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Service Information Bulletin

SUBJECT	DATE
SPN 3031/FMI 3, 4 (ACM) (EPA10 - GHG14)	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform- ACM - EPA10 - GHG14	SPN 3031/FMI 3 - EPA10 - GHG14	Diagnostic procedure has been updated; the wiring diagram and connector pin out have been added.
		SPN 3031/FMI 4 - EPA10 - GHG14	



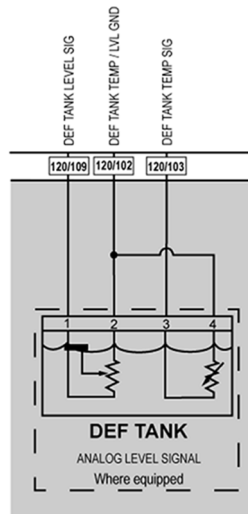
13400 Outer Drive, West, Detroit, Michigan 48239-4001
 Telephone: 313-592-5000
www.demanddetroit.com

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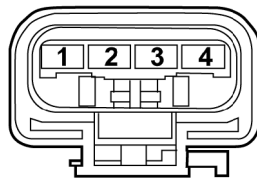
This diagnostic is typically Diesel Exhaust Fluid (DEF) Tank Temperature Sensor Circuit Failed High.

Table 1.

SPN 3031/FMI 3	
Description	DEF Tank Temperature Sensor Circuit Failed High
Monitored Parameter	DEF Tank Temperature Sensor
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	25 Percent derate. After four hours, engine will be idled after ignition key cycle.
Verification	Engine Idle (1 minute)



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NOTE: When there is no signal from the Diesel Exhaust Fluid (DEF) tank level/temperature sender, the vehicle will go into the low DEF level derate.

1. Disconnect and inspect the DEF tank level/temperature sender connector. Are there any spread or damaged pins?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 2.

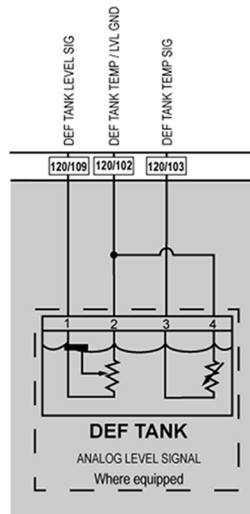
2. Turn the ignition on (key ON Engine OFF).
3. Measure the voltage between pin 4 of the DEF tank level/temperature sensor connector, harness side, and ground. Is there voltage present?
 - a. Yes; repair the short to power between pin 4 of the DEF tank level/temperature connector and pin 102 of the 120-pin MCM connector. Verify repair.
 - b. No; Go to step 4.
4. Measure the voltage between pin 3 on the harness side of the DEF tank temperature/level sender connector and ground. Is the voltage between 2.0 and 3.0 volts?
 - a. Yes; Go to step 5.
 - b. No; Go to step 10.
5. Turn the ignition OFF. Go to step 6.
6. Measure resistance between pin 4 of the of the DEF tank level/temperature sender connector, harness side, and ground. Is the resistance less than 5 ohms?
 - a. Yes; Replace the DEF tank temperature/level sender. Refer to section "Removal of the GHG14 13 and 23 Gallon Diesel Exhaust Fluid Tank Header Unit" or refer to OEM literature for DEF tank temperature/level sender (DEF tank header) replacement. Verify repair.
 - b. No; Go to step 7.
7. Disconnect and inspect the 120-pin Aftertreatment Control Module (ACM), harness side, connector. Are there any spread or damaged pins?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 8.
8. Measure the resistance between pin 4 of the DEF tank level/temperature sender connector and pin 102 of the 120-pin ACM connector. Is the resistance less than 5 ohms?
 - a. Yes; Go to step 9.
 - b. No; repair the wire between pin 4 of the DEF tank level/temperature sender connector and pin 102 of the 120-pin ACM connector. Verify repair.
9. Install a test ACM. Is SPN 3031/FMI 3 still present?
 - a. Yes; replace the DEF tank temperature/level sender. Refer to section "Removal of the GHG14 13 and 23 Gallon Diesel Exhaust Fluid Tank Header Unit" or refer to OEM literature for DEF tank temperature/level sender (DEF tank header) replacement Verify repair.
 - b. No; replace the ACM. Verify repair.
10. Disconnect and inspect the 120-pin ACM connector. Are there any spread or damaged pins?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 11.
11. Measure the resistance between pin 3 of the DEF tank level/temperature sender connector and pin 103 of the 120-pin ACM connector. Is the resistance less than 5 ohms?
 - a. Yes; Go to step 12.
 - b. No; repair the wire between pin 3 of the DEF tank level/temperature sender connector and pin 103 of the 120-pin ACM connector.
12. Install a test ACM. Is SPN 3031/FMI 3 still present?
 - a. Yes; replace the DEF tank temperature/level sender. Refer to section "Removal of the GHG14 13 and 23 Gallon Diesel Exhaust Fluid Tank Header Unit" or refer to OEM literature for DEF tank temperature/level sender (DEF tank header) replacement Verify repair.
 - b. No; Replace the ACM. Verify repair.

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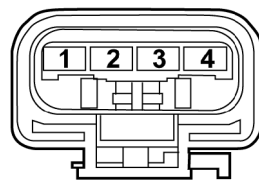
This diagnostic is typically the Diesel Exhaust Fluid (DEF) Tank Temperature Sensor Circuit Failed Low.

Table 2.

SPN 3031/FMI 4	
Description	DEF Tank Temperature Sensor Circuit Failed Low
Monitored Parameter	DEF Tank Temperature Sensor
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	25 Percent derate. After four hours, engine will be idled after ignition key cycle.
Verification	Engine Idle (1 minute)



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NOTE: When there is no signal from the DEF level/temperature sender, the vehicle will go into the low DEF level derate.

1. Turn the ignition OFF.
2. Disconnect and inspect the Diesel Exhaust Fluid (DEF) tank temperature/level sender, harness side, connector. Is there any damage, corrosion or water present?

- a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 3.
3. Measure the resistance from pin 3 of the DEF tank temperature/level sender connector and ground. Is the resistance greater than 10k ohms?
 - a. Yes; Go to step 4.
 - b. No; repair the wire between pin 3 of the DEF tank temperature/level sender connector and pin 103 of the 120-pin ACM connector. Verify repair.
4. Install a test ACM. Is code SPN 3031/FMI 4 still present?
 - a. Yes; replace the DEF tank temperature/level sender. Refer to section "Removal of the GHG14 13 and 23 Gallon Diesel Exhaust Fluid Tank Header Unit" or refer to OEM literature for DEF tank temperature/level sender (DEF tank header) replacement. Verify repair.
 - b. No; Replace the ACM. Verify repair.