# 1 08 03-18

# Service Information Bulletin

| SUBJECT | DATE |
|---|---|
| SPN 3031 (ACM) (GHG17) | August 2018 |

**Additions, Revisions, or Updates**

| Publication Number / Title | Platform | Section Title | Change |
|---|---|---|---|
| DDC-SVC-MAN-0191 | DD HD | SPN 3031/FMI 4 - GHG17 | The procedure has been updated. |

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# 2 SPN 3031/FMI 4 - GHG17

Diesel Exhaust Fluid Tank Temperature Sensor Circuit Failed Low

**Table 1.**

| SPN 3031/FMI 4 | |
|---|---|
| Description | This Fault Code Sets when the Aftertreatment Control Module (ACM) Detects a Short to Ground on the DEF Tank Temperature Sensor Circuit |
| Monitored Parameter | Diesel Exhaust Fluid Tank Temperature Sensor Circuit |
| Typical Enabling Conditions | Always Enabled |
| Monitor Sequence | None |
| Execution Frequency | Always Enabled |
| Typical Duration | Two Seconds |
| Dash Lamps | MIL, CEL |
| Engine Reaction | Engine Derate, if the Fault is Active for more than Five Hours the Engine will be Reduced to Idle after an Ignition Cycle |
| Verification | Start and Run the Engine at Idle for One Minute, then use DiagnosticLink to Recheck for the Fault Code |

**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.

**Table 2.**

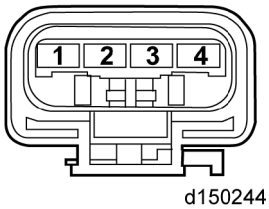
| Flex Probes | |
|---|---|
| **Flex Probe Part Number** | **Shrink Tube Color** |
| DKI470E16022-42 | Light Brown/Black |

Check as follows:

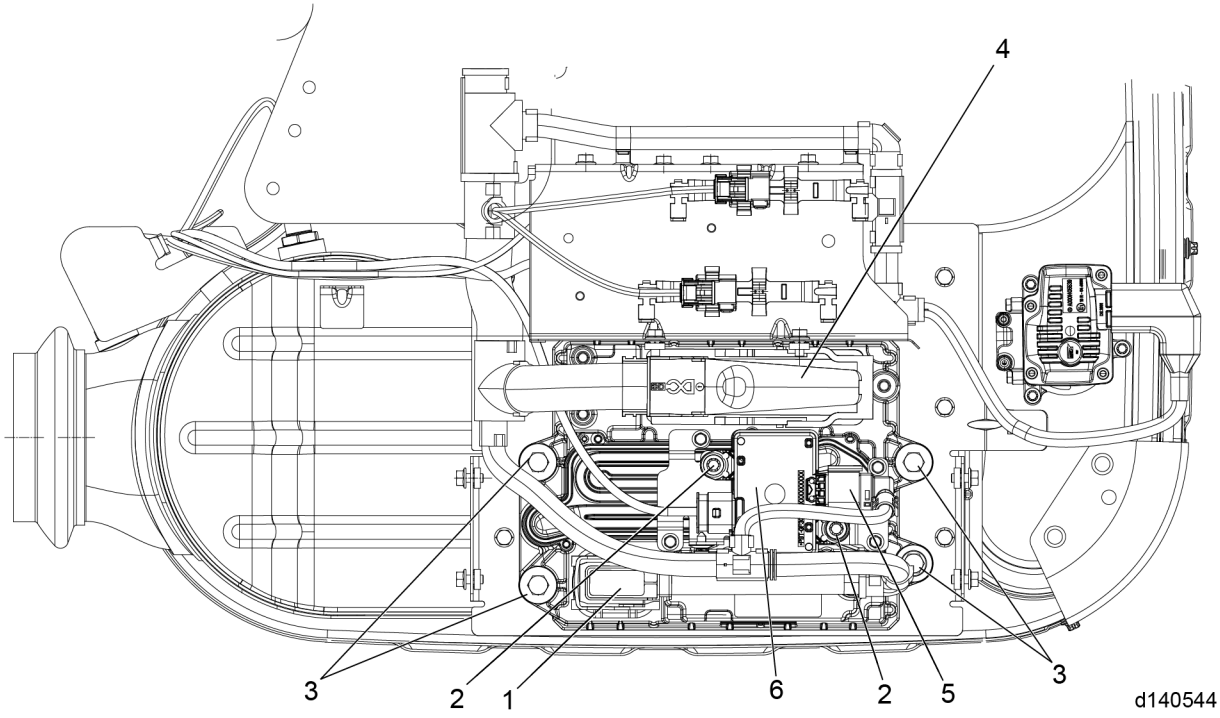
1. Turn the ignition OFF.
2. Disconnect and inspect the DEF tank level/temperature electrical connector. Is there corrosion, damage, bent or spread pins?

a. Yes; Refer to section "Electrical Connector Repair" and repair as necessary.
b. No; Go to step 3.



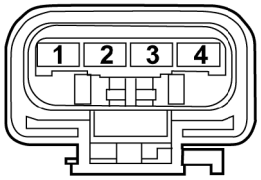

3. Measure the resistance between pin 3 of the DEF tank level/temperature electrical connector harness side and chassis ground. Is the resistance less that 10k ohms?
   a. Yes; Go to step 4.
   b. No; replace the DEF header. Refer to section "Removal of the 13- and 23-Gallon Diesel Exhaust Fluid Tank Header Unit". Verify repair.




4. Disconnect and inspect the ACM 120-pin electrical connector (4). Is there corrosion, damage, bent or spread pins?
   a. Yes; Refer to section "Electrical Connector Repair" and repair as necessary.
   b. No; Go to step 5.
5. Measure the resistance between pin 3 of the DEF tank level/temperature electrical connector harness side and chassis ground again. Is the resistance less that 10k ohms?
   a. Yes; Go to step 6.
   b. No; Go to step 8.
6. Disconnect and inspect the grey 18 pin ATS harness electrical connector (4). Is there corrosion, damage, bent or spread pins?
   a. Yes; Refer to section "Electrical Connector Repair" and repair as necessary.
   b. No; Go to step 7.
7. Measure the resistance between pin 3 of the DEF tank level/temperature electrical connector harness side and chassis ground again. Is the resistance less that 10k ohms?

a. Yes; repair the short to chassis ground on the Diesel Exhaust Fluid Tank Temperature Sensor Circuit between the DEF header electrical connector and the grey 18 pin ATS electrical connector.
b. No; repair the short to chassis ground on the Diesel Exhaust Fluid Tank Temperature Sensor Circuit between the grey 18-pin ATS harness and the ACM.



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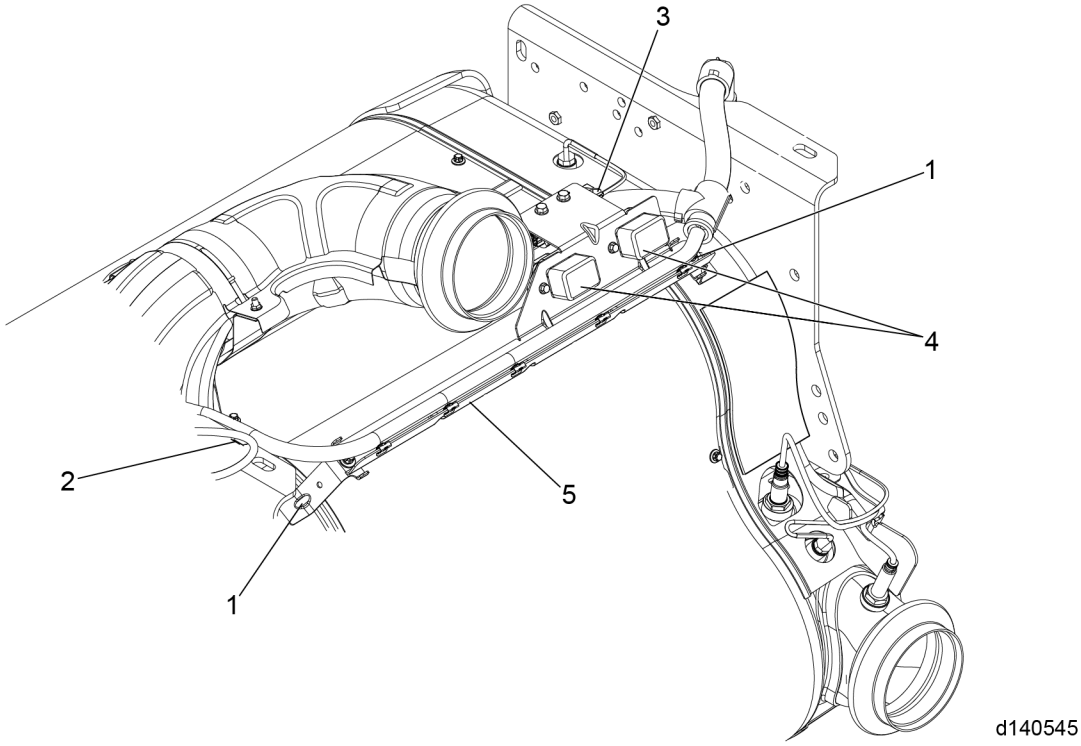
8. Measure the resistance between pin 2 and pin 3 of the DEF tank level/temperature electrical connector harness side. Is the resistance less that 10k ohms?
   a. Go to step 9.
   b. No; replace the ACM. Refer to section "Removal of the 1-BOX™ Aftertreatment Control Module". Verify repair.



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9. Disconnect and inspect the grey 18 pin ATS harness electrical connector (4). Is there corrosion, damage, bent or spread pins?
   a. Yes; Refer to section "Electrical Connector Repair" and repair as necessary.
   b. No; Go to step 10.
10. Measure the resistance between pin 2 and pin 3 of the DEF tank level/temperature electrical connector harness side again. Is the resistance less that 10k ohms?
   a. Yes; repair the short to circuit ground on the Diesel Exhaust Fluid Tank Temperature Sensor Circuit between the DEF header electrical connector and the grey 18 pin ATS electrical connector.
   b. No; repair the short to circuit ground on the Diesel Exhaust Fluid Tank Temperature Sensor Circuit between the grey 18-pin ATS harness and the ACM.


 