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Service Information Bulletin

SUBJECT	DATE
SPN 5016 (ACM) (GHG17)	August 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 DD Platform	SPN 5016/FMI 3 - GHG17	Several steps modified. Step 12 deleted.

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 5016/FMI 3 - GHG17

High Side Digital Output 4 Circuit Failed High

Table 1.

SPN 5016/FMI 3	
Description	High Side Digital Output Circuit Shorted to Power
Monitored Parameter	High Side Digital Output
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	MIL, CEL
Engine Reaction	None
Verification	Key Cycle

NOTE: The supply voltage circuit is networked internal of the Aftertreatment Control Module (ACM). This circuit supplies voltage to the coolant valve, Diesel Exhaust Fluid (DEF) post run indicator (if equipped), and the inlet NOx sensor. A short-to-power on any one of those circuits will set this fault code.

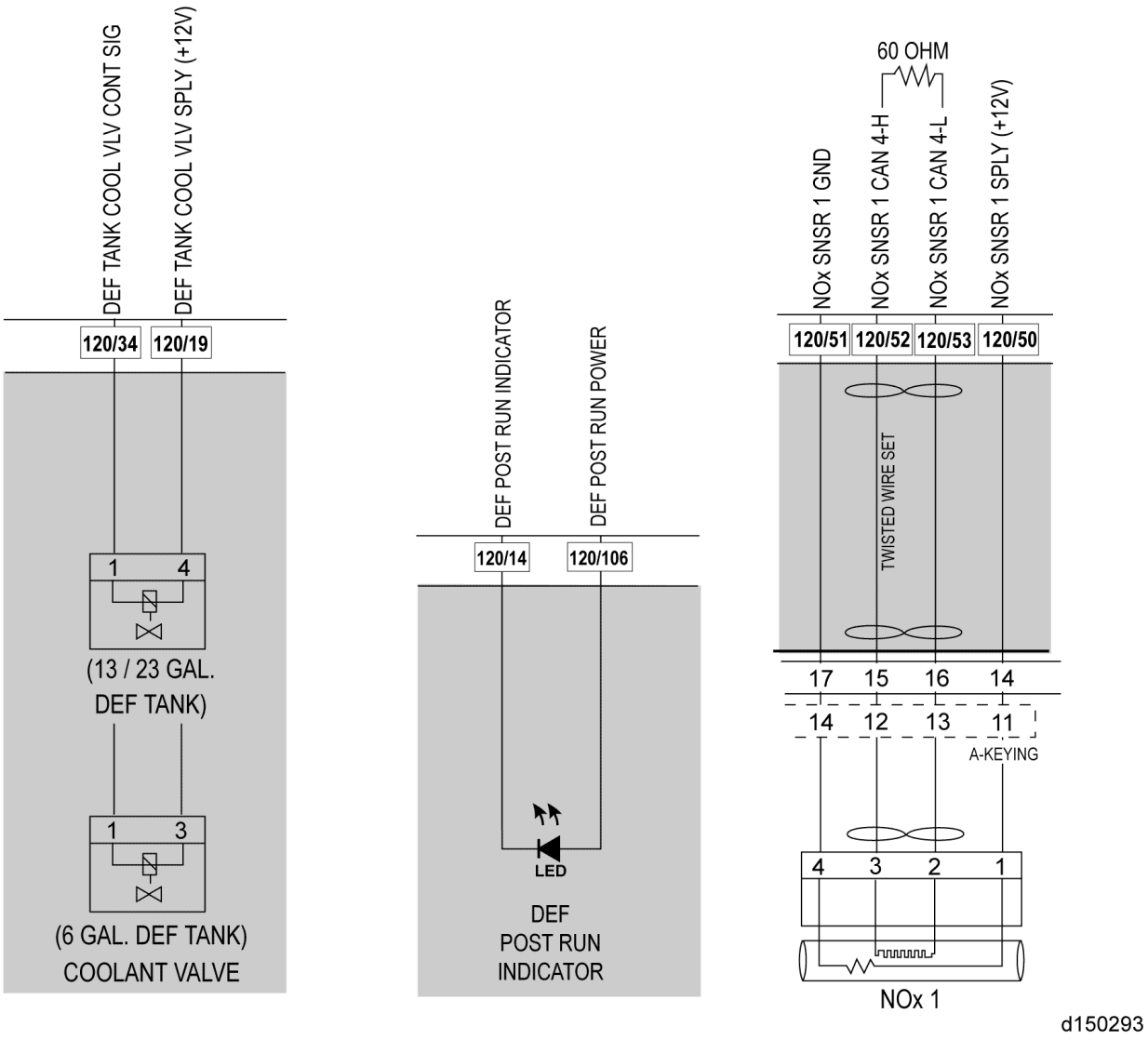

Table 2.

Signal	ACM Pin	Component
SCR Supply 12V	106	DEF Post Run Indicator Supply (if equipped)
SCR Supply 12V	110	N/C
SCR Supply 12V	19	CAN DEF Tank 6-5 Tank Heat Coolant Valve 2-2
SCR Supply 12V	50	Deutsch 47-14 then NOx1 in 4-1

Check as follows:

1. Check for multiple codes. Is fault code SPN 3216/FMI 13 or SPN 3490/FMI (any) present along with SPN 5016/FMI 3?
    a. Yes; repair the other fault code first.
    b. No; Go to step 2.
2. Turn the ignition OFF.
3. Disconnect the Aftertreatment Control Module (ACM) 120-pin connector.
4. Inspect the ACM 120-pin harness connector for bent, spread, or corroded pins. Is any damage found?
    a. Yes; repair as necessary. Verify repair.

b. No; Go to step 5.

NOTE: Multiple fault codes will set with ACM 120-pin connector disconnected. Disregard other fault codes at this time.

5. Turn the ignition ON (key ON, engine OFF) and clear fault codes. Does SPN 5016/FMI 3 become active?
   a. Yes; replace the ACM. Refer to Original Equipment Manufacturer (OEM) procedures. Verify repair.
   b. No; Go to step 6.
6. With the key ON, engine OFF, measure the voltage between pin 19 of the ACM 120-pin connector, harness side, and battery ground. Is any voltage present?
   a. Yes; repair the short to power between pin 19 of the ACM 120-pin connector and pins 3 and 4 of the DEF coolant valve connector. Verify repair.
   b. No; Go to step 7.
7. With the key ON, engine OFF, measure the voltage between pin 50 of the ACM 120-pin connector, harness side, and battery ground. Is any voltage present?
   a. Yes; repair the short to power between pin 50 of the ACM 120-pin connector and pin 1 of the NOx inlet sensor connector. Verify repair.
   b. No; Go to step 8.
8. Is the vehicle equipped with a DEF Post Run indicator?
   a. Yes; Go to step 9.
   b. No; Go to step 11.
9. With the key ON, engine OFF, measure the voltage between pin 106 of the ACM 120-pin connector, harness side, and battery ground. Is any voltage present?
   a. Yes; repair the short to power between pin 106 of the ACM 120-pin connector and pin 2 of the DEF Post Run indicator. Verify repair.
   b. No; Go to step 10.
10. Inspect connector cavity 106 of the ACM 120-pin connector, harness side. Is a wire populated in cavity 106?
    a. Yes; repair the short to power on pin 106 of the ACM 120-pin connector. Repair connector as needed. Verify repair.
    b. No; Go to step 11.

NOTE: ACM pin 110 is not populated from the factory. The ACM 120-pin connector should be equipped with a cavity plug in cavity 110 of the 120-pin connector.

11. Inspect connector cavity 110 of the ACM 120-pin connector, harness side. Is a wire populated in cavity 110?
    a. Yes; repair the short to power on pin 110 of the ACM 120-pin connector. Repair connector as needed. Verify repair.
    b. No; replace the ACM.
    For 1-BOX™, Refer to section "Removal of the 1-BOX™ Aftertreatment Control Module". Repair the connector as needed. Verify repair.
    For 2-BOX, Refer to section "Removal of the Two-BOX (2V2) Aftertreatment Control Module". Repair the connector as needed. Verify repair.

