

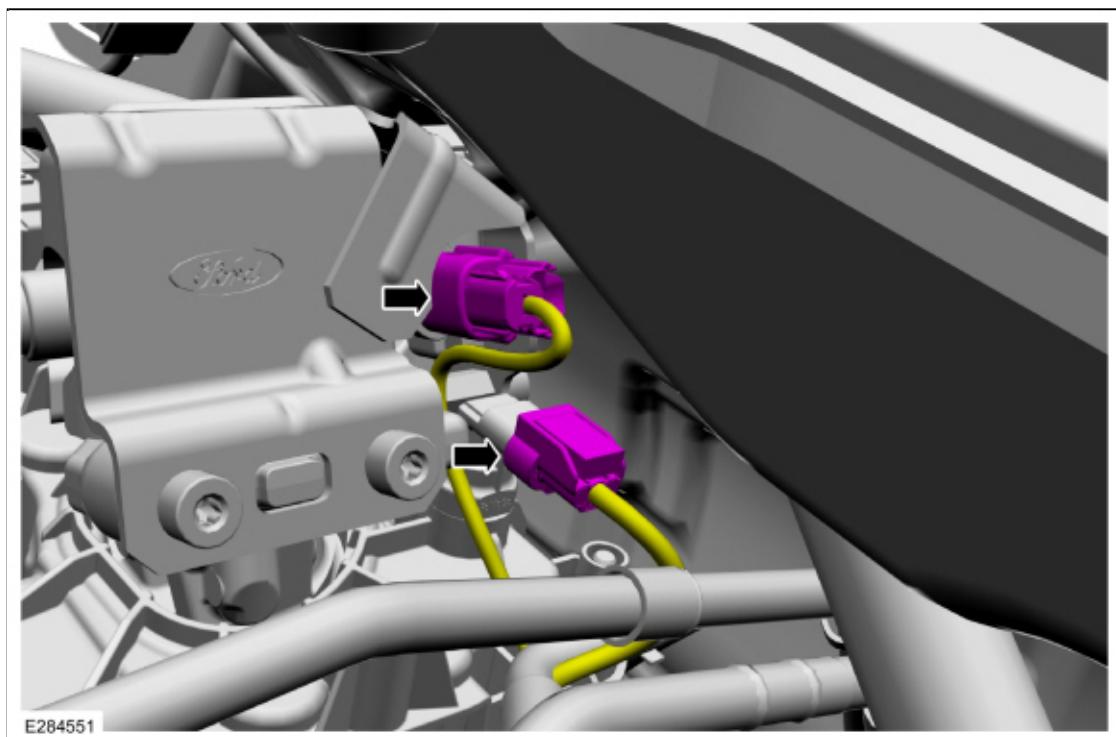
High-Pressure Fuel Pump

Removal

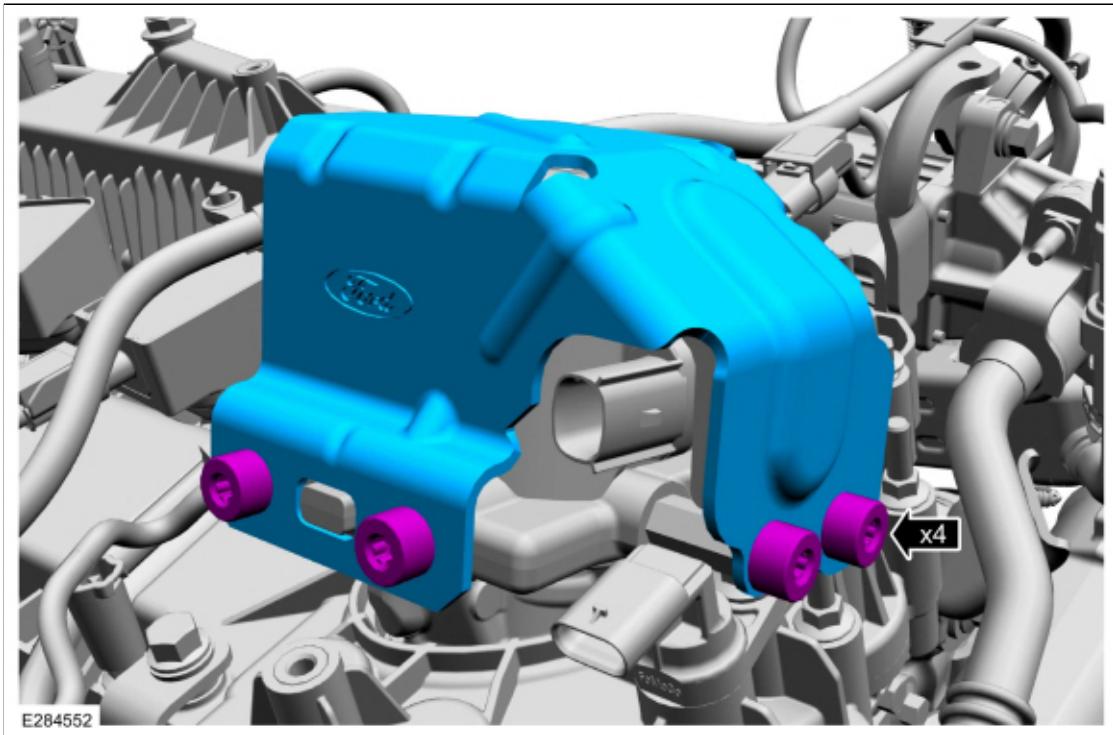
NOTICE: Fuel injection equipment is manufactured to very precise tolerances and fine clearances. To prevent fuel system damage, it is essential that absolute cleanliness is observed when working with these components.

NOTICE: Do not loosen any fittings or plugs on the high-pressure fuel pump.

1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: [Jacking and Lifting](#) (100-02 Jacking and Lifting, Description and Operation).
2. Release the fuel system pressure.
Refer to: [Fuel System Pressure Release](#) (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS), General Procedures).
3. Disconnect the battery negative cable.
Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).
4. Remove the intake manifold.
Refer to: [Intake Manifold](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
5. Disconnect the high-pressure fuel pump and the camshaft position sensor electrical connectors.

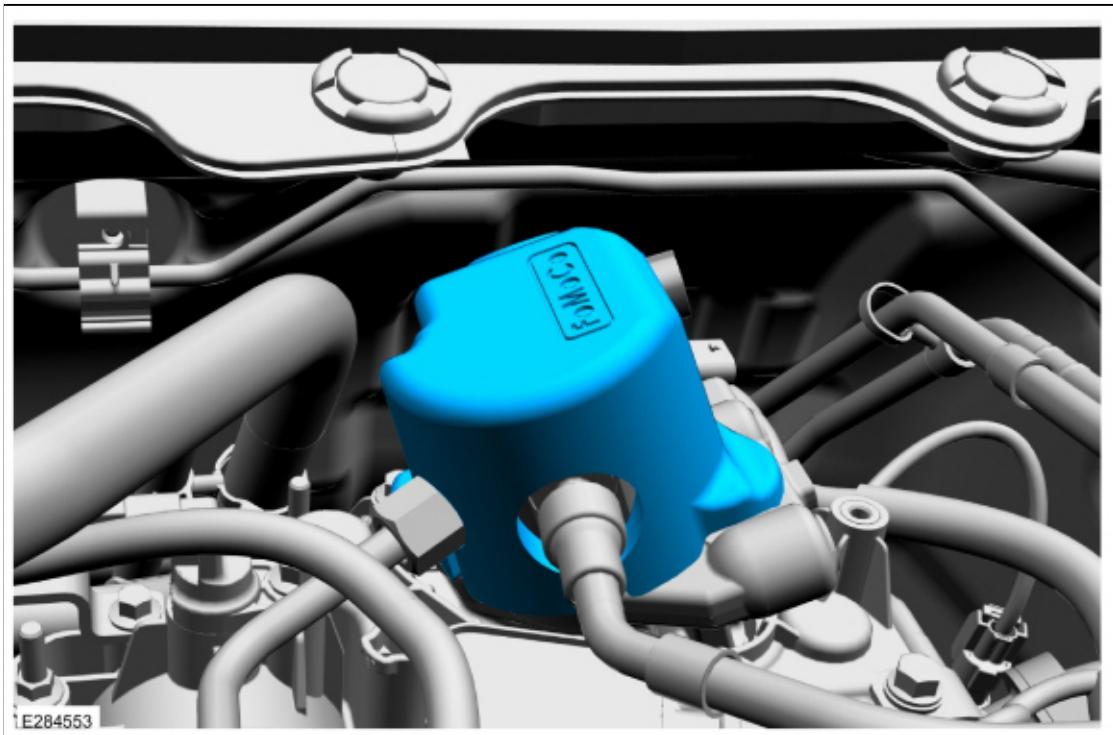


6. Remove the high-pressure fuel pump bracket bolts, then remove the bracket.



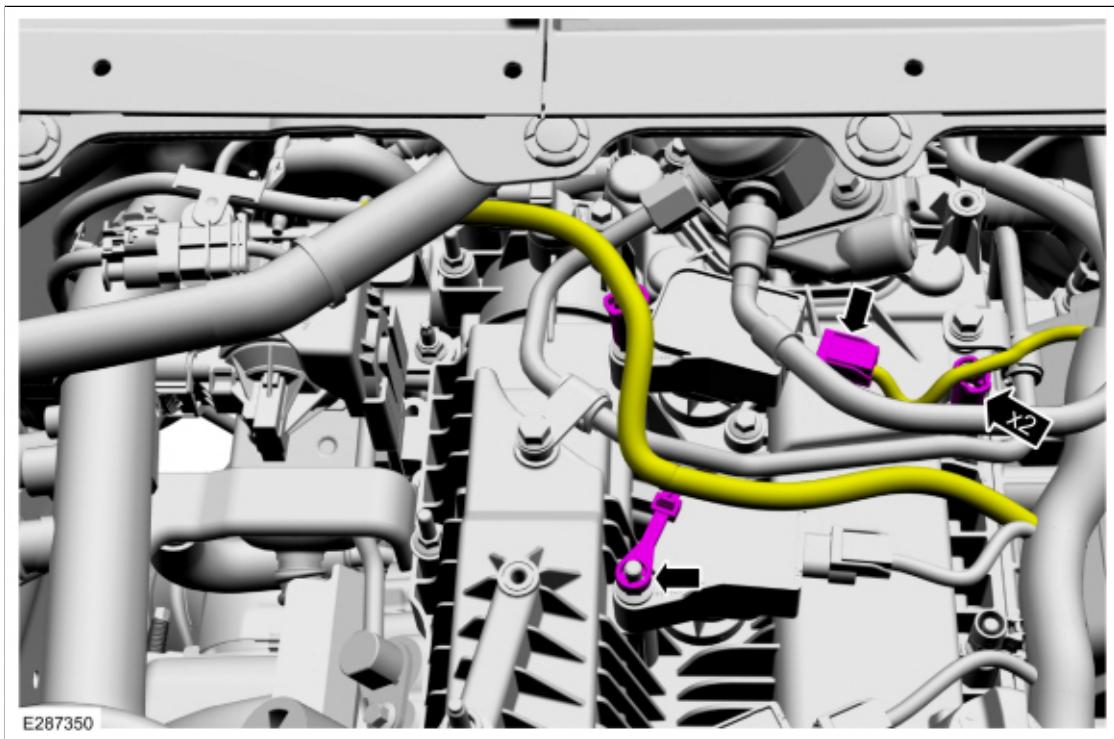
7. **NOTE:** When removing or installing the high-pressure fuel pump noise insulator, spreading the openings will reduce the risk of damage.

Remove the high-pressure fuel pump noise insulator.



8. Disconnect the electrical connector, then detach the wiring harness retainers and move the wire harness

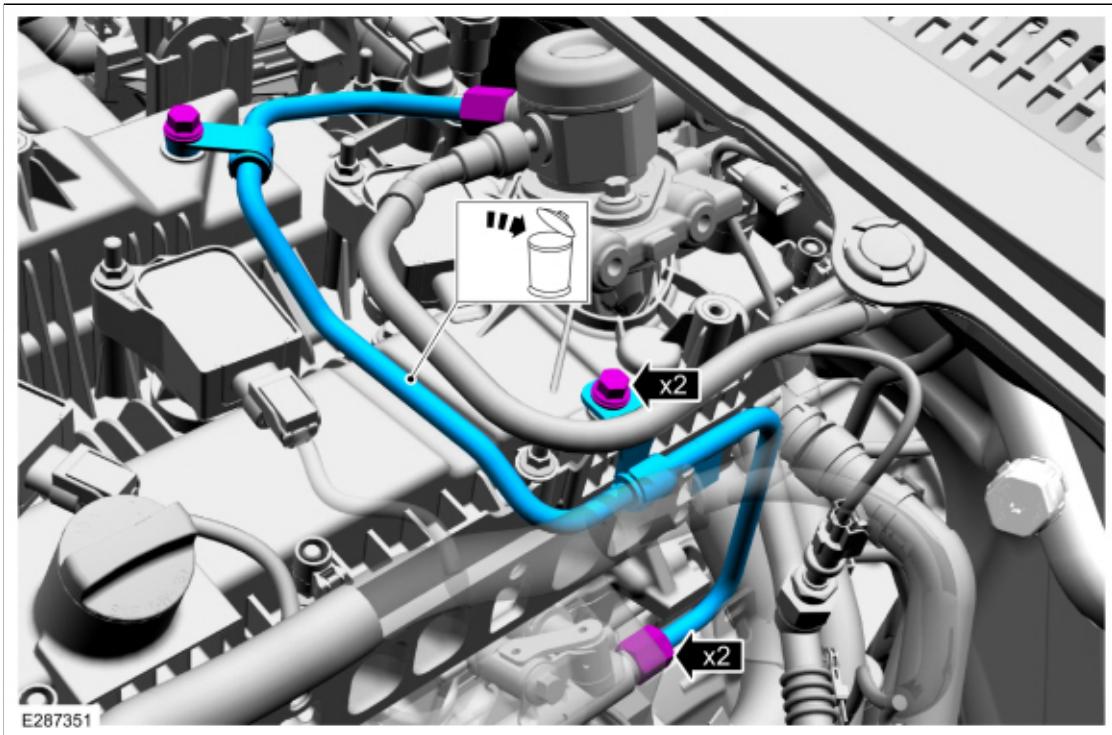
out of the way.



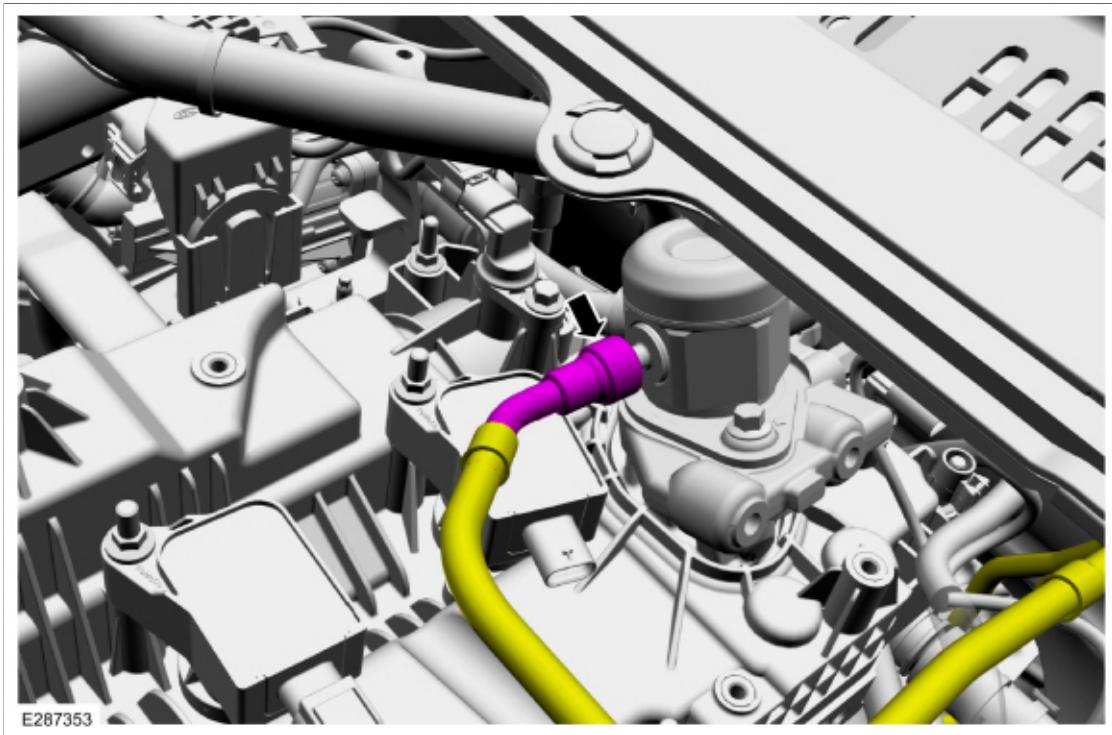
9. **NOTICE: To release the fuel pressure in the high-pressure fuel tube, wrap the high-pressure fuel pump flare nut with a shop towel to absorb any residual fuel pressure during the loosening of high-pressure fuel pump flare nut.**

Remove the high-pressure fuel tube bracket bolts. Loosen the high-pressure fuel tube flare nuts, then disconnect, remove and discard the high-pressure fuel tube.





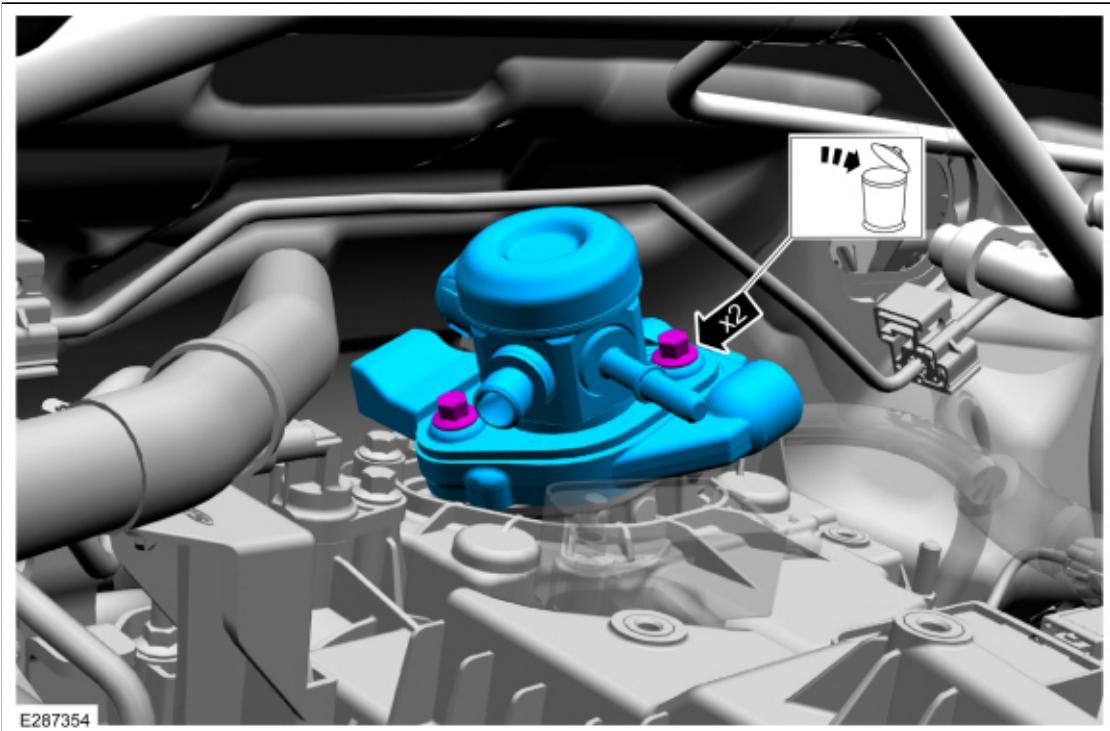
10. Disconnect the high-pressure fuel pump fuel feed tube spring lock coupling.
Refer to: [Spring Lock Couplings](#) (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS), General Procedures).



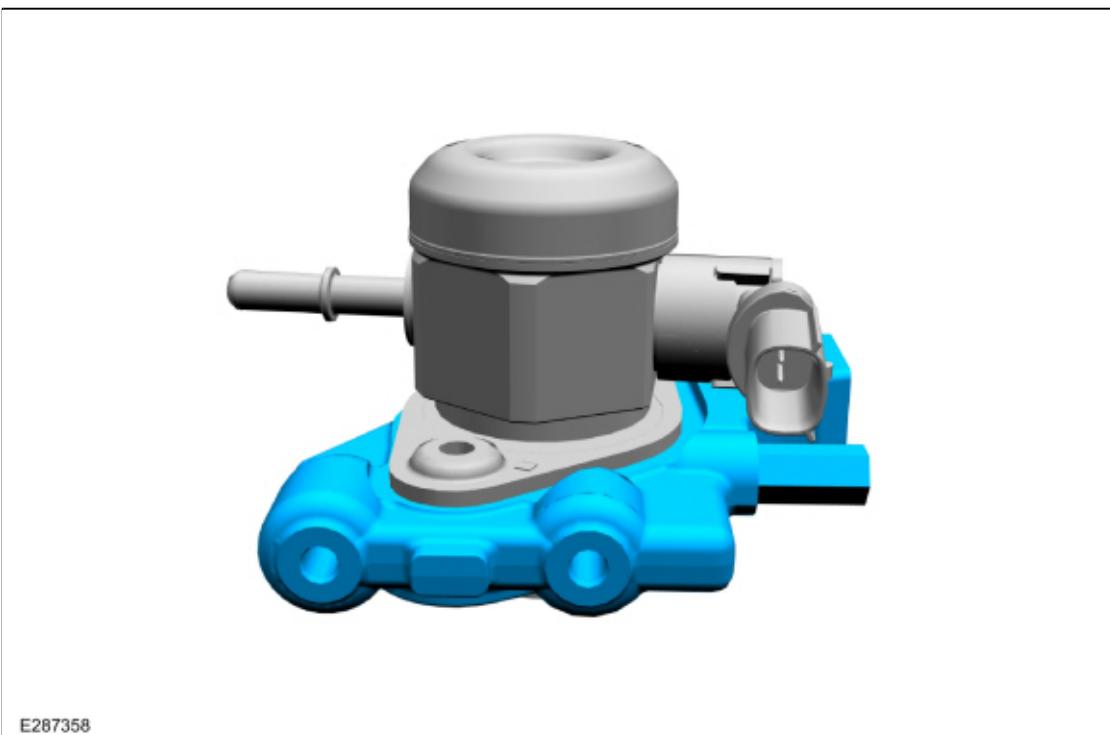
11.
 - Alternately loosen the high-pressure fuel pump bolts one complete revolution at a time. Remove

and discard the high-pressure fuel pump bolts.

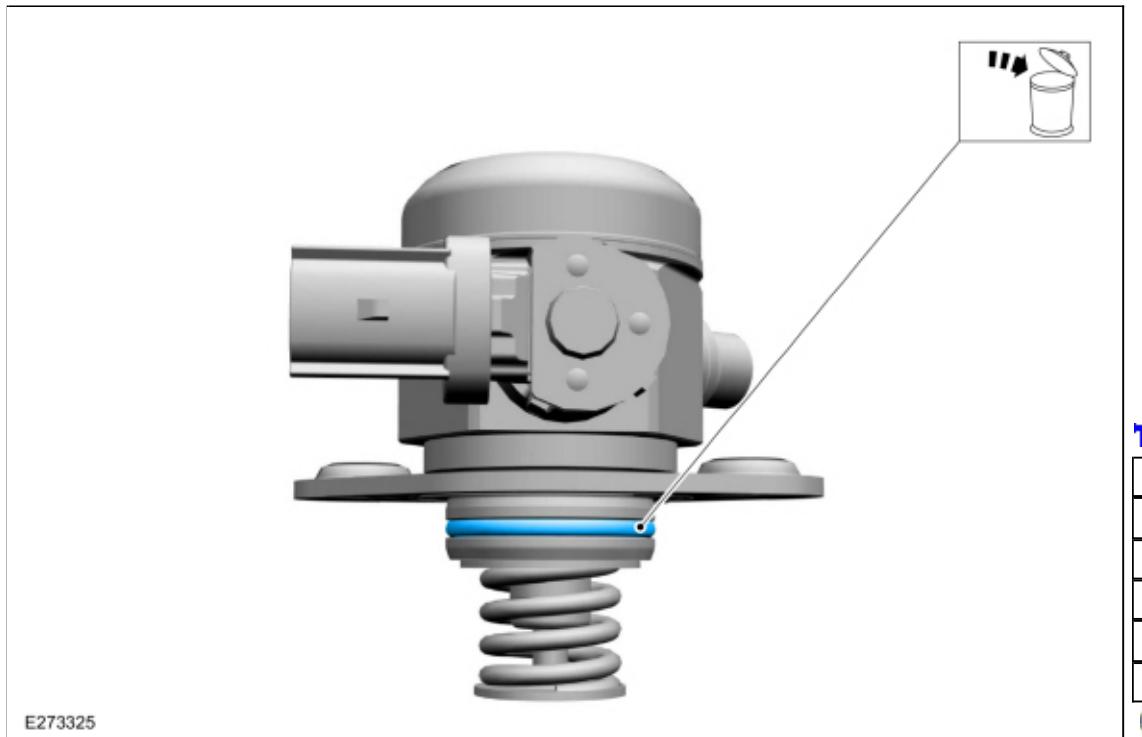
- Remove the high-pressure fuel pump and the mounting plate.



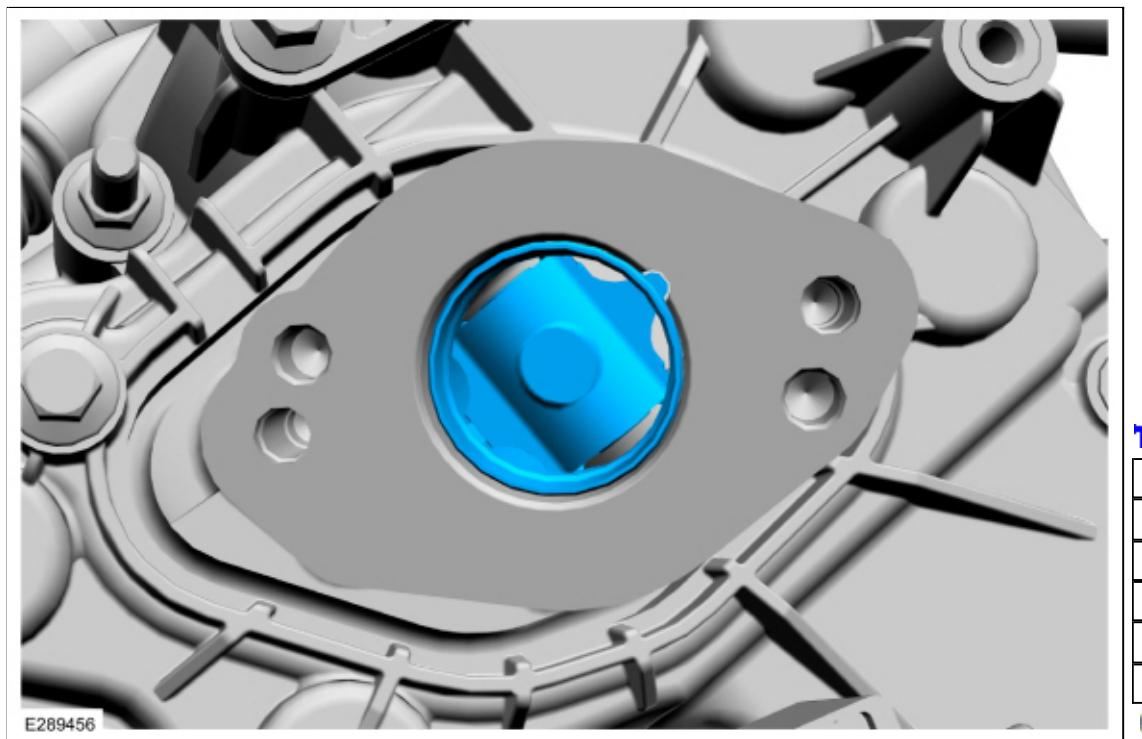
12. Remove the mounting plate from the high-pressure fuel pump.



13. Remove and discard the high-pressure fuel pump O-ring seal.



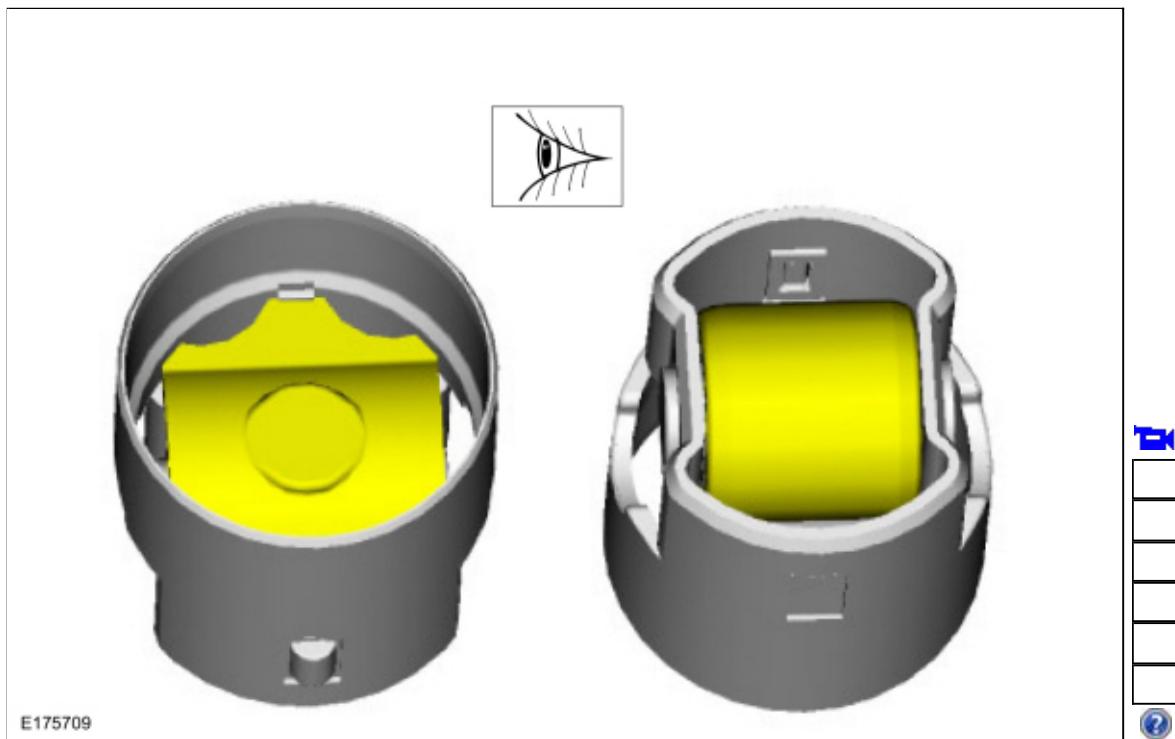
14. Remove the high-pressure fuel pump roller tappet.



Installation

1. Inspect the high-pressure fuel pump roller tappet. If any flat spots or scoring are found, especially in the indicated areas, then inspect the high-pressure fuel pump and the high-pressure fuel pump roller tappet

drive lobe. Install new components as needed.

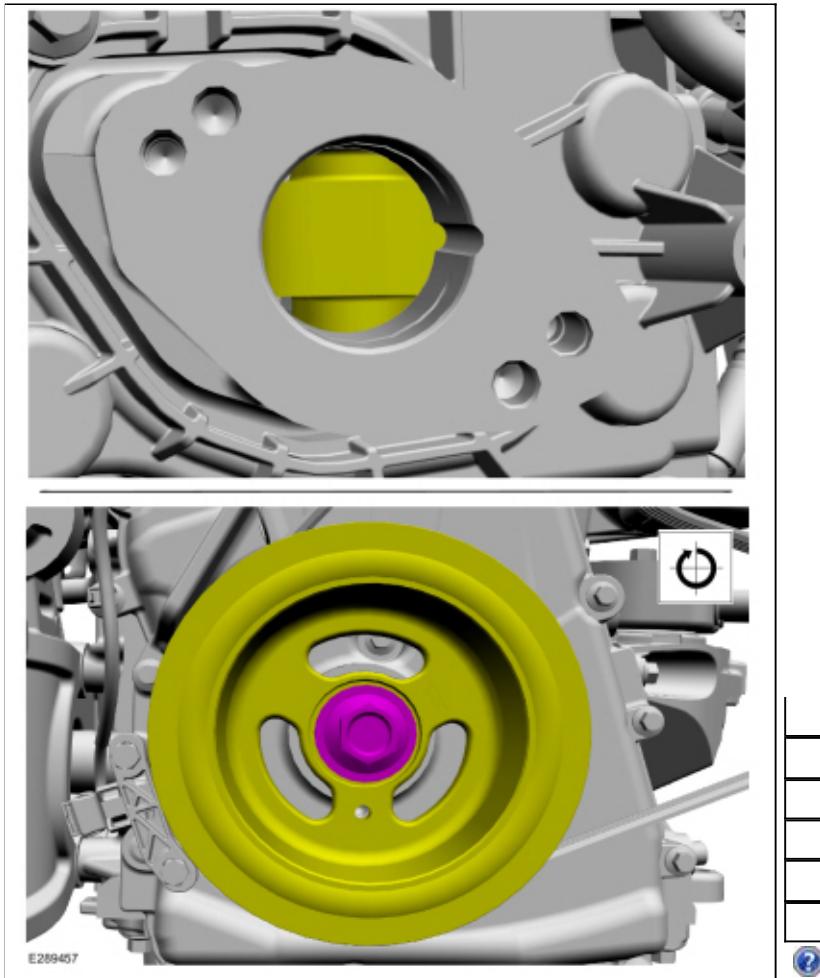


2. NOTICE: Only rotate the crankshaft Clockwise (CW) or damage to the engine may occur.

NOTE: *The cam lobe for the high-pressure fuel pump must be at BDC for the high-pressure fuel pump installation.*

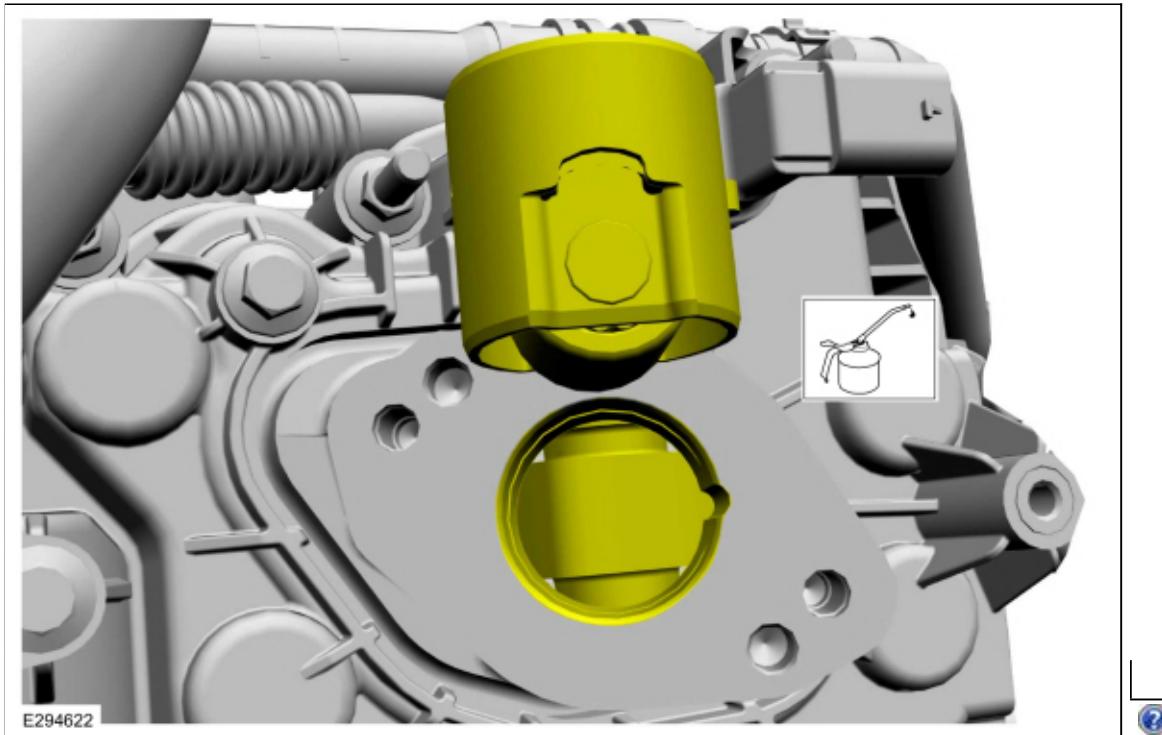
Using the crankshaft pulley bolt, turn the crankshaft until the high-pressure fuel pump cam lobe is at BDC.





3. Apply clean engine oil to the high-pressure fuel pump drive unit bore, the drive lobe and the roller tappet. Refer to: [Specifications](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Specifications).





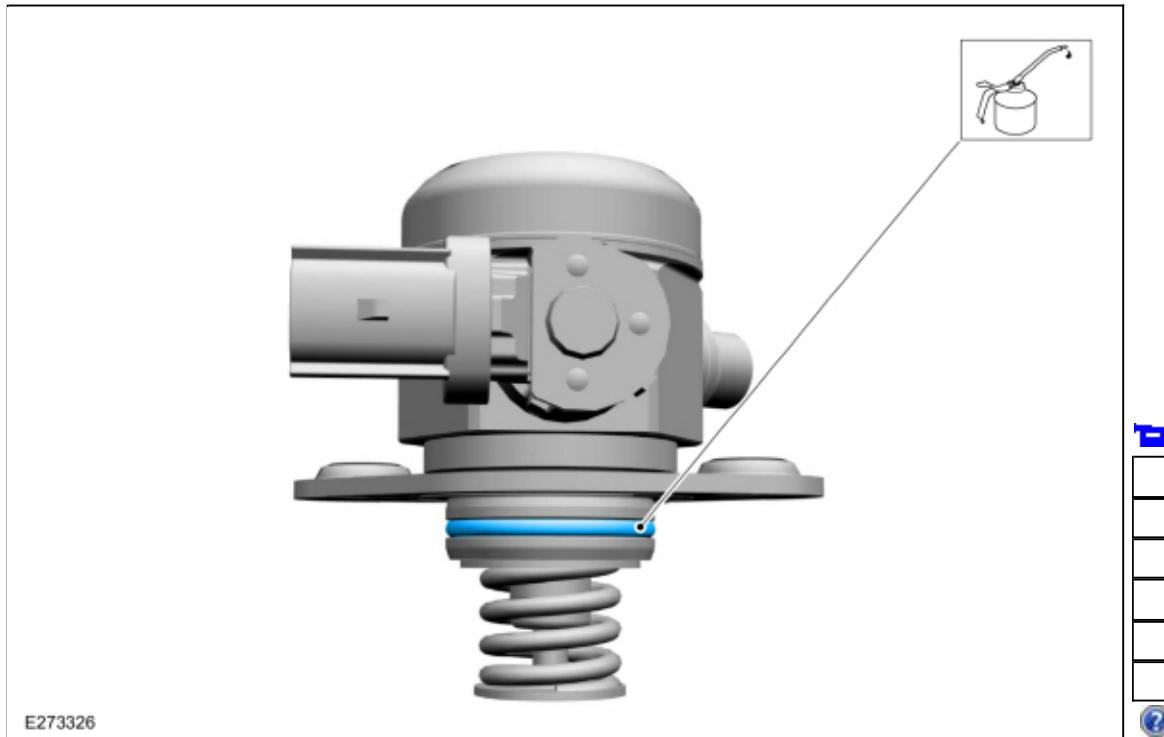
4. **NOTICE: The roller tappet's roller goes down towards the camshaft.**

NOTE: Align the notch on the high-pressure fuel pump tappet and with the groove in the high-pressure fuel pump drive unit bore.

Install the high-pressure fuel pump roller tappet.

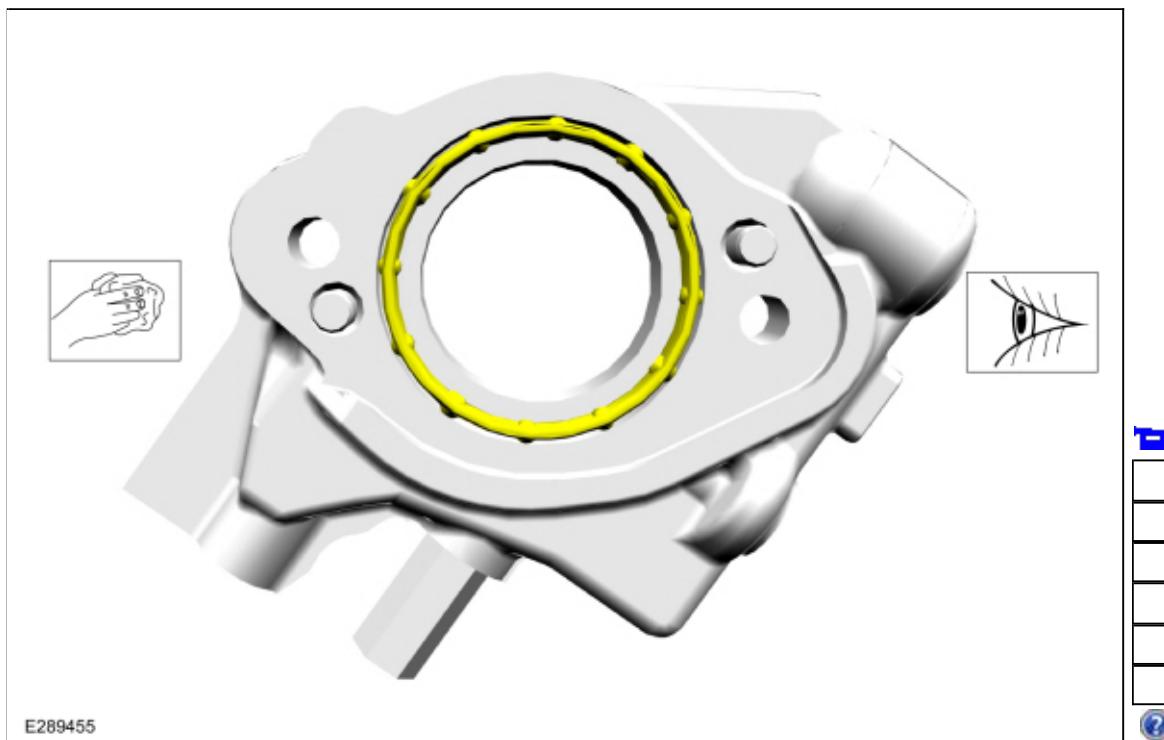


5. Install a new high-pressure fuel pump O-ring seal, apply clean engine oil to the O-ring seal. Refer to: [Specifications](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Specifications).

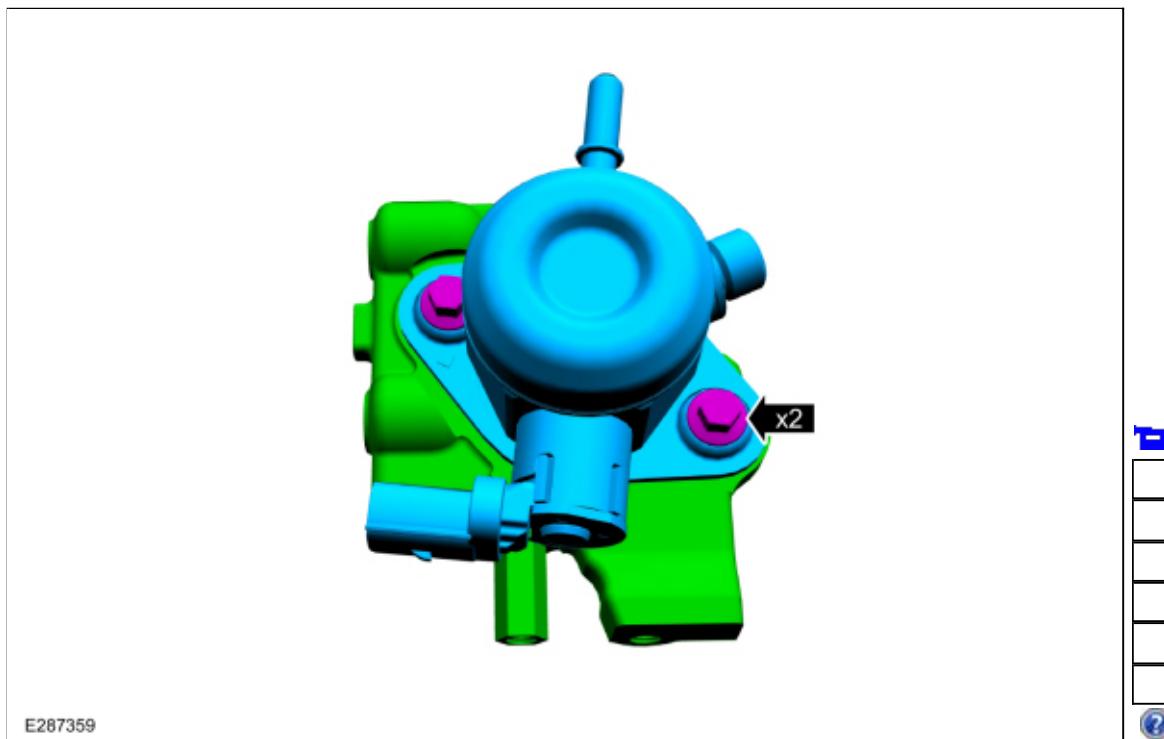


6. **NOTE:** Make sure that the mating faces are clean and free of foreign material.

Inspect the mounting plate gasket, clean and replace the mounting plate gasket as needed.



7. Install the mounting plate and the new bolts to the high-pressure fuel pump.



8. **NOTE:** *Install new high-pressure fuel pump bolts.*

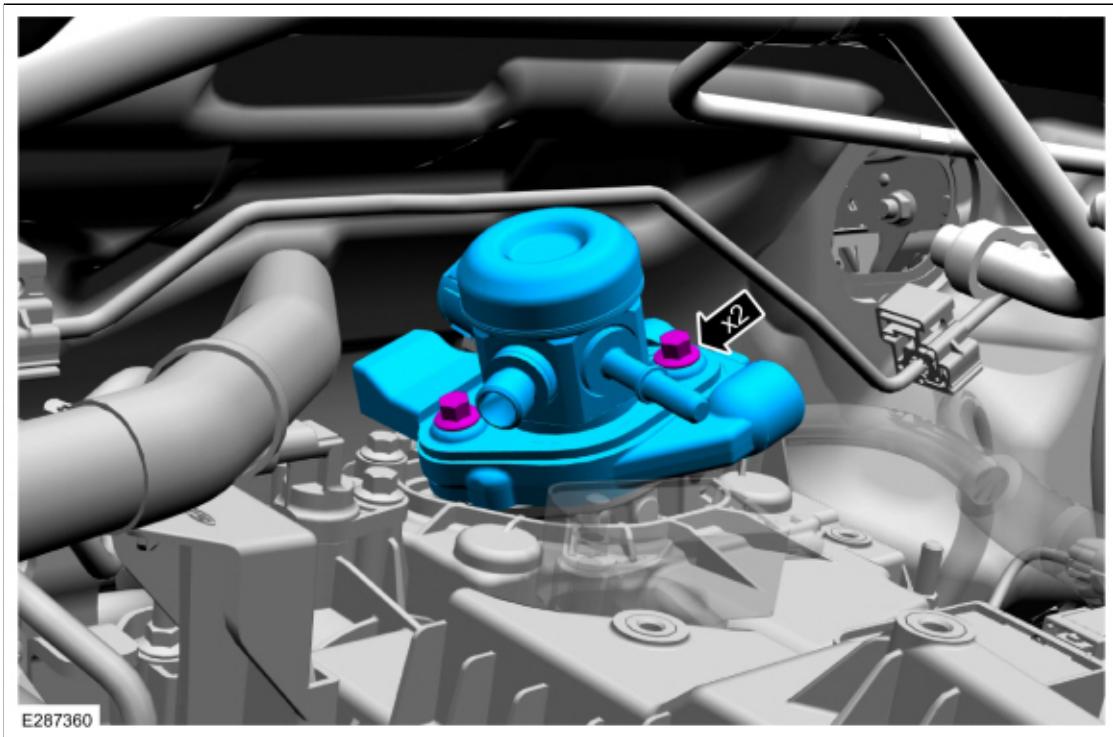
Install the high-pressure fuel pump with the mounting plate with the new high-pressure fuel pump bolts. Alternately tighten each bolt 1/2 of a revolution until seated, then tighten in the following 2 stages.

Torque:

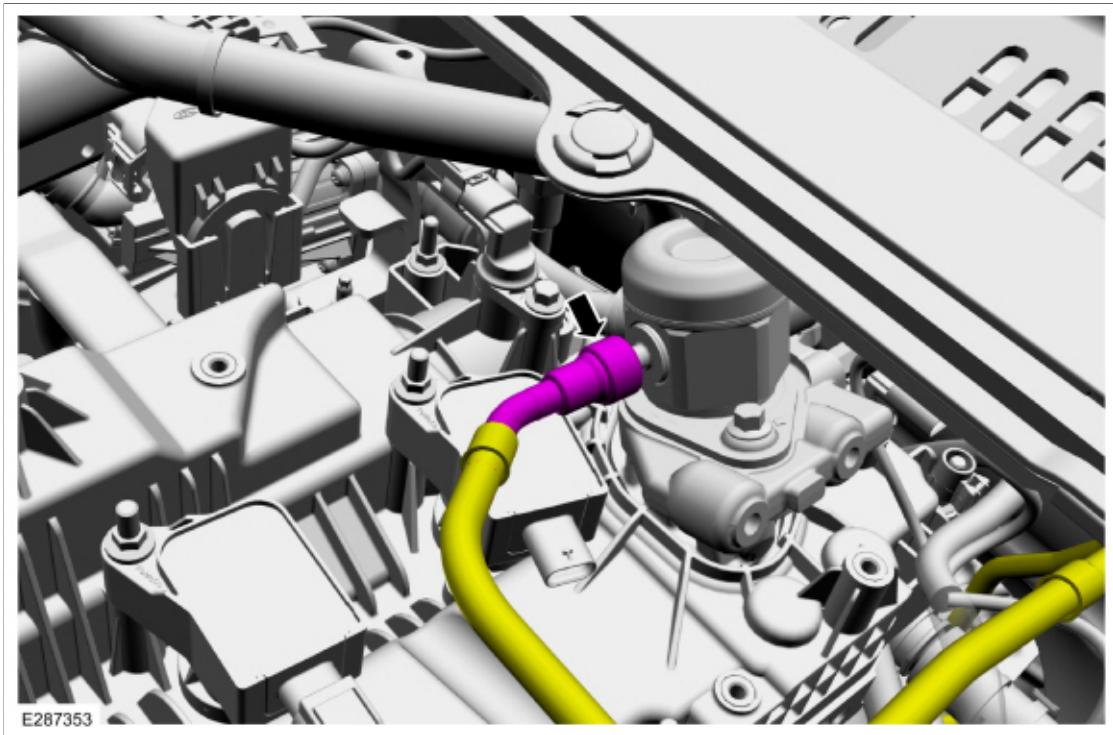
Stage 1: Tighten to: : 115 lb.in (13 Nm)

Stage 2: Tighten an additional: : 45°





9. Connect the high-pressure fuel pump fuel feed tube spring lock coupling. Refer to: [Spring Lock Couplings](#) (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS), General Procedures).



10. **NOTE:** Make sure that a new high-pressure fuel tube is installed.

1. Install the new high-pressure fuel tube and the bracket bolts, then tighten the high pressure fuel tube flare nuts and the bracket bolts only finger tight at this stage.
2. Calculate the correct torque wrench setting for the following torque using the Torque Wrench Adapter Formulas.

Torque:

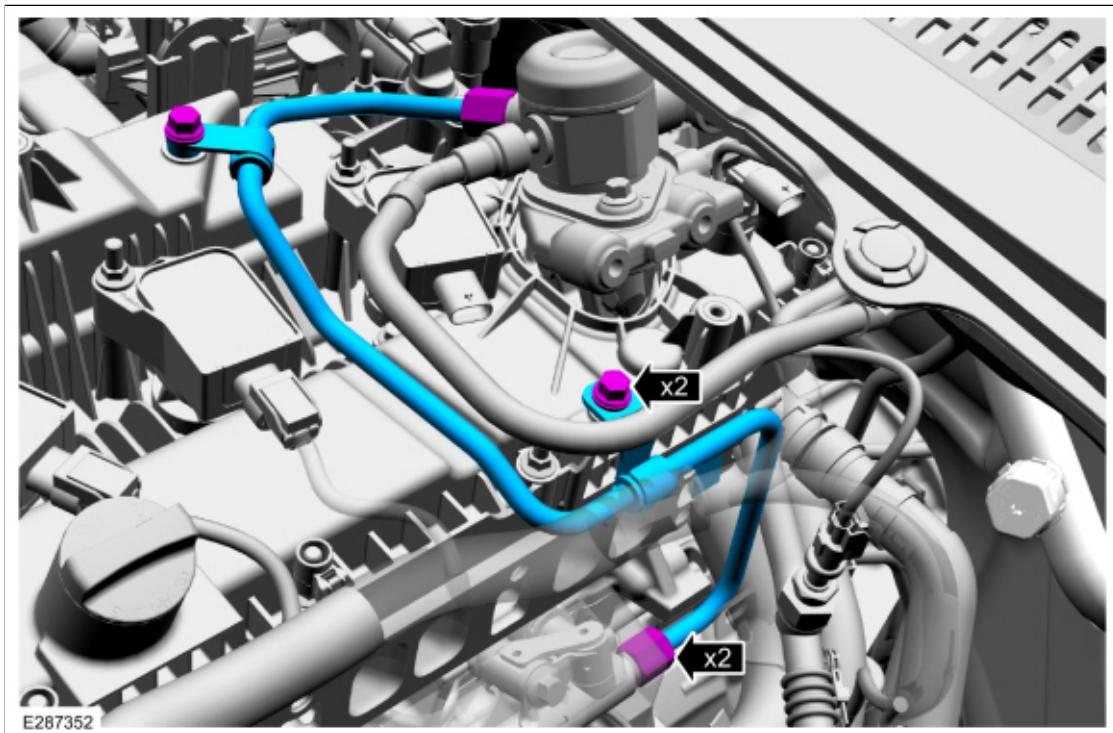
High pressure fuel tube flare nuts, :

Stage 1: Tighten to: : 62 lb.in (7 Nm)

Stage 2: Tighten to: : 89 lb.in (10 Nm)

Stage 3: Tighten an additional: : 38°

High-pressure fuel tube bracket bolts, tighten to: : 97 lb.in (11 Nm)



11. Connect the electrical connector, then attach the wiring harness retainers.

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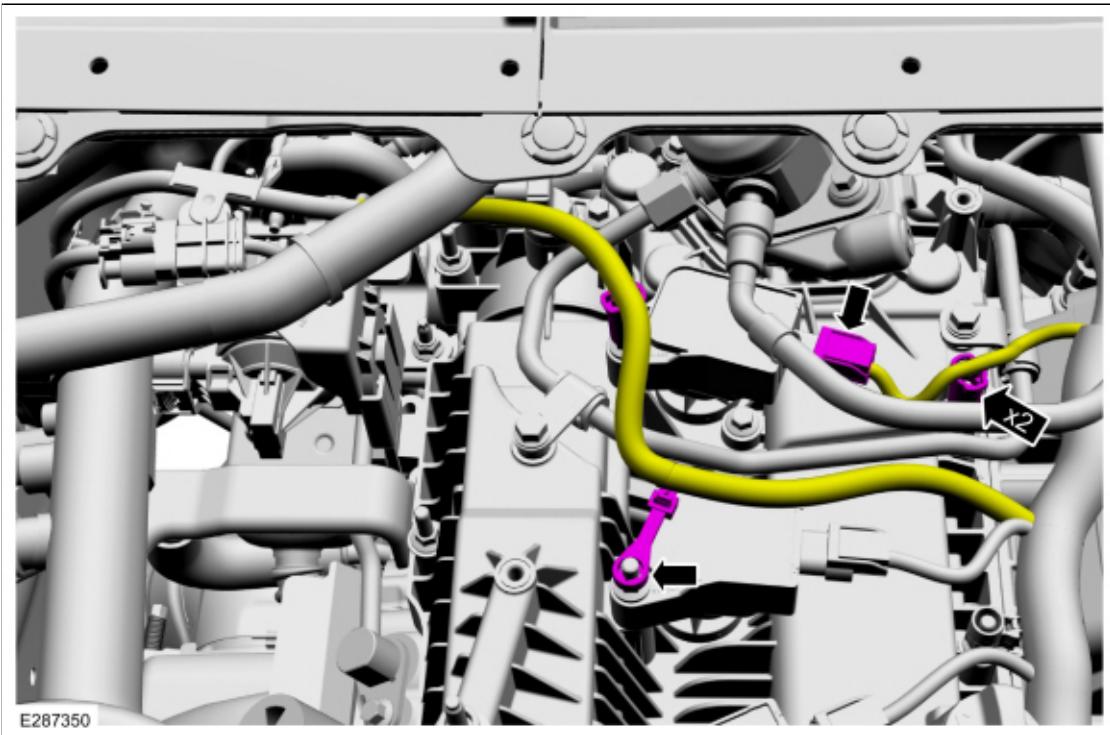
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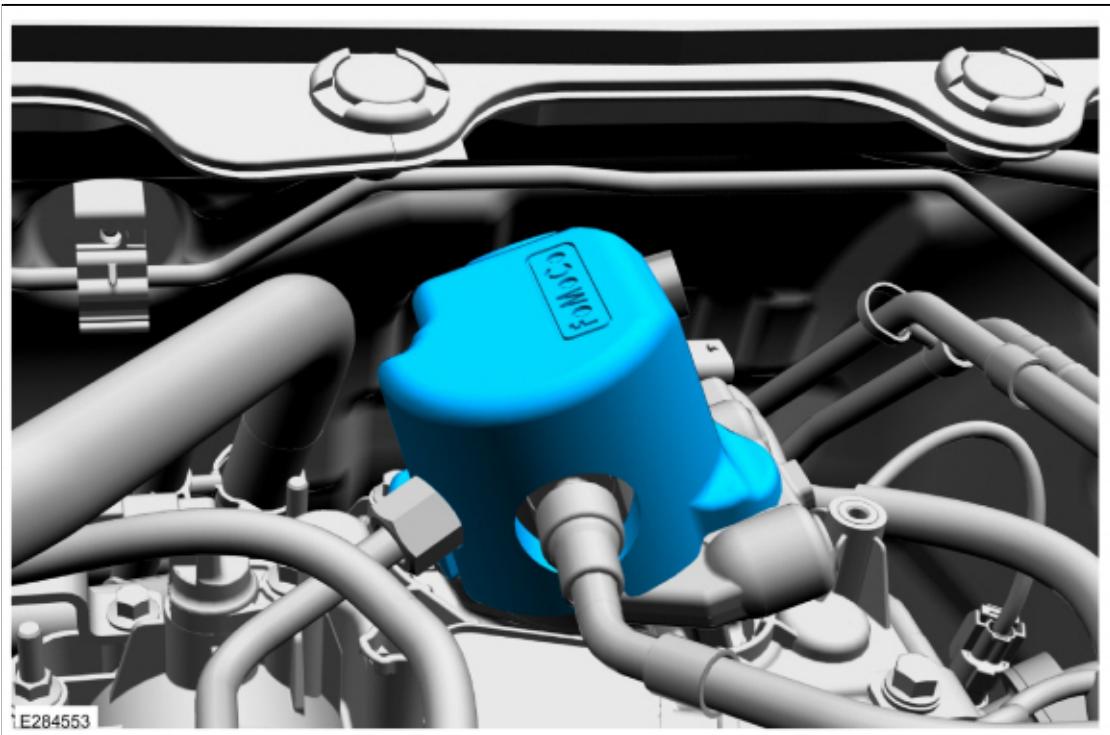
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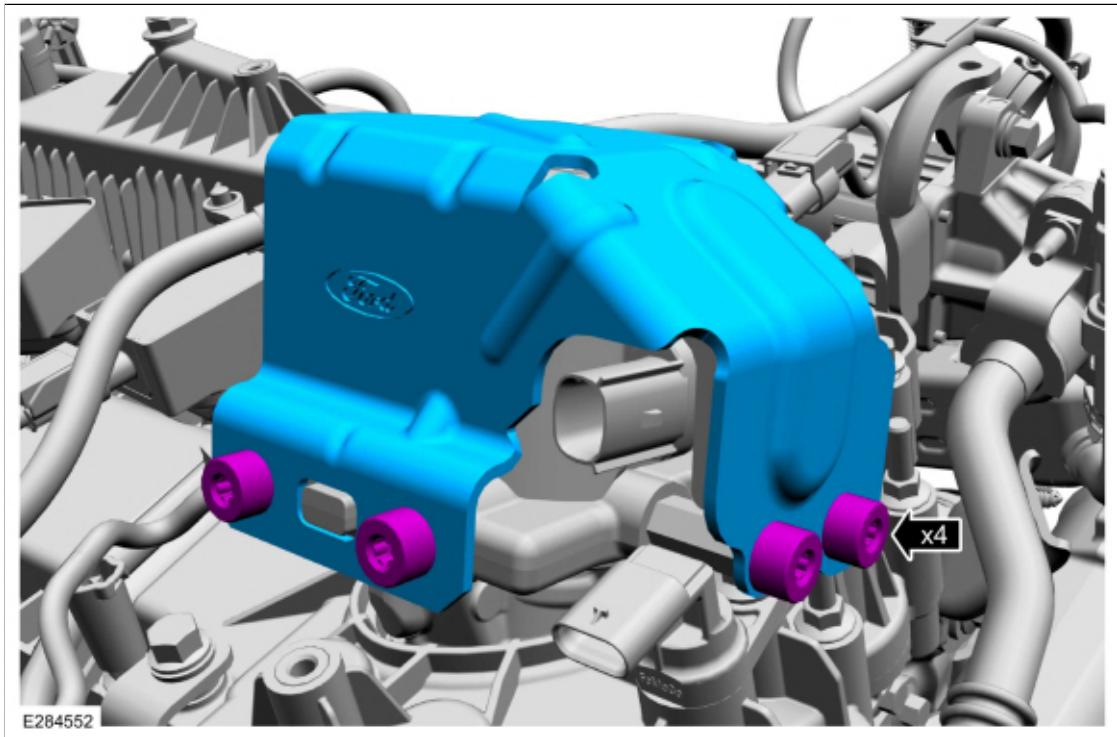
12. **NOTE:** When removing or installing the high-pressure fuel pump noise insulator, spreading the openings will reduce the risk of damage.

Install the high-pressure fuel pump noise insulator.

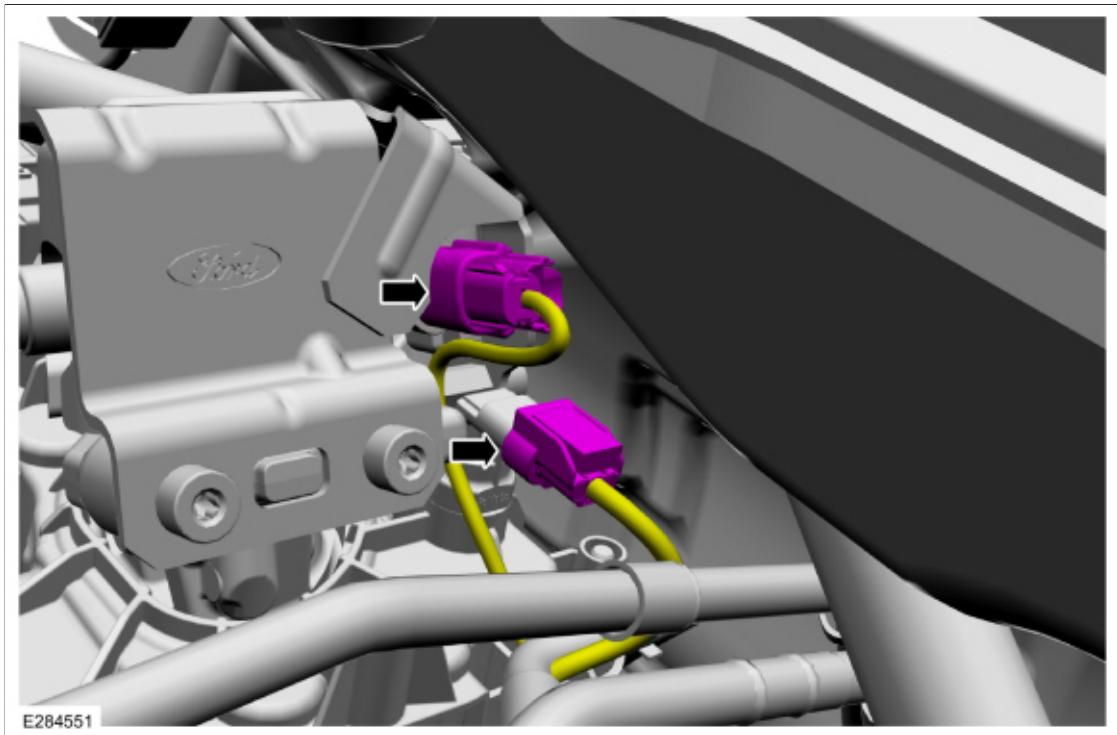


13. Install the high-pressure fuel pump bracket, then install and tighten the bolts.

Torque: 97 lb.in (11 Nm)



14. Connect the high-pressure fuel pump and the camshaft position sensor electrical connectors.



15. Install the intake manifold.

Refer to: [Intake Manifold](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Removal and Installation).

16. Connect the battery negative cable.
Refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).
17. Pressurize the fuel system.
Refer to: [Fuel System Pressure Release](#) (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS), General Procedures).

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