

SERVICE

Equipment Protection Plan

Global

Machines

Powertrain Equipment Protection Plan

This Equipment Protection Plan (EPP) addresses the powertrain components on the base machine that are covered under various new, used and rebuilt equipment programs offered through Caterpillar. Powertrain components are the components on a machine that are used either to produce, transmit, or control engine horsepower for the purpose of propelling (moving) the machine. Paving products have two unique exceptions involving vibratory and rotary drive components which are also considered Powertrain, even though they are not used for propelling the machine.

The following are the major component categories that are covered under Powertrain - EPP:

- **Basic Engine** - including engine components essential to engine operation (i.e. fuel pump, oil pump, water pump, turbocharger, governor, engine control module, etc.).
- **Transmission** - includes transmission pumps and hydraulic controls.
- **Torque Converter/Divider**
- **Drive Line** - includes drive shafts and U-joints.
- **Differential** - includes pinion & bevel gear.
- **Transfer Gear Group**
- **Drive Axles**
- **Final Drives**
- **Hydraulic Drive Pumps & Motors** on hydraulic excavators and machines equipped with hydrostatic drive or differential steering, including hydrostatic lines between the pump and motor.
- **Brake Components** for track-type loaders and tractors, **only** if they also provide steering.
- **Service Brake Components** are limited to those parts that are internal to a covered powertrain component, such as a powered axle assembly or differential steering housing. External brake components that are accessible without disassembly of a powertrain component are not covered (i.e. brake linkage and control valves.) Wear items, including but not limited to, discs, plates, and linings, either internal or external, are not covered.

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► Indicates change.

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Dealer and Dealers are defined as any Cat Authorized Dealer or Cat Authorized Repair Representative.

- **Brake Seals and Gaskets** that serve to prevent fluid cross contamination of a powertrain component.
- **Steering Clutch Components** on track-type loaders and tractors, if so equipped.
- **Differential Steering Components** - includes differential steer planetary group, pump, motor and pilot valves.
- **Vibratory Components** on vibratory compactors. Includes vibratory mechanism, hydraulic pump & motor, hydraulic valves, universal joints, and bearings.
- **Rotor Drive Mechanism** on paving profilers, reclaimers and stabilizers. This includes the drive shaft group, sheave groups and clutch group. Excluded are belts, chains and rotor brakes.
- **Electronic Controls and Sensors** which function to direct power for the purpose of moving the machine. This includes power shift controls, engine pressure controls, differential lock and finger-tip controls. It includes the wiring connectors that are part of the designated Powertrain components.
- **Electric Drive Train** for Track-Type tractors and Off Highway Trucks equipped with generator, propulsion module, inverter, High Voltage cables and Accessory Power Converter.

The following are components commonly mistaken by dealers as Powertrain components. **These components are not covered under Powertrain - EPP:**

- **Undercarriage Components** on track-type and track belt machines - including sprockets, drive wheels, track assemblies, track belts, track rollers, mid-wheels, idlers, roller frames tensioning system and non-powered axles. (These exclusions do not all apply to Multi Terrain Loader (MTL), Compact Track Loader (CTL) and Mini Hydraulic Excavators (MHEX) products. For Compact Construction Equipment (CCE) Track Machines, Compact Track Loader (CTL), and Mini Hydraulic Excavators (MHEX) products, see the list of additional components included on pages 12-13.) **Note: Coverage is for defects in material and workmanship. Normal wear and tear is not covered.**
- **MTL/CTL/MHE** track belts and track assemblies.
- **Radiator** (This exclusion does not always apply to MTL/CTL/MHEX products. For Compact Construction Equipment (CCE) Track Machines, Compact Track Loader (CTL), and Mini Hydraulic Excavators (MHEX) products, see the list of additional components included on pages 12-13.)
- **Engine Attachments** - such as alternator, starter, air compressor and air conditioning compressor.
- **External Hoses and Lines** - for oil, water and air (except hydrostatic lines and hoses between the drive pump and motor).

➤ Emissions Components

In some regions, certain parts and/or components may qualify for Emissions Warranty such as in accordance with the United States Environmental Protection Agency (US EPA) and the California Air Resources Board (ARB). Bulletin 7.01 explains the details and reimbursements of emissions warranty and the claiming procedures for emissions components. Emissions parts that are within the terms of emissions warranty must follow claiming procedures outlined in bulletin 7.01.

- Bulletin 7.01 contains the list of parts that are eligible for Emissions Warranty. Unless otherwise specified, upon expiration of the emissions warranty, these parts are included in Powertrain - EPP and covered against defects in material and workmanship. External lines, hoses, and wiring harnesses are included in Powertrain - EPP only when part of the Caterpillar Clean Emissions Module (CEM.)
- Emissions parts that are included in Powertrain - EPP coverage but are beyond the terms of Emissions Warranty may be claimed according to the normal EPP guidelines outlined in this Equipment Protection Plan bulletin for the remainder of the EPP term.
- The CEM is included in the Powertrain - EPP after the expiration of the Emissions Warranty period.

General Exclusions and Limitations

Powertrain - EPP does not cover the following:

- Operator abuse, neglect, improper or abusive use of the machine including but not limited to the failure to perform the recommended preventative maintenance as specified in the O&M Manual.
- Applications not approved by Caterpillar.
- Improper or abusive use of machine.
- Operation beyond the design and/or capacity of the machine.
- Wear-out and normal deterioration in performance, accelerated wear-out of components due to operating technique or application; including but not limited to oil consumption and gasket or seal leaks.
- Chemical corrosion and physical or mechanical erosion.
- Unauthorized fuel setting changes.
- Acts of war, vandalism, riot, theft, explosion, collision, fire and/or any other act of nature, person or vermin.
- Operating equipment with improper, contaminated, or improper levels of fuel or fluids, or the use of improper filters.
- Modifications, unless the modifications were authorized at the request of Caterpillar and performed at an approved repair facility.
- Operating at performance settings other than the standard Caterpillar specification.
- Accelerated wear-out of components due to operating technique or application.
- Physical damage.
- Any repairs if the service meter has been stopped or altered or misrepresents the equipment's actual usage.
- Mechanical transportation or towing costs or field service travel expenses.
- Loss of time, inconvenience, downtime or downtime-related expenses or other incidental or consequential loss that results from a defect in material or workmanship.
- Any costs incurred to improve operating performance due to normal wear and tear.
- Storage or miscellaneous shop supplies.
- Mechanical breakdown resulting from failure of a non-covered component.
- Freight and taxes.
- Any cost covered by any warranty of the manufacturer including emissions warranty or repairer's guarantee regardless of whether the warranty or repairer's guarantee is honored.
- Performance complaints including, but not limited to, adjustments to fuel settings or electronic unit injectors to comply with emissions standards under Environmental Protection Agency or similar national, federal, provincial or state law.
- Any costs incurred for the manufacturer to comply with emissions standards under the Environmental Protection Agency or similar national, federal, provincial or state law.
- Failure to use fuels and lubricants that meet or exceed the minimum specification requirements of the manufacturer as specified in the operations manual or other technical bulletins.

For machines enrolled in the Powertrain **EPP**, please refer to the Contractual Liability Policy (CLIP) for a complete list of exclusions and limitations. In the event of any ambiguity, the CLIP issued to the dealer by Caterpillar Insurance Company will govern. Additional information regarding the CLIP policy may be obtained by contacting your dealership designated Warranty Manager.

Customer's Responsibilities

The customer is responsible for assuring all recommended preventative maintenance is performed at the specified service intervals as described in the O&M Manuals. Preventative maintenance includes, but is not limited to, the servicing, adjusting and/or replacing of specified components.

Powertrain - EPP does not cover failure of any components as a result of not performing scheduled maintenance. The dealer may be required to provide proof of compliance with the maintenance schedules, at the time of a failure. Proof may include receipts or copies of work orders or invoices showing the performed maintenance services.

S•O•SSM Fluid Analysis Test Results

S•O•S is not a requirement of the EPP program, however it is recommended that at the point of enrollment, S•O•S sampling begin at the first recommended interval and continue throughout the remainder of the EPP coverage term.

Wear-out and Extent of Coverage

Wear-out and/or deterioration are not covered by **Powertrain - EPP**.

The intent is not to restore the product to a like-new condition, but rather to restore the product to its operating condition just prior to the covered failure. **Powertrain - EPP** covers only the repair or replacement of the failed component and any resultant damaged parts. Other parts removed in the process of repair will be reinstalled as is, unless the customer authorized the additional cost for their account.

Example: While performing a **Powertrain - EPP** program repair for a piston ring failure, the dealer service technician notices the vee belts and coolant hoses are worn and deteriorated. He also notices some wear (within acceptable limits) on the cylinder head valve guides. In addition to the piston ring failure, the service technician replaces the vee belts and coolant hoses, and reconditions the valve guides to avoid future downtime.

In this example the vee belts, coolant hoses and valve guide reconditioning cannot be claimed to Caterpillar because they did not have a defect, nor were they damaged as a result of the piston ring failure. They were repaired or replaced as a result of the customer responsibilities for assuring all recommended preventative maintenance is performed.

NOTE: If the piston ring failed due to abuse (running without changing oil at the proper interval), the ring failure and resultant damage would not be due to a Caterpillar defect and therefore not a covered failure.

Parts Book Component Codes

At the bottom of each page on all Cat Parts Books (paper or electronic), is printed a four-digit numeric SMCS component code. These component codes are used to describe the area of primary use for the parts and/or components listed on that page.

The SMCS component codes can be used as a mechanism for helping to determine if a failed part may be considered part of the Powertrain.

On the following pages are the SMCS component codes in numeric order that Caterpillar considers part of Powertrain. For **Powertrain - EPP** qualification, the component code listed on the parts book page should be compared to this list of acceptable Powertrain components.

NOTE: Sometimes a parts book page with an acceptable Powertrain component code will include parts that are not covered, or may include parts that are broken out on another parts book page. Additionally, there may be instances of a non-acceptable component code containing parts that may qualify for powertrain coverage. For clarification regarding coverage, please submit a ticket through the Warranty Service Desk.

Use of Parts Book Component Code on Labor Expense Lines

Caterpillar simplified some of the SMCS component codes by phasing out and combining certain component codes. As a result, some component codes listed on the following pages indicate in their code description to use another component code, which is a substitute code. For example:

1299 Hydraulic Timing Advance (**use 1272**)

These references which indicate use of a substitute code apply only when using the component code on a labor expense line, if labor reimbursement is applicable. In some cases, a component code which indicates use of a substitute code may have been canceled. Using a canceled component code on a labor expense line will cause the entire service claim to be canceled. To avoid this, dealers should use the substitute component code, listed in parentheses, for claiming labor reimbursement in the expenses detail section of the claim.

NOTE: Refer to Bulletins 1.06 and 1.09 for proper group number and labor line SMCS code usage.

I. BASIC ENGINE

Engine

- 1014 Engine & Output Drive Assembly
- 1020 Long Block

Air Induction & Exhaust System

- 1052 Turbocharger Group
- 1053 Turbocharger Cartridge
- 1056 Turbocharger Cartridge Housing
- 1057 Exhaust Bypass Valve
- 1058 Inlet Manifold
- 1059 Exhaust Manifold
- 1060 Turbocharger Compressor Housing
- 1063 Aftercooler Group
- 1064 Aftercooler Core
- 1065 Turbocharger Turbine Housing
- 1066 Turbocharger Thrust Plate Assembly
- 106A Aftercooler Air Temperature Control (All Regions)
- 1070 Water Cooled Turbocharger
- 1071 Air line/Pipe
- 1073 Turbocharger Heat Shield
- 1076 Differential Pressure Ratio Regulator
- 1077 Turbocharger Shaft & Wheel Assembly
- 1079 Aftercooler Intake Manifold
- 1080 Exhaust Gas Recirculation System
- 1081 Boost Control Valve
- 1085 Hydra-Mechanical Shutoff Control
- 1086 Hydra-Mechanical Shutoff Drive
- 1096 Oxygen Sensor

Cylinder Head Assembly

- 1100 Cylinder Head Assembly (**Use 1101**)
- 1101 Cylinder Head Casting
- 1102 Rocker Shaft Assembly
- 1103 Valve Seat/Insert
- 1104 Valve Guide

- 1105 Inlet/Exhaust Valve
- 1106 Prechamber/Nozzle Adapter
- 1107 Valve Cover
- 1108 Valve Spring
- 1109 Valve Rotator
- 1110 Camshaft
- 1111 Camshaft
- 1112 Camshaft Bearing
- 1113 Camshaft Housing Assembly
- 1115 Water Director
- 1117 Threaded Insert
- 1118 Compression Release
- 1119 Jake Brake (Discontinued for EAME 01Jan12/
Discontinued for all other regions 01Jan08)
- 1120 Valve Cover Base
- 1121 Valve Bridge
- 1123 Rocker Arm
- 1124 Cylinder Head Gasket
- 1125 Injector Sleeve
- 1126 Cylinder Head Manifold
- 1129 Engine Brake

Front and Rear Covers

- 1150 Front & Rear Covers
- 1151 Cover/Housing (**Use 1162 or 1166**)
- 1155 Brakesaver Group
- 1156 Flywheel
- 1157 Flywheel Housing
- 1158 Flywheel Ring Gear
- 1159 Brakesaver Control Valve
- 1160 Crankshaft Front Seal
- 1161 Crankshaft Rear Seal
- 1162 Timing Gear Housing
- 1163 Timing Gear Housing Plate
- 1164 Engine Output Transfer Gear
- 1165 Engine Power Takeoff Drive
- 1166 Timing Gear Housing Cover
- 1167 Flywheel Housing Scavenge Pump

Short Block

1200 Short Block
 1201 Cylinder Block
 1202 Crankshaft
 1203 Crankshaft Main Bearing
 1204 Crankshaft Gear
 1205 Crankshaft Damper/Pulley
 1206 Timing/Accessory Gears
 1207 Accessory Drive
 1208 Push Rod
 1209 Camshaft Roller/Follower/Lifter
 1210 Camshaft
 1211 Camshaft Bearing
 1212 Camshaft Gear
 1213 Piston & Liner
 1214 Piston
 1215 Piston Rings
 1216 Cylinder Liner
 1217 Liner Seat/Insert
 1218 Connecting Rod
 1219 Connecting Rod Bearing
 1220 Balancer
 1221 Spacer Plate
 1222 Cylinder Block Sleeve
 1223 Cylinder Block Cylinder
 1224 Cylinder Block Main Bearing Bores
 1225 Piston & Connecting Rod
 1230 Crankshaft Main & Rod Bearings
 1231 Crankshaft Counterweight
 1232 Crankshaft Thrust Plate
 1233 Crankcase Explosion Relief Valve
 1234 Idler Gear
 1237 Engine Stub Shaft
 1239 Cylinder Pack
 1240 Block Underframe
 1241 Timing Chain/Belt
 1242 Pump Drive

Fuel System

1251 Fuel Injection Pump
 1252 Fuel Injection Lines
 1253 Fuel Injection Pump Housing
 1254 Fuel Injection Valve/Nozzle
 1255 Fuel Transfer Pump Housing
 1256 Fuel Transfer Pump
 1257 Rack/Control Shaft
 1259 Fuel Shutoff Solenoid
 1264 Governor
 1268 Speed Limiter
 1272 Timing Advance
 1275 Air Control Valve
 1278 Air/Fuel Ratio Control
 1281 Fuel Injection Pump-Lifters
 1286 Injection Pump & Governor Group
 1287 Governor Housing
 1288 Fuel Pump/Governor Drive
 1289 Hydraulic/Hydra-Mechanical Governor
 1290 Unit Injector
 1292 Fuel Camshaft
 1295 Auxiliary Fuel Transfer Pump
 1298 Unit Injector Control Linkage
 1299 Hydraulic Timing Advance (**Use 1272**)
 1705 Variable Horsepower Control Valve/Solenoid
 1714 Unit Injector Hydraulic Pump
 1715 Fuel Pressure Regulator Valve
 1716 Governor Actuator
 1718 Fuel Pressor Sensor

Lubrication System

1302 Engine Oil Pan Group
 1304 Engine Oil Pump
 1306 Engine Oil Filter Housing/Base
 1309 Turbocharger Lube Valve
 1312 Oil Scavenge Pump
 1313 Oil Pump Drive

- 1314 Oil Cooler Bypass Valve
- 1315 Oil Pressure Relief Valve
- 1319 Prelube Pump
- 1329 Shutoff Valve
- 1330 Oil Temperature Regulator
- 1331 Piston Cooling Tube
- 1332 Oil Sequence Valve

Cooling System

- 1355 Thermostat/Regulator
- 1356 Fan & Fan Drive
- 1358 Fan Belt Tightener
- 1359 Fan Drive Assembly
- 1361 Jacket Water Pump, Drive Group
- 1362 Water Manifold
- 1363 Aftercooler Water Pump
- 1364 Water Pump Impeller
- 1365 Brake Oil Cooler
- 1366 Brake/Torque Converter Cooler
- 1368 Retarder Cooler
- 1373 Water Pump Housing
- 1374 Hydraulic Oil Cooler
- 1375 Torque Converter/Transmission Cooler
- 1376 Torque Converter Trans. & Hydraulic Cooler
- 1378 Engine Oil Cooler
- 1379 Heat Exchanger
- 1384 Water Pump Pulley
- 1386 Hydraulic Fan Motor
- 1387 Hydraulic Fan Pump
- 1389 Water Pump Shaft
- 138R Fan Reversing Valve

Starting System

- 1469 Prelube Starter

Fuel System (Continued from 1299)

- 1705 Variable Hp Control Valve/Solenoid
- 1714 Unit Injector Hydraulic Pump

- 1715 Fuel Pressure Regulator Valve
- 1716 Governor Actuator
- 1718 Fuel Pressor Sensor

Engine Electronic Control System

- 1901 Electronic Control Module (ECM)
- 1902 Ratings Personality Module
- 1904 Transducer Module
- 1905 Timing Position Sensor
- 1906 Water Temperature Sensor
- 1907 Engine Speed Sensor
- 1908 Electronic Governor
- 1909 Rack Solenoid
- 1910 Timing Solenoid
- 1911 Rack Position Sensor
- 1912 Engine Speed/Timing Sensor
- 1913 Throttle Speed Sensor
- 1914 Machine Speed Buffer
- 1915 Engine Speed Control
- 1916 Crankcase Pressure Sensor
- 1917 Boost Pressure Sensor
- 1918 Throttle Lock Control
- 1919 Exhaust Temperature Sensor
- 1920 Engine Software
- 1921 Inlet Air Temperature Sensor
- 1922 Fuel Temperature Sensor
- 1923 Atmospheric Pressure Sensor
- 1924 Engine Oil Pressure Sensor
- 1925 Injection Actuation Pressure Sensor
- 1929 Engine Oil Temperature Sensor
- 192T Injection Actuator Temperature Sensor

I. TRANSMISSION OF POWER

Powertrain Transmission

- 3011 Bevel and Transfer Case
- 3017 Drive Train Oil Pump (**Use 3066**)
- 301T Drive Train Oil Temperature Sensor

3020 Drive & Steering Axle
 3030 Transmission
 3031 Transmission, Transfer Gears, Retarder
 3032 Transmission and Retarder

Clutch & Manual Shift/Direct Drive Transmission

3051 Flywheel Clutch **(Use 3052)**
 3052 Flywheel Clutch
 3053 Clutch Shaft
 3054 Clutch Plate
 3057 Clutch Booster
 3058 Clutch Brake
 3059 Clutch Control
 3060 Manual Shift Direct Drive Trans. **(Use 3030)**
 3061 Transmission Gears
 3062 Transmission Reverse Box
 3063 Transmission Shaft
 3064 Transmission Case
 3066 Transmission Oil Pump
 3068 Transmission Oil Filter Base
 3071 Flywheel Clutch Hydraulic Control
 3073 Transmission Hydraulic Control Valve
 3074 Transmission Pressure Control Valve
 3075 Transmission Output Gears
 3076 Throwout Bearing
 3077 Transmission Brake
 3078 Transmission Speed Control Valve
 3083 Transmission Selector & Pressure Control Valve

Torque Converter, Divider, Retarder

3101 Torque Converter
 3102 Torque Converter Clutch
 3105 Torque Converter Housing
 3107 Power Takeoff Drive
 3108 Pump Drive
 3109 Torque Converter & Retarder

3110 Torque Divider Transmission **(Use 3030)**
 3111 Torque Divider Control Valve **(Use 3073)**
 3112 Torque Divider Governor **(Use 3151)**
 3113 Torque Divider
 3114 Torque Divider Planetary Carrier
 3115 Torque Converter Scavenge Pump
 3116 Transfer Gears, Torque Divider, & Retarder **(Use 3031)**
 3117 Transfer Gears and Retarder
 3118 Torque Divider & Retarder **(Use 3032)**
 3120 Retarder
 3121 Retarder Extended Braking Control
 3123 Retarder Control Valve
 3124 Lockup Clutch Pressure Control Valve
 3126 Retarder Selector Valve
 3127 Torque Converter Bearing Retainer
 3128 Torque Converter Flange
 3129 Torque Converter Stator
 3130 Torque Divider/Torque Converter Shaft
 3131 Torque Converter Turbine Wheel
 3133 Torque Converter Relief Valve
 3134 Torque Converter Impeller
 3135 Torque Converter Carrier
 3136 Torque Converter Hub
 3137 Torque Converter Pressure/Sequence Control Valve
 3138 Torque Converter & Park Brake Release Pump
 3139 Modulating Valve
 3140 Torque Converter Control
 3141 Torque Converter Speed Sensor
 3142 Automatic Retarder Control
 3143 Torque Converter Electronic Control

Powershift Transmission

3151 Transmission Governor
 3153 Transmission Oil Pump **(Use 3066)**
 3155 Transmission Clutches
 3157 Transmission Manual Selector Valve

- 3158 Transmission Auto Selector Valve
- 3159 Transfer Gear Group
- 3160 Transmission Planetary
- 3163 Hydraulic Shift Cylinder
- 3164 Oil Filter Base **(Use 3068)**
- 3166 Rotary Actuator
- 3167 Transmission Hydraulic Control
- 3168 Transmission Electronic Control **(Includes Fingertip Controls)**
- 3169 Transmission Clutch Housing
- 3170 Transmission Clutch Piston
- 3171 Transmission Manual Switch
- 3172 Transmission Slave Switch
- 3173 Transmission Synchronous Switch
- 3174 Transmission Shift Solenoid
- 3175 Transmission Speed Sensor
- 3180 Transmission Priority Valve
- 3181 Transmission Neutralizer Control Valve
- 3182 Transmission Lubrication Relief Valve
- 3183 Transmission Control Lock
- 3184 Transmission Oil Cooler Bypass Valve
- 3186 Transmission Planet Carrier
- 3187 Transmission Planet Carrier Thrust Disc/Plate
- 3188 Transmission Case **(Use 3064)**
- 3189 Transmission Shaft **(Use 3063)**
- 3190 Transmission Clutch Plate
- 3191 Transmission Neutralizer
- 3192 Transmission Dump Valve
- 3194 Transmission Temperature Sensor

Hydrostatic Transmission

- 3202 Hydraulic Flow Control
- 3203 Drive Pump
- 3204 Charge Pump
- 3205 Servo Control Valve
- 3206 Manifold/Metering Valve
- 3207 Servo Cylinder
- 3208 Hydrostatic Control Valve **(Use 3073)**

- 3210 High Pressure Relief Valve
- 3211 Hydrostatic Transmission Input Shaft **(Use 3063)**
- 3212 Hydrostatic Transmission Output Shaft **(Use 3063)**
- 3213 Charge and Main Relief Valve
- 3214 Synchronizing Valve
- 3216 Transmission Underspeed/Overspeed Valve
- 3218 Hydrostatic Lines & Hoses
- 3219 Hydrostatic Pilot Overspeed Valve
- 3220 Hydrostatic Transmission Speed Control Valve
- 3221 Hydrostatic Power Case
- 3222 Hydrostatic Pump Head
- 3223 Transmission Underspeed/Override Valve
- 3225 Travel Electronic Control
- 3226 Downshift Inhibitor

Drive Line/Drive Axle

- 3251 Universal Joint
- 3252 Flexible Coupling
- 3253 Drive Shaft
- 3254 Drive Line Pinion
- 3256 Bevel Gear/Shaft
- 3257 Bevel Gear Shaft Bearing
- 3258 Differential
- 3259 Axle Shaft
- 3260 Axle Housing Assembly
- 3261 Drive Chain
- 3262 Double Reduction Differential
- 3263 Limited Slip Differential
- 3264 Differential Lock
- 3265 No-Spin Differential
- 3266 Differential Lock Cylinder
- 3267 Drive Shaft Support
- 3268 Axle Housing Support/Trunnion
- 3269 Pinion Housing
- 3270 Locking Differential
- 3271 Transaxle

3272 Differential Lock Control Valve
 3273 Differential Lock Actuator Valve
 3274 Constant Velocity Universal Joint
 3278 Drive Axle
 3279 Engine Output Drive Assembly/Coupling
 3281 Bevel Gear Case
 3283 Differential Case
 3284 Differential Carrier
 3287 Interaxle Differential
 3288 Anti-Spin Control
 3291 Drive Axle Oil Pump
 3292 Differential Lock Pump

Countershaft Transmission

3401 Countershaft Transmission Case **(Use 3064)**
 3402 Countershaft Oil Pump **(Use 3066)**
 3403 Countershaft Lines/Hoses
 3404 Countershaft Clutches **(Use 3155)**
 3405 Countershaft Clutch Housing **(Use 3169)**
 3406 Countershaft Clutch Piston **(Use 3170)**
 3407 Countershaft Transfer Gear **(Use 3159)**
 3408 Countershaft Shaft **(Use 3063)**
 3409 Countershaft Output Gears **(Use 3075)**
 3410 Countershaft Brake **(Use 3077)**
 3412 Countershaft Pressure Control Valve **(Use 3074)**
 3417 Hydrostatic Control Groups **(Use 3167)**
 3418 Electrical Control Groups **(Use 3168)**

Power Consumption Drive

4001 Final Drive & Brake Wheel
 4009 Final Drive, Brake & Differential Steering Planetary
 4010 Final Drive, Brake & Differential Steering Drive

Final Drive

4050 Final Drive & Torque Hub
 4051 Final Drive & Wheel
 4052 Final Drive Seal

4053 Drive Axle Hub/Gear Assembly
 4054 Final Drive Hub
 4055 Final Drive Gears
 4056 Final Drive Shaft
 4057 Final Drive Pinion Flange
 4058 Sprocket Shaft/Bore
 4059 Final Drive Case/Bore
 4060 Final Drive Oil Pump
 4062 Tandem Drive
 4063 Tandem/Single Drive Chain
 4064 Tandem Drive Housing
 4066 Final Drive Outer Bearing Support
 4068 Tandem Drive Stub Axle
 4069 Final Drive Chain
 4072 Tandem Drive Sprocket
 4073 Tandem Drive Driven Sprocket
 4074 Final Drive - Outer Section
 4075 Final Drive - Inner Section
 4084 Final Drive Planet Carrier Hub/Ring Gear
 4091 Final Drive Pinion
 4092 Planetary Final Drive Carrier
 4093 Final Drive Planet Carrier Thrust Surface
 4094 Final Drive Pinion & Flange

Steering Clutch & Brake Machines

4101 Steering Clutch
 4102 Steering Clutch Control Valve
 4103 Steering Clutch Control Pump
 4105 Steering Clutch Booster
 4108 Steering Clutch Relief Valve
 4110 Brake Band
 4112 Track Brake Control Valve
 4113 Track Brake Drum
 4114 Track Brake Booster
 4115 Brake Actuating Mechanism
 4117 Steering Clutch Case
 4118 Steering Clutch Release Piston
 4119 Steering Clutch/Bevel Gear & Shaft

4120 Steering Clutch & Brake Control Valve
4121 Brake Lubrication Relief Valve
4122 Steering Clutch & Brake Linkage
4123 Steering Clutch Hub

Differential Steer Machines

4130 Differential Steering Planetary
4131 Differential Drive & Brake
4132 Planetary & Brake
4136 Differential Steering Motor

Steering System (Hydrostatic & Diff-Steer)

4307 Steering Valve
4313 Steering Axle
4344 Steering Charge Pump

Hydrostatic Drive

4351 Hydraulic Propel/Drive Motor
4352 Drive Control Valve

Drive Train Electronic Control

4808 Drive Train Electronic Control Module
4810 All Wheel Drive Electronic Control
4820 Drive Train Software

Hydraulic System

5058 Hydraulic Motor, Piston-Type (**Associated Only With Hydrostatic Trans. Or Diff-Steer**)
5060 Swivel
5070 Hydraulic Pump, Piston-Type (**Associated Only With Hydrostatic Trans. Or Diff-Steer**)

Paving Equipment

5630 Rotor Axle
5631 Rotor Drive
5632 Rotor Drive Shaft
5633 Rotor Drive Differential
5635 Rotor Transmission

5636 Rotor Drive Electric Shift
5651 Vibratory Motor
5652 Vibratory Pump
5653 Vibratory Control Valve
5654 Drum Isolation Mounting Pad (To be discontinued for all regions effective 01Jan2012.)
5655 Drum Drive Gear Reducer
5656 Drum Support Gear Box
5658 Countershaft Drive
6605 Compactor Drum
6606 Vibration Mechanism
3168 Propel ECM
3168 Propel Speed Dial Buffer
3168 Propel Lever
3168 Speed Dial
3168 Steering PWM Sensor
3168 Brake PWM Sensor
5070 Pump EDC Control
5058 Track Speed Sensor

Compact Construction Equipment (CCE) Powertrain (MTL/CTL/MHE)

4164 Drive Sprocket
4197 Roller Frame Tensioning System
4159 Idler Wheels
4192 Bogie Wheels
4180 Track Rollers
4154 Carrier Rollers
4158 Recoil Spring
4157 Track Adjuster
1351 Radiator and Oil Cooler

Electric Drive Powertrain Track Type Tractors (TTT) and Off Highway Trucks (OHT)

1410 Voltage Reg
1421 DC To DC Converter
1437 Electrical System Resistor
1603 Traction Drive Motor

1607 Drive System Contactor	108I Diesel Exhaust Fluid Injector
1617 Drive System Thyristor/Transistor	108J Diesel Exhaust Fluid Pump
1618 Drive System Rectifier/Diode	108L Boost Pressure Line
1619 Drive System Capacitor	108N Clean Gas Induction Valve
1627 Drive System Resistor	108O Exhaust Gas Recirculation High Temperature Cooler Core
1633 Drive system Power Cable	108P Exhaust Back Pressure Valve
1636 Drive Motor Fan	108Q Exhaust Gas Recirculation Low Temperature Cooler Core
3121 Retarder Extended Braking Control	108R NOX Reduction System Air Inlet
3225 Travel Electronic Control	108S Combustion Air System
3279 Engine Output Drive	108T Diesel Exhaust Fluid Tank
4018 Propulsion Module	108V Venturi
425R Electric Retarder Group	108M Exhaust combustion Manifold
4450 Generator	1091 Catalytic Converter
4453 Stator	1274 Fuel Supply/Return Line
4454 Excitor/Arm	1335 Particle Sensor
4456 Generator Drive Coupling	1380 Coolant Lines
4457 Rotor	1408 Wiring Harness
4459 Cable or Wire	1554 Coil
445B Bus Bar	1702 Fuel Manifold
4465 Rotating Rectifier Diode	3206 Manifold/Metering Valve
4802 TCS Electro Control	4493 Relay
4822 Inverter	5506 Air Control Valve
7611 Optical Interface Control Module	

Special Service Claim Categories

7729 HEUI Actuation

Emissions Module

These additional components are included only when used to control emissions or when part of the Caterpillar Clean Emissions Module (CEM).

1061 Exhaust Piping
1071 Air Lines/Pipe
108A Solenoid Valve
108B Combustion Body
108C Clean Gas Induction Cooler
108E Exhaust Combustion Lines
108F Diesel Particulate Filter (DPF)
108G Exhaust Cooler
108H Diesel Exhaust Fluid Module

Other Implements & Machine Components

7063 Swing Gear/Bearing (Global effective 01Jan2015)