

Disassembly and Assembly C-15, C-16 and C-18 On-highway Engines

Media Number -REN2306-04

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i01809374

Cylinder Head - Remove

SMCS - 1100-011

Removal Procedure

Start By:

- A. Remove the camshaft gear. Refer to Disassembly and Assembly, "Camshaft Gear - Remove and Install".
- B. Remove the electronic unit injectors. Refer to Disassembly and Assembly, "Electronic Unit Injector - Remove".
- C. Remove the exhaust manifold. Refer to Disassembly and Assembly, "Exhaust Manifold - Remove and Install".
- D. Remove the rocker arms and the rocker shafts. Refer to Disassembly and Assembly, "Rocker Arm and Shaft - Remove".
- E. Remove the valve mechanism cover base. Refer to Disassembly and Assembly, "Valve Mechanism Cover Base - Remove and Install".
- F. Remove the water temperature regulator. Refer to Disassembly and Assembly, "Water Temperature Regulator - 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.

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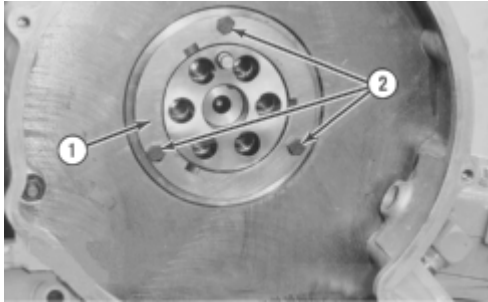


Illustration 1
Typical example

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NOTICE

Do not turn the crankshaft or the camshaft while the camshaft gear is removed. If the front gear group is not correctly timed during installation, interference can occur between the pistons and the valves, resulting in damage to the engine.

1. Remove bolts (2) and thrust plate (1) .

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Illustration 2
Typical example

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2. Remove seal assembly (3) and adapter (4) .
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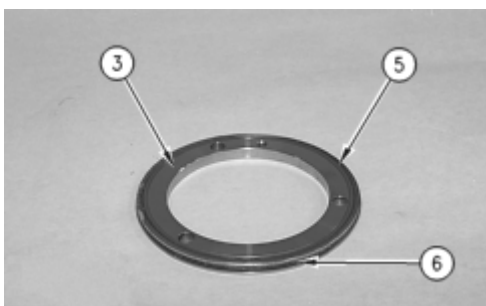


Illustration 3

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3. Remove O-ring seals (5) and (6) from seal assembly (3) .

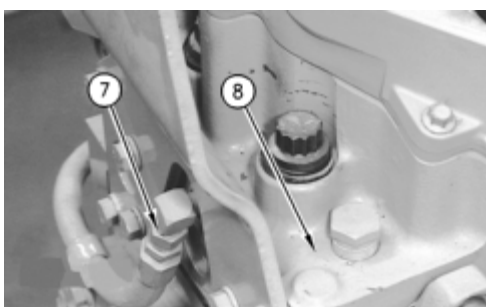
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Illustration 4

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Typical example

4. Disconnect hose assemblies (7) from cylinder head (8) .

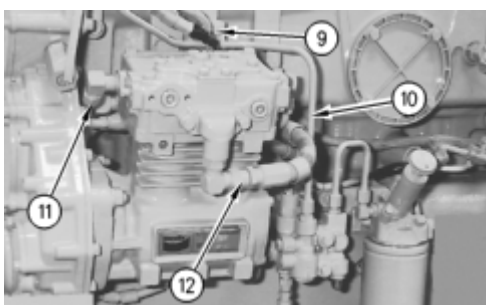
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Illustration 5

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Typical example

Note: If the engine is not equipped with an air compressor, skip Step 5.

5. Disconnect hose assemblies (11) and hose assemblies (12) from the air compressor.
6. Remove the bolt and clamp (9) from the hose assembly. Remove hose assembly (10) .

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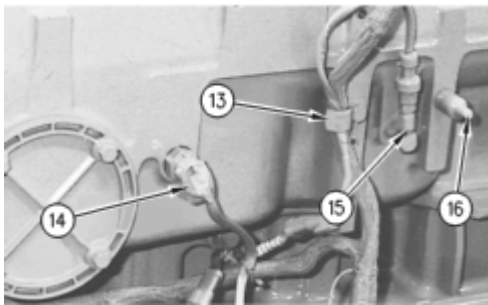


Illustration 6
Typical example

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7. Remove the bolt and support clip (13) for the harness assembly.
8. Disconnect the harness assembly from sensor (14), sensor (15), and ground stud (16) .

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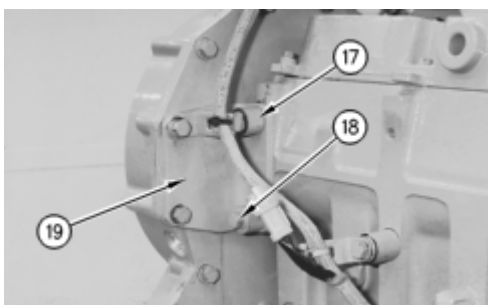


Illustration 7
Typical example

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9. Remove bolts (18) and spacers (17) that fasten bracket (19) to the cylinder head.
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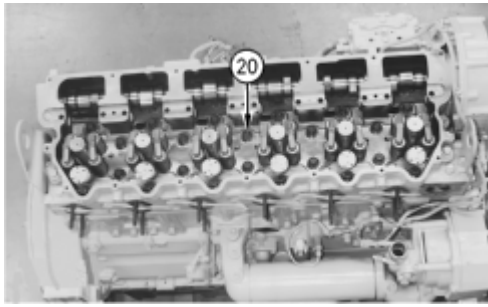


Illustration 8 g00580811
Typical example

10. Remove cylinder head bolts (20) .

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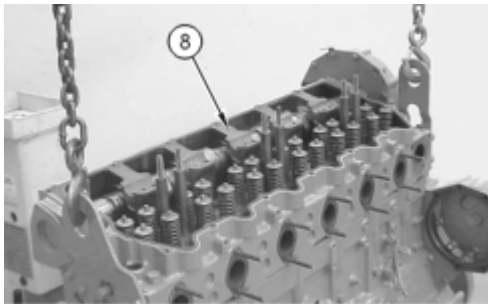


Illustration 9 g00580812
Typical example

11. Attach a suitable lifting device to cylinder head (8). Ensure that all of the following items are clear from the cylinder head: harness assemblies, tube assemblies and hose assemblies.
12. Carefully remove cylinder head (8). The cylinder head weighs approximately 235 kg (518 lb).

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Illustration 10 g00580833
Typical example

13. Remove cylinder head gasket (21) .

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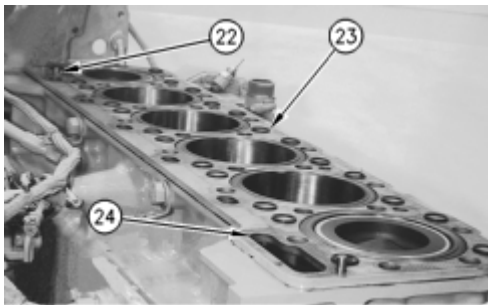


Illustration 11 g00632047
Typical example

14. Remove O-ring seal (22) and water seals (23). Remove seal (24) .
15. Remove the spacer plate from the engine.

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Illustration 12 g00632048
Typical example

16. Remove spacer plate gasket (25) .

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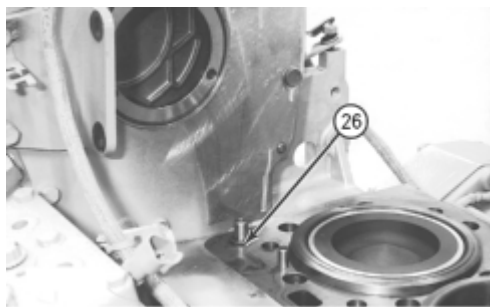


Illustration 13
Typical example

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17. Remove O-ring seal (26) .

Note: If the cylinder head was removed from the cylinder block as a result of a failed head gasket, refer to Special Instruction, SEHS9564, "3400 Cylinder Head Joint Repair Procedure" for additional information.