

SAFETY.CAT.COM™

MAINTENANCE INTERVALS

Operation and Maintenance
Manual Excerpt



Operation and Maintenance Manual

AP555E and BG555E Asphalt Pavers

A5D1-Up (Machine)
B5P1-Up (Machine)

i03786189

Maintenance Interval Schedule

SMCS Code: 7000

Ensure that all safety information, warnings and instructions are read and understood before any operation or any maintenance procedures are performed.

The user is responsible for the performance of maintenance, including all adjustments, the use of proper lubricants, fluids, filters, and the replacement of components due to normal wear and aging. Failure to adhere to proper maintenance intervals and procedures may result in diminished performance of the product and/or accelerated wear of components.

Use mileage, fuel consumption, service hours, or calendar time, **WHICH EVER OCCURS FIRST**, in order to determine the maintenance intervals. Products that operate in severe operating conditions may require more frequent maintenance.

Note: Before each consecutive interval is performed, all maintenance from the previous interval must be performed.

When Required

Auger Slide - Lubricate	115
Battery - Recycle	116
Battery or Battery Cable - Inspect/Replace	116
Engine Air Cleaner Inlet - Clean	129
Engine Air Filter Primary Element - Clean/ Replace	129
Engine Air Filter Secondary Element - Replace ..	130
Fuel System - Prime	134
Fuses - Replace	138
Hopper Flashing - Inspect/Replace	143
Oil Filter - Inspect	145
Ventilation Blower Wheel - Inspect/Clean	152

Every 4 Service Hours or Twice Daily

Auger Conveyors - Lubricate	114
Drag Conveyors - Lubricate	128
Truck Hitch - Lubricate	151

Every 10 Service Hours or Daily

Backup Alarm - Test	116
Cooling System Coolant Level - Check	126
Engine Air Filter Service Indicator - Inspect	130
Engine Oil Level - Check	131
Fuel System Water Separator - Drain	137
Fuel Tank Water and Sediment - Drain	138
Hydraulic System Oil Level - Check	143
Idler Wheel (Takeup) - Inspect	144
Pump Drive Oil Level - Check	146
Seat Belt - Inspect	148

Ventilation Inlet Ducts - Inspect/Clean	154
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Initial 50 Service Hours

Conveyor Drive Chains (Auger) - Adjust	118
Conveyor Drive Chains (Drag) - Adjust	119
Conveyor Planetary Drive (Auger) Oil - Change ..	119
Conveyor Planetary Drive (Auger) Oil Sample - Obtain	120
Conveyor Planetary Drive (Drag) Oil - Change ..	120
Conveyor Planetary Drive (Drag) Oil Sample - Obtain	121
Final Drive Planetary Oil - Change	133
Final Drive Planetary Oil Sample - Obtain	134
Tow Arm Joint Nuts - Tighten	149
Wheel Nuts (Final Drive) - Tighten	155

Every 50 Service Hours or Weekly

Hopper Cylinder Bearings - Lubricate	142
Track Roller Frame - Lubricate	150

Every 250 Service Hours

Aftercooler Core - Inspect/Clean	114
Auger Slide - Adjust	115
Belts - Inspect/Adjust/Replace	116
Conveyor Drive Chains (Auger) - Adjust	118
Conveyor Drive Chains (Drag) - Adjust	119
Conveyor Planetary Drive (Auger) Oil Level - Check	120
Conveyor Planetary Drive (Drag) Oil Level - Check	121
Drag Conveyors - Adjust	128
Engine Oil Sample - Obtain	132
Final Drive Planetary Oil Level - Check	134
Fuel System Filter (Washdown) - Clean	135
Fuel System Primary Filter - Clean/Inspect/ Replace	135
Fuel System Secondary Filter - Replace	136
Fuel System Third Filter - Replace	137
Idler Bearings (Takeup) - Lubricate	144
Radiator Core - Clean	147
Toggle Switch - Inspect	149
Tracks - Inspect	149
Track Tension - Check	151
Ventilation Blower Wheel - Inspect/Clean	152

Every 250 Service Hours or Monthly

Ground Fault - Check	141
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Initial 500 Hours (for New Systems, Refilled Systems, and Converted Systems)

Cooling System Coolant Sample (Level 2) - Obtain	126
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Every 500 Service Hours

Conveyor Planetary Drive (Auger) Oil - Change ..	119
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Conveyor Planetary Drive (Auger) Oil Sample - Obtain	120
Conveyor Planetary Drive (Drag) Oil - Change ..	120
Conveyor Planetary Drive (Drag) Oil Sample - Obtain	121
Conveyor System - Inspect	121
Engine Crankcase Breather - Clean	131
Engine Oil and Filter - Change	132
Final Drive Planetary Oil - Change	133
Final Drive Planetary Oil Sample - Obtain	134
Fuel Tank Cap, Filter, and Strainer - Clean/Inspect/Replace	138
Generator - Clean	140
Hydraulic System Oil Sample - Obtain	144
Pump Drive Oil - Change	145
Pump Drive Oil Sample - Obtain	147

Every 500 Service Hours or 3 Months

Cooling System Coolant Sample (Level 1) - Obtain	125
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Every 500 Service Hours or 6 Months

Braking System - Test	117
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Every 1000 Service Hours

Hydraulic System Oil and Filters - Change	143
Pump Drive Breather - Clean	145
Track Roller Bearings - Inspect	150
Track Takeup Linkage - Lubricate	150

Every 1000 Service Hours or 1 Year

Engine Valve Lash - Check	133
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Every 2000 Service Hours

Alternator - Inspect	114
Engine Mounts - Inspect	131
Track Roller Bearings - Lubricate	150
Turbocharger - Inspect	151

Every Year

Cooling System Coolant Sample (Level 2) - Obtain	126
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Every 3000 Service Hours

Cooling System Water Temperature Regulator - Replace	127
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Every 3000 Service Hours or 2 Years

Starting Motor - Inspect	148
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Every 3 Years After Date of Installation or Every 5 Years After Date of Manufacture

Seat Belt - Replace	148
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Every 6000 Service Hours or 3 Years

Cooling System Coolant Extender (ELC) - Add ..	125
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Every 12 000 Service Hours or 6 Years

Cooling System Coolant (ELC) - Change	123
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i01664049

Alternator - Inspect

SMCS Code: 1405-040

Caterpillar recommends a scheduled inspection of the alternator. Inspect the alternator for loose connections and proper battery charging. Inspect the ammeter (if equipped) during engine operation in order to ensure proper battery performance and/or proper performance of the electrical system. Make repairs, as required. Refer to the Service Manual.

Check the alternator and the battery charger for proper operation. If the batteries are properly charged, the ammeter reading should be very near zero. All batteries should be kept charged. The batteries should be kept warm because temperature affects the cranking power. If the battery is too cold, the battery will not crank the engine. The battery will not crank the engine, even if the engine is warm. When the engine is not run for long periods of time or if the engine is run for short periods, the batteries may not fully charge. A battery with a low charge will freeze more easily than a battery with a full charge.

i03786197

Aftercooler Core - Inspect/Clean

SMCS Code: 1063-040; 1064-571

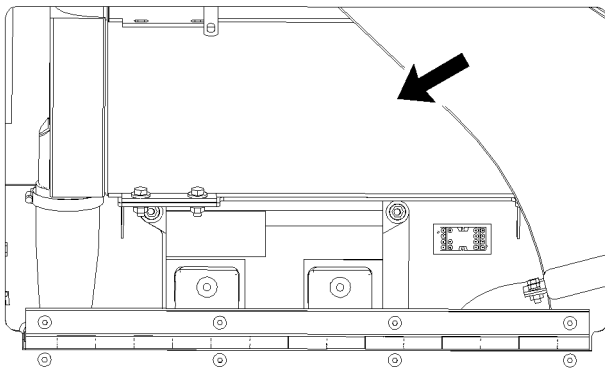


Illustration 148

g02044793

The aftercooler is located behind the center access door on the operator's platform.

Inspect the aftercooler for debris. If necessary, clean the aftercooler.

Use compressed air in order to remove dust and general debris from the aftercooler. **Do not use water or steam in order to clean the aftercooler.**

See Special Publication, SEBD0518, "Know Your Cooling System" for more detailed information about cleaning radiator fins.

i03786216

Auger Conveyors - Lubricate

SMCS Code: 6631-086

NOTICE

All daily grease lubricant should be applied at the end of each machine operation while the machine is still warm and the asphalt is still soft or not set up. Failure to do so may allow asphalt to harden around the seals and risk damaging a seal and lead to premature bearing failure.

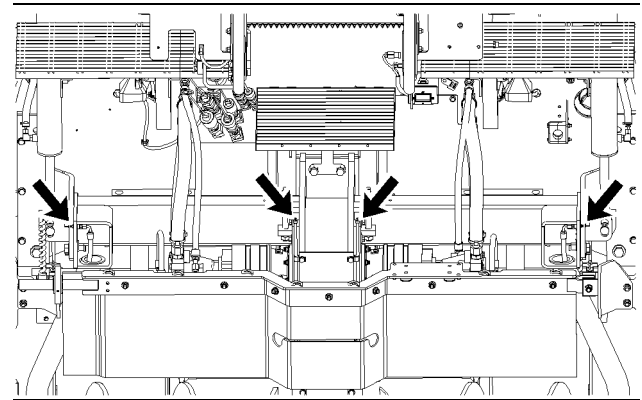


Illustration 149

g02044816

Lubricate the two fittings for the outside bearings.

Note: Add lubricant only until excess lubricant is observed at each of the bearings.

Lubricate the two fittings for the inside bearings.

i03786249

Auger Slide - Adjust

SMCS Code: 6631-025

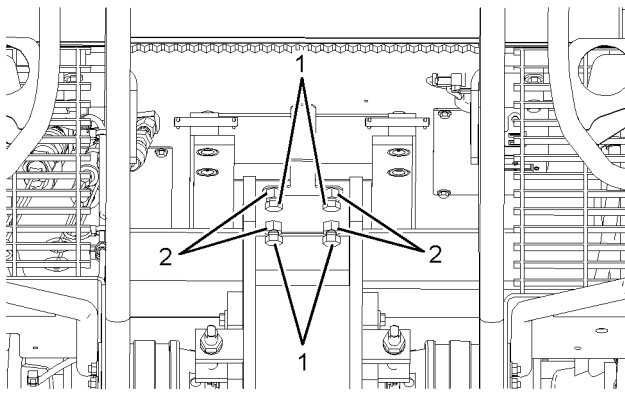


Illustration 150

g02044855

In order to adjust the auger slide, use the following procedure.

1. Loosen the four nuts (2).
2. Tighten the four bolts (1) until there is firm contact for each bolt.
3. Loosen each one half of a turn.
4. Tighten the nuts (2) until the nuts are snug.

i03786280

Auger Slide - Lubricate

SMCS Code: 6631-086

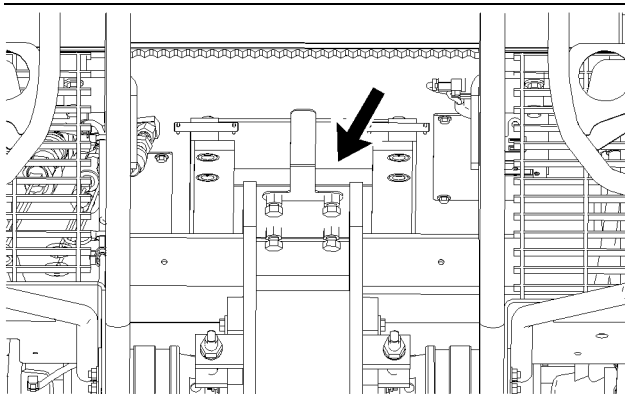


Illustration 151

g02044873

Center plate

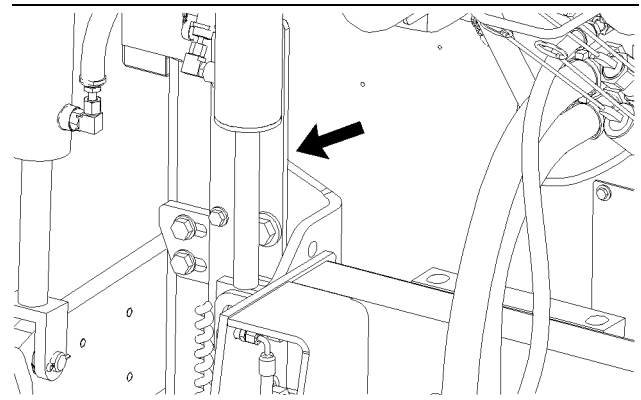


Illustration 152

g02044874

Left plate

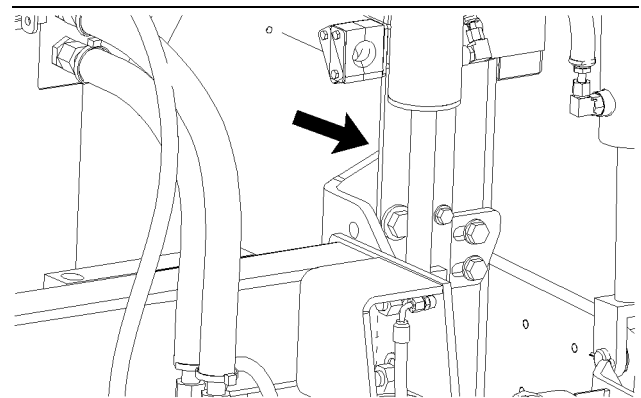


Illustration 153

g02044875

Right plate

In order to lubricate the auger slide, use the following procedure.

1. Lower the auger slide to the lowest position.
2. Lubricate the auger slide with a line of grease at the indicated positions.

Note: Make sure that you lubricate all three locations.

3. Raise the auger slide and lower the auger slide in order to spread the grease.

i03786312

i01851175

Backup Alarm - Test

SMCS Code: 7406-081

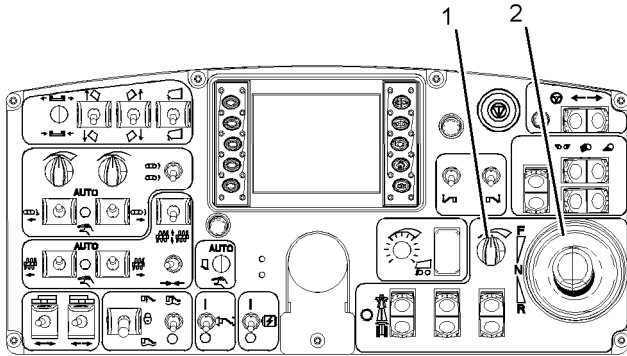


Illustration 154

g02044896

Start the engine, and run the engine at low idle. Turn speed potentiometer (1) to the lowest setting.

Make sure that the area behind the machine is clear of personnel and clear of obstacles.

Slightly, move propel lever (2) to the REVERSE position.

The backup alarm should sound immediately. The backup alarm should continue to sound until propel control lever (2) is moved to the NEUTRAL position or to the FORWARD position.

The backup alarm is on the rear of the machine.

i00993589

Battery - Recycle

SMCS Code: 1401-561

Always recycle a battery. Never discard a battery.

Always return used batteries to one of the following locations:

- A battery supplier
- An authorized battery collection facility
- Recycling facility

Battery or Battery Cable - Inspect/Replace

SMCS Code: 1401-040; 1401-510; 1402-040; 1402-510

1. Turn the engine start switch to the OFF position. Turn all switches to the OFF position.
2. Turn the battery disconnect switch to the OFF position. Remove the key.
3. At the battery disconnect switch, disconnect the negative battery cable that is connected to the frame.

Note: Do not allow the disconnected battery cable to contact the disconnect switch.

4. Disconnect the negative battery cable from the terminals of the battery.
5. Perform the necessary repairs. Replace the cable or the battery, as needed.
6. Connect the negative battery cable to the terminals of the battery.
7. Connect the negative battery cable at the battery disconnect switch.
8. Install the key for the battery disconnect switch. Turn the key to the ON position.

i03786330

Belts - Inspect/Adjust/Replace

SMCS Code: 1357-025; 1357-040; 1357-510

Inspect the Belts

For maximum engine performance and maximum utilization of your engine, inspect the belts for wear and for cracking. Belt slippage will decrease the belt life. Belt slippage will cause poor performance of the alternator, or any equipment that is driven by the belt.

This engine is equipped with a belt tightener that automatically adjusts the belt to the correct tension.

Alternator

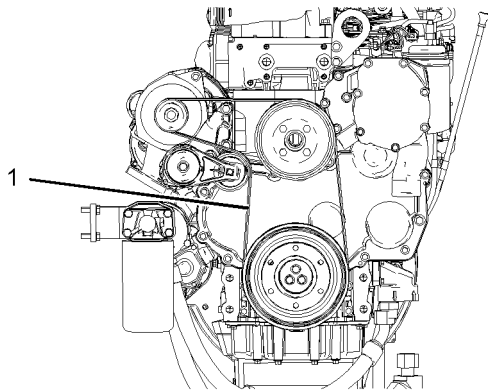


Illustration 155

g02044913

1. Turn the belt tensioner in order to release the tension from the alternator belt (1).
2. Remove the belt.
3. Install a new belt.

Generator

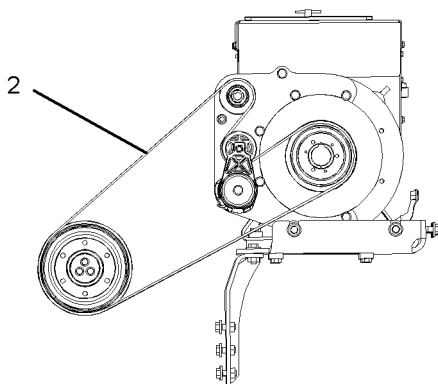


Illustration 156

g02092455

1. Turn the belt tensioner in order to release the tension from the generator's belt (2).
2. Remove the belt.
3. Install a new belt.

i02711449

Braking System - Test

SMCS Code: 4250-081; 4251-081; 4267-081

Note: If the machine configuration changes, the parking brake needs to be tested.

Check the area around the machine. Make sure that the machine is clear of personnel and clear of obstacles.

Fasten the seat belt before checking the parking brake.

The following tests are used in order to determine if the parking brake is functional on a specified grade or a specified slope. These tests are not intended to measure the maximum brake holding effort. Read all of the steps before you perform the following procedure.

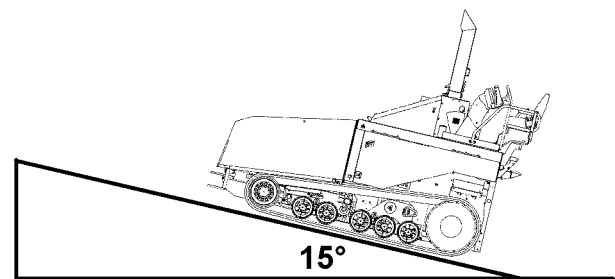


Illustration 157

g01362918

Position the machine on the incline of the slope, but near the base of the slope in order to check the parking brake. The test position should be 26 percent or a 15 degree slope.

1. Start the engine. Refer to the Operation and Maintenance Manual, "Engine Starting" for information on starting the engine.
2. Move the machine into the test position.
3. Place the throttle control into the LOW IDLE position.
4. Engage the parking brake.

The machine should not move under the following conditions.

- The engine is at low idle.
- The parking brake is applied.
- The machine is positioned on the specified slope.

⚠ WARNING

Personal injury can result if the machine moves while testing.

If the machine begins to move, release the parking brake and use the propel lever in order to move the machine to a level surface.

5. Park the machine on a level surface.
6. Stop the engine.

⚠ WARNING

If the machine moves when testing the brakes, contact your Caterpillar dealer.

Have the dealer inspect and repair the brakes before returning the machine to operation. Failure to have the brakes inspected and repaired can cause injury or death.

i03786363

Conveyor Drive Chains (Auger) - Adjust

SMCS Code: 5620-025-CX

⚠ WARNING

Personal injury can result from rotating and moving parts. Stay clear of all rotating and moving parts.

Never attempt adjustments while the machine is moving or the engine is running unless otherwise specified.

The machine must be parked on a level surface and the engine stopped.

Attach a "Do Not Operate" or similar warning tag to the start switch and controls before servicing, repairing, or making adjustments to the machine.

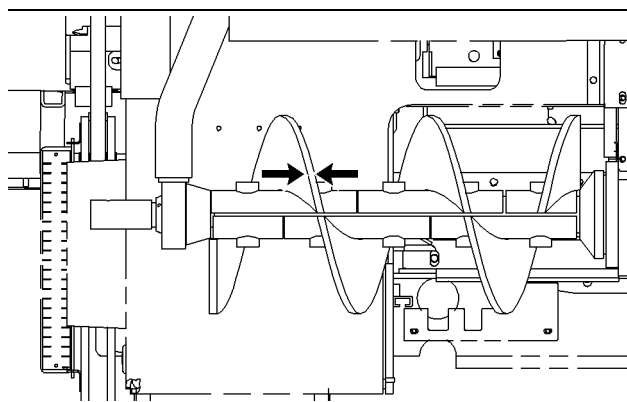


Illustration 158

g00934165

To check the tension of the auger conveyor drive chain, grab the auger with both hands. Rotate the auger back and forth. If the auger rotates more than 19 mm $\pm$ 5 mm (0.75 inch), the drive chain needs to be adjusted.

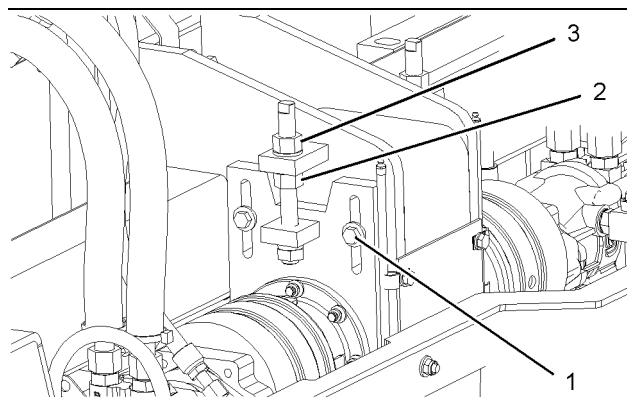


Illustration 159

g02044945

Note: The adjustment procedure is used for both of the drive chains for the auger conveyor.

1. Loosen four mounting bolts (1).
2. Loosen jam nut (2).
3. Turn adjusting nut (3) until the auger can be rotated 13 mm (0.50 inch) to 19 mm (0.75 inch).
4. Tighten mounting bolts (1) and jam nut (2).

i03786530

Conveyor Drive Chains (Drag) - Adjust

SMCS Code: 5620-025-CX

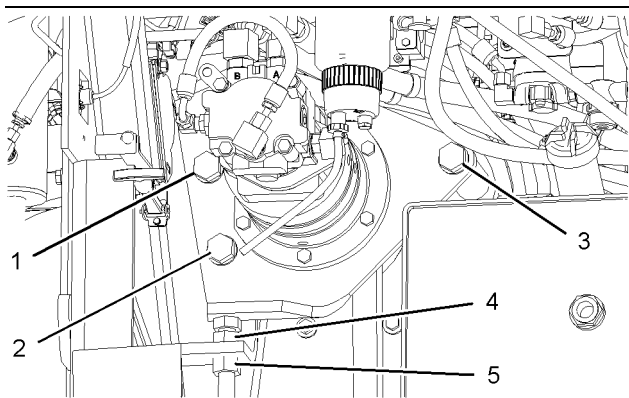


Illustration 160

g02045039

In order to tighten the conveyor chain, use the following procedure.

1. Loosen bolts (1), (2), and (3).
2. Loosen nut (5).
3. Tighten nut (4) until the conveyor chain has less than 6.4 mm (0.25 inch) of play.
4. Tighten nuts (4) and (5) until the nuts are snug.
5. Tighten bolts (1), (2), and (3).

In order to loosen the conveyor chain, use the following procedure.

1. Loosen bolts (1), (2), and (3).
2. Loosen nut (4) until the conveyor chain has less than 6.4 mm (0.25 inch) of play.
3. Tighten nut (5) until the nut is snug.
4. Tighten bolts (1), (2), and (3).

i03786429

Conveyor Planetary Drive (Auger) Oil - Change

SMCS Code: 5629-044-OC

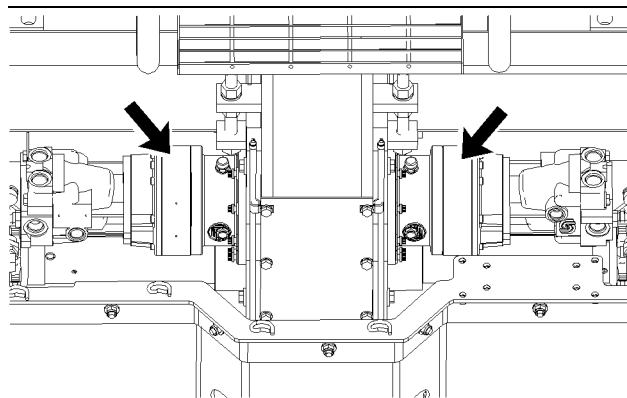


Illustration 161

g02044976

Perform the following procedure on the conveyor planetary drive. There is one conveyor planetary drive on each side of the machine.

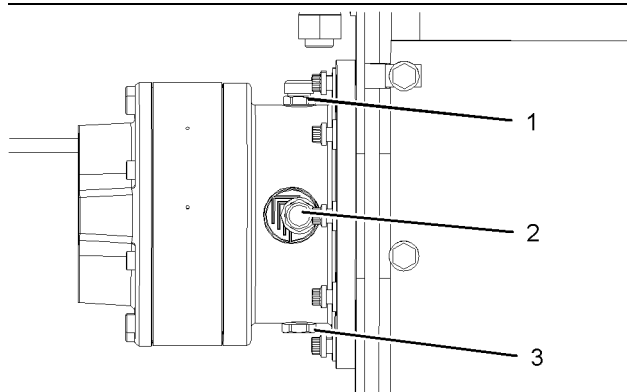


Illustration 162

g02044977

1. Remove the drain plug (3). Allow the oil to drain into a suitable container.
2. Clean the drain plug and reinstall the drain plug.
3. Remove the oil filler plug (1).
4. Fill the conveyor planetary through the hole for oil filler plug (1) until the oil is visible in oil level sight gauge (2).
5. Clean the oil filler plug. Install the oil filler plug.

i03786889

Conveyor Planetary Drive (Auger) Oil Level - Check

SMCS Code: 5629-535-FLV

Note: Check the oil level of both conveyor planetary drives.

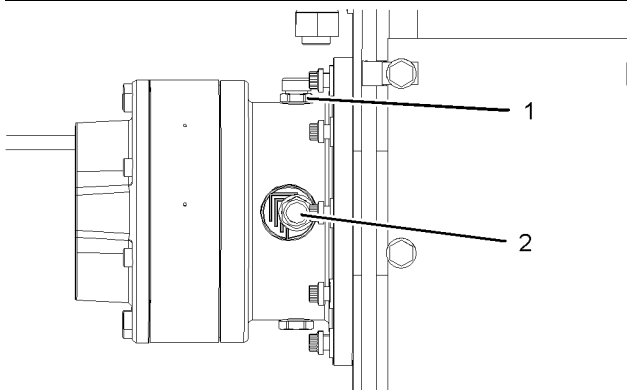


Illustration 163

g02045335

1. The oil level should be visible in sight gauge (2). If necessary, fill the conveyor planetary drive through the hole for oil filler plug (1) until the oil is visible in sight gauge (2).
2. Clean the oil filler plug and install the oil filler plug.

i03786909

Conveyor Planetary Drive (Auger) Oil Sample - Obtain

SMCS Code: 5629-008; 7542-008

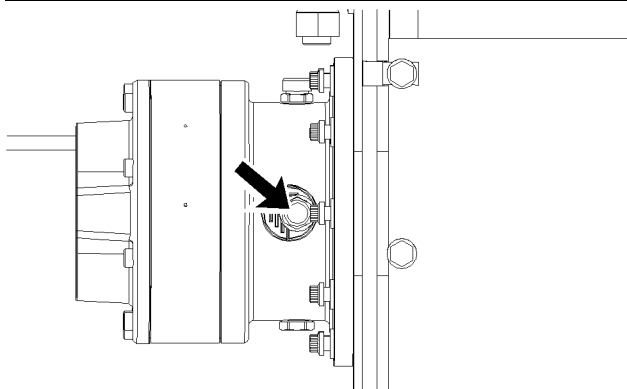


Illustration 164

g02045353

1. Remove the oil level sight gauge.
2. Obtain an oil sample from the hole for the oil level sight gauge.

3. Clean the oil level sight gauge. Replace the oil level sight gauge.

Refer to Operation and Maintenance Manual, SEBU6250, "S-O-S Oil Analysis" for information that pertains to obtaining a sample of oil from the conveyor planetary drive. Refer to Special Publication, PEHP6001, "How To Take A Good Oil Sample" for more information about obtaining a sample of oil.

i03786953

Conveyor Planetary Drive (Drag) Oil - Change

SMCS Code: 5629-044-OC

Note: Perform the following procedure on the two conveyor planetaries.

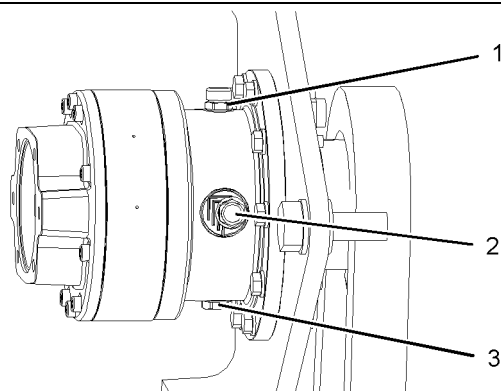


Illustration 165

g02045395

1. Remove the drain plug (3). Allow the oil to drain into a suitable container.
2. Clean the drain plug and reinstall the drain plug.
3. Remove the oil filler plug (1).
4. Fill the conveyor planetary through the hole for oil filler plug (1). There are two sight gauges (2) on the conveyor planetary. The oil level should be visible in the front sight gauge and the rear sight gauge should be full.
5. Clean the oil filler plug. Install the oil filler plug.

i03786970

Conveyor Planetary Drive (Drag) Oil Level - Check

SMCS Code: 5629-535-FLV

Note: Check the oil level of both conveyor planetaries.

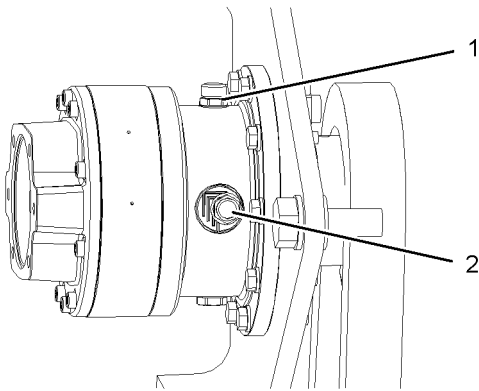


Illustration 166

g02045433

1. There are two sight gauges (2) on the conveyor planetary. The oil level should be visible in the front sight gauge and the rear sight gauge should be full. If necessary, fill the conveyor planetary drive through the hole for oil filler plug (1).
2. Clean the oil filler plug and install the oil filler plug.

i03787013

Conveyor Planetary Drive (Drag) Oil Sample - Obtain

SMCS Code: 5629-008; 7542-008

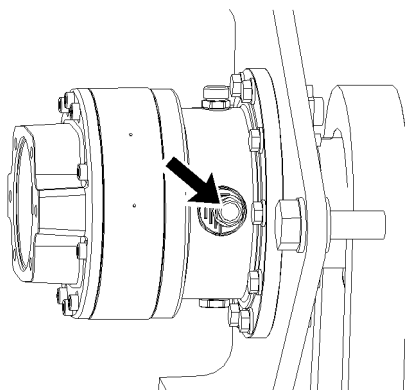


Illustration 167

g02090814

1. Remove the oil level sight gauge.

2. Obtain an oil sample from the hole for the oil level sight gauge.
3. Clean the oil level sight gauge. Replace the oil level sight gauge.

Refer to Operation and Maintenance Manual, SEBU6250, "S-O-S Oil Analysis" for information that pertains to obtaining a sample of oil. Refer to Special Publication, PEHP6001, "How To Take A Good Oil Sample" for more information about obtaining a sample of oil.

i02707486

Conveyor System - Inspect

SMCS Code: 6630-040; 6631-040

Chain Guards

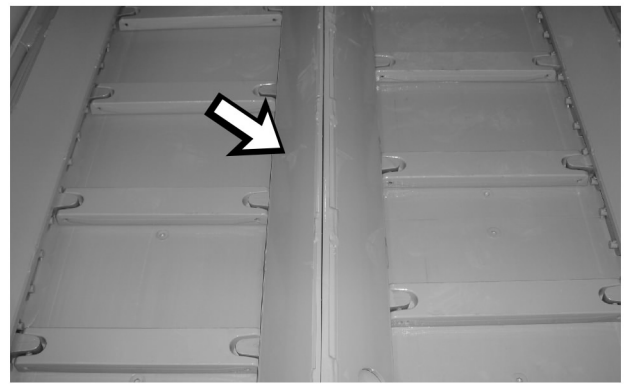


Illustration 168

g01358430

1. The recommended clearance between the guard and the conveyor chain is 6.35 mm (0.25 inch).
2. Verify that the chain guards are not excessively worn in order to protect the chain.
3. If visible wear is present and the chain is exposed, the guards need to be replaced.

Conveyor Chain

There are several methods for determining the stretch of the conveyor chain. Each of these methods is listed below in reverse order of preference.

In order to access the conveyor chain, lower the left hopper and the right hopper to the lowest positions.

1. Feel for excessive motion between the bushing and the pin.

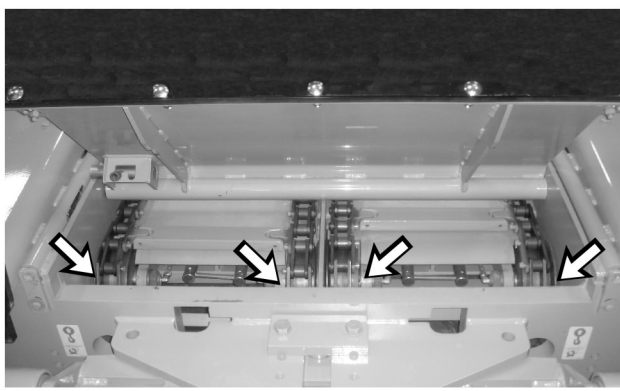


Illustration 169

g01358434

2. Inspect the amount of remaining adjustment in the chain adjustment. Once most of the adjustment has been used, the chain and the sprockets need to be replaced.

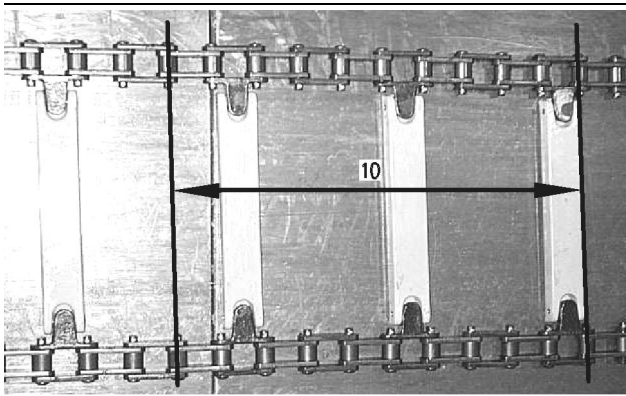


Illustration 170

g00612551

3. Measure ten pitches of chain on both strands. The nominal length of a new chain is 69.85 cm (27.5 inch). If the chain measures 71.95 cm (28.325 inch), convenient replacement should be planned. If the chain measures 72.6 cm (28.6 inch), the chain needs to be replaced as soon as possible.

Note: When you replace the chain, always replace both strands and install new sprockets.

Note: When you follow the above guidelines, also examine the chain for cracks in the links. Cracked links need to be replaced.

Drag Bars

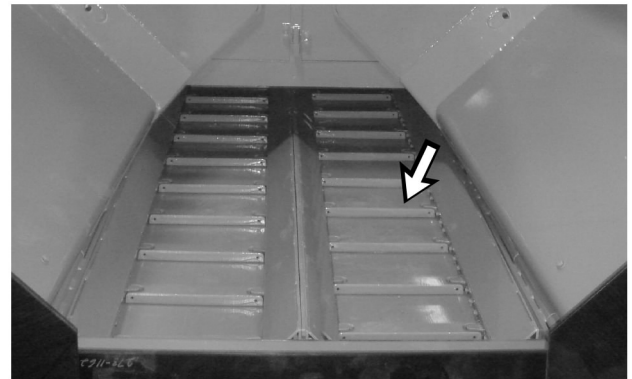


Illustration 171

g01358441

1. New drag bars have a thickness of 31.75 mm (1.25 inch). Once the bars have been worn to a thickness of 21.2 mm (0.833 inch), replace the drag bars.

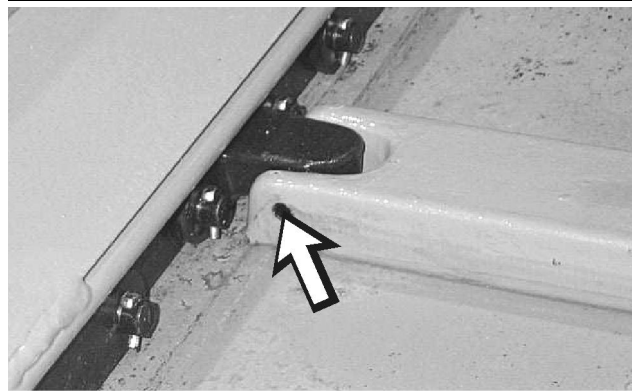


Illustration 172

g00861324

2. When you inspect the drag bars, the assemblies for the roller pin should also be checked for loose pins or cracked pins. If any of the pins appear worn or damaged, replace the pins. If any of the pins are loose, replace the pins.

Auger Conveyor

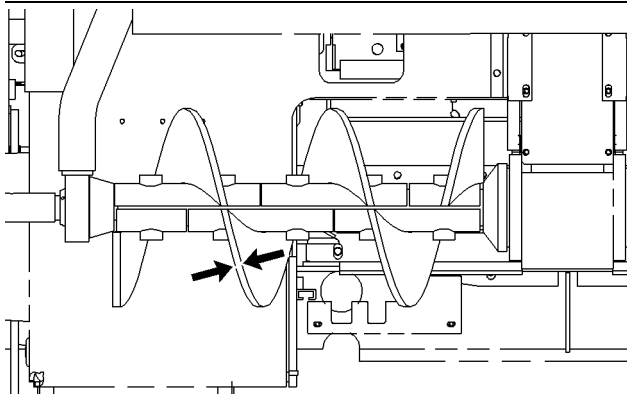


Illustration 173

g00861022

The corners of new augers are square. As the augers wear, the thickness and diameter become smaller. When the edge wears to a point, the auger should be replaced.

Drag Pans

There are two ways to measure the wear of a drag pan.

Ultrasonic Measurement

1. Use an ultrasonic gauge in order to measure the thickness of the drag pans. New drag pans have a thickness of 12.7 mm (0.5 inch). Once the pans are worn to a thickness of 3.175 mm (0.125 inch), the drag pans need to be replaced.
2. Take the measurement at the center of the drag pan. The center is the thinnest part of the drag pan. You may need to alternate replacing the middle pans due to wear patterns.

Inspection of the Hardware

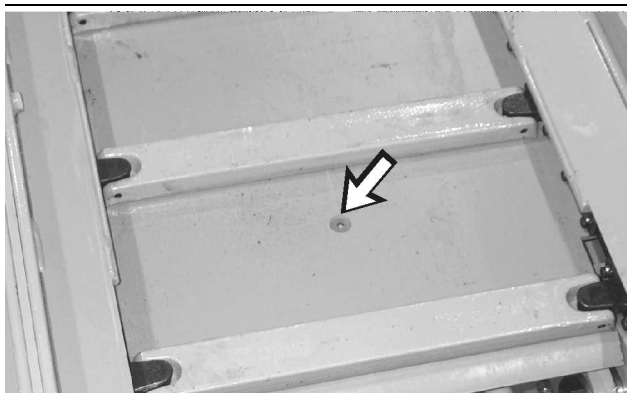


Illustration 174

g00861346

The drag pans should be replaced when an allen wrench can no longer be inserted into the bolt. At this point, the bolts are no longer countersunk and the bolt heads have begun to wear.

Note: If the drag pans are worn to approximately 8.5 mm (0.333 inch), you must make a decision. If the drag pans have been used for two years, the pans will probably last for another year of similar use. If the drag pans have only been used for one year, the pans should be replaced in order to avoid replacing the pans during paving season. This decision involves some discretion.

i03789931

Cooling System Coolant (ELC) - Change

SMCS Code: 1350-044-NL

WARNING

Personal injury can result from hot coolant, steam and alkali.

At operating temperature, engine coolant is hot and under pressure. The radiator and all lines to heaters or the engine contain hot coolant or steam. Any contact can cause severe burns.

Remove cooling system pressure cap slowly to relieve pressure only when engine is stopped and cooling system pressure cap is cool enough to touch with your bare hand.

Do not attempt to tighten hose connections when the coolant is hot, the hose can come off causing burns.

Cooling System Coolant Additive contains alkali. Avoid contact with skin and eyes.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Do not change the coolant until you read and understand the material in the Cooling System Specifications section.

NOTICE

Mixing Extended Life Coolant (ELC) with other products reduces the effectiveness of the coolant and shortens coolant life. Use only Caterpillar products or commercial products that have passed the Caterpillar EC-1 specifications for premixed or concentrate coolants. Use only Caterpillar Extender with Caterpillar ELC. Failure to follow these recommendations could result in the damage to cooling systems components.

If ELC cooling system contamination occurs, refer to Operation and Maintenance, "Extended Life Coolant (ELC)" under the topic ELC Cooling System Contamination.

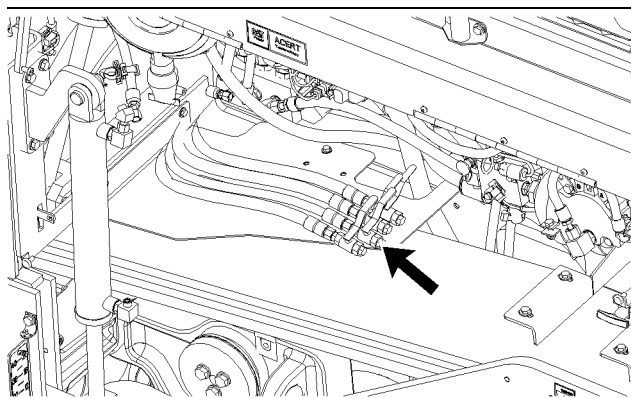


Illustration 175

g02047633

Drain the coolant whenever the coolant is dirty or whenever foaming is observed. The drain valve is located on the fender above the left track inside the left access door.

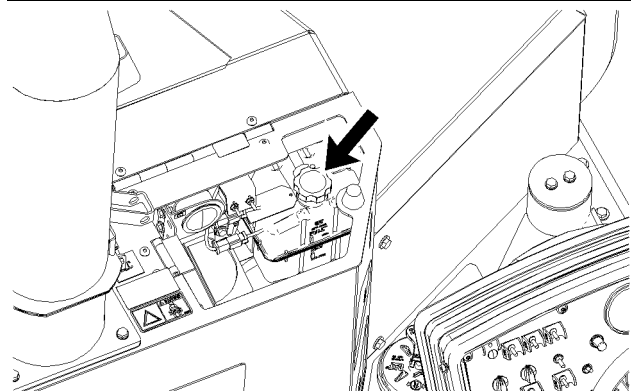


Illustration 176

g02047634

1. Open the access cover to the left of the exhaust stack.

2. Slowly loosen the filler cap on the shunt tank in order to relieve the system's pressure. Remove the filler cap on the shunt tank.
 3. Open the access door on the left side of the machine. The drain hose is located on the right side of the circuit breaker box. Remove the hose from the retaining clamps.
 4. Remove the drain plug. Allow the coolant to drain into a suitable container.
 5. Install the drain plug.
 6. Fill the system with a solution which consists of clean water and of cooling system cleaner. The concentration of the cooling system cleaner in the solution should be between 6 percent and 10 percent.
 7. Start the engine. Run the engine for 90 minutes.
 8. Stop the engine. Remove the drain plug. Drain the cleaning solution into a suitable container.
 9. While the engine is stopped, flush the system with water. Flush the system until the draining water is transparent.
 10. Install the drain plug. Return the drain hose to the retaining clamp.
 11. Refill the cooling system with coolant. Refer to Operation and Maintenance Manual, "Capacities (Refill)" for the correct refill capacity.
 12. Start the engine. Run the engine without the filler cap on the shunt tank until the thermostat opens and the coolant level stabilizes.
-

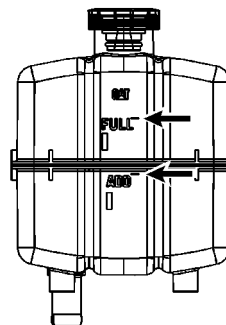


Illustration 177

g01402853

13. Maintain the coolant level between the indicated lines.
14. Replace the filler cap on the shunt tank if the gasket is damaged. Install the filler cap on the shunt tank.

15. Stop the engine.

i03789990

16. Close and lock the access covers.

i01667832

Cooling System Coolant Extender (ELC) - Add

SMCS Code: 1352-544-NL

When a Caterpillar Extended Life Coolant (ELC) is used, an extender must be added to the cooling system. See the Operation and Maintenance Manual, "Maintenance Interval Schedule" for the proper service interval. The amount of extender is determined by the cooling system capacity.

Table 13

Amount of Caterpillar Extender (ELC)	
Cooling System Capacity	Recommended Amount of Caterpillar Extender
22 to 30 L (6 to 8 US gal)	0.57 L (20 oz)
31 to 38 L (8 to 10 US gal)	0.71 L (24 oz)
39 to 49 L (10 to 13 US gal)	0.95 L (32 oz)
50 to 64 L (13 to 17 US gal)	1.18 L (40 oz)
65 to 83 L (17 to 22 US gal)	1.60 L (54 oz)
84 to 114 L (22 to 30 US gal)	2.15 L (72 oz)
115 to 163 L (30 to 43 US gal)	3.00 L (100 oz)
164 to 242 L (43 to 64 US gal)	4.40 L (148 oz)

Note: For cooling systems with larger capacities, use the formula in Table 14 in order to determine the correct amount of extender.

Table 14

Calculation of ELC Extender
$V^{(1)} \times 0.02 = X^{(2)}$

(1) V is the total volume of the cooling system.

(2) X is the amount of ELC Extender that is required.

For additional information about adding an extender, see Operation and Maintenance Manual, SEBU6250, "Extended Life Coolant (ELC)" or consult your Caterpillar Dealer.

Cooling System Coolant Sample (Level 1) - Obtain

SMCS Code: 1350-008; 1395-008; 7542-008

NOTICE

Always use a designated pump for oil sampling, and use a separate designated pump for coolant sampling. Using the same pump for both types of samples may contaminate the samples that are being drawn. This contaminate may cause a false analysis and an incorrect interpretation that could lead to concerns by both dealers and customers.

Note: Level 1 results may indicate a need for Level 2 Analysis.

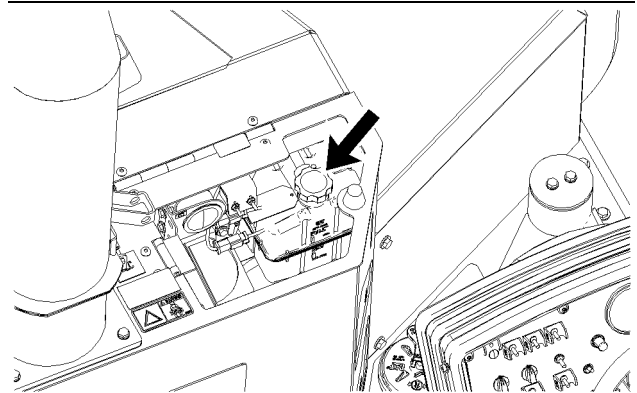


Illustration 178

g02047634

Refer to the Operation and Maintenance Manual, "Access Doors and Covers" for the location of the service points.

Obtain the sample of the coolant as close as possible to the recommended sampling interval. In order to receive the full effect of S·O·S analysis, you must establish a consistent trend of data. In order to establish a pertinent history of data, perform consistent samplings that are evenly spaced. Supplies for collecting samples can be obtained from your Caterpillar dealer.

Use the following guidelines for proper sampling of the coolant:

- Complete the information on the label for the sampling bottle before you begin to take the samples.
- Keep the unused sampling bottles stored in plastic bags.
- Obtain coolant samples directly from the coolant sample port. You should not obtain the samples from any other location.

- Keep the lids on empty sampling bottles until you are ready to collect the sample.
- Place the sample in the mailing tube immediately after obtaining the sample in order to avoid contamination.
- Never collect samples from expansion bottles.
- Never collect samples from the drain for a system.

Submit the sample for Level 1 analysis.

For additional information about coolant analysis, see Special Publication, SEBU6250, "Caterpillar Machine Fluids Recommendations" or consult your Caterpillar dealer.

i03789998

Cooling System Coolant Sample (Level 2) - Obtain

SMCS Code: 1350-008; 1395-008; 7542

NOTICE

Always use a designated pump for oil sampling, and use a separate designated pump for coolant sampling. Using the same pump for both types of samples may contaminate the samples that are being drawn. This contaminate may cause a false analysis and an incorrect interpretation that could lead to concerns by both dealers and customers.

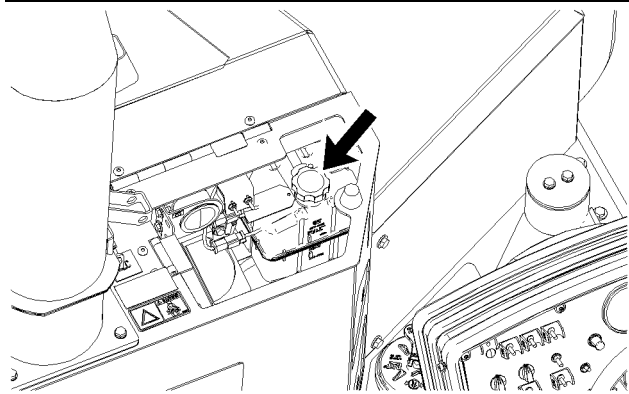


Illustration 179

g02047634

Refer to the Operation and Maintenance Manual, "Access Doors and Covers" for the location of the service points.

Obtain the sample of the coolant as close as possible to the recommended sampling interval. Supplies for collecting samples can be obtained from your Caterpillar dealer.

Refer to Operation and Maintenance Manual, "Cooling System Coolant Sample (Level 1) - Obtain" for the guidelines for proper sampling of the coolant.

Submit the sample for Level 2 analysis.

For additional information about coolant analysis, see Special Publication, SEBU6250, "Caterpillar Machine Fluids Recommendations" or consult your Caterpillar dealer.

i03790009

Cooling System Coolant Level - Check

SMCS Code: 1350-535-FLV

WARNING

At operating temperature, the engine coolant is hot and under pressure.

Steam can cause personal injury.

Check the coolant level only after the engine has been stopped and the fill cap is cool enough to touch with your bare hand.

Remove the fill cap slowly to relieve pressure.

Cooling system conditioner contains alkali. Avoid contact with the skin and eyes to prevent personal injury.

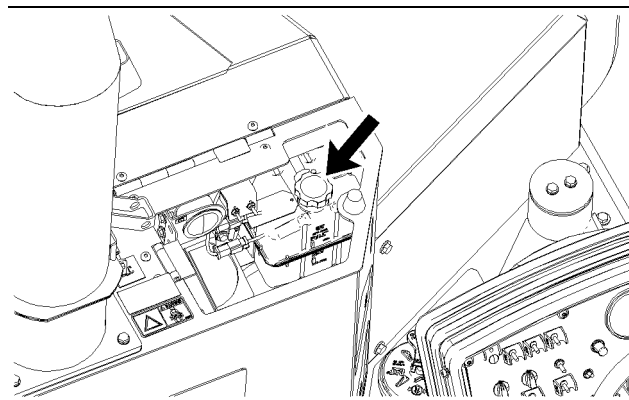


Illustration 180

g02047634

1. Slowly loosen the filler cap on the shunt tank in order to release any pressure in the system. Slowly remove the filler cap on the shunt tank.

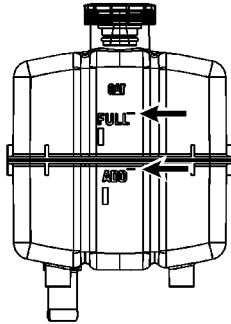


Illustration 181

g01402853

The shunt tank is located inside the compartment to the left of the exhaust stack.

2. Maintain the coolant level between the indicated lines. If it is necessary to add coolant daily, check the cooling system for leaks. Repair the leaks as the leaks are found.
3. Inspect the gasket. Inspect the filler cap on the shunt tank. Clean the filler cap on the shunt tank with a clean cloth. Replace the cap if the gasket or the cap are damaged.
4. Install the filler cap on the shunt tank.

Cooling System Water Temperature Regulator - Replace

SMCS Code: 1355-510; 1393-010

WARNING

At operating temperature, the engine coolant is hot and under pressure.

Steam can cause personal injury.

Check the coolant level only after the engine has been stopped and the fill cap is cool enough to touch with your bare hand.

Remove the fill cap slowly to relieve pressure.

Cooling system conditioner contains alkali. Avoid contact with the skin and eyes to prevent personal injury.

Replace the water temperature regulator on a regular basis in order to reduce the chance of unscheduled downtime and of problems with the cooling system.

The water temperature regulator should be replaced after the cooling system has been cleaned. Replace the water temperature regulator while the cooling system is completely drained.

NOTICE

Failure to replace the engine's water temperature regulator on a regularly scheduled basis could cause severe engine damage.

Note: If you are only replacing the water temperature regulator, drain the cooling system coolant to a level that is below the water temperature regulator housing.

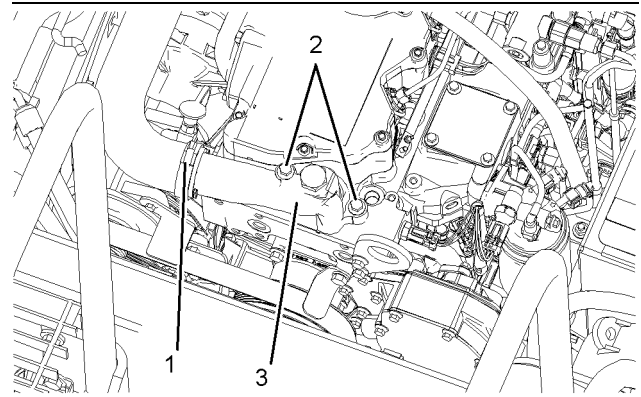


Illustration 182

g02047694

1. Loosen hose clamp (1) and remove the hose from water temperature regulator housing (3).
2. Remove bolts (2) from the housing for the water temperature regulator. Remove water temperature regulator housing (3).
3. Remove the gasket.

NOTICE

The water temperature regulators may be reused if the water temperature regulators are within test specifications, are not damaged, and do not have excessive buildup of deposits.

NOTICE

Since Caterpillar engines incorporate a shunt design cooling system, it is mandatory to always operate the engine with a water temperature regulator.

Depending on load, failure to operate with a water temperature regulator could result in either an overheating or an overcooling condition.

NOTICE

If the water temperature regulator is installed incorrectly, it will cause the engine to overheat.

4. Install a new water temperature regulator and a new gasket.
5. Install the hose. Tighten the hose clamp (1).
6. Inspect pressure cap and the gasket for damage. Replace the pressure cap if the pressure cap or the gasket are damaged.
7. Install the water temperature regulator housing (3). Install the two bolts (2).
8. Add the cooling system coolant. Maintain the coolant level to the top of the filler tube.
9. Close all access doors and lock the access doors.

i03790052

Drag Conveyors - Adjust

SMCS Code: 6630-025

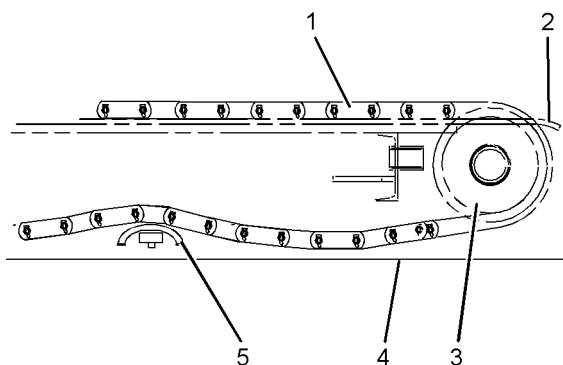


Illustration 183

g01358509

- (1) Drag conveyor
(2) Supports
(3) Roller
(4) Side Plate
(5) Conveyor's Support

In order to adjust the drag conveyor (1) to the proper tension, use the side plate (4) as a reference. The drag conveyor (1) should hang approximately 1.27 cm (0.5 inch) above the edge of the side plate (4). There are two supports (5) along the length of the drag conveyor. Perform the following steps in order to tighten or loosen the drag conveyor.

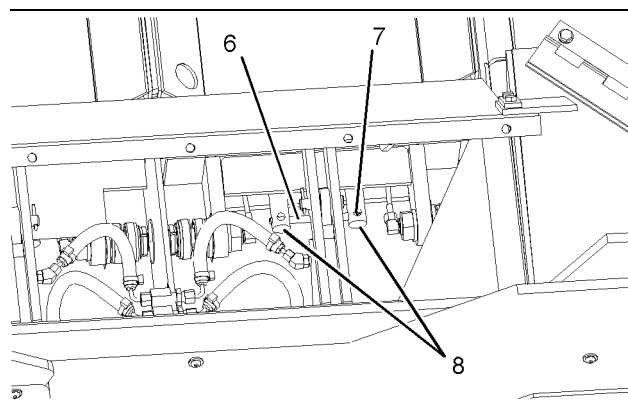


Illustration 184

g02047733

- (6) Adjusting rod
(7) Cotter pin
(8) Front takeup shaft

1. Remove cotter pin (7) from adjusting rod (6).
2. Remove adjusting rod from front takeup shaft (6).
3. Insert the adjusting rod (6) into the holes of front takeup shaft (8) in order to adjust the drag chain. Adjust the front takeup shaft in small increments. Turn the front takeup shaft counterclockwise in order to tighten the drag chain. Turn the front takeup shaft clockwise in order to loosen the drag chain.
4. Check drag chain for the correct chain tension after each adjustment.
5. Place the adjusting rod in the front takeup shaft. Place cotter pin (7) in adjusting rod (6).

i03790114

Drag Conveyors - Lubricate

SMCS Code: 6630-086

NOTICE

All daily grease lubricant should be applied at the end of each machine operation while the machine is still warm and the asphalt is still soft or not set up. Failure to do so may allow asphalt to harden around the seals and risk damaging a seal and lead to premature bearing failure.

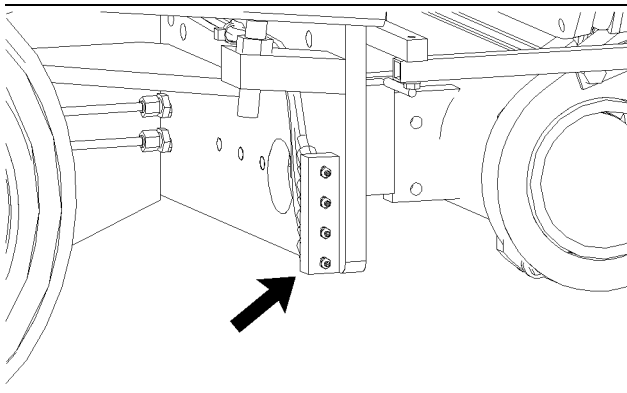


Illustration 185

g02047799

Lubricate the four grease fittings on the front right side of the machine. This will provide grease to the rear bearings. When you use a standard grease gun, pump 15 pumps per fitting. The grease should purge the bearings.

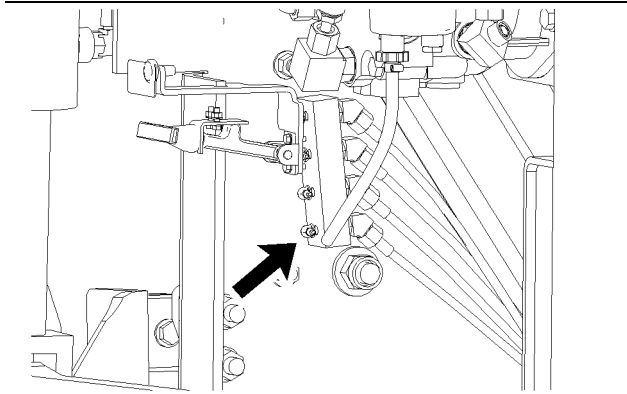


Illustration 186

g02047800

The grease points are located behind the right access door.

Lubricate the four grease fittings on the rear right side of the machine. This will provide grease to the rear bearings. When you use a standard grease gun, pump 15 pumps per fitting. The grease should purge the bearings.

i03790145

Engine Air Cleaner Inlet - Clean

SMCS Code: 1051-070-IL

The engine air inlet is located in the left side engine compartment. Check the engine air inlet for any debris or obstructions.

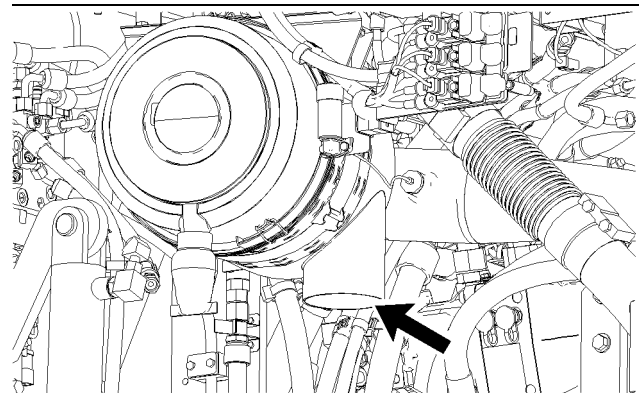


Illustration 187

g02047855

i00058639

Engine Air Filter Primary Element - Clean/Replace

SMCS Code: 1054-070-PY; 1054-510-PY

NOTICE

Do not clean the filter elements by bumping or tapping them. Do not use filter elements with damaged pleats, gaskets or seals. Engine damage can result.

Make sure the cleaned filter elements are completely dry before installing into the filter housing. Water remaining in the elements can cause false indications of contamination in Scheduled Oil Sampling test results.

The filter elements can be cleaned by using the following methods:

- pressure air
- pressure water
- detergent washing

When you use pressure air, the maximum air pressure is 205 kPa (30 psi). When you use pressure water, the maximum water pressure is 280 kPa (40 psi).

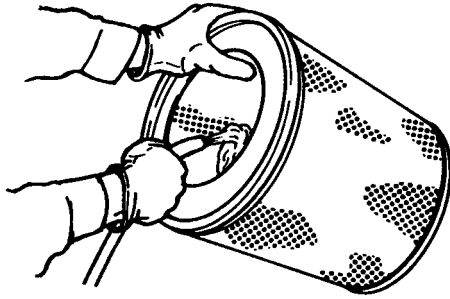


Illustration 188

g00038608

1. When you clean the inside pleats and the outside pleats, direct the air along the pleats or direct the water along the pleats.

The element can be washed in a solution that consists of warm water and of nonsudsing household detergent. Fully rinse the pleats. Allow the filter to air dry completely.

2. Inspect the filter elements after you clean the filter elements. Do not use a filter if the pleats, the gaskets or the seals are damaged.
3. Cover the clean filter elements. Store the elements in a clean, dry location.

Replace the primary element after the primary element has been cleaned six times. Also replace the primary element if the primary element has been in service for one year.

i03631053

Engine Air Filter Secondary Element - Replace

SMCS Code: 1054-510-SE

NOTICE

Always replace the secondary filter element. Never attempt to reuse the secondary filter element by cleaning the element.

When the primary filter element is replaced, the secondary filter element should be replaced.

The secondary filter element should also be replaced if the exhaust smoke is still black.

1. Open the engine compartment.

2. See Operation and Maintenance Manual, "Engine Air Filter Primary Element - Clean/Replace". Remove the air cleaner cover from the air cleaner housing. Remove the primary filter element from the air cleaner housing.

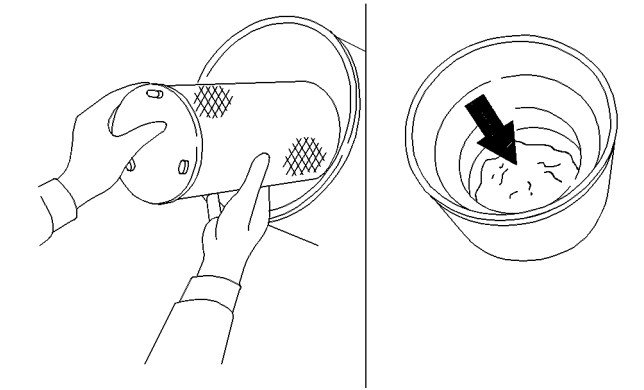


Illustration 189

g00101451

3. Remove the secondary filter element.
4. Cover the air inlet opening. Clean the inside of the air cleaner housing.
5. Remove the cover from the air inlet opening.
6. Install the new secondary filter element.
7. Install the primary filter element.
8. Install the air cleaner cover and close the latches securely.
9. Close the engine compartment.

i03790189

Engine Air Filter Service Indicator - Inspect

SMCS Code: 7452-040

1. Start the engine.
2. Run the engine at high idle.

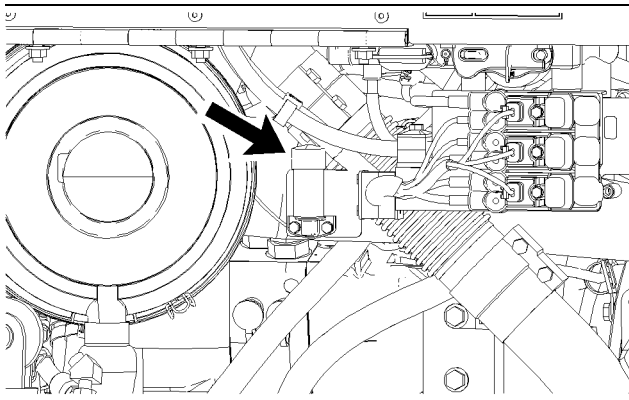


Illustration 190

g02047893

3. If the yellow piston in the engine air filter service indicator enters the red zone, service the air cleaner.

4. Stop the engine.

Note: See the Operation and Maintenance Manual, "Engine Air Filter Primary Element - Clean/Replace". See the Operation and Maintenance Manual, "Engine Air Filter Secondary Element - Replace".

i03790243

Engine Crankcase Breather - Clean

SMCS Code: 1317-070

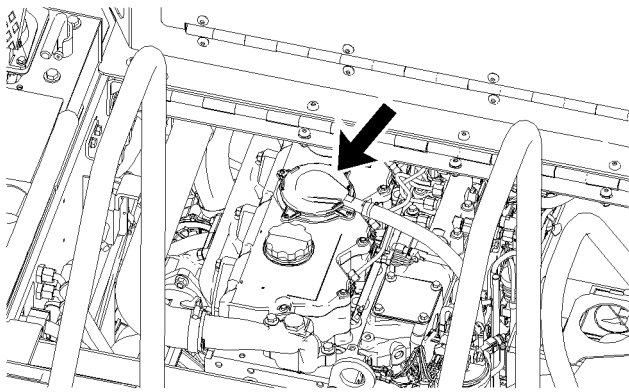


Illustration 191

g02047914

1. Remove the crankcase breather and the O-ring seal.
2. Wash the breather in clean, nonflammable solvent. Use pressure air in order to dry the element.
3. Check the O-ring seal for damage. Replace the O-ring seal if the O-ring seal is damaged. Install the O-ring seal.

4. Install the crankcase breather.

i03790333

Engine Mounts - Inspect

SMCS Code: 1152-040

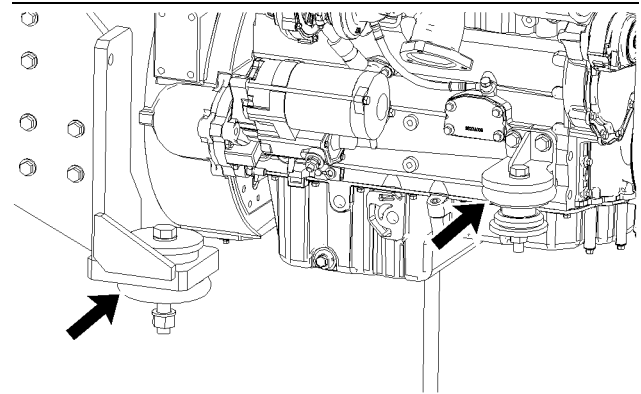


Illustration 192

g02048014

There are four engine mounts. Be sure to inspect each mount.

Inspect the engine mounts for deterioration.

Inspect the engine mounts for correct bolt torque.

Engine vibration can be caused by improper mounting of the engine. Engine vibration can be caused by loose engine mounts or deteriorated engine mounts.

Replace any engine mount that is deteriorated.

If the mounts are loose, torque the front engine mounts and the rear engine mounts to 460 ± 60 N·m (340 ± 40 lb ft).

i03792150

Engine Oil Level - Check

SMCS Code: 1000-535-FLV

1. To check the oil level, stop the engine.

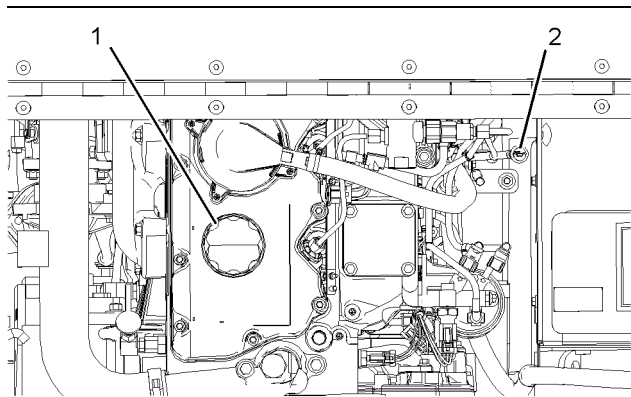


Illustration 193

g02049453

2. Check the engine oil level with oil level gauge (2).

NOTICE

Do not overfill crankcase. The oil level must not be above the **FULL RANGE** on the dipstick.

3. Maintain the engine oil level on the oil level gauge between the "FULL" mark and the "ADD" mark .
4. Clean oil filler cap (1). Remove the oil filler cap. If necessary, add oil.
5. Install the oil filler cap (1).

i03792193

Engine Oil Sample - Obtain

SMCS Code: 1000-008; 7542-008

⚠ WARNING

Hot oil and hot components can cause personal injury. Do not allow hot oil or hot components to contact the skin.

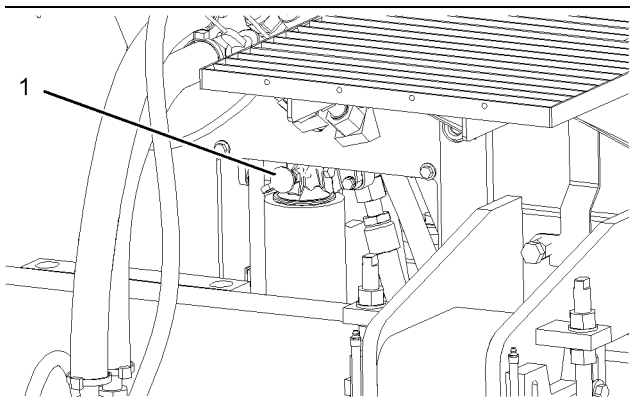


Illustration 194

g02049513

Remove the rear access cover in order to gain access to oil sample port (1).

Refer to Special Publication, SEBU6250, "S·O·S Oil Analysis" for information that pertains to obtaining a sample of the engine oil. Refer to Special Publication, PEHP6001, "How To Take A Good Oil Sample" for more information about obtaining a sample of the engine oil.

i03792283

Engine Oil and Filter - Change

SMCS Code: 1318-510

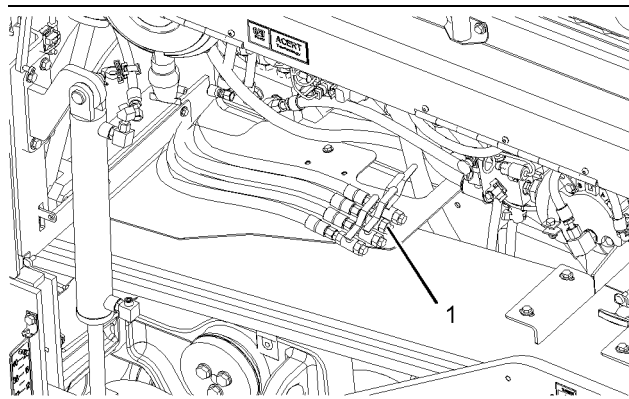


Illustration 195

g02049615

1. Remove drain hose (1) from the retainer.
2. Remove the cap from the end of drain hose (1). Drain the oil into a suitable container.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for more information on containing fluid spillage.

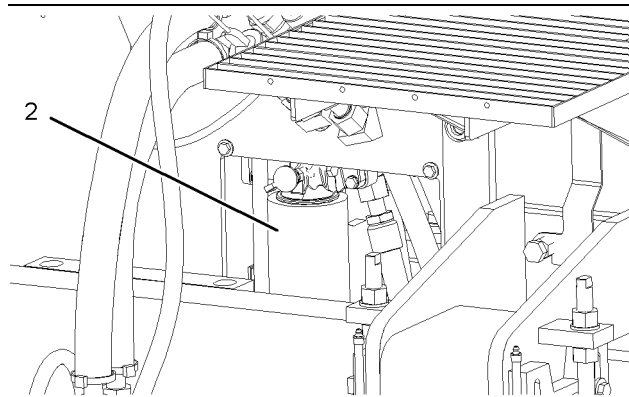


Illustration 196

g02049616

3. Remove the rear access cover in order to gain access to filter (2). Remove filter (2). Discard the used filter element.

4. Clean the filter housing base. All of the old filter seal must be removed from the filter housing base.
5. Apply a thin coat of engine oil to the seal of the new filter element.
6. Install the new filter by hand.

Instructions for the installation of the filter are printed on the side of each Caterpillar spin-on filter. For non-Caterpillar filters, refer to the installation instructions that are provided by the supplier of the filter.

7. Install the access cover for the oil filter.

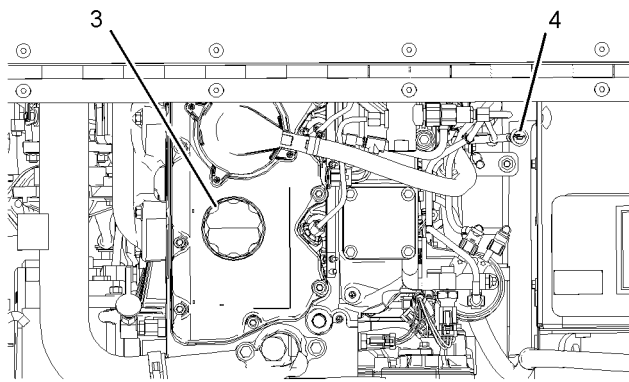


Illustration 197

g02049619

8. Remove oil filler cap (3). Fill the crankcase with new oil. See Operation and Maintenance Manual, "Capacities (Refill)" for the correct refill capacity. Clean the oil filler cap and install the oil filler cap.
9. Check the engine oil level with oil level gauge (4). Maintain the oil level between the "FULL" mark and the "ADD" mark on the oil level gauge.
10. Start the engine and run the engine for two minutes. Monitor the oil pressure gauge.
11. Inspect the machine for oil leaks.
12. Stop the engine.
13. Wait for ten minutes in order to allow the oil to drain back into the crankcase. Check the oil level.

i01633611

Engine Valve Lash - Check

SMCS Code: 1105-535

This maintenance is recommended by Caterpillar as part of a lubrication and preventive maintenance schedule in order to help provide maximum engine life.

NOTICE

Only qualified service personnel should perform this maintenance. Refer to the Service Manual or your Caterpillar dealer for the complete valve lash adjustment procedure.

Operation of Caterpillar engines with improper valve adjustments can reduce engine efficiency. This reduced efficiency could result in excessive fuel usage and/or shortened engine component life.

i03792710

Final Drive Planetary Oil - Change

SMCS Code: 4050-044-OC

The final drive planetary is located at the rear of the track assembly. There are two final drives. One final drive is on each side of the machine.

Perform this procedure for the final drive planetary on both sides of the machine.

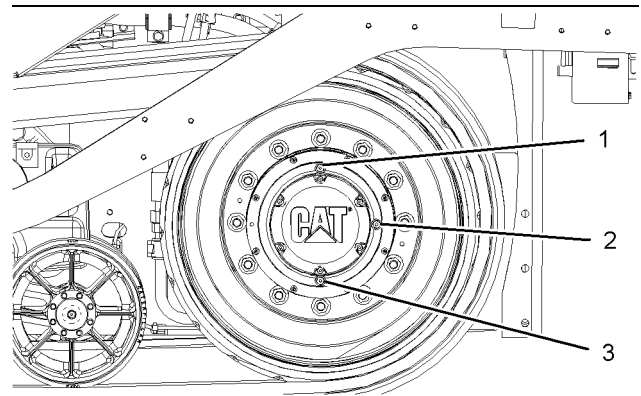


Illustration 198

g02049973

Note: The final drive planetary has three plugs. Position the final drive with plug (1) at the top of the drive.

1. Remove drain plug (3) and allow the oil to drain into a suitable container.
2. Clean plug (3) and install the plug.
3. Remove plug (1). Fill the final drive planetary. Allow the machine to sit for 45 minutes.

Reference: Refer to Operation and Maintenance Manual, "Capacities (Refill)" for the correct refill capacity.

Note: The machine needs to sit for 45 minutes in order to fill the rear bearings of the final drive planetary. Failure to wait for 45 minutes may result in bearing failure.

4. Fill the planetary with oil up to plug (2).
5. Clean plug (1) and install the plug.

i03792775

Final Drive Planetary Oil Level - Check

SMCS Code: 4050-535-FLV

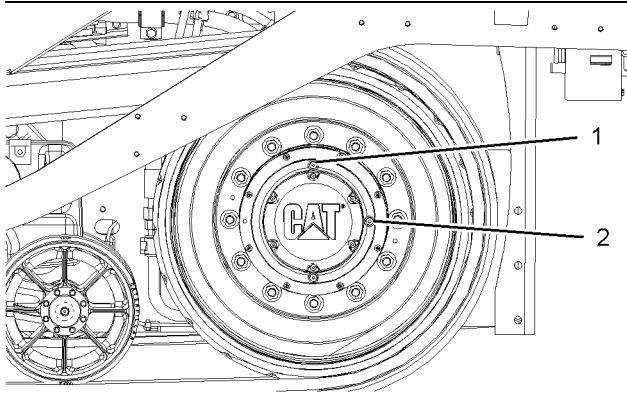


Illustration 199

g02050075

The final drive planetary is located at the rear of each track assembly. There is one final drive on each side of the machine.

Check the oil level of each drive.

Note: The final drives have three plugs. Position the final drive with plug (1) at the top of the drive. Plug (2) is used to check the level of the oil in the drive.

Remove the oil level check plug (2). The oil level should be at the bottom of the opening for the oil level check plug.

Remove plug (1) in order to fill the drive. Clean the plugs and install the plugs.

Final Drive Planetary Oil Sample - Obtain

SMCS Code: 4050-008; 7542-008

i03792779

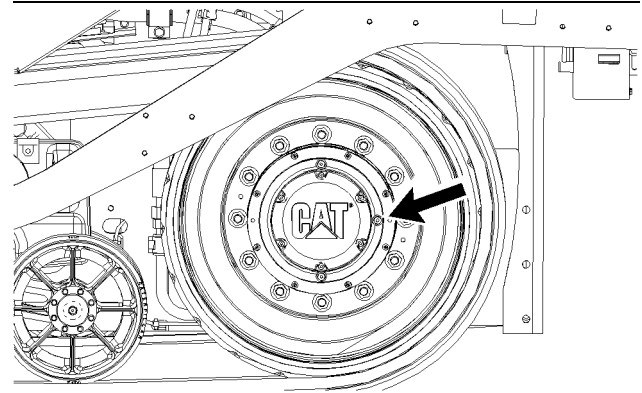


Illustration 200

g02050079

Refer to Special Publication, SEBU6250, "S·O·S Oil Analysis" for information that pertains to obtaining a sample of oil. Refer to Special Publication, PEHP6001, "How To Take A Good Oil Sample" for more information about obtaining a sample of oil.

i03793550

Fuel System - Prime

SMCS Code: 1250-548

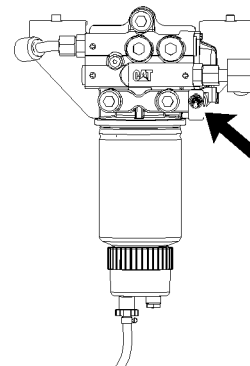


Illustration 201

g02050776

1. Operate the fuel priming pump in order to fill the new filter element with fuel. Push the switch downward in order to activate the fuel priming pump. Hold the switch downward for a few seconds.

Note: The fuel priming pump will only function with the engine start switch in the OFF position.

2. Start the engine. If the engine will not start, further priming is necessary. If the engine starts but the engine continues to misfire, further priming is necessary. If the engine starts but the engine continues to emit smoke, further priming is necessary.
3. If the engine starts but the engine runs rough, continue to run the engine at low idle. Continue to run the engine at low idle until the engine runs smoothly.

i03797869

Fuel System Filter (Washdown) - Clean

SMCS Code: 1261-070; 5642-070-FI

WARNING

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the start switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

NOTICE

Do not allow dirt to enter the fuel system. Thoroughly clean the area around a fuel system component that will be disconnected. Fit a suitable cover over disconnected fuel system component.

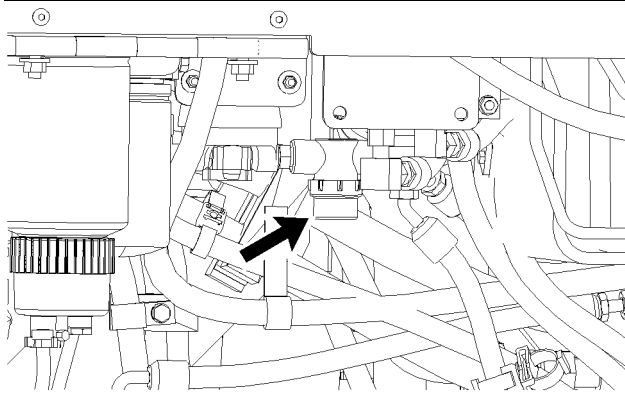


Illustration 202

g02054373

1. Place a container under the fuel filter (1) before you remove the filter.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for information on containing fluid spillage.

2. Remove the fuel filter (1).
3. Clean the filter of any debris.

4. Reinstall the filter.

i03793599

Fuel System Primary Filter - Clean/Inspect/Replace

SMCS Code: 1260-510; 1260-571

WARNING

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the start switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

NOTICE

Do not allow dirt to enter the fuel system. Thoroughly clean the area around a fuel system component that will be disconnected. Fit a suitable cover over disconnected fuel system component.

NOTICE

Do not use a tool in order to remove the fuel filter. Attempting to remove the fuel filter with a filter wrench or a filter strap could damage the locking ring.

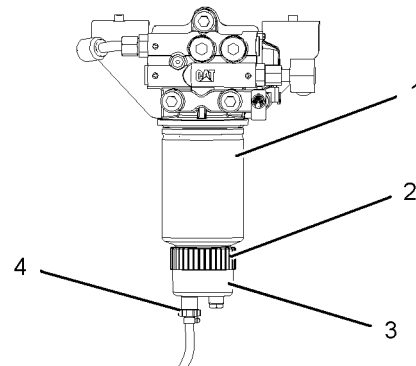


Illustration 203

g02050833

1. Place a tray under fuel filter (1) in order to catch any fuel that might spill. Clean up any spilled fuel immediately.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

2. Clean the outside of fuel filter assembly. Open the drain (4) on the bottom of the fuel filter. Drain the fuel and the water from the element into a suitable container.
3. Hold the element and rotate the locking ring (2) counterclockwise. Remove the locking ring (2). The used filter element should be removed and discarded.
4. Remove the sediment bowl (3) from the element.
5. Thoroughly clean the sediment bowl (3). Inspect the O-ring seals. Install new O-ring seals, if necessary.
6. Install the sediment bowl to the new element. Hand tighten the sediment bowl.

Note: Hand tightening is the only method that should be used.

NOTICE

Do not fill fuel filters with fuel before installing them. Contaminated fuel will cause accelerated wear to fuel system parts.

-
7. Ensure that the filter head is clean. Push a new element fully into the filter head.
 8. Hold the element in place. Fit the locking ring (2) into position. Rotate the locking ring clockwise in order to fasten the element to the filter head.

Note: If the nylon insert was removed, install the nylon insert and install the cap.

9. Prime the fuel system. Refer to the Operation and Maintenance Manual, "Fuel System - Prime" in the Maintenance Section for more information.

i03793612

Fuel System Secondary Filter - Replace

SMCS Code: 1261-510-SE

WARNING

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the start switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

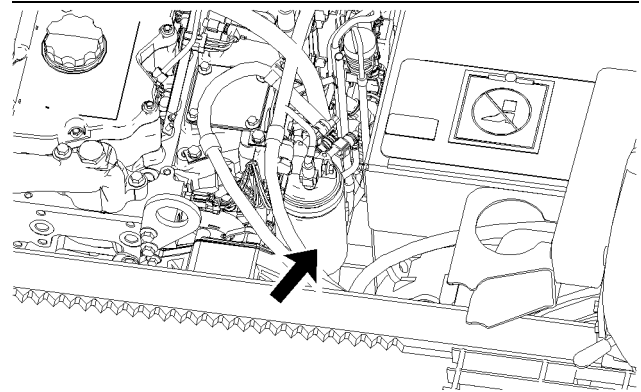


Illustration 204

g02050876

1. Open the engine hood in order to access the fuel system's secondary fuel filter.
2. Remove the filter. Discard the filter properly.
3. Clean the mounting base of the fuel filter. Remove any part of the old seal that remains on the mounting base of the fuel filter.
4. Install the new filter by hand. When the seal contacts the base, tighten the fuel filter element by an additional 3/4 turn.

Note: Rotational index marks are positioned on the filter at 90 degree intervals. Use these rotation index marks as a guide when you tighten the filter.

5. Clean up any spills immediately.
6. Start the engine and check for leaks.

i03799292

Fuel System Third Filter - Replace

SMCS Code: 1261-510; 1261-510-SE

WARNING

Personal injury or death may result from failure to adhere to the following procedures.

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire.

Clean up all leaked or spilled fuel. Do not smoke while working on the fuel system.

Turn the disconnect switch OFF or disconnect the battery when changing fuel filters.

NOTICE

Do not fill the fuel filters with fuel before installing the fuel filters. The fuel will not be filtered and could be contaminated. Contaminated fuel will cause accelerated wear to fuel system parts.

1. Open the access panel on the right side of the machine.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for information on containing fluid spillage.

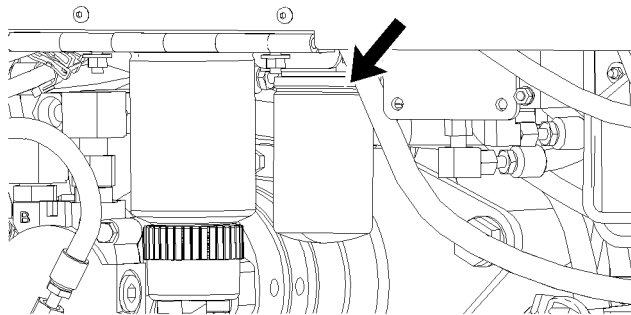


Illustration 205

g02055835

2. Remove the filter.

Note: Always discard used filters according to local regulations.

3. Clean the filter mounting base. Make sure that all of the used seal is removed.
4. Coat the seal of the new filter with clean diesel fuel.
5. Install the new fuel filter by hand.

Instructions for the installation of the filter are printed on the side of each Caterpillar spin-on filter. For non-Caterpillar filters, refer to the installation instructions that are provided by the supplier of the filter.

6. Prime the fuel system. See Operation and Maintenance Manual, "Fuel System - Prime" for instructions.
7. Close the engine hood.

i03793628

Fuel System Water Separator - Drain

SMCS Code: 1263-543

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

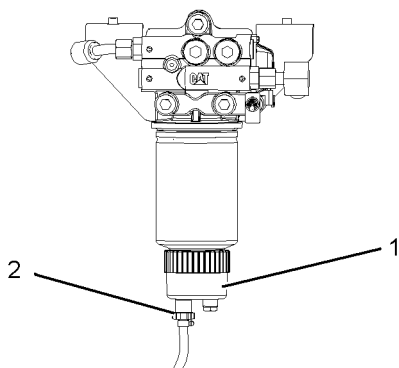


Illustration 206

g02050914

1. Open drain (2) on water separator bowl (1).
2. Drain the water from water separator bowl (1) into a suitable container. Close drain (2).

Fuel Tank Cap, Filter, and Strainer - Clean/Inspect/Replace

SMCS Code: 1273-070-STR; 1273-070-Z2

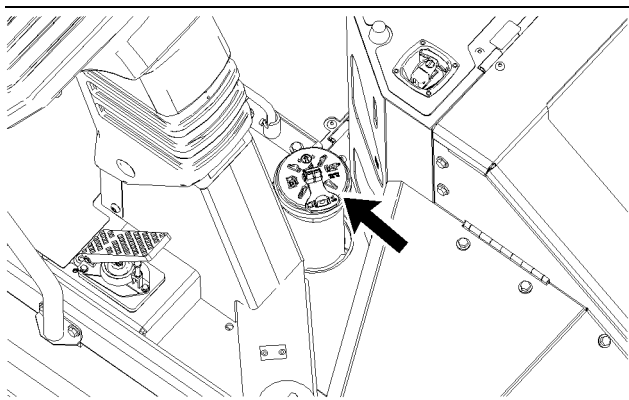


Illustration 207

g02050935

1. Remove the cap and the strainer.
2. Wash the cap and the strainer in clean nonflammable solvent.
3. Allow the filter inside the cap to dry, or use pressure air in order to dry the filter.
4. Install the strainer and the tank cap.

i03793710

Fuel Tank Water and Sediment - Drain

SMCS Code: 1273-543-M&S

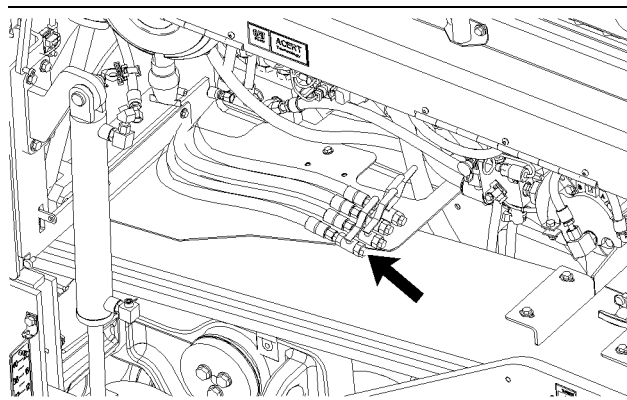


Illustration 208

g02050974

1. The drain hose for the fuel tank is located in the left side access door.
2. Remove the plug from the drain hose.
3. Drain the water and sediment from the fuel tank into a suitable container.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for information on containing fluid spillage.

4. Replace the plug for the drain hose.

i03841549

Fuses - Replace

SMCS Code: 1417-510



Fuse – The fuses protect the electrical system from damage that is caused by overloaded circuits. Change the fuse if the element separates. If the element of the new fuse separates, check the circuit. Repair the problem before you operate the machine.

NOTICE

Replace the fuses with the same type and size only. Otherwise, electrical damage can result.

If it is necessary to replace fuses frequently, an electrical problem exists. Contact your Caterpillar dealer.

Primary Fuse Panel

The primary fuse panel is located behind the access panel below the exhaust stack.

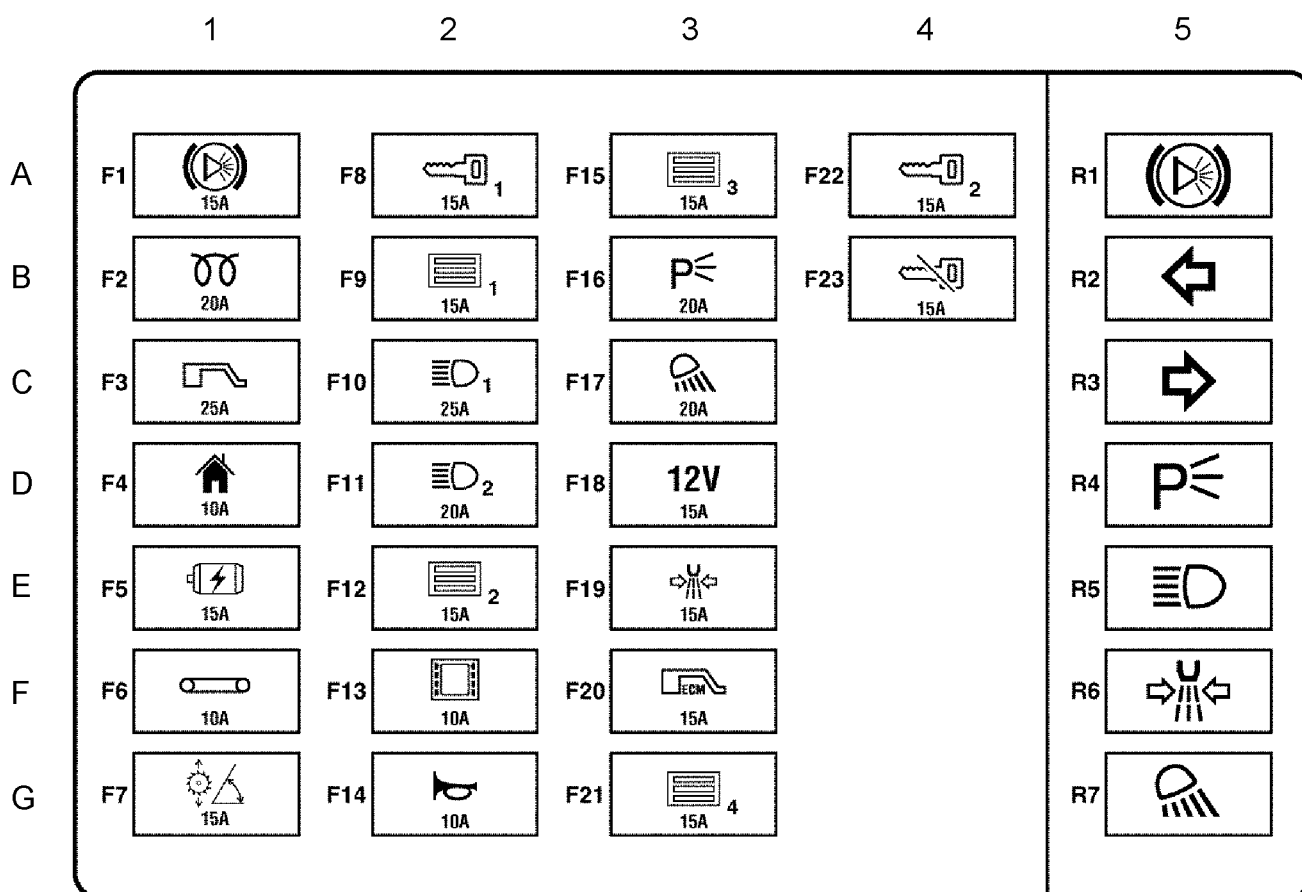


Illustration 209

g02089556

Table 15

Primary Fuse Panel					
	1	2	3	4	5
A	Brake Lights 15A	Spare Switched 15A	Machine ECM 15A	Autolube 15A	Brake Lights Relay
B	Glow Plugs 20A	Operator Control 15A	Parking Lights 20A	Spare Unswitched 15A	Left Turn Signal Relay
C	Screed 25A	HID Lights 25A	Work Lights 20A		Right Turn Signal Relay
D	Limp Home Mode 10A	Travel Lights 20A	12 V Power Supply 15A		Parking Lights Relay
E	Generator 15A	Slave ECM 15A	Spray Down 15A		Travel Lights Relay
F	Sensor 10A	Display 10A	Screed ECM 15A		Spray Down Relay
G	Grade Slope 15A	Horn 10A	Operator ECM 15A		Work Lights Relay

Secondary Fuse Panel

The secondary fuse panel is located behind the left side access door.

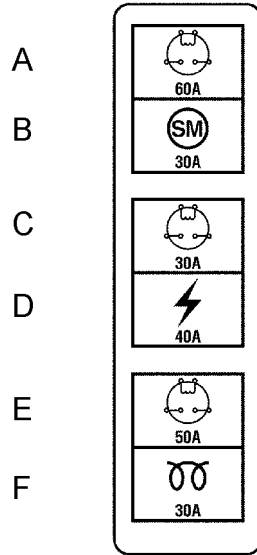


Illustration 210

g02089557

Table 16

Secondary Fuse Panel	
A	Starter Relay Fuse 60A
B	Starter Motor Fuse 30A
C	Main Power Relay Fuse 30A
D	Main Power Fuse 40A
E	Glow Plug Relay Fuse 50A
F	Glow Plug Fuse 30A

Note: Spare relays are located behind the fuse panel.

Generator - Clean

SMCS Code: 4450-070

WARNING

Personal injury or death can result from high voltage.

When power generation equipment must be in operation to make tests and/or adjustments, high voltage and current are present.

Improper test equipment can fail and present a high voltage shock hazard to its user.

Make sure the testing equipment is designed for and correctly operated for high voltage and current tests being made.

When servicing or repairing electric power generation equipment:

- Make sure the unit is off-line (disconnected from utility and/or other generators power service) , and either locked out or tagged DO NOT OPERATE.
- Remove all fuses.
- Make sure the generator engine is stopped.
- Make sure all batteries are disconnected.
- Make sure all capacitors are discharged.

Failure to do so could result in personal injury or death. Make sure residual voltage in the rotor, stator and the generator is discharged.

WARNING

When the engine-generator is operating, voltages up to 600V are present in these areas near or on the regulator:

- a. the regulator terminal strip
- b. the excitation transformer terminal strip (self-excited generator only)

NOTICE

Electronic components in the regulator can be damaged during generator operation if contact is made between the part and ground.

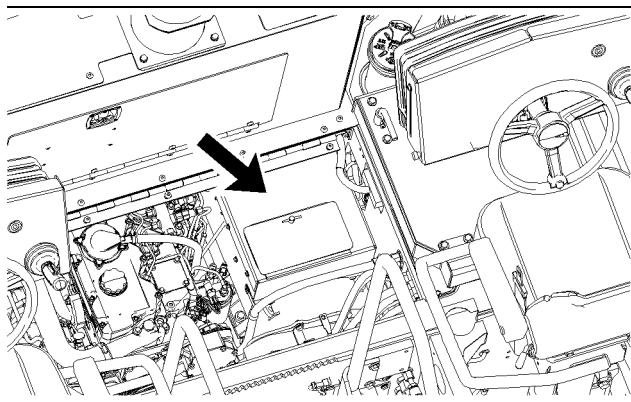


Illustration 211

g02102139

Remove the top cover of the generator in order to clean the generator.

Periodically, generators should be inspected for cleanliness. The following contaminants should not be allowed to accumulate on the windings:

- dirt
- dust
- grease
- salt
- oil film

If moisture is allowed to remain in contact with an electrical winding, some of the moisture will eventually be retained in voids or cracks of the insulation. This will lower the resistance of the winding insulation. The insulation that is used on the windings of Caterpillar generators is moisture resistant. However, constant exposure to moisture will gradually lower the insulation's resistance.

Dirt can make the problem worse. Dirt can hold moisture in contact with the insulation. The salt that is present in sea air can compound the problem. When salt and moisture combine, a good electrical conductor is created.

Clean the voltage regulator and clean the generator of dirt and debris. Use a brush to loosen accumulations of dirt. Vacuum clean the system in order to remove residual dirt. The use of compressed air is not recommended. Compressed air contains moisture that is present in the form of condensation.

Carbon tracking on insulators can be caused by dirt or carbon tracking on insulators can be caused by loose connections. These carbon paths must be cleaned or the insulators must be replaced. A failure to correct a carbon tracking problem will result in an electrical short in the circuit.

Visually check for loose wires or broken wires. Also, visually check for loose connections or broken connections. Check the wires and connections on the voltage regulator assembly. Check all wires and connections in the generator. Clean heat sinks. Make any necessary repairs to the wiring.

Refer to Special Instruction, SEHS9124, "Cleaning and Drying of the Generator" for more information.

i03846449

Ground Fault - Check (If Equipped)

SMCS Code: 4450-535; 4461-535

Auxiliary Power Distribution

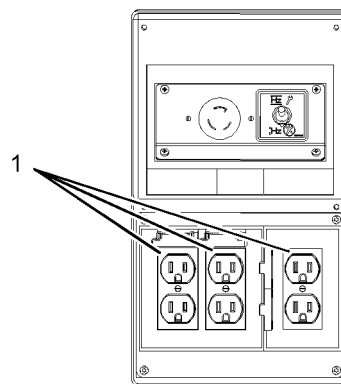


Illustration 212

g02092914

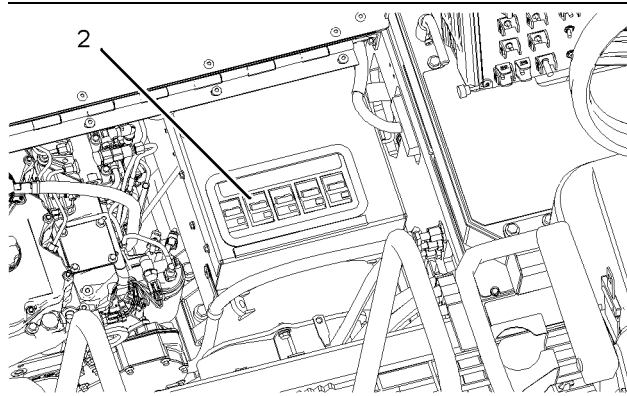


Illustration 213

g02092916

1. Press the test buttons (1) that are located on the outlets. The reset button, which is located next to the test button, should instantly pop out.

Note: If the reset button does not pop out, the outlet needs to be replaced.

2. Press the reset button in order to reset the outlet.

3. Press test buttons (2) that are located on the circuit breakers. The reset button, which is located next to the test button, should instantly pop out.

Note: If the reset button does not pop out, the circuit breaker needs to be replaced.

4. Press the reset button in order to reset the circuit breaker.

Work Tool Mode

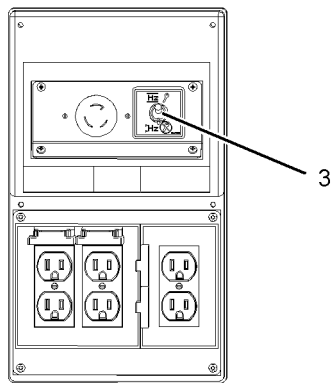


Illustration 214

g02092913

You should only operate work tools from the machine's auxiliary power source when switch (3) is in the ON position. Press switch (3) upward in order to turn on the work tool mode. Press switch (3) downward in order to turn off the work tool mode.

Generator

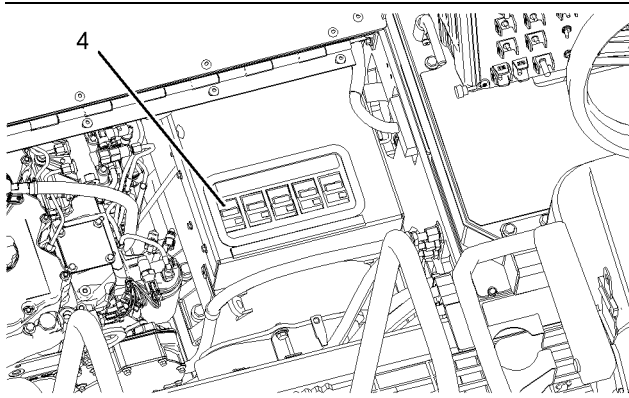


Illustration 215

g02092253

1. Press the test button (4) that is located on the circuit breaker. The reset button, which is located next to the test button should instantly pop out.

Note: If the reset button does not pop out, the circuit breaker needs to be replaced.

2. Press the reset button in order to reset the circuit breaker.

3. Repeat the above steps for all four circuit breakers that are located on the generator.

i03793781

Hopper Cylinder Bearings - Lubricate

SMCS Code: 5102-086-BD

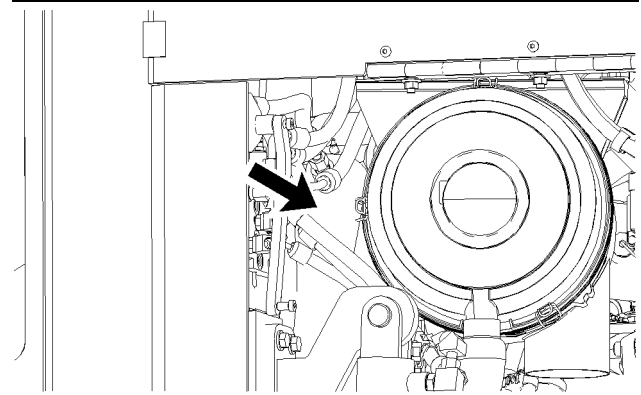


Illustration 216

g02051033

Left Hopper Cylinder

There are two grease fittings on each hopper cylinder. There is a fitting at the top of the cylinder. There is a fitting at the bottom of the cylinder.

There are two cylinders on the machine. One cylinder is on each side of the machine.

The top grease fitting for each cylinder can be accessed through the radiator access cover. The lower grease fittings can be accessed through the side access doors.

Hopper Flashing - Inspect/Replace

SMCS Code: 6639-040-FK; 6639-510-FK

i03356040

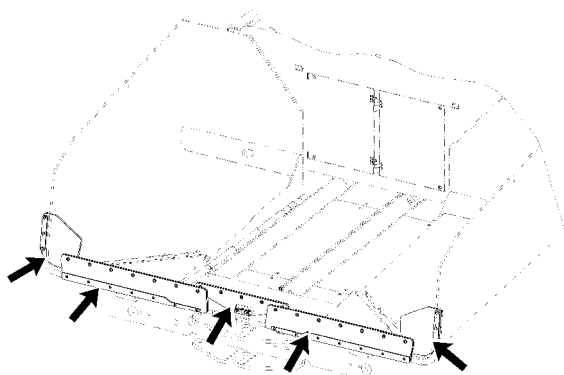


Illustration 217

g01730235

Inspect the front hopper flashing for deterioration. Hot asphalt and trucks that are delivering the asphalt to the machine can damage the hopper flashing. If necessary, repair the hopper flashing. Hopper flashing that is not repaired or replaced can cause excess spillage of asphalt in front of the machine.

i03793826

Hydraulic System Oil Level - Check

SMCS Code: 5056-535-FLV

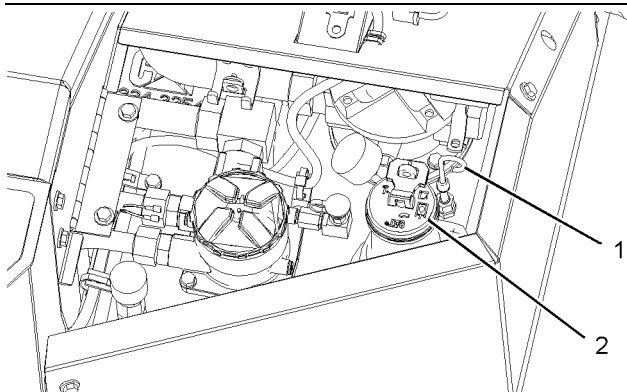


Illustration 218

g02051094

1. Check the hydraulic oil level with oil level gauge (1).
2. Maintain the oil level between the "FULL" mark and the "ADD" mark.
3. Add additional oil if the oil level is below the "ADD" mark.

4. Check filler cap (2). Replace the filler cap if the filler cap is damaged.
5. Install the filler cap (2).

i03793862

Hydraulic System Oil and Filters - Change

SMCS Code: 5056-044; 5068-510

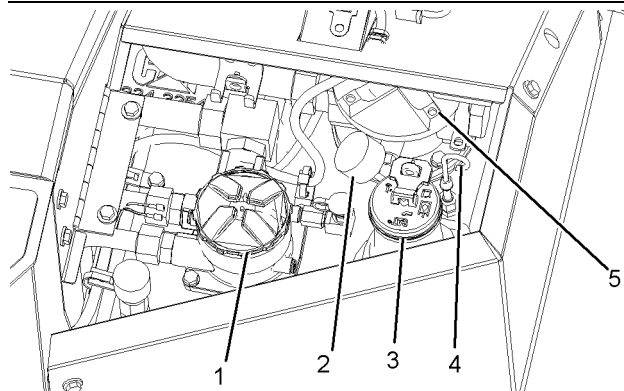


Illustration 219

g02051154

- (1) Charge Filter
- (2) Return Filter Indicator
- (3) Hydraulic Tank Cap
- (4) Hydraulic Oil Level Gauge
- (5) Return Filter

1. Remove hydraulic tank cap (3) in order to relieve pressure from the hydraulic system.

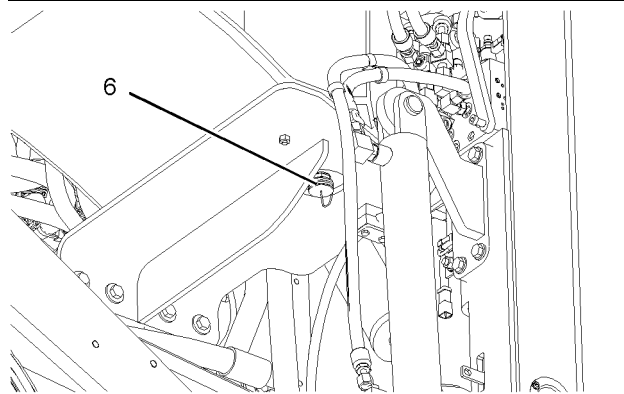


Illustration 220

g02051167

2. Remove drain plug (6) and install the 134-8474 drain hose. Drain the hydraulic oil into a suitable container.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for information on containing fluid spillage.

3. Remove the cover for the charge filter (1). Remove the charge filter.
4. Remove the return filter cover (5). Remove the return filter.
5. Remove the drain hose and Install drain plug (6).
6. Install a new charge filter. Install the cover for the charge filter (1).
7. Install a new return filter. Install the return filter cover (5).
8. Fill the hydraulic tank. Refer to the Operation and Maintenance Manual, "Capacities (Refill)" for the correct refill capacity.
9. Replace hydraulic tank cap (3).
10. Start the engine. Run the engine for a few minutes. Check the hydraulic filters for leaks.
11. Stop the engine.
12. Repair the leaks that were found.
13. Maintain the oil between the "FULL" and "ADD" marks on oil level gauge (4).

i03793958

Hydraulic System Oil Sample - Obtain

SMCS Code: 5050-008; 7542-008

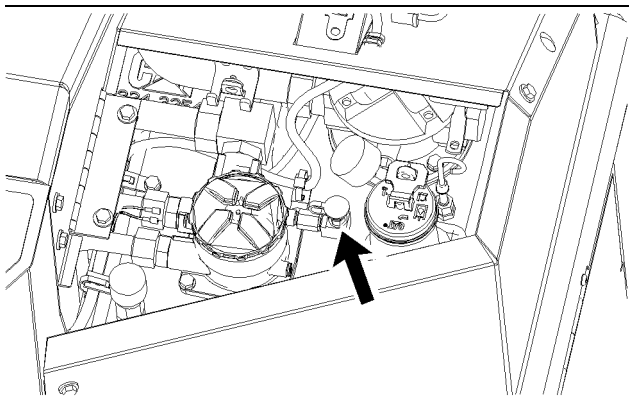


Illustration 221

g02051235

Refer to Special Publication, SEBU6250, "S-O-S Oil Analysis" for information that pertains to obtaining a sample of the hydraulic oil. Refer to Special Publication, PEHP6001, "How To Take A Good Oil Sample" for more information about obtaining a sample of the hydraulic oil.

i02747547

Idler Bearings (Takeup) - Lubricate

SMCS Code: 4159-086-BD

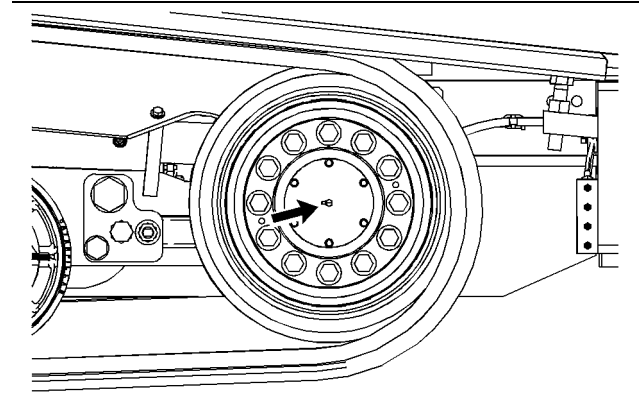


Illustration 222

g01376247

There are two idlers on each side of the track. There is a fitting in the middle of each of the four idlers.

Apply grease to the four idlers. Apply grease until excess grease is observed from the grease relief fitting on the inside part of the idler hub.

i02747558

Idler Wheel (Takeup) - Inspect

SMCS Code: 4159

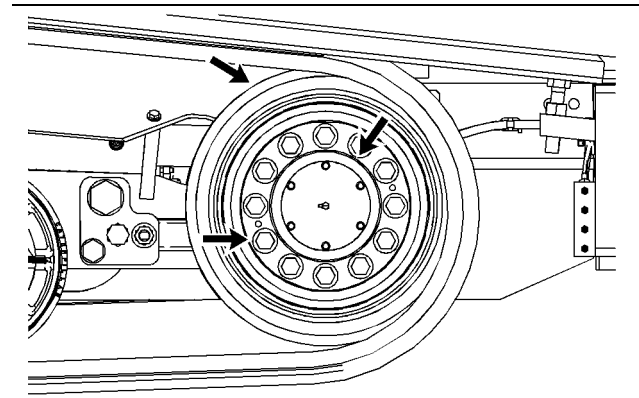


Illustration 223

g01376253

Check idler rims and track roller rims for damage. Notify your dealer if damaged rims are observed. Damaged rims may cause damage to the track. Damaged rims may cause improper track movement.

i02106227

i03798732

Oil Filter - Inspect

SMCS Code: 1308-507; 3004-507; 5068-507

Inspect a Used Filter for Debris

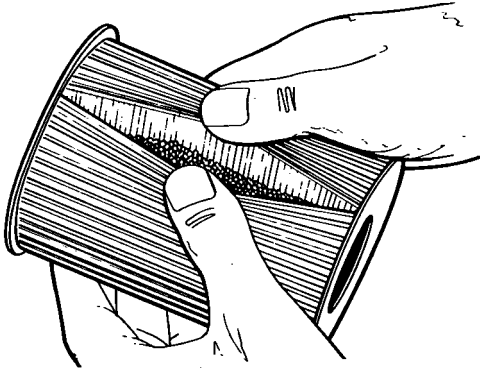


Illustration 224

g00100013

The element is shown with debris.

Use a filter cutter to cut the filter element open. Spread apart the pleats and inspect the element for metal and for other debris. An excessive amount of debris in the filter element can indicate a possible failure.

If metals are found in the filter element, a magnet can be used to differentiate between ferrous metals and nonferrous metals.

Ferrous metals can indicate wear on steel parts and on cast iron parts.

Nonferrous metals can indicate wear on the aluminum parts of the engine such as main bearings, rod bearings, or turbocharger bearings.

Small amounts of debris may be found in the filter element. This could be caused by friction and by normal wear. Consult your Caterpillar dealer in order to arrange for further analysis if an excessive amount of debris is found.

Using an oil filter element that is not recommended by Caterpillar can result in severe engine damage to engine bearings, to the crankshaft, and to other parts. This can result in larger particles in unfiltered oil. The particles could enter the lubricating system and the particles could cause damage.

Pump Drive Breather - Clean

SMCS Code: 3108-070-BRE

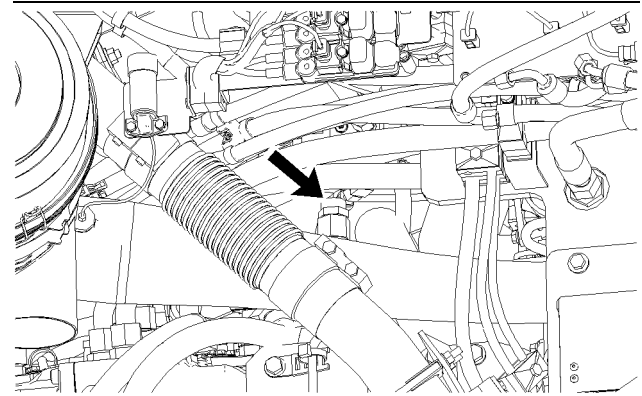


Illustration 225

g02055053

1. Remove the breather from the gearbox.
2. Wash the breather in clean nonflammable solvent.
3. Allow the breather to dry, or use pressure air in order to dry the breather.
4. Install the breather.

i03798751

Pump Drive Oil - Change

SMCS Code: 3108-044-OC

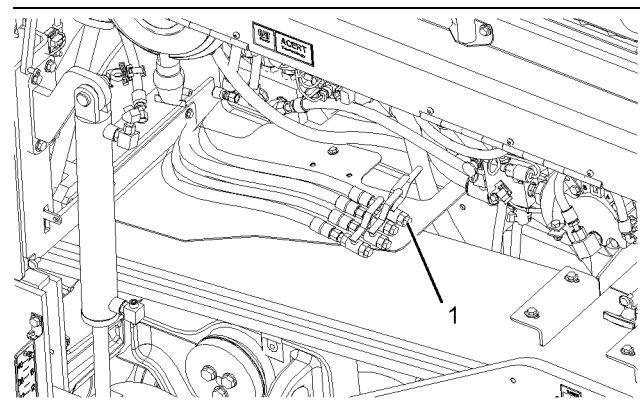


Illustration 226

g02055056

1. Remove the cap from the drain hose (1). Allow the oil to drain into a suitable container.

Note: Refer to Operation and Maintenance Manual, "General Hazard Information" for information on containing fluid spillage.

2. Clean the cap for the drain hose. Install the cap on the drain hose.

3. Dispose of the oil in a proper manner.

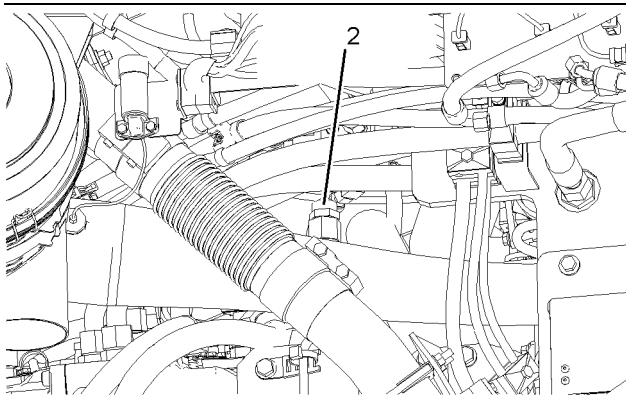


Illustration 227

g02055061

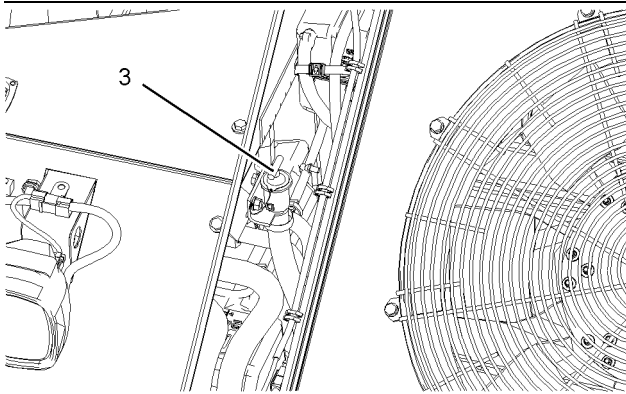


Illustration 228

g02055059

4. Remove plug (3) in order to fill the pump drive with oil. Remove the breather (2). See the Operation and Maintenance Manual, "Pump Drive Breather - Clean" for cleaning instructions.
5. Fill the gearbox. See the Operation and Maintenance Manual, "Capacities (Refill)" for the amount of oil that is needed in order to fill the gearbox.

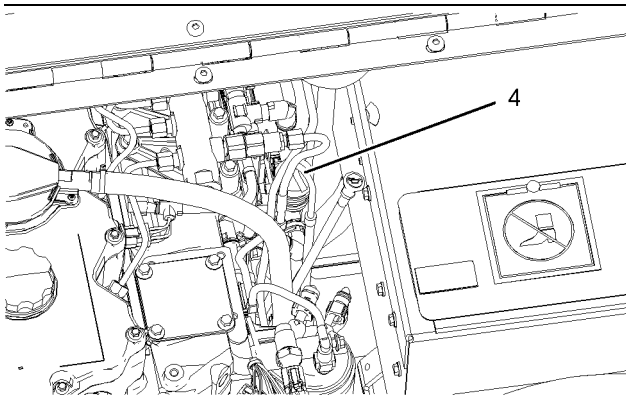


Illustration 229

g02055760

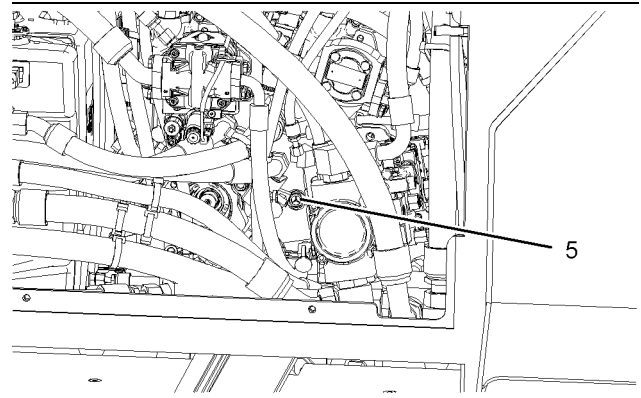


Illustration 230

g02111616

6. Check the oil level with oil level gauge (4). The oil level can also be viewed through sight gauge (5) on the pump drive which can be seen through the access doors in the hopper.
7. Maintain the pump drive oil level on oil level gauge (4) between the "FULL" mark and the "ADD" mark.
8. Clean the breather and install the breather (2).
9. Clean the plug and install the plug (3).

i03799255

Pump Drive Oil Level - Check

SMCS Code: 3108-535-FLV

NOTICE

Caterpillar recommends obtaining an oil sample and performing a SOS Oil Analysis at regular intervals to help prevent damage to components. Use the information in "Sampling Interval and Location of the Sampling Valve" in this OMM to find the proper sampling interval for your machine.

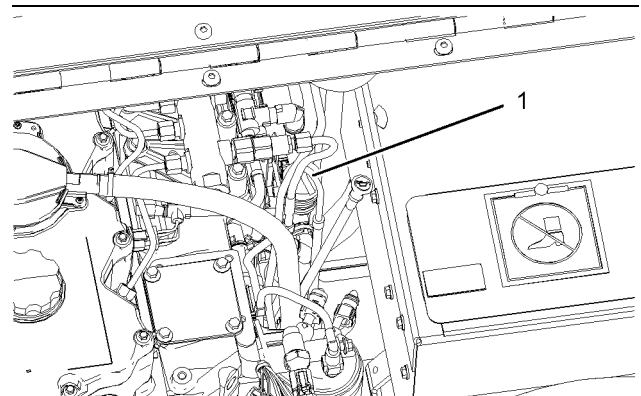


Illustration 231

g02055773

i03799270

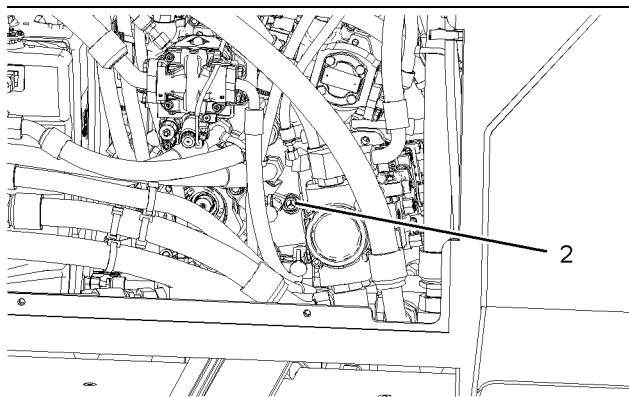


Illustration 232

g02111609

1. Check the oil level with oil level gauge (1). The oil level can also be viewed through sight gauge (2) on the pump drive which can be seen through the access doors in the hopper.

Note:

2. Maintain the pump drive oil level on oil level gauge (1) between the "FULL" mark and the "ADD" mark.

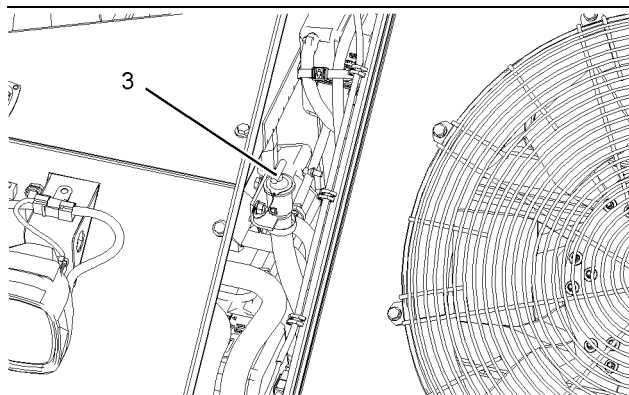


Illustration 233

g02055793

3. If oil needs to be added, remove the plug (3) for the fill port. Add oil through the opening.
4. Clean the plug (3) and install the plug (3).

Pump Drive Oil Sample - Obtain

SMCS Code: 3108-008; 7542-008

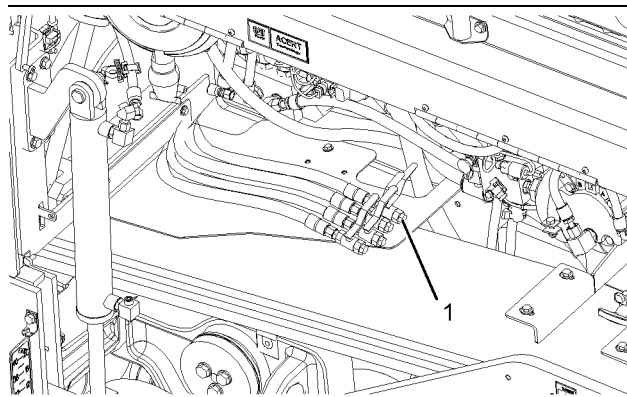


Illustration 234

g02055056

1. Clean the end of drain hose (1) and the cap. Remove the cap from the drain hose. Drain a small amount of oil into a suitable container.
2. Obtain a sample of the oil in a suitable container.
3. Send the oil sample to your dealer for analysis.
4. Check the level of the oil in the gearbox. If necessary, add oil.

i03625928

Radiator Core - Clean

SMCS Code: 1353-070-KO

Make sure that the engine shutdown switch is in the OFF position. Do not clean the radiator core when the machine is running.

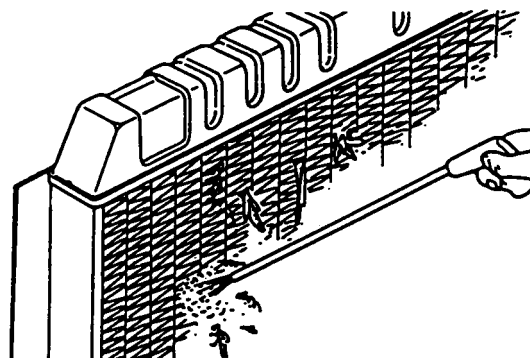


Illustration 235

g00101939

Inspect the radiator core for debris. If necessary, clean the radiator.

Compressed air is preferred, but high pressure water or steam can be used to remove dust and general debris from a radiator. Clean the radiator according to the condition of the radiator.

See Special Publication, SEBD0518, "Know Your Cooling System" for more detailed information about cleaning radiator fins.

i02429589

Seat Belt - Inspect

SMCS Code: 7327-040; 7327; 7520

Always check the condition of the seat belt and the condition of the seat belt mounting hardware before you operate the machine. Replace any parts that are damaged or worn before you operate the machine.

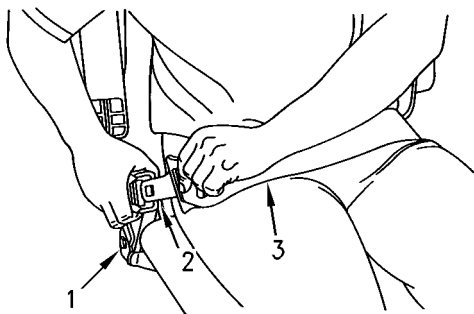


Illustration 236

g00932801

Typical example

Check the seat belt mounting hardware (1) for wear or for damage. Replace any mounting hardware that is worn or damaged. Make sure that the mounting bolts are tight.

Check buckle (2) for wear or for damage. If the buckle is worn or damaged, replace the seat belt.

Inspect the seat belt (3) for webbing that is worn or frayed. Replace the seat belt if the seat belt is worn or frayed.

Consult your Caterpillar dealer for the replacement of the seat belt and the mounting hardware.

Note: Within three years of the date of installation or within five years of the date of manufacture, replace the seat belt. Replace the seat belt at the date which occurs first. A date label for determining the age of the seat belt is attached to the seat belt, the seat belt buckle, and the seat belt retractor.

If your machine is equipped with a seat belt extension, also perform this inspection procedure for the seat belt extension.

i02429594

Seat Belt - Replace

SMCS Code: 7327-510

Within three years of the date of installation or within five years of the date of manufacture, replace the seat belt. Replace the seat belt at the date which occurs first. A date label for determining the age of the seat belt is attached to the seat belt, the seat belt buckle, and the seat belt retractor.

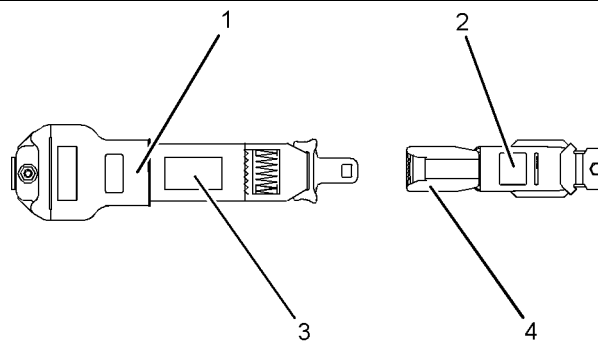


Illustration 237

g01152685

- (1) Date of installation (retractor)
- (2) Date of installation (buckle)
- (3) Date of manufacture (tag) (fully extended web)
- (4) Date of manufacture (underside) (buckle)

Consult your Caterpillar dealer for the replacement of the seat belt and the mounting hardware.

If your machine is equipped with a seat belt extension, also perform this replacement procedure for the seat belt extension.

i00684312

Starting Motor - Inspect

SMCS Code: 1453-040

A scheduled inspection of the starting motor is recommended. If the starting motor fails, the engine may not start.

Check the starting motor for proper operation. Check the electrical connections and clean the electrical connections. Refer to the Service Manual for more information on the checking procedure and for specifications or consult your dealer for assistance.

i02711091

Toggle Switch - Inspect

SMCS Code: 7332-040

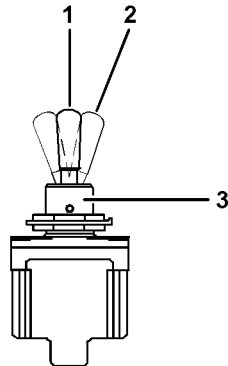


Illustration 238

g01360853

- (1) Switch in neutral position
- (2) Displaced switch
- (3) Seal

Perform the following steps in order to inspect the switches on your machine.

1. Turn the engine start switch to the OFF position. Do not test the switches when the machine is running.
2. Visually inspect the area around the seal (3). Look for cracks or splits on the seal. If any cracks or splits are noticed, replace the switch.
3. Lightly move the toggle switch (1) in order to test for free play. If the switch moves more than 2 mm (0.01 inch) in either direction, replace the switch.
4. Press the switch upward. The toggle switch (1) should displace approximately 5 mm (0.2 inch). If the switch has an incorrect displacement, replace the switch. Repeat the measurement when you press the switch downward.

i03794269

Tow Arm Joint Nuts - Tighten

SMCS Code: 7121-079-NT

There are four nuts on each tow arm.

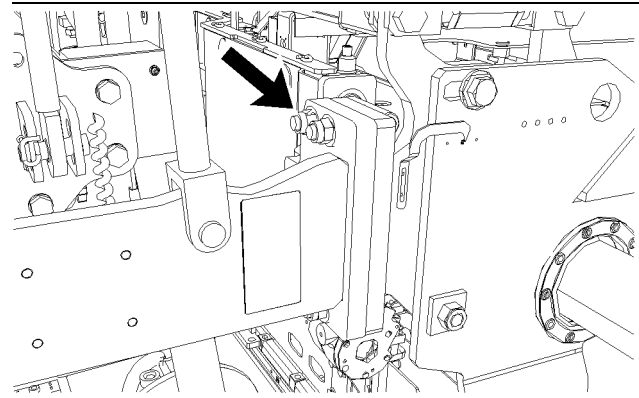


Illustration 239

g02051473

Torque the nuts to 373 ± 50 N·m (275 ± 37 lb ft). There are four nuts on each side of the machine. There are a total of eight nuts that need to be tightened.

i03794333

Tracks - Inspect

SMCS Code: 4170-040

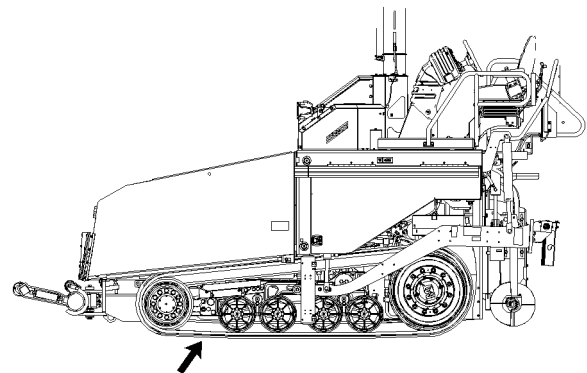


Illustration 240

g02051535

Visually inspect the Mobil-Trac System for wear or damage. If there are cuts or gouges on the track that could affect the performance of the machine, replace the damaged component immediately.

In order to extend the life of the track, periodically rotate the belts. When you rotate the belts you better distribute the wear. Consult with your Caterpillar dealer before you attempt this procedure.

i03794328

Track Roller Bearings - Inspect

SMCS Code: 4180-040-BD

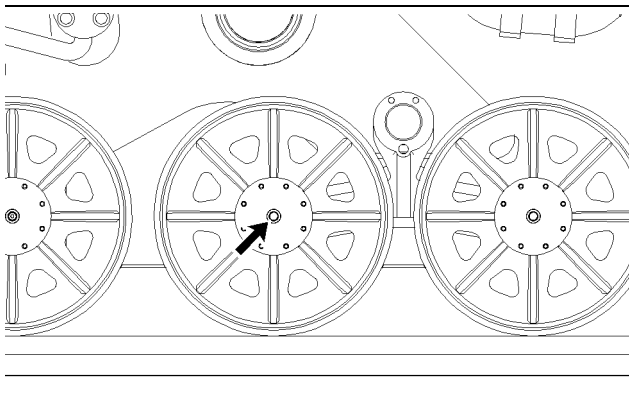


Illustration 241

g00863637

There are four rollers on each side of the track. There are a total of eight rollers on each side of the machine. There are a total of sixteen rollers that need to be checked.

Remove the plug on the roller. Inspect the hub for the presence of oil. Install the plug on the roller.

i03794370

Track Roller Bearings - Lubricate

SMCS Code: 4180-086-BD

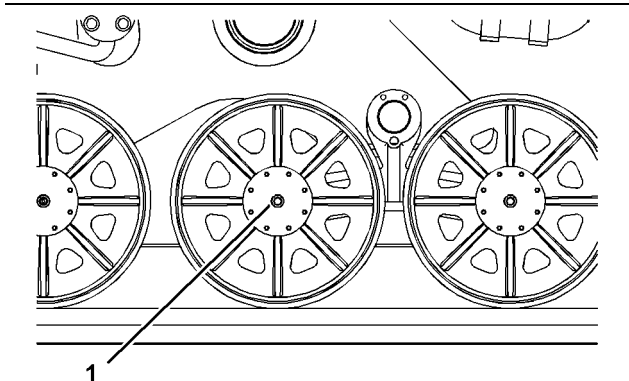


Illustration 242

g01380392

There are four rollers on each side of the track. There are a total of eight rollers on each side of the machine. There are a total of sixteen rollers that need to be lubricated.

Remove the plug (1) on the roller. Fill each hub with SAE 30W oil until excess oil is observed. Install the plug on the roller.

Note: The five inboard rollers may be accessed by placing the machine on supports.

i03797950

Track Roller Frame - Lubricate

SMCS Code: 4151-086

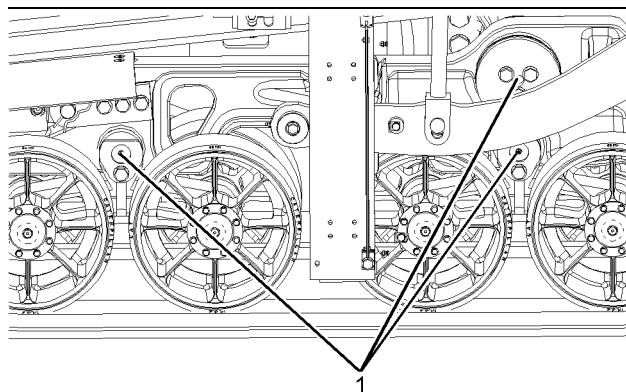


Illustration 243

g02054414

There are three lubrication points on each side of the machine. There are a total of six lubrication points on the machine. Pump grease into the fittings (1) until resistance is felt.

i03797975

Track Takeup Linkage - Lubricate

SMCS Code: 4157-086-KL

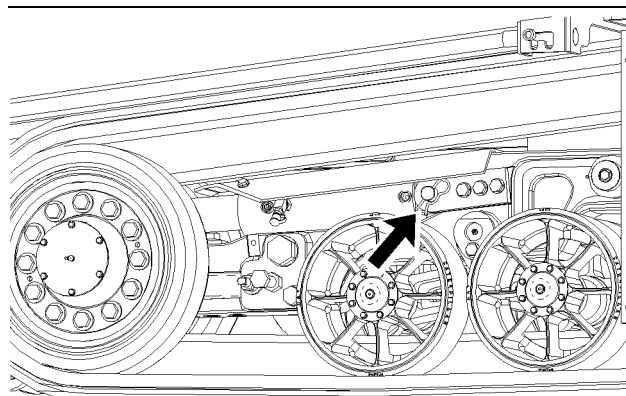


Illustration 244

g02054454

There are four grease fittings. There are two grease fittings on each set of linkage. There is one set of linkages on each side of the machine.

Clean the fittings before you lubricate the linkage.

Add the lubricant until a small amount of lubricant is observed at the linkage.

Note: You must remove the plugs and you must install grease fittings in order to lubricate the linkage.

Note: Lubricate the fittings when the track has been removed from the machine for service.

i03798029

Track Tension - Check

SMCS Code: 4170-535-T7

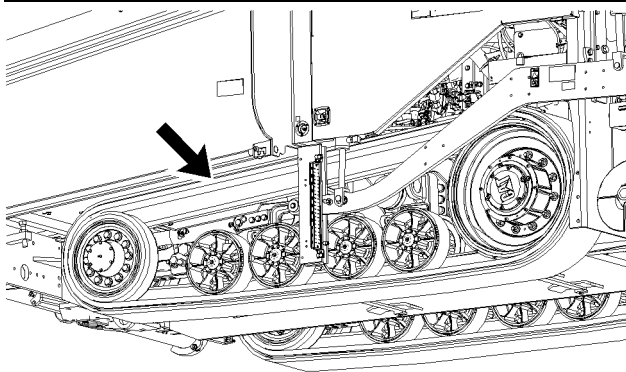


Illustration 245

g02054495

Note: The track tension system is a closed system after the tension has been set. The track has tension from the closed system at all times.

Check the track in order to determine if the track is loose or if the track is tight. If the track is loose, refer to the service manual for the correct procedure for tensioning the track.

i03799330

Truck Hitch - Lubricate (If Equipped)

SMCS Code: 7122-086

NOTICE

All daily grease lubricant should be applied at the end of each machine operation while the asphalt is still warm and not set up. Failure to do so may allow the asphalt to harden around the seals and risk damaging a seal leading to premature bearing failure.

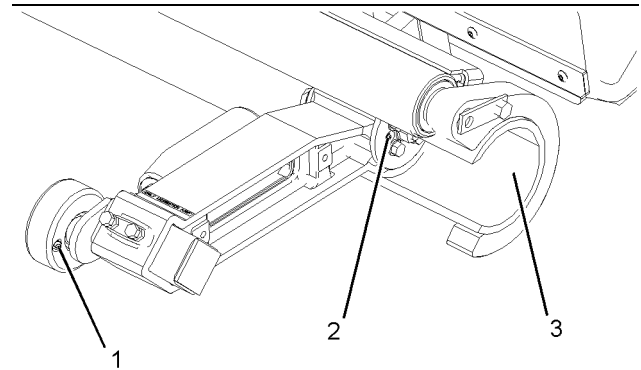


Illustration 246

g02055895

There are two roller bearings (1) for the truck hitch. There is one bearing on each side of the truck hitch. Lubricate each bearing.

There are two fittings (2) on the truck hitch system. There is one fitting on each end of the assembly. Lubricate each fitting.

There are two slide assemblies (3) on the truck hitch system. There is one slide assembly on each end of the assembly. Lubricate each slide assembly.

i03798103

Turbocharger - Inspect

SMCS Code: 1052-040

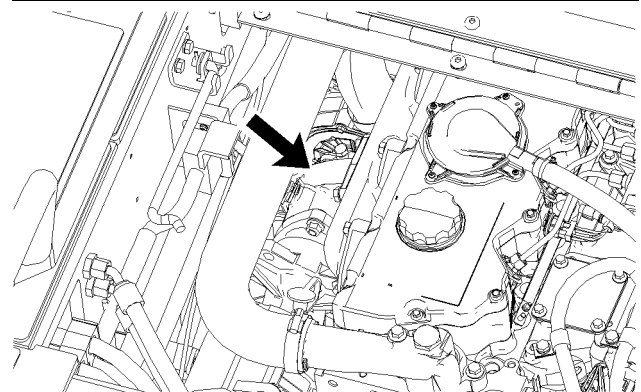


Illustration 247

g02054554

Periodic inspection and cleaning is recommended for the turbocharger compressor housing (inlet side). Since the fumes from the crankcase are filtered through the air inlet system, oil and combustion by-products may collect in the turbocharger compressor housing.

Over time, this buildup can contribute to loss of engine power, increased black smoke and overall loss of engine efficiency. This buildup is only a possible contributor to these factors.

If the turbocharger fails during engine operation, damage to the turbocharger compressor wheel and/or to the engine may occur. Damage to the turbocharger compressor wheel could allow parts from the compressor wheel to enter an engine cylinder. This can cause additional damage to the pistons, the valves, and the cylinder head.

NOTICE

Turbocharger bearing failures can cause large quantities of oil to enter the air inlet and exhaust systems. Loss of engine lubricant can result in serious engine damage.

Minor leakage of a turbocharger housing under extended low idle operation should not cause problems as long as a turbocharger bearing failure has not occurred.

When a turbocharger bearing failure is accompanied by a significant engine performance loss (exhaust smoke or engine rpm up at no load), do not continue engine operation until the turbocharger is repaired or replaced.

An inspection of the turbocharger can minimize unscheduled downtime. An inspection of the turbocharger can also reduce the chance for potential damage to other engine parts.

Note: Turbocharger components require clearances that are very precise. The turbocharger cartridge must be balanced due to high rpm. Severe Applications can accelerate component wear. Severe Applications may suggest the need to inspect the cartridge at more frequent intervals.

Removal and Installation

For options regarding the removal, installation, repair and replacement, consult your dealer. Refer to the Service Manual for this engine or consult your dealer for the procedure and specifications.

Cleaning and Inspecting

1. Remove the exhaust outlet piping and remove the air inlet piping from the turbocharger. Visually inspect the piping for the presence of oil.

2. Turn the compressor wheel and the turbine wheel by hand. The assembly should turn freely. Inspect the compressor wheel and the turbine wheel for contact with the turbocharger housing. There should not be any visible signs of contact between the turbine wheel or compressor wheel and the turbocharger housing. If there is any indication of contact between the rotating turbine wheel or the turbocharger wheel and the turbocharger housing, the turbocharger should be reconditioned or replaced.

3. Check the compressor wheel for cleanliness. If only the blade side of the wheel is dirty, dirt and/or moisture is passing through the air filtering system. If oil is found only on the back side of the wheel, there is a possibility of a failed turbocharger oil seal.

The presence of oil may be the result of extended engine operation at low idle. The presence of oil may also be the result of a restriction of the line for the inlet air (plugged air filters), which causes the turbocharger to slobber.

4. Clean the turbocharger housing with standard shop solvents and a soft bristle brush.
5. Fasten the air inlet piping and the exhaust outlet piping to the turbocharger housing.

i03862399

Ventilation Blower Wheel - Inspect/Clean

SMCS Code: 6654-040-BW; 6654-070-BW

Perform the following steps in order to clean the blower wheel and inspect the blower wheel for the ventilation system:

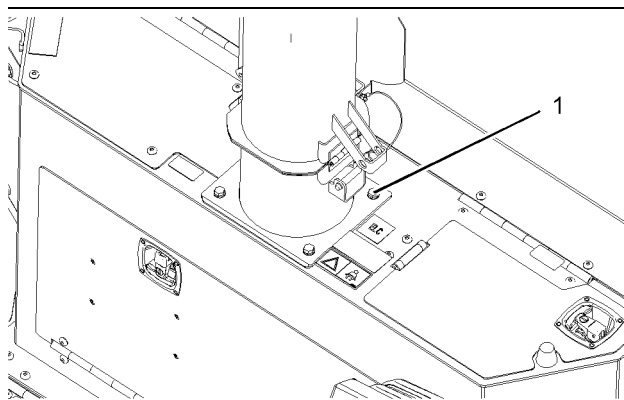


Illustration 248

g02105861

1. Remove the four bolts (1) and washers.
2. Remove the exhaust stack.

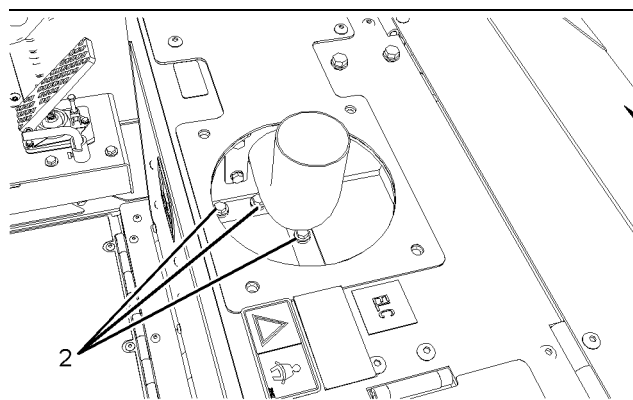


Illustration 249

g02105864

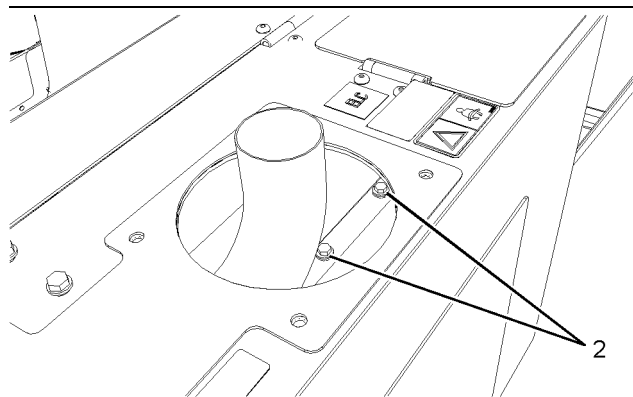


Illustration 250

g02105866

- 3. Remove the five bolts (2) and the washers that are visible in the bottom of the ventilation system duct after the exhaust stack is removed.**

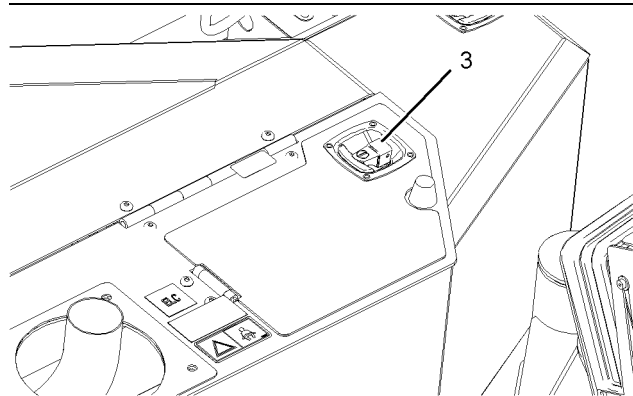


Illustration 251

g02105876

- 4. Open access cover (3).**

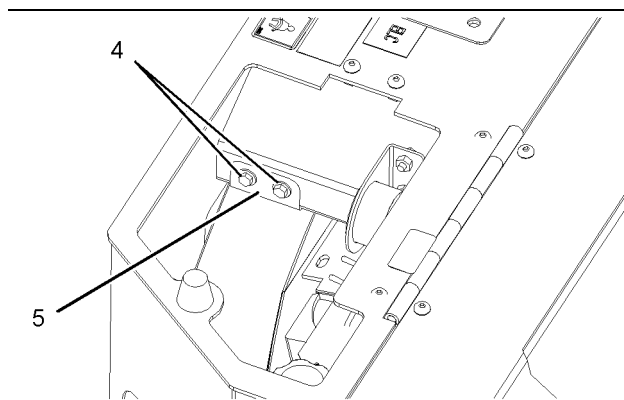


Illustration 252

g02105877

- 5. Remove the two bolts (4) and the washers.**
6. Remove bracket (5).

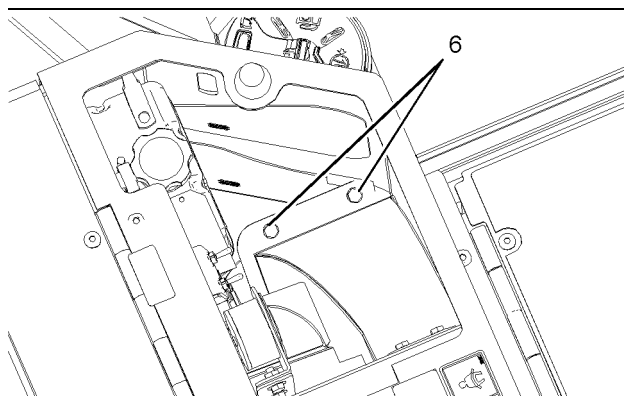


Illustration 253

g02105893

- 7. Remove the two bolts (6) and washers.**

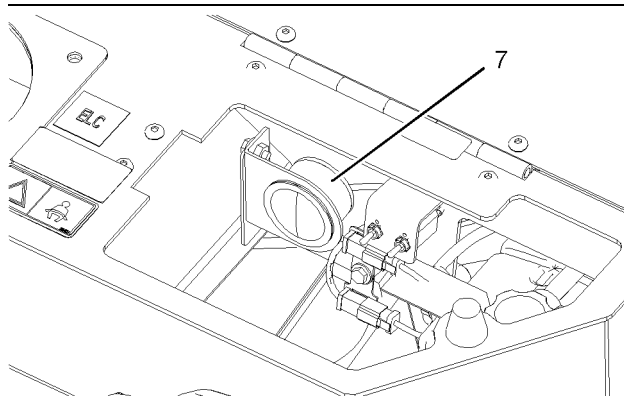


Illustration 254

g02105913

- 8. Remove the hose for the pitot tube from the back of manometer (7).**

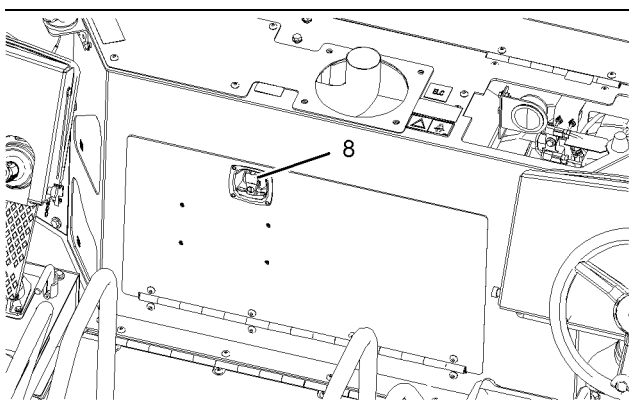


Illustration 255

g02105915

9. Open access door (8).

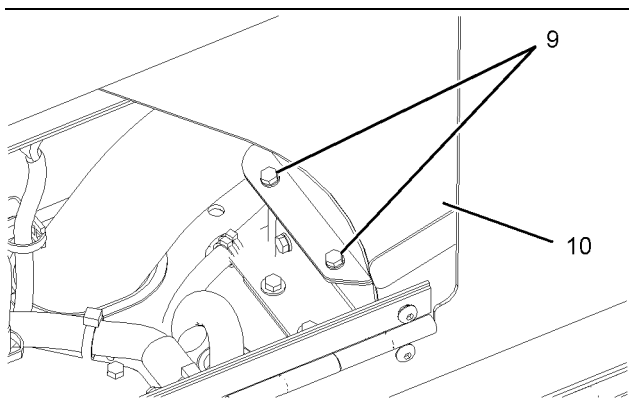


Illustration 256

g02105935

10. Remove the two bolts (9) and washers.

11. Remove ventilation duct (10).

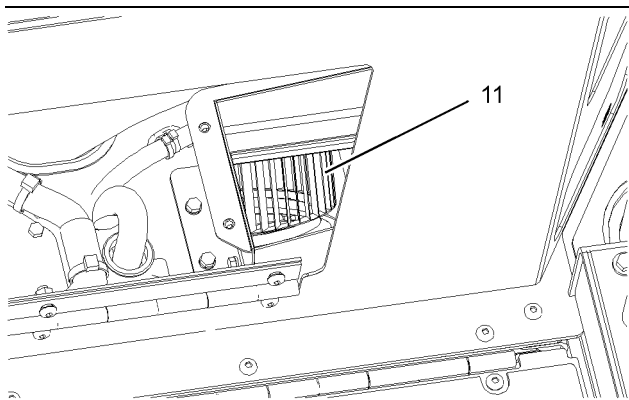


Illustration 257

g02105953

12. Inspect blower wheel (11) for damage. Clean the wheel with nonflammable solvent. Dry the wheel. Replace the wheel if the wheel is damaged. Inspect the hydraulic motor. If necessary, repair the motor.

13. Inspect the ducts for the inlet side of the blower assembly. Clean the ducts with nonflammable solvent.

14. Reverse steps 1 through 11 in order to reassemble the ventilation system.

i03798138

Ventilation Inlet Ducts - Inspect/Clean

SMCS Code: 6654-040-IL; 6654-070-IL

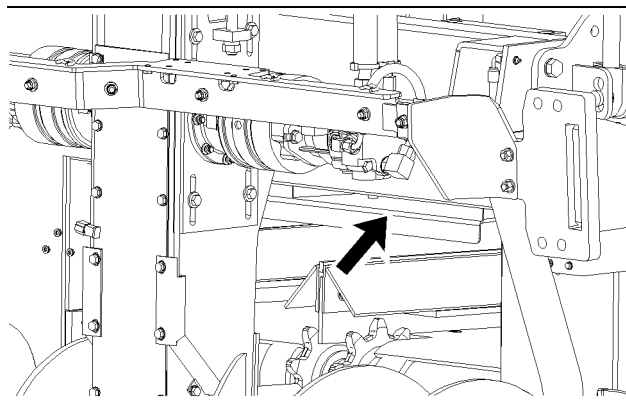


Illustration 258

g02054597

The intake ducts for the ventilation system are located at the rear of the machine. The ducts are above the drag conveyors. There is a duct over each drag conveyor. The duct is hinged.

Clean the ducts weekly. Use nonflammable solvent in order to clean the ducts.

Dry the ducts before you operate the machine.

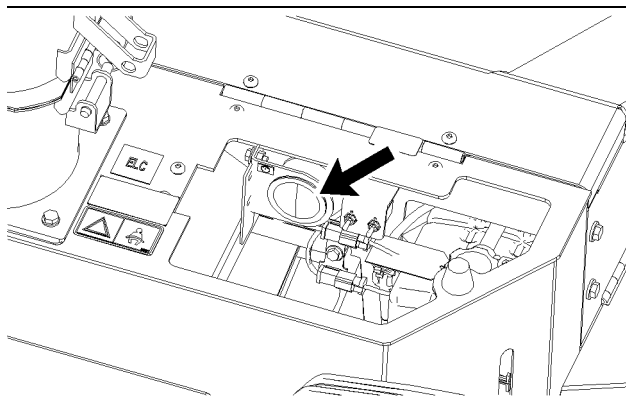


Illustration 259

g02092093

The manometer on the stack monitors the amount of air that is being discharged. The manometer will show a minimum of 15 mm (.6 inch) of pressure when the ducts are clean.

Note: If the pressure drops below 15 mm (.6 inch) of pressure, the ducts may need to be cleaned. If the pressure drops below 15 mm (.6 inch) of pressure, the blower may need to be cleaned.

i01671969

Wheel Nuts (Final Drive) - Tighten

SMCS Code: 4210-527

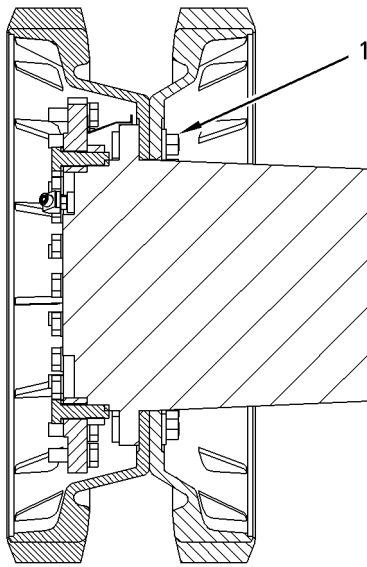


Illustration 260

g00864096

Nuts (1) may become loose under normal operating conditions.

Tighten nuts (1) to a torque of 560 ± 60 N·m
(413 ± 44 lb ft).