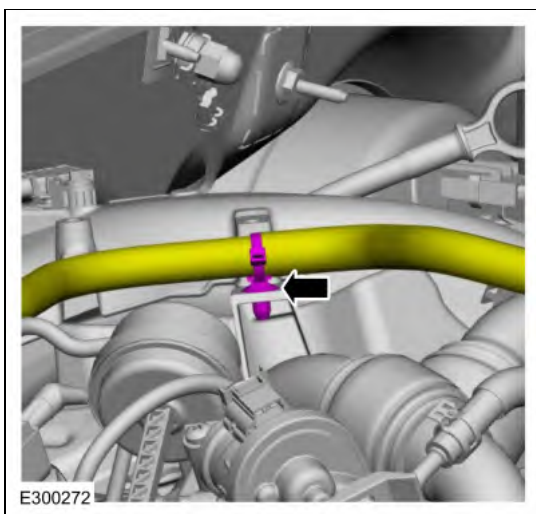


Upper Intake Manifold

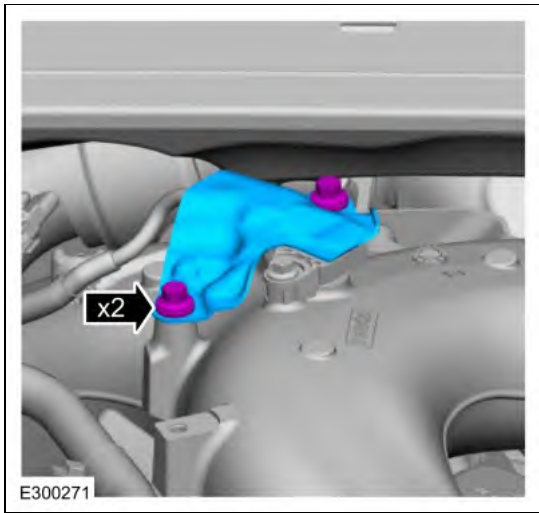
Removal

NOTE: For EXPORT ONLY vehicles (outside US/Canada) an Export Supplement is provided and should be referenced to identify differences that can impact service procedures. Vehicles can be identified by referring to the underhood Vehicle Emission Control Information (VECI) label which states, "Not certified for US EPA or CARB Regulations".

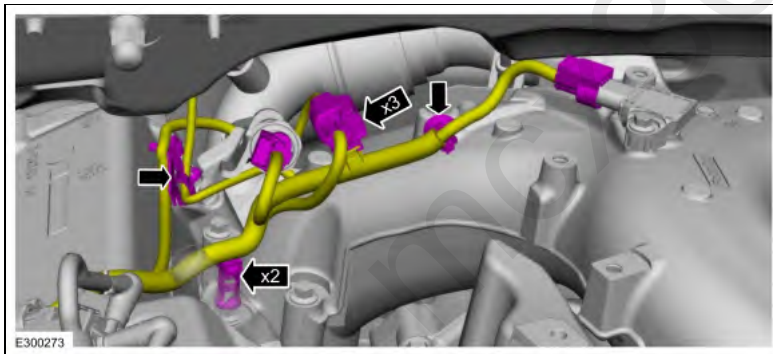
1. Remove the following items:
 1. Remove the cowl panel grille.
Refer to: Cowl Panel Grille (501-02 Front End Body Panels, Removal and Installation).
 2. Remove the CAC inlet pipe.
Refer to: Charge Air Cooler (CAC) Intake Pipe (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
 3. Remove the CAC outlet pipe.
Refer to: Charge Air Cooler (CAC) (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
 4. Remove the ACL (air cleaner) outlet pipe.
Refer to: Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
2. Disconnect the coolant hose retainer from the upper intake manifold.



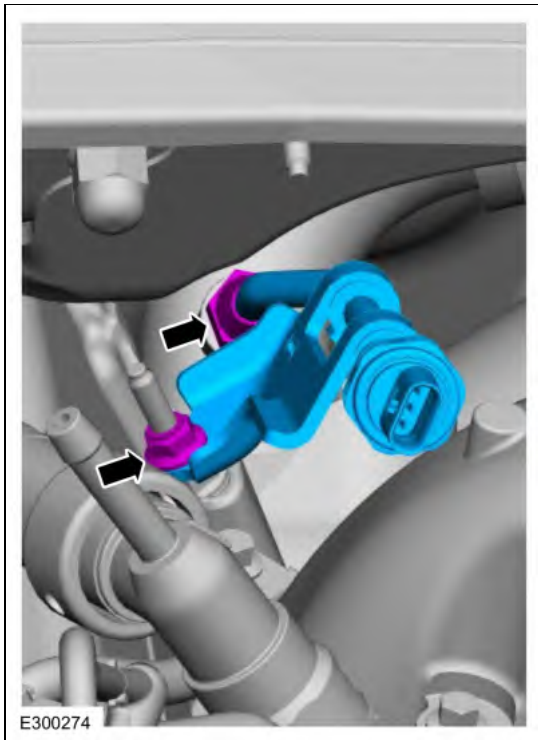
3. Remove the bolts and the intake manifold support.



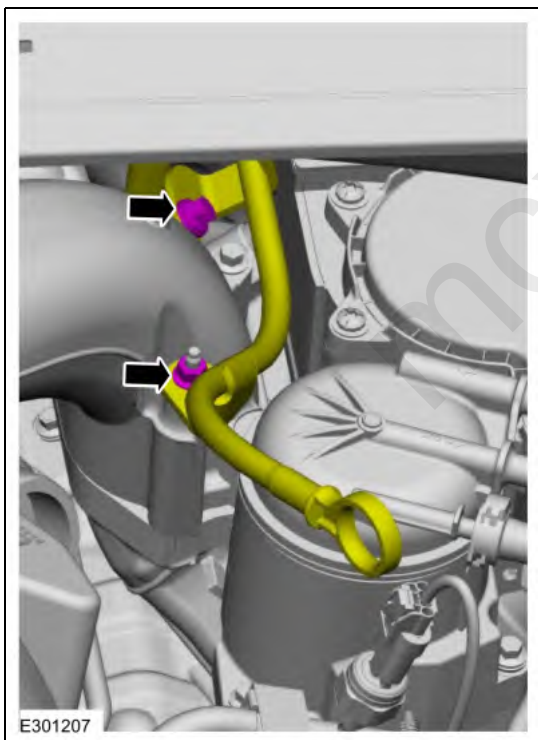
- 4.
- Disconnect the wiring harness retainers.
 - Disconnect the MAP sensor, EP (exhaust pressure) sensor, and the EGRT sensor electrical connectors.



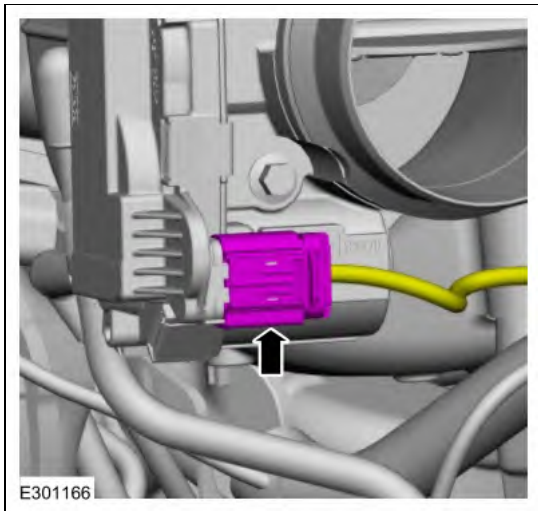
- 5.
- Remove the nut for the EP sensor tube.
 - Remove the EP sensor tube assembly.



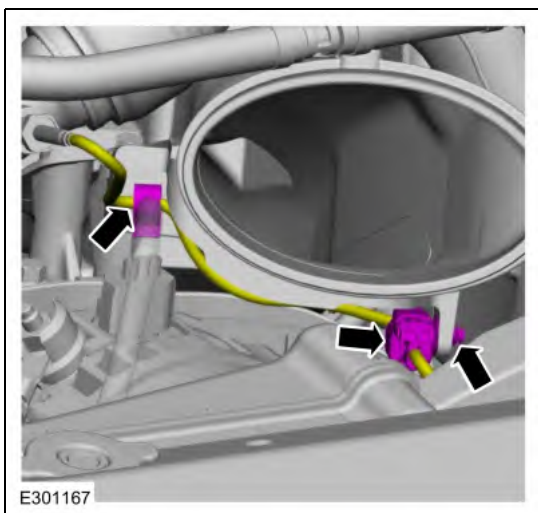
6. Remove the nut, the bolt and position aside the oil level indicator.



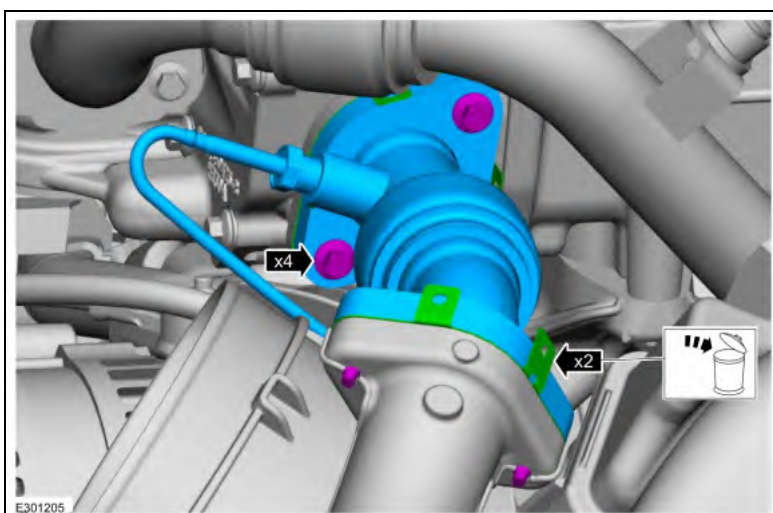
7. Disconnect the TB (throttle body) electrical connector.



8. Disconnect the EGRT sensor electrical connector and the wire retainer.

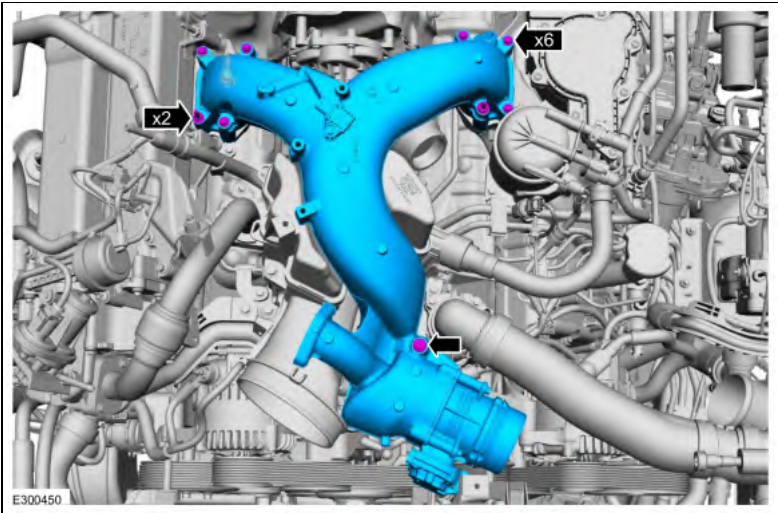


- 9.
- Remove the bolts and the EGR cooler outlet tube.
 - Remove and discard the EGR outlet tube gaskets.



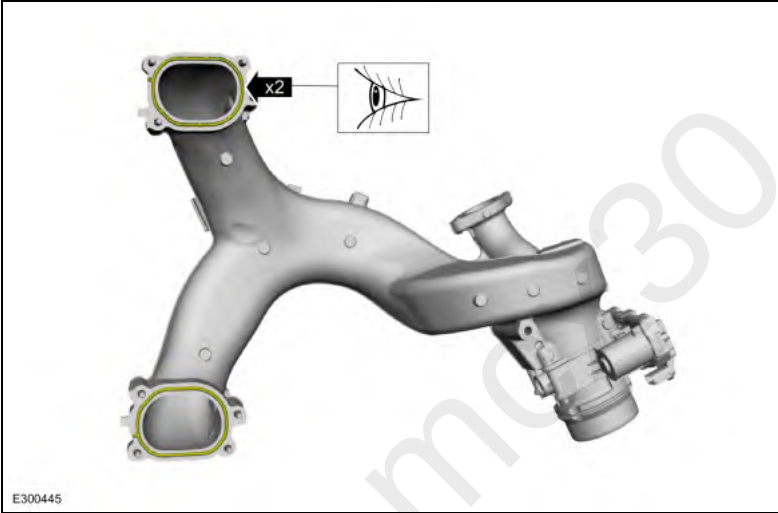
10. **NOTE:** Body removed for clarity.

- Loosen the retainers and remove the upper intake manifold.
- Cover or tape the opening on the valve covers and the lower intake manifold.



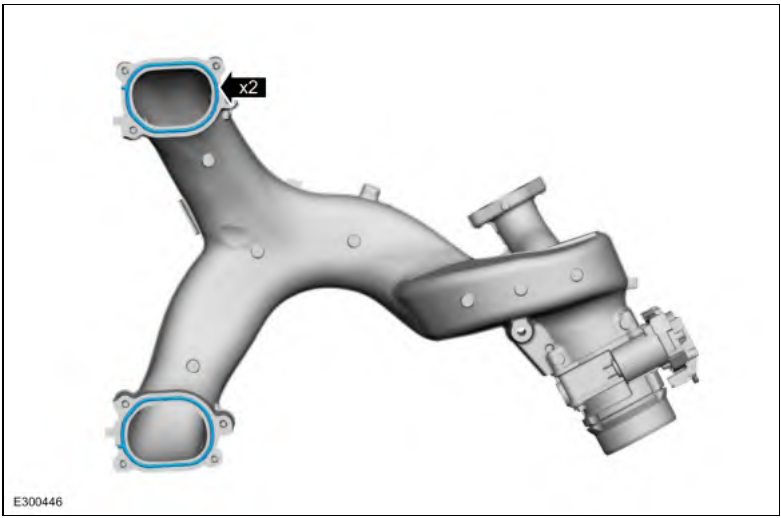
11. **NOTE:** Visually inspect the intake manifold gaskets for nicks, cuts and abrasions. If these conditions are not present, the gasket may be reused.

Inspect the upper intake manifold gaskets. Replace as necessary.



Installation

1. If removed, install the new upper intake manifold gaskets.



2. **NOTICE: Do not slide the upper intake manifold across the lower intake manifold during installation. Failure to follow this may result in damage to the upper intake manifold gaskets.**

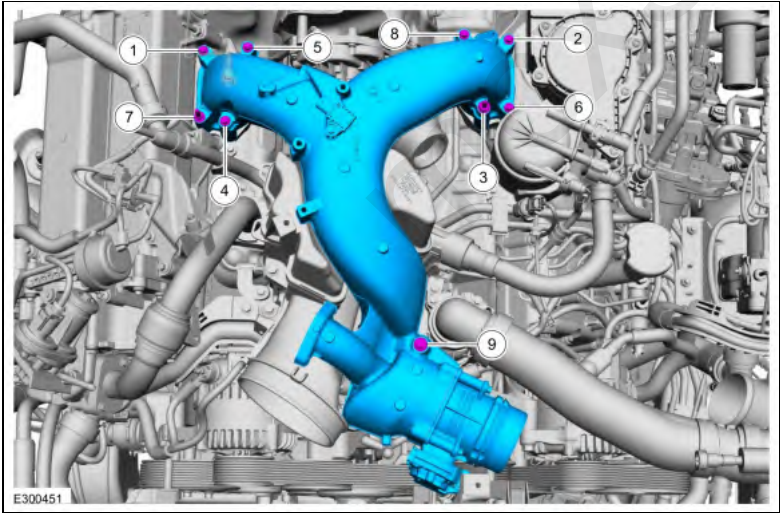
- Remove the cover or tape from the valve covers and lower intake manifold prior to installing the upper intake manifold.
- Install the upper intake manifold and tighten the retainers.

Torque:

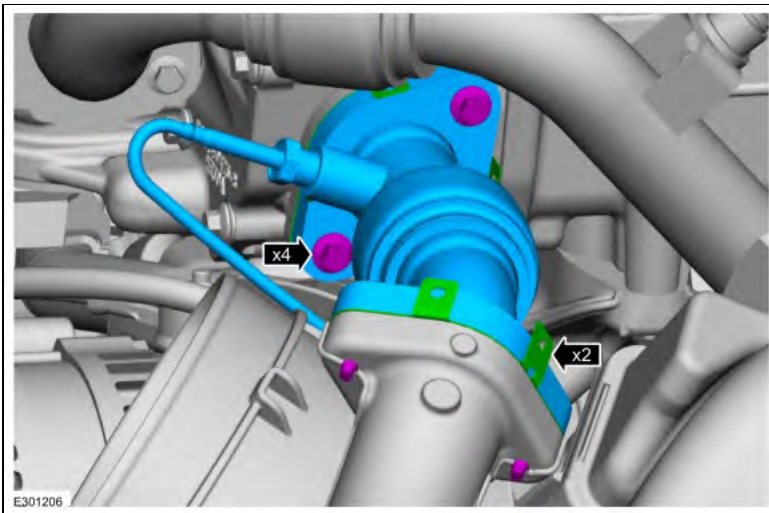
Stage 1: Tighten bolts 1 thru 8 to: : 89 lb.in (10 Nm)

Stage 2: Tighten bolts 1 thru 8 to: : 98 Å°

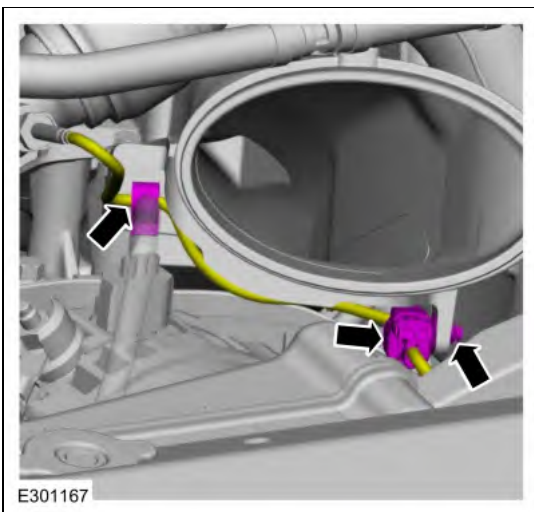
Stage 3: Tighten bolt 9 to: : 18 lb.ft (24 Nm)



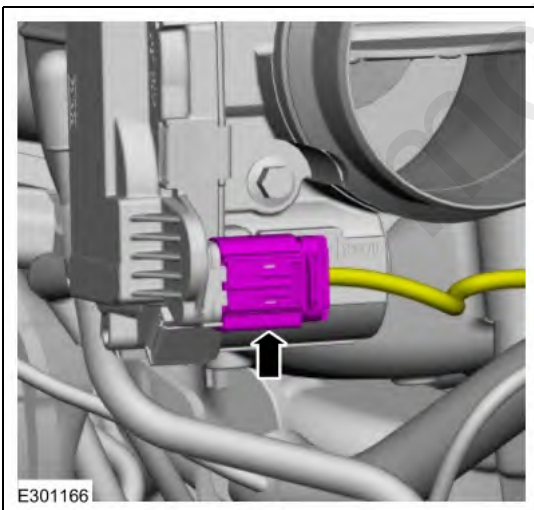
3. Using new gaskets, install the EGR cooler outlet tube and the bolts.
Torque: 89 lb.in (10 Nm)



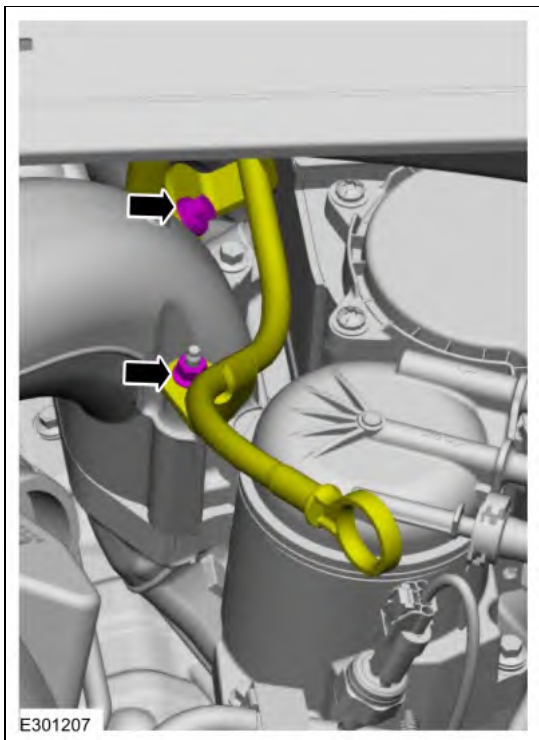
4. Disconnect the EGRT sensor electrical connector and the wire retainer.



5. Connect the TB electrical connector.

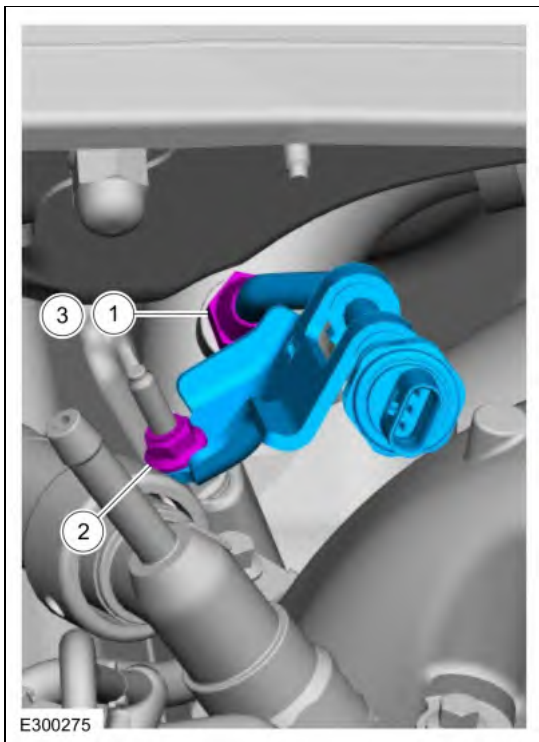


6. Position back the engine oil level indicator tube, install the nut and the bolt.
Torque: 89 lb.in (10 Nm)

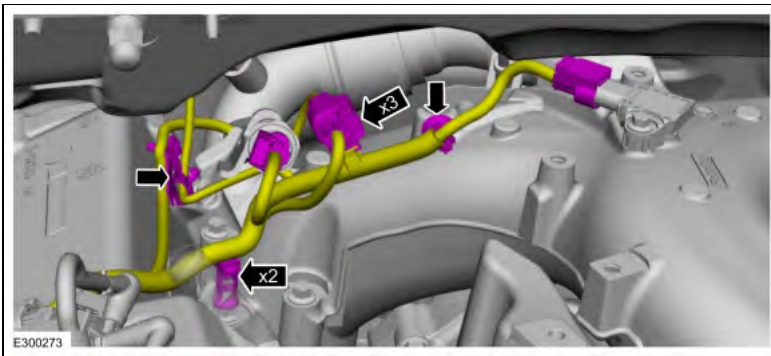


7.

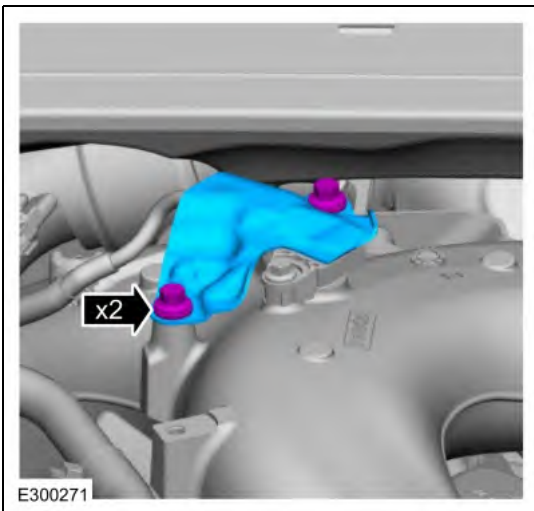
1. Install the EP sensor tube assembly and nut. Tighten the EP sensor tube assembly.
Torque: 133 lb.in (15 Nm)
2. Tighten the nut.
Torque: 89 lb.in (10 Nm)
3. Tighten the EP sensor tube assembly.
Torque: 177 lb.in (20 Nm)



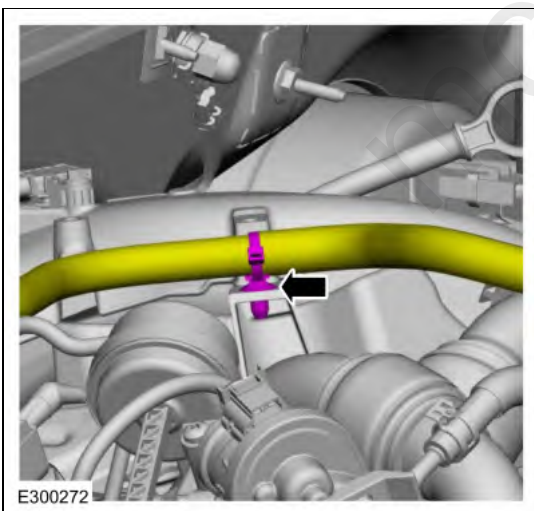
- 8.
- Connect the MAP sensor, EP sensor and the EGRT sensor electrical connectors.
 - Connect the wiring harness retainers.



9. Install the intake manifold support and the bolts.
Torque: 89 lb.in (10 Nm)



10. Connect the coolant hose retainer to the upper intake manifold.



11. Install the following items:

1. Install the ACL (air cleaner) outlet pipe.
Refer to: Air Cleaner Outlet Pipe (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
2. Install the CAC outlet pipe.
Refer to: Charge Air Cooler (CAC) (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
3. Install the CAC inlet pipe.
Refer to: Charge Air Cooler (CAC) Intake Pipe (303-12B Intake Air Distribution and Filtering - 6.7L Power Stroke Diesel, Removal and Installation).
4. Install the cowl panel grille.
Refer to: Cowl Panel Grille (501-02 Front End Body Panels, Removal and Installation).