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## Service Information Bulletin

| SUBJECT                 | DATE       |
|-------------------------|------------|
| SPN 5018/ FMI 18 -GHG14 | March 2013 |

### Additions, Revisions, or Updates

| Publication Number / Title | Platform    | Section Title           | Change                            |
|----------------------------|-------------|-------------------------|-----------------------------------|
| DDC-SVC-MAN-0084           | DD Platform | SPN 5018/FMI 18 - GHG14 | New table added to the procedure. |



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## 2 SPN 5018/FMI 18 - GHG14

This diagnostic is typically Diesel Oxidation Catalyst (DOC) Efficiency Fault.

**Table 1.**

| SPN 5018/FMI 18             |   |
|-----------------------------|---|
| Description                 | DOC Efficiency Fault                    |
| Monitored Parameter         | Exhaust temperature                     |
| Typical Enabling Conditions | Always on                               |
| Monitor Sequence            | None                                    |
| Execution Frequency         | Continuous when enabling conditions met |
| Typical Duration            | 2 seconds                               |
| Dash Lamps                  | MIL, CEL                                |
| Engine Reaction             | Derate 25%                              |
| Verification                | Parked Regen                            |

1. Connect DDDL 7.09 SP2 or newer.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for multiple codes.
  - a. If other faults are active in addition to SPN 5018/FMI 18, troubleshoot those faults first.
  - b. If only SPN 5018/FMI 18 is present, Go to step 4.



### 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.

4. Start the engine.
5. Monitor the Diesel Oxidation Catalyst (DOC) inlet temperature sensor, the DOC outlet temperature sensor and the Diesel Particulate Filter (DPF) outlet temperature sensor. Are the temperatures within 25°C (77°F) of each other?
  - a. Yes; Go to step 12.
  - b. No; Go to step 6.
6. Continue idling for 10 minutes, recheck temperatures and turn the ignition OFF. Are the temperatures now within 25°C (77°F) of each other?
  - a. Yes; Go to step 12.
  - b. No; Go to step 7.
7. Turn the ignition ON (key ON, engine OFF).
8. Access the voltage service routine.
9. Select "start acquiring".
10. Monitor the DOC outlet temperature voltage. Continue monitoring and wiggle the wire harness from the Aftertreatment Device (ATD) to the Aftertreatment Control Module (ACM2.1). Is there a large deviation or spike in the voltage?
  - a. Yes; Go to step 11.
  - b. No; Go to step 12.
11. Inspect the electrical connections upstream of the ACM2.1: DOC outlet temperature sensor, ATD harness 10-pin connector, VIH 47-pin connector, and ACM2.1 120-pin connector for corrosion and spread pins.

- a. If corrosion or damaged (or bent) pins are found, repair as necessary. Verify repairs.
- b. If no corrosion or damage is found, replace the DOC outlet temperature sensor. Refer to section "Removal of the GHG14 Diesel Oxidation Catalyst Outlet Temperature Sensor"
12. Monitor the DOC inlet pressure sensor voltage. Is the voltage between 0.44 - 0.56 volt?
  - a. Yes; Go to step 14.
  - b. No; Go to step 13.
13. Inspect the DOC inlet pressure sensor electrical connector for corrosion and spread pins.
  - a. If corrosion or damaged (or bent) pins are found, repair as necessary. Verify repairs.
  - b. If no corrosion or damage is found, replace the DOC inlet pressure sensor. Refer to section "Removal of the GHG14 Diesel Oxidation Catalyst Inlet Temperature Sensor"
14. Monitor the DPF outlet pressure sensor voltage. Is the voltage between 0.44 - 0.56 volt?
  - a. Yes; Go to step 16.
  - b. No; Go to step 15.
15. Inspect the DPF outlet pressure sensor electrical connector for corrosion and spread pins.
  - a. If corrosion or damaged (or bent) pins are found, repair as necessary. Verify repairs.
  - b. If no corrosion or damage is found, replace the DPF outlet pressure sensor. Refer to section "Removal of the GHG14 Diesel Particulate Filter Outlet Pressure Sensor"
16. Remove the ATD.
17. Disassemble the ATD and inspect the inlet face of the Diesel Particulate Filter (DPF) substrate for contamination.
  - a. If coolant contamination is found (white residue on inlet face of the DPF and a sweet smell from exhaust), Go to step 18.
  - b. If oil contamination is found (oil residue or paste on DPF inlet face or an oil lacquer on the inlet flange), Go to step 21.
  - c. If fuel contamination is found (inlet flange washed clean), Go to step 23.
  - d. If no contamination is found, obtain pictures of the inlet flange, DOC outlet face, and DPF inlet and outlet faces. Contact the Detroit™ Customer Support Center at (800) 445-1980 with these pictures and the log files from the Automatic Cylinder Cutout Service Routine or the Idle Speed Balance Test.
18. Question the truck operator about coolant usage.
19. Visually inspect the coolant reservoir for low level. Possible causes for coolant contamination in Aftertreatment system are:
  - Exhaust Gas Recirculation (EGR) cooler leaks
  - Failed/defective cylinder head gasket, improper head bolt torque, low liner height
  - Failed air compressor cylinder head
  - Fuel doser body cracked, missing or failed seals
20. Repair the cause of coolant entry as necessary and Go to step 25.
21. Question the truck operator about excessive oil consumption. Possible causes of excessive oil consumption are:
  - Defective turbine seal
  - Turbo-compound failure (axial power turbine air seal)
  - Worn exhaust valve seals
  - Defective crankcase breather system
22. Repair the cause of oil contamination and Go to step 25.
23. Inspect the ATD components for these causes of fuel contamination:

**NOTE:** If fault code sets right after injector replacement, the most likely causes are:

- Failure to drain cylinder head during injector replacement
  - Use of non-recommended fuels and fuel additives
  - Low turbocharger boost
  - Engine brake stuck on
24. Repair the cause of fuel contamination and Go to step 25.
  25. Re-install original ATD.



**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.

26. Perform a parked regeneration.

**NOTE:** The parked regeneration is successful if the DOC outlet temperature is within 100°C (212°F) of the DOC model delay.

- a. If the regeneration is successful, testing is complete.
- b. If the regeneration is not successful, email all log files from this troubleshooting procedure to the Detroit™ Customer Support Center at [csc@daimler.com](mailto:csc@daimler.com).