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Case Number: S201800002 REV. A

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Symptom/Vehicle Issue: Malfunction Indicator Lamp (MIL) Illuminated. Fuel Injection Quantity Diagnostic Trouble Codes (DTCs) Set.

Discussion: A small number of customers may experience a MIL Illumination. Upon inspection, a technician may find one or more of the following DTCs:

- P020A-00 Cylinder 1 Injection Timing-
- P020D-00 Cylinder 4 Injection Timing-
- P020B-00 Cylinder 2 Injection Timing-
- P020E-00 Cylinder 5 Injection Timing-
- P020C-00 Cylinder 3 Injection Timing-
- P020F-00 Cylinder 6 Injection Timing-
- P01CC-00 Cylinder 1 Injection Timing Performance - Over Advanced-
- P01D2-00 Cylinder 4 Injection Timing Performance - Over Advanced-
- P01CE-00 Cylinder 2 Injection Timing Performance - Over Advanced-
- P01D4-00 Cylinder 5 Injection Timing Performance - Over Advanced-
- P01D0-00 Cylinder 3 Injection Timing Performance - Over Advanced-
- P01D6-00 Cylinder 6 Injection Timing Performance - Over Advanced-
- P01CB-00 Cylinder 1 Injection Timing Performance - Over Retarded-
- P01D1-00 Cylinder 4 Injection Timing Performance - Over Retarded-
- P01CD-00 Cylinder 2 Injection Timing Performance - Over Retarded-
- P01D3-00 Cylinder 5 Injection Timing Performance - Over Retarded-
- P01CF-00 Cylinder 3 Injection Timing Performance - Over Retarded-
- P01D5-00 Cylinder 6 Injection Timing Performance - Over Retarded-

If you receive a vehicle with any of the above DTCs, please follow the repair steps below.

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Contact STAR Center, or your Technical Assistance Center Via TechCONNECT or eCONTACT ticket if no solution is found



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Repair Steps:

Prior to clearing any fault codes, perform the following steps:

1. Using Wi-Tech, check to see if there is a calibration update available for the PCM. Is there a calibration update available?
 - a. Yes>>> Update the PCM calibration per all normal published TSB procedures. Proceed to ([Step, 3](#))
 - b. NO>>> Proceed to ([Step, 2](#))
2. Was a PCM update recently performed within the last 500 miles?
 - a. Yes>>> Proceed to ([Step, 3](#))
 - b. No>>> Proceed to ([Step, 5](#))
3. Using Wi-Tech, navigate to the PCM “Misc Functions” and perform the “Reset Zero Fuel Quantity Calibration” routine.
4. Clear all DTCs, and perform the Drive Cycle Verification steps below. Did the DTC return?
 - a. Yes>>> Proceed to ([Step, 5](#))
 - b. No>>> The vehicle is repaired. No further action is needed.
5. Closely inspect the CAC system for any loose connections or boost leaks. Pressure test the CAC system per the steps outlined in Service Library, Service Information Section 09 – Engine, 3.0L Turbo Diesel >> Diagnosis and Testing >> Intake Air System Leak Detection.
6. Inspect the injector hold down clamp/bolt for proper torque. If found to be loose, remove the injector, and inspect the nozzle nut to verify it has not also come loose. If found loose, replace the injector in accordance with current published service information, and perform the Drive Cycle Verification.
7. Inspect the fuel system for signs of contamination per normal published diagnostics, and repair as necessary under current warranty repair guidelines.
8. Perform all additional published diagnostics for the DTC(s) you have. If diagnostics point towards injector replacement, perform the Drive Cycle Verification one

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additional time to allow additional further adaptation of the injector, and verify the failure. Did the DTC return?

a. Yes>>> Replace the affected injector in accordance with current published service information. Proceed to [\(Step, 9\)](#)

b. No>>> The vehicle is now repaired. The system has successfully relearned.

9. Using Wi-Tech, navigate to the PCM “Misc Functions” and perform the “Reset Zero Fuel Quantity Calibration” routine.

10. Clear all DTCs, and perform the Drive Cycle Verification to verify the repair.

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Drive Cycle Verification:

1. Ensure all DTCs are cleared.
2. Start the vehicle, and allow it to reach full operating temperature.
3. Drive the vehicle at a steady 55 mph (88 kph)
4. Perform a 0 throttle deceleration by completely releasing the throttle for 10-15 seconds.
5. Accelerate back up to steady 55 mph, and drive for approximately 30-60 seconds.
6. Repeat steps 5, and 6 for a total of 20-25 times.
7. Navigate to the PCM “Systems Tests” and perform another “Engineering Data Report routine. This time, email the copy of the report to yourself.
8. Open the new Engineering Data report, and locate the data lines labeled “*Learning Cycle Counter For Rail Pressure Calibration Points 1-3*”, and note the values. See (Figure 1).

Learning cycle counter for rail pressure calibration point of 1	61
Learning cycle counter for rail pressure calibration point of 2	150
Learning cycle counter for rail pressure calibration point of 3	62

Figure 1

9. After the drive, these numbers should have increased from 0. This is the indication that the drive cycle was successful in running the monitors.

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