

Disassembly and Assembly

Supplemental Information

320C Excavator Supplement for 3066 Engine

APA1-Up (Machine)
ANB1-Up (Machine)
BCB1-Up (Machine)
BDB1-Up (Machine)
BGB1-Up (Machine)
AMC1-Up (Machine)
BBC1 -Up (Machine)
BDC1-Up (Machine)
CC01-Up (Machine)
ALF1-Up (Machine)
BEF1-Up (Machine)
AKH1-Up (Machine)
BKK1-Up (Machine)
CLM1-Up (Machine)
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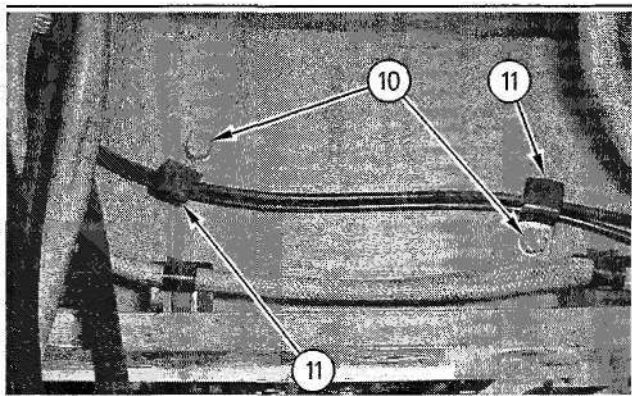


Illustration 26

3. Install two clamps (11) that secure the governor linkage to the chassis.

Note: Some models may only have one clamp (11).

4. Install two bolts (10) and the washers that hold clamps (11) in position.

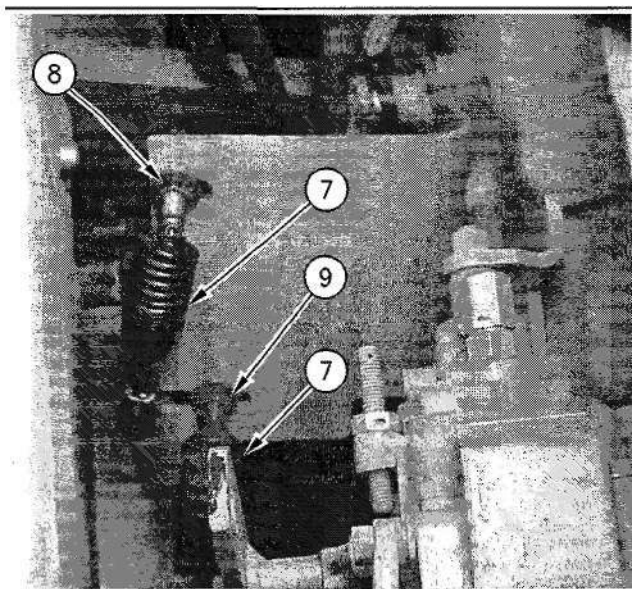


Illustration 27

5. Install governor linkage (7). Fasten governor linkage (7) with nut (8) and nut (9).

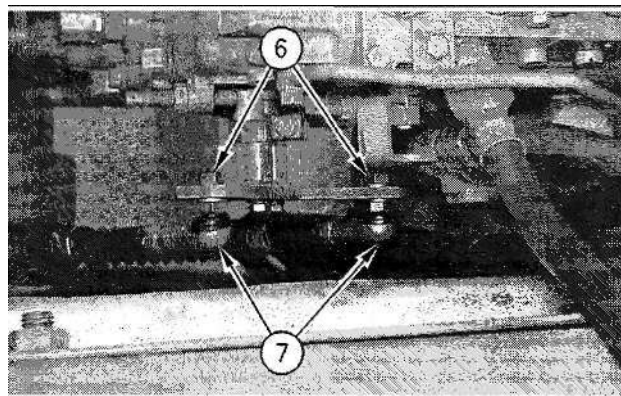


Illustration 28

6. Install governor linkage (7) to the fuel injection pump. Fasten governor linkage (7) with washers and two nuts (6).

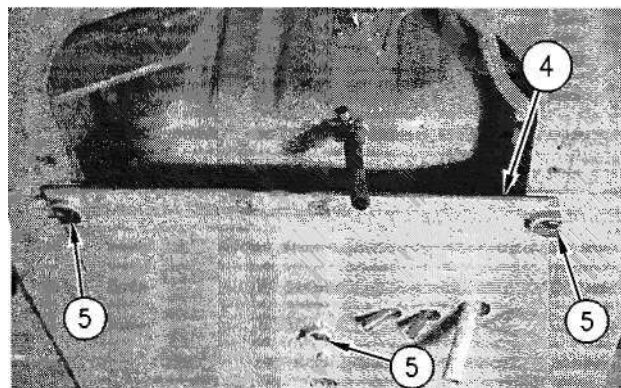


Illustration 29

7. Install access panel (4). Install the washers and three bolts (5).

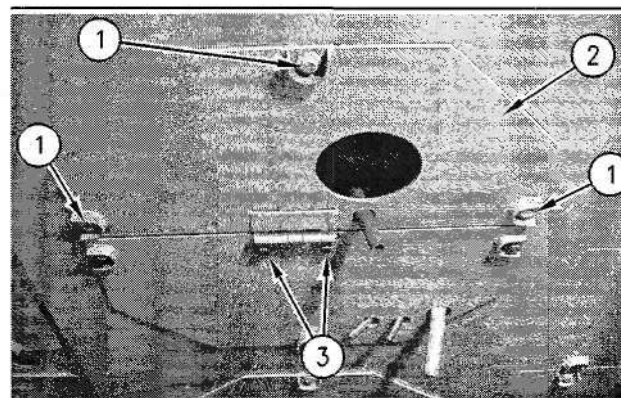


Illustration 30

8. Install access panel (2). Install the washers and three bolts (1).

9. Install the washers and two bolts (3) to the hinge.

10. Close the engine hood.

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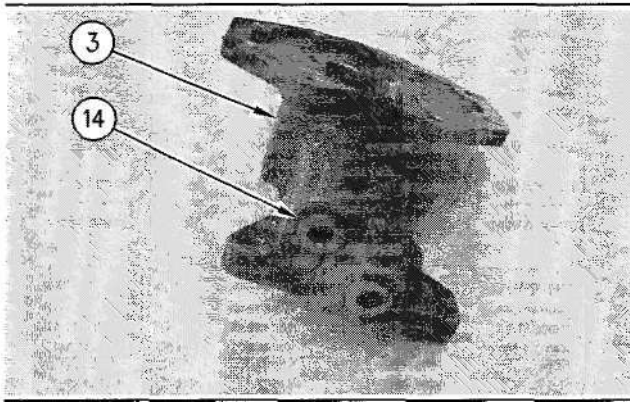


Illustration 65

- a. Remove two plugs (14) from the oil filter base (3).

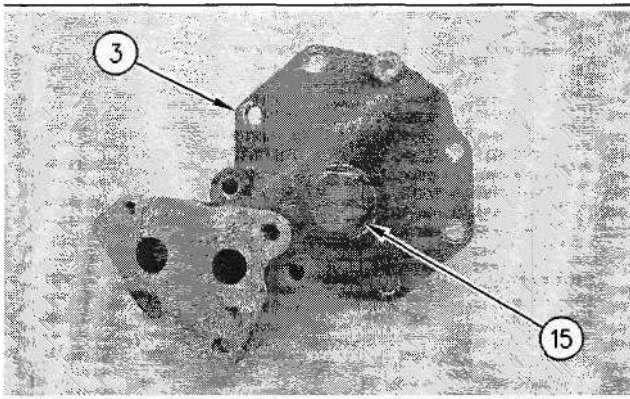


Illustration 66

- b. Remove plug (15) in order to disassemble the anti-drain back valve.

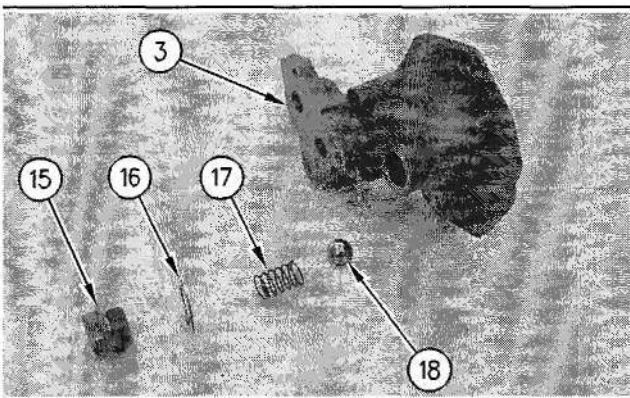


Illustration 67

- c. Remove ball (18) and spring (17) from filter base (3).
- d. Remove seal washer (16) from plug (15).

Engine Oil Filter Base - Assemble

SMCS Code: 1306-016; 1306

Assembly Procedure

Note: The filter base comes in two sections: The first section is the base assembly (3) and the second section is the bracket assembly (2).

1. Use the following procedure to assemble the oil filter base (3).

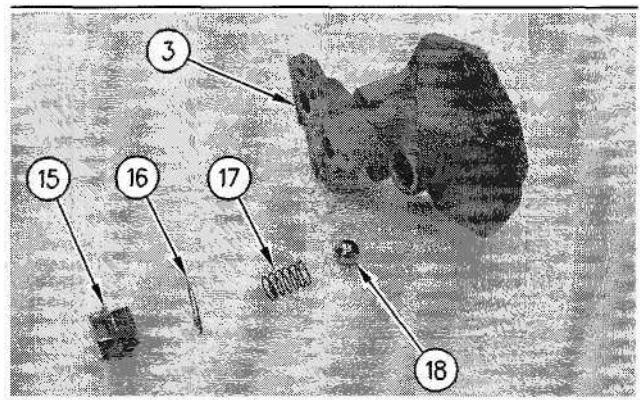


Illustration 68

- a. Install seal washer (16) to plug (15).
- b. Install ball (18) and spring (17) to filter base (3).
- c. Install plug (15).

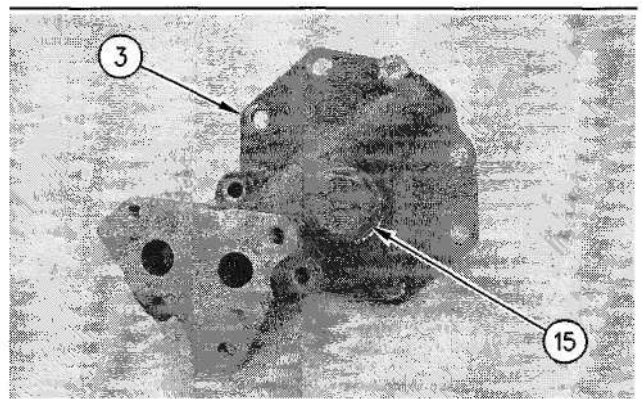


Illustration 69

- d. Install plug (15).

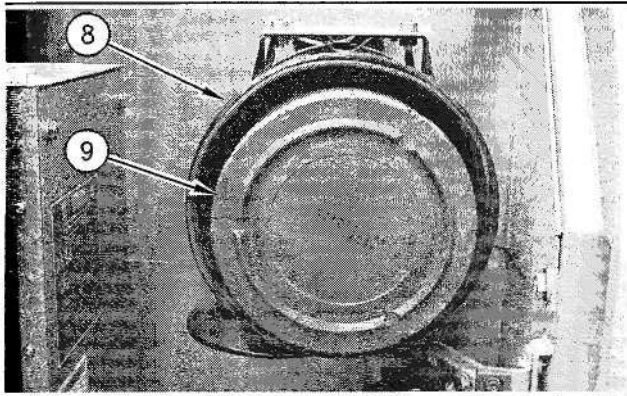


Illustration 110

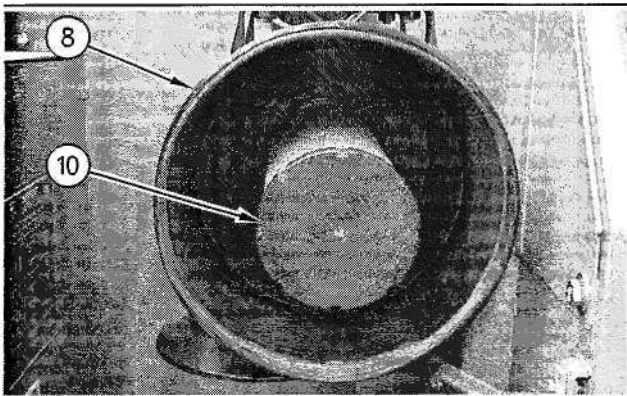


Illustration 111

6. Remove the primary filter element (9) and secondary filter element (10) from the air cleaner housing (8).

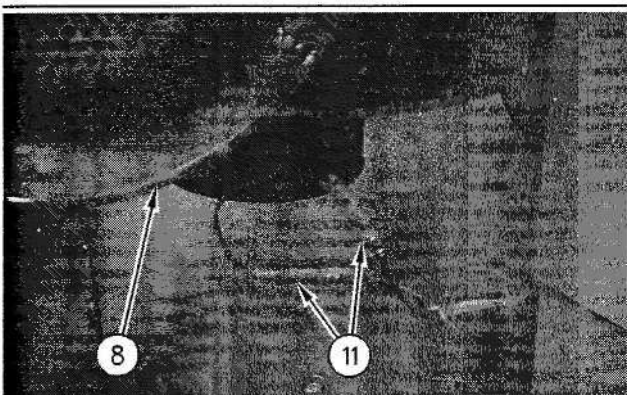


Illustration 112

7. Disconnect electrical connection (11) from the air cleaner housing (8).

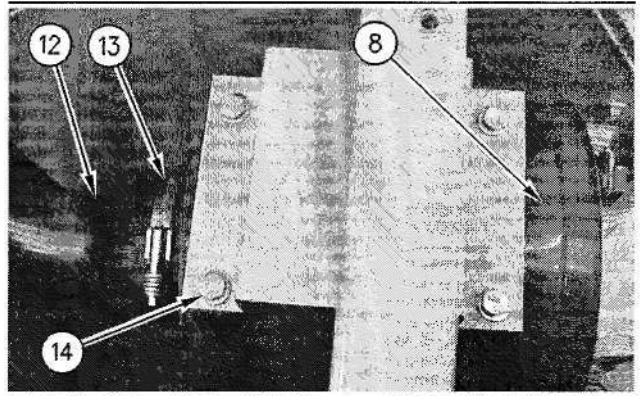


Illustration 113

8. Loosen hose clamp (13) and disconnect air inlet hose (12):
9. Remove four bolts (14) and washers that hold the air cleaner housing into position.
10. Remove air cleaner housing (8).

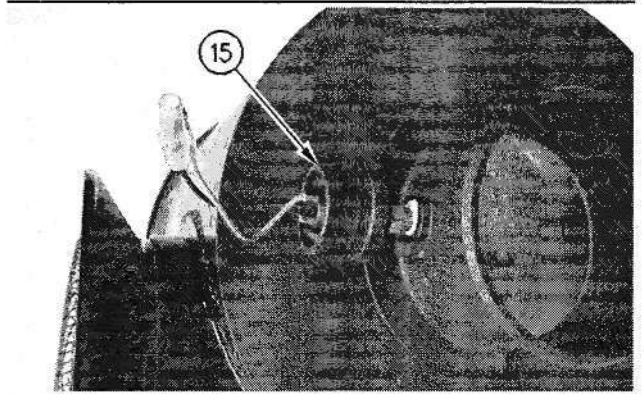


Illustration 114

11. Loosen fitting in order to remove indicator assembly (15).

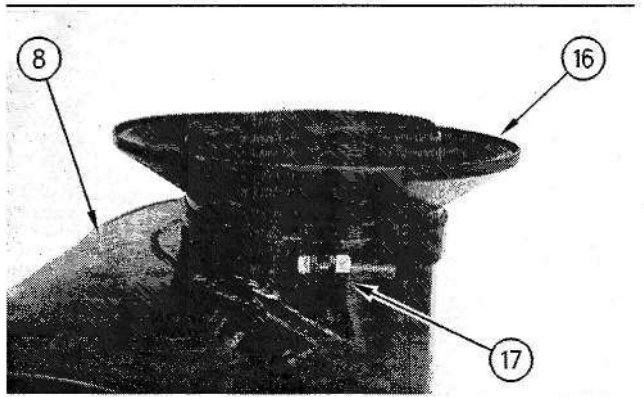


Illustration 115

12. Loosen nut (17) in order to remove hood assembly (16) from the air cleaner housing (8).

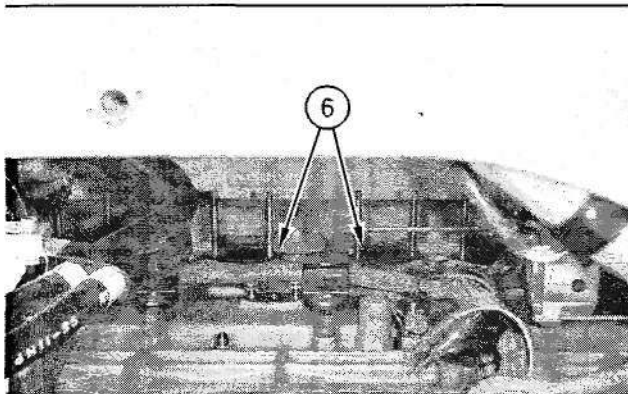


Illustration 162

5. Remove gasket (6).

Installation Procedure

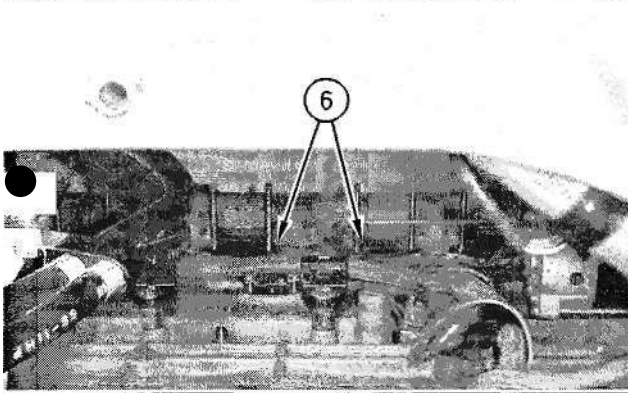


Illustration 163

1. Install new gasket (6) on the engine block.

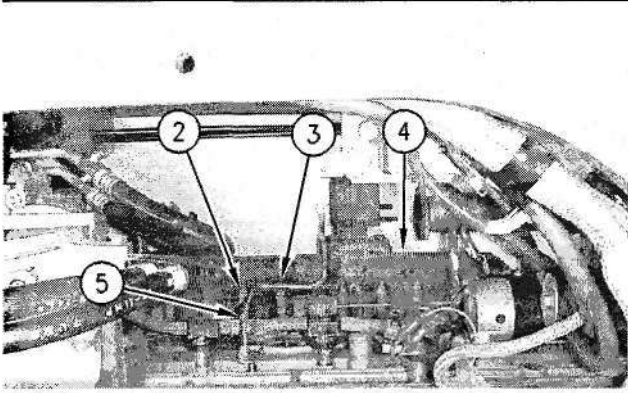


Illustration 164

2. Install exhaust manifold (4).
3. Install the washers, the sleeves, the spacers, and nuts (2).
4. Install the spacers. Install the clip and oil line (5). Install nut (3) and the washer.

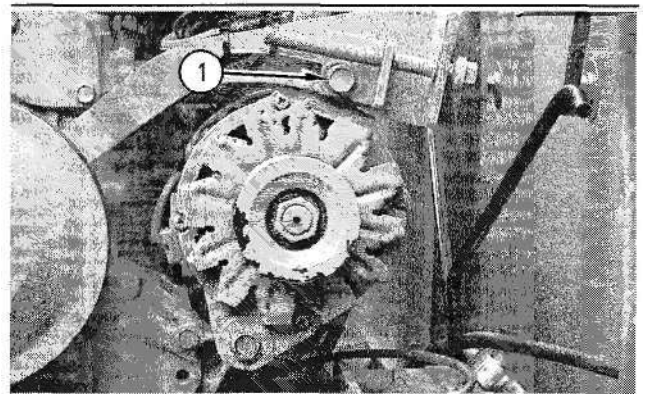


Illustration 165

g00721959

The radiator is removed for photographic purposes.

5. Install bolt (1) in the alternator.

End By:

- a. Install the V-Belts on the alternator. Refer to Disassembly and Assembly, "V-Belts - Remove and Install" in this manual.
- b. Install the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Remove and Install" in this manual.

Turbocharger - Remove

SMCSCode: 1052-011

Removal Procedure

1. Open the engine hood. Lock the engine hood in the OPEN position.

Removal Procedure of the Turbocharger Cartridge

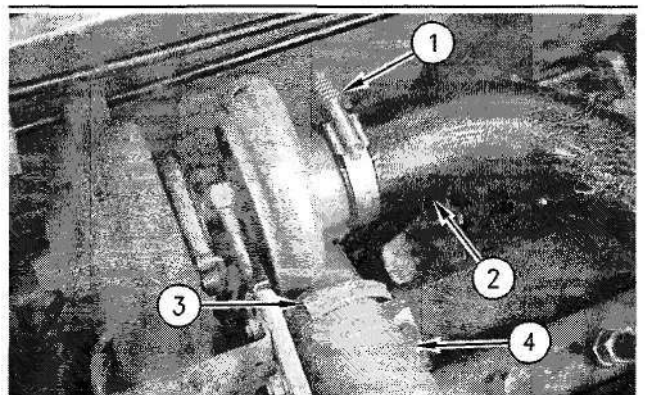


Illustration 166

- 1, Loosen hose clamp (1). Disconnect air line (2).

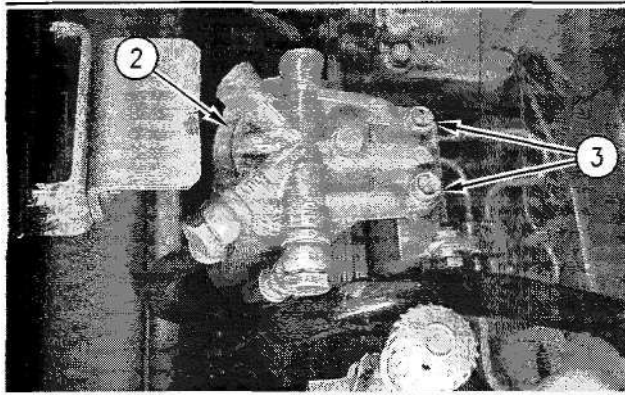


Illustration 206

10. Position the fuel filter on the mounting bracket and install the washers and two bolts (3).

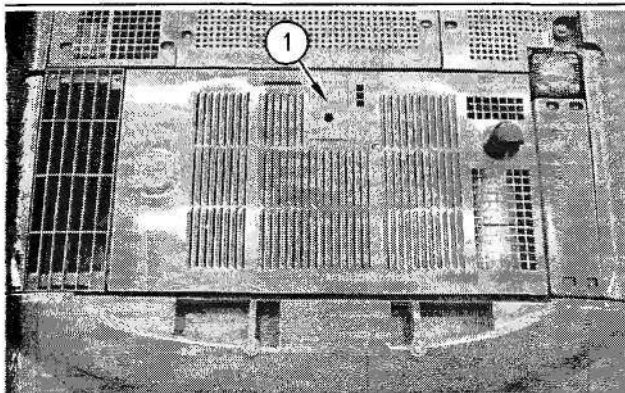


Illustration 207

11. Close hood (1).

Fuel Injection Pump - Remove

SMCSCode: 1251-011

Removal Procedure

Start By:

- a. Remove the fuel filter and the fuel filter base. Refer to Disassembly and Assembly, "Fuel Filter (Primary) and Fuel Filter Base - Remove and Install".
- b. Remove the fuel injection lines. Refer to Disassembly and Assembly, "Fuel Injection Lines - Remove and Install".
- c. Remove the dipstick. Refer to Disassembly and Assembly, "Engine Oil Level Gauge (Dipstick) - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

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 Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

1. Remove the top fan guard.

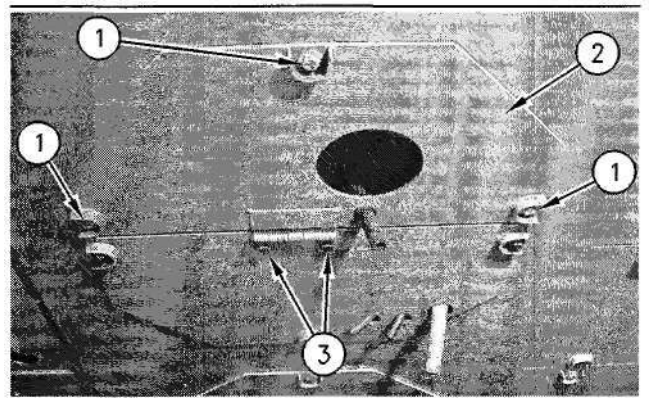


Illustration 208

2. Remove two bolts (3) and the washers from the hinge.
3. Remove three bolts (1) and the washers in order to remove access panel (2).

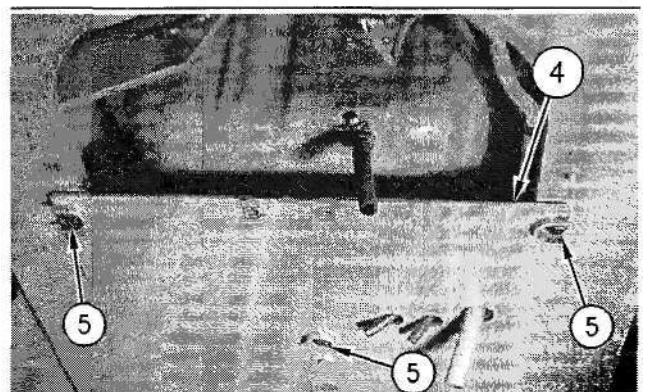


Illustration 209

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Rocker Shaft and Push Rod - Install

SMCSCode: 1102-012; 1208-012

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

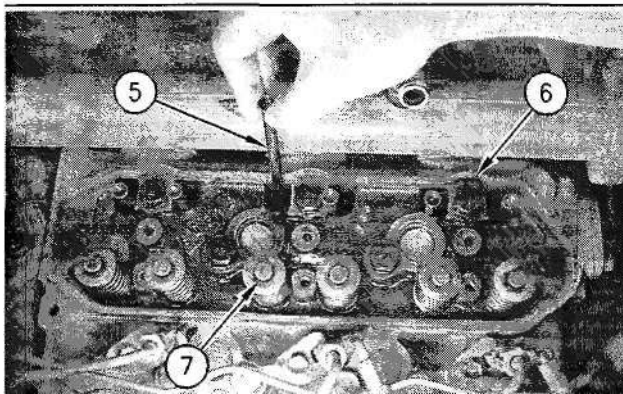


Illustration 248

1. Install valve caps (7) on the end of the valve stem.
2. Install pushrods (5) in the cylinder head assembly (6).

Note: Ensure that the pushrods are installed in the original location. Also ensure that the pushrods are seated in the valve lifters correctly.

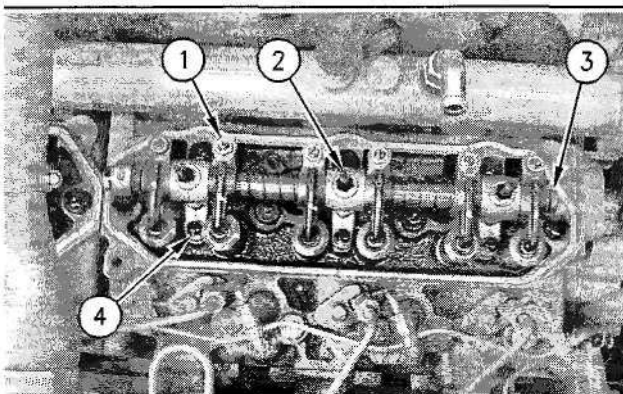


Illustration 249

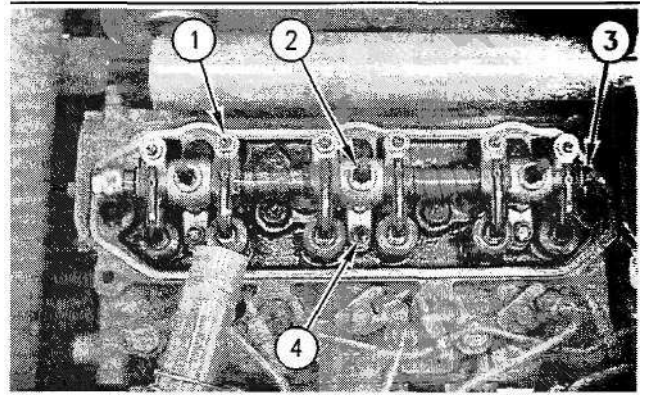


Illustration 250

3. Place the rocker shaft assembly (3) in position on the cylinder head.
4. Install six long bolts (2) for the rocker shaft bracket and tighten the bolts to a torque of 15 ± 5 N-m (11 ± 4 lb ft).
5. Install six short bolts (4) and the washers. Tighten the short bolts to a torque of 15 ± 5 N-m (11 ± 4 lb ft).
6. Adjust the inlet valve lash and the exhaust valve lash to 0.25 mm (0.010 inch). Refer to Testing and Adjusting, "Air Inlet and Exhaust System" for more information on setting the valve lash. Tighten adjusting screws (1).

End By:

- a. Install the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install".

Cylinder Head - Remove

SMCSCode: 1100-011

Removal Procedure

Table 5

Required Tools			
Tool	Part Number	Part Description	Qty
(A)	138-7573	Link Bracket	2

Start By:

- a. Remove the engine hood. Refer to Disassembly and Assembly, "Hood - Remove and Install".

2. Drain the engine coolant to a level below the upper radiator hose into a suitable container for storage or disposal.

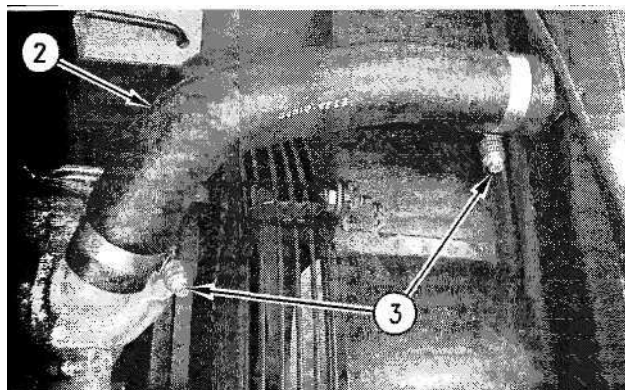


Illustration 286

3. Loosen hose clamps (3). Remove upper radiator hose (2).

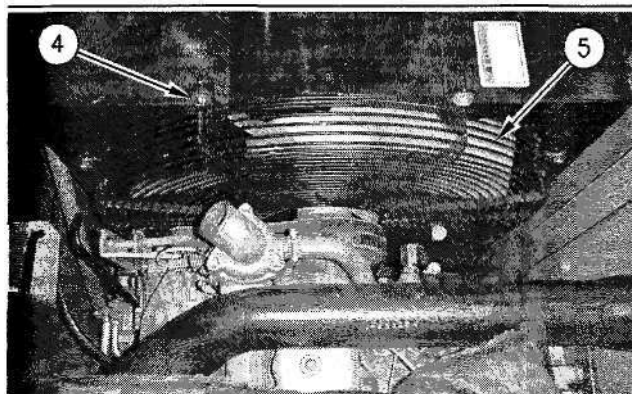


Illustration 287

4. Remove bolts (4) and the washers from the upper fan guard. Remove upper fan guard (5).

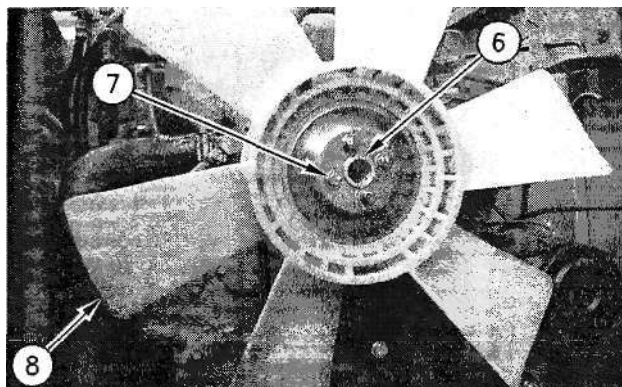


Illustration 288

The radiator is removed for photographic purposes.

Note: When bolts (7) are removed, the fan and the spacer will separate.

5. Remove bolts (7) and the washers. Remove fan (8) and spacer (6).

Installation Procedure

NOTICE

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Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

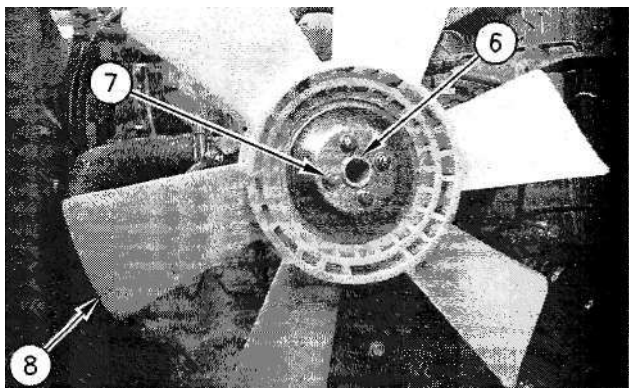


Illustration 289

The radiator is removed for photographic purposes.

1. Place spacer (6) in position on fan (8). Install the washers and one bolt (7) in the fan and in the spacer.
2. Install spacer (6), fan (8), and bolt (7) on the engine. Tighten the bolt finger tight.
3. Install the washers and the other bolts (7). Tighten bolts (7) evenly.

5. Remove alternator mounting bracket (8).

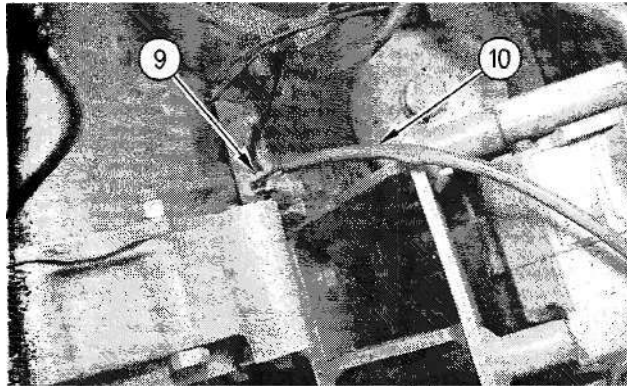


Illustration 318

6. Disconnect electrical connector (9). Remove wire (10) and the connector from the front housing.

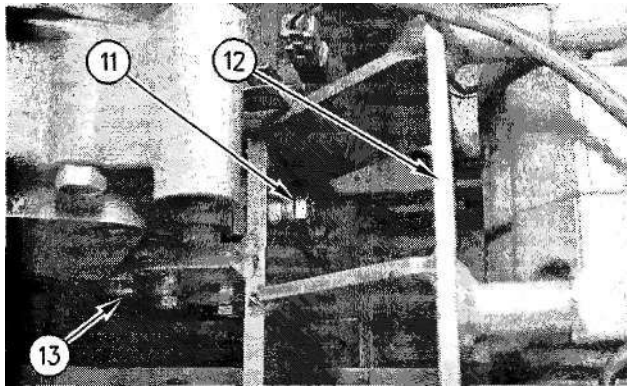


Illustration 319

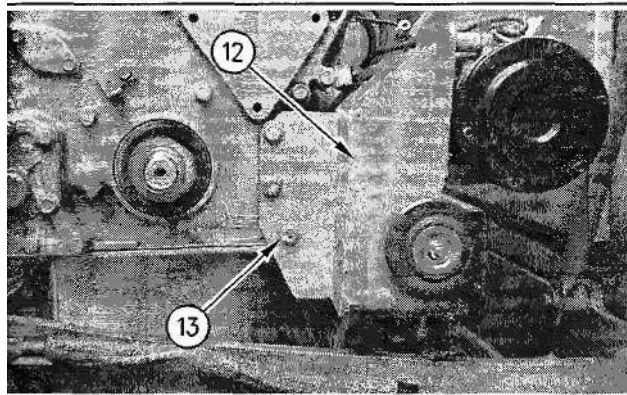


Illustration 320

7. First, remove two bolts (11) and the washers that secure mounting bracket (12) to the engine.

8. Support the refrigerant compressor and mounting bracket (12). Remove three bolts (13) and the washers.

9. Lay the refrigerant compressor and mounting bracket (12) to the side.

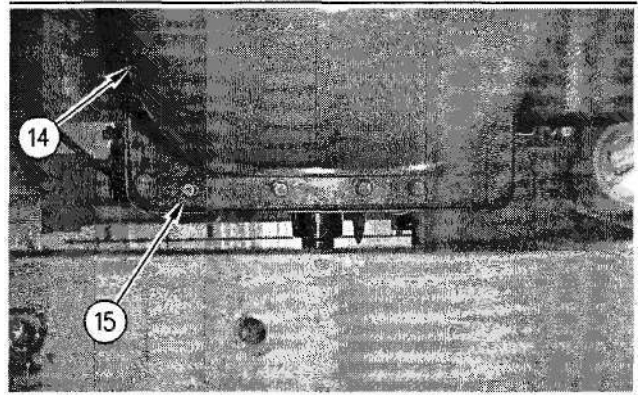


Illustration 321

10. Remove bolts (15) and the washers that mount the front housing to oil pan (14).

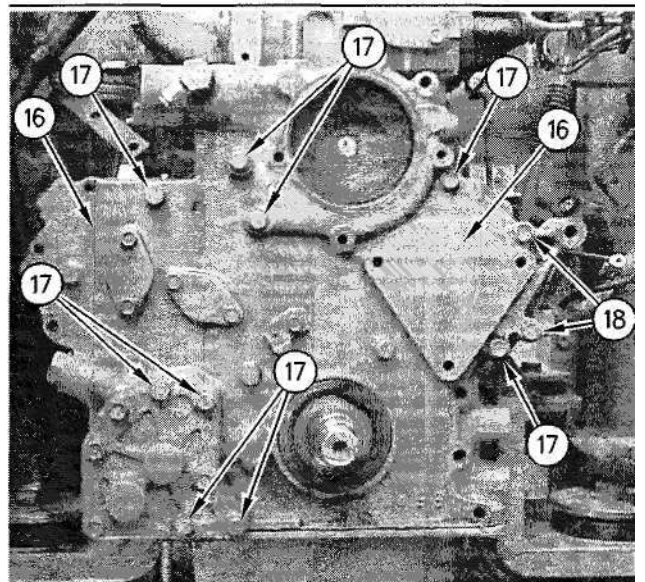


Illustration 322

11. Remove nine bolts (17) and the washers that hold front housing (16) to the plate and the cylinder block.

12. Remove two bolts (18), the washers, the nuts, and one clip from the front housing (16).

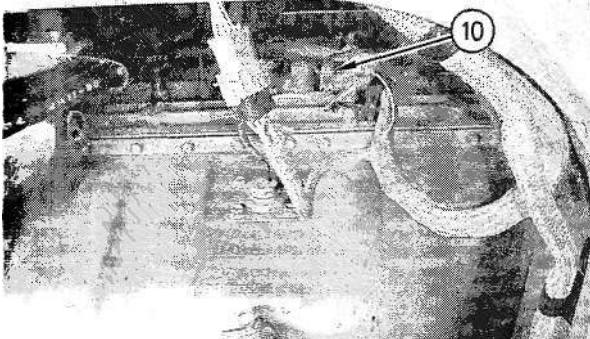


Illustration 363

12. Connect electrical connector (10) for the engine oil level switch.

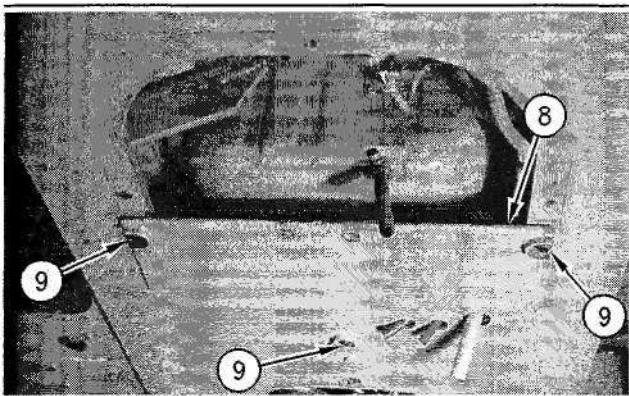


Illustration 364

13. Install access panel (8). Install the washers and bolts (9).

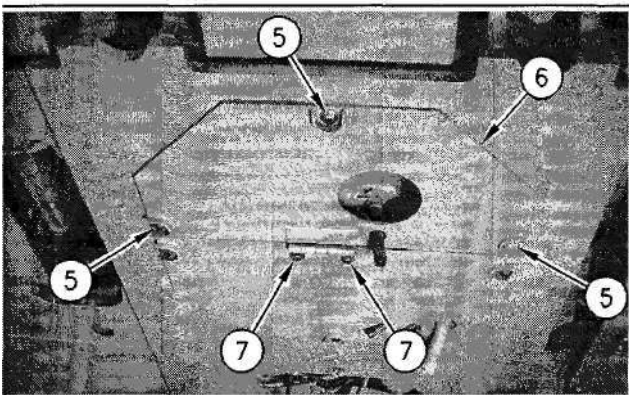


Illustration 365

14. Install access panel (6). Install the washers and bolts (5).

15. Install the washers and bolts (7) to the hinge.

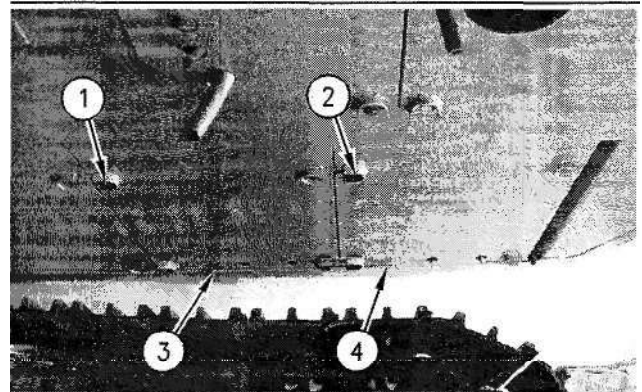


Illustration 366

16. Install access panel (3) that is located under the main pump. Install the washers and bolts (1).

17. Install access panel (4) that is located under the main pump. Install the washers and bolts (2).

18. Install the dipstick.

Reference: Refer to Disassembly and Assembly, "Engine Oil Level Guage (Dipstick) - Remove and Install" in this manual.

19. Fill the engine with oil to the correct level.

Reference: Refer to Operation and Maintenance Manual for the correct procedure.

Reference: Refer to Operation and Maintenance Manual for the refill capacities.

i01342150

Refrigerant Compressor - Remove and Install

SMCSCode: 1802-010

Removal Procedure

Start By:

- a. Remove the hood. Refer to Disassembly and Assembly, "Hood - Remove and Install" in this manual.
- b. Remove the V-belt from the refrigerant compressor. Refer to Disassembly and Assembly, "V-Belts - Remove and Install" in this manual.

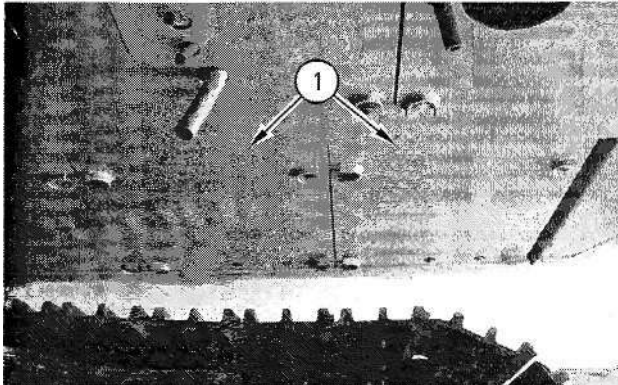


Illustration 390

3. Remove eight bolts and the washers in order to remove two access covers (1) that are under the main hydraulic pump.
4. Drain the oil from the hydraulic oil tank into a suitable container for storage or disposal. The capacity of the hydraulic oil tank is 120 L (32 US gal).

Reference: Refer to Operation and Maintenance, "Hydraulic System Oil - Change" in the service manual.



Illustration 391

5. Open access door (2) on the right side of the machine.

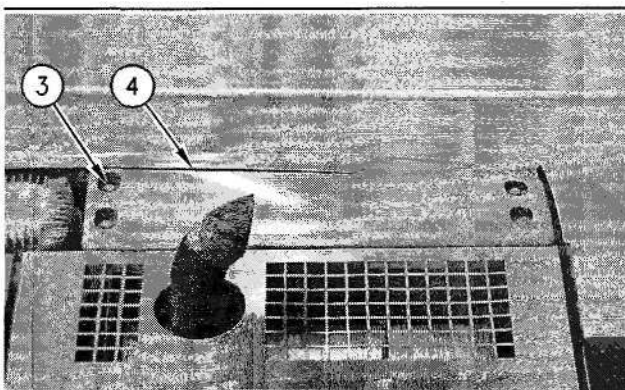


Illustration 392

6. Remove four bolts (3) and the washers.
7. Remove cover (4).

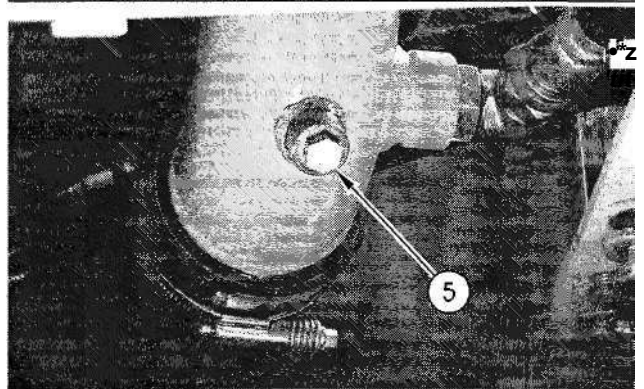


Illustration 393

8. Place a suitable container for storage or disposal under the main pump suction line.
9. Remove plug (5) from the main pump suction line.
10. Drain the oil from the main pump suction line.

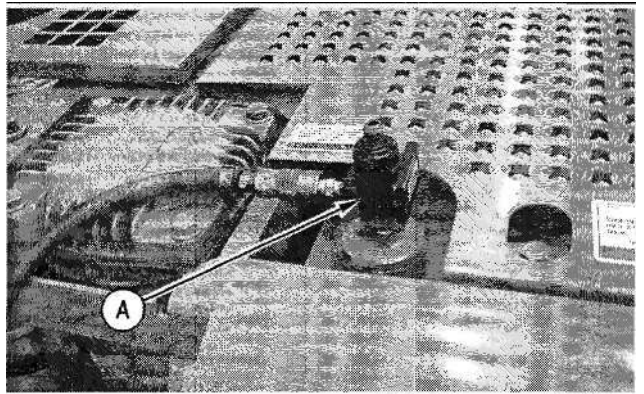


Illustration 394

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11. Remove the cap from the hydraulic tank. Attach Tooling (A) to the hydraulic tank.

Note: Hook up the air to Tooling (A) in order to create a vacuum in the hydraulic system. This will minimize the leakage from the tubes and the lines.

Note: A small amount of oil will drain from all of the hose assemblies and tube assemblies when the hose assemblies and tube assemblies are disconnected from the main pump. Place a suitable container under the main pump in order to contain the oil.

12. Put identification marks on all of the hose assemblies and on all of the tube assemblies that are connected to the main hydraulic pump for installation purposes.

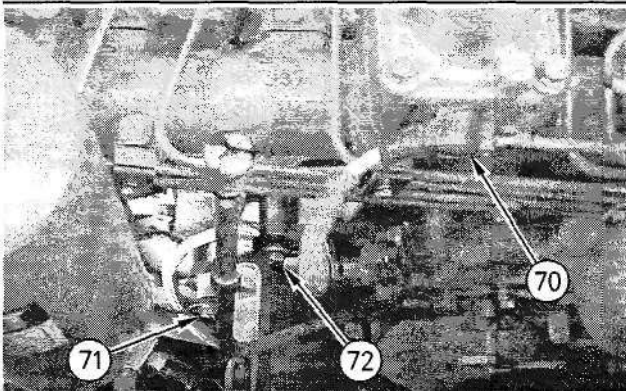


Illustration 436

11. Install the washer and bolt (71) in the clip for the wiring harness.
12. Install the spacer, the washer, and bolt (72) in order to connect the wiring harness and the dipstick tube.
13. Connect electrical connector (70) to the air inlet heater.

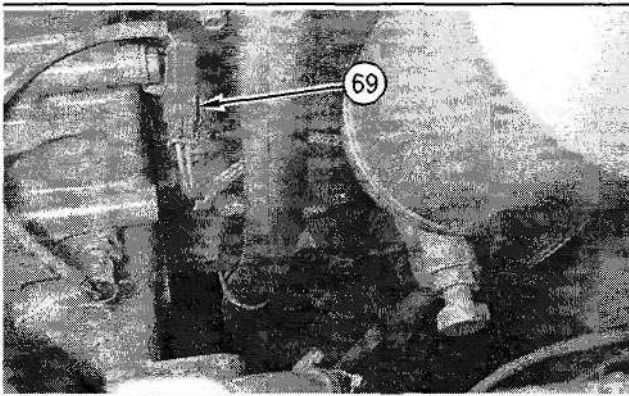


Illustration 437

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14. Connect electrical connector (69) to the flywheel.

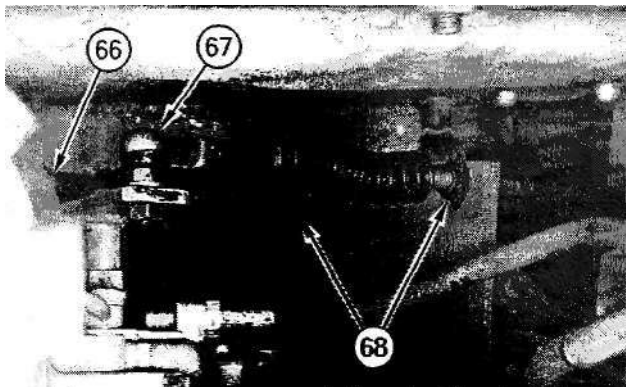


Illustration 438

Note: Make sure that nuts (68) are installed in the original locations.

15. Tighten nuts (68) in order to connect the governor control cables.
16. Connect governor control cable (66). Connect governor control cable (67).

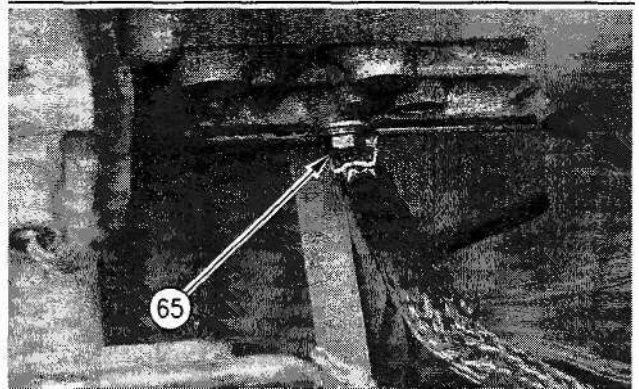


Illustration 439

17. Install bolt (65) in order to connect the ground strap.

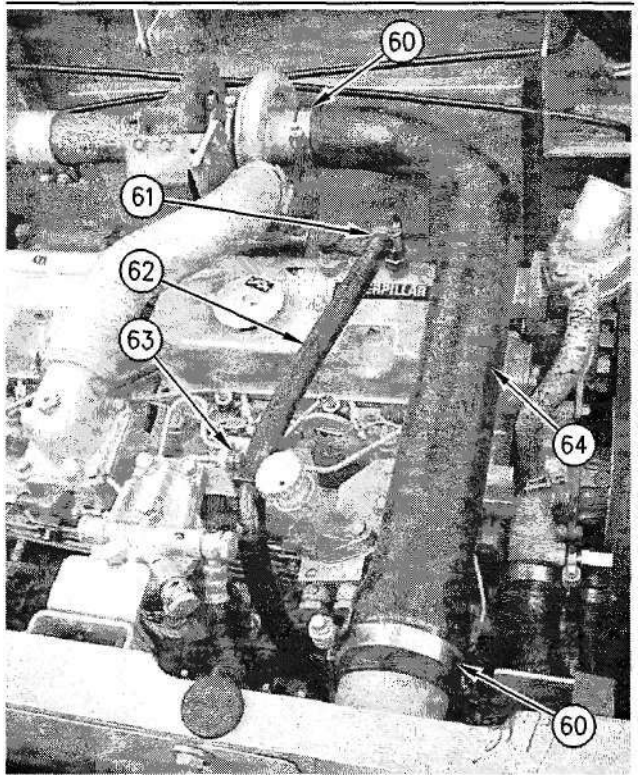


Illustration 440

goo/22124

18. Connect hose (62).
19. Tighten hose clamp (61).
20. Install the washer and bolt (63) that holds hose (62).
21. Install hose (64).

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