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Service Information Bulletin

SUBJECT	DATE
SPN 84/FMI 13, 19, 21 (MCM) EPA10/GHG14	January 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	EPA10/ GHG14 DD Platform	SPN 84/FMI 13 – EPA10/GHG14	Updated diagnostics.
		SPN 84/FMI 19 – EPA10/GHG14	
		SPN 84/FMI 21 – EPA10/GHG14	

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2   SPN 84/FMI 13 - EPA10 - GHG14

This diagnostic is typically J1939 Wheel-based Vehicle Speed Sensor (VSS) Signal from Source #1, #2, or #3 is Missing.

Table 1.

SPN 84/FMI 13	
Description	Vehicle Speed Sensor Signal Missing
Monitored Parameter	Vehicle Speed Sensor
Typical Enabling Conditions	RPM greater than 1500, Torque Demand On
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions met
Typical Duration	10 Seconds
Dash Lamps	MIL
Engine Reaction	
Verification	RPM greater than 1500, Torque Demand On

1. Check for multiple codes:
   a. If CPC SPN 168/FMI 0/14/18 (Battery Voltage) are present, troubleshoot these first.
   b. If MCM SPN 625/FMI 9 is present, repair the CAN line faults.
   c. If only a "J1939 Error" fault is present, Go to step 2.
2. Has the CPC been recently reprogrammed?
   a. Yes; check the proper configuration of the CPC.
   b. No; connect ServiceLink to determine which modules are configured for the vehicle and their communication status. Once this is done, follow the appropriate module communication troubleshooting procedures for the affected module.

3   SPN 84/FMI 19 – EPA10 - GHG14

This diagnostic is typically J1939 Wheel-based Vehicle Speed Sensor (VSS) Signal from Source #1, #2, or #3 is Erratic.

Table 2.

SPN 84/FMI 19	
Description	Vehicle Speed Sensor Erratic
Monitored Parameter	Vehicle Speed Sensor
Typical Enabling Conditions	RPM greater than 1500, Torque Demand On
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions met
Typical Duration	10 Seconds
Dash Lamps	MIL
Engine Reaction	
Verification	RPM greater than 1500, Torque Demand On

1. Check for multiple codes:
    a. If CPC SPN 168/FMI 0/14/18 (Battery Voltage) are present, troubleshoot these first.
    b. If MCM SPN 625/FMI 9 is present, repair the CAN line faults.
    c. If only a "J1939 Error" fault is present, Go to step 2.
2. Has the CPC been recently reprogrammed?
    a. Yes; check the proper configuration of the CPC.
    b. No; connect ServiceLink to determine which modules are configured for the vehicle and their communication status. Once this is done, follow the appropriate module communication troubleshooting procedures for the affected module.

4   SPN 84/FMI 21 – EPA10 – GHG14

This diagnostic is typically Vehicle Speed Sensor (VSS) Erratic.

Table 3.

SPN 84/FMI 21	
Description	Vehicle Speed Sensor Erratic
Monitored Parameter	Vehicle Speed Sensor
Typical Enabling Conditions	RPM greater than 1500, Torque Demand On
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions met
Typical Duration	10 Seconds
Dash Lamps	MIL
Engine Reaction	
Verification	RPM greater than 1500, Torque Demand On

1. Are there any battery faults (SPN 168 FMI any) or Controller Area Network (CAN) faults (SPN 625 FMI any) present?
   a. Yes; repair those faults first.
   b. No; Go to step 2.
2. Has the Common Powertrain Controller (CPC) been recently reprogrammed?
   a. Yes; ensure the VSS parameters are configured correctly for the vehicle application. If OK, Go to step 3.
   b. No; Go to step 3.
3. Is the VSS hardwired or transmitted via J1939?
   a. Hardwired; Go to step 4.
   b. J1939; refer to the Application and Installation Manual for the correct parameter configuration. If configuration is correct, refer to Original Equipment Manufacturer (OEM) material for J1939 VSS troubleshooting.
4. Disconnect the VSS harness connector. Refer to OEM literature for location.
5. Inspect the VSS harness connector for bent, spread, or corroded pins.
   a. If pin damage is found, repair as necessary.
   b. If no pin damage is found, Go to step 6.
6. Disconnect CPC connector #3.
7. Measure the resistance between CPC connector #3 pins 13 and 14.
   a. If resistance is less than 1K ohms, repair short between CPC connector #3 pins 13 and 14 and the VSS connector.
   b. If the resistance is greater than 1K ohms, Go to step 8.
8. Measure the resistance between CPC connector #3 pin 13 and the VSS+ harness connection.
   a. If resistance is greater than 1K ohms, repair wire between CPC connector #3 pin 13 and the VSS+ harness connection.
   b. If the resistance is greater than 1K ohms, Go to step 9.
9. Measure the resistance between CPC connector #3 pin 14 and the VSS- harness connection.
   a. If resistance is greater than 10 ohms, repair wire between CPC connector #3 pin 14 and the VSS- harness connection.
   b. If the resistance is greater than 1K ohms, refer to OEM literature for VSS sensor diagnostics.