

Camshaft Position (CMP) Sensor

Base Part Number: 12K073

Materials

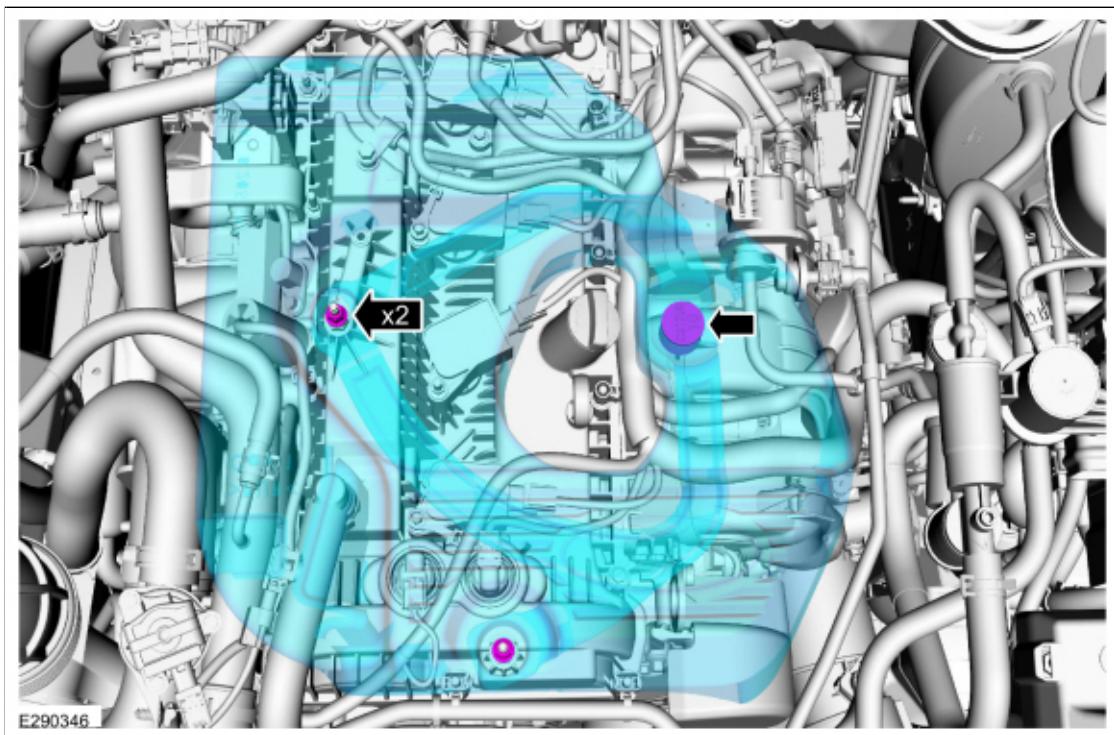
Name	Specification
Motorcraft® Silicone Brake Caliper Grease and Dielectric Compound XG-3-A	ESE-M1C171-A

Removal

NOTE: Removal steps in this procedure may contain installation details.

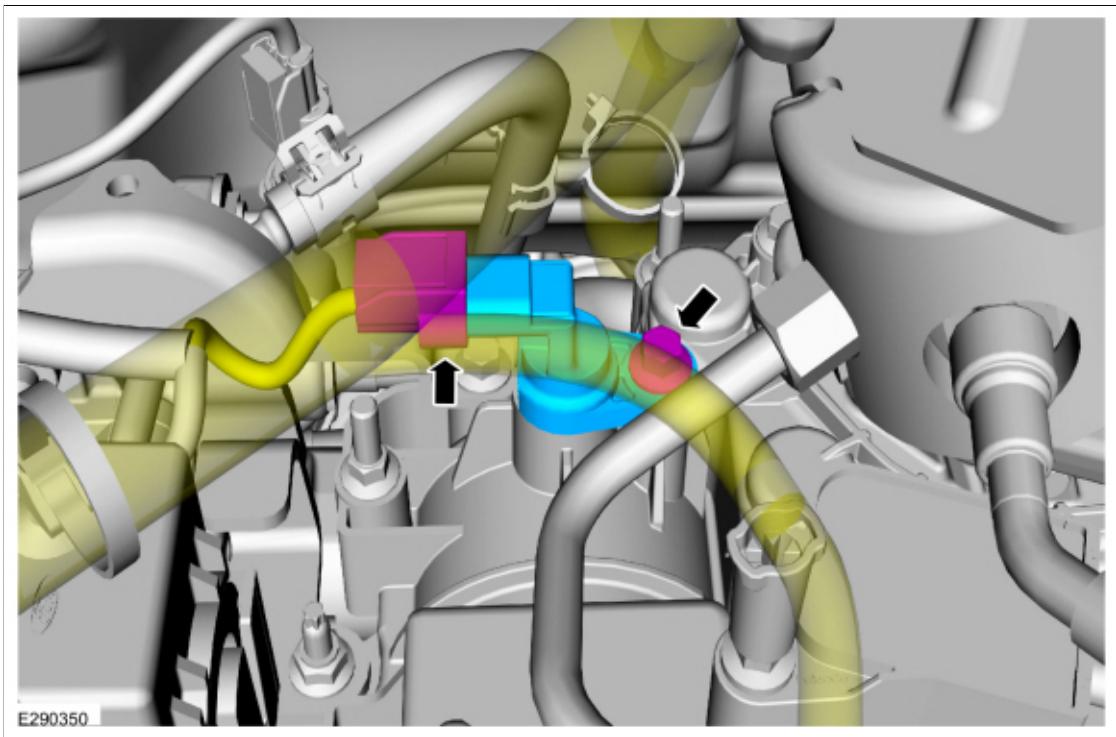
Exhaust Camshaft Position (CMP) Sensor

1. **NOTICE:** Do not pull the engine appearance cover forward or sideways to remove. Failure to press straight upward on the underside of the cover at the attachment points may result in damage to the cover or engine components.
 1. Remove the engine appearance cover nut.
 2. Place your hand under the engine appearance cover at each grommet location and pull straight up to release each grommet from the studs.
 3. After all of the grommets have been released from the studs, remove the appearance cover from the engine.



2.

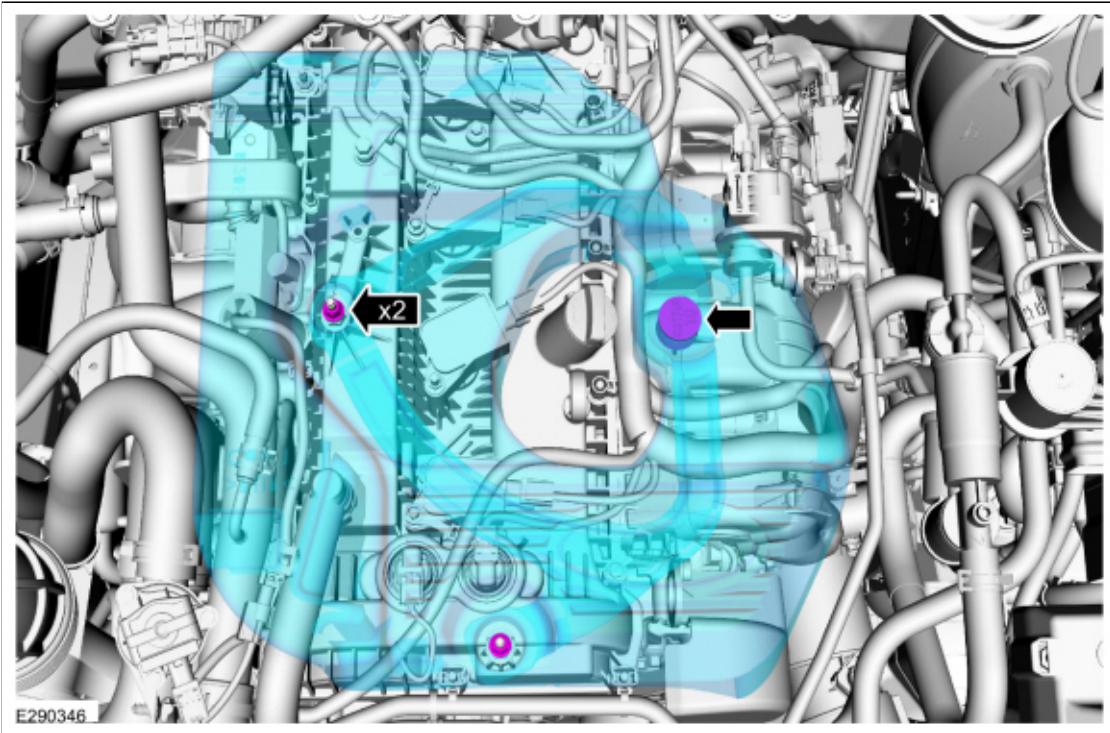
- Disconnect the electrical connector. Remove the bolt and the exhaust CMP sensor.
Torque: 97 lb.in (11 Nm)



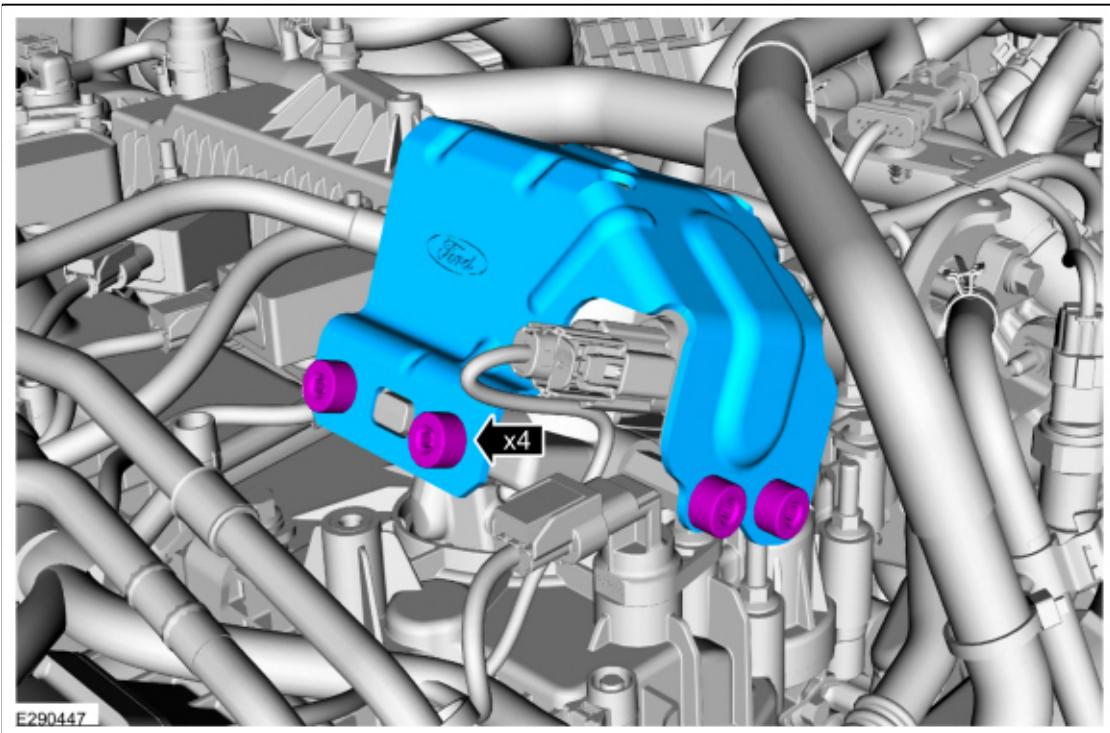
Intake Camshaft Position (CMP) Sensor

3. **NOTICE: Do not pull the engine appearance cover forward or sideways to remove. Failure to press straight upward on the underside of the cover at the attachment points may result in damage to the cover or engine components.**
 1. Remove the engine appearance cover nut.
 2. Place your hand under the engine appearance cover at each grommet location and pull straight up to release each grommet from the studs.
 3. After all of the grommets have been released from the studs, remove the appearance cover from the engine.

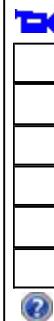
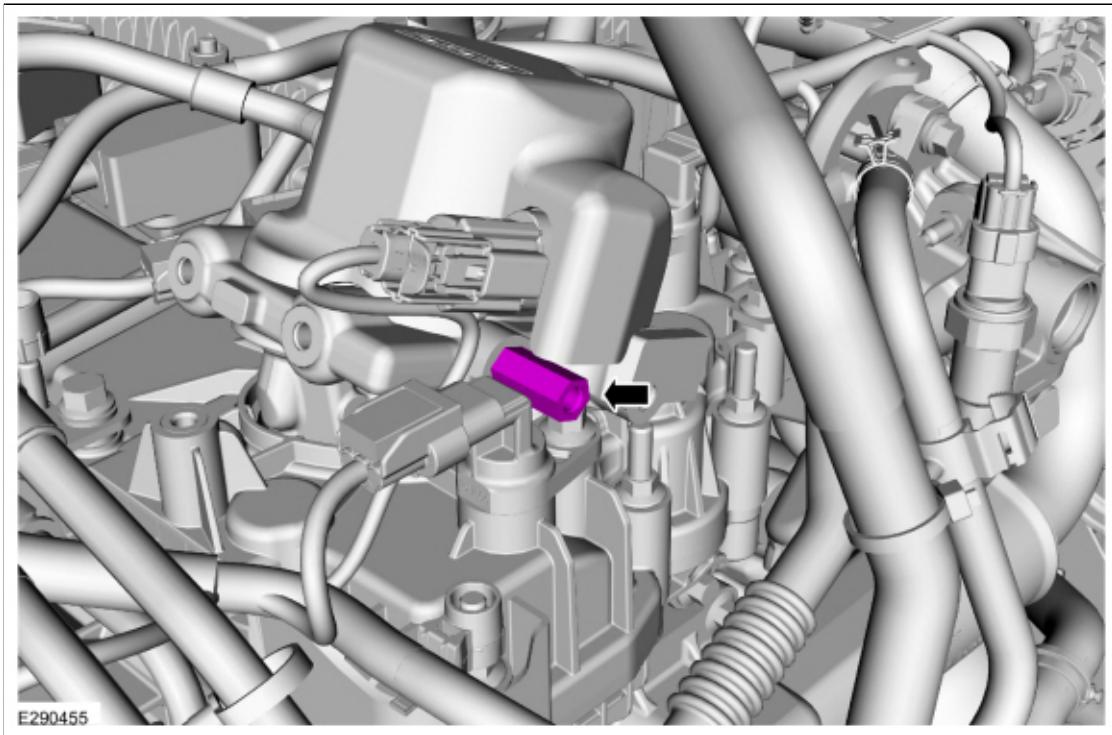




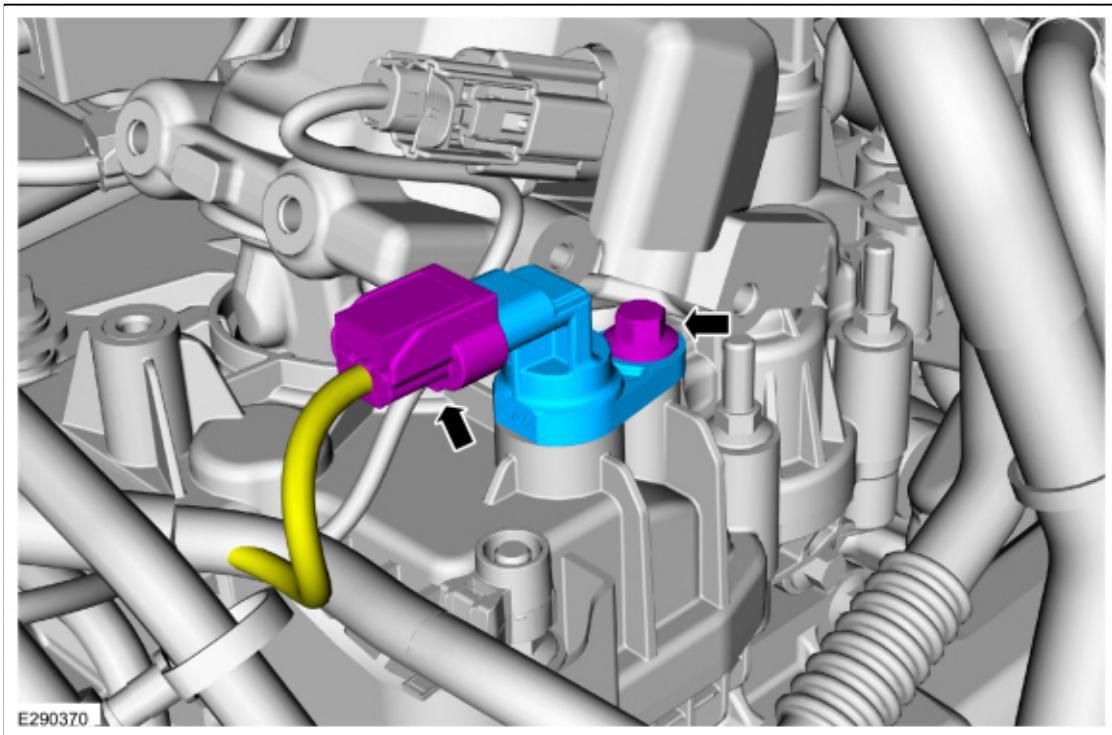
4. Remove the high-pressure fuel pump bracket bolts, then remove the bracket.
Torque: 97 lb.in (11 Nm)



5. Remove the high-pressure fuel pump bracket nut.
Torque: 97 lb.in (11 Nm)



6. Disconnect the electrical connector. Remove the bolt and the intake CMP sensor.
Torque: 97 lb.in (11 Nm)



Installation

1. **NOTE:** Before installation, lubricate the CMP sensor O-ring seal with clean engine oil.

To install, reverse the removal procedure.

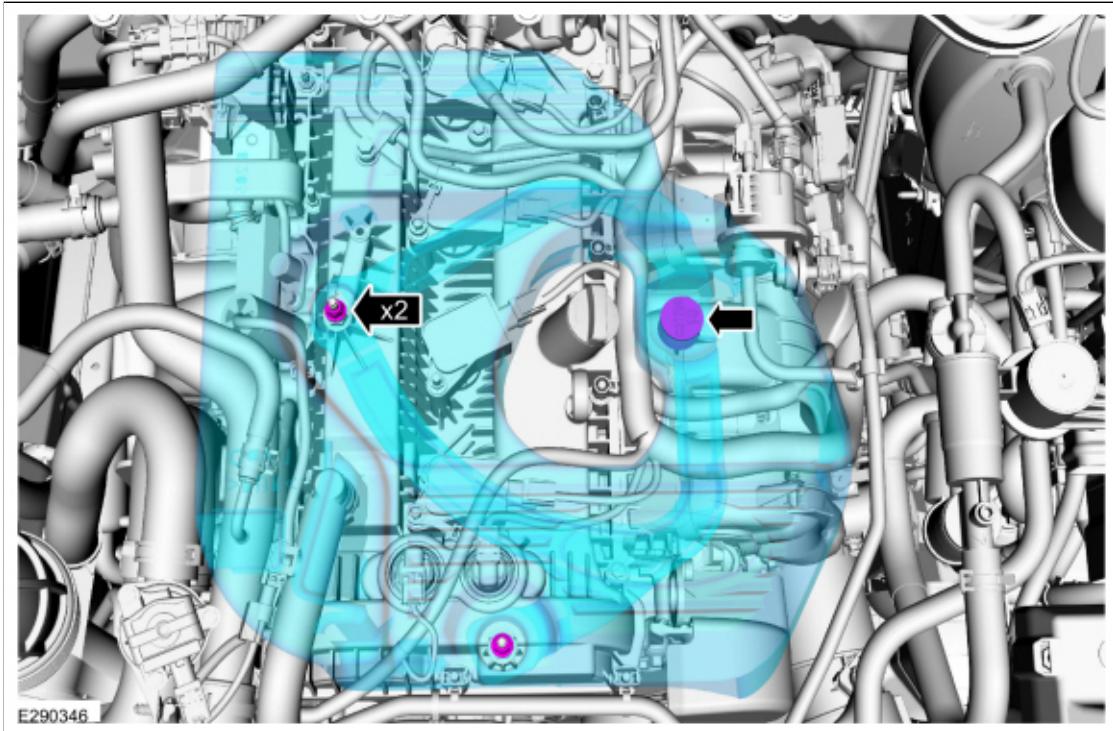
2.

1. **NOTE:** Lubricating the grommets with silicone grease will aid in the installation of the engine appearance cover, and any future removal and installation of the cover.

Lubricate each grommet with silicone grease.

Material: Motorcraft® Silicone Brake Caliper Grease and Dielectric Compound / XG-3-A (ESE-M1C171-A)

2. Position the engine appearance cover onto engine with the grommets aligned with the studs.
3. Press down on the engine appearance cover at each grommet location to attach the grommets onto the studs.
4. Install the engine appearance cover nut.
Torque: 44 lb.in (5 Nm)
5. If the engine appearance cover stud bolt is loosened or removed, it must be installed/tightened into the valve cover.
Torque: 62 lb.in (7 Nm)



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