

**Powertrain Control Module (PCM)**

Base Part Number: 12A650

**Special Tool(s) / General Equipment**

Ford Diagnostic Equipment

**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.

1. **NOTE:** This step is only necessary when installing a new component.

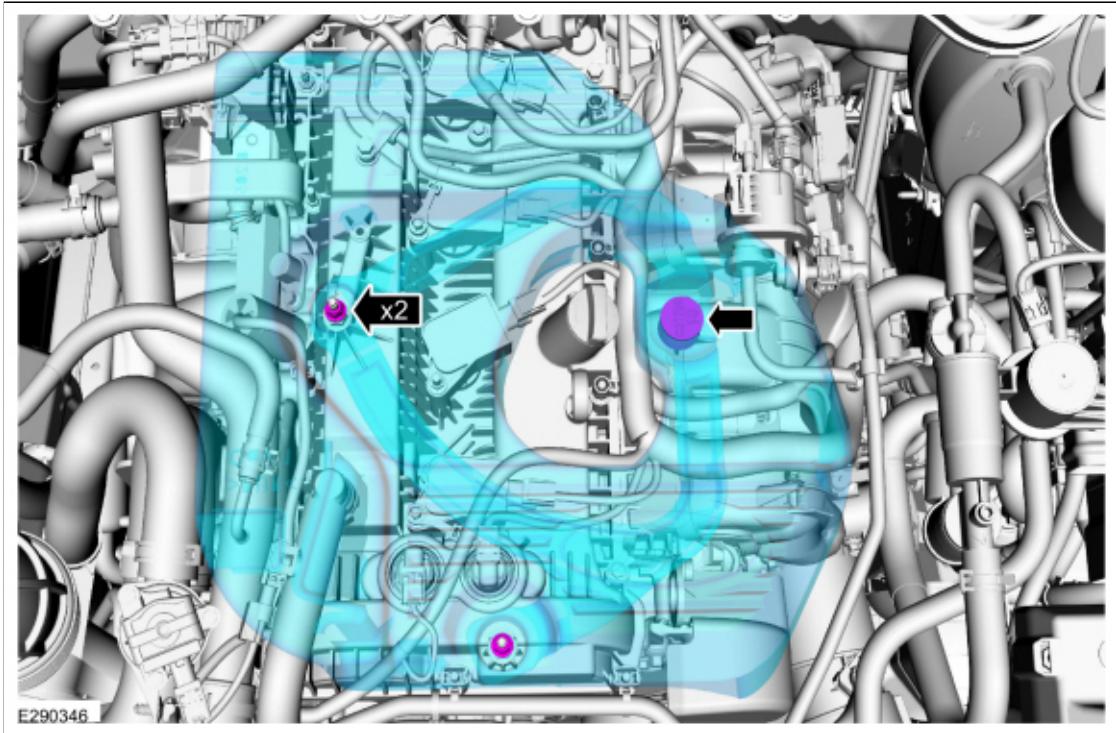
Download the module information to the diagnostic tool using the Programmable Modules Installation routine.

Refer to: [Module Configuration - System Operation and Component Description](#) (418-01 Module Configuration, Description and Operation).

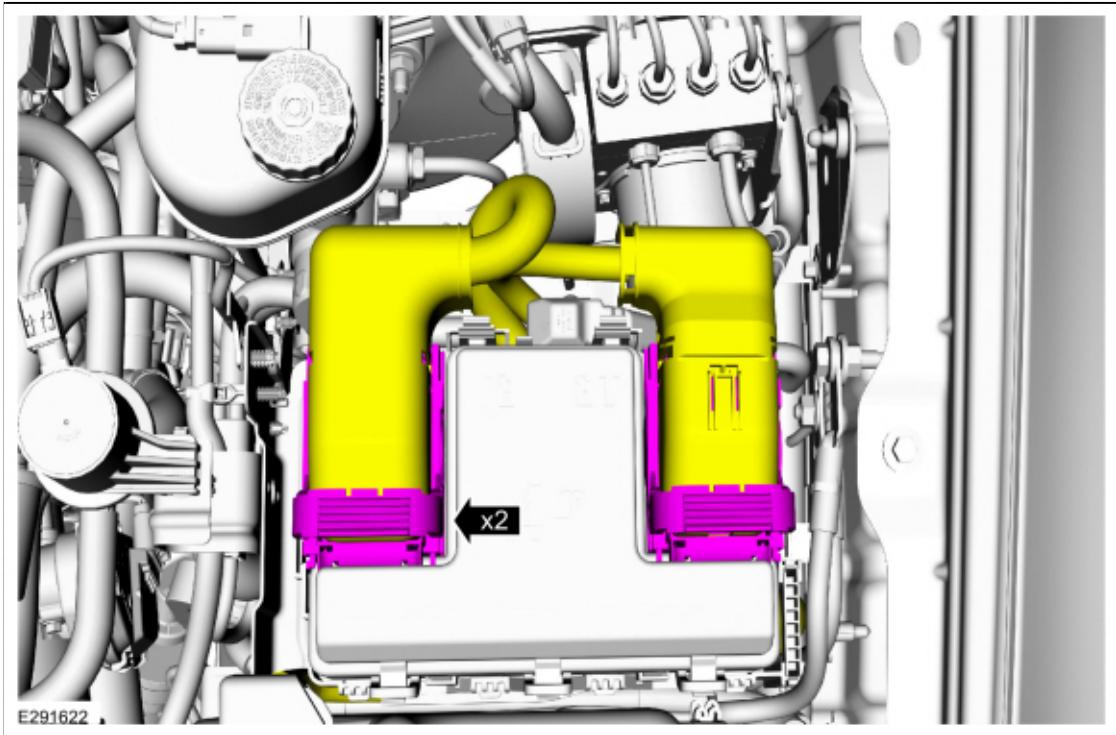
Use the General Equipment: Ford Diagnostic Equipment

2. **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.**

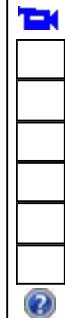
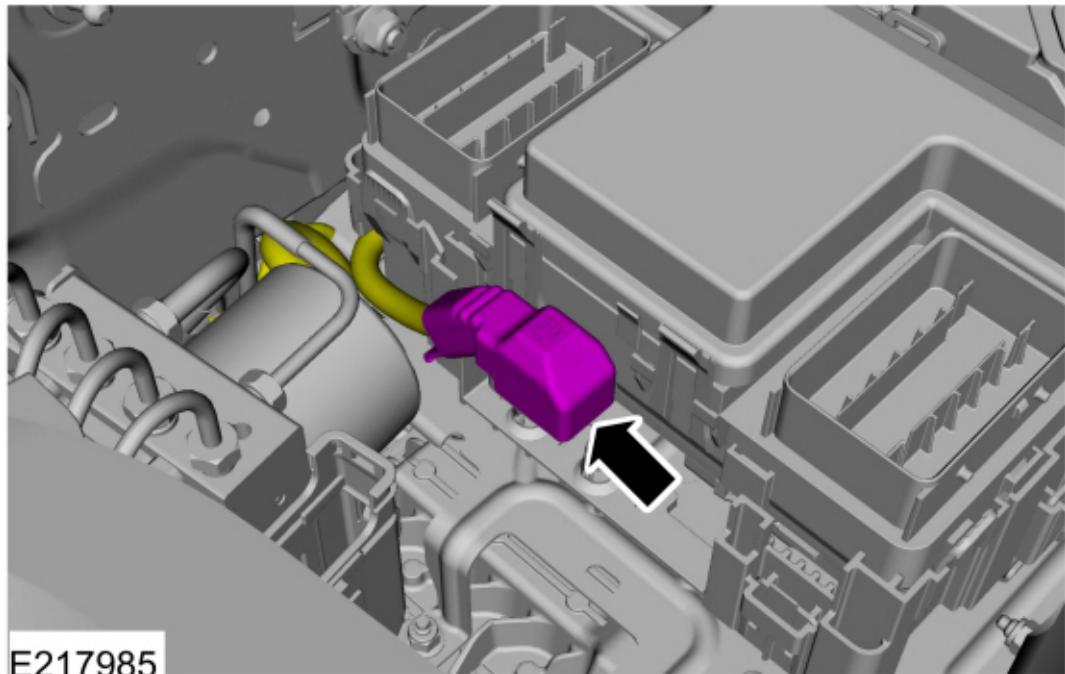
1. Remove the engine appearance cover nut.
2. Place your hand under the engine appearance cover at each grommet location and pull straight up to release each grommet from the studs.
3. After all of the grommets have been released from the studs, remove the appearance cover from the engine.



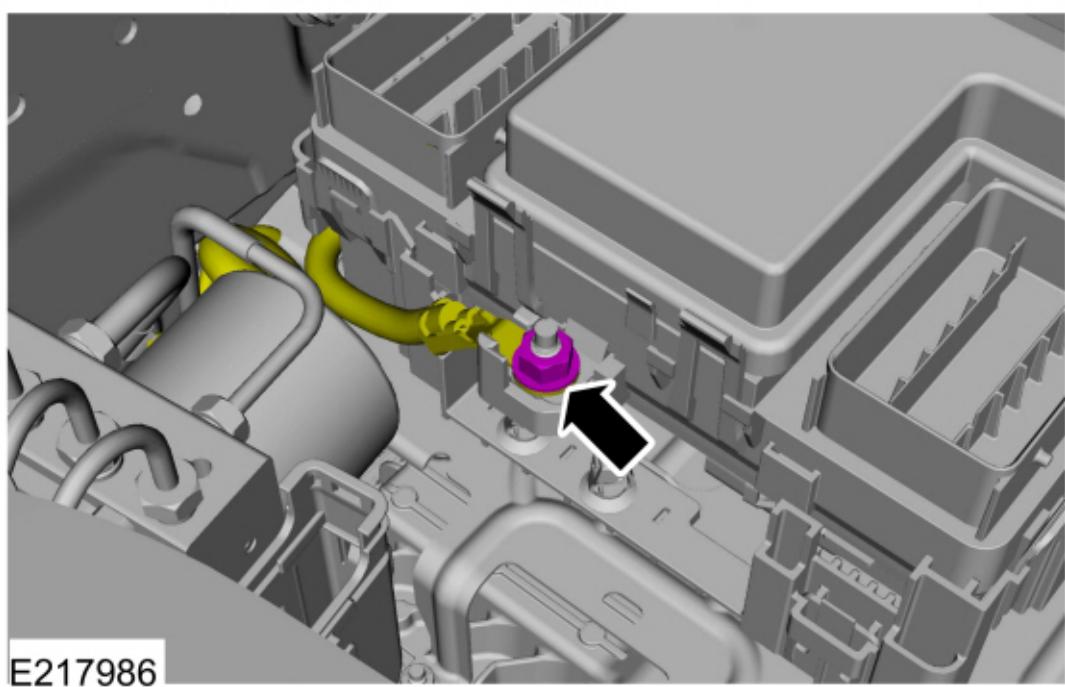
3. Remove the battery.  
Refer to: [Battery](#) (414-01 Battery, Mounting and Cables, Removal and Installation).
4. Disconnect the electrical connectors.



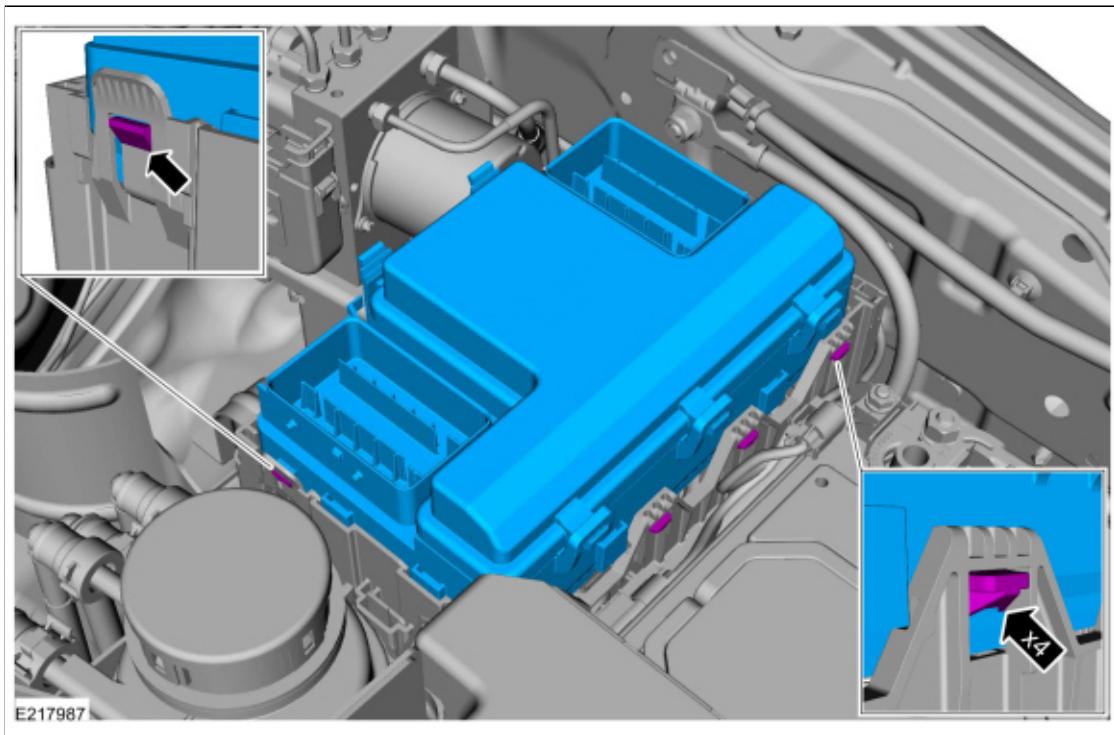
5. Position aside the battery cable cover.



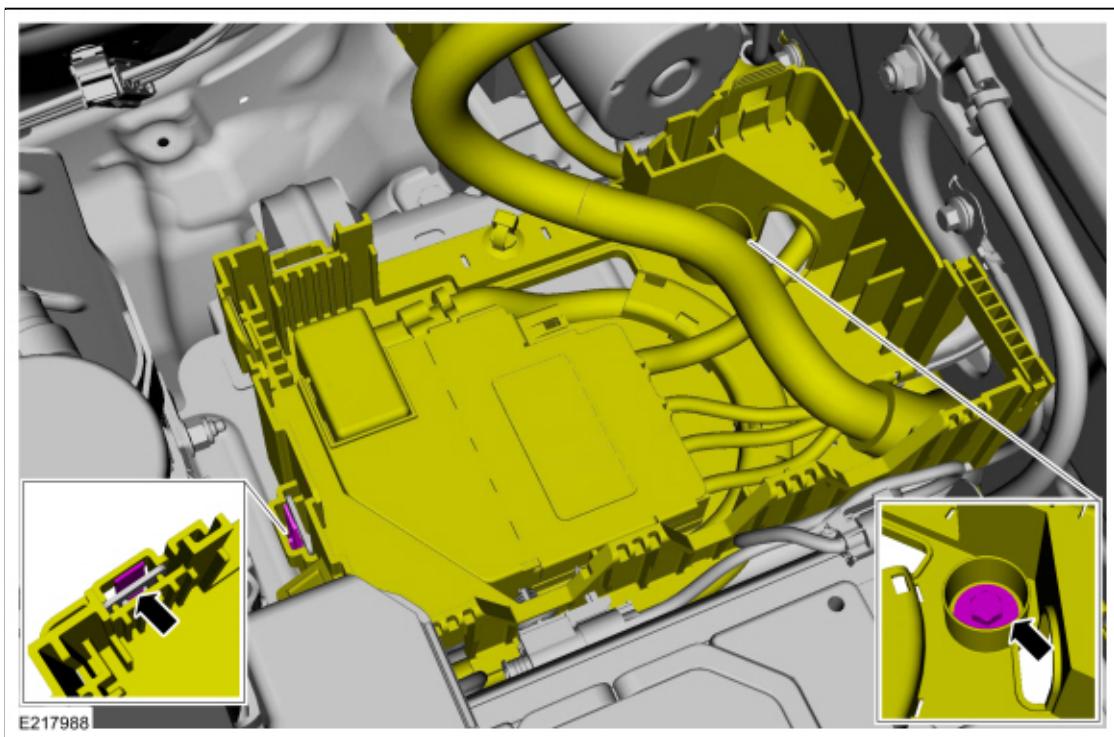
6. Remove the nut and position the cable end.  
*Torque: 93 lb.in (10.5 Nm)*



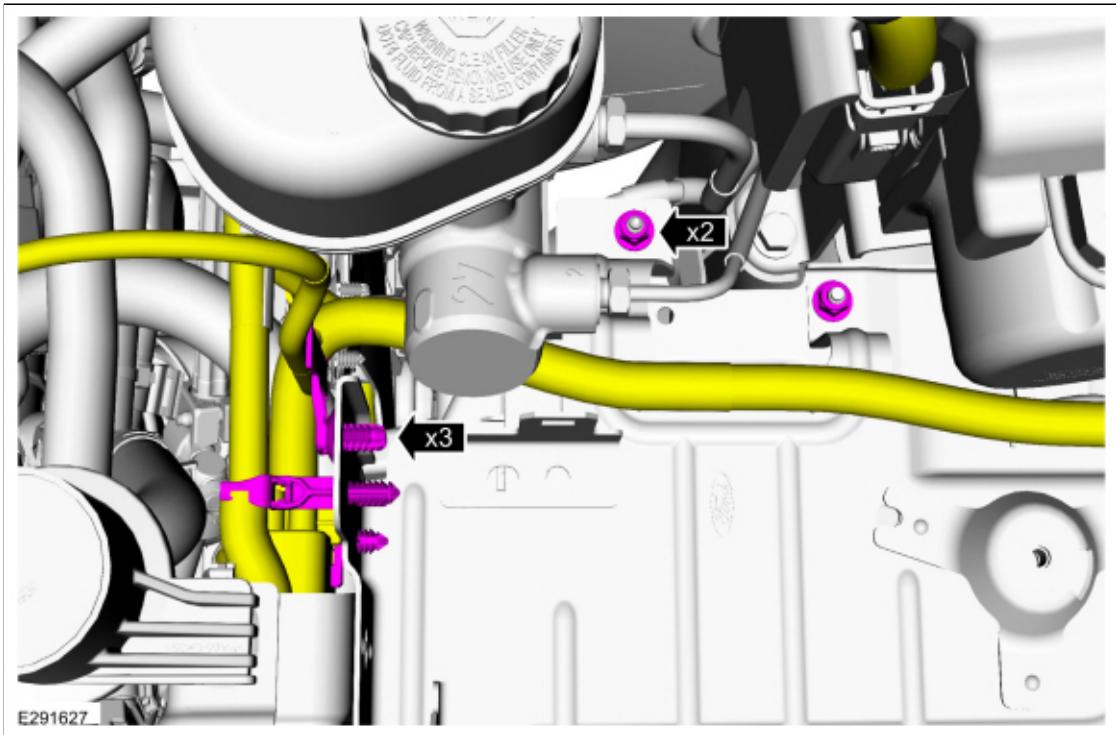
7. Release the latches and remove.



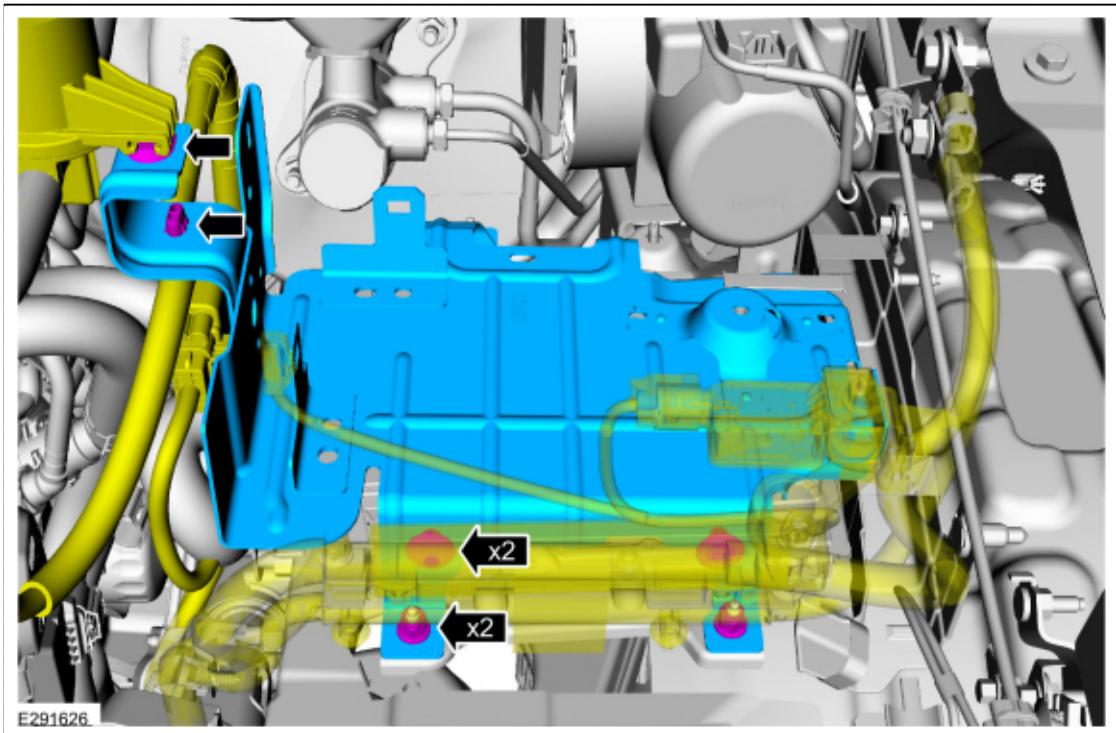
8. Remove the retainer and latch and position aside.  
*Torque: 89 lb.in (10 Nm)*



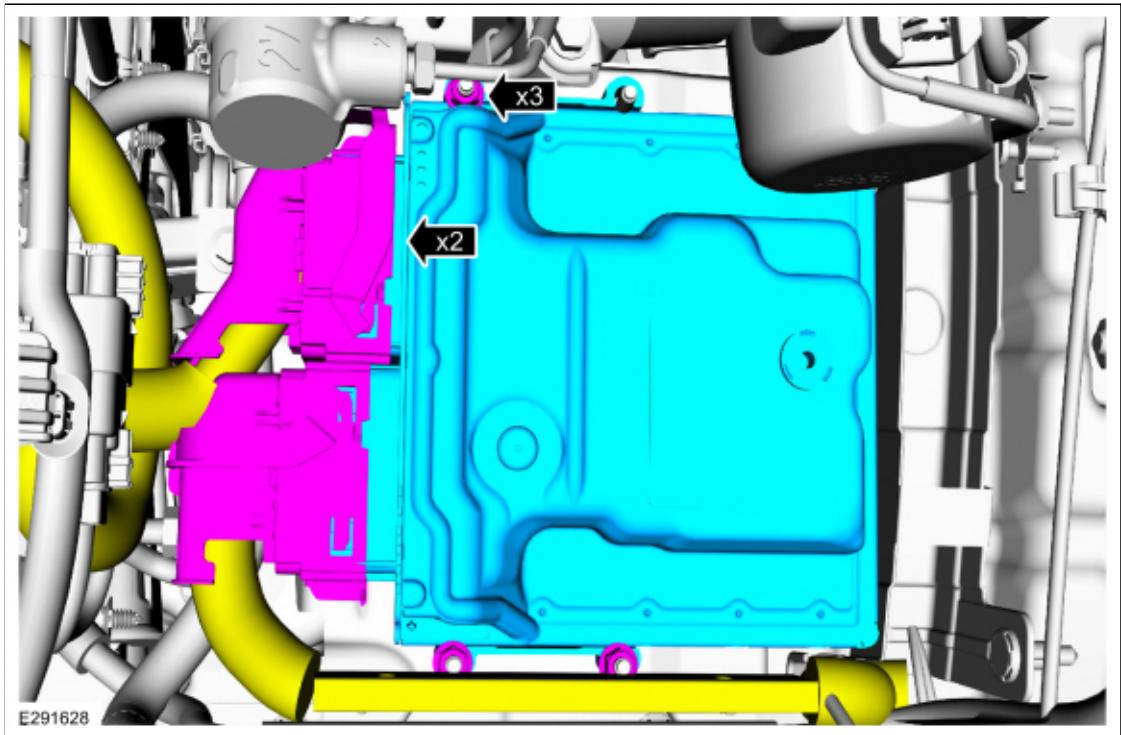
9. Remove the harness retainers and position harness aside. Remove the nuts.  
*Torque: 97 lb.in (11 Nm)*



10. Remove the harness retainers and position harness aside. Remove the nuts and the tray.  
*Torque: 97 lb.in (11 Nm)*

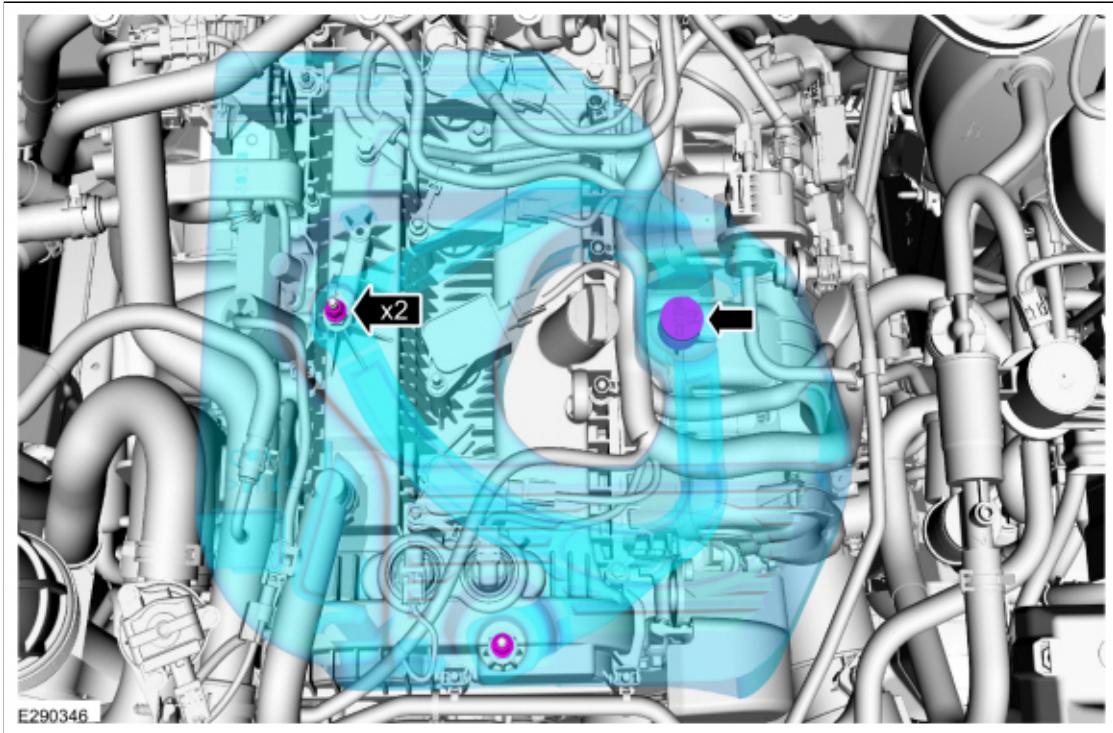


11. Disconnect the electrical connectors. Remove the nuts and the PCM.  
*Torque: 97 lb.in (11 Nm)*



## Installation

1. 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)



3. **NOTE:** *This step is only necessary when installing a new component.*

Upload the module information from the diagnostic tool using the Programmable Modules Installation routine.

Refer to: [Module Programming](#) (418-01 Module Configuration, General Procedures).  
Use the General Equipment: Ford Diagnostic Equipment

4. **NOTE:** *This step is only necessary when installing a new component.*

Reprogram the Passive Anti-Theft System (PATS) .

Refer to: [Anti-Theft Key Programming - Scan Tool](#) (419-01C Passive Anti-Theft System (PATS) - Vehicles With: Keyless Vehicle System, General Procedures).

5. **NOTE:** *This step is only necessary when installing a new component.*

Using the scan tool, perform the Misfire Monitor Neutral Profile Correction procedure, following the on-screen instructions.

