# 1 02 31-16

# Service Information Bulletin

| SUBJECT | DATE |
|---|---|
| SPN 3085 (MCM)(GHG17) | February 2016 |

**Additions, Revisions, or Updates**

| Publication Number / Title | Platform | Section Title | Change |
|---|---|---|---|
| DDC-SVC-MAN-0191 | DD Platform | SPN 3058/FMI 10 - GHG17 | The diagnostic procedures have been updated to include the new sensor plausibility fault codes. Removed checking the sensor values (uses plausibility checks for GHG17). Added inspection of the Charge air Cooler and intake system. |
| | | SPN 3058/FMI 9 - 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 3058/FMI 10 - GHG17

Exhaust Gas Recirculation Slow Response

**Table 1.**

| SPN 3058/FMI 10 | |
|---|---|
| Description | This Fault Code Sets When Actual EGR Flow vs. Desired EGR Flow is Greater than a Calibrated Threshold. |
| Monitored Parameter | EGR delta P Sensor, Intake Manifold Pressure Sensor, Intake Manifold Temperature Sensor |
| Typical Enabling Conditions | Low Engine to High Engine Load |
| Monitor Sequence | One Second After Acceleration Load, Actual EGR Flow vs. Desired EGR Flow is Greater than a Calibrated Threshold |
| Execution Frequency | Always Enabled |
| Typical Duration | Five Seconds |
| Dash Lamps | MIL, CEL |
| Engine Reaction | None |
| Verification | Road Test With a Trailer While Performing Multiple Accelerations, Engine Load Needs to Increase Above 50% During Acceleration |

**WARNING: ENGINE EXHAUST**

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

Check as follows:

1. Connect DiagnosticLink ®.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple codes. Are any of the following codes present?
   - SPN 411 / FMI 2, FMI 3, FMI 4, FMI 13
   - SPN 1636 / FMI 0, FMI 3, FMI 4, FMI 14, FMI 16
   - SPN 2630 / FMI 3, FMI 4, FMI 14
   - SPN 2791 / FMI 2, FMI 7, FMI 9, FMI 11, FMI 12, FMI 13, FMI 14, FMI 16, FMI 18, FMI 31
   - SPN 3563 / FMI 3, FMI 4, FMI 10 FMI 16, FMI 18, FMI 21
   - SPN 2659 / FMI 0, FMI 18
   - SPN 521018 / FMI 0
   - SPN 521019 / FMI 0
   - SPN 521020 / FMI 0

   a. Yes; diagnose the other fault codes first.
   b. No; Go to step 4.
4. Check the Diesel Particulate Filter (DPF) zone. Is the DPF zone greater than zero?
   a. Yes; perform a parked regeneration and Go to step 5.
   b. No; Go to step 6.
5. Road test with a trailer while performing multiple accelerations, (engine load needs to increase above 50% during acceleration). Does fault code SPN 3058 FMI 10 become active?
   a. Yes; Go to step 6.
   b. No; the back pressure in the exhaust was the cause of the concern. Release the vehicle to the customer.
6. Use DiagnosticLink to monitor the Exhaust Gas Recirculation (EGR) delta P sensor voltage. Is the voltage between 0.55 and 0.83 volts?
   a. Yes; Go to step 15.


 

b. No; Go to step 7.

7. Turn the ignition OFF.
8. Disconnect and inspect the delta P sensor electrical connector harness side. Are there any bent, damaged or corroded pins?
   a. Yes; replace the EGR delta P electrical connector. Refer to technical Service letter 10 TS-8 (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/10TS8.pdf). Verify repair.
   b. No; Go to step 9.
9. Inspect the delta P sensor electrical connector component side. Are there any bent, damaged or corroded pins?
   a. Yes; replace the delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
   b. No; Go to step 10.
10. Remove the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor".
11. Reconnect the EGR delta P electrical connector while the EGR delta P sensor is still removed.
12. Turn the ignition ON (key ON, engine OFF).
13. Monitor the EGR delta P sensor voltage again. Is the voltage between 0.55 and 0.83 volts?
    a. Yes; Go to step 14.
    b. No; replace the EGR delta P sensor. Verify repair.
14. Inspect the EGR delta P sensor ports. Are the EGR delta P sensor ports restricted?
    a. Yes; replace the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
    b. No; clean the EGR venturi ports. Refer to Service Letter 14 TS-2 (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/14TS2.pdf) and Refer to section "Cleaning of the Exhaust Gas Recirculation Venturi Pipe Delta P Sensor Ports". Verify repair.
15. Inspect the EGR and exhaust system for leaks. Are there any leaks present?
    a. Yes; repair the EGR/exhaust leaks. Verify repair.
    b. No; Go to step 16.
16. Check for leaks between the turbocharger outlet pipe and the intake manifold. Are there any leaks present?
    a. Yes; repair the leaks. Verify repair.
    b. No; Go to step 17.
17. Check the Charge Air Cooler for leaks. Refer to Original Equipment Manufacturer (OEM) for CAC testing procedures. Does the CAC pass the leak test?
    a. Yes; Go to step 18.
    b. No; replace the CAC. Refer to OEM literature for CAC replacement procedures. Verify repair.
18. Remove and inspect the EGR delta P sensor ports. Are there any restrictions present?
    a. Yes; replace the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
    b. No; Go to step 19.
19. Inspect the EGR venturi ports. Are there any restrictions present?
    a. Yes; clean the EGR venturi ports. Refer to section "Cleaning of the Exhaust Gas Recirculation Venturi". Verify repair.
    b. No; clean the EGR system.
       For DD13 engines : Refer to section "Cleaning of the DD13 Exhaust Gas Recirculation System".
       For DD15 engines : Refer to section "Cleaning of the DD15 Exhaust Gas Recirculation System".
       For DD16 engines : Refer to section "Cleaning of the DD16 Exhaust Gas Recirculation System".

 

# 3 SPN 3058/FMI 9 - GHG17

Exhaust Gas Recirculation Slow Response - Low Box

**Table 2.**

| SPN 3058/FMI 9 | |
|---|---|
| Description | This Fault Code Sets when Actual EGR Flow vs. Desired EGR Flow is Greater than a Calibrated Threshold While the Engine rpm is Between 600 and 900 rpm. |
| Monitored Parameter | EGR delta P Sensor, Intake Manifold Pressure Sensor, Intake Manifold Temperature Sensor |
| Typical Enabling Conditions | Low Engine to High Engine Load |
| Monitor Sequence | One Second After Acceleration Load, Actual EGR Flow vs. Desired EGR Flow is Greater than a Calibrated Threshold |
| Execution Frequency | Always Enabled |
| Typical Duration | Five Seconds |
| Dash Lamps | MIL, CEL |
| Engine Reaction | None |
| Verification | Road Test With a Trailer While Performing Multiple Accelerations, Engine Load Needs to Increase Above 50% During Acceleration and the Engine rpm is Between 600 and 900 rpm. |

**WARNING: ENGINE EXHAUST**

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

Check as follows:

1. Connect DiagnosticLink ®.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple codes. Are any of the following codes present?
   - SPN 411 / FMI 2, FMI 3, FMI 4, FMI 13
   - SPN 1636 / FMI 0, FMI 3, FMI 4, FMI 14, FMI 16
   - SPN 2630 / FMI 3, FMI 4, FMI 14
   - SPN 2791 / FMI 2, FMI 7, FMI 9, FMI 11, FMI 12, FMI 13, FMI 14, FMI 16, FMI 18, FMI 31
   - SPN 3563 / FMI 3, FMI 4, FMI 10 FMI 16, FMI 18, FMI 21
   - SPN 2659 / FMI 0, FMI 18
   - SPN 521018 / FMI 0
   - SPN 521019 / FMI 0
   - SPN 521020 / FMI 0

   a. Yes; diagnose the other fault codes first.
   b. No; Go to step 4.
4. Check the Diesel Particulate Filter (DPF) zone. Is the DPF zone greater than zero?
   a. Yes; perform a parked regeneration and Go to step 5.
   b. No; Go to step 6.
5. Road test with a trailer while performing multiple accelerations, (engine load needs to increase above 50% during acceleration). Does fault code SPN 3058 FMI 10 become active?
   a. Yes; Go to step 6.
   b. No; the back pressure in the exhaust was the cause of the concern. Release the vehicle to the customer.
6. Use DiagnosticLink to monitor the Exhaust Gas Recirculation (EGR) delta P sensor voltage. Is the voltage between 0.55 and 0.83 volts?


 

a. Yes; Go to step 15.
b. No; Go to step 7.

7. Turn the ignition OFF.
8. Disconnect and inspect the delta P sensor electrical connector harness side. Are there any bent, damaged or corroded pins?
   a. Yes; replace the EGR delta P electrical connector. Refer to technical Service letter 10 TS-8 (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/10TS8.pdf). Verify repair.
   b. No; Go to step 9.
9. Inspect the delta P sensor electrical connector component side. Are there any bent, damaged or corroded pins?
   a. Yes; replace the delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
   b. No; Go to step 10.
10. Remove the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor".
11. Reconnect the EGR delta P electrical connector while the EGR delta P sensor is still removed.
12. Turn the ignition ON (key ON, engine OFF).
13. Monitor the EGR delta P sensor voltage again. Is the voltage between 0.55 and 0.83 volts?
    a. Yes; Go to step 14.
    b. No; replace the EGR delta P sensor. Verify repair.
14. Inspect the EGR delta P sensor ports. Are the EGR delta P sensor ports restricted?
    a. Yes; replace the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
    b. No; clean the EGR venturi ports. Refer to Service Letter 14 TS-2 (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/14TS2.pdf) and Refer to section "Cleaning of the Exhaust Gas Recirculation Venturi Pipe Delta P Sensor Ports". Verify repair.
15. Inspect the EGR and exhaust system for leaks. Are there any leaks present?
    a. Yes; repair the EGR/exhaust leaks. Verify repair.
    b. No; Go to step 16.
16. Check for leaks between the turbocharger outlet pipe and the intake manifold. Are there any leaks present?
    a. Yes; repair the leaks. Verify repair.
    b. No; Go to step 17.
17. Check the Charge Air Cooler for leaks. Refer to Original Equipment Manufacturer (OEM) for CAC testing procedures. Does the CAC pass the leak test?
    a. Yes; Go to step 18.
    b. No; replace the CAC. Refer to OEM literature for CAC replacement procedures. Verify repair.
18. Remove and inspect the EGR delta P sensor ports. Are there any restrictions present?
    a. Yes; replace the EGR delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
    b. No; Go to step 19.
19. Inspect the EGR venturi ports. Are there any restrictions present?
    a. Yes; clean the EGR venturi ports. Refer to section "Cleaning of the Exhaust Gas Recirculation Venturi". Verify repair.
    b. No; clean the EGR system.
       For DD13 engines : Refer to section "Cleaning of the DD13 Exhaust Gas Recirculation System".
       For DD15 engines : Refer to section "Cleaning of the DD15 Exhaust Gas Recirculation System".
       For DD16 engines : Refer to section "Cleaning of the DD16 Exhaust Gas Recirculation System".

 