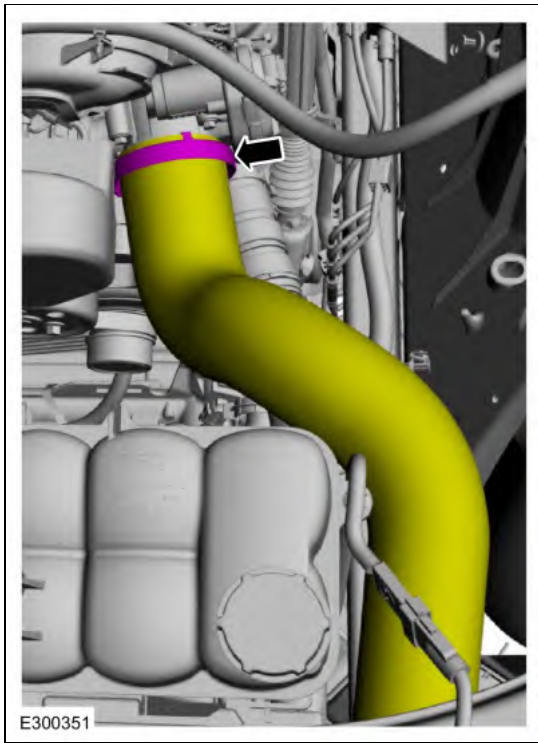
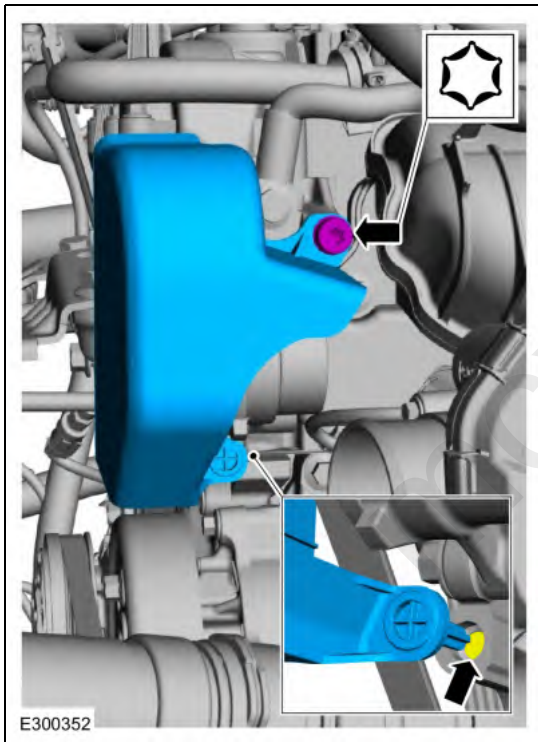
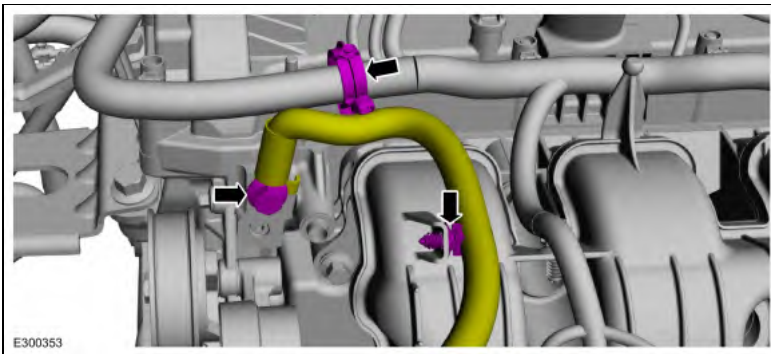


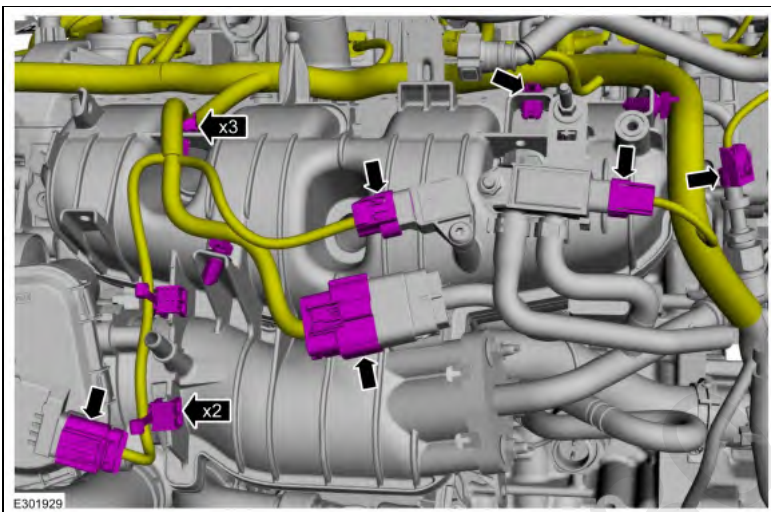
9. Remove the bolt (Enhanced Hexalobular or TORX PLUS Â® Acument Intellectual Properties, LLC as the owner) and the shield.



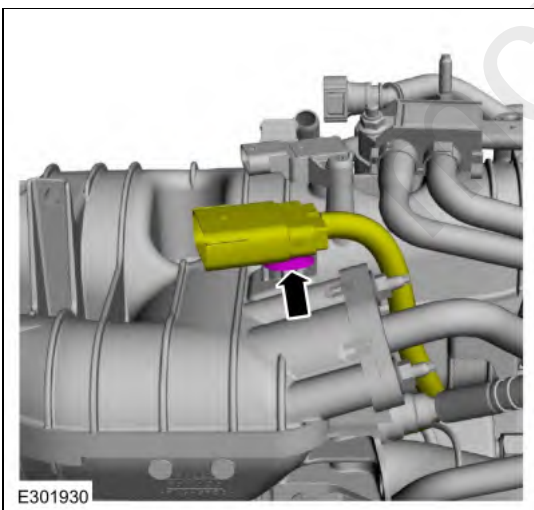
10. Detach the retainers, remove the bolt and position the ground wire aside.



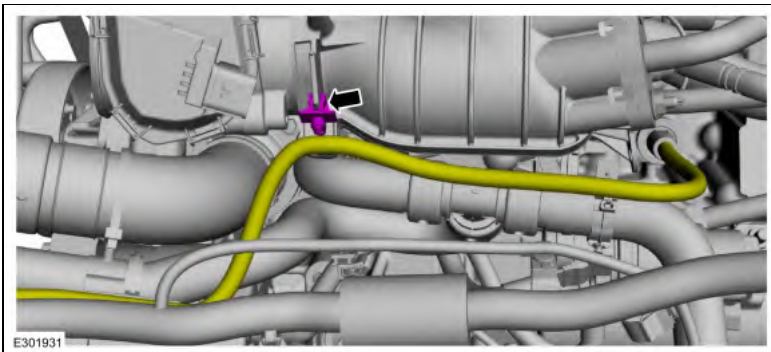
- 11.
- Disconnect the wiring harness electrical connectors.
 - Detach the wiring harness retainers.



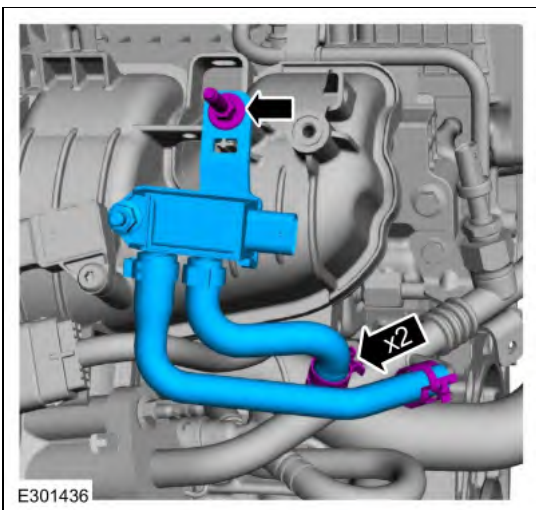
12. Detach the fuel rail wiring harness retainer from the intake manifold.



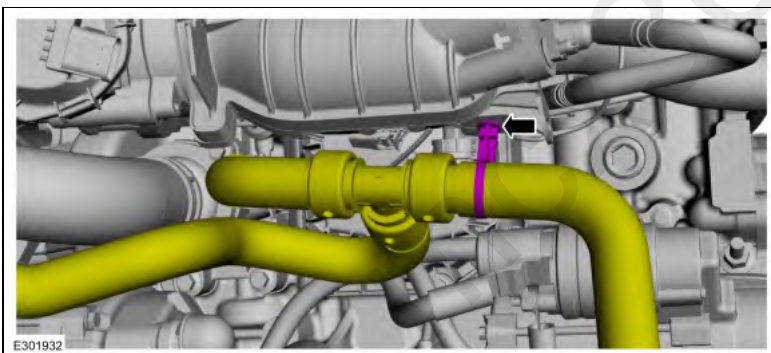
13. If equipped, detach the block heater wiring harness retainer from the intake manifold.



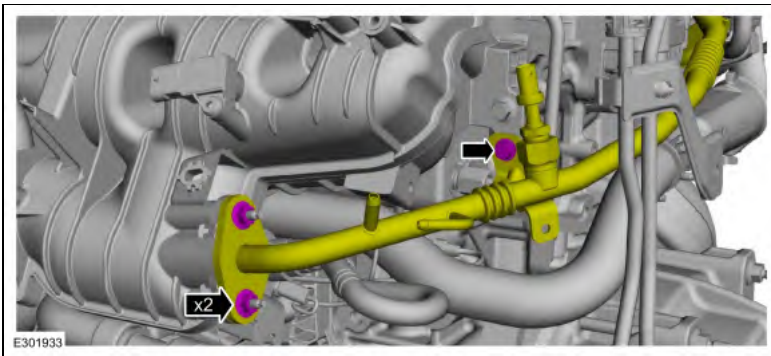
- 14.
- Loosen the clamps and remove the EGR transducer hoses.
 - Remove the bolt and the EGR transducer assembly.



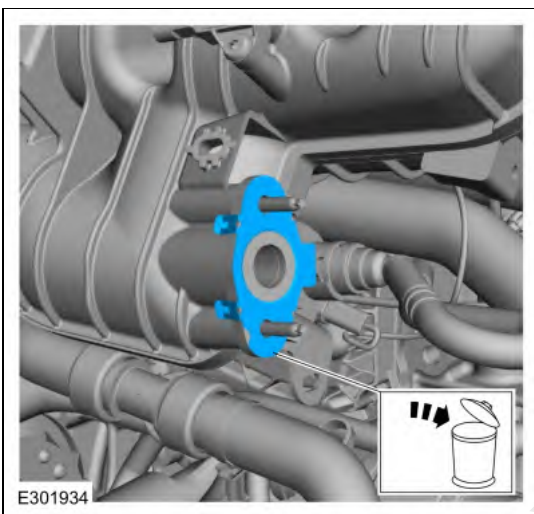
15. Detach the coolant hose retainer from the bottom of intake manifold.



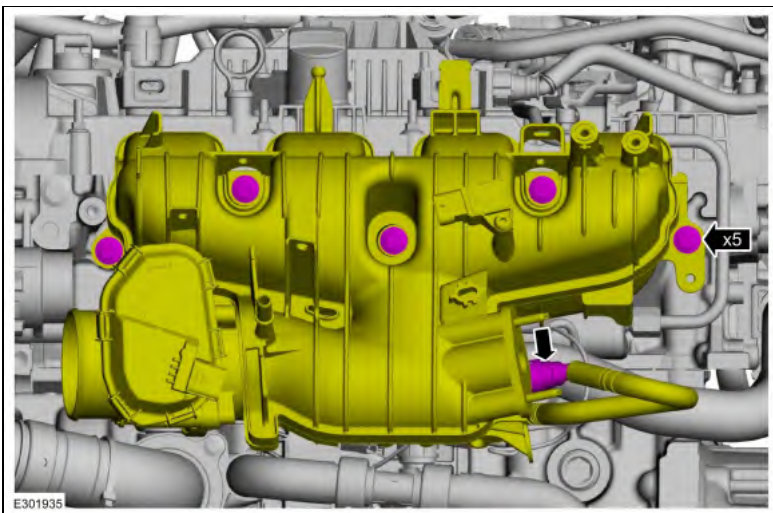
16. Remove the nuts, bolt and position the EGR inlet tube assembly from intake manifold.



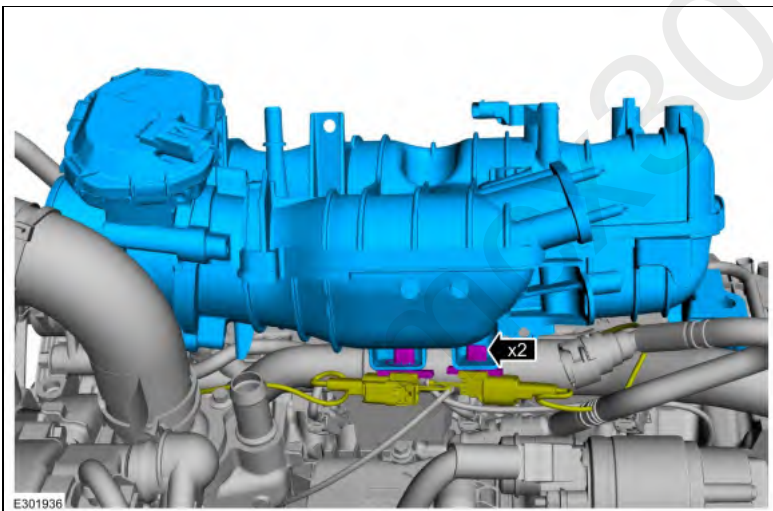
17. Remove and discard the EGR inlet tube assembly gasket.



- 18.
- Disconnect the crankcase vent oil separator tube quick release coupling from the intake manifold.
Refer to: Quick Release Coupling (310-00 Fuel System- General Information - 2.3L EcoBoost (201kW/273PS)) .
 - Remove the bolts and position the intake manifold forward.

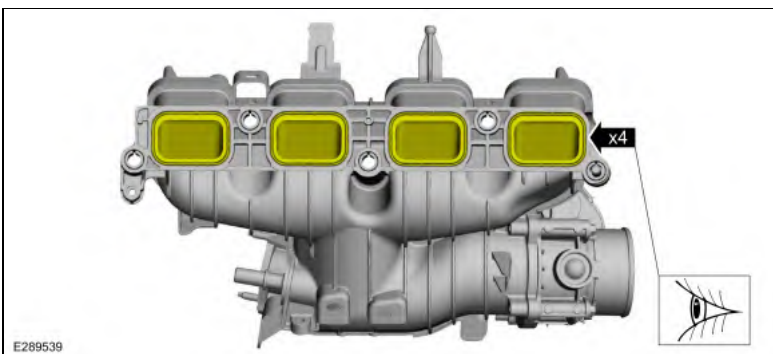


19. Detach the KS electrical connector retainers and remove the intake manifold.



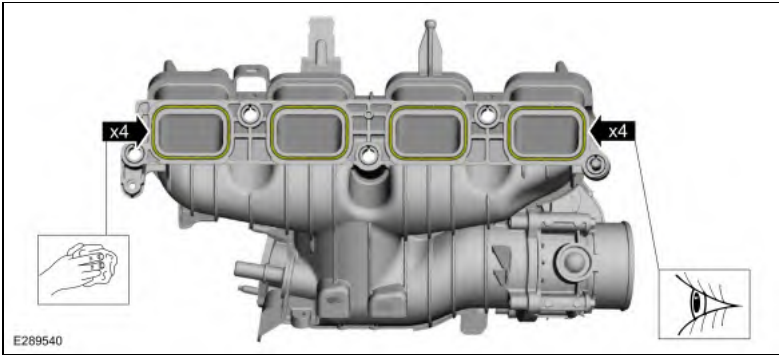
20. **NOTICE:** If the engine is repaired or replaced because of upper engine failure, typically including valve or piston damage, check the intake manifold for metal debris. If metal debris is found, install a new intake manifold. Failure to follow these instructions can result in engine damage.

- Visually inspect the intake manifold for metal debris.



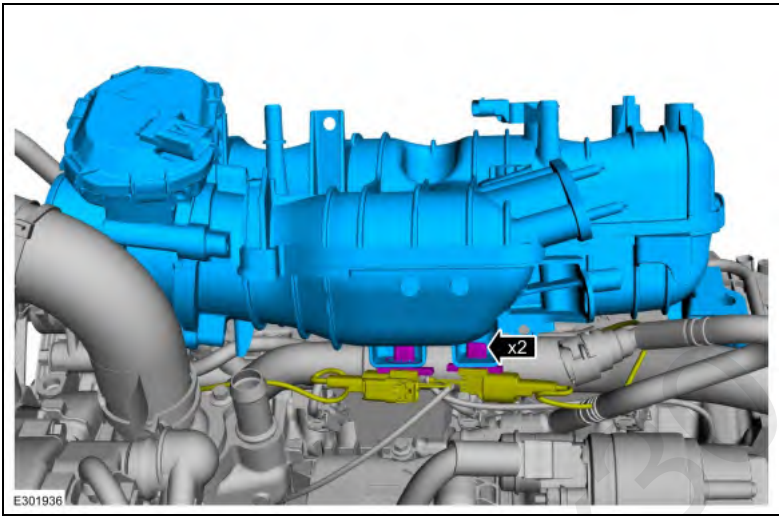
21.

- Visually inspect the intake manifold gaskets for nicks, cuts and abrasions. If these conditions are not present, the gaskets may be reused.
- Clean and inspect all of the sealing surfaces of the intake manifold.

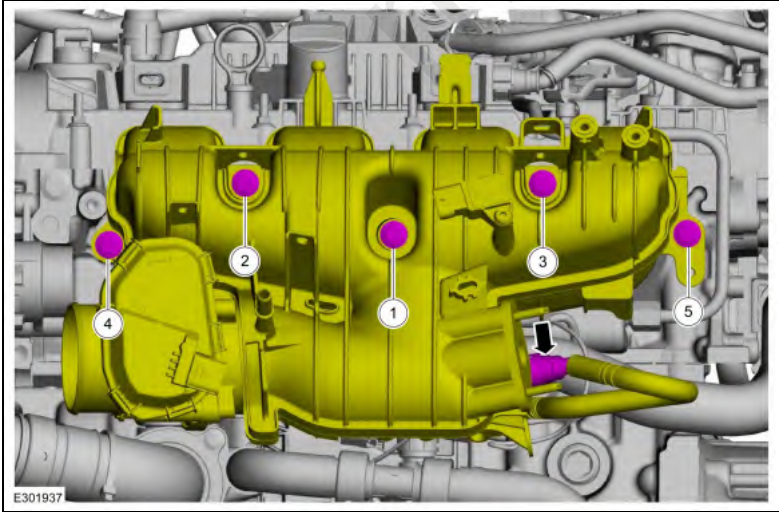


Installation

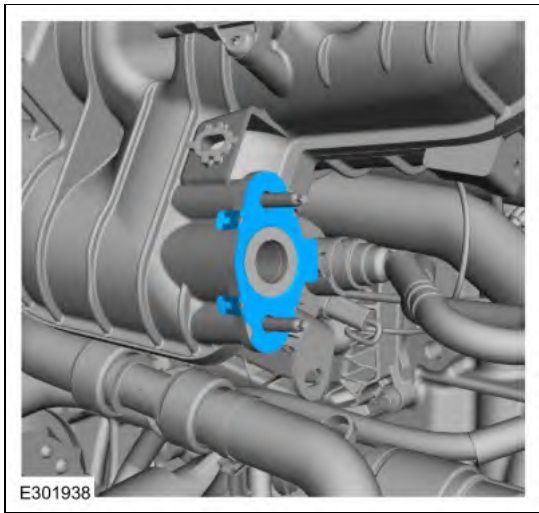
1. Inspect the turbocharger or engine air intake system components and clean, if necessary.
2. Install the intake manifold and attach the KS electrical connector retainers.



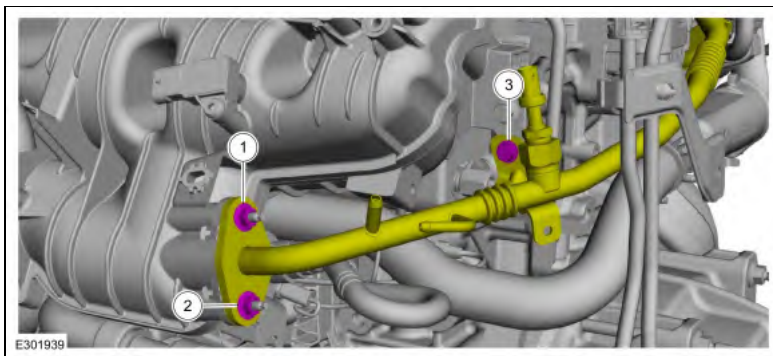
3.
 - Position the intake manifold and install the bolts and tighten in sequence shown.
Torque: 18 lb.ft (25 Nm)
 - Connect the crankcase vent oil separator tube quick release coupling to the intake manifold.
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS)).



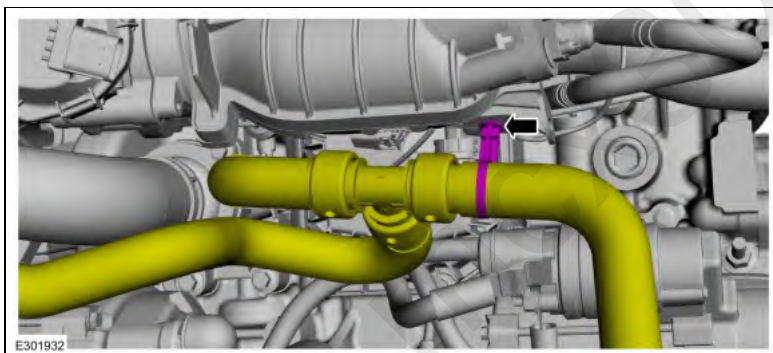
4. Install a new EGR inlet tube assembly gasket.



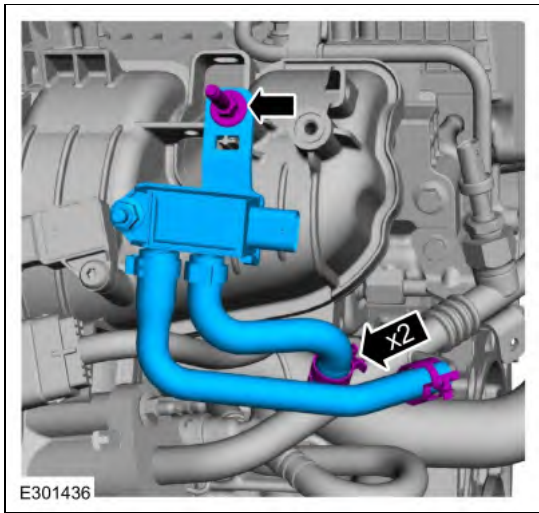
5. Position the EGR inlet tube assembly to intake manifold and install the nuts and bolt and tighten in sequence shown.
Torque: 97 lb.in (11 Nm)



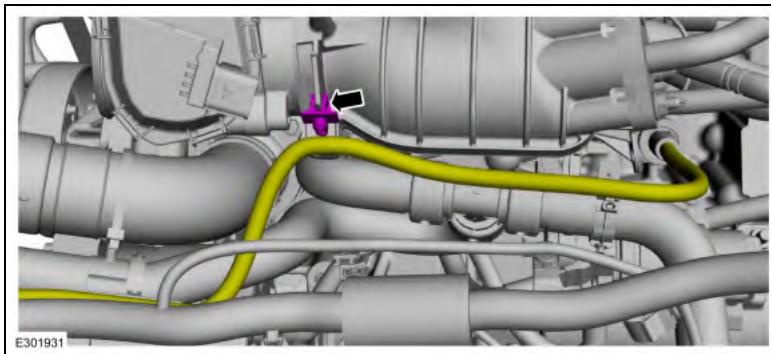
6. Attach the coolant hose retainer to the bottom of intake manifold.



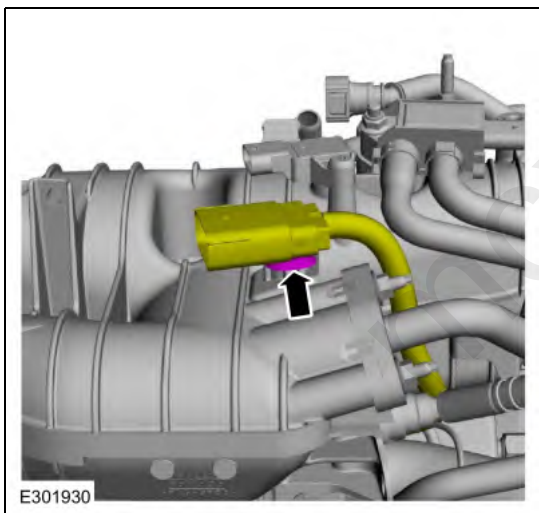
- 7.
- Install the EGR transducer assembly and the bolt.
Torque: 97 lb.in (11 Nm)
 - Install the EGR transducer hoses.



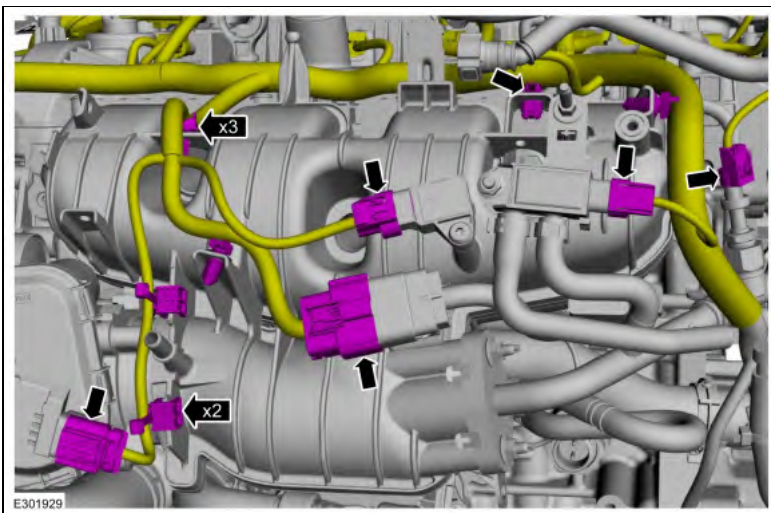
8. If equipped, attach the block heater wiring harness retainer to the intake manifold.



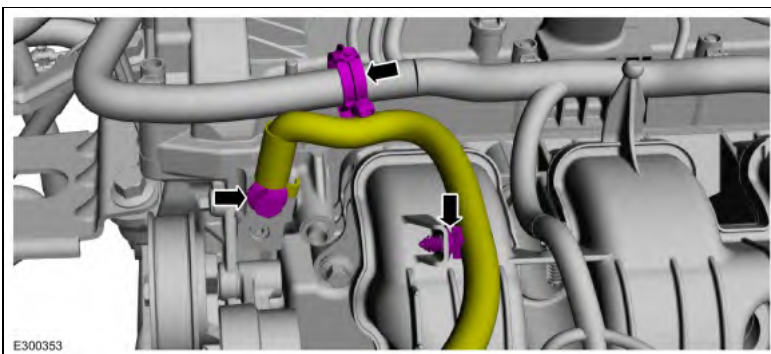
9. Attach the fuel rail wiring harness retainer to the intake manifold.



- 10.
- Connect the wiring harness electrical connectors.
 - Attach the wiring harness retainers.

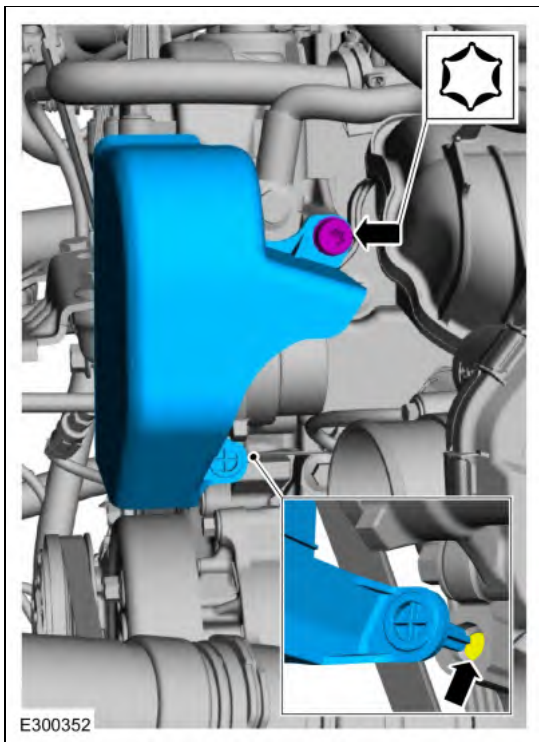


11. Position the ground wire and install the bolt and attach the retainers.
Torque: 159 lb.in (18 Nm)

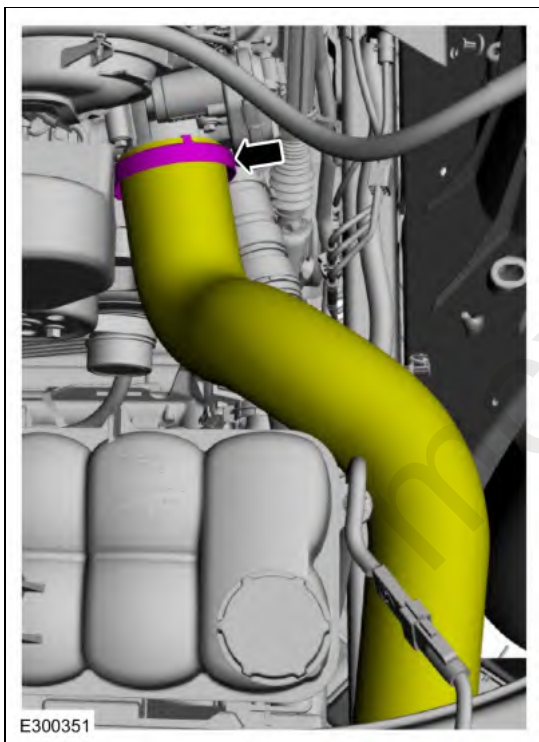


12. Install the shield and the bolt (Enhanced Hexalobular or TORX PLUS Â® Acument Intellectual Properties, LLC as the owner).
Torque: 18 lb.ft (25 Nm)



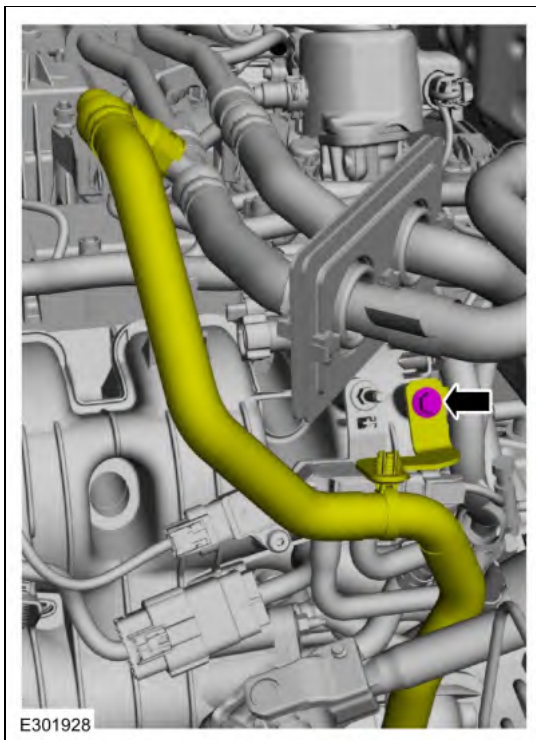


13. Position the CAC tube clamp and tighten the clamp.
Torque: 44 lb.in (5 Nm)

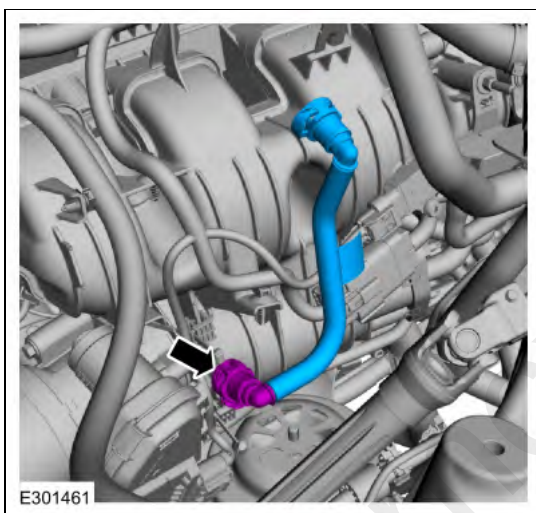


14. Position the coolant hose and bracket and install the bolt.
Torque: 97 lb.in (11 Nm)



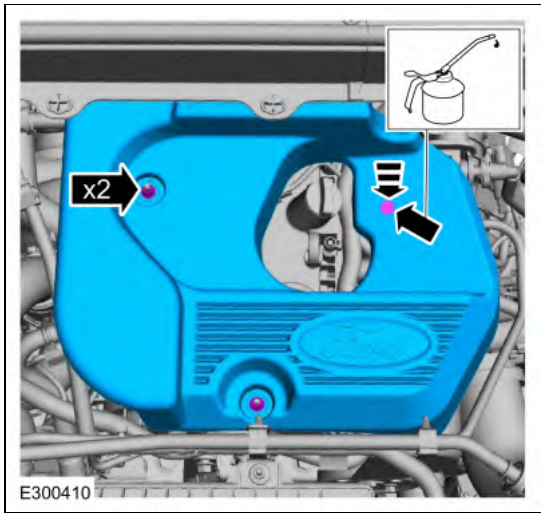


15. Install the EVAP canister tube and connect the quick release coupling to the intake manifold.
Refer to: Quick Release Coupling (310-00 Fuel System - General Information - 2.3L EcoBoost (201kW/273PS)) .

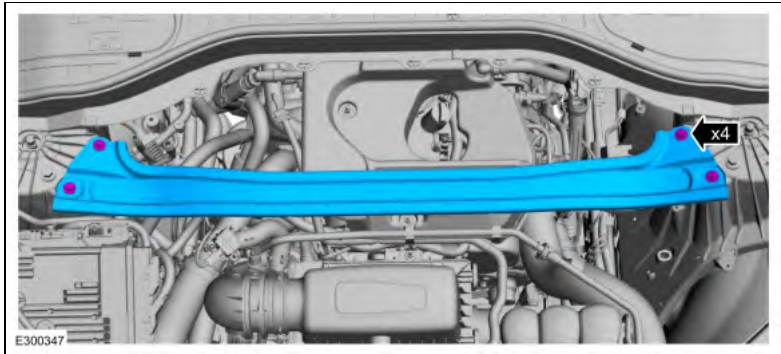


16. Install the following items:
1. Install the EVAP canister purge valve.
Refer to: Evaporative Emission Canister Purge Valve (303-13A Evaporative Emissions - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
 2. Install the cowl panel.
Refer to: Cowl Panel (501-02 Front End Body Panels, Removal and Installation).
17. Connect the battery ground.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).
- 18.
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 grommet aligned with the stud.
 3. Press down on the engine appearance cover at the grommet location to attach the grommet onto the stud and install the nuts.
Torque: 44 lb.in (5 Nm)



19. Install the suspension support bar and the bolts.
Torque: 22 lb.ft (30 Nm)



Oil Cooler

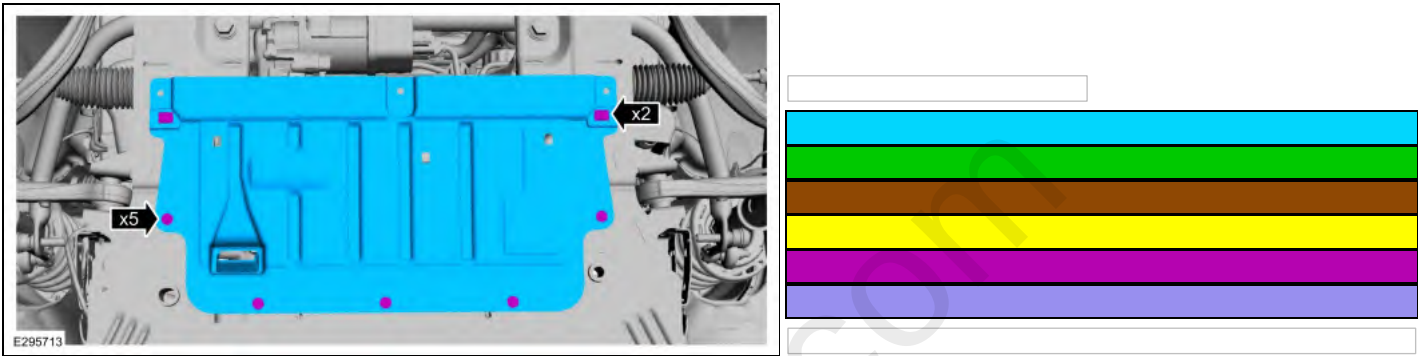
Special Tool(s) / General Equipment

Hose Clamp Remover/Installer
Locking Pliers

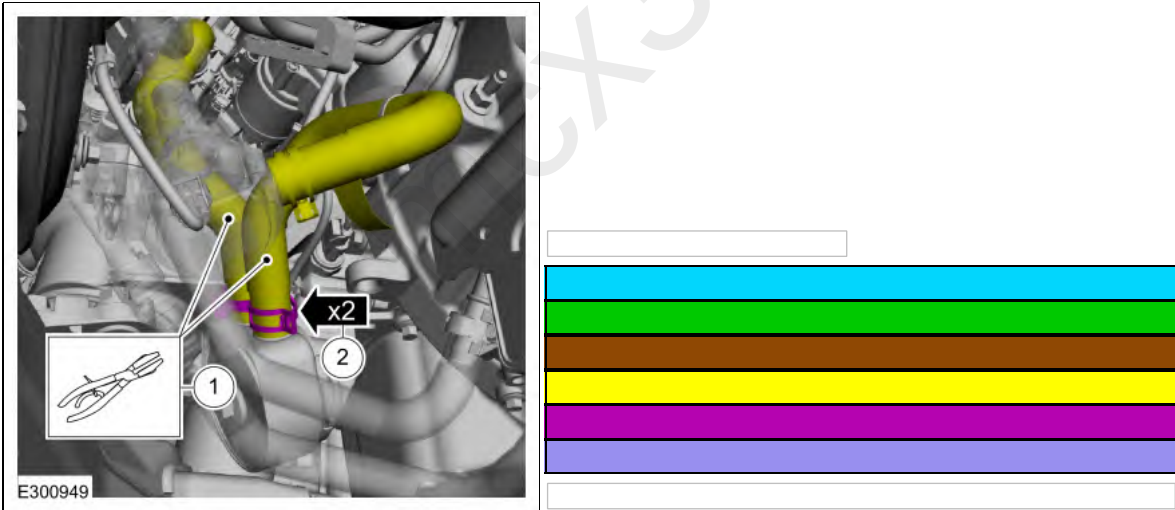
Removal

NOTE: 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. Remove the bolts and the pin-type retainers and the rear underbody shield.



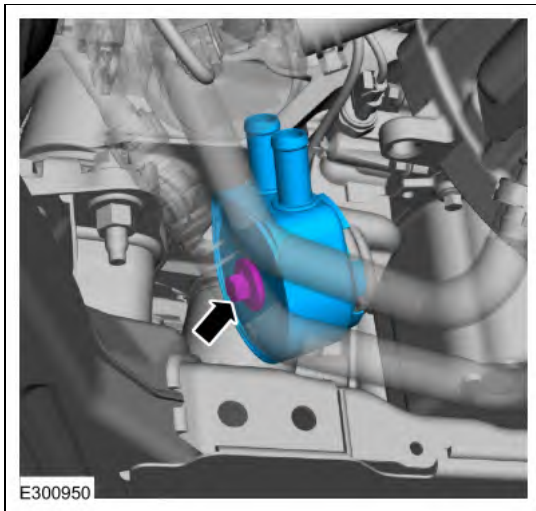
3.
1. Using hose locking pliers, clamp the oil cooler coolant hoses.
Use the General Equipment: Locking Pliers
2. Using the hose clamp remover, remove the coolant hoses.
Use the General Equipment: Hose Clamp Remover/Installer



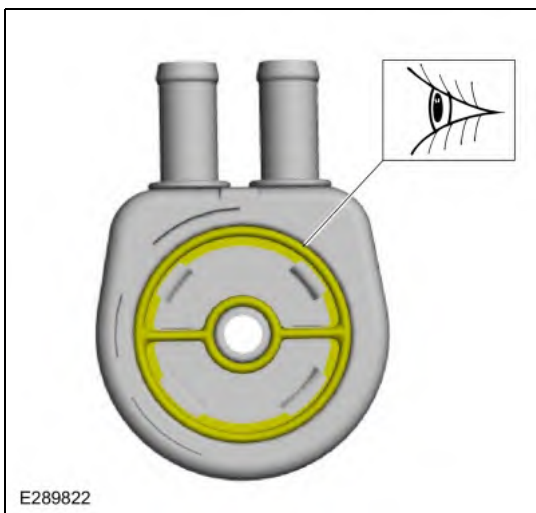
4.
- Remove the bolt and the oil cooler.

NOTICE: If metal or aluminum material is present in the oil cooler, mechanical concerns exist. Failure to correct these concerns may cause engine failure.

To diagnose mechanical concerns.
Refer to: Engine (303-00 Engine System - General Information, Diagnosis and Testing).



5. Inspect and replace the oil cooler gasket, if damaged.



Installation

1. Install the oil cooler and the bolt.

Torque:

Stage 1: 17 lb.ft (22.5 Nm)

Stage 2: 75°

Stage 3: Wait 2s

Stage 4: 15°