# 1 03 11-17

# Service Information Bulletin

| SUBJECT | DATE |
|---|---|
| SPN 157 (MCM) (GHG17) | March 2017 |

**Additions, Revisions, or Updates**

| Publication Number / Title | Platform | Section Title | Change |
|---|---|---|---|
| DDC-SVC-MAN- 0193 | DD Platform - GHG17 Med Duty | SPN 157/FMI 17 - GHG17 | New Diagnostics |
| | | SPN 157/FMI 18 - GHG17 | |

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.

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# 2 SPN 157/FMI 17 - GHG17

Minimum Rail Pressure Not Achieved While the Engine is Cranking

**Table 1.**

| SPN 157/FMI 17 | |
|---|---|
| Description | Minimum Rail Pressure For Injection Not Achieved |
| Monitored Parameter | Fuel Rail Pressure<br>Rail Pressure less than 120 bar (1740 PSI)<br>Desired Rail Pressure greater than 110 bar (1595 PSI) |
| Typical Enabling Conditions | Engine Speed greater than 50 rpm<br>Fuel Tank Level greater than 15% |
| Monitor Sequence | None |
| Execution Frequency | MIL |
| Typical Duration | 123 seconds of crank time |
| Dash Lamps | MIL |
| Engine Reaction | None |
| Verification | Turn the ignition ON.<br>Start the engine. |

Check as follows:

The Motor Control Module (MCM) monitors the fuel rail pressure and when fuel rail pressure does not reach a minimum 120 bar (1740 PSI) within three cranking cycles, the MCM sets the code. This fault can occur due to the conditions listed below:

- Fuel Filter Integrity (Loose Caps, Plugged Filters)
- Fuel Supply Issues (Fuel Level, Fuel Aeration, Leaking Fuel Lines, Fuel Restrictions)
- High Pressure Pump Internal Failure
- Fuel Contamination
- Rail Pressure Sensor
- Motor Control Module (MCM)

1. Did SPN 157/FMI 17 set after the fuel system was repaired, fuel filter maintenance was performed or the vehicle was drained of fuel?
    a. Yes; the code may have set due to air in the fuel system. Clear the codes and road test the vehicle. If the code does not reset, release the vehicle to the customer.
    b. No; Go to step 2.
2. Check for any external fuel leaks. Are there any external fuel leaks present?
    a. Yes; repair the fuel leaks as necessary. Verify repair.
    b. No; Go to step 3.
3. Connect DiagnosticLink ® and check for other codes. Are there other codes present?
    a. Yes; diagnose the other codes that are present. Verify repair.
    b. No; Go to step 4.
4. Does the vehicle exhibit a 'no start' or 'hard start' concern?
    a. Yes; Refer to section "Hard Start/No Start (This Test Must Be Done First)".
    b. No; Go to step 5.
5. Clear the code and start the engine. Does the SPN 157/FMI 17 become active?
    a. Yes; Install a test MCM and restart the engine. If the code is no longer present, install a new MCM.
    b. No; inform the customer that the fault was set due to a previous hard start or no start condition. Return the vehicle to the customer.

# 3 SPN 157/FMI 18 - GHG17

Fault of the Fuel Rail Pressure Sensor, Wiring or Quantity Control Valve

**Table 2.**

| SPN 157/FMI 18 | |
|---|---|
| Description | Fuel Rail Pressure High |
| Monitored Parameter | Fuel Rail Pressure |
| Typical Enabling Conditions | Closed Loop and Actual Rail Pressure Greater than 200 Bar (2900 PSI) of Desired Rail Pressure |
| Monitor Sequence | None |
| Execution Frequency | Continuous When Enabling Conditions Met |
| Typical Duration | Ten Seconds |
| Dash Lamps | MIL, CEL |
| Engine Reaction | Derate 25% |
| Verification | Steady Engine rpm 1400 - 1500 (Two Minutes) |

The Motor Control Module (MCM) monitors the fuel rail pressure and when fuel rail pressure deviation is greater than 200 bar (2900 PSI) higher than requested fuel rail pressure for eight seconds, the MCM sets the code. This fault can occur due to the conditions listed below:

- Faulty fuel rail pressure sensor
- Faulty Quantity Control Valve (QCV)
- Faulty MCM
- Faulty wiring

1. Turn the ignition ON (key ON, engine OFF).
2. Using DiagnosticLink ®, check for multiple codes. Are additional codes (with the exception of DPF codes) present along with SPN 157/FMI 18?
    a. Yes; service the additional codes first.
    b. No; if only SPN 157/FMI 18 is present, Go to step 3.
3. Perform the Fuel System Integrity Check (FSIC).
4. Before the FSIC was started, with key ON, engine OFF, was actual rail pressure greater than 10 bar (145 PSI)?
    a. Yes; Go to step 5.
    b. No; Go to step 6.
5. Does the fuel rail pressure bleed down below 10 bar (145 PSI) after the test?
    a. Yes; fuel rail pressure is below 10 bar (145 PSI). Go to step 6.
    b. No; replace fuel rail.
    For DD5: Refer to section "Removal of the Fuel Rail".
    For DD8: Refer to section "Removal of the Fuel Rail".
6. Is the actual fuel rail pressure (ASL001) 200 bar (2900 PSI) higher than the desired rail pressure (AS098) at any point during the FSIC test?
    a. Yes; replace the quantity control valve.
    For DD5: Refer to section "Removal of the Quantity Control Valve".
    For DD8: Refer to section "Removal of the Quantity Control Valve".
    b. No; the deviation is less than 200 bar (2900 PSI). Go to step 7.
7. Inspect the fuel rail pressure sensor connector and 120-pin connector for corrosion. Is corrosion found?
    a. Yes; replace damaged component.
    b. No; replace fuel rail.
    For DD5: Refer to section "Removal of the Fuel Rail".
    For DD8: Refer to section "Removal of the Fuel Rail".

 