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## Service Information Bulletin

SUBJECT	DATE
SPN 2623 (CPC) (GHG14)	October 2014

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	GHG14 DD Platform	SPN 2623/FMI 2 - GHG14	New steps and graphics added.
		SPN 2623/FMI 8 - GHG14	



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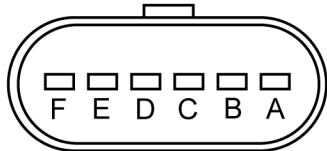
## 2 SPN 2623/FMI 2 - GHG14

Accelerator Pedal In-Range Fault

**Table 1.**

SPN 2623/FMI 2	
Description	Pedal Position Sensors Deviation Too High
Monitored Parameter	GAS1, GAS2
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	2 Seconds
Dash Lamps	None
Engine Reaction	None
Verification	Key Cycle - Ignition ON

**Table 2.**

Sensor Connector and Pinout				
Function	CPC Pinout	Connector Pinout	Comments	Connector Body
APS1	1/7	A	Sensor 1	 <p style="text-align: center;">FRONT Looking into the pins on the Harness Connector</p>
GND1	1/4	B	APS 1 GND	
VCC1 (+5V)	1/8	C	APS1 Power Supply	
VCC2 (+5V)	3/3	D	APS2 Power Supply	
GND2	3/2	E	APS2 GND	
APS2	4/14	F	Sensor 2	

Check as follows:

1. Turn the ignition ON (key ON, engine OFF).
2. Connect DiagnosticLink<sup>®</sup>; are any other fault codes active?
  - a. Yes; troubleshoot any other faults first.
  - b. No; Go to step 3.
3. Using DiagnosticLink, monitor PWM Pedal Signal GAS1 and PWM Pedal Signal GAS2 under the Instrumentation/Chart tab.
4. Cycle Accelerator Pedal (AP) slowly several times with a full sweep from top to bottom of travel. Does voltage sweep smoothly in relation to pedal travel? Do the percentages sweep smoothly in relation to pedal travel?
  - a. Yes; Go to step 5.
  - b. No; replace the AP. Refer to Original Equipment Manufacturer (OEM) literature.
5. Clear codes and cycle ignition OFF.
6. Turn the ignition ON (key ON, engine OFF).
7. Does the code return?
  - a. Yes; replace the AP, clear codes and verify repair. Refer to Original Equipment Manufacturer's (OEM) literature.
  - b. No; Go to step 8.
8. Gently wiggle pedal and harness connector to simulate road vibration.

**NOTE:** Do not disconnect the AP connector at this time.

**NOTICE:** Do not tap on AP with metal object or tool as this may damage component.

**NOTICE:** A second technician may be required to monitor values during wiggle testing.

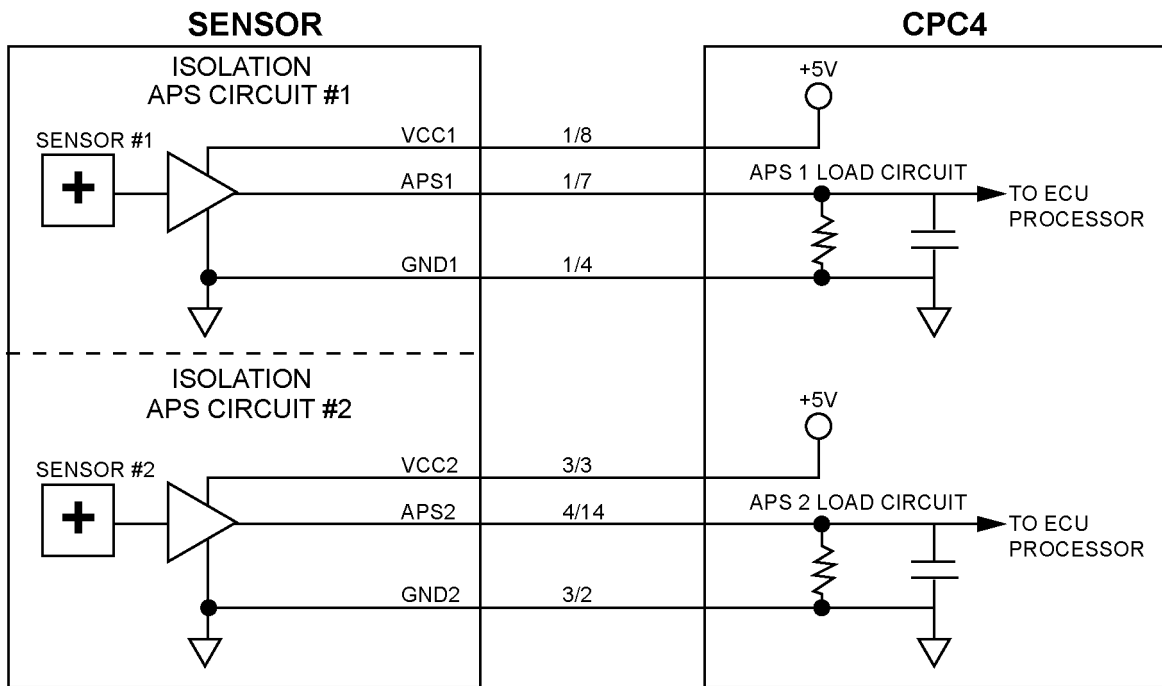
9. While performing wiggle test, monitor PWM Pedal Signal GAS1 and PWM Pedal Signal GAS2 under the DiagnosticLink Instrumentation/Chart tab.
10. Cycle AP slowly several times with a full sweep from top to bottom of travel. Do the percentages sweep smoothly in relation to pedal travel?
  - a. Yes; Go to step 11.
  - b. No; replace the AP, clear codes and verify repair. Refer to Original Equipment Manufacturer (OEM) literature.
11. Disconnect the AP.
12. Inspect the AP and harness side connectors for signs of damaged, bent, spread, corroded or unseated (pushed out) pins and signs of moisture in the connector or wire damage near the connector. Is any damage found?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; Go to step 13.
13. Gently wiggle the Common Powertrain Controller (CPC) harness connectors to simulate road vibration.
14. While performing wiggle test, monitor PWM Pedal Signal GAS1 and PWM Pedal Signal GAS2 under the DiagnosticLink Instrumentation/Chart tab.
15. Cycle AP slowly several times with a full sweep from top to bottom of travel. Do the percentages sweep smoothly in relation to pedal travel?
  - a. Yes; Go to step 16.
  - b. No; Isolate that section of harness and inspect for wire chaffing, corrosion, improper connections or physical damage and repair as necessary. Verify repair.
16. Disconnect the CPC #1 connector.
17. Disconnect the CPC #3 connector.
18. Disconnect the CPC #4 connector.
19. Inspect the CPC and the harness connectors for signs of damaged, bent, spread, corroded or unseated (pushed out) pins and signs of moisture in the connector or wire damage near the connectors. Is any damage found?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; replace the AP, clear codes and verify repair. Refer to Original Equipment Manufacturer (OEM) literature. Verify repair.

### 3 SPN 2623/FMI 8 - GHG14

2-Channel Accelerator Pedal Signal 2 Missing

**Table 3.**

SPN 2623/FMI 8	
Description	Channel 2 Sensor Signal Failed (High Or Low)
Monitored Parameter	GAS2
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous When Enabling Conditions Met
Typical Duration	2 Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Key Cycle - Ignition ON

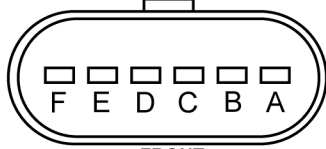


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Check as follows:

1. Disconnect the Accelerator Pedal (AP).
2. Inspect the AP and harness side connectors for signs of damaged, bent, spread, corroded or unseated (pushed out) pins and signs of moisture in the connector or wire damage near the connector. Is any damage found?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; Go to step 3.
3. Turn the ignition ON (key ON, engine OFF).

**Table 4.**

Sensor Connector and Pinout				
Function	CPC Pinout	Connector Pinout	Comments	Connector Body
APS1	1/7	A	Sensor 1	 <p style="text-align: center;"><b>FRONT</b> Looking into the pins on the Harness Connector</p>
GND1	1/4	B	APS 1 GND	
VCC1 (+5V)	1/8	C	APS1 Power Supply	
VCC2 (+5V)	3/3	D	APS2 Power Supply	
GND2	3/2	E	APS2 GND	
APS2	4/14	F	Sensor 2	
				Harness Connector and Seal (P/N: 12066317) Terminal Female (P/N: 12103881)

4. Measure the voltage between pins D and E of the AP harness connector. Is the voltage between 4.5 and 5.5 volts.
  - a. Yes; Go to step 6.
  - b. No; Go to step 5.
5. Measure the voltage between pin D of the AP harness connector and ground. Is the voltage between 4.5 and 5.5 volts?
  - a. Yes; repair the open circuit between pin E of the AP harness connector and pin 2 of the Common Powertrain Controller (CPC) #3 connector. Verify repair.
  - b. No; repair the circuit between pin D of the AP harness connector and pin 3 of the CPC #3 connector. Verify repair.
6. Measure the voltage between pin F of the AP harness connector and ground. Is any voltage present?
  - a. Yes; repair the short to power between pin F of the AP harness connector and pin 14 of the CPC #4 connector. Verify repair.
  - b. No; Go to step 7.
7. Turn the ignition OFF.
8. Disconnect the CPC #4 connector.
9. Inspect the CPC and the harness connector for signs of damaged, bent, spread, corroded or unseated (pushed out) pins and signs of moisture in the connector or wire damage near the connector. Is any damage found?
  - a. Yes; repair as necessary. Verify repair.
  - b. No; Go to step 10.
10. Measure the resistance between pin F of the AP harness connector and pin 14 of the CPC #4 connector. Is the resistance less than 5 ohms?
  - a. Yes; Go to step 11.
  - b. No; repair the open circuit between pin F of the AP harness connector and pin 14 of the CPC #4 connector.
11. Measure the resistance between pin F of the AP harness connector and ground. Is the resistance greater than 10K ohms?
  - a. Yes; replace the AP. Refer to Original Equipment Manufacturer (OEM) literature.
  - b. No; repair the short to ground circuit between pin F of the AP harness connector and pin 14 of the CPC #4 connector.