

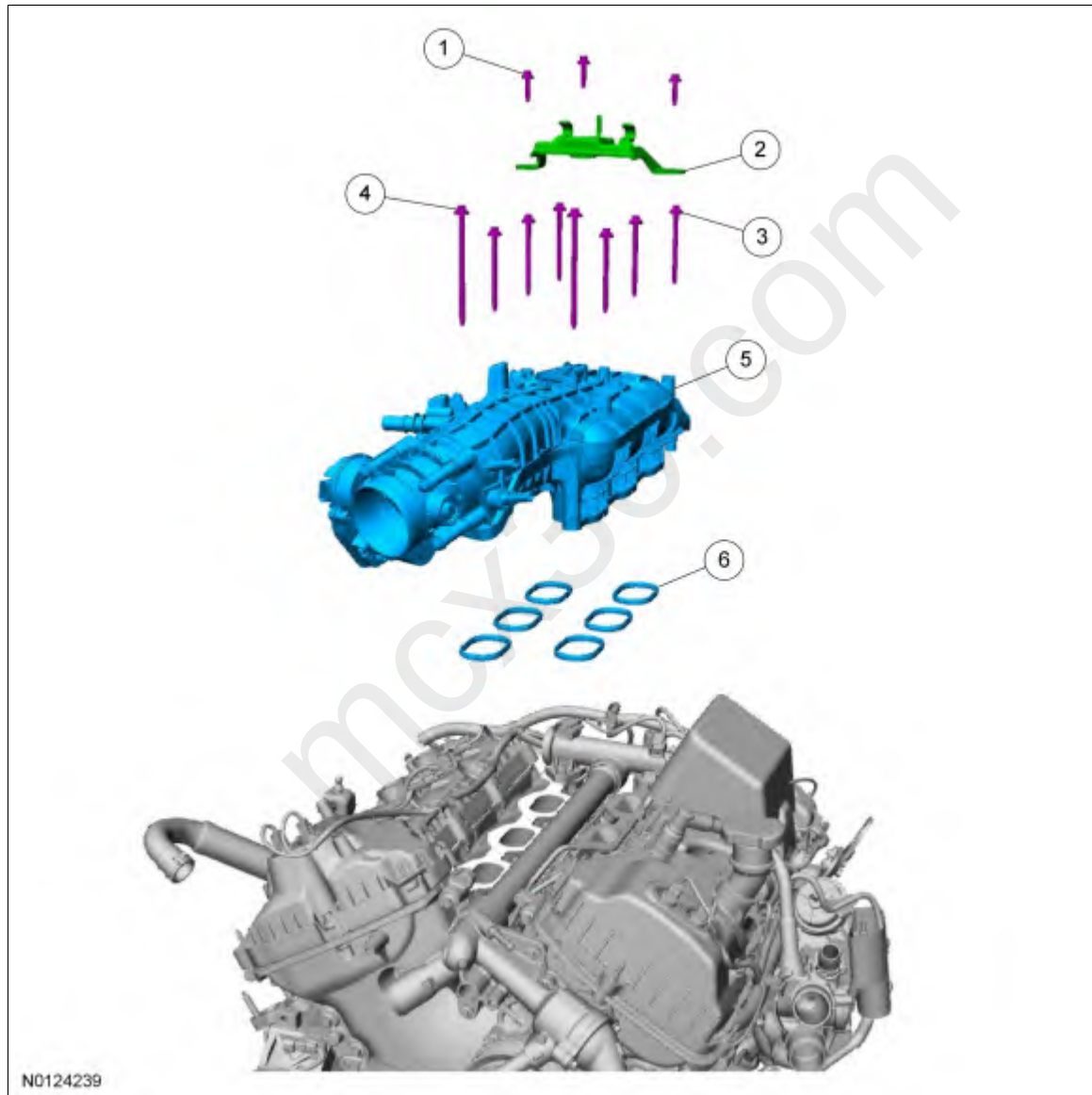
SECTION 303-01A: Engine — 3.5L GTDI
IN-VEHICLE REPAIR

2014 F-150 Workshop Manual
Procedure revision date: 10/25/2013

Intake Manifold

NOTE: [Refer to the on-line Workshop Manual to view this illustration as an interactive exploded view. requires Adobe® Acrobat® 8.0 or higher.](#)

NOTE: [Refer to the on-line Workshop Manual to learn about using an Interactive Illustration.](#)

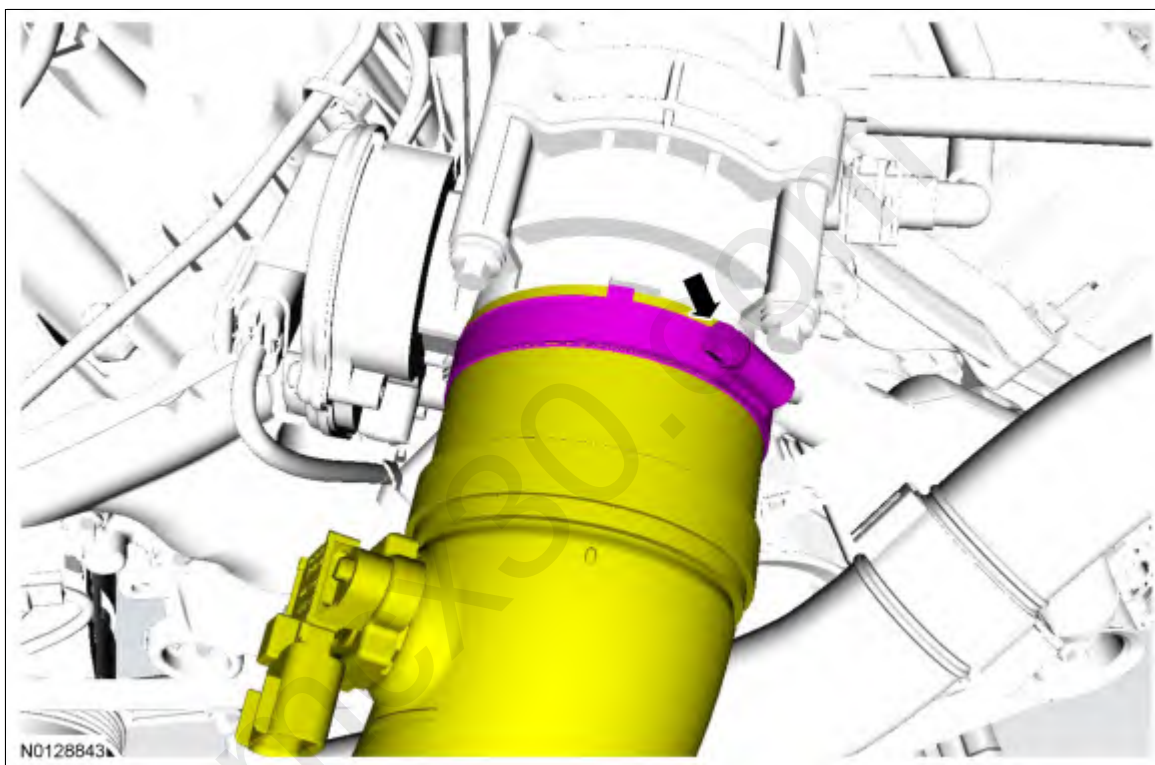


Item	Part Number	Description
1	W503277	Engine cover bracket bolts (3 required)
2	—	Engine cover bracket (part of 6A949)
3	W714988	Intake manifold bolt (6 required)
4	W715096	Intake manifold bolt (2 required)

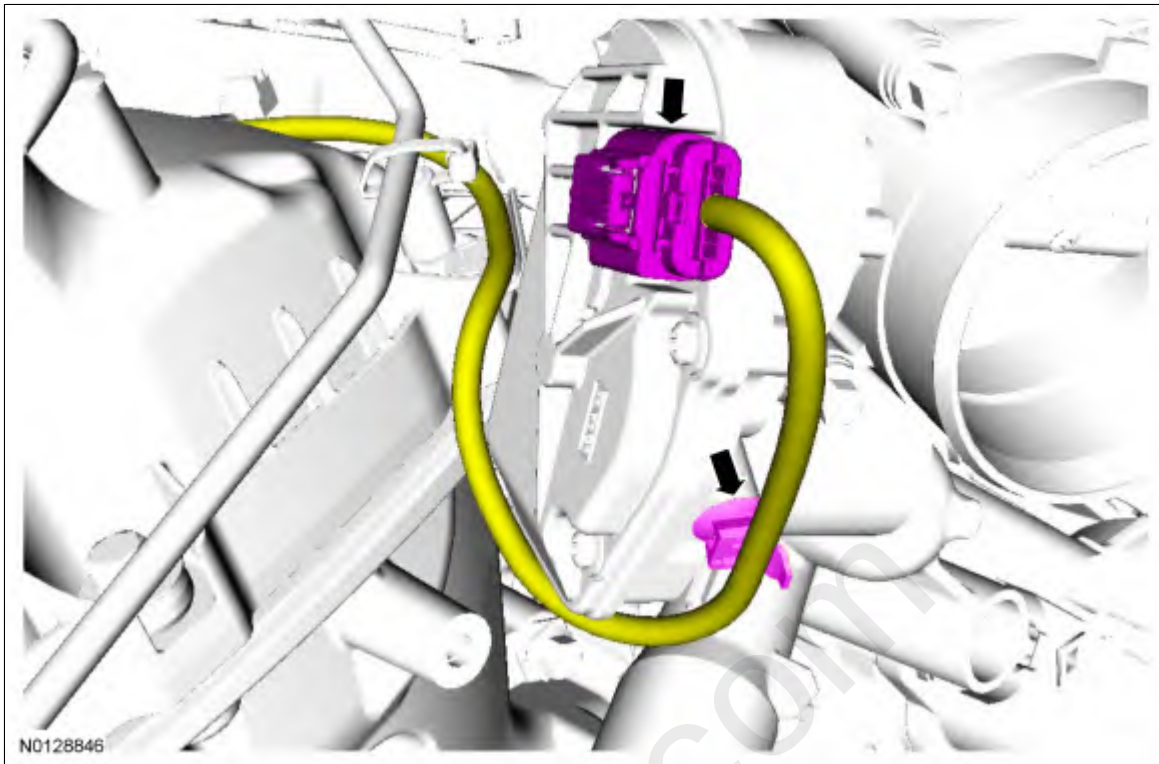
5	9424	Intake manifold
6	9439	Intake manifold gasket

Removal

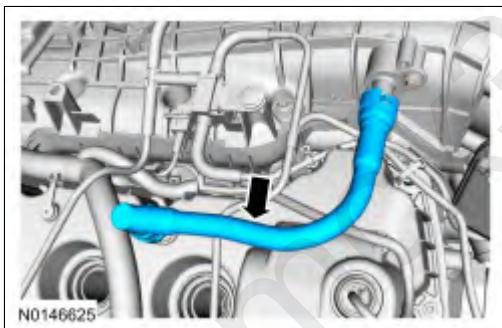
1. Remove the engine appearance cover.
2. Remove the Air Cleaner (ACL) outlet pipe and the RH ACL pipe-to-turbocharger pipe. For additional information, refer to Intake Air System Components — Exploded View, 3.5L in [Section 303-12](#).
3. Loosen the clamp and disconnect the Charge Air Cooler (CAC)-to-Throttle Body (TB) pipe.



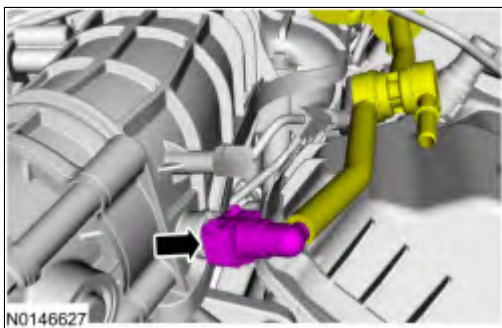
4. Disconnect the TB electrical connector.
 - Detach the TB electrical connector wiring harness retainer from the TB.



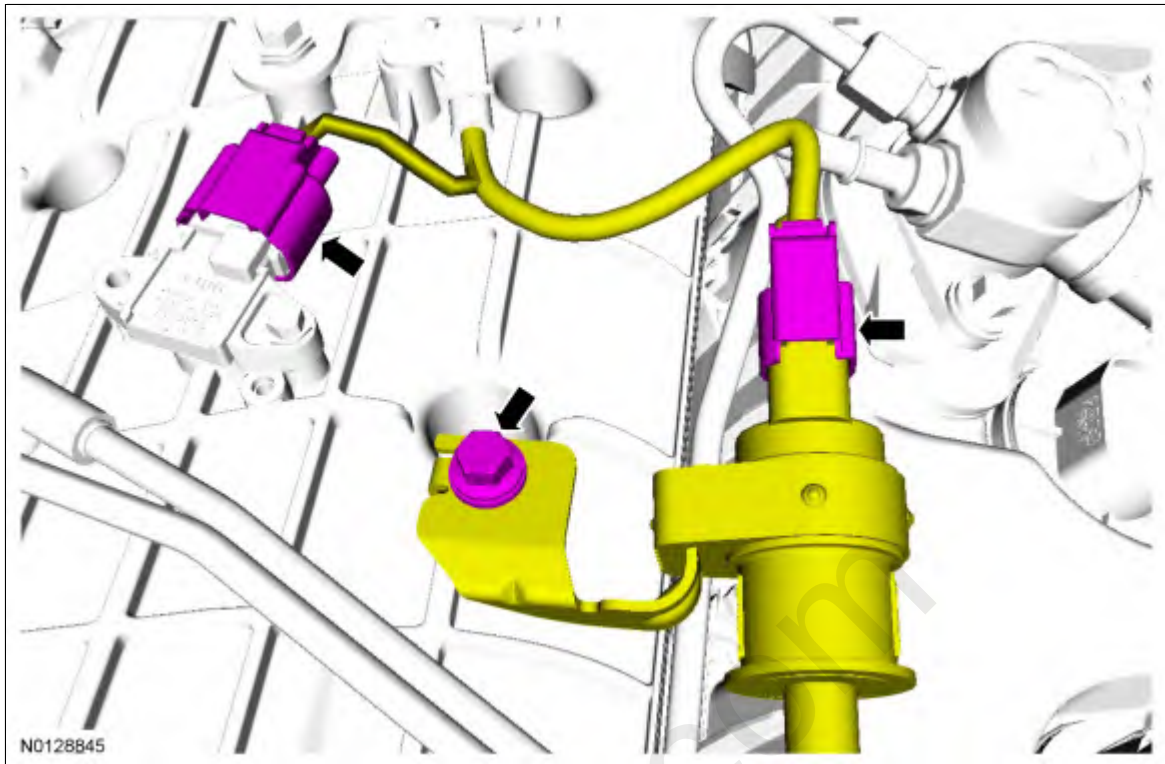
5. Remove the PCV tube. Refer to [Section 310-00](#).



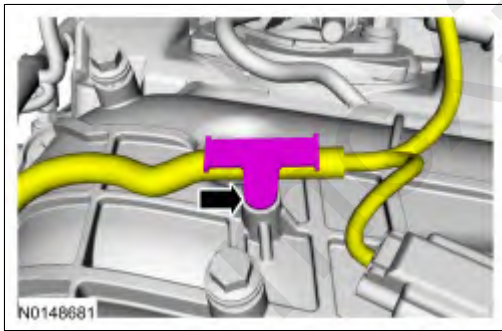
6. Disconnect the Evaporative Emission (EVAP) hose from the intake manifold. Refer to [Section 310-00](#).



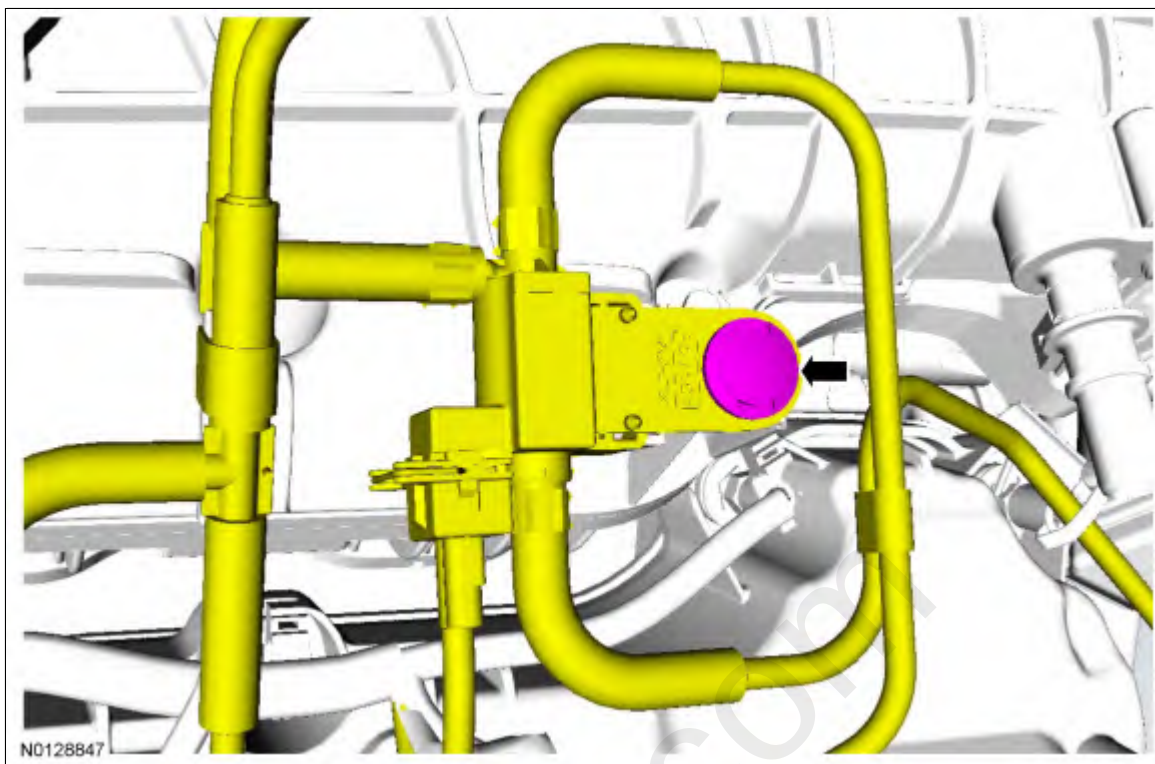
7. Disconnect the Manifold Absolute Pressure (MAP) sensor and the EVAP canister purge valve electrical connectors. Remove the bolt for the EVAP canister purge valve and position aside.



8. Remove the 3 bolts and the engine appearance cover bracket.
9. Disconnect the wire retainer from the intake manifold.



10. Remove the push pin and position the turbocharger vacuum regulator aside.



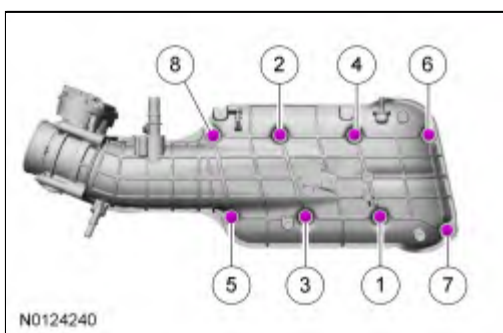
11. Loosen the 8 bolts and remove the intake manifold.
 - Remove and discard the gaskets.
 - Clean and inspect all of the sealing surfaces of the cylinder heads and the intake manifold.

Installation

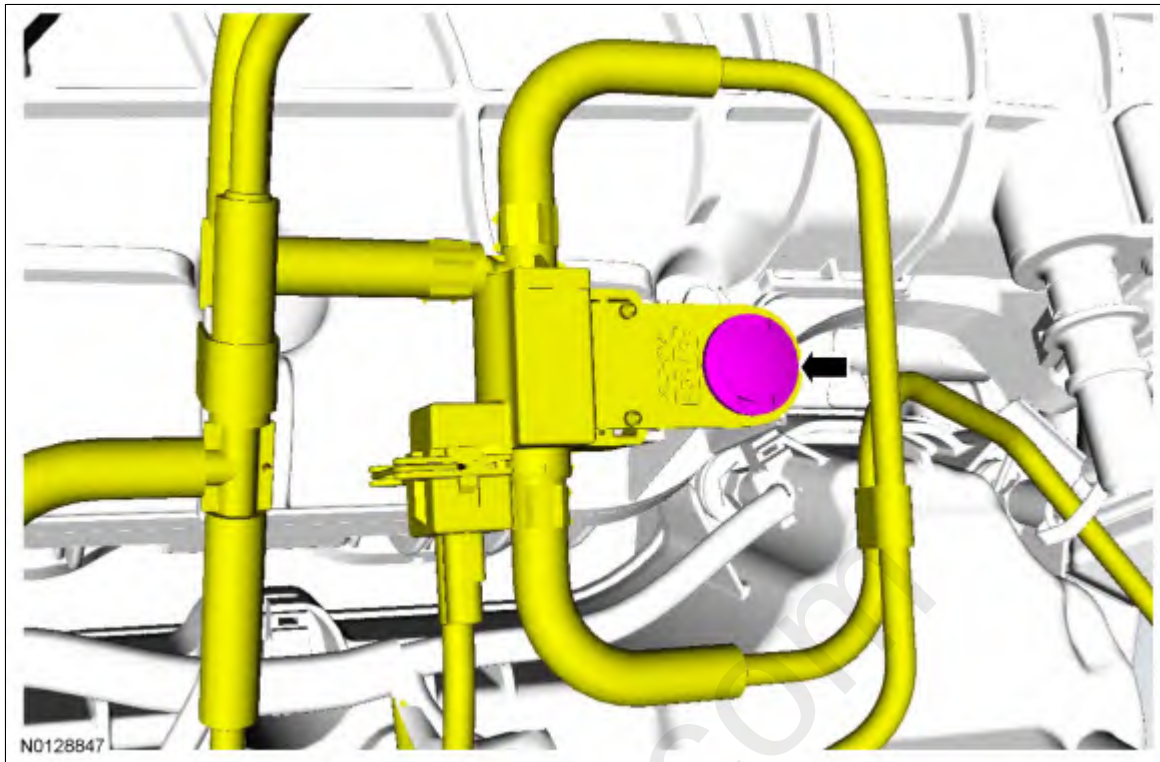
1. **NOTICE:** If the engine is repaired or replaced because of upper engine failure, typically including valve or piston damage, check the intake manifold for metal debris. If metal debris is found, install a new intake manifold. Failure to follow these instructions can result in engine damage.

Using new gaskets, install the intake manifold and tighten the 8 bolts in the sequence shown.

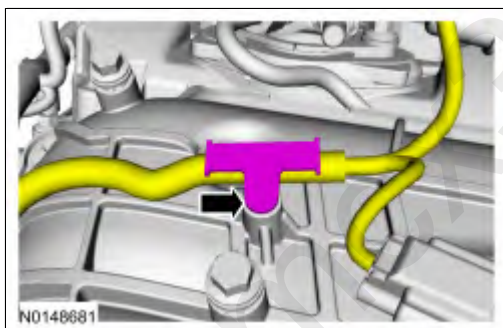
- Stage 1: Tighten to 10 Nm (89 lb-in).
- Stage 2: Tighten an additional 45 degrees.



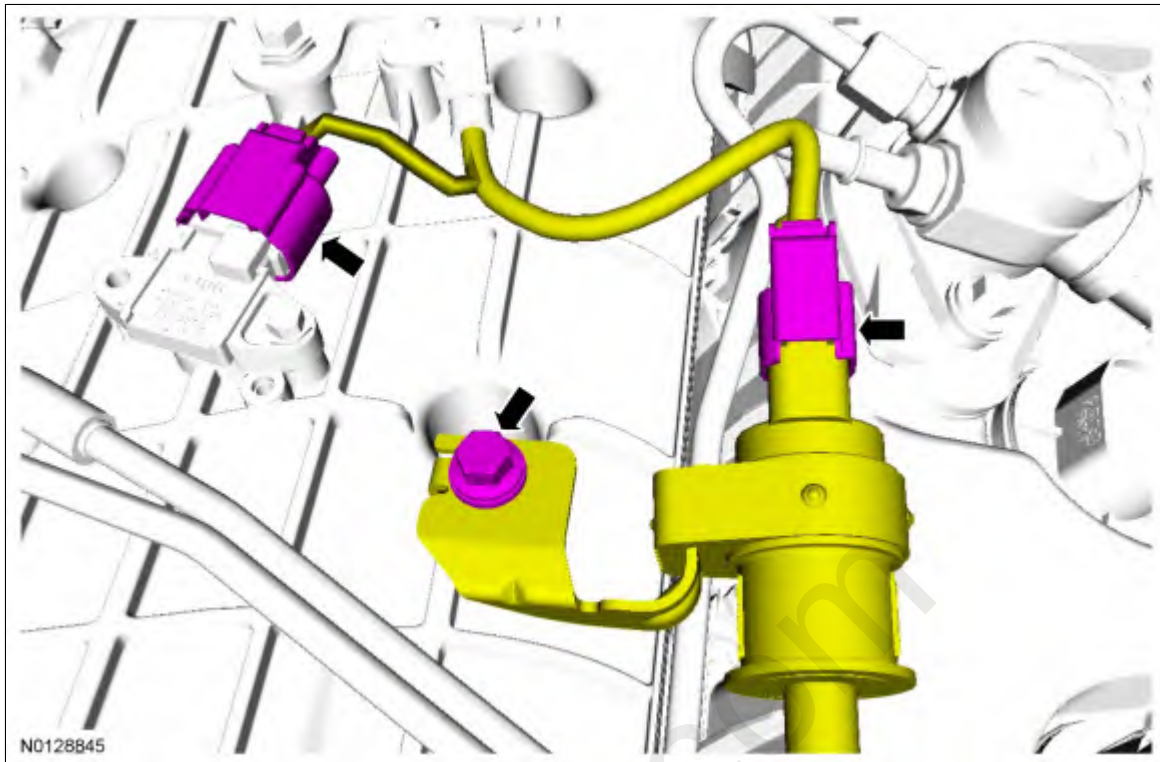
2. Position back turbocharger vacuum regulator and install the push pin.



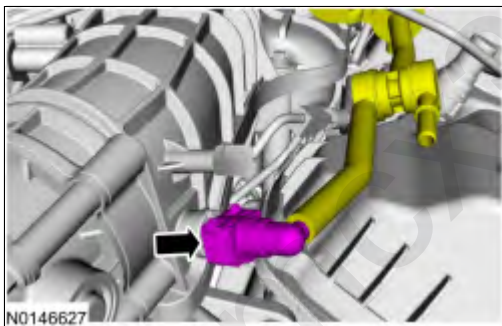
3. Connect the wire retainer to the intake manifold.



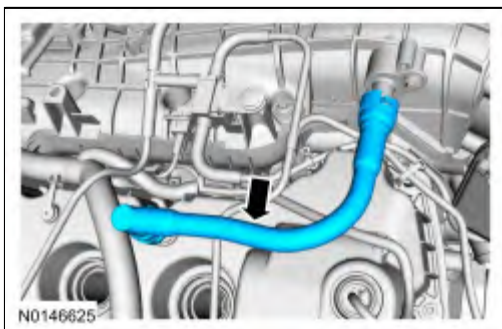
4. Install the engine appearance cover bracket and 3 bolts.
 - Tighten to 10 Nm (89 lb-in).
5. Position back the EVAP canister purge valve and install the bolt. Connect the MAP sensor and the EVAP canister purge valve electrical connectors.
 - Tighten to 10 Nm (89 lb-in).



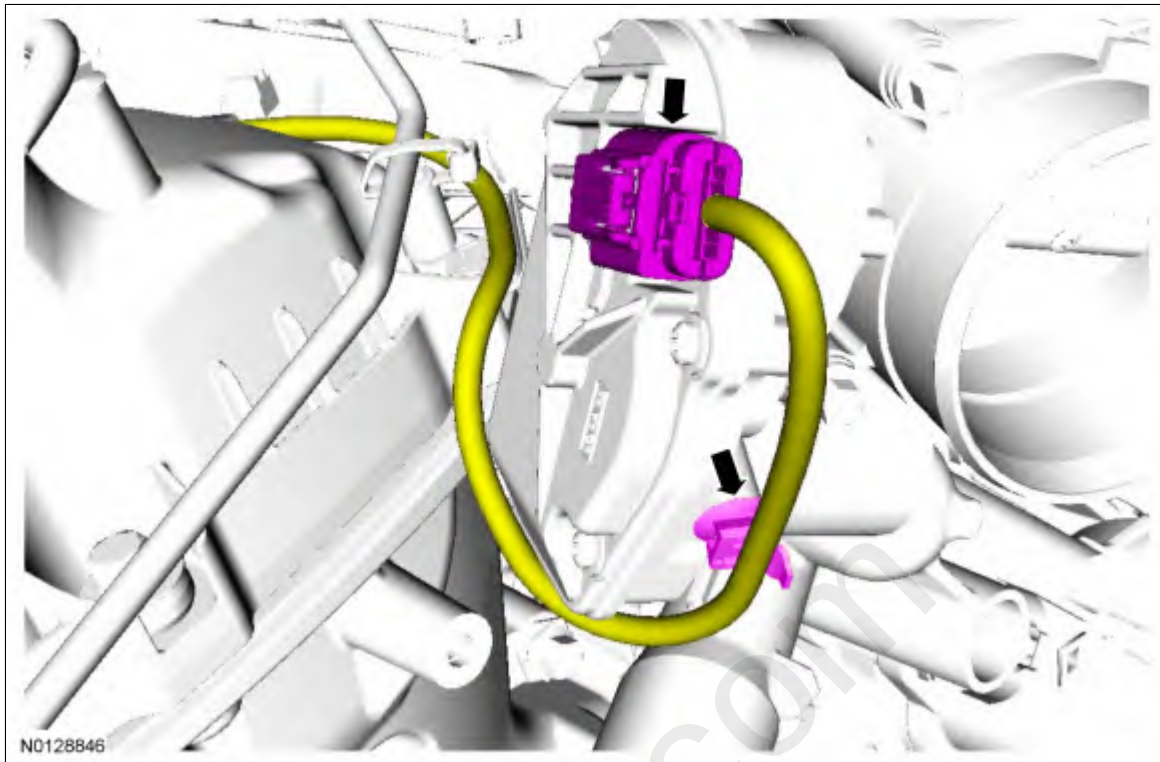
6. Connect the EVAP hose to the intake manifold. Refer to [Section 310-00](#).



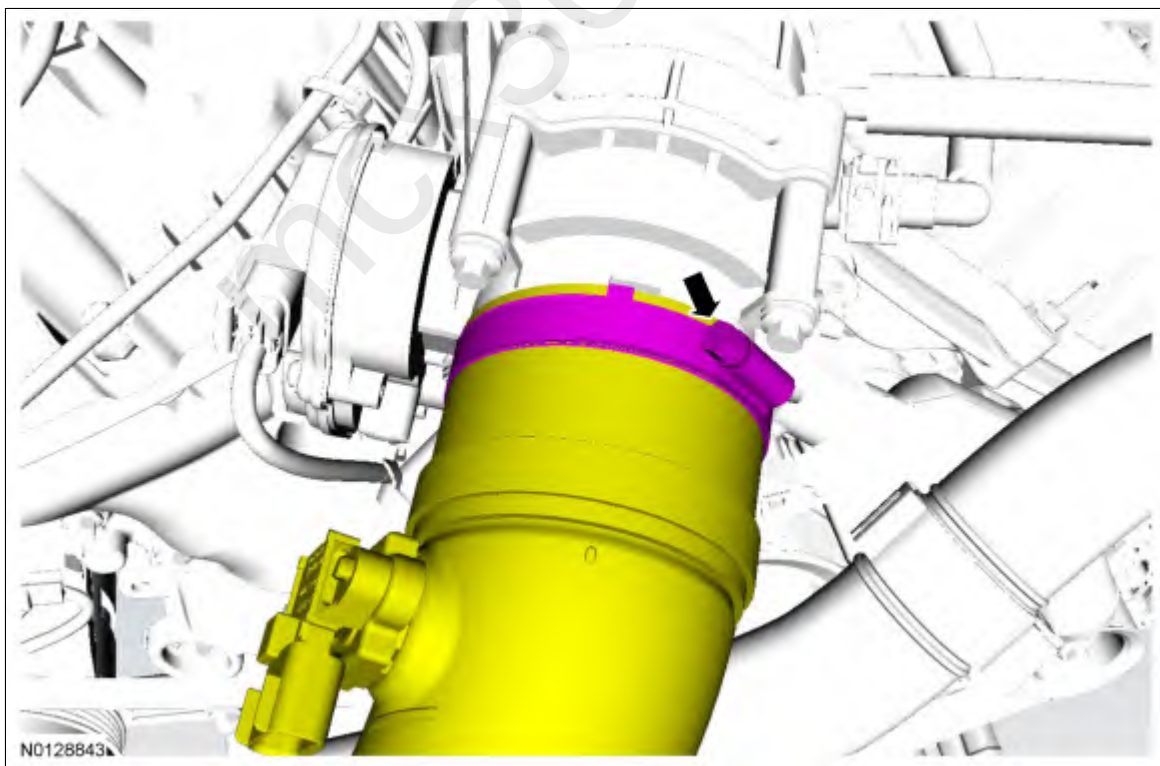
7. Install the PCV tube. Refer to [Section 310-00](#).



8. Connect the TB electrical connector.
- Attach the TB electrical connector wiring harness pin-type retainer to the TB.



9. Connect the CAC-to- TB pipe and tighten the clamp.
 - Tighten to 5 Nm (44 lb-in).



10. Install the RH ACL pipe-to-turbocharger pipe and the ACL outlet pipe. For additional information, refer to Intake Air System Components — Exploded View, 3.5L in [Section 303-12](#).

11. Install the engine appearance cover.
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