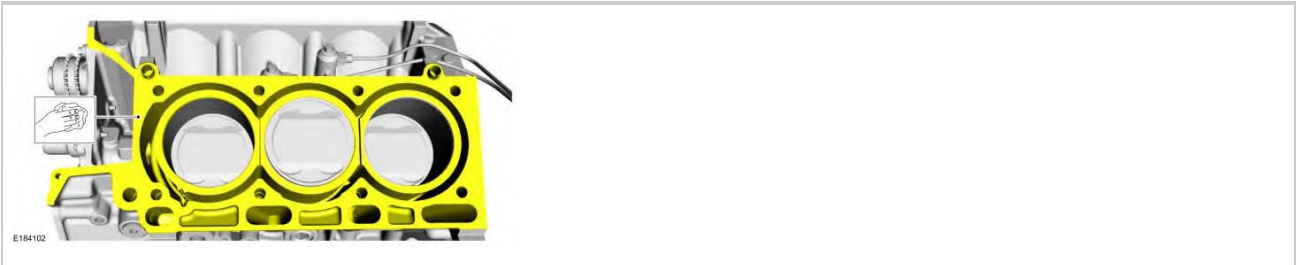


gouges that make leak paths. Use a plastic scraping tool to remove all traces of the head gasket.

18.

Make sure that the mating faces are clean and free of foreign material.



19.

Support the cylinder head on a bench with the head gasket side up. Check the cylinder head distortion and the cylinder block distortion. Refer to: Cylinder Head Distortion . Refer to: Cylinder Block Distortion .

REMOVAL AND INSTALLATION > CYLINDER HEAD LH > INSTALLATION

1.

Install the cylinder head gasket.



NOTE: If the cylinder head is replaced, a new secondary timing chain tensioner will need to be installed.



NOTE: Install new cylinder head bolts.

2.

Install the cylinder head and the new bolts.

Torque:

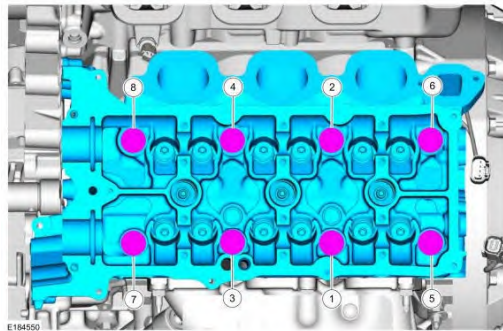
Stage 1: 177 lb.in (20 Nm)

Stage 2: 26 lb.ft (35 Nm)

Stage 3 : 90°

Stage 4: 90°

Stage 5: 45°

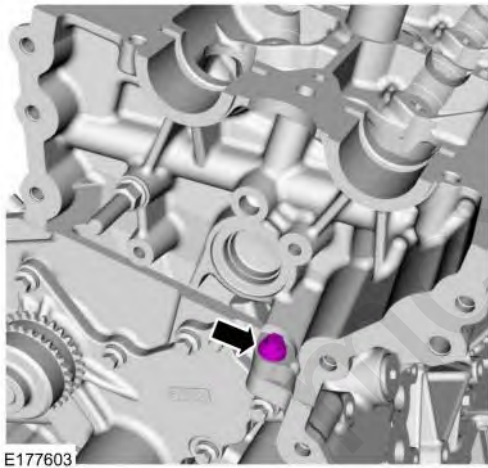


3.

Install the new M6 bolt.

Torque

: 89 lb.in (10 Nm)



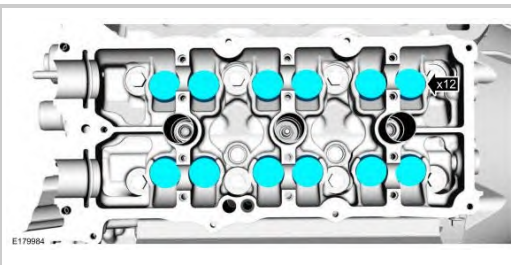
NOTE: The valve tappets must be installed in their original positions.

4.

Lubricate the valve tappets with clean engine oil and install.

Material

: Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil (U.S.) / XO-5W20-QSP (U.S.)
(WSS-M2C945-A)

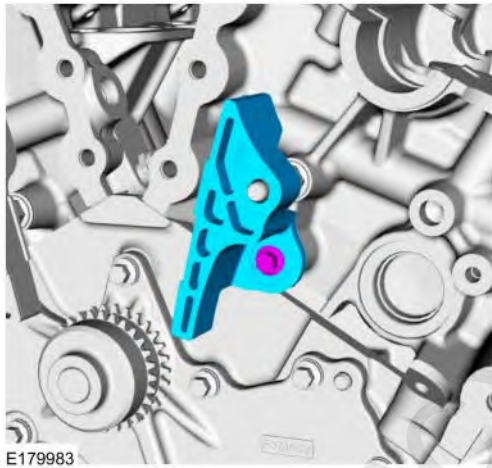


 **NOTE:** Do not use power tools to install the bolt or damage to the upper LH timing chain guide may occur.

5.
Install the upper LH timing chain guide and the bolt.

Torque

: 89 lb.in (10 Nm)



 **NOTE:** Lubricate the O-ring seals with clean engine oil.

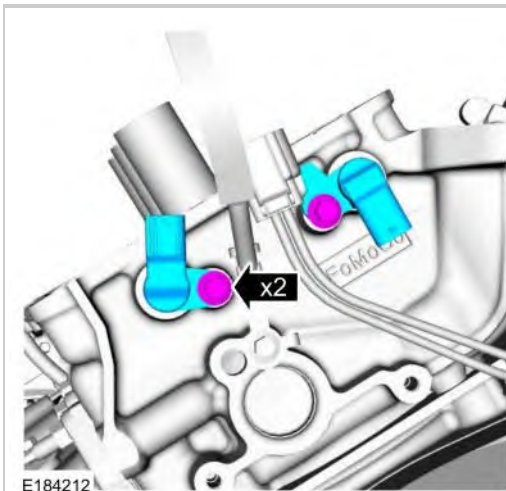
6.
Install the CMP sensors and the bolts.

Material

: Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil (U.S.) / XO-5W20-QSP (U.S.)
(WSS-M2C945-A)

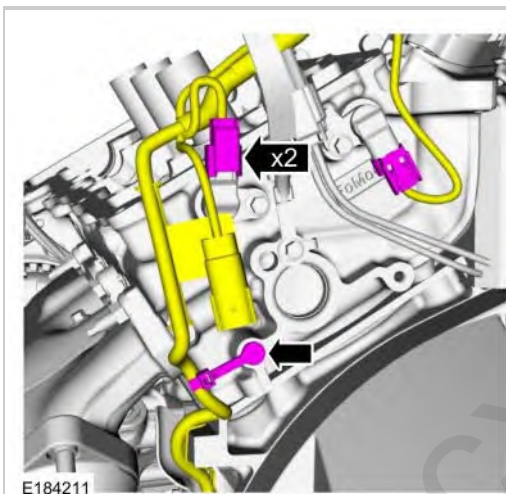
Torque

: 89 lb.in (10 Nm)



7.

Connect the CMP sensors electrical connectors and attach the wiring harness retainer.

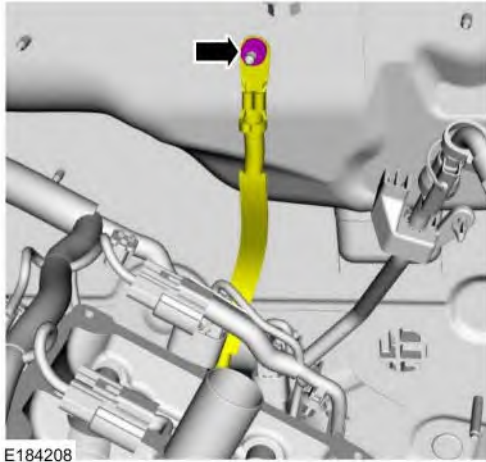


8.

Install the ground strap and the nut.

Torque

: 80 lb.in (9 Nm)



9.

Install the lower intake manifold. Refer to: Lower Intake Manifold .

10.

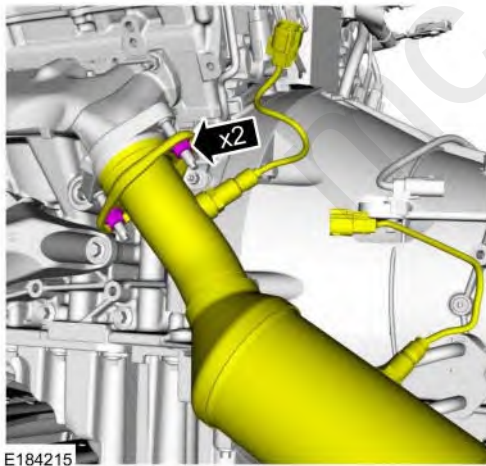
Install the LH camshafts. Refer to: Camshafts .

11.

Position the LH catalytic converter and install new flange nuts.

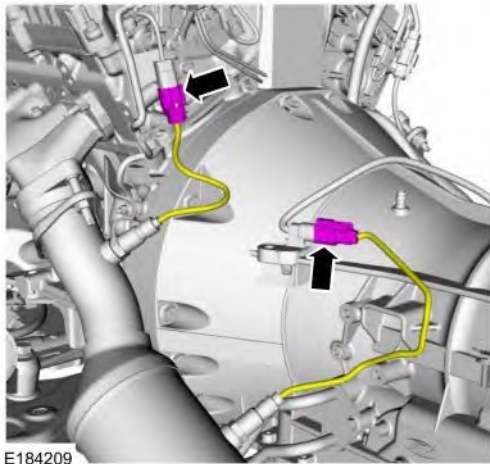
Torque

: 30 lb.ft (40 Nm)



12.

Connect the LH HO2S and catalyst monitor sensor electrical connectors.



13.

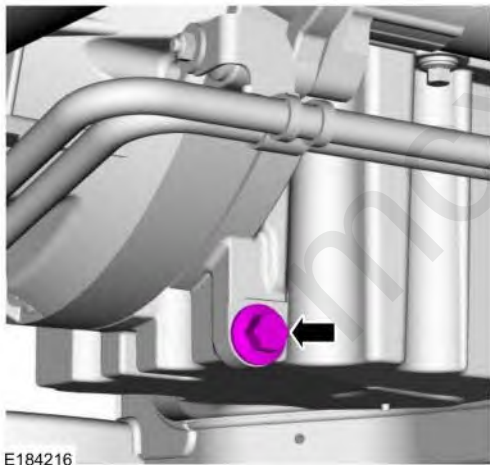
Remove the oil pan drain plug and drain the engine oil.

Use the General Equipment: Oil Drain Equipment

Install the oil pan drain plug.

Torque

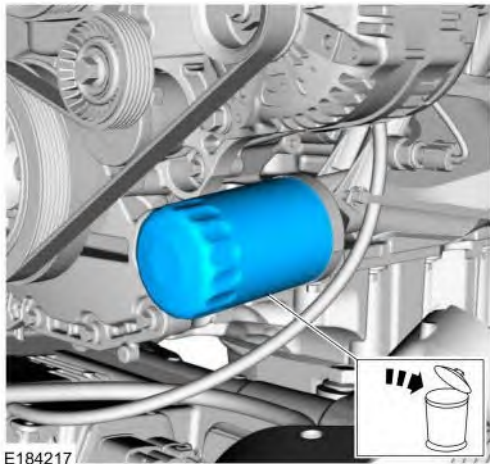
: 20 lb.ft (27 Nm)



14.

Remove and discard the engine oil filter.

Use the General Equipment: Oil Drain Equipment



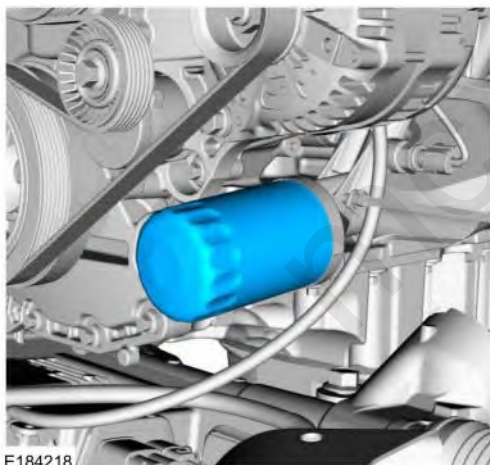
NOTE: Do not lubricate the engine oil filter seal.

15.
Install a new engine oil filter.

Torque:

Stage 1: 44 lb.in (5 Nm)

Stage 2: 180°



- 16.

Fill the engine with clean engine oil. Refer to: Specifications .

Material

: Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil (U.S.) / XO-5W20-QSP (U.S.)
(WSS-M2C945-A)