

1 06 06-17



## Service Information Bulletin

SUBJECT	DATE
SPN 3226 (ACM) (GHG17)	June 2017

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	GHG17 DD5	SPN 3226/FMI 20 - GHG17	Several steps deleted with new section references added.
		SPN 3226/FMI 21 - 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.



13400 Outer Drive, West, Detroit, Michigan 48239-4001  
Telephone: 313-592-5000  
[www.demanddetroit.com](http://www.demanddetroit.com)

## 2 SPN 3226/FMI 20 - GHG17

Selective Catalyst Reduction Outlet NOx Sensor - Drift Low

**Table 1.**

SPN 3226/FMI 20	
Description	Selective Catalyst Reduction (SCR) Outlet NOx Sensor - Drift Low
Monitored Parameter	Engine Out NOx
Typical Enabling Conditions	The Following Must Be True for Greater than 30s: Fuel Mass is 0, Diesel Particulate Filter (DPF) Outlet Temperature Greater than 200C° (392F°), Battery Voltage Greater than 10V DC, Engine Speed 500 to 2100 rpm
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	Five Seconds
Dash Lamps	MIL
Engine Reaction	None
Verification	Parked Regeneration

Check as follows:

1. Connect DiagnosticLink<sup>®</sup>.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple fault codes. Are there any other fault codes present for the SCR outlet NOx sensor?
  - a. Yes; diagnose the other fault codes first.
  - b. No; Go to step 4.



### **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.

4. Inspect the Aftertreatment System (ATS) for exhaust leaks. Are there any leaks present?
  - a. Yes; repair the exhaust leaks. Verify repair.
  - b. No; Go to step 5.
5. Inspect the ATS for damage. Is there any damage present?
  - a. Yes; repair as necessary.
  - b. No; replace the SCR outlet NOx sensor. Refer to section "Removal of the Selective Catalytic Reduction Outlet NOx Sensor". Verify repair.

### 3 SPN 3226/FMI 21 - GHG17

NOx Outlet Sensor Drift High

**Table 2.**

SPN 3226/FMI 21	
Description	NOx Outlet Sensor Drift High
Monitored Parameter	Selective Catalyst Reduction (SCR) Outlet NOx
Typical Enabling Conditions	Coolant Temperature Greater than 70°C (158 °F), Engine rpm Greater than 1500 and Torque Greater than 80%
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	20 seconds
Dash Lamps	MIL
Engine Reaction	None
Verification	Parked Regeneration

Check as follows:

1. Check Aftertreatment System (ATS) for visible exhaust leaks or damage. Is damage present?
  - a. Yes; repair as necessary.
  - b. No; Go to step 2.
2. Turn the ignition OFF.
3. Use DEF test strip A0005850202 to check for diesel fuel or oil contamination of the DEF fluid; Refer to section "Checking Diesel Exhaust Fluid Quality". Do the test strips or visual inspection indicate that the DEF is contaminated?



**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.

- a. Yes; for diesel fuel or oil contamination, refer to **13 TS-17** (<https://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/13TS17.pdf>) and refer to appropriate Original Equipment Manufacturer (OEM) literature for DEF tank cleaning/flushing procedures. Refill the DEF tank with new DEF. Verify repair.
- b. No; Go to step 4.
4. Using the refractometer from DEF Test Kit W060589001900, measure the DEF urea percentage. Is DEF urea percentage between 31 to 34 percent?
  - a. Yes; Go to step 5.
  - b. No; clean/flush the DEF tank and the DEF system. Refer to section "Flushing of the Diesel Exhaust Fluid System". Refill the DEF tank with new DEF. Verify repair

**NOTE:** Fault code SPN 3361/FMI 5 will become present when the Diesel Exhaust Fluid (DEF) doser electrical connector is disconnected. This code can be cleared using DiagnosticLink once the DEF doser electrical connector is reconnected.

5. Perform a DEF Quantity Test service routine; Refer to section "Diesel Exhaust Fluid Quantity Test - GHG17".
6. Monitor the amount of DEF dispensed into the DEF-safe container included in DEF test kit W060589001900. Is the amount of DEF dispensed between 108 to 132 mL?
  - a. Yes; reinstall the DEF Dosing Unit using a new gasket and bolts, as these parts are one-time-use components. Refer to section "Installation of the Diesel Exhaust Fluid Dosing Unit". Go to step 7.
  - b. No; replace the DEF Dosing Unit using a new gasket and bolts, as these parts are one-time-use components. Refer to section "Installation of the Diesel Exhaust Fluid Dosing Unit". Verify repair.

7. Replace the SCR Outlet NOx sensor. Refer to section "Removal of the Selective Catalytic Reduction Outlet NOx Sensor". Verify repair.