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Service Information Bulletin

SUBJECT	DATE
SPN 103 (MCM) (GHG17) and SPN 103 (MCM) (EPA07;EPA10;GHG14)	June 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	DD Platform	SPN 103/FMI 4 - GHG17	The diagnostic procedure has been updated.
DDC-SVC-MAN-0084		SPN 103/FMI 4- EPA07 - EPA10 - GHG14	

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.



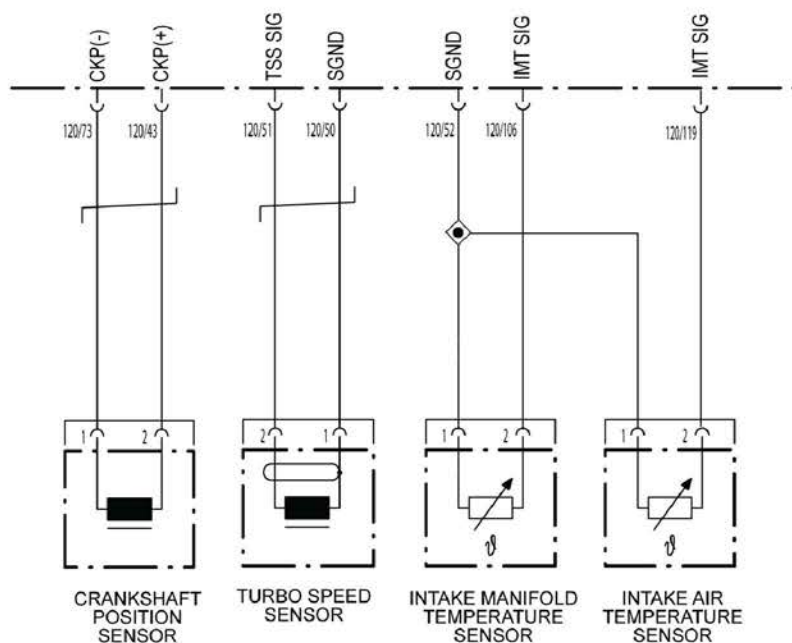
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2 SPN 103/FMI 4 - GHG17

Turbo Speed Sensor Failed Low

Table 1.

SPN 103/FMI 4	
Description	This fault Sets when the Motor Control Module (MCM) Detects a Short to Ground on the Turbocharger Speed Sensor Circuit.
Monitored Parameter	Turbocharger Speed Sensor
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous when Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key



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Check as follows:

1. Connect DiagnosticLink[®].
2. Disconnect and inspect the turbocharger speed sensor electrical connector harness side. Is there corrosion present?
 - a. Yes; replace the turbocharger speed sensor and the electrical connector. Refer to section "Removal of the Turbocharger Speed Sensor". Verify repair.
 - b. No; Go to step 3.
3. Are any of the pins or the connector damaged?
 - a. Yes; Go to step 4.
 - b. No; Go to step 5.
4. Inspect the turbocharger speed sensor electrical connector component side. Are any of the pins or the connector damaged?
 - a. Yes; replace the turbocharger speed sensor and the electrical connector. Refer to section "Removal of the Turbocharger Speed Sensor". Verify repair.

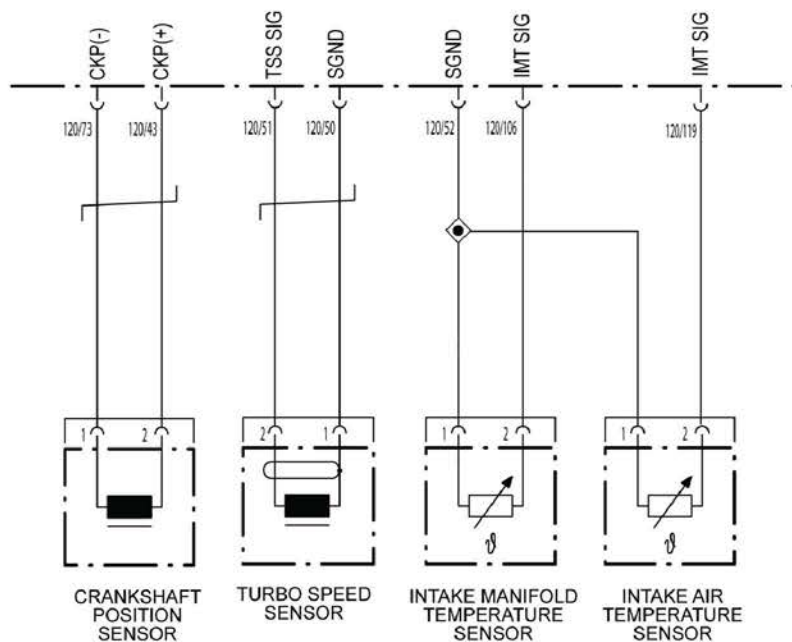
- b. No; replace the turbocharger speed sensor electrical connector harness side. Verify repair.
5. Turn the ignition ON (key ON, engine OFF).
6. Is fault code SPN 103/FMI 4 active?
 - a. Yes; Go to step 7.
 - b. No; replace the turbocharger speed sensor. Refer to section "Removal of the Turbocharger Speed Sensor". Verify repair.
7. Turn the ignition OFF.
8. Disconnect and inspect the MCM 120-pin electrical connector harness side. Is there corrosion present?
 - a. Yes; replace the MCM and the engine harness. Refer to section "Removal of the Motor Control Module". Verify repair.
 - b. No; Go to step 9.
9. Is the connector damaged?
 - a. Yes; Go to step 10.
 - b. No; Go to step 11.
10. Inspect the MCM 120-pin electrical connector component side. Are any of the pins or the connector damaged?
 - a. Yes; replace the MCM and the engine harness. Refer to section "Removal of the Motor Control Module". Verify repair.
 - b. No; replace the engine harness. Verify repair.
11. Measure the resistance between pin 2 of the turbocharger speed sensor electrical connector harness side and pin 52 of the MCM 120-pin electrical connector harness side. Is the resistance less than 10k ohms?
 - a. Yes; repair the circuit between pin 2 of the turbocharger speed sensor electrical connector harness side and pin 52 of the MCM 120-pin electrical connector harness side.
 - b. No; replace the MCM. Refer to section "Removal of the Motor Control Module". Verify repair.

3 SPN 103/FMI 4 - EPA07 - EPA10 - GHG14

Turbo Speed Sensor Failed Low

Table 2.

SPN 103/FMI 4	
Description	This fault Sets when the Motor Control Module (MCM) Detects a Short to Ground on the Turbocharger Speed Sensor Circuit.
Monitored Parameter	Turbocharger Speed Sensor
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous when Enabling Conditions Met
Typical Duration	Two Seconds
Dash Lamps	CEL
Engine Reaction	None
Verification	Cycle Key



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1. Connect DiagnosticLink[®].
2. Disconnect and inspect the turbocharger speed sensor electrical connector harness side. Is there corrosion present?
 - a. Yes; replace the turbocharger speed sensor and the electrical connector. Refer to section "Removal of the Turbocharger Speed Sensor". Verify repair.
 - b. No; Go to step 3.
3. Are any of the pins or the connector damaged?
 - a. Yes; Go to step 4.
 - b. No; Go to step 5.
4. Inspect the turbocharger speed sensor electrical connector component side. Are any of the pins or the connector damaged?
 - a. Yes; replace the turbocharger speed sensor and the electrical connector. Refer to section "Removal of the Turbocharger Speed Sensor". Verify repair.
 - b. No; replace the turbocharger speed sensor electrical connector harness side. Verify repair.

5. Turn the ignition ON (key ON, engine OFF).
6. Is fault code SPN 104/FMI 4 active?
 - a. Yes; Go to step 7.
 - b. No; replace the turbocharger speed sensor. Refer to section "Removal of the Turbocharger Speed Sensor" . Verify repair.
7. Turn the ignition OFF.
8. Disconnect and inspect the MCM 120-pin electrical connector harness side. Is there corrosion present?
 - a. Yes; replace the MCM and the engine harness. Refer to section "Removal of the Motor Control Module". Verify repair.
 - b. No; Go to step 9.
9. Is the connector damaged?
 - a. Yes; Go to step 10.
 - b. No; Go to step 11.
10. Inspect the MCM 120-pin electrical connector component side. Are any of the pins or the connector damaged?
 - a. Yes; replace the MCM and the engine harness. Refer to section "Removal of the Motor Control Module". Verify repair.
 - b. No; replace the engine harness. Verify repair.
11. Measure the resistance between pin 2 of the turbocharger speed sensor electrical connector harness side and pin 52 of the MCM 120-pin electrical connector harness side. Is the resistance less than 10k ohms?
 - a. Yes; repair the circuit between pin 2 of the turbocharger speed sensor electrical connector harness side and pin 52 of the MCM 120-pin electrical connector harness side.
 - b. No; replace the MCM. Refer to section "Removal of the Motor Control Module". Verify repair.