

Cylinder Head RH

Special Tool(s) / General Equipment

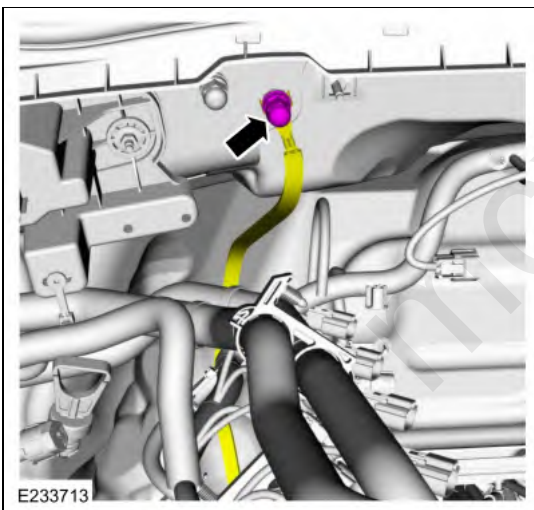
Oil Drain Equipment

Removal

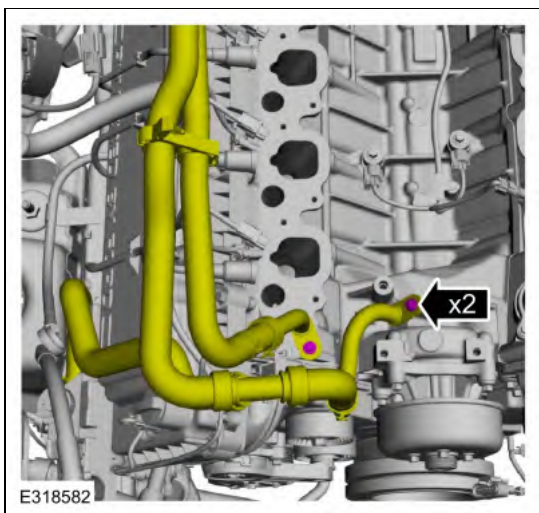
NOTICE: During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces, that enters the oil passages, coolant passages or the oil pan, can cause engine failure.

1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
2. Release the fuel system pressure.
Refer to: Fuel System Pressure Release (310-00A Fuel System - General Information - 6.2L V8, General Procedures).
3. Disconnect the battery ground cable.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).
4. Remove the following items:
 1. Remove the cooling module.
Refer to: Cooling Module (303-03A Engine Cooling - 6.2L V8, Removal and Installation).
 2. Remove the intake manifold.
Refer to: Intake Manifold (303-01A Engine - 6.2L V8, Removal and Installation).
 3. **NOTE:** The RH timing chain can be removed and installed without removing the LH timing chain.

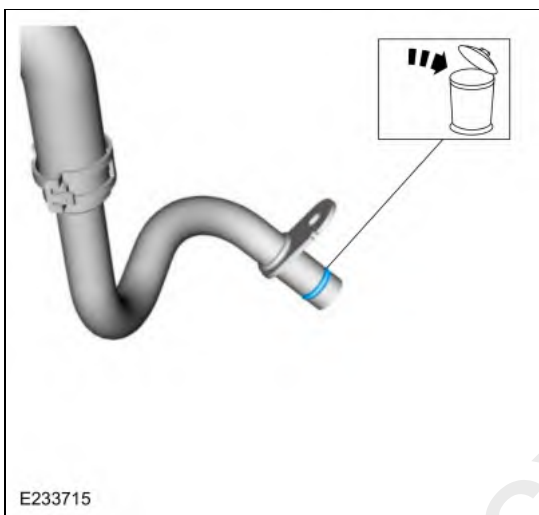
Remove the RH timing chain.
Refer to: Timing Chain (303-01A Engine - 6.2L V8, Removal and Installation).
 4. Remove the RH exhaust manifold.
Refer to: Exhaust Manifold RH (303-01A Engine - 6.2L V8, Removal and Installation).
5. Remove the nut and position the engine ground strap aside.



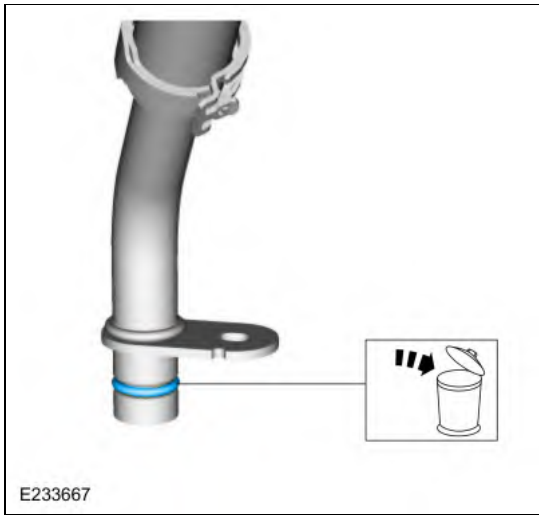
6. Remove the bolts and position the coolant tubes aside.



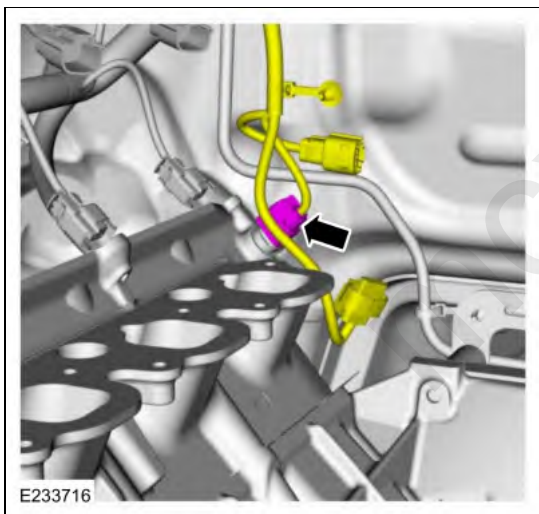
7. Remove and discard the coolant tube O-ring seal.



8. Remove and discard the coolant tube O-ring seal.



9. Disconnect the RH CMP sensor wiring harness electrical connector.

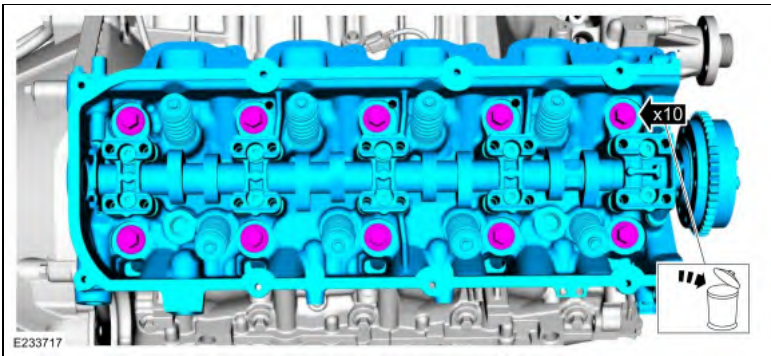


10. **NOTICE:** The cylinder head must be cool before removing it from the engine. Cylinder head warpage may result if a warm or hot cylinder head is removed.

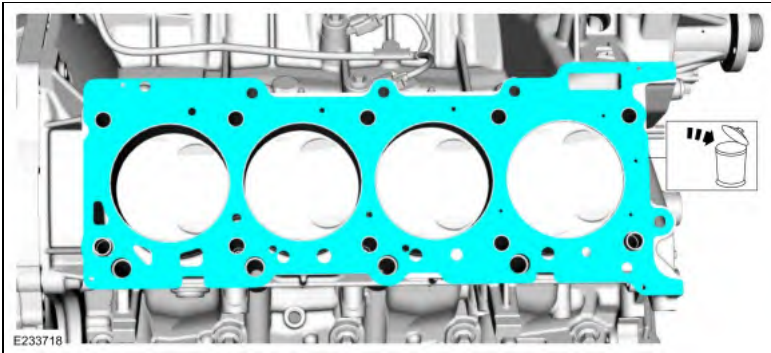
NOTICE: Place clean shop towels over exposed engine cavities. Carefully remove the towels so foreign material is not dropped into the engine. Failure to follow this instruction may cause engine damage.

NOTICE: The cylinder head bolts must be discarded and new bolts must be installed. They are a tighten-to-yield design and cannot be reused.

- Remove and discard the cylinder head bolts.
- Remove the cylinder head.



11. Remove and discard the cylinder head gasket.

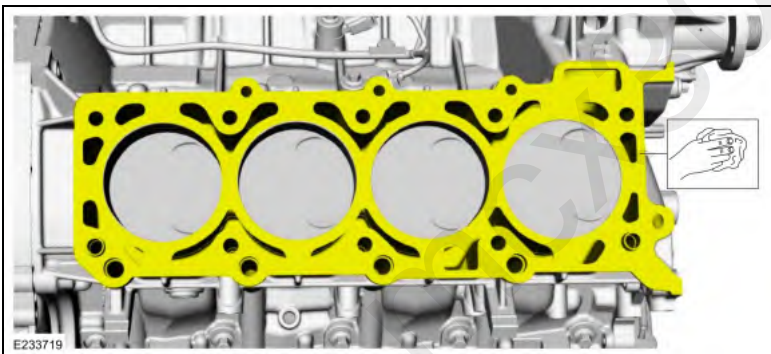


12. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths.

NOTE: Clean the cylinder block bolt holes using compressed air. Make sure all coolant, oil or other foreign material is removed.

- Clean and inspect the cylinder block mating surface.
- Check the cylinder block distortion.

Refer to: Cylinder Block Distortion (303-00 Engine System - General Information, General Procedures).



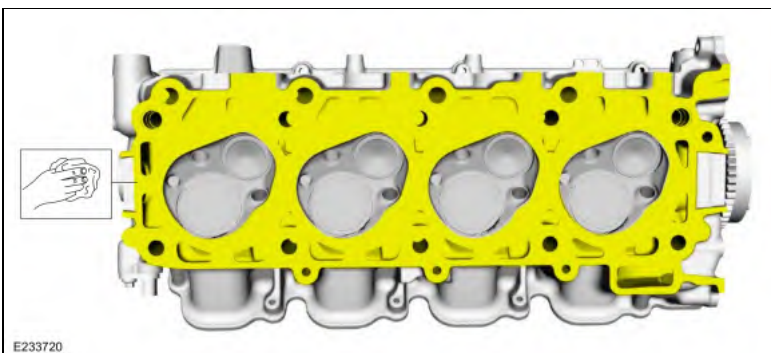
13. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths.

NOTICE: Aluminum surfaces are soft and can be scratched easily. Never place the cylinder head gasket surface, unprotected, on a bench surface. Failure to follow this instruction may cause engine damage.

NOTE: Clean the cylinder head bolt holes using compressed air. Make sure all coolant, oil or other foreign material is removed.

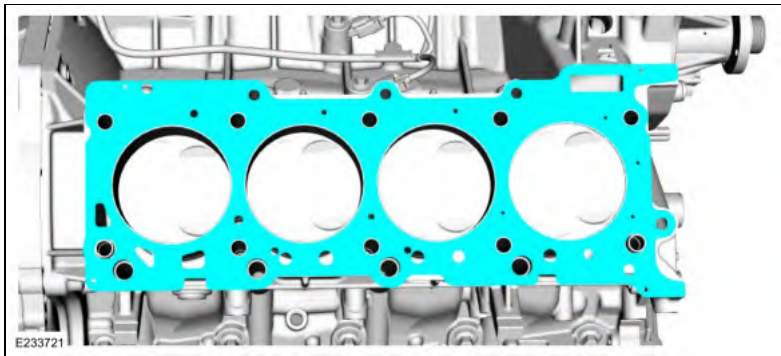
- Clean and inspect the cylinder head mating surface.
- Check the cylinder head distortion.

Refer to: Cylinder Head Distortion (303-00 Engine System - General Information, General Procedures).



Installation

1. Install the new cylinder head gasket.



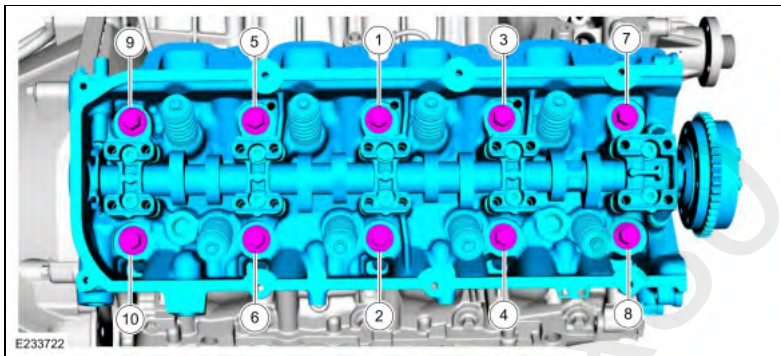
2. **NOTICE:** Make sure all coolant residue and foreign material are cleaned from the block surface and cylinder bore.

NOTE: The cylinder head bolts are torque-to-yield and must not be reused. New cylinder head bolts must be installed.

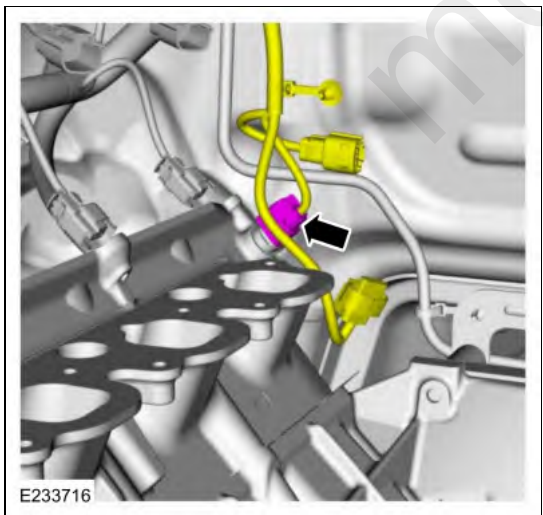
Install the cylinder head and the new bolts and tighten in 7 stages.

Torque:

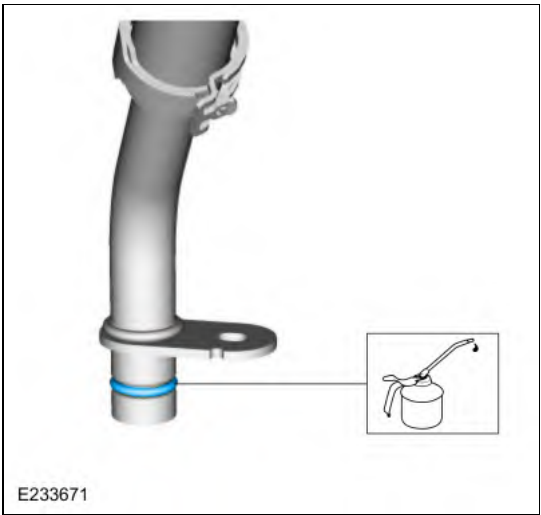
- Stage 1: Tighten bolts 1 through 10 to: 18 lb.ft (25 Nm)
- Stage 2: Tighten bolts 1 through 10 to: 55 lb.ft (75 Nm)
- Stage 3: Loosen: 180°
- Stage 4: Tighten bolts 1 through 10 to: 18 lb.ft (25 Nm)
- Stage 5: Tighten bolts 1 through 10 to: 37 lb.ft (50 Nm)
- Stage 6: Tighten bolts 1 through 10 an additional: 90°
- Stage 7: Tighten bolts 1 through 10 an additional: 90°



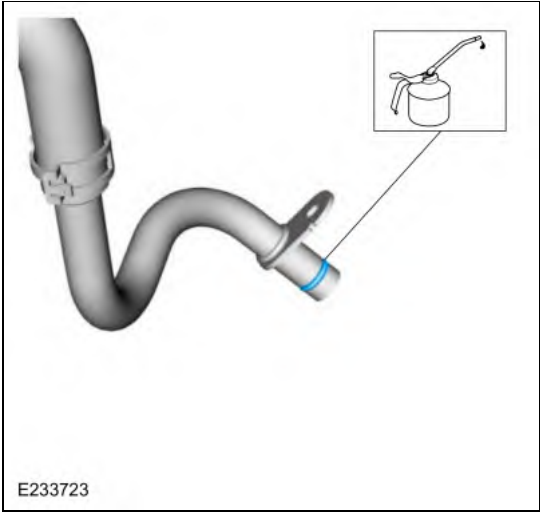
3. Connect the RH CMP sensor wiring harness electrical connector.



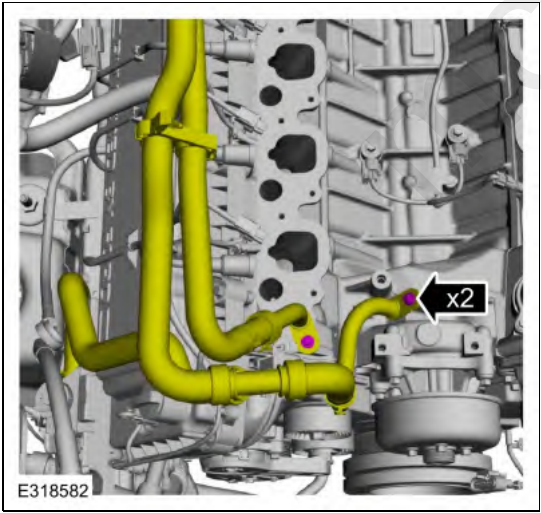
4. Install and lubricate the coolant tube O-ring seal.



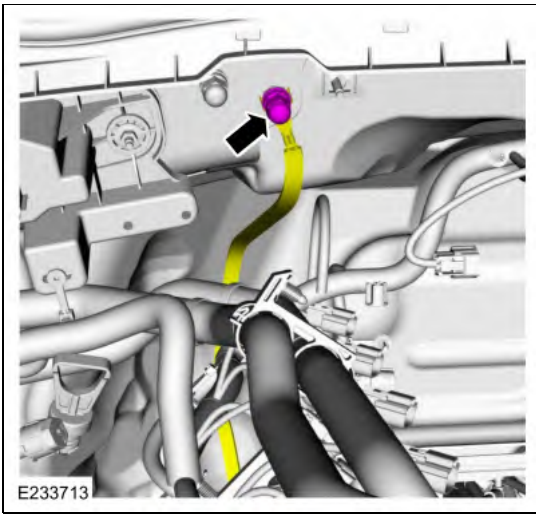
5. Install and lubricate the coolant tube O-ring seal.



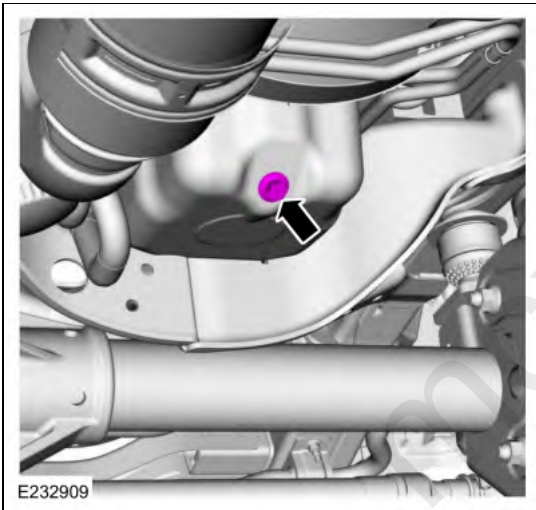
6. Position the coolant tubes and install the bolts.
Torque: 89 lb.in (10 Nm)



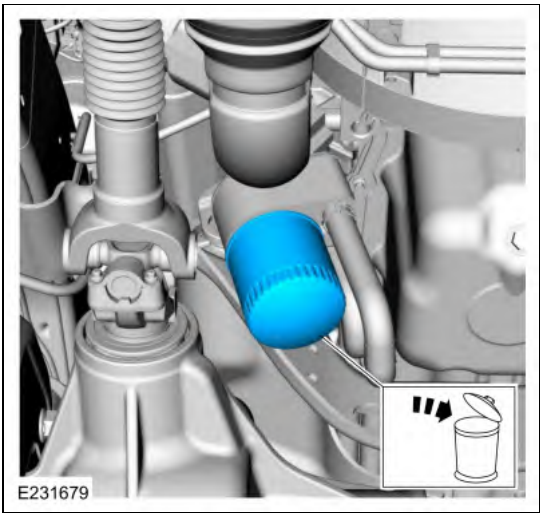
7. Position the engine ground strap and install the nut.
Torque: 89 lb.in (10 Nm)



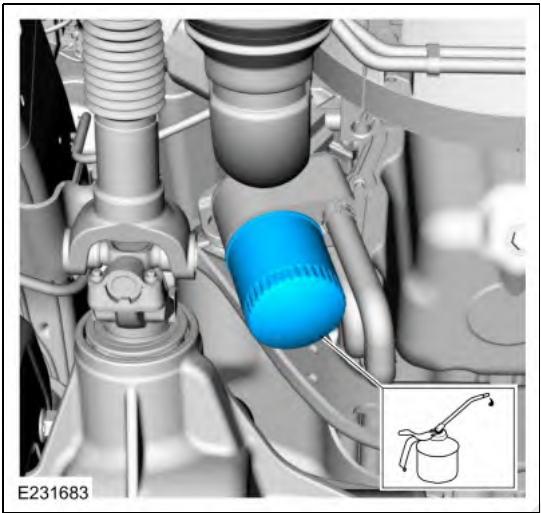
8. Install the following items:
1. Install the RH exhaust manifold.
Refer to: Exhaust Manifold RH (303-01A Engine - 6.2L V8, Removal and Installation).
 2. Install the RH timing chain.
Refer to: Timing Chain (303-01A Engine - 6.2L V8, Removal and Installation).
 3. Install the intake manifold.
Refer to: Intake Manifold (303-01A Engine - 6.2L V8, Removal and Installation).
- 9.
- Remove the oil pan drain plug and drain the engine oil.
Use the General Equipment: Oil Drain Equipment
 - Install the oil pan drain plug.
Torque: 17 lb.ft (23 Nm)



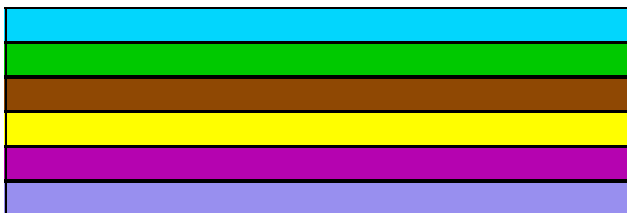
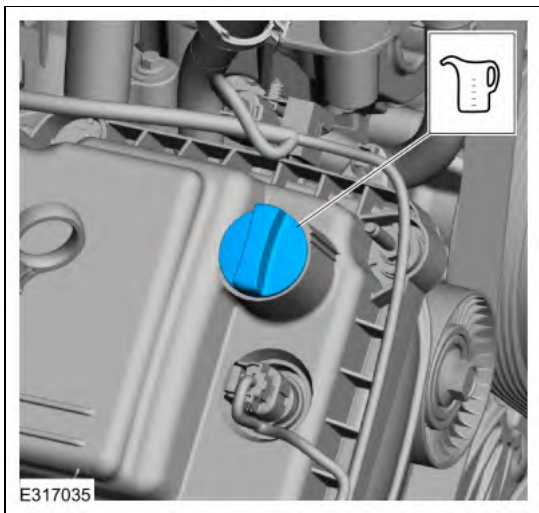
10. Remove and discard the engine oil filter.



11. Lubricate the oil filter gasket with clean engine oil and install a new engine oil filter.
- Torque:*
- Stage 1: 44 lb.in (5 Nm)
- Stage 2: 180°



12. Fill the engine with clean engine oil.
- Refer to: Specifications (303-01A Engine - 6.2L V8, Specifications).



13. Connect the battery ground cable.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).
14. Install the cooling module.
Refer to: Cooling Module (303-03A Engine Cooling - 6.2L V8, Removal and Installation).
15. Pressurize the fuel system.
Refer to: Fuel System Pressure Release (310-00A Fuel System - General Information - 6.2L V8, General Procedures).

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