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Service Information Bulletin

SUBJECT	DATE
SPN 102 (MCM) (GHG17)	January 2017

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	GHG17 Medium Duty	SPN 102/FMI 16 - GHG17	These are new sections.
		SPN 102/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 102/FMI 16 - GHG17

Intake Manifold Pressure Too High

Table 1.

SPN 102/FMI 16	
Description	This Fault Code Sets When the Motor Control Module (MCM) Detects That the Measured Intake Manifold Pressure is Higher than the Desired Intake Manifold Pressure by More than the Accepted Threshold
Monitored Parameter	Intake Manifold Pressure
Typical Enabling Conditions	Engine Coolant Temperature greater than 65°C (149°F) Engine Speed greater than 1130 rpm Barometric Pressure greater than 755 mbar (10.9 psi) Vehicle Speed greater than 89 kph (55 mph)
Monitor Sequence	None
Execution Frequency	Always When Typical Enabling Conditions Are Met
Typical Duration	15 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	25% Derate
Verification	Once the Engine Coolant Temperature is Above 65°C (149°F), Road Test Vehicle Above 89 kph (55 mph), rpm greater than 1130 for Five Minutes

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.

Check as follows:

1. Connect DiagnosticLink ®.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple fault codes. Are there also fault codes present for the turbocharger actuator, intake manifold pressure sensor or barometric pressure sensor?
    a. Yes; diagnose the other fault codes first.
    b. No; Go to step 4.

4. Compare the barometric pressure reading in the MCM to the local barometric pressure reading for your area. Are the readings within 69 mbar (1 psi) of each other?
    a. Yes; Go to step 5.
    b. No; replace the MCM. Verify repair.
5. Compare the intake manifold pressure reading to the barometric pressure readings. Are the readings within 103 mbar (1.5 psi) of each other?
    a. Yes; replace the turbocharger. Verify repair.
    b. No; replace the intake manifold pressure sensor. Verify repair.

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Intake Manifold Pressure Too Low

Table 2.

SPN 102/FMI 18	
Description	This Fault Code Sets When the Motor Control Module (MCM) Detects That the Measured Intake Manifold Pressure is lower than the Desired Intake Manifold Pressure by more than the Accepted Threshold
Monitored Parameter	Intake Manifold Pressure
Typical Enabling Conditions	Engine Coolant Temperature greater than 65°C (149°F) Engine Speed greater than 1130 rpm Barometric Pressure greater than 755 mbar (10.9 psi) Vehicle Speed greater than 89 kph (55 mph)
Monitor Sequence	None
Execution Frequency	Always When Typical Enabling Conditions Are Met
Typical Duration	15 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	25% Derate
Verification	Once the Engine Coolant Temperature is Above 65°C (149°F), Road Test Vehicle Above 89 kph(55 mph), rpm greater than 1130 for Five Minutes

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.

Check as follows:

1. Connect DiagnosticLink ®.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple fault codes. Are there also fault codes present for the turbocharger actuator, intake manifold pressure sensor or barometric pressure sensor?
    a. Yes; diagnose the other fault codes first.
    b. No; Go to step 4.

4. Compare the barometric pressure reading in the MCM to the local barometric pressure reading for your area. Are the readings within 69 mbar (1 psi) of each other?
    a. Yes; Go to step 5.
    b. No; replace the MCM. Verify repair.
5. Compare the intake manifold pressure reading to the barometric pressure readings. Are the readings within 103 mbar (1.5 psi) of each other?
    a. Yes; Go to step 6.
    b. No; replace the intake manifold pressure sensor. Verify repair.
6. Remove and inspect the air filter. Is the air filter restricted or excessively dirty?
    a. Yes; replace the air filter and perform the verification test.
    b. No; Go to step 7.
7. Inspect the intake system for leaks. Are there any leaks present?
    a. Yes; repair the leaks as necessary. Verify repair.
    b. No; Go to step 8.
8. Refer to Original Equipment Manufacturer (OEM) literature and pressure test the charge air cooler. Does the charge air cooler pass the pressure test?
    a. Yes; Go to step 9.
    b. No; replace the Charge Air Cooler (CAC). Refer to OEM literature for the charge air cooler removal and installation procedures.
9. Refer to OEM literature and perform the CAC restriction test. Does the CAC pass the restriction test?
    a. Yes; replace the turbocharger. Verify repair.
    b. No; replace the charge air cooler. Refer to OEM literature for the charge air cooler removal and installation procedures.

