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Service Information Bulletin

SUBJECT	DATE
SPN 521049 (MCM) (GHG17), SPN 521050 (MCM)(GHG17), SPN 521052 (MCM) (GHG17)	August 2018

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	DD5	SPN 521049/FMI 31 - GHG17	Added ACM software check.
		SPN 521050/FMI 31 - GHG17	
		SPN 521052/FMI 31 - 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 521049/FMI 31 - GHG17

DEF Inducement DEF Lamp Active

Table 1.

SPN 521049/FMI 31	
Description	This Code Sets When There is a Code Present for the Diesel Exhaust Fluid (DEF) Tank Level, DEF Dosing Unit, DEF Pump, NOx Sensors, Blocked DEF Line, DEF Quality, NOx Efficiency, Selective Catalyst Reduction (SCR) Harness and/or SCR Sensor.
Monitored Parameter	SCR and Diesel Particulate Filter (DPF) Sensors
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	DEF Lamp
Engine Reaction	25 % Derate
Verification	Parked SCR Efficiency Test for Extended SCR Faults High Idle Regeneration for DPF and NOx Faults

Check as follows:

1. Connect DiagnosticLink[®].
2. Turn the ignition ON (key ON, engine OFF).
3. Check the ACM software level. Is the ACM software level 9.57.1.0 ZGS 002 or greater?
 - a. Yes; Go to step 4.
 - b. No; update the ACM using the latest server information. Perform the repair verification. If the fault returns, Go to step 4.
4. Check for other emission-related fault codes. Are there any Selective Catalyst Reduction (SCR) or Diesel Particulate Filter (DPF) related fault codes present?
 - a. Yes; diagnose and repair the emission-related fault codes first. Verify repair.



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.



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: HOT EXHAUST**

During parked regeneration the exhaust gases will be extremely HOT and could cause a fire if directed at combustible materials. The vehicle must be parked outside.

- b. No; perform a high idle regeneration. When the engine returns to idle, turn the ignition off and wait for all the modules to power down (usually about one minute). Turn the ignition on (Key ON / Engine OFF) and wait one minute, then start the engine and run a Parked SCR efficiency test. Use DiagnosticLink to clear the code.

3 SPN 521050/FMI 31 - GHG17

DEF Inducement SEL Lamp Active

Table 2.

SPN 521050/FMI 31	
Description	This Code Sets After SPN 521049/FMI 31 is Present and the Speed Limit has been Reduced to 90 kph (55 mph).
Monitored Parameter	SCR and Diesel Particulate Filter (DPF) Sensors
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	SEL Lamp
Engine Reaction	40 % Derate, Vehicle Speed Limited to 8 kph (5 mph)
Verification	Parked SCR Efficiency Test for Extended SCR Faults High Idle Regeneration for DPF and NOx Faults

Check as follows:

1. Connect DiagnosticLink[®].
2. Turn the ignition ON (key ON, engine OFF).
3. Check the ACM software level. Is the ACM software level 9.57.1.0 ZGS 002 or greater?
 - a. Yes; Go to step 4.
 - b. No; update the ACM using the latest server information. Perform the repair verification. If the fault returns, Go to step 4.
4. Check for other emission-related fault codes. Are there any Selective Catalyst Reduction (SCR) or Diesel Particulate Filter (DPF) related fault codes present?
 - a. Yes; diagnose and repair the emission-related fault codes first. Verify repair.



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.



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: HOT EXHAUST**

During parked regeneration the exhaust gases will be extremely HOT and could cause a fire if directed at combustible materials. The vehicle must be parked outside.

- b. No; perform a high idle regeneration. When the engine returns to idle, turn the ignition off and wait for all the modules to power down (usually about one minute). Turn the ignition on (Key ON / Engine OFF) and wait one minute, then start the engine and run a Parked SCR efficiency test. Use DiagnosticLink to clear the code.

4 SPN 521052/FMI 31 - GHG17

DEF Inducement CEL Lamp Active

Table 3.

SPN 521052/FMI 31	
Description	This Code Sets When SPN 521050/FMI 31 has been Present for One Hour of Idle Time, the Vehicle has been Restarted or Six Gallons of Fuel has been Used.
Monitored Parameter	SCR and Diesel Particulate Filter (DPF) Sensors
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Two Seconds
Dash Lamps	CEL Lamp
Engine Reaction	90 kph (55 mph) Speed Limit, Progressive Derate From 25% to 40%
Verification	Parked SCR Efficiency Test for Extended SCR Faults High Idle Regeneration for DPF and NOx Faults

Check as follows:

1. Connect DiagnosticLink[®].
2. Turn the ignition ON (key ON, engine OFF).
3. Check the ACM software level. Is the ACM software level 9.57.1.0 ZGS 002 or greater?
 - a. Yes; Go to step 4.
 - b. No; update the ACM using the latest server information. Perform the repair verification. If the fault returns, Go to step 4.
4. Check for other emission-related fault codes. Are there any Selective Catalyst Reduction (SCR) or Diesel Particulate Filter (DPF) related fault codes present?
 - a. Yes; diagnose and repair the emission-related fault codes first. Verify repair.



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.



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: HOT EXHAUST**

During parked regeneration the exhaust gases will be extremely HOT and could cause a fire if directed at combustible materials. The vehicle must be parked outside.

- b. No; perform a high idle regeneration. When the engine returns to idle, turn the ignition off and wait for all the modules to power down (usually about one minute). Turn the ignition on (Key ON / Engine OFF) and wait one minute, then start the engine and run a Parked SCR efficiency test. Use DiagnosticLink to clear the code.