve)
- Used with general tooling listed in "General Tooling Used for All Pins"
- Only 1 receiving sleeve is required for this operation (sleeve is adapted for other pin diameters by using appropriate receiving sleeve adapter assembly)

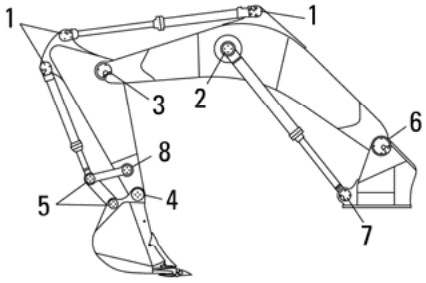
Items with no Part Number

Item	Description
3	Linkage Pin

Item	Part Number	Description
1 a	134-8466	Sleeve Assembly — Receiving
4	316-1491	Cylinder Group (100T) 6 in stroke
5	136-5747	Stud — Puller (M48 x 5)
6	9U-6810	Nut — Fast Runner (M48 x 5.0)
General Tooling Used for All Pins		
—	350-7768	Pump Group — Hydraulic (115V)
—	6D-7726	Hydraulic Hose (2)
—	350-7769	Pump Grp — Hydraulic (230V)

a. Item 1 and 2

Typical Pin Locations



Item	Description
1	Cylinder pin
2	Cylinder pin
3	Stick-to-Boom Pin
4	Bucket Pin
5	Bucket Linkage Pin
6	Boom-to-Swing Frame Pin
7	Cylinder Pin
8	Bucket Linkage Pin
Included in Pin Specific tooling:	
Hydraulic Cylinder (150 ton), used with Pin No. 2, No. 3, No. 4, and No. 6	

Pin-Specific Tooling

Part Number	Description
Pin No. 1	
316-1491	Cylinder Group (100T) 6 in stroke
9U-6810	Nut — Fast Runner (M48 x 5.0)
9U-6814	Stud — Puller (M48 x 5)
Pin No. 2	
134-8466	Sleeve Assembly — Receiving
134-8470	Receiving Sleeve (Accessories)
4C-8150	Rod Assembly — Threaded
9U-6800	Nut — Speed (M64)
Pin No. 3	
134-8466	Sleeve Assembly — Receiving
4C-8150	Rod Assembly — Threaded
9U-6800	Nut — Speed (M64)
Pin No. 4	
134-8466	Sleeve Assembly — Receiving
4C-8150	Rod Assembly — Threaded
9U-6800	Nut — Speed (M64)
Pin No. 5	
134-8466	Sleeve Assembly — Receiving
136-5747	Stud — Puller (M48 x 5)
316-1491	Cylinder Group (100T) 6 in stroke
9U-6810	Nut — Fast Runner (M48 x 5.0)
Pin No. 6	
4C-8150	Rod Assembly — Threaded
9U-6800	Nut — Speed (M64)
Pin No. 7	
136-5747	Stud — Puller (M48 x 5)
316-1491	Cylinder Group (100T) 6 in stroke
9U-6810	Nut — Fast Runner (M48 x 5.0)
9U-6814	Stud — Puller (M48 x 5)
Pin No. 8	
134-8466	Sleeve Assembly — Receiving
136-5747	Stud — Puller (M48 x 5)
316-1491	Cylinder Group (100T) 6 in stroke
9U-6810	Nut — Fast Runner (M48 x 5.0)

Part No.	Description	Maximum Pin Diameter	Maximum Pin Length	Maximum Rod Diameter	Maximum Capacity (Tons)	Thread Size	Thread Length	Use
134-8466	Sleeve Assembly — Receiving	200 mm (7.87 in)	1,322 mm (52 in)	64 mm (2.5 in)	136 t (150 ton)	—	—	As a receiving sleeve for all long pins on vehicle. By itself for boom-to-stick pin
134-8470	Receiving Sleeve (Accessories)	160 mm (6.30 in)	—	—	136 t (150 ton)	—	—	With 134-8466 to accept a 160 mm (6.3 in) diameter pin
136-5747	Stud — Puller (M48 x 5)	—	2,415 mm (95.1 in)	—	—	M48 x 5	2415 mm (8 ft)	—

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Adapter Plate and Receiving Sleeve Assembly

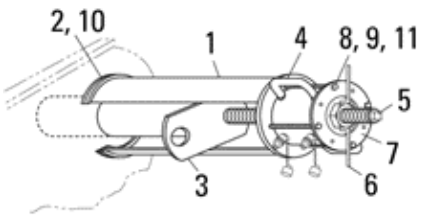
Essential Tool

Model Usage: 5110B Excavator

Warranty: Caterpillar® Six Months

- Used to remove boom to frame pin, stick to boom pin, bucket to stick pin, and all related hydraulic cylinder mounting pins
- Used with 350-7768 Hydraulic Pump (115 VAC) or 350-7769 Hydraulic Pump (230 VAC) and 6D-7726 Hydraulic Hose
- Adapter plates attach to 155-8191 Receiving Sleeves allowing the removal of smaller diameter linkage pins with larger diameter receiving sleeves, thus eliminating the need for many additional sleeves.





Typical Receiving Sleeve Usage

Item	Part Number	Description	Maximum Pin Diameter	Maximum Capacity
1	192-5510	Adapter Plate	260 mm (10.2 in)	150 tons

Item	Description
1	Receiving Sleeve Assembly
2	Adapter Plate
3	Linkage Pin
4	Hydraulic Cylinder
5	Puller Stud
6	Fast Runner Nut
7	Retaining Plate
8	Rod
9	Nut
10	Socket Head Bolt
11	Washer

Front Strut Bearing Seal Installation Tools

Model Usage: 735, 735B, 740, 740 Ejector, 740B, 740B Ejector

Warranty: Caterpillar® Six Months

- Used to install front suspension cylinder seals
- 456-9453 (#6 Nylon) is used to initially place the seals. It is also used with 456-9450 (steel) 456-9453 (#6 Nylon) as the driver
- 456-9452 (#6 Nylon) supports the seal during installation
- 456-9451 (#6 Nylon) is used as a guide during the seal installation process



Part Number	Dimensions	Weight
456-9450	24 X 100 mm (0.9 X 3.9 in)	0.307 kg (0.7 lb)
456-9451	88 X 74 mm (3.5 X 2.9 in)	0.535 kg (1.2 lb)
456-9452	78 X 88 mm (3.1 X 3.5 in)	0.467 kg (1.0 lb)
456-9453	69 X 150 mm (2.7 x 5.9 in)	0.759 kg (1.7 lb)

Pin Specific Tooling No. 1-5 (Continued)

Part Number	Description	Qty.
	Pin No. 1	
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	1
	Pin No. 2	
316-1491	Cylinder Group (100T) 6 in stroke	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	1
	Pin No. 3	
192-5510	Adapter Plate	1
316-1491	Cylinder Group (100T) 6 in stroke	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	1
	Pin No. 4	
155-8191	Sleeve Group (992G)	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	1
	Pin No. 5	
155-8191	Sleeve Group (992G)	1
192-5510	Adapter Plate	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	1

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Pin Specific Tooling No. 6-11

Part Number	Description	Qty.
	Pin No. 6	
192-5510	Adapter Plate	1
316-1491	Cylinder Group (100T) 6 in stroke	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	1
	Pin No. 7	
192-5510	Adapter Plate	1
316-1491	Cylinder Group (100T) 6 in stroke	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	1
	Pin No. 8	
155-8191	Sleeve Group (992G)	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	1
	Pin No. 9	
155-8191	Sleeve Group (992G)	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	1
	Pin No. 10	
136-5747	Stud — Puller (M48 x 5)	1
155-8191	Sleeve Group (992G)	1
316-1491	Cylinder Group (100T) 6 in stroke	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6903	Nut — Speed (M48)	1
	Pin No. 11	
155-8191	Sleeve Group (992G)	1
4C-8152	Retaining Plate	1
8T-0271	Bolt — Hex Socket Head (M10 x 1.5)	3
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	1

Linkage Bearing Locations (Continued)

Removal Tooling

Part Number	Description	Qty.
	Bearing No. 8	
137-8792	Sleeve Assembly — Bearing	1
197-6682	Bearing Puller Adapter	1
4C-8152	Retaining Plate	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2
	Bearing No. 10	
137-8792	Sleeve Assembly — Bearing	1
138-1135	Bearing Puller Plate	1
4C-8152	Retaining Plate	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2
	Bearing No. 11	
197-6683	Bearing Puller Adapter	1
316-1491	Cylinder Group (100T) 6 in stroke	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6751	Sleeve Assembly	1
9U-6753	Retaining Plate	1
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	2

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Installation Tooling

Part Number	Description	Qty.
	Bearing No. 1, 5, 9, and 10	
138-1135	Bearing Puller Plate	1
197-6685	Bearing Installer Plate	1
4C-6504	Puller Stud (M64) 48 in	1
9U-6800	Nut — Speed (M64)	2
	Bearing No. 2 and 3	
197-6681	Bearing Puller Adapter	1
197-6687	Bearing Installer Plate	1
9U-6800	Nut — Speed (M64)	2
	Bearing No. 4	
197-6685	Bearing Installer Plate	1
4C-8150	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	2
	Bearing No. 6	
197-6687	Bearing Installer Plate	1
4C-8150	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	2
	Bearing No. 7 and 8	
197-6686	Bearing Installer Plate	2
4C-8150	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	2
	Bearing No. 11	
197-6687	Bearing Installer Plate	1
4C-8150	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	2

Block Assemblies

Model Usage: 621B, 623B, 627B, 631D, 633D and 637D Tractors

Warranty: Caterpillar® Six Months



- Used for supporting hitch when separating tractor from scraper
- Two blocks required, one for each hitch stop on tractor differential case
- Blocks tapped for 3/4 inch-10 bolts which are adjusted out against hitch to support it firmly

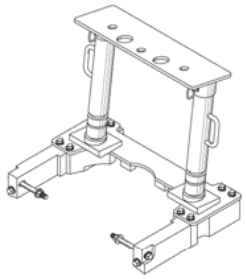
Part Number	Description
2G-2827	Block Assemblies

Support Stand Assembly

Essential Tool

Model Usage: TK722 (TKC1-UP and 1031-UP); TK732 (T1041-UP); TK752 (3021-UP) Track Feller Buncher

Warranty: Caterpillar® Six Months



- Used to support upper structure of machine during removal and installation of forward tilt cylinder

Part Number	Description
245-9130	Support Stand Assembly

Main Frame Assembly Tools (994)

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months



- Used in assembly of 994 Wheel Loader main frames
- Bore alignment very important but difficult because of large pin size, close tolerances, mass of 2 loader frames, speed required to install cold (shrunk) pins before they warm and expand
- Align and hold 994 center hitch pin bores prior to pin installation

Reference

- SEHS9272, Special Instruction, 994 Field Assembly Instructions
- SENR4755, Service Manual, 994 Vehicle Systems Disassembly and Assembly Module

Item	Part Number	Description	Dimensions	Weight
1	9U-5234	Collet Assembly	236 mm (9.3 in) diameter 670 mm (26.4 in) long	89 kg (196.21 lb)
2	9U-5235	Fixture Assembly	750 x 174 x 178 mm (29.5 x 6.9 x 7 in)	22.7 kg (50.04 lb)

Pin Collet Assembly and Fixture Assembly

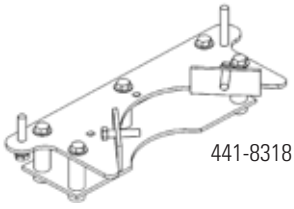
Model Usage: 994K Wheel Loader

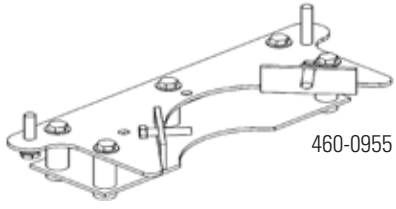
Warranty: Caterpillar® Six Months

- Used to aid in the assembly of the hitch pins on the new 994K Wheel Loader by providing initial alignment tool for both upper joint and lower joint

Reference

994K Main Frame Assembly Tools


441-8318


460-0955

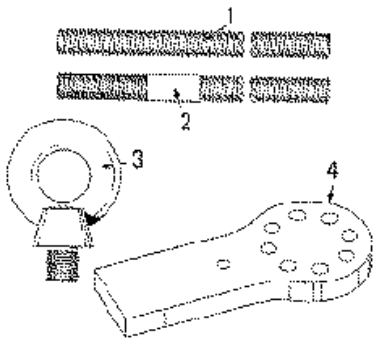
Part Number	441-8318	460-0955
Length	738 mm (29.1 in)	991 mm (39 in)
Diameter	225 mm (8.9 in)	–
Width	–	388 mm (15.3 in)
Height	–	256 mm (10.1 in)
Weight	70 kg (154.3 lb)	59 kg (130.1 lb)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Hitch Pin Pulling Tools (994)

Model Usage: 994 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to pull hitch pin or pull any pin with a 2 inch-12 puller hole — saves time and eliminates destruction of pin
- Used with 8T-7781 Nut
- Hydraulic removal of pin is preferred over other methods, such as burning, cutting, or drilling
- 2 inch stud provides a maximum 1335 kN (150 tons) hydraulic pulling force
- 38.1 mm (1 1/2 in) stud provides a maximum 890 kN (100 tons) of hydraulic pulling force
- Most 994 hitch pin pulling operations require the maximum force provided by these tools

9U-7763 Puller Stud

- Rolled threads and heat treatment for added strength
- Provides pulling capacity up to 1335 kN (150 tons)
- Course threads, on cylinder end of stud, provide for faster nut running during pulling

9U-7764 Bushing

- Used to reduce 63.5 mm (2.5 in) center hole of cylinder to 51 mm (2.0 in) diameter for 9U-7763 Stud
- Heat treated for additional strength

9U-6489 Eyebolt (with shoulder)

- Provides quick and convenient lifting point
- Used for general lifting applications of 14,755 kg (32,500 lb) or less [upper hitch pin weighs 116 kg (255 lb) and lower hitch pin 185 kg (407 lb)]

9U-6501 Plate

- Heat treated to Rockwell C32-38
- 2-step diameter centers plate on end of different ID receiving sleeves

9U-6698 Puller Stud

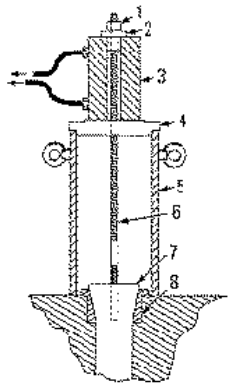
- Used for any general pulling application requiring 1 1/2 inch-12 threads
- Rolled threads and heat treatment for added strength
- Provides pulling capacity up to 890 kN (100 tons)

References

- SENR4755, Disassembly and Assembly, 994 Wheel Loader Vehicle Systems
- Procedure for 994 Front Frame Replacement from Decatur Mining Vehicle Center (M.V.C.)

Item	Part Number	Description
1	9U-6698	Stud — Puller, 1 1/2 in
2	9U-7763	Stud — Puller, 2 in
3	9U-6489	Shoulder Eye Bolt

Assembly Diagram for 994 Hitch Pin Pulling Tools



Item	Description
7	Hitch Pin
8	Hitch Pin Bushing

Item	Part Number	Description
1	8T-7781	Nut
2	9U-7764	Bushing
4	9U-6501	Plate — Head Puller
5	9U-7765	Receiving Sleeve
6	9U-7763	Stud — Puller, 2 in

Tool Specifications for 994 Hitch Pin Pulling Tools

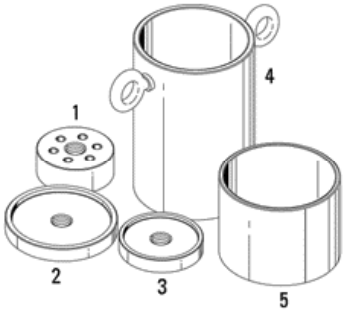
- 9U-6489 Shoulder Eyebolt
  - Thread: 2 in-12 thd
  - Length from bottom of shoulder to end of thread: 51 mm (2.0 in)
  - Capacity: 14,755 kg (32,500 lb)
  - Eye diameter: 82.6 mm (3.25 in)
- 9U-6501 Plate
  - Overall diameter: 305 mm (12.0 in)
  - Thickness: 38 mm (1.5 in)
  - Center hole diameter: 53 mm (2.1 in)
  - Heat treatment: Rockwell C32-38
  - Large step diameter: 276 mm (10.9 in)
  - Small step diameter: 201.5 mm (7.93 in)
  - Rated Pulling Capacity: 1335 kN (150 tons)
- 9U-6698 Puller Stud
  - Threads: 1 1/2 in-12 thd (rolled)
  - Thread length: 1220 mm (48.0 in)
  - Pulling capacity (force): 890 kN (100 tons)
  - Heat treatment: Rockwell C41-45
- 9U-7763 Puller Stud
  - Overall length: 1220 mm (48.0 in)
  - Short end thread: 2 in-12 thd (rolled)
  - Length: 101 mm (4.0 in)
  - Long end thread: 2 in-8 (rolled)
  - Length: 1016 mm (40.0 in)
  - Heat treatment: Rockwell C41-45
  - Pulling capacity (force): 1335 kN (150 tons)
- 9U-7764 Bushing
  - Outside diameter: 62.0 mm (2.44 in)
  - Inside diameter: 52.3 mm (2.06 in)
- 9U-7765 Receiving Sleeve
  - Outside diameter: 305 mm (12.0 in)
  - Inside diameter: 285 mm (11.2 in)
  - Overall length: 762 mm (30.0 in)
  - Lifting eyes: 2
  - Rated pulling capacity: 1335 kN (150 tons)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Pin Pulling Tools, 990 Articulation Hitch

Model Usage: 990 Wheel Loader

Warranty: Caterpillar® Six Months



- Used to pull articulation hitch pins and bearings — saves time and eliminates damage to pin
- Used with 316-1491 and 9U-6810 Speed Nut
- Hydraulic removal of pin is preferred over other methods, such as burning, cutting, or drilling
- M48 threads provide a maximum of 890 kN (100 tons) of hydraulic pulling force
- All plates and sleeves serviced separately

464-4637 Adapter Plate

- Used to remove 4E-8152 Top Hitch Pin on early 990s (no puller hole for removing the pin hydraulically)
- Later models, with pin puller hole, do not require this adapter plate

124-4638 Bearing Puller Plate

- Used to remove the top articulation hitch pin bearing

124-4639 Bearing Puller Plate

- Used to remove the bottom articulation hitch pin bearing

124-4640 Receiving Sleeve Assembly

- Used to remove the top and bottom articulation hitch pins

124-4641 Receiving Sleeve

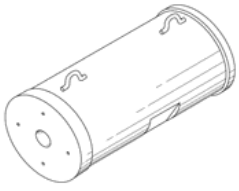
- Used to remove the top and bottom articulation hitch pin bearings

Item	Part No.	Description	Recess/Inside Diameter	Overall Diameter	Outside Diameter	Thickness	Puller Hole Thread	Rated Capacity	Overall Length
1	124-4637	Adapter Plate	—	177.8 mm (7.00 in)	—	76.2 mm (3.00 in)	M48 X 5	890 kN (100 tons)	—
2	124-4638	Bearing Puller Plate (upper bearing)	214 mm (8.43 in)	251 mm (9.88 in)	—	38 mm (1.5 in)	M48 X 5	—	—
3	124-4639	Bearing Puller Plate (lower bearing)	174.0 mm (6.85 in)	193.5 mm (7.62 in)	—	38 mm (1.5 in)	M48 X 5	—	—
4	124-4640	Sleeve Assembly — Receiving	—	—	279.4 mm (11.00 in)	—	—	890 kN (100 tons)	450 mm (17.7 in)
5	124-4641	Sleeve — Receiving	Open end (9U-6501)	—	279.4 mm (11.00 in)	—	—	890 kN (100 tons)	216 mm (8.5 in)

Sleeve Assembly

Model Usage: 993K Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove lower articulation flagged hitch pin
- Used with 316-1491 or 6V-0014 Hydraulic Cylinder Group, 350-7768 Electric Hydraulic Pump Group, 9U-6815 Puller Stud, and 9U-6810 Speed Nut
- Hydraulic removal of pin is preferred over other methods, such as burning, cutting, or drilling
- Heat-treated for added durability

Reference

- KENR5832, 993K Wheel Loader Machine Systems, Disassembly and Assembly, Loader Frame from Rear Frame — Separate

Specifications

- Inside diameter: 298 mm (11.73 in)
- Overall length: 736 mm (28.98 in)
- Flag opening: 220 mm (8.66 in)
- Hole for threaded rod: 70 mm (2.76 in)

Part Number	Description
332-7591	Sleeve Assembly

Bearing Puller Plate

Model Usage: 950G and 962G Series II, 950H, 950K II, 962H, 962K II, IT62H

Warranty: Caterpillar® Six Months



- Used to remove both bearing cups and cones from lower and upper hitch articulation joints
- Used with 6V-3160 Double Acting Hydraulic Cylinder and 9U-5345 Fast Runner Nut Assembly (M24 x 3.0)
- Use 428-9314 for lower hitch articulation joint and 428-9315 for upper joint
- Hydraulic removal of bearings is preferred over other methods, such as burning, cutting, or drilling

Specifications

- Threaded hole: M24 x 3.0
- Maximum pulling force: 267 kN (30 tons)
- Outside diameter (428-9314): 136.0 mm (5.35 in)
- Outside diameter (428-9315): 106.0 mm (4.17 in)

Part Number	Description
428-9314	Bearing Puller Plate
428-9315	Bearing Puller Plate

Tools for Tightening Horizontal Hitch Pins

Model Usage: 631, 633, 637, 641, 651, 657, 660 and 666 Tractor-Scrapers

Warranty: Caterpillar® Six Months



- Used with 2P-8285 Arm, 2P-8286 Drive Adapter, 7S-4135 Torque Multiplier, 2P-0853 Ratchet Adapter, and 9S-7351 Torque Wrench to remove and install horizontal hitch pins
- 5P-1663 Extension Wrench discontinued and replaced by 5P-1661 Wrench

Item	Part Number	Description	Size
1	5P-1661	Sledge Wrench	4 1/4 in
2	5P-1662	Socket	4 1/4 in

Ratchet Wrench

Model Usage: AP500F

Warranty: Caterpillar® Six Months



- Allows for manual extender height adjustment of the SE50 Screed
- Fits 27mm hex
- Ratcheting Box End with open end wrench to fit in space constrained area

Part Number	Description
5P-1661	Ratchet Wrench

Puller Plate

Model Usage: See below

Warranty: Caterpillar® Six Months



- Used with hydraulic cylinder of 55 tons or less capacity to remove tubes and glands in truck front suspension groups

Reference

- Service Magazine, January 19, 1981

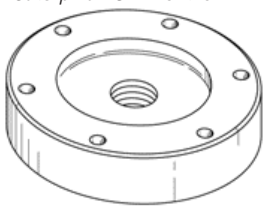
Part Number	Model
6V-3141	776 Tractors and 777 Trucks
6V-3142	768 and 772 Tractors and 769 and 773 Trucks

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Front Suspension Forcing Plates

Model Usage: 735 and 740 Articulated Trucks

Warranty: Caterpillar® Six Months



- Used to separate front suspension "A-frame" from main frame assembly at lower hitch pin
- Used with 5P-5264 Forcing Bolt (sold separately)
- Reduces damage to front suspension and main frame/hitch pin
- Precision machined and heat-treated for long durability
- Threaded hole: 1 1/2-12

Reference

- RENR5140, Service Manual, Front Suspension Remove and Install, Disassembly and Assembly Machine Systems

Part Number	Description	Used On	Serial No. used with
217-5919	Forcing Plate	older 735 and 740 Articulated Trucks	AWR and AXM
439-2598	Forcing Plate	new 735 and 740 Articulated Trucks	B1N00959-up, B1P02709-up, and B1R00360-up

Puller Plate, Bar Assembly

Model Usage: 768, 769, 772, 773's, 776 and 777

Warranty: Caterpillar® Six Months



- Used to separate front suspension struts from steer axle spindles on all Cat® off-highway trucks and tractors; tools for this operation cannot be used on all vehicles
- Eight 1D-4635 Bolts needed when used on 768, 769, 772 and 773s; four 3R-2299 Bolts needed when used on 776 and 777s
- Two 6V-6178 Plates and four 6V-6179 Bar Assemblies used with Cylinder Group to provide heavy-duty tool arrangement with 16.5 kN (150 tons) capacity

Part Number	Description
6V-6178	Puller Plate
6V-6179	Bar Assembly

Pin Puller 2000™

Model Usage: 793F and 797F OHTs

Warranty: Caterpillar® Six Months



- Tool is wedged between rear suspension cylinder and pilots off the opposite pin bore
- Uses 25T cylinder pack to pull suspension pins
- Once pin is pulled, there is no need to remove pin puller from machine. Simply replace suspension cylinder and install pins. Turn the pin puller around and perform same task on opposite side.

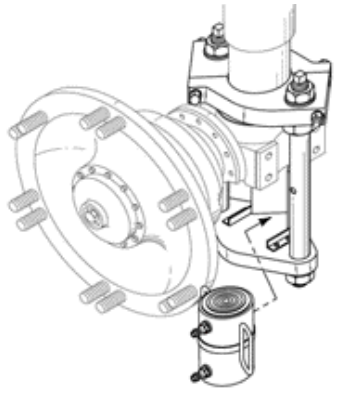
Part No.	Description	Dimensions	Weight
464-8536	Pin Puller 2000™	1436.1 x 521.6 x 270 mm (56.5 x 20.5 x 10.6 inch)	121 kg (266.2 lbs)
Attachments			
464-8537	793F	Includes adapters for both ends of pin puller and rear suspension pin	
464-8538	797F		

Separation Group

Essential Tool

Model Usage: 769D (BBB00069-UP), 771D (BCA00071-UP), 773D, 773E (BDA00073-UP), 775D, 775E (BEC00075-UP) Off-Highway Trucks

Warranty: Caterpillar® Six Months



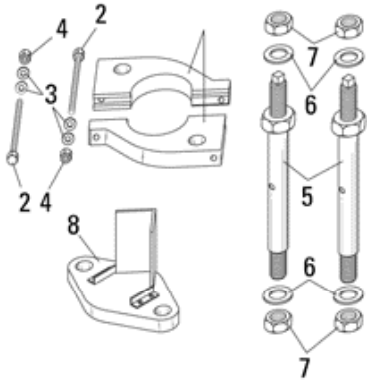
- Used to separate spindle/hub assembly from suspension cylinder rod
- Used with dealer supplied 350-7768 Electric Hydraulic Pump (115 V) or 350-7769 Electric Hydraulic Pump (230 V), 1U-5197 Hydraulic Cylinder (80 Ton Capacity), and two 8F-0024 High-Pressure Hoses or 6D-7726 High-Pressure Hoses
- Separation group consists of 2 interlocking top plates with bolts and nuts, a bottom plate, and 2 threaded rod assemblies with nuts and washers
- Procedure can be done with components on or off-vehicle
- Bottom plate includes a V-shaped retainer plate for positioning and holding hydraulic cylinder during use

References

- NEHS0975 Tool Operating Manual; Using 291-4194 Separation Group to Separate Front Spindle/Hub From Suspension Cylinder Rod
- SENR1422; 769D, 771D Disassembly and Assembly, Front Suspension Cylinders
- SENR1584; 773D, 773E, 775D, and 775E Disassembly and Assembly, Front Wheel, Bearing and Dual Cone Seal — Remove

Description	Qty.	Weight
Top plate	2	27 kg (50 lb)
Bottom plate assembly	1	34 kg (75 lb)
Rod assembly	2	16 kg (35 lb)
Hydraulic cylinder	1	29 kg (63 lb)

Separation Group Parts



Unnumbered Part

Item	Description	Qty
6	Washer	4

Item	Part Number	Description	Qty.
1	291-4196	Top Plate Assembly	1
2	9X-2475	M20 x 2.5 Bolt	2
3	8T-3282	Washer — Hard	4
4	6V-7742	Nut — Full	2
5	291-4195	Rod Assembly	2
7	8C-7328	M48 x 5 Nut	4
8	291-4197	Bottom Plate Assembly	1
Not shown	224-0554	Warning Film	2

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Puller for 789

Model Usage: 789

Warranty: Caterpillar® Six Months

- Used to separate front axle (spindle) from its suspension cylinder strut (similar to 8T-2852 Puller for 785 Off-Highway Trucks)
- Used with 8T-2853 Handle Assembly (2 required) to position puller on bottom of front axle
- Puller weight: 58.7 kg (129 lb)
- Capacity: 6470 kN (727 Ton-Force) for separating strut and spindle connection

Reference

- SENR3404, 789 Truck Vehicle System Disassembly and Assembly Manual
- Support front axle before removing bolts that hold 5T-6303 Plate in position.

Part Number	Description
8T-9205	Puller for 789

WARNING

To avoid possible personal injury from sudden release of the axle from the strut rod or the snapping of a bolt when removing the plate, loosen all bolts in a circular pattern one-half turn. Do this again and again until the torque for the bolts is released.

Front Strut Handling Group

Essential Tool

Model Usage: 769 through 793 Construction Mining Trucks (CMT)

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove, disassemble, assemble, and install front strut
- Provides safe and efficient removal and installation without removing truck fenders
- Can be used as a platform for disassembly and assembly
- Must be matched with appropriate size forklift to handle weight of front strut

References

- SENR2944 (769C), Service Manual
- SENR2964 (773B), Service Manual
- SENR5616 (777C), Service Manual
- SENR5678 (785B), Service Manual
- SENR5687 (789B), Service Manual
- SENR5692 (793B), Service Manual

Specifications

- Working load limit: 6,652 kg (14,667 lb)
- Inside dimension of fork spread: 105 cm (41.5 in)

Part Number	Description
148-0357	Front Strut Handling Group
Group Includes:	
457-5050	Supporting Bracket Group
1D-4709	Hex Head Bolt
5P-8250	Hard Washer

Tool Group (Support Brackets)

Model Usage: 769 through 793 Construction Mining Trucks (CMT)

Warranty: Caterpillar® Six Months



- 457-6050 Tool Group (Support Brackets) is used to repair 148-0357 Tool Group (Front Strut)
- 457-6048 and 457-6049 are not serviced separately

Part Number	Dimensions	Weight
457-6048	794 x 546 mm (31.3 x 21.5 in)	185 mm (7.3 in)
457-6049	794 x 546 mm (31.3 x 21.5 in)	40 mm (1.6 in)
457-6050	–	6.4 kg (14.1 lb)

Cutter Bit Removal Tooling

Model Usage: PR1000, PR750, PR450, PM565 Pavement Profilers; RR/SS250 and RM/SM350 Road Reclaimer/Soil Stabilizer

Warranty: Caterpillar® Six Months



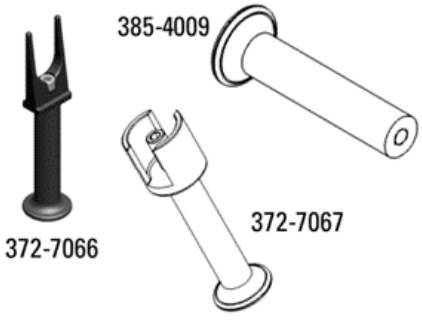
- Used to remove cutter bits on Cat® rotary mills (cold planers) and other similar equipment
- 104-8591 Hammer Punch and 8T-4474 Bit Puller are direct replacement parts for original equipment tools
- Using an air hammer and air hammer punches (8T-4060 and 8T-4340) makes cutter removal even easier and faster
- Air hammer can be operated from machines air system eliminating need for service truck when changing cutters
- Air hammer tools will work on CP-4447-RUTAB or CP-717 Chicago Pneumatic air hammers

Item	Part Number	Description
2	5P-8998	Nipple — Pipe
3	5R-5561	Nipple Assembly
4	9N-9094	Air Hose Assembly
5	104-8591	Hammer Punch
6	8T-4474	Bit Puller

Bit Holder Remover, Installer and Handle

Model Usage: PM200 & PM201 Cold Planers

Warranty: Caterpillar® Six Months



- 372-7066 used to easily remove 241-4559 cutter bit holder from rotor
- 372-7067 used to easily install 241-4559 cutter bit holder on rotor
- Tools constructed of hardened steel with black oxide finish

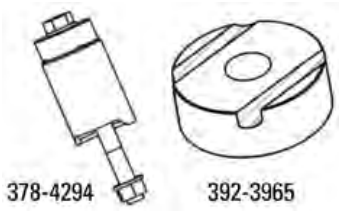
Part Number	Description	Dimensions
372-7066	Bit Holder Removal Tool	267.4 x 155.6 mm (10.53 x 6.13 in)
372-7067	Bit Holder Install Tool	76.2 x 19.1 mm (3.0 x .75 in)
	Service/Repair Parts	
385-4009	Bit Holder Handle	157 x 60 mm (6.2 x 2.4 in)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Bit Extractor Tool, Wedge Removal Tool

Model Usage: PM200 & PM201 Cold Planners

Warranty: Caterpillar® Six Months



- Used to easily remove broken 241-4559 cutter bit holder from rotor

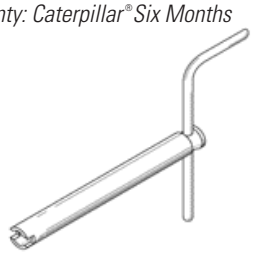
Part Number	Dimensions
378-4294	250.3 x 90 mm (9.9 x 3.5 in)
392-3965	70 x 25.4 mm (2.8 x 1.0 in)

Depth Adjuster

Essential Tool

Model Usage: PC203/4 and PC404 Cold Planer Worktools on Cat Skid Steer Loaders

Warranty: Caterpillar® Six Months



- Used to quickly and easily adjust depth of cut

Reference

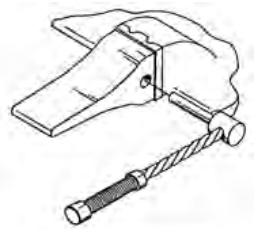
- SEBU7705, Service Manual

Part Number	Description
232-6299	Depth Adjuster

Cable Handled Pin Remover

Model Usage: 5130 Mining Excavators (Front Shovel and Backhoe Styles)

Warranty: Caterpillar® Six Months



- Used to remove FLEXPIN from excavator bucket teeth
- Used with a sledge hammer to remove pin

References

- SENR6058, 5130 Service Manual Module, Disassembly and Assembly
- SEHS9721, Special Instruction, Assembly Procedure for Hydraulic Excavator (5130 only)

Specifications

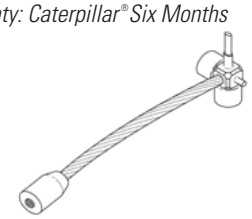
- Overall length: 508 mm (20.0 in)
- Overall height: 257 mm (10.1 in)
- Oval pin size: 25 x 30 mm (1.0 x 1.2 in)

Part Number	Description
1U-7184	Cable Handled Pin Remover

Pin Remover

Model Usage: Medium Wheel Loaders and Excavators or any K Series Tooth System G.E.T.

Warranty: Caterpillar® Six Months



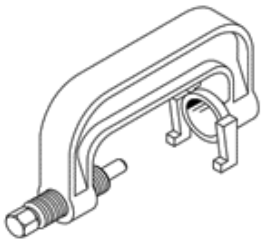
- Used to remove and install "K Series Tooth System" bucket teeth retaining pins
- Used with large hammer (installation) or sledge hammer (removal)
- Easy to hold and wire rope handle reduces shock
- Urethane collars provide larger striking area, prevent damage to striking surface, and absorb shock of hammer blow
- Urethane collars also keep hammer head from sliding off of striking surface

Part Number	Description
229-0287	Pin Remover

Tooth Pin Remover Group (Small Bucket)

Model Usage: J200 thru J450

Warranty: Caterpillar® Six Months



- Used to remove pins as small as 15.5 mm (0.61 in) from bucket teeth
- Used with 8T-3130 Wrench (7/8) — allows removal of teeth as close as 13.2 cm (5.2 in) apart
- Tool loosens pins so they can be removed with pliers
- 2 adapters available for correct alignment; one for J200-J400 Series, another for J450 Series teeth

Reference

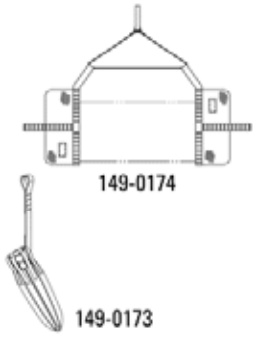
- NEHS0696, Tool Operating Manual

Part Number	Description
149-2872	Tooth Pin Remover Group (Small Bucket)

Fabric Baskets

Model Usage: All Models with Ground Engaging Tools (GET)

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to help remove and install bucket teeth, cutting edges, and adapters
- Must be used with overhead lifting device
- Provides an easy method of moving Ground Engaging Tools (GET) products in and out of service trucks or shop environment
- Non-choker style baskets must be used in pairs (securely holds cutting edge)
- Suitable nylon strap (sold separately) must be used with 149-0174

References

- NEHS0700, Tool Operating Manual, Using the Choker Style Fabric Basket to Install and Remove Bucket Teeth
- NEHS0701, Tool Operating Manual, Using Non-Choker Style Fabric Baskets to Install Bucket or Blade Cutting Edges

Part Number	Description	Maximum Capacity	Maximum Length	Weight Capacity
149-0173	Choker Style Fabric Basket	260 mm (10.2 in) square	450 mm (17.7 in)	104 kg (229 lb)
149-0174	Non-Choker Style Fabric Basket	63.5 x 419 mm (2.5 x 16.5 in)	200 mm (7.9 in)	125 kg (276 lb)

Shroud Position and Adapter Position Gauge Assembly

Model Usage: 7495, 7495HD, 7495HF, 495HRZ, 495HD, 495HFZ Electric Rope Shovels (ERS)

Warranty: Manufacturer's



399-5769

399-5770



- Used to fit gauge up to bucket revealing worn area to determine rebuild, repair or replace options prior to replacing teeth adapters
- Used to locate weld on lip shroud mounting boss (398-3027)
- Reduces chance of premature failure of bucket
- Work areas and position tooth adapters easily visible

Part Number	Description
399-5769	Shroud Position Gauge Assembly (Whisler 12)
399-5770	Adapter Position Gauge Assembly (Whisler 12)

Pry Bar

Model Usage: Wheel Loaders, Track -Type Loaders, Excavators, and Backhoe Loaders

Warranty: Caterpillar® Six Months



- Used to remove and install retainers on K-series hammerless bucket teeth
- Ergonomic handle reduces hand fatigue
- Long-life finish resists rust and wear

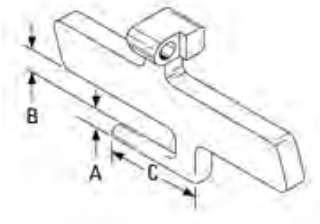
Part Number	Description
263-0039	Pry Bar

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Tooth Pin Remover

Model Usage: 416, 420, and 430 Backhoe Loaders and All Models with Diagonal Retention System Pins

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install flex pins from bucket teeth in a matter of minutes
- Quick and easy (recommended over punch and hammer method)
- Works on Caterpillar® Diagonal Retention System (DRS) with 1-piece flex pins
- Also works on "23 Series" forged or cast teeth with horizontal flex pin retention
- Small enough to store in mechanic's toolbox

Part Number	Description
207-0631	Tooth Pin Remover

Compression Retainer Pry Bar

Essential Tool

Model Usage: 990, 992, 998 Wheel Loader; 345, 350, 375 Excavator; 5080 Mining Shovel

Warranty: Caterpillar® Six Months



- Used to install and remove bucket tip spring retainers
- Eliminates use of hammers or other devices normally used for conventional pin removal (using other tools could cause personal injury)
- Cut out end is used to remove plug and cap
- Makes removal faster and easier
- Flat end is used to compress retainer which allows for removal

References

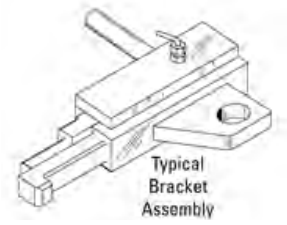
- PEXT8026, New Caterpillar Compression Retainer and Tip System
- PEXT9034, Compression Retaining System (CD-ROM)

Part Number	Description
175-0138	Compression Retainer Pry Bar

Cutting Edge Handling Bracket Assemblies

Model Usage: Machines with Cutting Edges having Rectangular Holes

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to lift cutting edges with rectangular mounting holes
- Easy and quick attachment to cutting edge
- Adjusts to different hole sizes
- Provides positive locking

Part Number	Rectangular Hole Size	Maximum Weight Limit
152-2025	15.7, 19.1, and 22.1 mm (5/8, 3/4, and 7/8 in)	270 kg (595.25 lb)
152-2026	25.4 and 31.8 mm (1 and 1 1/4 in)	392 kg (864.21 lb)

Puller for 785

Model Usage: 785

Warranty: Caterpillar® Six Months



Puller with Handle Assembly

- Used to separate front suspension strut from front axle (spindle)
- Used with 8T-2853 Handle Assembly (2 required) to position 8T-2852 Puller on bottom of front axle; install 6 bolts spaced evenly around puller to hold it to front axle
- Puller ton-force capability: 654 tons

Reference

- SENR4020, 785 Truck Vehicle Systems Disassembly and Assembly Manual
- Support front axle before removing bolt that holds 6G-6534 Plate in position.

Part Number	Description
8T-2852	Puller for 785

WARNING

To avoid possible personal injury from sudden release of the axle from the strut rod or the snapping of a bolt when removing plate, loosen all bolts in a circular pattern one-half turn. Do this again and again until the torque for the bolts is released.

Puller Plate

Model Usage: 789 and 793 Off-Highway Trucks

Warranty: Caterpillar® Six Months



Puller with Handle Assembly

- Required for front axle removal on 793 Off-Highway Truck
- Used to separate front axle from front strut (two 8T-2853 Handles may be used with puller plate to help position it to bottom of front axle)
- Similar to 8T-2852 Puller and 8T-9205 Puller used on 785 and 789 Off-Highway Trucks
- Support the front axle before removing the bolts that hold the 8X-2608 Plate in position.

References

- SENR4917, (793 Truck) SEN3404, (789 Truck) Vehicle System Disassembly and Assembly

Specifications

- Diameter: 445 mm (17.5 in)
- Thickness: 130 mm (5.1 in)
- Weight: 68 kg (150 lb)
- Hardness: Rockwell C 42-47

Part Number	Description
9U-5613	Puller Plate

WARNING

To avoid possible personal injury from sudden release of the axle from the strut rod or the snapping of a bolt when removing the plate, loosen all bolts in a circular pattern one-half turn. Do this again and again until the torque for the bolts is released.

Pusher Plate

Essential Tool

Model Usage: 793D Extended-Life Off-Highway Truck, FDB1-Up

Warranty: Caterpillar® Six Months



- Used to separate front axle from front suspension cylinder
- Required for front axle removal
- Similar to 9U-5613 Puller Plate, but utilizes larger bolt diameter and front axle keyway clearance
- Heat treated to C42-47 for durability
- Weight: 70 kg (154.4 lb)

Reference

- RENR8332, Disassembly and Assembly, 793D Extended-Life Off-Highway Truck, Machine Systems, Spindle (Front) Remove
- Support the front axle before removing the bolts that hold the 183-9580 Steering Arm in Position.

Part Number	Description
283-0811	Pusher Plate

WARNING

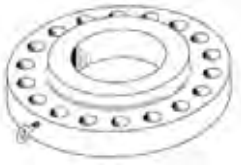
To avoid possible personal injury from sudden release of the axle from the strut rod, or the snapping of a bolt when removing the plate, loosen all bolts in a circular pattern one-half turn. Do this again and again until the torque for the bolts is released.

Puller Plate

Essential Tool

Model Usage: 797 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to separate front axle from suspension strut rod
- Can be used with a hoist attached to two 1/2-13 eye bolts
- Attaches to rod with eighteen 7Y-5245 Hex Head Bolts and 9X-8259 Flat Hard Washers
- Heat-treated for added strength and durability
- Eye bolts not included

Specifications

- Outside diameter: 533 mm (21.0 in)
- Overall thickness: 115 mm (4.5 in)
- Bolt hole circle dimension: 445 mm (17.5 in)
- 7Y-5245: M36 x 4.0, 150.0 mm (5.9 in) long
- 9X-8259: M36

Part Number	Description
160-5493	Puller Plate

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Hitch Pin Sprocket Wrench

Model Usage: 651E and 657E Tractor Scrapers

Warranty: Caterpillar® Six Months



- Used for removing or installing 5P-9093 Hex Nut (5 3/8 inch) securing horizontal hitch pin; hitch pin size increased to 3 1/2 inch-12-2B thd and 5 3/8 inch hex nut size on 651E and 657E Series Tractor Scrapers from 4 1/4 inch hex size on 651B and 657B Series
- 2 wrenches required for various stages of tractor and hitch assembly

Part Number	Description
6V-9080	Hitch Pin Sprocket Wrench

Cylinder Spanner Wrench

Model Usage: Articulated Trucks D25C, D30C, D25D, D30D, D350D, D35C, D35MP, D40D, D400D, D350C, D400

Warranty: Caterpillar® Six Months



- Used to disassemble and assemble cylinder pistons from rods on suspension cylinders on articulated trucks
- Is more versatile, faster and safer than universal-type spanners
- Designed to perform without damaging or scratching piston OD or rod
- Services 4 different pistons — more economical than 4 separate tools
- Has 1 1/4 inch hex for use with 1 1/4 inch socket and torquing tool

Reference

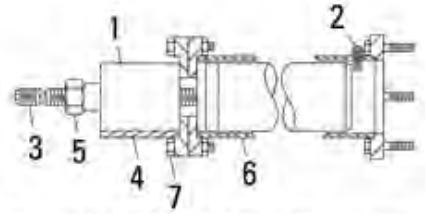
- SENR8203, Service Manual, Vehicle Systems Disassembly and Assembly (D400D)

Part Number	Description
9U-5131	Cylinder Spanner Wrench

Mining Excavator Pin Removal/Installation Tooling (5130)

Model Usage: 5130 Mining Excavators (Front Shovel and Backhoe Styles)

Warranty: Caterpillar® Six Months



Pin Pullers

- Used to remove and install boom-to-frame pin, stick-to-boom pin, bucket-to-stick pin, and all related cylinder pins — tooling is essential to properly handle large pins without damage
- Used with general tooling listed below in "General Tooling Used for All Pins"
- A locking stud is designed into each pin installer to lock pin inside installer (essential when working overhead)
- Each pin installer should be fitted with the correct cradle assembly to hold hydraulic cylinder in place

Threaded Puller Rods and Fast Runner Nuts

- Threaded rods, in various lengths, used to pull pins into or out of pin bore
- Fast runner nuts are used with threaded rod to make removal of pins faster and easier
- Puller rods screw into threaded hole in pin

References

- SENR6058, 5130 Service Manual Module, Disassembly and Assembly
- SENR1472, 5130B Service Manual Module, Disassembly and Assembly
- SEHS9721, Special Instruction, Assembly Procedure for Hydraulic Excavator (5130 only)

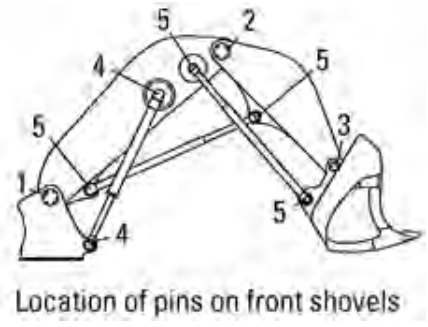
Item	Description
1	Hydraulic Cylinder
2	Square Head Setscrew (Locking Stud)
3	Threaded Puller Rod
4	Cradle Assembly
5	Fast Runner Nut
6	Pin Installer
7	Bolt Washer Nut

5130 Pin Driver Caps



- 2 sizes of pin driver caps are available to protect ends from "mushrooming"
- When installed, the caps can be hit with sledge hammer to drive pins into bore
- Used only when hydraulic force is not required

5130 Front Shovel Tooling Usage



Location of pins on front shovels

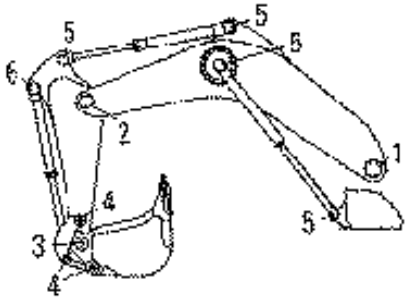
Item	Description
1	Boom-to-Swing Frame Pin
2	Stick-to-Boom Pin
3	Bucket Pin
4	Cylinder Pins
5	Cylinder Pins

Removal/Installation

Part Number	Description
Pin No. 1 (Boom-to-Swing Frame)	
4C-9544	Pin Driver Cap (installation only)
Pin No. 3 (Bucket Pin)	
9U-6792	Puller Assembly — Pin
Pin No. 4 (Cylinder Pin)	
4C-9544	Pin Driver Cap (installation only)
9U-6706	Puller Assembly (Cylinder Pins)
Pin No. 5 (Cylinder Pin)	
9U-6706	Puller Assembly (Cylinder Pins)
9U-6758	Pin Driver Cap (installation only)
9U-6814	Stud — Puller (M48 x 5)
9U-6903	Nut — Speed (M48)

5130 Mass Excavator Tooling Usage

Warranty: Caterpillar® Six Months



Location of pins on front shovels

Item	Description
1	Boom-to-Swing Frame Pin
2	Stick-to-Boom Pin
3	Bucket Pin
4	Bucket Pin
5	Cylinder Pins
6	Cylinder Pins

Removal/Installation

Part Number	Description
4C-9544 (Pin No. 1 (Boom-to-Swing Frame))	Pin Driver Cap (installation only)
9U-6792 (Pin No. 3 (Bucket Pin))	Puller Assembly — Pin
4C-9544 (Pin No. 4 (Bucket Pin))	Pin Driver Cap (installation only)
9U-6792 (Pin No. 4 (Bucket Pin))	Puller Assembly — Pin
Pin No. 5 (Cylinder Pin)	
4C-9544	Pin Driver Cap (installation only)
9U-6706	Puller Assembly (Cylinder Pins)
Pin No. 6 (Cylinder Pin)	
9U-6706	Puller Assembly (Cylinder Pins)
9U-6758	Pin Driver Cap (installation only)
9U-6814	Stud — Puller (M48 x 5)
9U-6903	Nut — Speed (M48)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

General Tooling

General Tooling Used for All Pins

Part Number	Description
350-7768	Pump Group — Hydraulic (115V)
6D-7726	Hydraulic Hose (2)
350-7769	Pump Grp — Hydraulic (230V)
9U-6702	Rod Assembly - Threaded
9U-6800	Nut - Speed (M64)

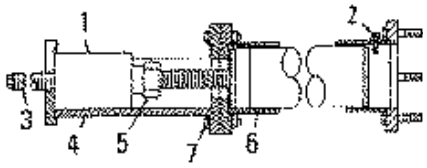
5130 Part Specifications

Part No.	Description	Max. Pin Diameter	Max. Pin Length	Max. Rod Diameter	Max. Capacity	Thread Size	Length	Diameter	Use
General Tooling Used for All Pins									
4C-8150	Rod Assembly — Threaded	—	—	—	136 t (150 tons)	M64 x 6	1.8 m (6.0 ft)	—	Used to remove and install pins
4C-9544	Pin Driver Cap (installation only)	—	—	—	—	M64 x 6	70 mm (2.8 in)	127 mm (5.0 in)	Used to install pins when using sledge hammer
9U-6702	Rod Assembly — Threaded	—	—	—	136 t (150 tons)	M64 x 6	2.6 m (8.5 ft)	—	Used to remove and install pins
9U-6706	Puller Assembly (Cylinder Pins)	182 mm (7.2 in)	440 mm (17.3 in)	82 mm (3.2 in)	136 t (150 tons)	—	—	—	Used to remove cylinder pins
9U-6758	Pin Driver Cap (installation only)	—	—	—	—	M48 x 5.0	77 mm (3.0 in)	101 mm (4.0 in)	Used to install pins when using sledge hammer
9U-6792	Puller Assembly — Pin	228 mm (9.0 in)	1825 mm (71.9 in)	82 mm (3.2 in)	136 t (150 tons)	—	—	—	Holds pin during removal (hydraulic cylinder cradle assembly part of 9U-6792) and during installation
9U-6800	Nut — Speed (M64)	—	—	—	—	M64 x 6	—	—	Used with threaded puller rods to remove and install pins
9U-6814	Stud — Puller (M48 x 5)	—	—	—	90 t (100 tons)	M48 x 5.0	0.9 m (3.0 ft)	—	Used to remove and install pins
9U-6815	Puller Stud (M48) 62 in	—	—	—	90 t (100 tons)	M48 x 5	1.5 m 5.0 ft)	—	Used to remove and install pins
9U-6903	Nut — Speed (M48)	—	—	—	—	M48 x 5	—	—	Used with threaded puller rods to remove and install pins

Mining Excavator Pin Removal/Installation Tooling (5230)

Model Usage: 5230 Mining Excavators (Front Shovel)

Warranty: Caterpillar® Six Months



Typical pin installer and cradle assembly

Pin Pullers

- Used to remove and install boom-to-frame pin, stick-to-boom pin, bucket-to-stick pin, and all related cylinder pins (tooling is essential to properly handle large pins without damage)
- Used with general tooling listed in "General Tooling Used for All Pins"
- A locking stud is designed into each pin installer to lock pin inside installer (essential when working overhead)
- Each pin installer should be fitted with the correct cradle assembly to hold hydraulic cylinder in place

Threaded Puller Rods and Fast Runner Nuts

- Threaded rods, in various lengths, used to pull pins into or out of pin bore
- Fast runner nuts are used with threaded rod to make removal of pins faster and easier
- Rods screw into threaded hole in each pin

Reference

- SENR6108, 5230 Service Manual Module, Disassembly and Assembly

Item	Description
1	Hydraulic Cylinder
2	Square Head Setscrew (Locking Stud)
3	Threaded Puller Rod
4	Cradle Assembly
5	Fast Runner Nut
6	Pin Installer
7	Bolt

Part Number	Description
6V-8237	Hard Washer
8T-4001	Nut

5230 Pin Driver Caps

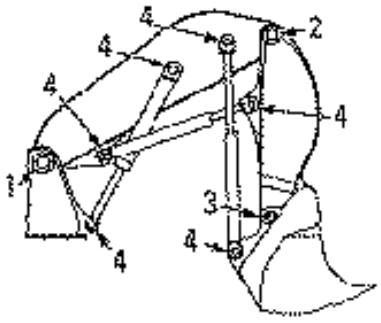


- 2 sizes of pin driver caps are available to protect ends of pin (keeps pin from mushrooming at the ends)
- Used only when hydraulic force is not required to install pins
- When installed, the caps can be hit with sledge hammer to drive pins into bore (used for installation only)

Part Number	Description	Qty.
350-7768	Pump Group — Hydraulic (115V)	1
6D-7726	Hydraulic Hose (2)	2
350-7769	Pump Grp — Hydraulic (230V)	1
9U-6702	Rod Assembly — Threaded	1
9U-6800	Nut — Speed (M64)	2

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

5230 Front Shovel Tooling Usage



location of pins

Item	Description
4	Cylinder Pins

Removal/Installation

Part Number	Description
Pin No. 4 (Cylinder Pin)	
4C-9544	Pin Driver Cap (installation only)
9U-6814	Stud — Puller (M48 x 5)

5230 Part Specifications

Warranty: Caterpillar® Six Months

General Tooling Used for All Pins

Part No.	Description	Max. Pin Diameter	Max. Pin Length	Max. Rod Diameter	Capacity (Tons)	Thread Size	Length	Diameter	Use
4C-8150	Rod Assembly — Threaded	—	1829 mm (72.01 in)	—	136 t (150 tons)	M64 x 6	1.8 m (6.0 ft)	—	Used to remove and install pins
4C-9544	Pin Driver Cap (installation only)	—	—	127 mm (5 in)	—	M64 x 6	70 mm (2.8 in)	101 mm (4.0 in)	Used to install pins when using sledge hammer
9U-6702	Rod Assembly — Threaded	—	2616 mm (102.99 in)	—	136 t (150 tons)	M64 x 6	2.6 m (8.5 ft)	—	Used to remove and install pins
9U-6800	Nut — Speed (M64)	—	—	—	—	M64 x 6	—	—	Used with threaded puller rods to remove and install pins

Mining Excavator Pin Removal/Installation Tooling (5230B)

Model Usage: 5230B Mining Excavators

Warranty: Caterpillar® Six Months



Pin Pullers

- Used to remove and install boom-to-frame pin, stick-to-boom pin, bucket-to-stick pin, and all related cylinder pins (tooling is essential to properly handle large pins without damage)
- Used with general tooling listed in General Tooling Used for All Pins
- A locking stud is designed into each pin installer to lock pin inside installer (essential when working overhead)
- Each pin installer should be fitted with the correct cradle assembly to hold hydraulic cylinder in place

Threaded Puller Rods and Fast Runner Nuts

- Threaded rods, in various lengths, used to pull pins into or out of pin bore
- Fast runner nuts are used with threaded rod to make removal of pins faster and easier
- Rods screw into threaded hole in each pin

Pin Driver Caps

- 2 sizes of pin driver caps are available to protect ends of pin (keeps pin from mushrooming at the ends)
- When installed, the caps can be hit with sledge hammer to drive pins into bore (used for installation only)
- Used only when hydraulic force is not required to install pins

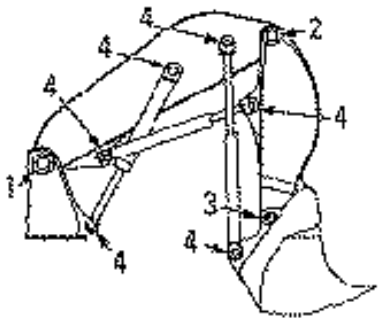
Reference

- RENR3379, Service Manual

Part Number	Description	Qty.
	General Tooling Used for All Pins	
350-7768	Pump Group — Hydraulic (115V)	1
4C-8152	Retaining Plate	1
4C-9544	Pin Driver Cap (installation only)	1
350-7769	Pump Grp — Hydraulic (230V)	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2
	Requires the following	
135-2532	Bushing	2
135-2533	Street Elbow	1
1P-2376	Coupler Assembly Quick Connective (Female) (2)	2
1P-2377	Plug As — Dust	2
6D-7726	Hydraulic Hose (2)	2
8T-0820	Standard Pressure Gauge	1

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

5230B Front Shovel Tooling Usage

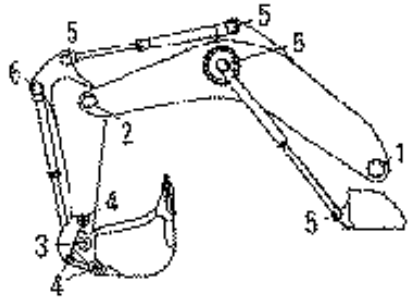


Location of pins

Item	Description
1	Boom-to-Swing Frame Pin
2	Stick-to-Boom Pin
4	Cylinder Pins

Part Number	Description
Pin No. 1	
9U-6702	Rod Assembly — Threaded
Pin No. 2 and 4	
9U-6702	Rod Assembly — Threaded

5230B Mass Excavator Tooling Usage



Location of pins on front shovels

Item	Description
1	Boom-to-Swing Frame Pin
2	Stick-to-Boom Pin
3	Bucket Pin
4	Bucket Pin
5	Cylinder Pins
6	Cylinder Pins

Part Number	Description
Pin No. 1 and 2	
9U-6702	Rod Assembly — Threaded
Pin No. 3, 4, 5 and 6	
9U-6702	Rod Assembly — Threaded

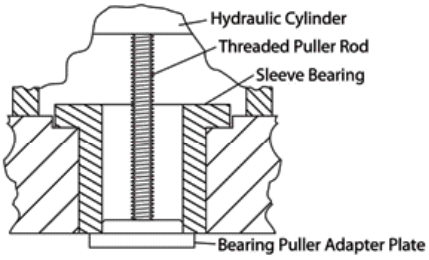
5230B Part Specifications

Part No.	Description	Max. Pin Diameter	Max. Length	Max. Diameter	Max. Capacity (Tons)	Thread Size	Length	Diameter	Use
1 Requires the following									
4C-9544	Pin Driver Cap (installation only)	—	—	127 mm (5 in)	—	M64 x 6	70 mm (2.8 in)	101 mm (4.0 in)	Used to install pins when using sledge hammer
9U-6702	Rod Assembly — Threaded	—	2616 mm (102.99 in)	—	136 t (150 tons)	M64 x 6	2.6 m (8.5 ft)	—	Used to remove and install pins
9U-6800	Nut — Speed (M64)	—	—	—	—	M64 x 6	—	—	Used with threaded puller rods to remove and install pins
9U-6814	Stud — Puller (M48 x 5)	—	920 mm (.22 in)	—	90 t (100 tons)	M48 x 5.0	0.9 m (3.0 ft)	—	Used to remove and install pins

Bearing Puller Adapter

Model Usage: 300 and M300 Series Excavators; 5000 Series Mining Excavators (Front Shovel and Backhoe Styles)

Warranty: Caterpillar® Six Months



Installation of Bearing Sleeve Tooling on Stick Assembly

- Used to remove sleeve bearings from boom and stick — essential to remove bearing sleeves used on 300, M300, and 5000 Series Excavators
- Also used to pull any bearing with appropriate size inside diameter
- Bearing puller adapters allow easy removal of sleeve bearings and reduce chance of damage to bearing bore
- Sides are cut away to allow adapter to be put through bearing in a sideways position and then turned up to engage against backside of bearing
- A 1 1/4 inch hardened washer must be used when using 1 1/4-12 threaded puller rods and 7H-7539 Nut

References

- 5000 Series Excavator Service Manual Module, Disassembly and Assembly 00 Series Excavator Service Manual Module, Disassembly and Assembly
- M300 Series Excavator Service Manual Module, Disassembly and Assembly
- SEHS9721, Special Instruction, Assembly Procedure for Hydraulic Excavator (5130 Excavator only)

Used with the following tooling when adapter plate has M64 threaded holes

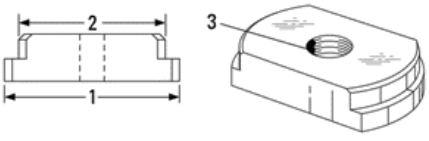
Part Number	Description
Not Listed	Hydraulic Cylinder

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Bearing Puller Adapters (Continued)

Part Number	Description
Used with the following tooling when adapter plate has M64 threaded holes	
350-7768	Pump Group — Hydraulic (115V)
6D-7726	Hydraulic Hose (2)
350-7769	Pump Grp — Hydraulic (230V)
9U-6800	Nut — Speed (M64)
Used with the following tooling when adapter plate has 1 1/4-12 threaded holes	
350-7768	Pump Group — Hydraulic (115V)
4K-0684	Hardened Washer
6D-7726	Hydraulic Hose (2)
6V-3175	Hydraulic Cylinder
7H-7539	Nut — Full, 1 1/4 - 12
350-7769	Pump Grp — Hydraulic (230V)
9U-6832	Speed Nut

Bearing Puller Adapter Specifications



Part Number	Description	Bearing I.D.	Adapter OD (Item 1)	Adapter OD (Item 2)	Threaded Hole (Item 3)
Used with the following tooling when adapter plate has 1 1/4-12 threaded holes					
123-3804	Bearing Puller Adapter	60.0 (2.36)	70.0 (2.76)	59.0 (2.32)	1 1/4 -12
1U-6217	Bearing Puller Adapter	160.0 (6.30)	185.4 (7.30)	159.0 (6.26)	1 1/4 -12
231-4349	Bearing Puller Adapter	65.0 (2.56)	75.0 (2.95)	64.0 (2.52)	1 1/4 -12
246-2386	Bearing Puller Adapter	120.0 (4.72)	137.0 (5.39)	119.0 (4.69)	1 1/4 -12
284-2368	Bearing Puller Adapter	100.5 (3.96)	115.0 (4.53)	99.5 (3.92)	1 1/4 -12
9U-5336	Bearing Puller Adapter	70.0 (2.76)	81.0 (3.19)	69.0 (2.72)	1 1/4 -12
9U-5337	Bearing Puller Adapter	80.0 (3.15)	91.0 (3.58)	79.0 (3.11)	1 1/4 -12
9U-5338	Bearing Puller Adapter	90.0 (3.54)	102.0 (4.02)	89.0 (3.50)	1 1/4 -12
9U-5339	Bearing Puller Adapter	100.0 (3.94)	112.0 (4.41)	99.0 (3.90)	1 1/4 -12
9U-6227	Bearing Puller Adapter	110.0 (4.33)	126.0 (4.96)	109.0 (4.29)	1 1/4 -12
9U-6260	Bearing Puller Adapter	130.0 (5.12)	150.0 (5.91)	129.0 (5.08)	1 1/4 -12
9U-6261	Bearing Puller Adapter	140.0 (5.51)	160.00 (6.30)	139.0 (5.47)	1 1/4 -12
9U-6904	Bearing Puller Adapter	200.0 (7.87)	225.4 (8.87)	199.0 (7.83)	M64 x 6
9U-6906	Bearing Puller Adapter	220.0 (8.66)	245.4 (9.66)	219.0 (8.62)	M64 x 6
9U-6907	Bearing Puller Adapter	120.0 (4.72)	145.4 (5.72)	119.0 (4.69)	1 1/4 -12

Bearing Puller Adapter

Essential Tool

Model Usage: 539 Knuckleboom Loader

Warranty: Caterpillar® Six Months



- Used to remove 162-6471 Bushings
- Used with 4C-9634 Stud Puller, 9U-8632 Fast Runner Nut and 316-1489 Cylinder Group
- Bearing inside diameter: 89.2 mm (3.51 in)
- Adapter outside diameter: 87.4 mm (3.44 in)

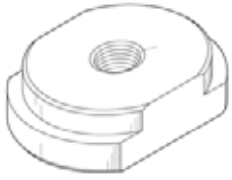
Part Number	Description
185-5852	Bearing Puller Adapter

Bearing Puller Adapter

Essential Tool

Model Usage: 330D Hydraulic Excavator

Warranty: Caterpillar® Six Months



- Used to remove stick nose sleeve bearings
- Heat-treated for added durability
- Used with 316-1489 Cylinder Group and 4C-9634 Puller Stud

Reference

- RENR8648, 330D Disassembly and Assembly Machine Systems

Specifications

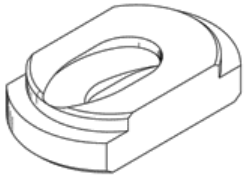
- Thread: 1 1/4-12
- Small outside diameter: 99.5 mm (3.92 in)
- Large outside diameter: 115.0 mm (4.53 in)

Part Number	Description
284-2368	Bearing Puller Adapter

Bearing Puller Plate (988G)

Model Usage: 988G Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove sleeve bearings from Y and K pin locations
- Bearing puller adapter has center swivel point for easy installation
- Heat-treated for added durability

Specifications

- Inside diameter: 180 mm (7.1 in)
- Overall outside diameter: 188 mm (7.4 in)
- Small outside diameter: 156 mm (6.1 in)

Part Number	Description
185-3542	Bearing Puller Plate (988G)

Sleeve Assembly, Bearing Puller Plate

Model Usage: 988K Wheel Loader

Warranty: Caterpillar® Six Months



- Used to remove the two bearing cups and the two bearing cones from the bore in the lower hitch pin assembly
- Requires additional tooling:
  - 350-7768 (115V) Electric Hydraulic Pump or 350-7769 (230V) Electric Hydraulic Pump
  - 9U-6814 Puller Stud
  - 9U-6810 Nut
  - 316-1491 or 6V-0014 Hydraulic Cylinder
  - 8T-1158 Bolt

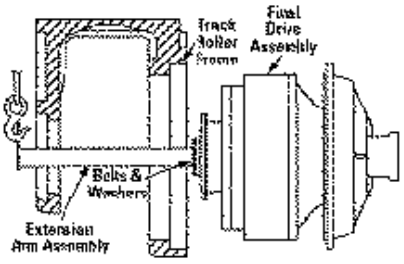
Part No.	Description	Diameter	Length	Weight
452-0331	Sleeve Assembly	265 mm (10.4 in)	425.5 mm (16.8 in)	40 kg (88.2 lb)
451-4588	Bearing Puller Plate	185 mm (7.3 in)	40 mm (1.6 in)	6.4 kg (14.1 lb)
454-6245	Bearing Puller Plate	208 mm (8.2 in)	40 mm (1.6 in)	8.5 kg (18.7 lb)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Extension Assembly Arm

Model Usage: 5230 Mining Excavators (Front Shovel)

Warranty: Caterpillar® Six Months



- Used to remove and install final drive assembly into track roller frame
- Used with overhead hoist or equivalent to lift extension arm and final drive assembly
- Extension arm is essential to correctly and quickly install the final drive — final drive assembly must be held horizontal to allow final drive installation due to close tolerances between mounting diameters and track roller frame bores
- Bolts directly onto final drive with standard metric bolts
- Extra mounting holes allow final drive to be rotated to any desired angle (30° increments) during installation — helps to align final drive mounting holes for assembly
- Bolts and washers are required to mount extension to final drive — 6V-3532 Bolt (M20 x 60 mm long) and 8T-3282 Washer
- Overall length: 1168 mm (46.0 in)
- Approximate weight: 49.8 kg (110 lb)

Reference

- SENR6108, 5230 Service Manual Module, Disassembly and Assembly

Part Number	Description
4C-9695	Extension Assembly Arm

Strap Wrench

Model Usage: SE60 Screed

Warranty: Manufacturer's



- Used to tighten wiring harness MS type connectors before applying lock wire

Specifications

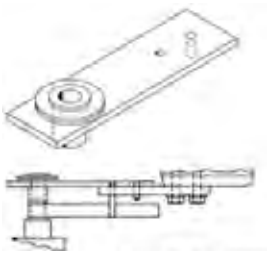
- Length: 165 mm (6.5 in)
- Square Drive: 9.5 mm (3/8 in)
- Weight: .11 kg (.25 lb)

Part Number	Description
459-0233	Strap Wrench

Articulation Sending Unit Alignment Gauge

Model Usage: All H Series Motor Graders

Warranty: Caterpillar® Six Months



- Used to make sure 3E-5383 Articulation Sending Unit matches actual position of vehicles articulation (if sensor is not aligned properly, operators display for articulation in cab will be incorrect)
- Alignment gauge is required to realign replacement sensors, or if sensor moved for any reason such as work to, or around articulation joint area
- Allows quick and accurate positioning of sensor relative to 2 fixed points on machine
- Sensor is properly positioned when bushing, pin, and hole are all aligned
- Overall size: 25.0 x 89.0 x 16.0 mm (0.10 x 3.50 x 0.63 in)

Reference

- Service Manual Module

Part Number	Description
127-8073	Articulation Sending Unit Alignment Gauge

Adapter

Model Usage: Challenger 35, 45 and 55

Warranty: Caterpillar® Six Months



- Used to provide connection to pump when checking servo up-stroke pressure from inside port (there is insufficient clearance to attach pressure gauge onto top of pump)
- Uses quick disconnect end to easily and quickly attach pressure gauge
- Threads into port on top of steering pump
- Thread specification: M8 x 1
- Angle: 90°

Reference

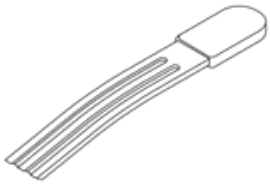
- SENR8300 Service Manual

Part Number	Description
1U-9099	Adapter

Hand Brake Tool

Model Usage: Challenger 35, 45 and 55

Warranty: Caterpillar® Six Months



- Used to separate brake friction plates (makes it possible to separate and insert brake pads into friction plates)
- Makes a difficult installation procedure quick and easy
- Tool is angled to allow parking brake to be almost completely installed before tool is removed
- Rubber coated handle makes it easy to hold
- With parking brake unit removed, tool is easily installed to separate discs
- Once brake pads are between friction plates, tool can be easily removed and parking brake can be mounted to housing
- Overall length: 218 mm (8.6 in)

Reference

- SENR8300 Service Manual

Part Number	Description
1U-9067	Hand Brake Tool

PTO Component Tools

Model Usage: Challenger 35, 45 and 55

Warranty: Caterpillar® Six Months



- Used to remove, install, assemble, and disassemble components of PTO

137-3482 PTO Installer

- Used to install 112-8695 Seal for PTO output shaft and 112-8436 Seal for rock shaft
- Handle can be attached to installer and seals are then driven into place
- Installer provides additional protection to seal during installation

Reference

- SENR8300 Service Manual

Specifications

- 137-3482 PTO Installer:
  - Outside diameter: 92.0 mm (3.62 in)
  - Pilot diameter: 74.3 mm (2.93 in)
  - Diameter of center hole: 6.63 mm (0.26 in)

Part Number	Description
137-3482	PTO Installer
1U-9066	PTO Hub Puller

PTO Hub Puller



1U-9066 PTO Hub Puller

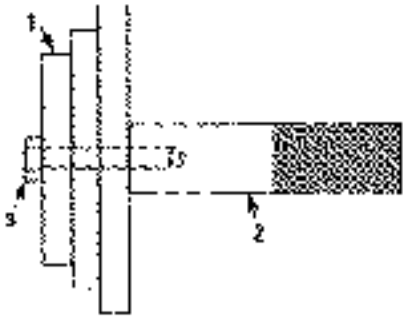
- Used to remove PTO clutch housing assembly (hub)
- Used with 8B-7548 Push/Puller Group

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Bearing Driver Plate

Model Usage: 785B, 789B, and 793B Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to install bearings without damage
- Has 2 different pilots (1 for 8X-8654 Bearing used on 789B and 793B Off-Highway Trucks); 1 for 7I-5494 Bearing used on 785B Off-Highway Trucks)
- Used with either 1P-0531 Handle or 1P-0532 Handle and 4L-7124 Bolt (handles and bolt part of 1P-0520 Driver Group)
- Driver plate heat-treated for durability

Reference

- SENR5678, 785B Vehicle Systems Disassembly and Assembly
- SENR5687, 789B Vehicle Systems Disassembly and Assembly
- SENR5692, 793B Vehicle Systems Disassembly and Assembly

Specifications

- Outside diameter: 139.7 mm (5.50 in)
- Thickness: 19.05 mm (0.750 in)
- Pilot diameters: 114.0 mm (4.49 in) and 126.7 mm (4.99 in)
- Attachment to handle: 4L-7124 Bolt, 1/4 in x 20 x 1 1/4 in
- Heat treat: Rockwell C 32-38

Item	Part No.	Description
1	9U-7412	Bearing Driver Plate
		Not included
2	1P-0531	Handle (Part of 1P-0520 Driver Group)
2	1P-0532	Handle (Part of 1P-0520 Driver Group)
3	4L-7124	Bolt — Hex Socket Head (Part of 1P-0520 Driver Group)

Rear Stand Group

Model Usage: Challenger 35, 45 and 55

Warranty: Caterpillar® Six Months



1U-9073
(two required)

- Used when splitting tractor to remove transmission or other driveline components
- Bolts directly to frame using counterweight bolt holes
- Support can be adjusted for height

1U-9073 Rear Stand Group

- Rear supports bolt on with 0S-1626 Bolts and 2J-3506 Nuts — front support uses counterweight mounting bolts

Reference

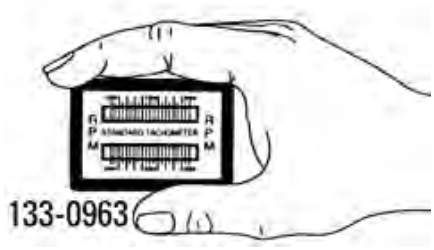
- SENR8300 Service Manual

Item	Part Number	Description
2	1A-1935	Nut
3	5F-7366	Screw — Forcing
5	5F-7353	Thrust Washer

Decal

Model Usage: All Vibratory Compactors

Warranty: Caterpillar® Six Months



133-0963 Hand Held Tachometer

- Check vibrations per minute by simply placing the unit on a vibrating drum and reading the measurement (If vibration is too great to obtain a reading, simply place your hand on the drum and then place the tachometer on top of your hand. This will dampen the vibration, but still provide an accurate reading.)
- Small, lightweight, hand-held, and easily carried into the field
- Completely sealed against contamination in normal working environments
- Readings can be extrapolated to one-quarter increments (for example, 12 VPM/25 VPM

Reference

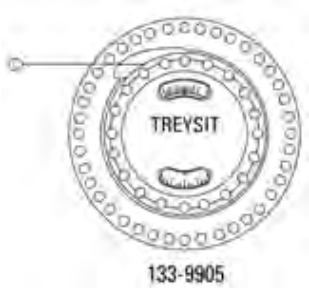
- Instructions for using the 133-0963 Drum Vibration Tachometer and the 133-9905 Frequency Meter are included with each unit.

Specifications

- Low range: 1000 — 2000 VPM in increments of 50
- High range: 2000 — 4000 VPM in increments of 100
- Overall size: 76 x 51 x 64 mm (3.0 x 2.0 x 2.5 in)
- Weight: 370 g (13 oz)
- Accuracy: 0.5% of rated frequency
- Individual reed accuracy: 0.3% at room temperature

Part Number	Description
133-0963	Hand Held Drum Vibration Tachometer
133-9905	Frequency Meter

Frequency Meter



133-9905 Frequency Meter

- Used to measure vibrations per minute (VPM) of vibratory compactor drums
- Low-cost option to measure vibrations per minute (good choice when exact accuracy of reading is not critical)
- Indicator can check RPM between 800 and 50,000 or cycles per second between 14 and 750

Specifications

- Size: 85.0 x (3.4 in) diameter, 19.0 mm (0.75 in) thick
- RPM range: 800 – 50,000
- Cycles per second range: 14 – 750

Vibration Amplitude Decal



NEEG2687 Vibration Amplitude Decal

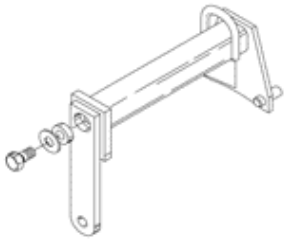
- Used to quickly and easily indicate amplitude of a vibrating surface
- Magnetized and will stick on most metal surfaces
- To obtain a reading, place decal on metal surface, 90° to direction of travel, and read wedge overlap
- Amplitude readout ranges: 0.50 to 6.35 mm (0.020 to 0.250 in)
- Size: 51.0 x 210.0 mm (2.00 x 8.25 in)

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Brake Lifting Bracket (24H Motor Grader)

Model Usage: 24H Motor Grader

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install brake group (brakes do not have to be released prior to installation when using this bracket)
- Used with overhead lifting device
- Bracket easily attaches to brake group and is held securely in place with one lug nut
- Bracket can be installed without brake halves being oriented
- Bracket holds brake group in a horizontal position making removal and installation much faster and easier
- Each lifting bracket comes with a certificate of proof testing

Reference

- KENR6023 Disassembly and Assembly Manual, 24M Motor Grader Power Train
- NEHS1095 Tool Operating Manual: 132-5136 Brake Lifting Bracket

Specifications

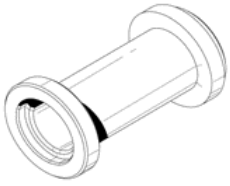
- Length: 560 mm (22.0 in)
- Height: 460 mm (18.1 in)
- Weight: 12.25 kg (27 lb)
- Working load limit: 998 kg (2200 lb)
- Proof test load: 1996 kg (4400 lb)

Part Number	Description
132-5136	Brake Lifting Bracket (24H Motor Grader)

Seal Driver

Model Usage: CB534, CB534B, CB534C, CB535, CB634, CB634C, and CS431 Compactors

Warranty: Caterpillar® Six Months



- Used to properly install 140-8409 and 140-8410 Seals into housing of the eccentric group
- Eliminates possibility of seal damage caused by hammer and punch (provides proper depth and uniform fit)
- Use one end of driver to install seal flush with housing, and other end of driver to install seal to a depth of 10.0 mm (0.39 in)
- Driver installs seals with housing in vehicle, getting around hard-to-reach areas

Reference

- Service Manual, Disassembly and Assembly of Eccentric Group

Specifications

- Outside diameter: 101.6 mm (4.00 in)
- Inside diameter: 55.6 mm (2.19 in)
- Length: 182.4 mm (7.18 in)

Part Number	Description
141-3028	Seal Driver

Adapter Bracket Assembly

Essential Tool

Model Usage: CS/CP 533C, CS/CP 563C, CS583C Vibratory Compactors

Warranty: Caterpillar® Six Months



European Union compliant, CE marked (151-7537)

- Used to safely remove and install compactor pods

Lifting Bracket

- Uses different adapter plates for various applications
- Adjustable center of gravity
- Adapter Plate
- Heat-treated for added strength and durability
- Fits intricate profile of pods
- Locking pads secure pod to adapter

Reference

- KENR7009 Service Manual, Compactor Disassembly and Assembly

Specifications

- 150-3978 Lifting Bracket Assembly:
  - Maximum capacity: 907 kg (2000 lb)
  - Height: 1014 mm (40.0 in)
  - Maximum depth: 1089 mm (43.0 in)
  - Minimum depth (without adapters): 820 mm (32.0 in)
  - Adjustable center of gravity: 197.0 — 1089 mm (7.75 — 43.0 in) inside clearance
- 151-7537 Adapter Bracket Assembly:
  - Overall dimensions: 500 x 630 x 229 mm (20.0 x 25.0 x 9.0 in)

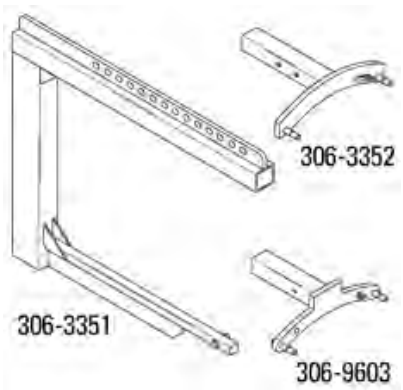
Part Number	Description
150-3978	Lifting Bracket
151-7537	Adapter Plate

Eccentric Weight Removal Tools for Vibratory Compactors

Essential Tool

Model Usage: CB-434D (CNH1-Up) Vibratory Asphalt Compactor, CB-534D (CNH1-Up) Vibratory Compactor, CS-563E (CNG1-Up) Vibratory Soil Compactor, CP-563E (CNT1-Up) Vibratory Soil Compactor, CB-564D (C6D1-Up) Vibratory Compactor

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install various compactor drum eccentric weight housings

306-3351 C-Frame Assembly

- Used with adapter assemblies for various applications
- Use with an approved shackle
- Adjustable center of gravity
- 7X-0328 Bolt, 5P-1076 Washer, and 6V-8188 Nut are used to attach adapter assemblies

306-3352 Adapter Assembly

- Used on CB534D, CB534D series XW, and CB-564D Vibratory Compactors
- Connects to 306-3351 C-frame Assembly with a lock bolt
- Fits profile of eccentric weights
- An 8T-7338 M16 Bolt secures eccentric weight to adapter

306-9603 Adapter Assembly

- Used on CB-434D, CS-563E, and CP-563E Vibratory Compactors
- Connects to 306-3351 C-frame Assembly with lock bolt
- Fits profile of eccentric weights
- A 099-0169 Bolt secures eccentric weight to adapter

Reference

- KENR3614 Disassembly and Assembly Manual, CB-534D, CB-534D Series XW, and CB-564D Vibratory Compactor Machine Systems
- NEHS1019 Tool Operating Manual; 306-3351 C-Frame Lifting Assembly
- NEHS1020 Tool Operating Manual; 306-3352 C-Frame Adapter, 306-9603 C-Frame Adapter

	306-3351	306-3352	306-9603
Working load limit	454 kg (1000 lb)	454 kg (1000 lb)	454 kg (1000 lb)
Weight	84 kg (185 lb)	7.6 kg (16.8 lb)	6.9 kg (15.4 lb)

Part Number	Description
306-3351	C-Frame Assembly
306-3352	Adapter Assembly
306-9603	Adapter Assembly

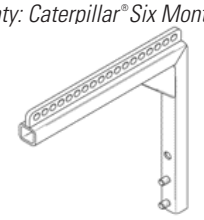
IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Lifting Bracket Assembly

Essential Tool

Model Usage: CB-434D, CB-534D, CB-534D Series XW, CB-564D Compactor

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install compactor drum support plates and final drive
- Used with overhead lifting device, suitable shackle, dealer-supplied grade 8 bolt/washer
- Adjustable center of gravity to balance load for alignment during installation

Specifications

- Maximum capacity: 454 kg (1000 lb)
- Overall size: 82.25 x 72.39 cm
- Adjustable center of gravity: 38.1 mm (1.50 in) to 68.58 cm (27.00 in)

Reference

- KENR3614 Disassembly and Assembly, CB-534D, CB-534D Series XW, and CB-564D Vibratory Compactors Machine Systems

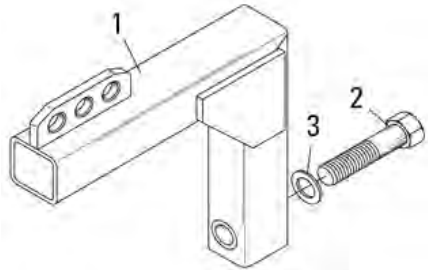
Part Number	Description
232-0228	Lifting Bracket Assembly

Lifting Bracket Assembly

Essential Tool

Model Usage: CB54, CB54 Series XW, and CB64 Vibratory Compactor

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove and install compactor drum support plates and final drive
- Used with 7X-2581 Bolt — M30 x 100 mm (4.0 in) long, 9X-8258 Washer — M30, and two guide bolts (all dealer supplied)
- Bolt and washer are used to attach lifting bracket to compactor drum support plate
- A suitable overhead lifting device and 189-0410 Screw Pin Shackle are required to support and raise lifting bracket and compactor drum support plate
- Durable welded steel construction
- A three-hole shackle mounting plate allows adjustable center of gravity, to balance load during installation

Reference

- NEHS1088, Tool Operating Manual, 345-1236 Lifting Bracket
- KENR5997, CB54, CB54 Series XW, and CB64 Vibratory Compactor

Specifications

- Working load limit: 567 kg (1250 lbs)
- Overall size (L x H x W): 387.4 x 409.6 x 95.2 mm (16.12 x 15.25 x 3.75 in)
- Weight: 12 kg (26.0 lbs)

Item with no Part Number

Description	Qty.
Guide Bolt (Not shown)	2

Item	Part Number	Description	Qty.
1	345-1236	Lifting Bracket	1
2	7X-2581	Bolt, M30 x 100 mm (3.94) length	1
3	9X-8258	Washer	1
Not shown			
Required	189-0410	Shackle (4.75 ton)	1

Lifting Bracket Assembly

Model Usage: 320, 322, 325, 330, 336, 345, 349

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to aid in moving the cover (9Q-5696 and 149-3577) to and from final drive
- Easy to install
- Material: Steel

References:

- KENR8182 325VM Variable Gauge Undercarriage
- NEHS1163 Tool Operating Manual
- RENR8648 330D, 336D and 340D Excavators and 336D MHPU Mobile Hydraulic Power Unit Machine

Specifications

- Dimensions: 226.5 x 171.6 mm (8.91 x 6.75 in)
- Working Load Limit (WLL): 61.2 kg (135 lb)
- Weight: 2.34 kg (5.18 lb)

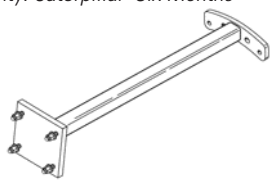
Part Number	Description
417-6239	Lifting Bracket Assembly

Lift Adapter Assembly

Essential Tool

Model Usage: CP434D and CS434D Compactor

Warranty: Caterpillar® Six Months



European Union compliant, CE marked

- Used to remove eccentric weight housing without removing drum
- Used with 150-3978 Lifting Bracket Assembly

Specifications

- Maximum reach (with 150-3978): 187 cm (74.0 in)
- Overall size: 1066 x 228 x 370 mm (42.0 x 9.0 x 14.5 in)
- Angle of lift arm: 80 degrees
- Maximum weight load limit: 200 kg (440 lb)

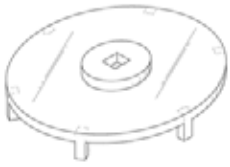
Part Number	Description
231-7699	Lift Adapter Assembly

Spanner Wrench

Essential Tool

Model Usage: CB-534D, CB-534DXW Vibratory Compactor

Warranty: Caterpillar® Six Months



- Used to remove and install 267-5641 Nut, which is part of 303-8755 Eccentric Weight Group
- 40.7 cm (16.0 in) diameter tool with six equally-spaced teeth to securely engage special nut
- Used with 206-8796 Torque Multiplier, 1 1/2 inch square drive
- Teeth are hardened to handle high torque from multiplier
- Made from durable, welded-steel construction with black oxide coating for corrosion resistance

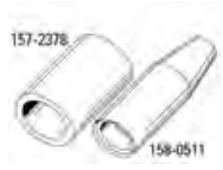
Part Number	Description
347-1694	Spanner Wrench

Seal Installer, Seal Guide

Essential Tool

Model Usage: CS531, CS533, CS563, CS583, CP533, and CP563 Compactors

Warranty: Caterpillar® Six Months



- Used to properly install 126-9339 Seals into housing of eccentric group
- Eliminates seal damage caused by hammer and punch installation method (provides even installation pressure and uniform fit)
- Guide centers housings for pod assembly to ensure proper bearing alignment
- Guide seals over shaft and wear sleeve to provide proper fit without damage to seal and prevents seal from rolling

Reference

- KENR7009 Compactor Machine Systems Disassembly and Assembly Manual

Part Number	Description	Length	Outside Diameter
157-2378	Seal Installer	101.6 mm (4.00 in)	61 mm (2.4 in)
158-0511	Seal Guide	128 mm (5.0 in)	45 mm (1.7 in)

Spanner Socket

Essential Tool

Model Usage: PF290B, PS360B Pneumatic Compactors

Warranty: Caterpillar® Six Months



- Used to remove and install pinion spanner nut without damage
- Used with 1 inch square drive impact or torque wrench
- Heat-treated to increase durability and tool life

Reference

- KENR7008 and KENR7018 Differential Disassembly and Assembly Manuals

Specifications

- Length: 179 mm (7.0 in)
- Outside diameter: 167 mm (6.6 in)
- Square drive: 1 in
- Between teeth: 131 mm (5.2 in)
- Tooth width: 11 mm (0.4 in)
- Tooth spacing: 4, equally spaced

Part Number	Description
154-6179	Spanner Socket

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Sleeve

Essential Tool

Model Usage: PS/PF300 and PS/PF300B

Warranty: Caterpillar® Six Months



163-1650

- Used to assemble fork assembly components
- Sleeve properly aligns guide on shaft

Reference

- KENR2705 Service Manual, PS300B/PF300B Pneumatic Compactor Machine Systems Disassembly and Assembly

Part Number	Description	Overall Dimensions
163-1650	Sleeve	140.0 x 50.8 mm (5.51 x 2.00 in)

Bearing Puller Plate

Model Usage: D7R Track-Type Tractor

Warranty: Caterpillar® Six Months



- Used to correctly remove old pivot shaft bearings from tractor frame and install new ones
- Bearing puller plate has center swivel point for easy installation
- Heat treated for added durability
- Hydraulic removal of bearings is preferred over other methods, such as burning, cutting, or drilling

Specifications

- Overall outside diameter: 179.0 mm (7.05 in)
- Small outside diameter: 170.9 mm (6.73 in)
- Hole diameter: 42.0 mm (1.65 in)

Part Number	Description
210-6670	Bearing Puller Plate

Speed Sensor Gauge

Essential Tool

Model Usage: AP-1055B, BG-2455C Asphalt Pavers

Warranty: Caterpillar® Six Months



- Used to adjust travel motor speed sensor to proper depth (refer to Special Instruction for specific procedure for using tool)
- Faster and more accurate than other methods

Reference

- REHS0895 Special Instruction, Speed Sensor Installation
- REHS0894 Special Instruction, Speed Sensor Installation

Part Number	Description
198-8732	Speed Sensor Gauge

Centering Spacer

Essential Tool

Model Usage: CW34

Warranty: Caterpillar® Six Months



- Centering spacers are used to service tires in the field
- Spacers are required to help center the rim lugs to the hub during tire installation
- Use 2 per package per machine

Specifications

- Diameter: 30 mm
- Length: 19 mm
- Weight: .06 kg

Part Number	Description
460-4918	Centering Spacer

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Puller Plate, Adapter Plate

Essential Tool

Model Usage: 24H Motorgrader

Warranty: Caterpillar® Six Months



- Used to quickly and easily remove and install blade tip pins
- Used with 9U-6751 Receiving Sleeve (33.0 cm [12.99 in] long) or 9U-6752 Receiving Sleeve (114.3 cm [45.0 in] long)
- Saves time and eliminates destruction of pin
- Bolts directly onto pin in place of pin cap
- Provides efficient means of pulling pin
- Chamfered end guides pin during installation

Specifications

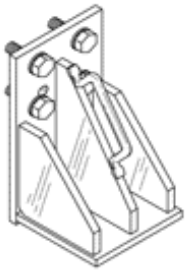
- 154-7386 Puller Plate:
  - Outside diameter: 97.5 mm (3.83 in)
  - Thread: M30 x 3.5
  - Thickness: 40 mm (1.6 in)
  - Bolt hole diameter: 18 mm (0.71 in)
- 154-7387 Adapter Plate:
  - Outside diameter: 270 mm (10.6 in)
  - Inside diameter: 118 mm (4.6 in)
  - Attaching bolts: 6V-5192 Socket Head Cap Screw
  - Bolt quantity: 3

Part Number	Description
154-7386	Puller Plate
154-7387	Adapter Plate

Frame Bracket Assembly

Model Usage: MT735, MT745, MT755, MT765, MT835, MT845, MT855, and MT865 Gen 111 Challenger Tractors

Warranty: Caterpillar® Six Months



- Used to support front frame (in raised position)
- Used with Twelve-Ton Support Stands
- 2 required (bolts directly to front frame)
- Used when:
  - Changing rubber drive belts
  - Repositioning undercarriage row width
  - Removing undercarriage from tractor
  - During major service/repair work

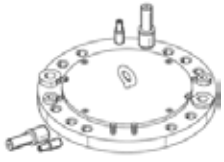
Part Number	Description
203-5584	Frame Bracket Assembly
Service/Repair Parts	
6V-8237	Hard Washer
8T-0664	Bolt, M24 x 3
8T-3282	Washer — Hard
8T-6430	Bolt, M20 x 2.5

Drill Fixture

Essential Tool

Model Usage: 345B and 345C Series II Excavator

Warranty: Caterpillar® Six Months



- Used to locate and repair damaged swing drive mounting bolt holes and dowel holes
- Comes with two 16 mm (0.629 in) and two 30 mm (1.181 in) pins (one set shown in the storage position) and bushings

Reference

- Technical Information Bulletin 4228-00
- REHS2415 Special Instruction

Part Number	Description
254-3424	Drill Fixture

Drill Fixture

Essential Tool

Model Usage: 374D

Warranty: Caterpillar® Six Months



- Drill fixture is used to locate and repair damaged holes on the swing gear
- Tool is used without removing the swing gear
  - Tool kit includes the following hardwares:
    - M24x3 bolts (qty-2), 6V-8198
    - Eyebolt Assembly, 422-5471
    - M8x1.25: Machine Screw, 095-7934

Specifications

- Diameter: 430 mm (16.9 in)
- Thickness: 45 mm (1.8 in)

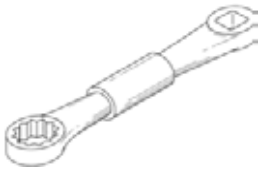
Part Number	Description
452-1724	Drill Fixture

Torque Adapter

Essential Tool

Model Usage: IT28G Integrated Toolcarrier Machines-Special Defense Products and Standard Production Units

Warranty: Caterpillar® Six Months



- Used to remove and install 2 cab ROPS bolts located in front corners on cab floor
- Used with a 3/4 inch square drive 9U-5007 Torque Wrench
- Fits into limited clearance area where sockets or other tools will not fit
- Essential for applying proper bolt torque

Specifications

- Square drive: 3/4 in
- Socket size: 30 mm, 12 point
- Center-to-center distance from drive to socket: 203.2 mm (8.00 in)

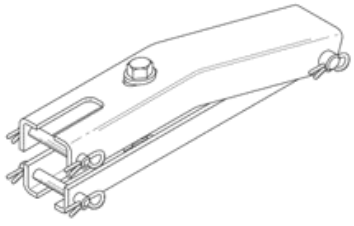
Part Number	Description
239-2296	Torque Adapter

Compressor Group

Essential Tool

Model Usage: 246C, 256C, 262C, 272C, 277C, 287C, and 297C Skid Steer Loaders

Warranty: Caterpillar® Six Months



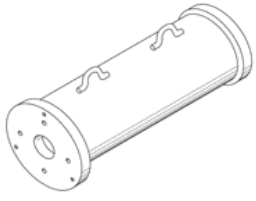
- Used to install and remove 238-7693 Spring on optional quick coupler arrangement
- Used with two, 12 mm wrenches to tighten spring compression bolt
- Lock pins on end of tool arms prevent spring from ejecting during replacement procedure
- Durable steel construction

Part Number	Description
312-2967	Compressor Group
Service/Repair Parts	
149-0206	Hex Nut
5P-0372	Lock Pin
8T-0106	Bolt
8T-4223	Washer — Hard M12

Sleeve Assembly

Model Usage: 994D Wheel Loader; 994F Wheel Loader

Warranty: Caterpillar® Six Months



- Used to install and remove loader arm linkage pins
- Used with 350-7768 Hydraulic Pump (115 VAC), 350-7769 Hydraulic Pump (230 VAC), or 9U-6600 Hydraulic Hand Pump
- Requires 6D-7726 Hydraulic Hose Assembly
- Designed to clear newer style flag pins
- Easily suspended with lifting loops
- Durable, hardened-steel construction

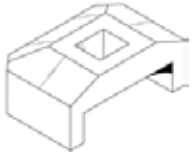
Part Number	Description
323-7335	Sleeve Assembly

Canister Socket

Essential Tool

Model Usage: Wheel Loaders, Track-Type Tractors, Pipelayers, and Motor Graders

Warranty: Caterpillar® Six Months



- Used to remove and install 241-3352 Filter Housing
- Used with 1/2 inch square drive wrench
- Used on canister-style hydraulic filter, which has a square socket on housing bottom
- Socket is open on one end to clear drain plug on filter housing

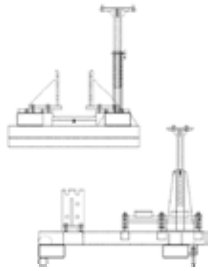
Part Number	Description
320-6627	Canister Socket

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Stand Assembly, Tool Group

Model Usage: 777, 784, 785, 789, 793 Off-Highway Trucks

Warranty: Caterpillar® Six Months



- The Stand Assembly is used to hold the front struts during disassembly and assembly. — Stand can be used to ship and store front struts. — A mounting location for the dealer to mount a winch is provided to allow the turning of the wheel during assembly.
- The tool group is used to align the bolt pattern on suspension shaft with steering linkage on Extended Life Powertrain Struts (XLP)
- Both tools for use on left and right front struts
- Both tools are Made As Ordered

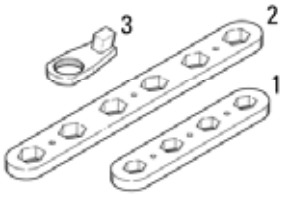
Part Number	Description	Dimensions
355-5007	Stand Assembly	1956 x 1524 x 1829 mm (77 x 59.99 x 72 in)
373-2633	Tool Group	692 x 572 mm (27.24 x 22.51 in)

Reaction Arm Tools

Essential Tool

Model Usage: 795F AC and 797F Off-Highway Truck

Warranty: Caterpillar® Six Months



- Used with other required tooling to loosen/tighten nuts on front suspension struts

Reaction Arm Back-up Plates

- Used to initially tighten nuts on top and bottom of struts
- 334-8335 used for 4-bolt pattern on top of strut
- 334-8336 used for 6-bolt pattern on bottom of strut
- Plates can become wedged during use and feature 7/8 — 14 threaded holes to aid in removal (bolts not supplied)
- Made from hardened steel

Reaction Arm

- Used to obtain proper torque after initial tightening
- Used with 194-7586 Pneumatic Wrench Group (RAD 2000)

Item	Part Number	Description
1	334-8335	Reaction Arm Back-up Plate
2	334-8336	Reaction Arm Back-up Plate
3	335-6485	Reaction Arm

Reaction Arm – Slew Gear Bolt Torquing (390 Custom)

Model Usage: 390D

Warranty: Manufacturer's Limited Lifetime



- Designed to work with 390D Slew Gear Bolts
- Custom made to work only with 385-7874 hydraulic torque wrench
- Tool arrangement can be used for torquing and loosening bolts through access window in frame

Part No.	Description	Used With
458-9480	Custom Reaction Arm – 4338 Nm (3200 lb/ft)	385-7874

Recommended Tool Group

Part No.	Description
385-7874	Hydraulic Torque Wrench
458-9480	Custom Reaction Arm
458-9476	Angle of Turn Indicator
4C-6724 (choose only one socket)	46mm A/F Socket
207-8155 (choose only one socket)	46mm A/F Socket

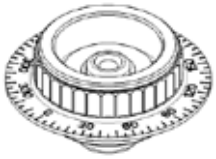
Accessories

Part No.	Description
417-9067	Twin Hydraulic Hose (6m)
385-8479	Hydraulic Pump – 115v – No LCD (Analog Interface)
384-8916	Hydraulic Pump – 230v – No LCD (Analog Interface)
385-3995	Hydraulic Pump – 115v – LCD (Digital Interface)
385-3996	Hydraulic Pump – 230v – LCD (Digital Interface)

Angle of Turn Indicators

Model Usage: Square Drive Hydraulic Torque Wrenches

Warranty: Manufacturer's Limited Lifetime



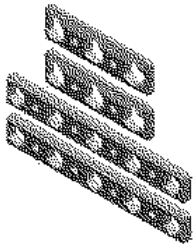
- Custom designed for use with the square torque wrenches to set angle of turn during nut torquing
- Snap retainer utilizes the existing tool design to keep the indicator attached to the tool
- 30° numbered increments, 5° minimum scale
- Light colored background with dark colored etching for increased visibility

Part No.	Description	Used With
458-9475	Angle of Turn – 1898 Nm (1400 lb/ft)	384-8910
458-9476	Angle of Turn – 4339 Nm (3200 lb/ft)	385-7874
458-9477	Angle of Turn – 8135 Nm (6000 lb/ft)	385-8578
458-9478	Angle of Turn – 14914 Nm (11000 lb/ft)	385-9413
458-9479	Angle of Turn – 33895 Nm (25000 lb/ft)	384-7264

Reaction Plate Group

Model Usage: 793D, 793F OHT

Warranty: Caterpillar® Six Months



- Used to hold all nuts on back side of one 793F AC front struts
- Allows easy, fast torquing
- Each tool group includes plates for one front strut
- 5 Hex plate used on top bolt pattern
- 3 Hex plate used on bottom bolt pattern
- Machined chamfers allow for clearance with frame
- Symmetric plates used on right and left struts
- Plates can become wedged during use and feature 7/8 — 14 threaded holes to aid in removal
- Made of hardened steel
- Black Oxide coated to prevent corrosion

Specifications

- Dimensions 5 Hex Plate:
  – 544.4 x 76.7 x 25 mm (21.43 x 3.01 x. 98 in)
- Weight 5 Hex Plate: 5.8 kg (12.78 lb)
- Dimensions 3 Hex Plate:
  – 317.4 x 90.1 x 25 mm (12.49 x 15.35 x .98 in)
- Weight 3 Hex Plate: 3.1 kg (6.83 lb)
- Weight All Plates:
  – 17.88 kg (39.41 lb)

Part Number	Description
399-0774	Reaction Plate Group

Tool Group

Model Usage: 793D, 793F, 797F

Warranty: Caterpillar® Six Months



- Used for the calibration of the perception (LIDAR sensor) system on the machines
- Required for use at sites running the Command for Hauling System

Specifications

- Dimensions: 1828 x 5053 mm (71.96 x 198.93 in)
- Weight: 78.865 kg (173.50 lbs)

Part Number	Description
387-6906	Tool Group

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Tool Group (Reaction Plate)

Model Usage: 789D OHT

Warranty: Caterpillar® Six Months



- Holds all nuts on the back of one 789D front struts, which allows for easy fast torquing
- Includes plates for one front strut
- 6 Hex plate used on top bolt pattern
- 2 Hex plate used on bottom bolt pattern
- Plates can become wedged during use and feature 7/8-14 threaded holes to aid in removal
- Made of hardened steel
- Black Oxide coated to prevent corrosion

Specifications

- Dimensions 6 Hex Plate:
  - 664 x 76.7 x 25 mm (26.14 x 2.99 x .98 in)
- Weight 6 Hex Plate:
  - 14.2 kg (31.3 lb)
- Dimensions 2 Hex plate:
  - 215 x 91 x 25 mm (8.46 x 3.58 x .98 in)
- Weight 2 Hex plate:
  - 4.3 kg (9.47 lb)

Part Number	Description
419-7638	Tool Group (Reaction Plate)

Puller Plate

Model Usage: C175 Petroleum Genset Rotor Groups

Warranty: Caterpillar® Six Months



- Used to remove the 514-7247 rotor-exciter
- Use with four M10 threaded rods
- Made of hardened steel
- Black oxide-coated to prevent corrosion

Part No.	Description	Dimensions (Dia. x Thickness)	Weight
528-5282	Puller Plate	335 x 20 mm (13.2 x 0.75 in)	13.6 kg (6.2 lb)

Reaction Arm Wrench

Model Usage: 793F AC, 793 MD, 789D

Warranty: Caterpillar® Six Months



- Used to remove and install nuts located on front suspension struts
- Black oxide coated
- Hardened steel for increased strength

Part Number	Description	Dimensions	Weight
389-9530	47 mm Hex Wrench	174 x 74 x 25 mm (6.85 x 2.91 x .98 in)	1.36 kg (3 lb)
389-9531	55 mm Hex Wrench	178.4 x 80 x 25 mm (7.02 x 3.15 x .98 in)	1.36 kg (3 lb)

Wrench Assembly

Model Usage: 777 OHT

Warranty: Caterpillar® Six Months



- Used to remove and install nuts located on front suspension struts
- 43 mm hex
- Black oxide coated
- Hardened steel for increased strength

Specifications

- Length: 170 mm (6.7 in)
- Width: 71 mm (2.8 in)
- Thickness: 20 mm (.9 in)
- Weight: 1.14 kg (2.5 lb)

Part Number	Description
452-4752	Wrench Assembly

Wrench Assembly

Model Usage: 770, 772, 773, 775 OHTs

Warranty: Caterpillar® Six Months



- Used to remove and install nuts located on front suspension struts
- 39 mm hex
- Black oxide coated
- Hardened steel for increased strength

Specifications

- Length: 170 mm (6.7 in)
- Width: 71 mm (2.8 in)
- Thickness: 20 mm (.9 in)
- Weight: 1.14 kg (2.5 lb)

Part Number	Description
452-4752	Wrench Assembly

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Wrench Assembly

Model Usage: 785 OHT

Warranty: Caterpillar® Six Months



- Used to remove and install nuts located on front suspension struts
- 48 mm hex
- Black oxide coated
- Hardened steel for increased strength

Specifications

- Length: 170 mm (6.7 in)
- Width: 71 mm (2.8 in)
- Thickness: 20 mm (.9 in)
- Weight: 1.14 kg (2.5 lb)

Part Number	Description
467-0299	Wrench Assembly

Reaction Plate

Model Usage: 793F, 795F AC, 797F

Warranty: Caterpillar® Six Months



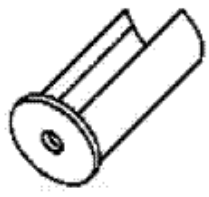
- Used to hold bolts and nuts to allow bolts to be properly torqued
- Nuts are to be torqued with an approved hydraulic torque wrench, the 385-8467 low profile hydraulic torque wrench and 385-8578 square drive hydraulic torque wrench
- Equipped with hand grips slots for easy use
- Black Oxide Coated

Part No.	Dimensions	Hex Size	Weight
436-8666	902 mm (35.5 in)	56/47 mm (2.20/1.85 in)	13.4 kg (29.5 lb)
436-8667	349 mm (13.7 in)	47 mm (1.85 in)	5.7 kg (12.6 lb)
436-8668	669 mm (26.3 in)	56 mm (2.20 in)	9.41 kg (20.7 lb)

Receiver Sleeve

Model Usage: 793F MD, 795F AC, and 795F

Warranty: Caterpillar® Six Months



- Used to help remove link pins on rear suspension upper and lower suspension links
- Used with 350-7768 Electric Hydraulic Pump Group, 9U-6815 Puller Stud, 7Y-1460 Nut, and 346-5029 Double Acting Cylinder
- Made from steel
- Black oxide coated

Reference

- KENR8382, 797F Off-Highway Truck, Machine Systems, Disassembly and Assembly
- KENR8727, 795F Series AC Off-Highway Truck, Machine Systems, Disassembly and Assembly
- KENR8579, 793F Off-Highway Truck, Machine Systems, Disassembly and Assembly

Part Number	Overall length	End plate center opening
380-5721	533.4 mm (21.0 in)	66.8 mm (2.6 in)

Rear Suspension Cylinder Pin Removal Tool

Model Usage: 793F OHTs

483-3536



483-3537

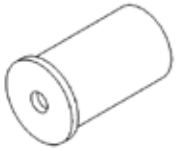
- Adapter plate is designed to bolt to rear suspension pins and provide puller hole
- Receiver sleeve sized specifically for this application
- Provides a center hole on the rear suspension pins and allows normal pulling practices to take place

Part No.	Description	Diameter/Thickness	Puller Hole	Length	Weight
483-3536	Adapter Plate	125mm/ 54 mm	M36x4	-	4.3 kg
483-3537	Sleeve Assembly	177.8 mm diameter	-	394.05 mm	16 kg

Receiver Sleeve and Puller Plate for Rear Suspension Pins

Model Usage: 785, 785B, 785C, 785D, and 785G OHTs

Warranty: Caterpillar® Six Months



467-6664



467-6664

- Puller plate attaches to pin cover bolt pattern with a 1-8 puller hole in the center.
- Receiver sleeve is sized for the frame contact points and utilizes a puller cylinder

Part Number	Diameter	Length	Weight	Description
467-6664	203.2 mm	319.05 mm	16 kg	Receiver sleeve
467-6665	110 mm	42.31 mm	0.693 kg	Puller Plate

Receiver Sleeve

Model Usage: 793F, 795F AC, and 797F Off-Highway Trucks

Warranty: Caterpillar® Six Months



- Used to help remove link pins on rear suspension upper and lower suspension links
- Used with 350-7768 Electric Hydraulic Pump Group, 9U-6815 Puller Stud, 7Y-1460 Nut, and 5P-5201 Double Acting Cylinder
- Made from SAE 1020M Steel

Reference

- KENR8382, 797F Off-Highway Truck, Machine Systems, Disassembly and Assembly
- KENR8727, 795F series AC Off-Highway Truck, Machine Systems, Disassembly and Assembly
- KENR8579, 793F Off-Highway Truck, Machine Systems, Disassembly and Assembly

Specifications

- Overall length: 549.28 mm (21.625 in)
- Inside diameter: 171.45 mm (6.750 in)
- Tube wall thickness: 9.525 mm (0.375 in)
- End plate diameter: 215.9 mm (8.50 in)
- End plate thickness: 19.05 mm (0.750 in)
- End plate center Opening: 50.8 mm (2.00 in)

Part Number	Description
380-5720	Receiver Sleeve

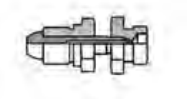
Nitrogen Adapter

Product Family: Hydraulic Mining Shovels

Model Usage: 6015, 6015FS, 6018, 6018FS, 6030, 6030FS, 6040, 6040FS,

6050, 6050FS, 6060, 6060FS, Hydraulic Excavators

Warranty: Manufacturer's



385-6144



385-6145



385-6145

- Used to service hydraulic systems on hydraulic excavators
- Used to connect nitrogen kits, to charging kits, to accumulators
- Allows hydro-pneumatic accumulators to be precharged with dry nitrogen

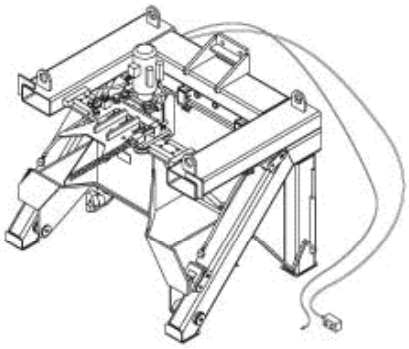
Part Number	Female Thread	Male Thread
385-6144	G 5/8	W24.32 X 1/14
385-6145	W21.8 X 1/14	W24.23 X 1/14
385-6146	G 1/2	W24.32 X 1/14

IMPLEMENTS, FRAME, HITCH AND SUSPENSION

Removal and Install Front Suspension Strut Assembly on Off-Highway Trucks, Strut Handler

Model Usage: 777, 784, 785, 789,Off-Highway Trucks

Warranty: Caterpillar® Six Months



European Union Compliant, CE Marked

- Used to remove and install front strut without removing upper structures
- Also used to transport strut assembly
- Used with a suitable lift truck or wheel loader with fork attachment and adequate lifting capacity (a mast tilt and side shift function is recommended)
- Strut handler has a self-contained hydraulic tilt system which allows tilting strut assembly to a horizontal position for disassembly, assembly, and transport
- Hand-held control pendant used to operate hydraulic functions of tooling
- Various adapter plates allow tooling to fit multiple truck models
- Tooling is adjustable to allow for different strut assembly caster angles
- Strut handler attaches to front strut at wheel hub and upper strut body
- Can be used on both left and right-side strut assemblies
- Using handling group requires a two or three person crew
- Hydraulic system is wired for 220 Volt system
- Electric motor operates in both 50 Hz and 60 Hz
- Fork truck capacity is required to lift combined weight of tool and front strut 7901.6 kg (17,420 lb)
- Strut handler weighs approximately 1814 kg (4000 lb)
- Working load limit: 5897 kg (13,000 lb)

Reference

- NEHS1093 270-8312 Strut Handler

Specifications

- Size: 1574.8 mm (62 in) H x 1955.8 mm (77 in) W x 1473.2 mm (58 in) L
- Weight: 1814 kg (4000 lb)

Part Number	Description
270-8312	Strut Handler

Suspension Gland Extraction Tool

Model Usage: 793, 795F AC, 797 OHTs

Warranty: Caterpillar® Six Months



Adapter Plate



H-bar

- Custom H-Bar plus adapter plates
- Adapter plates bolt to the 2 threaded holes in the top of the gland
- Can be used both horizontally and vertically
- Removes suspension gland with a mechanical puller to allow horizontal removal instead of vertical removal using lifting eyes and overhead crane
- Saves time from repositioning the cylinder from horizontal to vertical to horizontal again in D&A process
- Improves repair process and efficiency for handling large suspension cylinders
- Improves technician safety

Part Number	Description	Length / Diameter	Width	Height / Thickness	Weight
470-0455	795F AC and 797 H-Bar	596.90 mm/23.50 inch	101.60 mm (4.00 inch)	50.00 mm/1.97 inch	16.64 kg (36.61 lbs)
470-0456	793 Adapter Plate	405.00 mm/15.94 inch	-	12.00 mm/0.47 inch	12.79 kg (28.14 lbs)
470-0457	795F AC and 797 Adapter Plate	462.00 mm/18.19 inch	-	12.00 mm/0.47 inch	16.66 kg (36.65 lbs)
483-6563	793 H-Bar	596.90 mm/23.50 inch	101.60 mm (4.00 inch)	50.00 mm/1.97 inch	16.64 kg (36.61 lbs)

Fixture Assembly

Model Usage: 789, 793 OHT

Warranty: Caterpillar® Six Months



- Used to safely disengage the pin that holds the truck body retaining cable to the frame
- Tool safely retains cable to frame while pin is disengaged
- Hand crank allows for ease of operation
- Will fit on 789, 793A, B, C, and D Series Trucks that are equipped with a single vertical retention pin in the center of the axle housing

Specifications

- Dimensions: 212 x 341 x 145 mm (8.34 x 13.42 x 5.76 in)
- Weight: 6 kg (13.22 lb)

Part Number	Description
436-1436	Fixture Assembly

Feeder Sprocket Wear Gages

Model Usage: FB85, FB110, FB140



- Very quick and easy gage for visual wear on the sprockets
- Eliminates unnecessary downtime due to worn out sprockets
- Set of gages covers all sprockets on FB85, FB110, and FB140
- Gages used to measure wear on the sprocket by placing it over the tooth and reading the wear percent
- 453-0237 measures the gears with the 3.50 pitch tooth
- 453-0238 measures the gears with the 3.75 pitch tooth

453-0237 Specifications

- Dimensions: 74 x 13 x 56 mm (2.9 x .5 x 2.2 in)
- Weight: .213 kg (.47 lb)

453-0238 Specifications

- Dimensions: 74 x 13 x 56 mm (2.9 x .5 x 2.2 in)
- Weight: .209 kg (.46 lb)

Part Number	Description
453-0237	Feeder Sprocket Wear Gage (3.50 Pitch)
453-0238	Feeder Sprocket Wear Gage (3.75 Pitch)

Drum Drive Pin

Model Usage: CM445

Warranty: Caterpillar® Six Months



- Used in the assembly of the drum drive on the Tuff Cut CM445 heads
- Used for proper alignment in assembly

Specifications

- Diameter: 25 mm (1 in)
- Length: 125 mm (5 in)
- Weight: .25 kg (0.55 lb)

Part Number	Description
455-0151	Pin

Hoist Cylinder Mounting Nut Wrench

Product Family: Rotary Blasthole Drills

Model Usage: MD6240 Rotary Drill

Warranty: Caterpillar® Six Months



- Used to remove and install hoist cylinders

Specifications

- Dimensions: 728 x 254 x 10 mm (28.7 x 10.0 x 0.39 in)

Part Number	Description
438-9572	Hoist Cylinder Mounting Nut Wrench

SPECIALTY MINING TOOLS

Brace Tool

Model Usage: CM445

Warranty: Caterpillar® Six Months



- Tool is used to secure the tail section of the Continuous Miner from unplanned movement
- This item is used to prevent personal injury due to hazardous, uncontrolled tail swing when hydraulic cylinder is removed or damaged
- Helps prevent damage to the machine when the hydraulic cylinder is removed.

Specifications

- Length: 2,198 mm (86.5 in)
- Weight: 32.5 kg (72 lb)

Part Number	Description
455-0150	Brace Tool (Specialty Mining)

Flange Adapter

Model Usage: 6050, 6050FS, 6090FS

Warranty: Caterpillar® Six Months



- Enables dealers to make hydraulic connections and bench test pump after rebuild

Specifications

- Dimensions: 79 X 95 mm (3.11 x 3.74 in)
- Weight: 1.36 kg (3 lb)

Part Number	Description
473-9869	Flange Adapter

Pump Test Adapters

Model Usage: 6060BH, 6060FS

Warranty: Caterpillar® Six Months

- Adapts larger NPT, STOR, DIN and metric STOR ports to common thread sizes utilized on most test stands
- Direct adaptation reduces number of fittings required.
- Reduces set up time and leakage

Part No.	Description	Dimensions	Weight
524-8371	Adapter-Swivel	5/8" JIC Male to M24 Swivel Female	0.13 kg (0.29 lb)
524-8372	Adapter-Straight	M48 Male to 1" NPT Female	0.95 kg (2 lb)
524-8373	Adapter-Reducer	-20 STOR Female to -16 STOR Male	0.37 kg (0.81 lb)
524-8374	Adapter-Reducer	-24 STOR Female to -20 STOR Male	0.41 kg (0.91 lb)
524-8375	Adapter-Reducer	5" NPT Male to 4" NPT Female	2.1 kg (4.2 lb)



524-8371



524-8372



524-8373



524-8374



524-8375

Plate Assembly

Model Usage: EL1000

Warranty: Caterpillar® Six Months



- Plate assembly is used to aid assembly of EL1000 Shearer.
- Replaces SAP 4161351

Part No.	Description	Dimensions	Weight
550-9147	Plate Assembly	230 x 240 x 58 mm (9 x 9.4 x 2.3 in)	5.5 kg (12 lb)

Hydraulic Cylinder Tester

Model Usage: 6040, 6050, 6060, 6090 Hydraulic Mining Shovels

Warranty: Manufacturer's, Six Months



CE Compliant

- Designed for conducting leakage tests of piston and rod seals in resealed hydraulic cylinders in the boom, stick, bucket, and clamp
- Developed for expanded mining products and other large-diameter cylinders that require additional oil capacity
- 18.6 kw (25 hp) electric motor
- Can be configured for 400/480 volt 50/60 hz, 3 ph voltage
- 190 lpm/10 lpm (50 gpm/2.7 gpm) 2-stage pump
- 757 l (200 gal) usable fluid capacity
- Pressure adjustable from 3445 to 34500 kpa (500 to 5000 psi)
- Supplied with standard 10-micron cartridge style filter
- Can be used with XT-3, XT-5, SAE 61 or 62 series flange kits
- Equipped with 3 pressure gauges:
  - Cap end
  - Test
  - Rod end
- Saves time by having proper tool to measure precisely without having to estimate

Specifications

- Dimensions: 2133 x 1540 x 1400 mm (84 x 60.6 x 55.1 in)
- Test Pressure: 0-34474 kPa (0-5000 psi)

Part No.	Description
462-1278	Hydraulic Cylinder Tester

Socket

Model Usage: 6090 FS

Warranty: Caterpillar® guarantees this product to be free from defect in material and workmanship at the time of sale.



- Thin-walled 36 mm socket designed to fit the plug on the 6090 FS clamshell hydraulic valve.
- Socket allows technician to torque plug as required.
- Low clearance around plug prevents use of standard socket.

Part No.	Description	Dimensions	Weight	Torque Requirement
533-1137	Socket	Socket Size = Double Hex (36mm), 12 Points Socket Diameter = 46.6 mm (1.84 in) Socket Height = 57.2 mm (2.25 in)	0.4 kg (1.0 lb)	330 Nm (244 ft lb)

Trapping Shoe Gage

Model Usage: EL1000 Shearer

Warranty: Caterpillar® Six Months



- Large feeler gage set used to measure wear on trapping shoe
- Made from stainless steel for durability
- Made As Ordered (MAO)

Part No.	Description	Dimensions	Weight
541-9326	Trapping Shoe Gage	600 x 30 x 57 mm (23.6 x 1.2 x 2.3 in)	4.3 kg (9.5 lb)

SPECIALTY MINING TOOLS

AFC Chain-Measuring Tool

Model Usage: Longwall Mining Machines

Warranty: Manufacturer's One Year
Contact www.thiele.de/support.





European Union Compliant, CE

- Tool kit is used to measure pitch in conveyors and plow chains.
- Measuring tool and adapters are stored in convenient plastic case.
- Includes adapters for 64, 86, 92, 108, 110, 126, 137, 140, 144, 146, 152, 160 and 177 mm chain pitch to cover entire product line

Reference

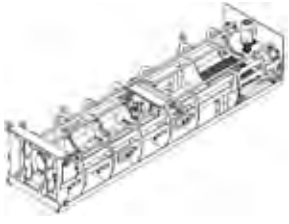
- NEHS1304 Tool Operating Manual

Part No.	Description	Dimensions	Weight
523-9317	AFC Chain-Measuring Tool	350 x 250 x 150 mm (14 x 10 x 6 in)	4 kg (8.8 lb)

Pin Puller Assembly

Model Usage: HMS, ERS

Warranty: Caterpillar® Six Months





European Union Compliant, CE marked

- Made as ordered
- Provides a safe method to remove and install attachment pins over 1.5 m long
- Adjustable for all pin diameters used on hydraulic mining shovels (ø150 mm – ø 650 mm)
- Greatly increases safety of process by eliminating the need to sling the pins
- Tool is able to apply 10 metric tons force for pulling or pushing pin.

Reference

- M0074390 Tool Operating Manual
- Rope Shovel Saddle Pin Puller Bracket 515-5029

Part No.	Description	Dimensions	Weight	WLL
503-9005	Pin Puller Assembly	5.34 x 1.51 x 1.1 m (17.5 x 6.3 x 3.6 ft)	3,400 kg (7,500 lb)	10 metric tons (22,000 lb)

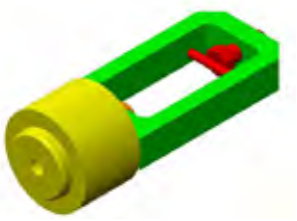
Service Replacement Parts

Part No.	Description	QTY
5P-8622	Shackle Assembly	4
173-3694	Safety Bar Pin	1
533-1168	Machine Screw Assembly	1
512-3154	M48 Adapter	1
512-3155	M64 Adapter	1
519-2726	3' Extension	1
516-9364	Right- and Left-Handed Hook Bracket Sets	1
516-9365		1
516-9366		1
516-9367		1

Bevel Pinion Setup Gage

Model Usage: CM220 Drum Drive

Warranty: Caterpillar® Six Months



- Quick and easy way to calculate how many shims are needed for bevel pinion setup
- Saves time by having proper tool to measure precisely without having to estimate

Specifications

- Dimensions: 315 x 114.3 x 114.3 mm (12.4 x 4.5 x 4.5 in)
- Weight: 10.190 kg (22.4 lb)

Reference

- NEHGE2014-264

Part No.	Description
473-9591	Bevel Pinion Setup Gage

Bearing Setup Tooling

Model Usage: CM220 Drum Drive

Warranty: Caterpillar® Six Months



- Tooling that assists in the assembly and disassembly of the drum drive gear case
- Saves time and effort having the right tool designed for the job at hand
- Avoids parts damage and rework time from improper tooling
- Used to establish correct shim pack prior to installing press fit bearing

Specifications

- Dimensions: 260 dia x 49 mm (10.2 x 1.9 in)

Reference

- NEHGE2014-265

Part No.	Description
468-6257	Bearing Setup Tooling

Strut Tube Removal Tool

Model Usage: CM220 Drum Drive

Warranty: Caterpillar® Six Months



- Contains proper threading to allow easy removal of the strut tube from the gear case
- Threaded adapter is 2.25 - 4.5 inch

Specifications

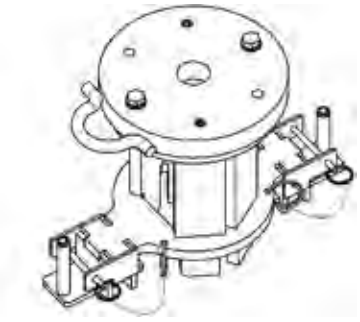
- Hex: 85.7 mm (3.37 in)
- Height: 171 mm (6.7 in)
- Weight: 3.6 kg (7.9 lb)

Part No.	Description
475-1221	Strut Tube Removal Tool

Receiver Sleeve

Model Usage: HRS 1220

Warranty: Caterpillar® Six Months



- Allow pins to be safely pulled from roof support using hydraulic cylinder
- Attaches to safety loops on roof support to retain pin/cylinder after pulling pin, preventing falling objects

Part No.	Description	Dimensions	Weight	WLL
508-8057	Receiver Sleeve	350 x 200 x 244 mm (13.8 x 8 x 9.6 in)	15 kg (33 lb)	27 metric ton (30 Ton)

SPECIALTY MINING TOOLS

Pinion Lifting Device

Model Usage: CM220 Drum Drive

Warranty: Manufacturer's



- ¾-10 UN extended lifting eye used to remove pinion gear/bearing sub-assembly from the drum drive gear case
- Saves time and improves safety having the right tool designed for the job at hand

Reference

- NEHGE2014-273

Specifications

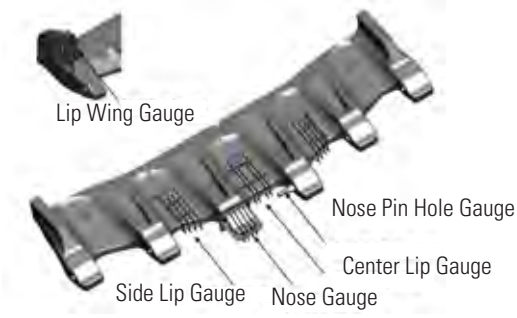
- Dimensions: 19.05 dia x 462 mm (3/4-10 x 18 in)
- Weight: 1.4 kg (3 lb)
- WLL: 7200 lb

Part No.	Description
473-9468	Pinion Lifting Device

Hydraulic Mining Shovels GET Bucket Wear Gauges

Model Usage: 6015-6090

Warranty: Manufacturer's



- Used to fit gauge to bucket to reveal worn areas without replacing teeth adapters. It can then be determined whether rebuild, repair or replacement are the best options.
- Reduces chance of premature bucket failure
- Work areas and position tooth adapters are easily visible

Lip Profile		
Group No.	**Description**	**Part No.**
444-1781	Nose	454-0068
	Pin	454-0069
	Shroud Centre	454-0074
	Shroud Left	454-0075
	Shroud Right	454-0076
444-1783	Nose	454-0068
	Pin	454-0069
	Shroud Centre	454-0077
	Shroud Left	454-0078
	Shroud Right	454-0079
444-1784	Nose	454-0072
	Pin	454-0073
	Shroud Centre	454-0080
	Shroud Left	454-0081
	Shroud Right	454-0082
444-1785	Nose	454-0072
	Pin	454-0073
	Shroud Centre	454-0083
	Shroud Left	454-0084
	Shroud Right	454-0085
444-1787	Nose	454-0070
	Pin	454-0071
	Shroud Centre	454-0089
	Shroud Left	454-0090
	Shroud Right	454-0092
444-1788	Nose	454-0066
	Pin	454-0067
	Shroud Centre	454-0093
	Shroud Left	454-0094
	Shroud Right	454-0095

Hydraulic Pump Assembly Lifting Bracket Tools

Model Usage: 6020B Hydraulic Mining Shovels

Warranty: Caterpillar® Six Months

European Union Compliant, CE marked

- Provides removal and installation of the (3) hydraulic pump assemblies
- Enables removal and installation of each hydraulic pump via each side of main cabin enclosure
- Eliminates removal of the main cabin enclosure cover plate assembly, hydraulic hoses, and electrical wiring
- Provides a time reduction of 30 hours (based on three service technicians spending ten hours each) compared to previous procedures

Reference

- NEHS1236, Lift Attachment Bracket Assembly Tool Operating Manual
- 486-2378 is designed to connect to the "C-style" lifting bracket 226-2380.

Part No.	Description	Dimensions	Weight	WLL
486-2378	Bracket Assembly	750 x 80 x 162.8 mm (29.53 x 3.15 x 6.41 in)	10 kg (22 lb)	181 kg (400 lb)
486-2379	Hydraulic Pump Lift Bracket Assembly	455 x 104.8 x 133.4 mm (17.92 x 4.13 x 5.25 in)	3 kg (7 lb)	181 kg (400 lb)
226-2380	Multi-Purpose "C-Style" Lifting Bracket	2090 x 210 x 1200 mm (82.3 x 8.3 x 47.2 in)	210 kg (464 lb)	1814 kg (4000 lb)

Crank Shaft Lifting Device For Well Stimulation Pumps

Model Usage: Crankshafts 434-9863, 435-0141, and 434-9989

Warranty: Caterpillar® Six Months



European Union Compliant, CE marked

- Used to remove and install 434-9863, 435-0141 and 434-9989 crankshafts from well stimulation pumps
- Used with the 226-2380 lifting bracket assembly

Reference

- Tool Operation Manual NEHS1224

Part No.	Description	Dimensions	Weight
463-3475	Crank Shaft Lifting Device For Well Stimulation Pumps	1170 x 555 x 420 mm (46 x 21.9 x 16.5 in)	75 kg (165.3 lb)

Hydraulic Rock Drill Seal Installation Tools

Product Family: Track Drills

Model Usage: MD5050, MD5075, MD5090, MD5125, MD5150

Warranty: Caterpillar® Six Months





- Prevent damage to rod seals when installing them into small, closed diameter gland openings or deep set rod grooves
- Tool prevents damage to seal caused from using long nose pliers to install

Part No.	Description	Rod Size	Dimensions	Weight
507-2345	Hydraulic Rock Drill Seal Installation Tool	1.5 – 2.0 in	203 x 102 x 25 mm (8 x 4 x 1 in)	0.12kg (0.4 lb)
507-2346	Hydraulic Rock Drill Seal Installation Tool	Larger than 2.0 in	254 x 102 x 25 mm (10 x 4 x 1 in)	0.2 kg (0.4 lb)

SPECIALTY MINING TOOLS

Hoist Cylinder Mounting Nut Wrench

Product Family: Rotary Blasthole Drills

Model Usage: MD6240 Rotary Drill

Warranty: Caterpillar® Six Months

- Used to remove and install hoist cylinders
- Thin open end wrench

Part No.	Description	Dimensions
438-9573	Hoist Cylinder Mounting Nut Wrench	266.8 x 1,011 mm (10.5 x 39.8 in)



Cable Nut Wrench

Product Family: Rotary Blasthole Drills

Model Usage: MD6240, MD6290 Rotary Drill

Warranty: Caterpillar® Six Months

- Used to remove, install and adjust the hoist/ pull down cable nuts

Part No.	Description	Dimensions
438-9574	Cable Nut Wrench	610 x 111 mm (24. 01 x 4.37 in)



Rotary Drill Deck Bushing Removal Tools

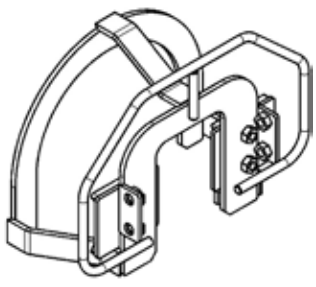
Product Family: Rotary Drills

Model Usage: MD6240, MD6290, MD6420, MD6540

Warranty: Caterpillar® Six Months

- Safely and easily holds deck bushing elevated by drill string
- Engages wrench flats to lift bushing, adjustable for different drill string diameters
- Safety stop prevents tool from slipping out while bushing is held.

Part No.	Drill Model	Dimensions	Weight
501-0355	MD6240, MD6290	301 x 443 x 201 mm (12 x18 x 8 in)	9 kg (20 lb)
502-1871	MD6420	346 x 488 x 176 mm (14 x 19 x 7 in)	9 kg (20 lb)
502-1872	MD6540	366 x 553 x 176 mm (14 x 22 x 7 in)	11 kg (24 lb)



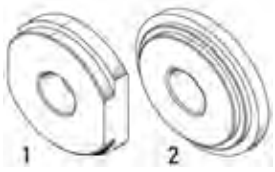


Bearing Puller Adapters and Installer Plates

Essential Tool

Model Usage: 5110B and 6015B Excavators

Warranty: Caterpillar® Six Months



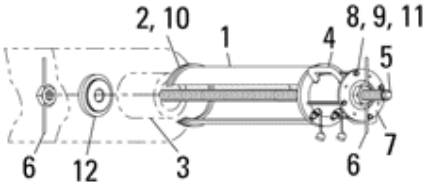
- Used to remove and install sleeve bearings from excavator linkage
- Used with 350-7768 Hydraulic Pump (115 VAC), 350-7769 Hydraulic Pump (230 VAC), or (9U-6600) Hydraulic Hand Pump
- Also requires a 6D-7726 Hose Assembly
- Designed to install bearings to proper depth without measuring
- Complete range of tools are available to service each linkage location

Reference

- RENR3371, Service Manual, 5110B Excavator Machine Systems Disassembly and Assembly

Bearing Puller Adapters and Installer Plates

Item	Part No.	Description	Bearing ID	Bearing OD	Bearing Installation Depth	Maximum Capacity
1	197-6681	Bearing Puller Adapter	200.0 mm (7.87 in)	225.0 mm (8.86 in)	—	150 tons
	197-6682	Bearing Puller Adapter	170.0 mm (6.69 in)	195.0 mm (7.68 in)	—	150 tons
	197-6683	Bearing Puller Adapter	150.0 mm (5.90 in)	170.0 mm (6.69 in)	—	150 tons
2	197-6684	Bearing Puller Adapter	120.0 mm (4.72 in)	140.0 mm (5.51 in)	—	150 tons
	197-6685	Bearing Installer Plate				
		Side 1	180.0 mm (7.08 in)	—	10.0 mm (0.39 in)	—
		Side 2	180.0 mm (7.08 in)	—	Flush	—
	197-6686	Bearing Installer Plate				
		Side 1	120.0 mm (4.72 in)	—	10.0 mm (0.39 in)	—
		Side 2	170.0 mm (6.69 in)	—	10.0 mm (0.39 in)	—
	197-6687	Bearing Installer Plate				
		Side 1	150.0 mm (5.90 in)	—	10.0 mm (0.39 in)	—
		Side 2	200.0 mm (7.87 in)	—	10.0 mm (0.39 in)	—



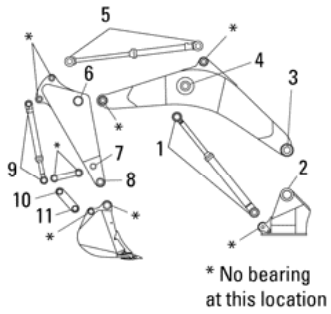
Typical Removal and Installation Tooling

Refer to "Pin Specific Tooling" for Part Numbers

Item	Description
1	Receiving Sleeve Assembly
2	Adapter Plate
3	Sleeve Bearing
4	Hydraulic Cylinder
5	Puller Stud
6	Fast Runner Nut
7	Retaining Plate
8	Rod
9	Nut
10	Socket Head Bolt
11	Washer
12	Bearing Puller Adapter or Bearing Installer Plate

SPECIALTY MINING TOOLS

Linkage Bearing Locations



Linkage bearing locations

Removal Tooling

Part Number	Description	Qty.
	Bearing No. 1, 5, and 9	
137-8792	Sleeve Assembly — Bearing	1
138-1135	Bearing Puller Plate	1
4C-8152	Retaining Plate	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2
	Bearing No. 2, 3, and 6	
137-8792	Sleeve Assembly — Bearing	1
197-6681	Bearing Puller Adapter	1
4C-8152	Retaining Plate	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2
	Bearing No. 4	
197-6681	Bearing Puller Adapter	1
316-1491	Cylinder Group (100T) 6 in stroke	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6751	Sleeve Assembly	1
9U-6753	Retaining Plate	1
9U-6815	Puller Stud (M48) 62 in	1
9U-6903	Nut — Speed (M48)	2
	Bearing No. 7	
137-8792	Sleeve Assembly — Bearing	1
197-6684	Bearing Puller Adapter	1
4C-8152	Retaining Plate	1
8T-4121	Washer (M10)	4
8T-4133	Nut (M10)	4
9T-2240	Rod (M10)	4
9U-6800	Nut — Speed (M64)	2

Pump Test Adapters

Model Usage: 6060BH, 6060FS

Warranty: Caterpillar® Six Months

- Adapts larger NPT, STOR, DIN and metric STOR ports to common thread sizes utilized on most test stands
- Direct adaptation reduces number of fittings required.
- Reduces set up time and leakage



524-8371



524-8372



524-8373



524-8374



524-8375

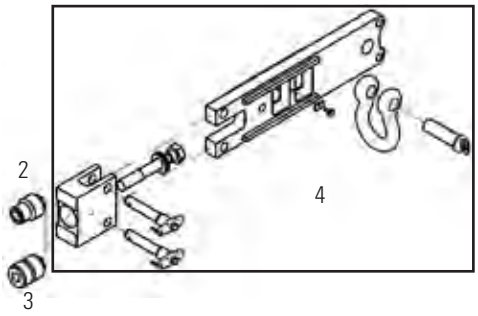
Part No.	Description	Dimensions	Weight
524-8371	Adapter-Swivel	5/8" JIC Male to M24 Swivel Female	0.13 kg (0.29 lb)
524-8372	Adapter-Straight	M48 Male to 1" NPT Female	0.95 kg (2 lb)
524-8373	Adapter-Reducer	-20 STOR Female to -16 STOR Male	0.37 kg (0.81 lb)
524-8374	Adapter-Reducer	-24 STOR Female to -20 STOR Male	0.41 kg (0.91 lb)
524-8375	Adapter-Reducer	5" NPT Male to 4" NPT Female	2.1 kg (4.2 lb)

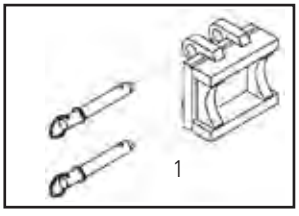
Attachment Pin Puller

Model Usage: HMS, ERS

Warranty: Caterpillar® Six Months









European Union Compliant, CE marked

- Provides a safe method to remove and install attachment pins under 1.0 m long
- Requires a M30 x 3.5, M48 x 5, or M64 x 6 puller hole
- Accessories adapt to 7/8"-9, 1-1/2"-6 and a 3-hole pattern. Other adapters available upon request.
- Compatible for diameters of all short pins used on hydraulic mining shovels (ø75 – ø400 mm)
- Greatly increases safety by positively retaining the pin during R&I and eliminating the need to sling the pins
- Capable of handling 10 metric tons force for pulling or pushing pin (Force must be provided by other equipment.)

Reference

- Requires C-Frame 226-2380
- M0074394 Tool Operating Manual

Item #	Part No.	Description	Dimensions	Weight	WLL
1	526-5506	Attachment Pin Puller	5.34 x 1.51 x 1.1 m (17.5 x 6.3 x 3.6 ft)	3400 kg (7500 lb)	10 metric tons (22000 lb)
2	526-5507				
3	526-5508				
4	526-5509				

Serviceable Parts

Part No.	Description	Quantity
McMaster Carr #90200A546	Thumb Screw	2
8T-6624, or Fastenal #0122170	Bracket Bolt	1
9X-8258	Washer	2
McMaster Carr #93750A123	Bracket Hitch Pin	2
526-5507	M48 Adapter	1
526-5508	M64 Adapter	1
189-0863	Shackle (12tn)	1

Accessories

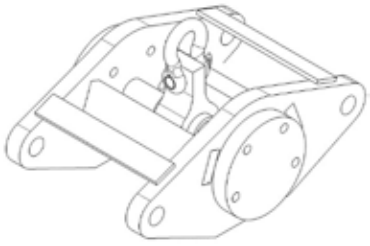
Item #	Part No.	Description	Quantity
5	550-9173	Puller Plate (3-Hole Adapter)	1
6 (not shown)	550-9172	7/8"-9 and 1-1/2"-6 Adapter Kit	1

SPECIALTY MINING TOOLS

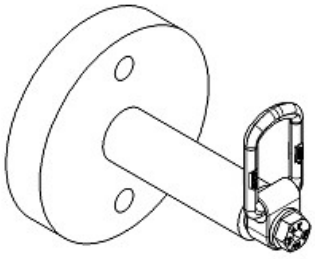
Propel Shaft Counterbalance Tool Assembly

Model Usage: 7495 ERS

Warranty: Caterpillar® Six Months



512-7870 Counterbalance Tool As.
(Main Lifting As.)



512-7870 Counterbalance Tool As.
(Balance Lift As.)



Lifting Configuration

European Union Compliant, CE marked

- Provides safe method to lift, remove and install 7495 propel shaft
- Requires two 10-ton hydraulic cylinders (360-6957, 360-6958 or equivalent) for propel shaft removal
- Utilizes existing propel shaft as counterbalance weight to remove/install a propel shaft
- Significantly reduces propel shaft removal/install time
- Reduces the number of overhead lift devices necessary for a propel shaft removal/install without a counterbalance weight

Reference

- M0073765

Part No.	Description	Dimensions	Weight	WLL
512-7870	Main Lifting Assembly	609.6 x 860 x 513.4 mm (24 x 33.9 x 20.2 in)	307 kg (677 lb)	4,990 kg (11,000 lb)
	Balance Lift Assembly	Dia 254 x 311.8 (Dia 10 x 12.3 in)	26 kg (57 lb)	2,494 kg (5,500 lb)

Dealer Service Tools Division's authorized Repair Centers provide limited repair service on selected diagnostic tools to our Dealers. The authorized Repair Centers have been successful in providing quality repair and fast turnaround time for the majority of the tools repaired. Caterpillar is no longer an authorized repair center.

The tools repaired by the Repair Centers are listed on the following pages. Tools not on the list were excluded for one or more of the following reasons:

- low cost makes replacement more economical
- existing supplier agreements
- requires special expertise or equipment
- repair parts not readily available

Diagnostic Tool Repair Program Policies and Procedures

Repair charge for:

- Warranty repairs — must provide Repair Center with purchase order number to pay for repair and make warranty claim with Caterpillar. Call the Dealer Service Tools Division Hotline for authorization number if claim is over $500.
- Normal repairs — basic repair price. Please contact Repair Center for current basic repair prices.
- Repairable components with major damage (major damage means replacement is needed for a major component such as a transducer, power cord, or pc board) — basic repair price does not apply; the Repair Center will contact owner with a separate repair quote.
- Additional components (something which is not included in the standard Tool Group) — advise owner if extra charges will exceed U.S. $25.
- Non repairable tools — The Repair Center will advise owner of condition and whether owner can obtain replacement from Caterpillar.

Freight/Shipping policy:

Owner pays shipping to the Repair Center. The Repair Center pays return shipping. This policy applies worldwide.

If you send tools not listed on the "Diagnostic Tool Repair List" sheet, you will be invoiced for the costs to return or reship the tools.

Instructions:

Documentation required when sending tools to the designated tool repair center.

Sender's name, phone number, fax number and e-mail address.

Part number and name of each tool.

Brief description of problem.

Return shipping address of owner.

Billing address of owner.

Purchase order number is required (required for warranty also).

Owner outside the U.S. must specify what wording on customs declarations is required for the Repair Center to properly return the tool.



8201 N. University
Peoria, IL. 61615
Attn: Caterpillar Diagnostic Tool Repair
For 24/7 Customer Service: 1-800-328-7287
Outside North America: 1-309-693-4170
or email: CSR@AdvancedTech.com

(This form is to be completed and forwarded to the above address with each tool being sent in for repair.)

Tool Repair Order Form for Caterpillar Diagnostic Tools	
Company Name:	
Name of Person to Contact:	
Phone Number:	
Email address:	
Fax Number:	
Your Purchase Order Number:	

Warranty Policy

Caterpillar Warranty: If this repair is being returned under Caterpillar warranty, please follow your standard Caterpillar Warranty Claim, Procedure to recoup your expenses (please remember to obtain an authorization number from Caterpillar Service Technology Group Hotline if claim is over $500).

ATS Repair Warranty: Advanced Technology Services provides a 90-day warranty for repair of Caterpillar Diagnostic Tools.

Caterpillar Services Technology Group Hotline

North America: +1 (877) 228-2420
International: +1 (309) 266-4421

Repair Information	
Tool Part Number:	
Tool Serial Number:	
Problem Description:	
Tool Return Address:	
Street Address:	
Billing Address (If Different:):	

Advanced Technology Services, Inc.

Authorized Cat® Dealer Service Tool Repair Center

Part No.	Description
127-8078 (1)	Battery Analyzer
131-5050 (1)	Dataview Data Logger
131-5051	Dataview Portable Techstation
146-4080 (1)	RS-232 True RMS Multimeter
154-8103 (1)	Fuel Flow Assembly Unit
154-8104	Flow Meter Assembly
154-8106	Fuel Flow Meter
168-7721	Ultrasonic Wear Indicator III
168-7722	Wear Probe
177-2330 (1)	Battery Analyzer
179-0700 (1)	Engine Burn Rate Meter
179-0710 (2)	Burn Rate Measurement Kit
179-0711	Burn Rate Kit
189-1720 (1)	Analog Gauge Tester
198-4234 (1)	Digital Pressure Indicator
198-4240 (1)	Digital Pressure Indicator
222-3062 (1)	Air Drill
261-3363 (1)	Wireless Communication Adapter
275-5120 (1)	Communication Adapter II Group
275-5121 (1)	Communication Adapter II
1P-3535	Gauge
1P-3550	Wiring Tester Group
1U-5300	Flow Monitor Group
1U-5301	Supply Meter Group, Small
1U-5302	Return Meter Group, Small
1U-5303	Supply Meter Group, Large
1U-5304	Return Meter, Large
1U-5430	Flow Monitor System, Small
1U-5440	Flow Monitor System, Large
1U-5796 (1)	Pressure Differential Group
1U-6245	Ultrasonic Thickness Probe
1U-6249	Ultrasonic Gauge
1U-7446	Transmission Shift Group
1U-7447	Shift Analyzer
1U-8860 (1)	Blowby Pickup Group, Large
1U-9500	Fuel Flow Communicator
1U-9616	Speed Control Assembly
1U-9800	Ultrasonic Wear Indicator Group
1U-9801	Ultrasonic Gauge
4C-4911 (1)	Battery Load Tester
4C-6501	Digital Thermometer
4C-6800	Logger Group
4C-8195	Service Tool
4C-9640	Gauge Group
4C-9758	Supply Meter, Small
4C-9759	Return Meter, Small
4C-9760	Supply Meter Group, Large 150.00
4C-9761	Return Meter Group, Large
4C-9762	Flow Meter, Small
4C-9763	Flow Meter, Large
4C-9764	Flow Monitor Group
5P-7360 (1)	Tachometer Generator
6V-0050	Timing Indicator
6V-0146	LDC Analyzer
6V-2100	Multitach
6V-2150 (1)	Starting/Charging Analyzer
6V-3100	Diesel Engine Timing Indicator
6V-3121	Multitach Group
6V-4050	Transmission Shift Analyzer
6V-4930 (1)	Battery Load Tester
6V-4950 (1)	Injection Line Pickup Group
6V-6106 (1)	Dial Indicator
6V-6113	Amplifier
6V-7830 (1)	Tetra Gauge
6V-7925	Fuel Rate Indicator
6V-9129	Temperature Adapter
6V-9400	Shift Analyzer
7X-1052	DDT 3176
7X-1200	Timing Adapter Group
7X-1201	Timing Adapter
7X-1400	Digital Diagnostic Tool
7X-1700	Communication Adapter Group with Cables
7X-1701	Communication Adapter
7X-1837	DDTS EIS Monitor Gp
7X-6170	Digital Diagnostic Tool
7X-6400	DDT PEEC Group
8C-9902	DDT SI
8C-9904	DDT SI Group
8T-0465	Therm Thermometer
8T-0470	Thermistor Thermometer
8T-1001	Electronic Position Indicator
8T-1002	Probe Position Indicator
8T-2685 (1)	Blowby/Airflow
8T-2701	Blowby/Airflow Indicator
8T-5200	Signal Generator/Counter Group
8T-5201	Signal/Generator Counter
8T-5230 (1)	Air Wrench
8T-8697	ECAP
8T-9119	Flowmeter, Small
8T-9121	Flowmeter, Large
8T-9170	Electronic Components Tester
8T-9171	EMS Training Aid
8T-9280	Flow Monitor Power Supply
8T-9294 (1)	Torque Wrench
8T-9300	Fuel Flow Monitor
8T-9828 (1)	DDT
9S-9102	Thermometer Group
9U-5006 (1)	Torque Wrench
9U-5007 (1)	Torque Wrench
9U-5140 (1)	Photo Pickup Multitach
9U-6665	CMS Service Tool
9U-6700	Ultrasonic II Wear Indicator
9U-6701	Ultrasonic II Indicator
9U-7401	Multitach II
9U-7402	Multitach II Photo Group
9U-7499 (1)	Transmission Analyzer
9U-7500	Transmission Shift Group
9U-7505	Transmission Shift
317-7485	Electronic Control Group
Priced by repair:	
147-8862	Dial Bore Gauge
160-5753	Welding Power Supply
168-7721	Ultrasonic Wear Indicator III
179-0710	Burn Rate Measurement Kit
1P-3535	Dial Bore Gauge
1U-5450	Flow Monitor System CB
1U-6161	Wire Feeder (OXO-AVC-300)
1U-6665	Pop Tester Power Supply
1U-9600	Rota Welder
206-8796	Torque Multiplier
3P-1567	Dial Indicator
4C-6815	Data Logger
4C-8710	Emission Analyzer
5P-2170	Dial Bore Gauge (Sunnen)
5P-9698	Frequency Calibrator
6V-2012	Micrometer
6V-3030	Multimeter (DMM)
6V-3075	Dial Indicator sa/25-881
6V-6000	Dial Bore Gauge
6V-6114	Fuel Pickup
6V-7030	Micrometer
6V-7070	Digital Multimeter
6V-7800	Digital Multimeter
6V-7897	Dial Bore Gauge
6V-7898	Dial Bore Gauge
6V-7926	Dial Indicator
7H-1942	Dial Indicator
7X-1055	DDT Group 3176
7X-1412	Harness Metal
7X-1690	DDT Challenger
7X-5400	DDT PEEC Group
8C-4629	DDT PEEG
8S-3158	Dial Indicator
8T-0447	Calipers
8T-5096	Dial Indicator
8T-9172	Electronic Switching Trainer
9U-7980	Upgrade Ultrasonic II Kit

1. ATS Provides Flat-Rate Pricing for the majority of Cat Tools we repair. However, in some circumstances, severe damage or major component failure may result in additional charges. In such cases, ATS will contact the owner with a separate repair quote.

2. Cat® Fuel Flow Meters should have the calibration checked annually. ATS (Advanced Technology Service) can provide this service. If recalibration or repair is required, the fuel flow meters should be returned to the supplier. Recalibration is required if the flow meter has been physically damaged. Improper storage and contamination in the fuel can lead to physical damage to the flow meter.

Diagnostic Tools Repaired by Supplier

Part No.	Description	Supplier
146-4080	Cat® Multimeter, RS232	Extech Instruments, 3 Year Warranty
198-4240	Digital Pressure Indicator	Bosch Service Solutions
177-2330	Battery Analyzer	Bosch Service Solutions
170-8500	Particle Analyzer Group	Pamas
142-5505	Insulation Tester	Transcat
163-7213	Scopemeter 123	Fluke
123-0096	Process Calibrator	Fluke
1U-5521	Phase Sequence Meter	Transcat
1U-5470	Engine Pressure Group	Carrier Oehler
213-4310	IR Thermometer	Raytek
8T-9290	Borescope	Lenox
1U-5268	Borescope	Lenox
186-0170	Borescope	Lenox
1U-5266	Borescope Lightsource 110	Lenox
190-8160	Borescope Lightsource 220	Lenox
1U-5265	Borescope Lightsource	Lenox
146-1738	Borescope	Gradient Lens
131-5050	Dataview	Bosch Service Solutions
4C-3030	Vibration Analyzer	CSI
6V-7830	Tetragauge	Mico-West
5P-8558	Calibrating Group, Guage	Carrier Oehler
8T-0900	Clamp-Ammeter	Sypris
9U-5358	Timing Light	KalEquip
237-5130	Multimeter and IR	Extech Instruments
225-8266	Clamp-on Ammeter	Extech Instruments
271-8590	24 Volt Analyzer	Bosch Service Solutions
251-0030	IR Thermometer	Extech Instruments
277-2362	Transmission Analyzer III	CAMtek, Inc
Suppliers are referenced in the below:		
308-7271	Fuel Flow Group	Badger Meter 8635 Washington Ave Racine WI 53406 indorders@badgermeter.com Contact Jon Cavalcant 480 255 9902

Europe, Middle East, and Africa Authorized Cat® Tool Certification Service

PTE Mining and Industrial
(Diagnostic Tools and Analog Pressure Gauges)
82 Kempton Road, Kempton Park
GAUTENG, South Africa, 1619
Phone: +27- (0)11-975-8762
Fax: +27- (0)11-975-8907
Helmut Kolar +27- (0)83-273-3757
Elsa Kolar +27- (0)83-289-1884
Inge Kolar +27- (0)79-886-8448

queries@ptecalibrations.co.za
helmutk@ptecalibrations.co.za
elsak@ptecalibrations.co.za
ingek@ptecalibrations.co.za

All equipment must be forwarded directly to the above-mentioned address as the final destination.

The Dealer Service Tools Division is offering a Tool Certification Service for Cat® dealers and customers in Europe, the Middle East and Africa. PTE Mining and Industrial performs this service (since the first quarter of 2003). See the list of tools and prices below.

All tools that pass testing will be returned with a signed Certificate from PTE.

Fees do not include recalibration, repair, or parts replacement. Currency exchange rates may effect prices. The customer pays shipping costs to and from PTE as well as the handling charge as charged by handling agents, import/export duties as applicable, custom duties and taxes as published by the Regulatory Authorities.

All equipment received must bear a serial number for record keeping purposes. If no serial number can be found, PTE will assign a unique number to the equipment for traceability purposes.

PTE Certification Service Examples

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Pressure Gauges (100 kPa to 68947 kPa)
Dial Indicators, Micrometers, Verniers
Clamp On Ammeters
Torque Wrenches
Multimeters
1U-5470 Engine Pressure Group
1U-5481 Pressure Group
6V-7830 Multigauge
198-4234 Pressure Transducer
6V-9130 Temp Adapter Group

Diagnostic Tool Repair Centers

North American Commercial Division (NACD)
ADVANCED TECHNOLOGY SVCS

(Diagnostic Tools, Analog Pressure Gauges and Torque Devices)
8201 N. University Avenue, Peoria, IL 61615
Phone 1-800-328-7287, Fax 1-309-693-4170
depotCSR@advancedtech.com

Caterpillar S.A.R.L.
CERGYDIS

(Diagnostic Tools only)
Shipping: Parc d'affaires Silic, Batiment B
95800 Cergy Saint Christophe/France

Mailing: BP8256, 95801 Cergy Partoise Ceolen
ATTN: Andre Morel
Phone 33 1 34 20 13 40, Fax 33 1 34 20 13 42
infos@cergydis.com

Africa Middle East Region
PTE Mining and Industrial

(Diagnostic Tools and Analog Pressure Gauges)
82 Kempton Road, Kempton Park
GAUTENG, South Africa, 1619
Phone +27 - (0)11-975-8762
Fax +27 - (0)11-975-8907

Cell:
Helmut Kolar +27 - (0)83-273-3757
Elsa Kolar +27 - (0)83-289-1884
Ingle Kolar +27 - (0)83-289-1884

E-mail:
queries@ptecalibrations.co.za
helmutk@ptecalibrations.co.za
elsak@ptecalibrations.co.za
ingek@ptecalibrations.co.za

Caterpillar Asia PTE. LTD. (CAPL)

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24 Ang Mo Kio Street 65, Singapore 569061
ATTN: Mr. Joel Yit
Phone 656 413 1907, Fax 656 484 5357
www.juzclickcal.com

HYDROTECHNIK Gmbh
(Diagnostic Tools, Analog Pressure Gauges and Torque Devices)
Holzheimer Strass 94-96 D-65549
Limburg, Germany
Phone 49 6431 40040, Fax 49 6431 45308

Caterpillar of Australia (COFA)
ATTILA
(Analog Pressure Gauges and Diagnostic Tools)
4/50 Lawrence Drive, Nerang Qld 4211 Australia
ATTN: Mr. Attila Szvetko
Phone 61 75 596 5233, Fax 61 75 596 0261
info@attilainstruments.com

IP&E Industrial Power and Electronics
(Diagnostic Tools only)
Unit 5, 22 Paramount Drive, Enterprise Park
Wangara, Western Australia 6065
ATTN: Mr. John Harris
Phone 61 8 9302 4441, Fax 61 8 9302 4442
indpwr@opera.iinet.net.au

Repair Centers

ACTRON MFG. CO.

9999 Walford Avenue, Cleveland, OH 44102
Phone: (800) 334-6167, FAX: (216) 651-2233
eservice@service-solutions.com

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Phone: (519) 824-7653, FAX: (519) 822-9485

AEMC CORPORATION

Bellamy Industrial Park, Faraday Drive
Dover, NH 03820
Phone: (800) 945-2362 ext.360,
FAX: (603) 742-2346
Email: repair@aemc.com
Estimates for repairs, normal recalibration.
Calibration traceable to NBS avail. on request.
Overseas customers require authorization.

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751 South Center St., Adrian, MI 49221
Phone: (517) 265-7165, FAX: (517) 265-2131
Call for authorization number.

AIRCO

Call Dealer Service Tools Division for info

ALLOY SLINGS

1406 175th Street, Hazelcrest, IL 60429
Phone: (708) 647-4900, FAX: (708) 647-4993
Info@ascindustries.com

AMETEK INC.

(see Carrier-Oehler)

ANACOMP INC.

1100 Cassatt Road, Berwyn, PA 19312 USA
Phone: (610) 647-2121, FAX: (215) 323-9337
www.ametek.com

ASSOCIATED EQUIPMENT CORPORATION

5043 Farlin Avenue, St. Louis, MO 63115
Phone: (314) 385-5178 (outside U.S.)
(800) 654-0853 (U.S.), Fax: (314)385-3254

AXONIX CORP.

844 S 200 E., Salt Lake City, UT 84106
Phone: (801) 466-9797

BECKMAN INDUSTRIAL CORP.

3883 Ruffin Road Suite A, San Diego, CA 92123
Phone: (619) 495-3310
Or contact the Dealer Service Tools Division for nearest authorized service center.

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6120 Hanging Moss Road, Orlando, FL 32807
Phone: (800) 775-2550 ext.323
(407) 678-6900 ext.321,
FAX: (407) 677-5765
www.GlobalSpec.com

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Phone: (844) 236-3267, FAX: (248) 661-6475
www.benecor.com , info@benecor.com

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BOSCH SERVICE SOLUTIONS

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www.repairtrack.bosch-automotive.com
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FAX: (414) 716-0030, www.build-all.com

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Iowa Falls, IA 50126
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FAX: (515) 648-5013
www.camspray.com, sales@camspray.com

CAMtek

2402 E. Empire Street, Bloomington, IL 61704
P.O. Box 5020, Bloomington, IL 61702
Phone: (309) 661-0348, FAX: (309) 661-1809
sales@camtek-mfg.com, www.camtek-mfg.com

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16955 Vincennes Avenue
P.O. Box 40, South Holland, IL 60473
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headquarters@carrieroehler.com

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FAX: (262) 567-4307

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CLAYTON ASSOCIATES

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FAX: (716) 689-5644, www.cmindustrial.com

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(803) 951-7536
www.apexpowertools.com

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Phone: (800) 772-1500, FAX: (918) 832-0940
crosbygroup@earthlink.net,
www.thecrosbygroup.com

Computational Systems, Inc. (CSI)

835 Innovation Drive, Knoxville, TN 37932
Phone: (865) 675-2110, FAX: (865) 218-1401
www.compsys.com/contacts

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www.curtisswright.com

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4708 S. Old Peachtree Road, Building #300,
Norcross, GA 30071
FAX: (770) 446-5727, PH 1-800-449-1849

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Repair Information: Must Call for RMA# before sending. Dakota Ultrasonics, 1500 Green Hills Rd. #107, Scotts Valley, CA 95066,
Ph: 831 431 9722, Fax: 831 431 9723

To request an RMA#:
Lela Virgallito – lela@dakotainst.com
Kris Stevens – kris@dakotainst.com
Andrea McCarrick – andrea@dakotainst.com
Technical Support:
Rich Engel - rich@dakotainst.com
Will Holt – will@dakotainst.com

DAREX CORPORATION

1500 Green Hills, #107, Scotts Valley, CA 95066
Phone: 831 431-9722m Fax: 831 431-9723

DFI

DFI, 220 E 50th St, Davenport IA 52806
dficatsupport@dfi-llc.com

DUREX INDUSTRIES

190 Detroit Street, Cary, IL 60013
Phone: (866) 712-5014, durexindustries.com

DWYER INSTRUMENTS

102 Indiana Hwy. 212, Michigan City, IN 46573
Phone: (219) 879-8000, FAX: (219) 872-9057
Ask for customer service.
www.Dwyer-Inst.com

ECOM AMERICA LTD.

1628 Oakbrook Drive, Gainesville, GA 30507
Phone: (770) 532-3280, FAX: (770) 532-3620
Toll Free: (877) 326-6411
www.ecomusa.com, ecom.info@ecomusa.com

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4 Rue Ettore Bugatti, 67201 Eckbolsheim, France
Phone: +33 (388) 764684, FAX: +33 (388) 760285

ECOM GERMANY

Ecom Instruments GmbH
Industriesbe 2, 97959 Assamstadt, BW Germany
Phone:+49-6294-42-54-0,
Fax:+49-6294-42-24-100
sales@ecom-ex.com, www.ecom-ex.com

ECOM RUSSIA

Leonid Kuzmin, ul. Gorohovaya 66-41
St. Petersberg Russia 191180
Phone: 7-812-310-0206, www.ecom-ex.com

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Phone: (616) 846-4150, FAX: (616) 846-6341
info@sandblasting.com, www.sandblasting.com

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http://www.enerpac.com
13000 Silver Spring Drive, Butler, WI 53007
Phone: (414) 781-6600, (800) 433-2766
FAX: (414) 781-1049

ENERPAC - AFRICA

Africa (Pty) Ltd.
No 5 Bauhinia Av, Cambridge Office Park
Block E Highveld Techno Park, Centurion, 0157
Phone:+27-12-940-0656
euafr.sales-za@enerpac.com

ENERPAC - AUSTRALIA

Block V, Unit 3, Regents Park Estate,
391 Park Rd, Regents Park
NSW, 2143
Phone: (800)225-084
+61 (0) 2 8717 7200
tech.service-au@enerpac.com
http://www.enerpac.com/en-au/contact-us

ENERPAC - BRAZIL

ISOTEC, Mr. Lucas Lopes
Rua Cachoeira Dourada, nº 38
Santa Efigenia Belo, Horizonte/MG Brasil
Phone:55(31)3481-5124, Fax:55(31)3481-4271
isotec@isotecbr.com.br

ENERPAC - CHILE

Sandiman Santiago, Manuel Rivas Vicuna 160
Estacion Central Santiago-Chile
Phone: 56-22-4762000, Alejandro Espinosa
aespinosa@sandiman.cl

Sandiman-Antofagasta, Rodrigo Espinosa
Av. Radomiro Tomic 7275-
Antofagasta, Chile
Phone: 56-55-2237944
respinosa@sandiman.cl

ENERPAC - PERU

Unimaq, Sr. Edgar Reynoso
AV. Evitamiento 1936 Ate, Lima, Peru
Phone: 511-202-1300 ext:1550
edgar.reynoso@unimaq.com.pe
www.unimaq.com.pee

ENERPAC - MEXICO

Hidraulicos del Norte de Monterrey,
S.A. de C.V., Batallon de San blas
412, Col. Obrera, Monterrey, N.L. C.P. 64010
Yolanda.lugo@hidraulicosdelnorte.com
Phone: 52-(81) 8340-92-89

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CEMA, 29, Ave des Freres Montgolfier
Chassieu, France 69680
Phone: 04-72-47-28-28
cemafrance.com, contact@cemafrance.com

ENERPAC - SINGAPORE

Actuant Asia Pte. Ltd.
83 Joo Koon Circle, Singapore 629109
Phone: +65 68-63-0611, Fax: +65 64-84-5669
Jason.lim@enerpac.com

ENERPAC - SPAIN

SUTEC, S.A., C/ Gran De Sant Andreu, 467 –
Local 3 Interior, Barcelona, Spain 8030
Phone:+34-933-466-350, Fax:+34-933-454-460
www.sutec.net, comercial@sutec.net

ENERPAC - USA, East of the Mississippi

A&A Hydraulic Repair Co.
5301 West 161st, Cleveland, OH 44142
Phone:(216) 362-4000, Fax: (800) 992-1886
hydraulicparts.com, info@hydraulicparts.com

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Jack X Change, 1609 N Orangethorpe Way
Anaheim, California 92801
Phone:(714) 871-4966, Fax: (714) 871-4591
jackxchange.com, johngaw@jackxchange.com

EVERETT INDUSTRIES

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FAX: (330) 372-3118
info@everettindustries.com

EXTECH INSTRUMENTS CORPORATION

9 Townsend West, Nashua, NH 03061
Phone: (781) 890-7440 ext.220
FAX: (603) 324-7864
Call for authorization number.
repair@extech.com, www.extech.com

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Repair Center
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Call for RMA number.
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FAX: (480) 948-3610
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FLOW TECHNOLOGY

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FAX: (717) 242-2606
GEInspectionTechnologies@ae.ge.com

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207 Tremont Street, Rochester, NY 14608
Phone: (585) 235-2620, (800) 536-0790
FAX: (585) 235-6645
info@gradientlens.com, www.gradientlens.com

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The Lincoln Electric Co, 2345 Murphy Blvd
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www.harrisproductsgroup.com

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Fax:+44-(0)1280-825601
support@hartridge.com, www.hartridge.com

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Phone: (800) 433-5263, Fax: (414) 639-2267

HEINZMANN, U.S.A.

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Phone:+1 (970) 484-1863, FAX:+1 (970) 484-0073
Info.usa@heinzmann.com, www.heinzmann.com

HYDC SERVICE CENTER, GERMANY

Rehgrabenstrasse, Werk 7, 661225 Saarbrucken
Germany
Tel: +49 (0) 6897 509 01

HYDAC TECHNOLOGY CORPORATION

2260-2280 City Line Road, Bethlehem, PA 18017
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www.hydacusa.com

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Estrada Fukutaro Yida, 225
Bairro Cooperative 09852-060
BR-São Bernardo do Campo-SÃO PAULO
Phone:+55-11-4393-6600, Fax:+55-11-4393-6617
hydac@hydac.com.br

HYDAC TECHNOLOGY, SHANGHAI

28 Zhongpin Lu, Shanghai Minhang Economic &
Tech. Development Zone
Shanghai 200245; P.R. China
Phone:(0086)2164-63-3510
Fax:(0086)2164-30-0257
hydacsh@hydac.com.cn

HYDAC PTY. LTD.

109 Dohertys Rd, Box 224, AUS-3025 Altona N.
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HYDAC SERVICE GmbH

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Industriegebiet, D-66280 Sulzbach/Saar
Phone:06 89-75-09-01, Fax: 06 89-75-09-324
speichertechnik@hydac.com

HYDRATIGHT AND SWEENEY

2010 Clermont Street, Antigo, WI 54409
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aero@hydratight.com

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(see CITA Industries)

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S&K Air Power, 303 Woodrow Drive
East Peoria, IL 61611, Phone: (309) 698-6565

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FAX: (815) 872-7404

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Abrasive Systems Div, 8770 Valley Forge Lane N
Maple Grove, MN 55369, FAX (770) 502-3766

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info@iteng.com, www.ith.de

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15700 South Waterloo Rd, Cleveland, OH 44110
Phone:(216) 486-2100, Fax: (216) 486-5014
www.jis.com

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15825 Industrial Pky, Cleveland, OH 44135
Phone: (800) 228-7667, Fax: (216) 898-1636
kal-equip@kalequip.com

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(800) 223-0326 (New Jersey)
(416) 673-7998 (Canada)

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K-LINE INDUSTRIES, INC.

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cservice@klineind.com, www.klineind.com

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Heavy Duty Order Desk, Phone: (800) 328-6657

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11665 W. Bradley Rd., Milwaukee, WI 53224
Phone: (800) 236-5366, (414) 353-0711
FAX: (414) 353-0733, www.lem.com

LEM Europe

Deutschland GmbH, Frankfurter Strasse 74
D-64521 Gross-Gerau Germany
Phone:+49 6152-9301-0, FaxX:+43 6152-8466-1
repair@lem.com

LEM Japan

2-1-2 Nakamachi J-194-0021, Machida, Tokyo
Phone:+81-42-725-8151, Fax:+81-42-728-8119
nle@lem.com, www.lem.com/jp/jp

LENOX INSTRUMENT CO.

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FAX: (215) 322-6126, www.lenoxinst.com

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One Lincoln Way , St. Louis, MO 63120
Phone: (314) 679-4200, Fax: (314) 679-4359
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Phone: (401) 784-3100, (800) 343-2050
Fax: (401) 784-324
www.mahrfederal.com, information@mahr.com

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Mobile Hydraulics Division, Norm Graham
1700 Old Manfield Rd., Wooster, OH 44691
Phone: (330) 263-3491 ext. 3367

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2450 Adie Rd, #100, Maryland Hts, MO 63043
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FAX: (314) 567-6318
marct@martwash.com, marttechservices.com

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FAX: (847) 455-6030

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512-22 W. Burr Oak St, Centerville, MI 49032
Phone: (269) 467-6302, (800) 253-2076
FAX: (269) 467-6897
www.meyerhydraulics.com
info@meyerhydraulics.com

MICO-WEST DIVISION

1911 Lee Boulevard, N. Mankato, MN 56003
Phone: (800) 477-6426, (507) 625-6426
FAX: (507) 947-6054
Call for authorization number.
micomail@mico.com, www.mico.com

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1500 West St. Paul Ave., Milwaukee, WI 53201
Phone: (414) 272-6249, Fax: (414) 272-9989
www.milwaukeehydraulic.com

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16925 Gale Av, City of Industry, CA 91745
Phone: (213) 961-9661
10699 Stemmoln's Freeway, Dallas, TX 75220
Phone: (214) 556-0533
33-7 Shiba 5 Chome, Minato Ku Tokyo, Japan
03-053-3331, 242-2395 (Telex)

MONARCH INSTRUMENT

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sales@monarchinstrument.com
Please call before shipping.

NEXIQ TECHNOLOGIES

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Phone: (800) 639-6774, Fax: (810) 731-3348
support@nexiq.com, www.nexiq.com

O'CONNOR ENGINEERING

10 Casey School Rd, Fulton, KY 42041
Phone: (270) 838-1000, Fax: (707) 745-3191
joconner@oconnerengineering.com

ORANGE RESEARCH (see Carrier-Oehler)

PAMAS GERMANY

Dieselstrabe 10, Rutesheim
Postfach, Germany D-71277
Phone:+49-7152-99-63-0, patrick.ladj@pamas.de
Click here for more PAMAS contact information.

PAMAS USA

1408 South Denver Ave, Tulsa, OK 74119
Phone: (918) 743-6762, Fax: (918) 743-6917
Clay.bielo@pamas.de, www.pamas.de

PARKER HANNIFIN CORP.

Hose Products Div., Tech Service
30240 Lakeland Blvd, Wickliffe, OH 44092
Phone: (216) 943-5700, FAX: (216) 943-3129

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P.O. Box 955, Toledo, OH 43697-0955
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PORTER-CABLE POWER TOOLS

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R-BEC LTD. MONTREAL

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FAX: (203) 632-3737

RAYTEK CORPORATION

1201 Shaffer Road, Santa Cruz, CA 95060
Phone: (800) 227-8074, (831) 458-3900
Fax: (831) 425-4561
support@raytek.com, www.raytek.com

RAYTEK CHINA COMPANY

SCITE Tower, #1901, 22 Jianguomen Wai Dajie
Beijing, China
Phone:+86-10-6437-0284, Fax:+86-10-6512-3437
www.rayteck.com, info@raytek.com.cn

RAYTEK GMBH

135 Blankenburger Strabe, Berlin, Germany
Phone:+49-30-4780-080, Fax:+49-30-4710-251
www.raytek.de, raytek@raytek.de

RAYTEK JAPAN, INC.

Fluke Japan Office
Shinagawa Intercity Bldg B 6th Floor
2-15-2 Konan, Minato, Tokyo, Japan 108-6106
Phone: +81-36-714-3114, Fax:+81-36-714-3115
info@raytekjapan.co.jp, www.raytekjapan.co.jp

AIRPORT BERLIN TEGEL (BLN TXL)
Raytex Sensorik Gmbh, Borkumstrasse 2
0 — 1100 Berlin, Germany
Phone: 37-24-725-126, Fax: 37-24-710-251

REELCRAFT

2842 E. Busn. Hwy 30, Columbus City, IN 46725
Phone: (855) 634-9109, (800) 444-3134
Fax: (800) 444-4587
www.reelcraft.com, reelcraft@reelcraft.com

RITCHIE ENGINEERING CO., INC.

10950 Hampshire Ave. South
Bloomington, MN 55438-2623
Phone: (800) 769-8370, (952) 943-1300
Fax: (800) 322-8684, (952) 943-1605
yellowjacket.com, custserv@yellowjacket.com

RINCK-McLLWAINE INC.

69 Armour Place, Dumont, NJ 07628
Phone: (201) 384-7600, Fax: (201) 384-8429

ROBINAIR

1224 Robinair Way, Montpelier, OH 43543-0193
Phone: (419) 485-5561, (800) 822-5561
Call before shipping.

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26300 Lakeland Blvd, Cleveland, OH 44132
Phone: (708) 425-3404

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182 Old 7 Mile Pike, Shelbyville, KY 40065
Phone: (502) 633-0395

SINGER SAFETY COMPANY

2300 N. Kilbourn Ave., Chicago, IL 60639
Phone: (888) 431-7951, (800) 621-0089
FAX: (773) 235-0363, www.singersafety.com

SNAP-ON TOOLS SERVICE CENTERS

Western Repair Center
3602 Challenger Way
Carson City, NV 89706-0753
Phone: 1-888-762-7972, Fax: 775-883-8590
WesternRepairInquiries@snapon.com

Colorado Mountain Service Ctr.
6632 Fig Street (Unit A), Arvada, CO 80004
Phone: (303) 422-9516

Eastern Repair Center
6320 Flank Drive
Harrisburg, PA 17112
Phone: (717) 652-7914, Fax: 717-652-7123
EasternRepairInquiries@snapon.com

Mideast Service Center
2490 McGaw Road, Obetz (Columbus), OH 43207
Phone: (614) 497-2178

Northern Repair Center
Dock 8, 3011 East Route 176
Crystal Lake, IL 60014-2299
Phone: 815-479-6850, Fax: 815-479-6857
NorthernRepairInquiries@snapon.com

Southern Service Center
2929A Pacific Drive, P.O. Box 6900
Norcross, GA 30091-6900
Phone: (404) 446-2929

SNAP-ON TOOLS AUSTRALIA

Attn: Service Centre Administrator
80 Holbeche Road
Arndell Park, NSW 2148
Phone: +61 1800 811 480
Fax: +61 2 9837 9199
www.snapontools.com.au/industrial

SNAP-ON TOOLS CANADA
Toronto Service Center
150 Caldari Road, Concord, Ontario
Canada L4K-4L1
Phone: (416) 660-2516

Calgary Service Center
7403-48th Street S.E., Calgary, Alberta
Canada T2C 4H6
Phone: 800-263-8665

SNAP-ON TOOLS UNITED KINGDOM
Distribution Centre, Telford Way Industrial Estate
Kettering, Northants, NN16 8SN England
Phone: 9-011-44-536-516651

SPECTRUM COMPOSITES

1090 Doris Rd., Auburn Hills, MI 48326
Phone: (800) 359-9855, Fax: (248) 340-9334
info@spectrumcomposites.com
www.spectrumcomposites.net

STANDARD GAUGE CO., INC

53 Oakley St., Poughkeepsie, NY 12601
Phone: (845) 849-0006, Fax: (845) 454-3888

STANLEY PROTO INDUSTRIAL TOOLS

2195 East View Pky #103, Conyers, GA 30013
Phone: (800) 800-8665, Fax: (770) 648-9108
www.protoindustrial.com

STARRETT PRECISION MEASURING TOOLS

121 Crescent Street, Athol, MA 01331
Phone: (508) 249-3551, Fax: (508) 249-8495
www.starrett.com

STEWART-WARNER

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STRESS-TEK

5920 S. 194th St, Kent, Washington 98032
Phone: (800) 237-0022, Fax: (253) 872-9626
Must have return authorization #
www.stress-tek.com, info@stress-tek.com

SUN ELECTRIC CORP. REPAIR CENTER

23192 Commerce Dr, Farmington Hills, MI 38024
Phone: (815) 459-7700, (800) 225-5786

SUNFIRE MANUFACTURING CORP.

(see Advanced METALTECH Manufacturing)

SUNNEN PRODUCTS COMPANY

7910 Manchester Rd., St. Louis, MO 63143
Phone: (800) 325-3670, (314) 781-2100
Fax (314) 781-2268
sunnen@sunnen.com
www.sunnen.com

SUPERFLOW

3512 N. Tejon, Colorado Springs, CO 80907
Phone: (888) 442-5546, (719) 471-1746
FAX: (719) 578-1792, www.superflow.com

TEMPLETON-KENLY

777 Oakmont Lane #800, Westmont, IL 60559
Phone: (800) 323-9114, Fax: (630) 590-6955
www.tksimplex.com, info@tksimplex.com

TESTO AUSTRALIA

Testo Pty Ltd, Croydon South 3136
Phone: +61 3-87-61-61-08
Fax: +61 3-87-61-61-09
info@testo.com.au, www.testo.com.au

TESTO AUSTRALIA

14/653 Mountain Hwy, Bayswater, Vic. 3153
Melbourne, Australia
Phone: 03-9720-0011, Fax: 03-9720-0022
www.testo.com.au, info@testo.com.au

TESTO AUSTRALIA

Testo Sense Pty Ltd, #3/5 Wongala Crescent
Beecroft NSW 2119, Sydney, Australia
Phone: 02-9980-1312, Fax: 02-9980-1316
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13024-240–Campinas–SP
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sac@testo.com.br, www.testo.com.br

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FAX: +31 36-54-87-009
info@testo.nl, www.testo.nl

TESTO SPAIN

Instrumentos Testo SA, 08348 Cabrils (Barcelona)
Phone:+34 93-7-53-95-20, Fax:+34 93-7-53-95-26
Info@testo.es, www.testo.es

TESTO UNITED KINGDOM

Newman Lane, Alton, Hampshire GU34 2QE
Phone: 01 420-544433, FAX: 01 420-544434
info@testo.com.uk, www.testolimited.com

TESTO USA

40 White Lake Road, Sparta, NJ 07871
Phone: +1 (800) 227-0729

T.I.F. INSTRUMENTS, INC.

655 Eisenhower Drive, Owatonna, MN 55060
International (507) 455-7223
N. America (800) 327-5060
Repair/Warranty (800) 344-4013

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TRANSCAT

35 Vantage Point Dr, #1 Rochester, NY 14624
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www.transcat.com

TRIGASFI GmbH

Erdinger Str. 2b, D-85375 Neufahm, Germany
Phone: 49 8165 6472 0, info@trigasfi.com

TUXCO

4300 Grove Avenue, Gurnee, IL 60031
Phone: (847) 244-2220, (800) 613-6979
moreinfo@tuxco.com, www.tuxco.com

U.E. SYSTEMS, INC.

14 Hayes St, Elmsford, NY 10523
Phone: (914) 592-1220
info@uesystems.com, www.uesystems.com

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WEBSTER INSTRUMENTS

1290 E. Waterford Av, Milwaukee, WI 53207
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Inside US (see Carrier-Oehler)
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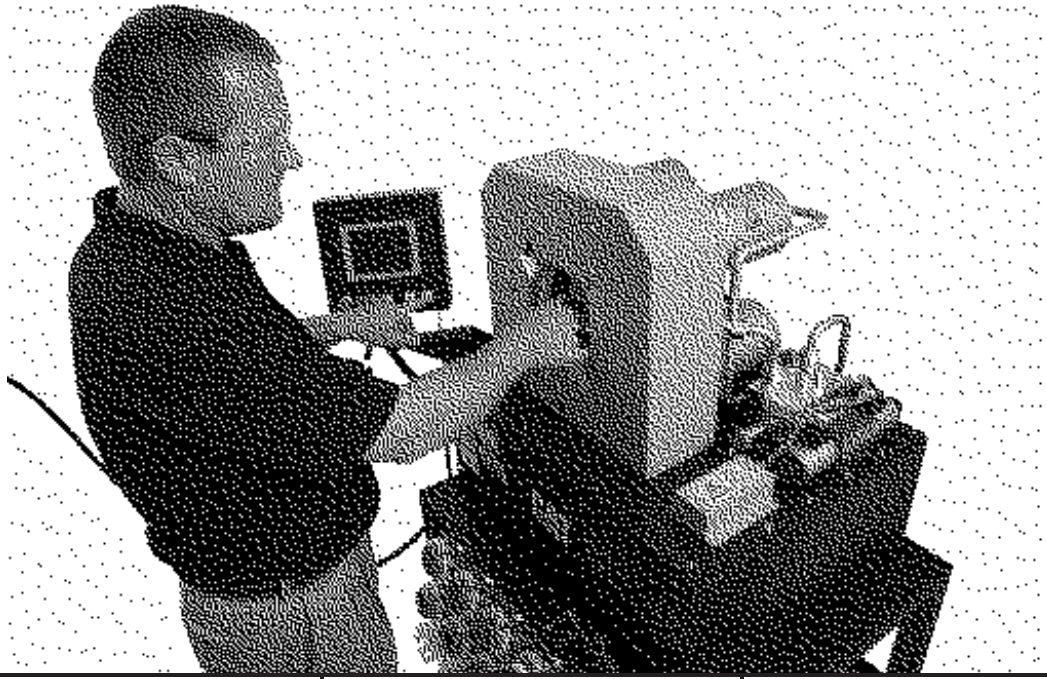







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PERJ1017-22 JULY 2018

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