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## Service Information Bulletin

SUBJECT	DATE
SPN 411 (MCM) (GHG17)	August 2017

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 HD DD	SPN 411/FMI 4 - GHG17	The diagnostic procedure has been updated. Removed the need to disconnect the MCM 120-pin electrical connector. Added step to jump pins. Added graphic to point out location of the sensor.

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 411/FMI 4 - GHG17

EGR Delta Pressure Sensor Circuit Failed Low

**Table 1.**

SPN 411/FMI 4	
Description	This Fault Code Sets when there is an Open in the Voltage Supply Circuit, an Open or Short to Ground on the Signal Return Circuit
Monitored Parameter	EGR Delta Pressure Sensor Return Signal
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	MIL, CEL
Engine Reaction	Derate 25%
Verification	Engine Idle (One Minute)



**WARNING: PERSONAL INJURY**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.



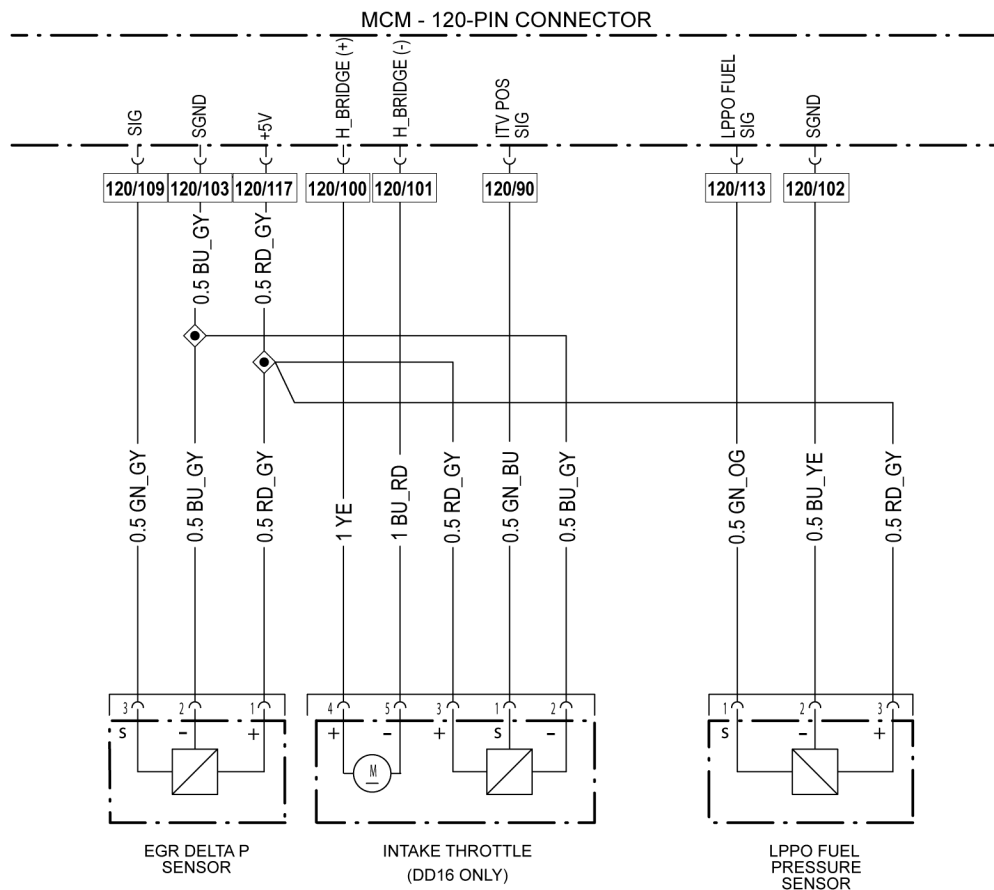
**WARNING: PERSONAL INJURY**

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



**WARNING: ENGINE EXHAUST**

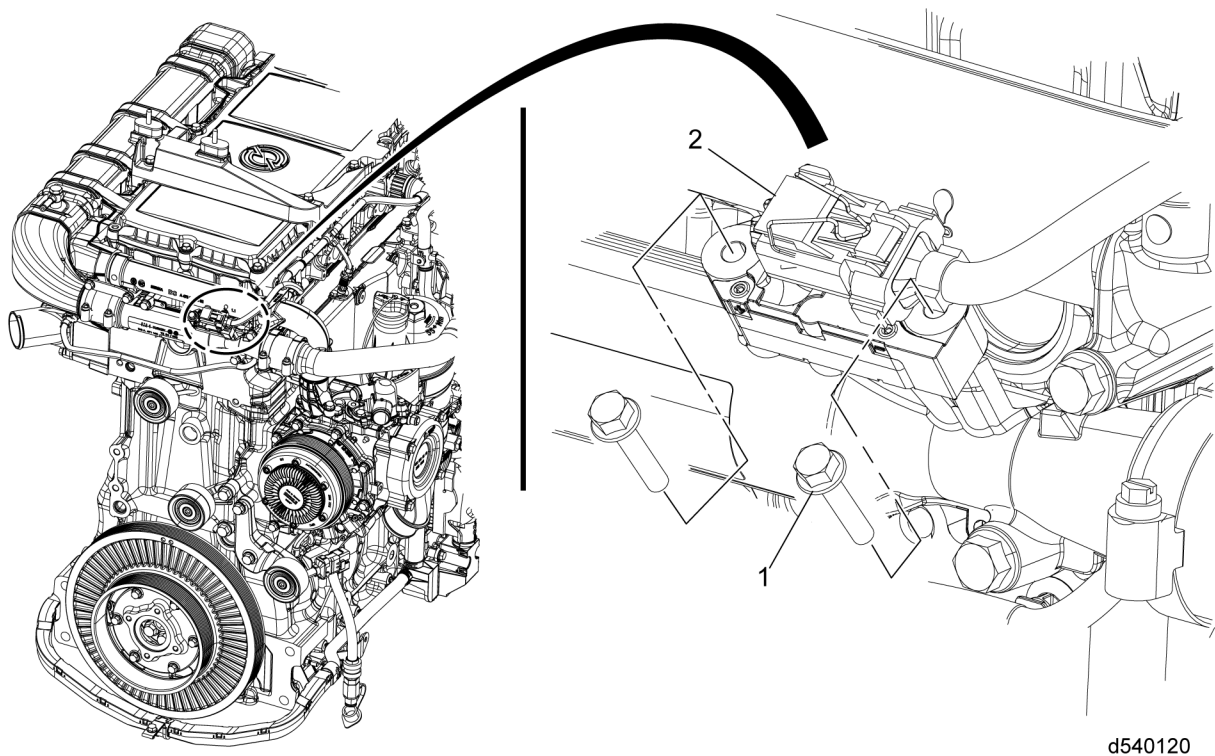
To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.



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Check as follows:

1. Connect DiagnosticLink<sup>®</sup>.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple fault codes. Is fault code SPN 3509/FMI 4 also present?
  - a. Yes; diagnose fault code SPN 3509/FMI 4.
  - b. No; Go to step 4.
4. Turn the ignition OFF.



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5. Disconnect and inspect the EGR Delta P sensor electrical connector harness side. Is there any corrosion present?
  - a. Yes; replace the EGR Delta P sensor and the electrical connector. Refer to section "Removal of the Delta P Sensor". Verify repair.
  - b. No; Go to step 6.
6. Is the connector or any of the pins damaged?
  - a. Yes; Go to step 7.
  - b. No; Go to step 8.
7. Inspect the EGR Delta P sensor electrical connector component side, is the connector or are any of the pins damaged?
  - a. Yes; replace the EGR Delta P sensor and the electrical connector. Refer to section "Removal of the Delta P Sensor". Verify repair.
  - b. No; replace the EGR Delta P sensor electrical connector.
8. Turn the ignition ON (key ON, engine OFF).
9. Measure the voltage between pin 1 and pin 2 of the EGR Delta P sensor electrical connector harness side. Is the voltage between 4.5 and 5.5 volts?
  - a. Yes. Go to step 11.
  - b. No; Go to step 10.
10. Measure the voltage between pin 1 and ground. Is the voltage between 4.5 and 5.5 volts?
  - a. Yes; repair the circuit between pin 1 of the EGR Delta P sensor electrical connector harness side and the splice. Verify repair.
  - b. No; repair the circuit between pin 2 of the EGR Delta P sensor electrical connector harness side and the splice. Verify repair.
11. Use the appropriate flex probes to jump pin 1 and pin 3 of the EGR Delta P sensor electrical connector harness side together.
12. Check the fault codes, does fault code SPN 411 FMI 4 become inactive and fault code SPN 411/FMI 3 become active?
  - a. Yes; replace the EGR Delta P sensor. Refer to section "Removal of the Delta P Sensor". Verify repair.
  - b. No; repair the circuit between pin 3 of the EGR Delta P sensor electrical connector harness side and pin 109 of the 120-pin MCM electrical connector harness side.