

Read Before Installing This Fuel Injection Control Module (FICM)

BASIC TROUBLESHOOTING

- Inspect the fuel injection control module (FICM) connector pins for dirt or other foreign objects, clean as needed.
- Inspect the connector pins to see if they are damaged or bent.
- Make sure the harness connectors are properly seated onto the FICM.
- Verify the battery and charging systems are functioning correctly.
- Check powers and grounds between the FICM and powertrain control module (PCM).
- Check the wiring harness for chafing.
- If your scan tool does not communicate with the vehicle, check to make sure the scan tool is properly seated to the diagnostic connection port under the dashboard.

REMOVAL + INSTALLATION

The following removal instructions are specific to a 2005 Ford F250 6.0L but are essentially the same for all applications. For installation reverse the instructions. If in doubt, please refer to appropriate vehicle specific service information.

1. Make sure the **ignition switch** is in the **OFF** position prior to working on the electronic engine controls.

2. **FIGURE 1:** Relieve the cooling system pressure. Disconnect and plug or cap the engine vent hose (2) and radiator vent hose (3). **WARNING:** Never remove the pressure relief cap (1) while the engine is operating or when the cooling system is hot. Failure to follow these instructions can result in damage to the cooling system or engine or result in personal injury. To avoid having scalding hot coolant or steam blow out of the degas bottle when removing the pressure relief cap, wait until the engine has cooled, then wrap a thick cloth around the pressure relief cap and turn it slowly. Step back while the pressure is released from the cooling system. When certain all the pressure has been released, (still with a cloth) turn and remove the pressure relief cap. Failure to follow these instructions can result in personal injury.

3. **FIGURE 1:** Remove bolts (4) and position degas bottle aside.

4. Disconnect the two exhaust pressure (EP) sensor harness pin-type retainers.

5. Disconnect the EP sensor electrical connector and position the harness aside.

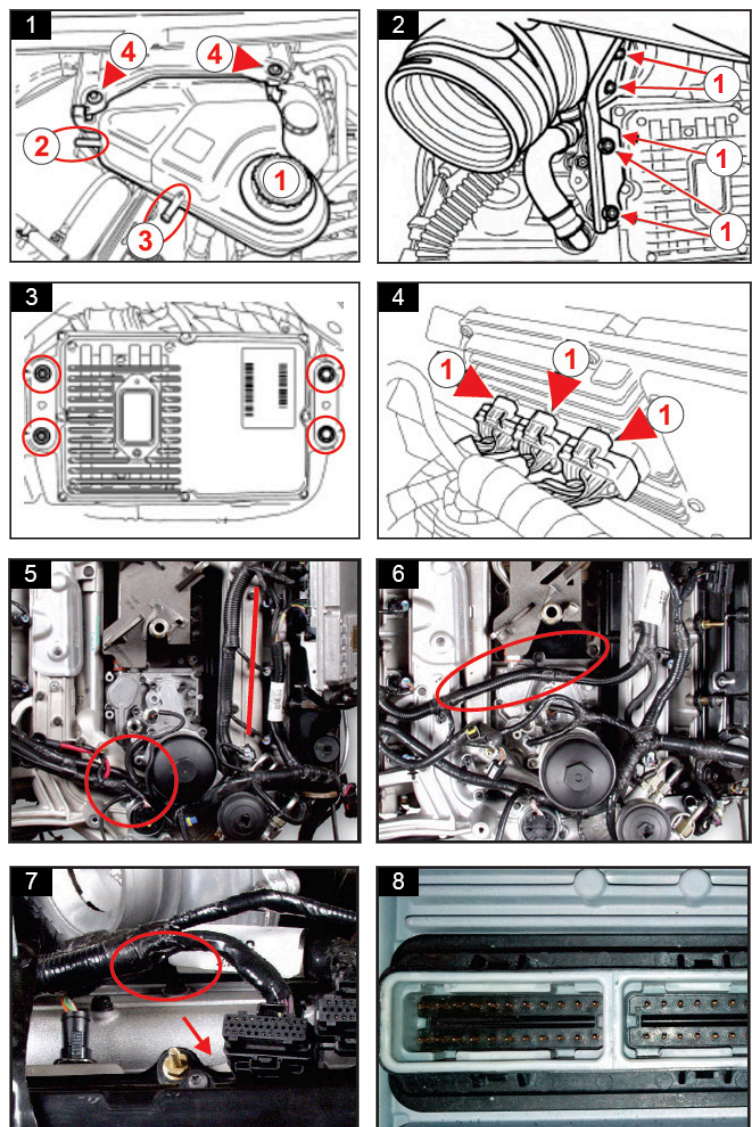
6. **FIGURE 2:** Remove the two bolts, two nuts and turbocharger intake tube bracket.

7. **FIGURE 3:** Remove the FICM bolts.

8. **FIGURE 4:** Disconnect the electrical connectors. Remove the FICM. **CAUTION:** Make sure both latches on each connector are released before removing the electrical connectors or connector damage can occur.

9. Remove the FICM from the vehicle. Remove the rubber mounting bushings and steel spacers from the FICM. Inspect and transfer busings and spacers to new FICM.

(Continued on reverse side.)



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(Continued from front side.)

- 10. WIRING HARNESS INSPECTION - FIGURES 5 - 7:** A common area of concern with the 6.0L is chafing of the fuel injection harness. Wire chafing can occur between the fuel injection wiring harness and the valve covers, intake manifold and intake manifold mounting bolts. This can result in intermittent poor operating conditions that are difficult to diagnose. Using the images in figures 5 - 7, carefully inspect the wiring harness and engine contact points shown in red. Any damage to the harness must be corrected before the FICM is installed.
- 11. INSPECT PINS ON THE FICM BEING REMOVED - FIGURE 8:** A common area of failure on the FICM is burnt pins on the 22 pin connector. This is the largest connector of the three. Inspect the FICM being removed for burnt pins. If the pins are burnt it is likely the connector on the injection harness has burnt pin sockets. If not corrected, this will result in damage to the FICM being installed. Replace any burnt socket pins inside the connector plug prior to installation.
- 12.** To install, reverse the removal procedure.
- 13. NOTICE:** With the engine cold, fill vehicles without a yellow fill level decal on the degas bottle only to the MIN line. The correct fill level on these vehicles is between the MIN line and 15 mm. (0.59 in.) below the MIN line. Fill vehicles with a yellow fill level decal to within the yellow cold fill range shown on the decal. These fill levels will allow for coolant expansion. Overfilling the degas bottle may result in damage to the pressure cap, which can cause the engine to overheat.

CALIBRATION + PROGRAMMING

In some cases, pre-programming may result in Diagnostic Code U0306 being stored in the PCM. This code will not cause the Malfunction Indicator Lamp (MIL) to illuminate or any adverse driveability symptoms. Code U0306 is the result of having a later version of software in the FICM module than the PCM expects. If desired, code U0306 may be corrected by reprogramming the FICM and PCM together, on the vehicle with the appropriate reprogramming equipment and software.

COLD START FICM

When monitoring the FICM_MPWR parameter with a scan tool on the DTech cold start FICM, DT60FICM-CS, the display will show 48 volts. The cold start FICM is engineered to provide the PCM with a 48 volt signal to prevent setting diagnostic code P0611 (FICM performance failure) and maintain the FICM and PCM diagnostic abilities. The cold start FICM delivers 58 volts to the injectors.

COMMON FICM FAULT CODES

FICM has detected an open injector circuit. Defective stator, harness, FICM.

- **P0261:** Cylinder 1 injector circuit low.
- **P0264:** Cylinder 2 injector circuit low.
- **P0267:** Cylinder 3 injector circuit low.
- **P0270:** Cylinder 4 injector circuit low.
- **P0273:** Cylinder 5 injector circuit low.
- **P0276:** Cylinder 6 injector circuit low.
- **P0279:** Cylinder 7 injector circuit low.
- **P0282:** Cylinder 8 injector circuit low.

FICM has detected a short in an injector circuit. Injector circuit short to ground. Defective stator, harness, FICM.

- **P0262:** Cylinder 1 injector circuit high.
- **P0265:** Cylinder 2 injector circuit high.
- **P0268:** Cylinder 3 injector circuit high.
- **P0271:** Cylinder 4 injector circuit high.
- **P0274:** Cylinder 5 injector circuit high.
- **P0277:** Cylinder 6 injector circuit high.
- **P0280:** Cylinder 7 injector circuit high.
- **P0283:** Cylinder 8 injector circuit high.

MISCELLANEOUS FAULTS

- **P0611:** FICM performance - FICM memory fault will set if a RAM or ROM fault exists. Loss of FICM power or other internal FICM failure.
- **P1378:** FICM system voltage low - FICM detects power below 7 volts. Low batteries, loose connection / resistance in circuit, defective relay.
- **P1379:** FICM system voltage high - FICM detects power exceeding 16 volts. Charging system fault.
- **P0148:** Fuel delivery error - Engine RPM exceeded requested RPM.
- **P2552:** FICM circuit - Throttle / fuel inhibit circuit.
- **U0105:** Lost communication with FICM - Check Can2H / Can2L circuits. FICM or PCM issue.
- **U0306:** Software compatibility issues with FICM - Reprogramming of FICM and PCM may be necessary.