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Service Information Bulletin

SUBJECT	DATE
SPN 1071/FMI 3,4,5 - EPA10 - GHG14 (MCM)	October 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	SPN 1071/FMI 3,4 - EPA10 - GHG14	Updated fan diagnostics steps 4 through 12.
		SPN 1071/FMI 5 - EPA10 - GHG14	Updated fan diagnostics steps 2 through 11.



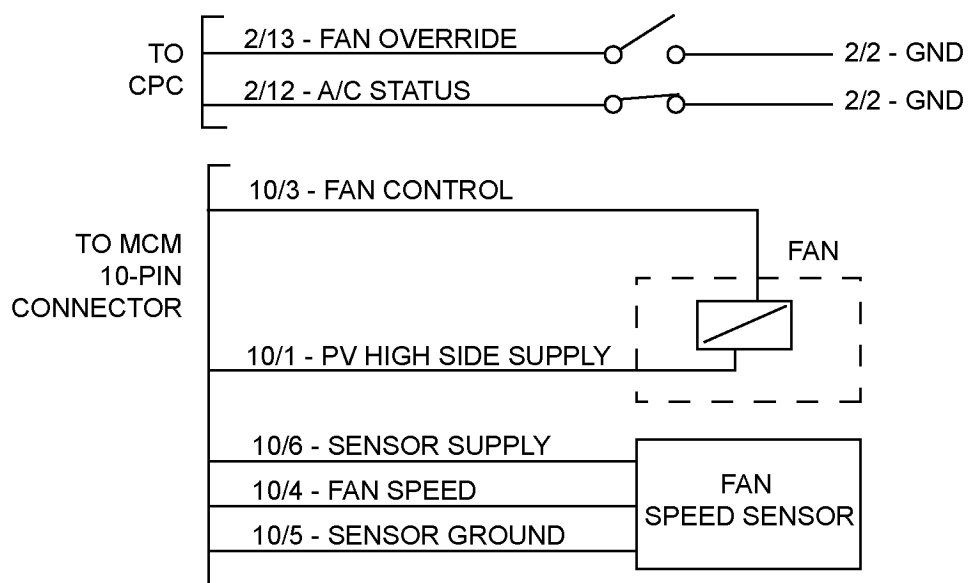
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2 SPN 1071/FMI 3 - EPA10 - GHG14

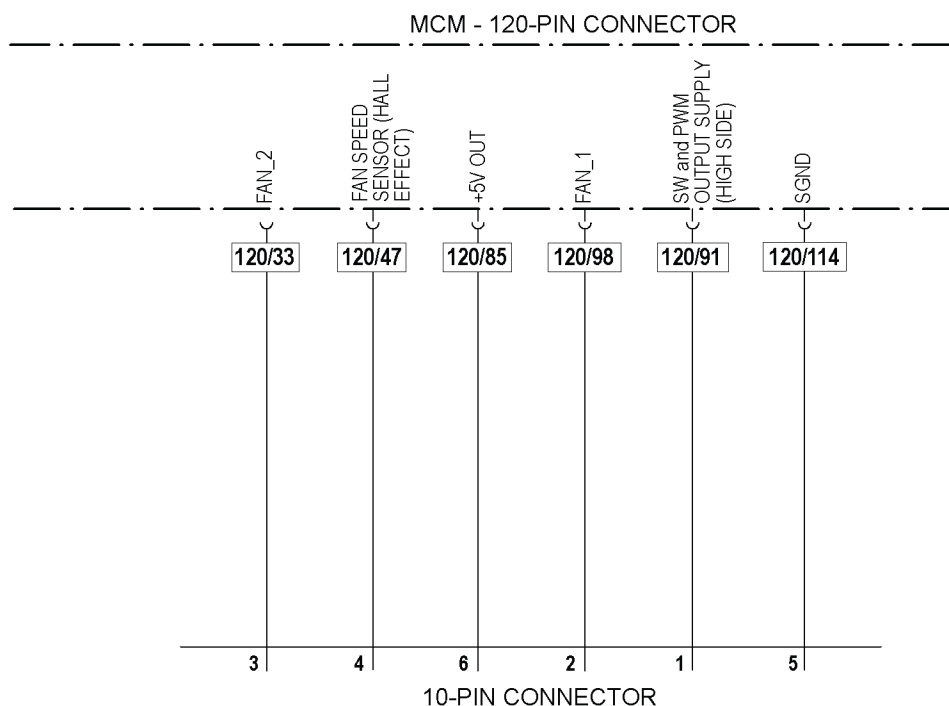
This diagnostic is typically a Fan Stage 2 Circuit Failed High

Table 1.

SPN 1071/FMI 3	
Description	Fan Circuit Failed High
Monitored Parameter	Fan Control Solenoid
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	None
Engine Reaction	None
Verification	Ignition cycle



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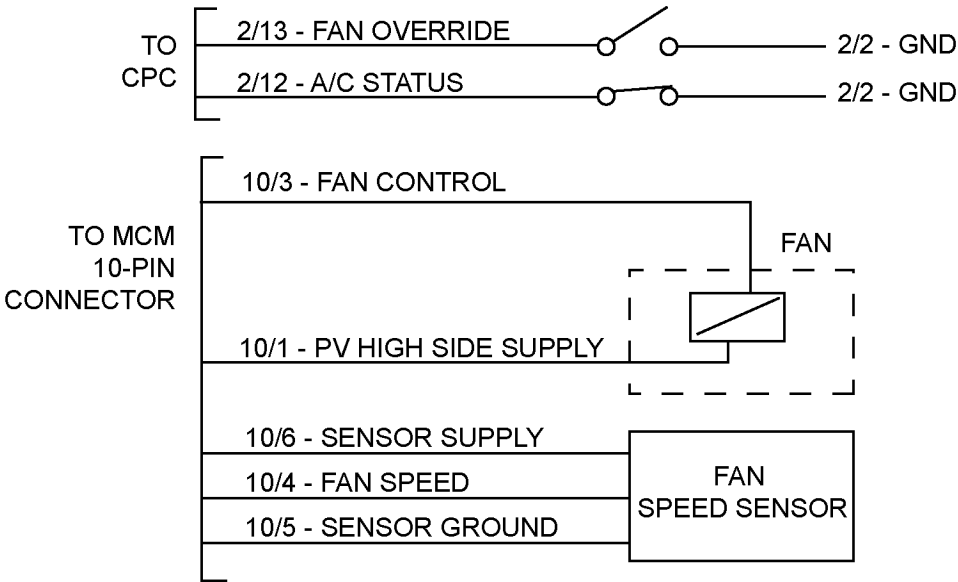
1. Turn the ignition OFF.
2. Disconnect the vehicle 10-pin interface connector.
3. Inspect the vehicle 10-pin interface connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, damage, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, Go to step 4.
4. Turn the ignition ON (key On, engine OFF).
5. Connect DDDL/DDRS 7.10 or newer. Clear fault codes. Does the fault code become active?
 - a. Yes; Go to step 10.
 - b. No; Go to step 6.
6. Reconnect the vehicle 10-pin interface connector.
7. Disconnect the fan control solenoid connector.
8. Inspect the fan control solenoid connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, Go to step 9.
9. Cycle ignition. Clear fault codes. Does the fault code become active?
 - a. Yes; repair short to power on fan control circuit from the vehicle 10-pin interface connector pin 3 to the fan control solenoid. Refer to Original Equipment Manufacturer (OEM) for wiring information.
 - b. No; replace the fan control solenoid. Refer to Original Equipment Manufacturer (OEM) procedures.
10. Turn the ignition OFF.
11. Disconnect the 120-pin Motor Control Module (MCM) connector.
12. Inspect the 120-pin Motor Control Module (MCM) connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, damage, bent or spread pins are found, repair as necessary.
 - b. If the connector shows no signs of damage, repair short to power on fan control circuit from MCM pin 33 to the vehicle 10-pin interface connector pin 3.

3 SPN 1071/FMI 4 - EPA10 - GHG14

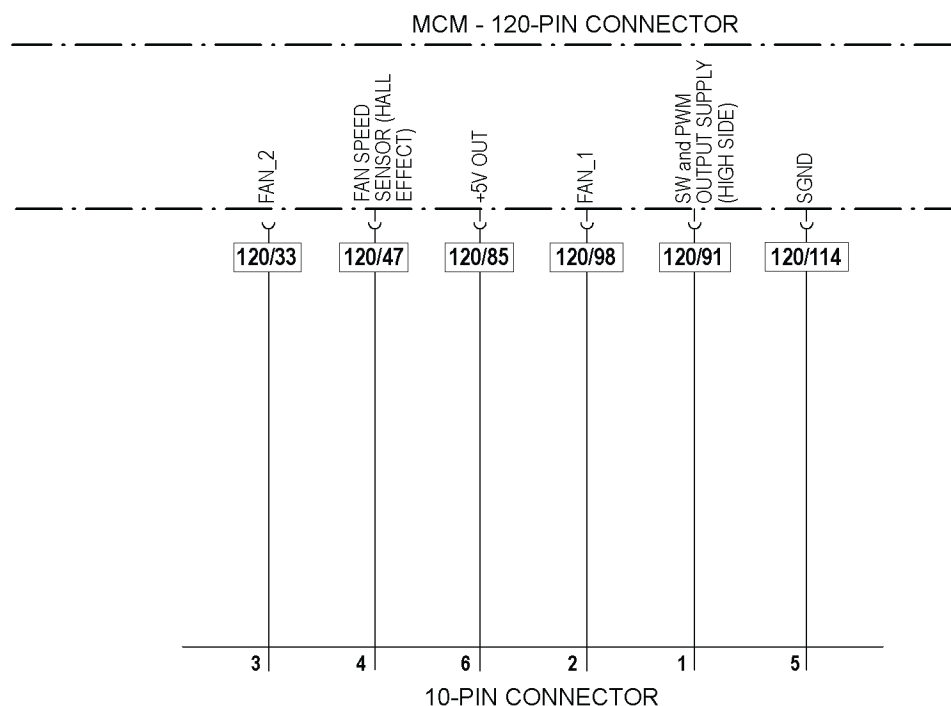
This diagnostic is typically Fan Stage 2 Circuit Failed Low

Table 2.

SPN 1071/FMI 4	
Description	Fan Circuit Failed Low
Monitored Parameter	Fan Control Solenoid
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	None
Verification	Ignition cycle



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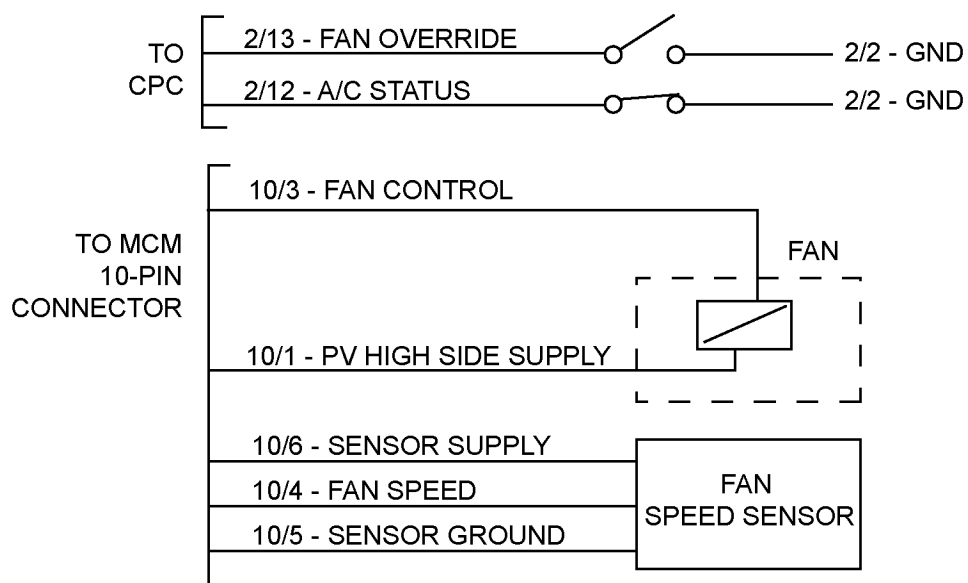
1. Turn the ignition OFF.
2. Disconnect the vehicle 10-pin interface connector.
3. Inspect the vehicle 10-pin interface connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, damage, bent or spread pins are found, repair as necessary.
 - b. If the connector shows no signs of damage, Go to step 4.
4. Turn the ignition ON (key On, engine OFF).
5. Connect DDDL/DDRS 7.10 or newer. Clear fault codes. Does the fault code become active?
 - a. Yes; Go to step 10.
 - b. No; Go to step 6.
6. Reconnect the vehicle 10-pin interface connector.
7. Disconnect the fan control solenoid connector.
8. Inspect the fan control solenoid connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, Go to step 9.
9. Cycle ignition. Clear fault codes. Does the fault code become active?
 - a. Yes; repair short to ground on fan control circuit from the vehicle 10-pin interface connector pin 3 to the fan control solenoid. Refer to Original Equipment Manufacturer (OEM) for wiring information.
 - b. No; replace the fan control solenoid. Refer to Original Equipment Manufacturer (OEM) procedures.
10. Turn the ignition OFF.
11. Disconnect the 120-pin Motor Control Module (MCM) connector.
12. Inspect the 120-pin Motor Control Module (MCM) connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, damage, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, repair short to ground on fan control circuit from MCM pin 33 to the vehicle 10-pin interface connector pin 3.

4 SPN 1071/FMI 5 - EPA10 - GHG14

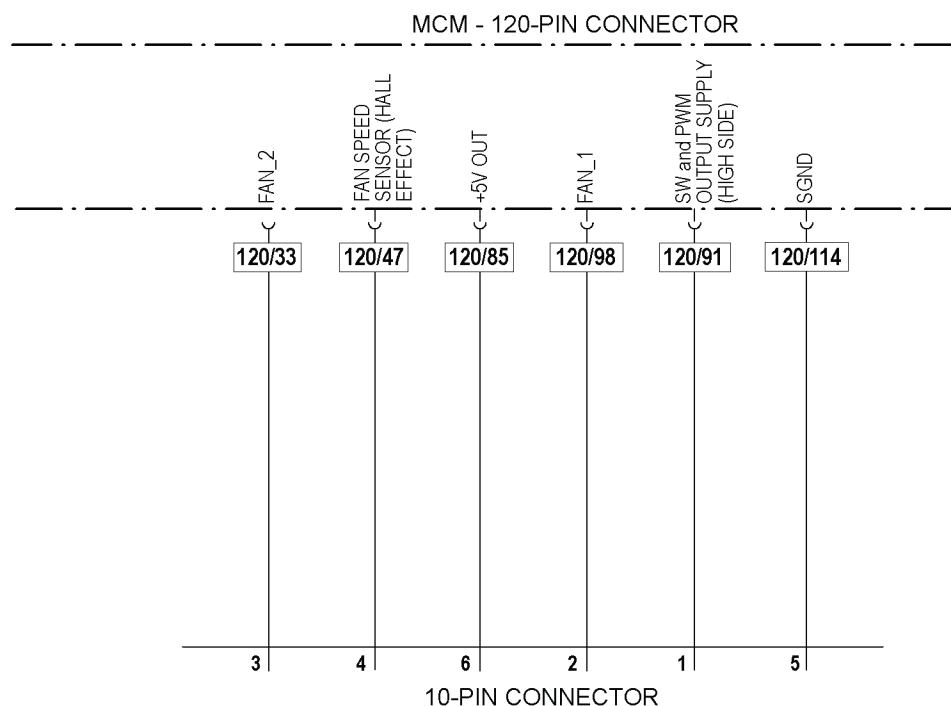
This diagnostic is typically Fan Stage 2 Circuit Failed Open

Table 3.

SPN 1071/FMI 4	
Description	Fan Circuit Failed Open
Monitored Parameter	Fan Control Solenoid
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	None
Engine Reaction	None
Verification	Ignition cycle



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1. Check for multiple codes.
 - a. If SPN 647/FMI 5, SPN 1072/FMI 5 and SPN 1071/FMI 5 are active, repair the open in the wiring between the pin 91 of the 120-pin Motor Control Module (MCM) connector and the fan and the Jake Brake® solenoids. Verify repairs.
 - b. If only SPN 1071/FMI 5 is active, Go to step 2.
2. Turn the ignition OFF.
3. Disconnect the vehicle 10-pin interface connector.
4. Inspect the vehicle 10-pin interface connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, damage, bent or spread pins are found, repair as necessary.
 - b. If the connector shows no signs of damage, reconnect 10-pin connector, Go to step 5.
5. Disconnect the 120-pin Motor Control Module (MCM) connector.
6. Inspect the 120-pin Motor Control Module (MCM) connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, Go to step 7.
7. Measure the resistance between MCM harness connector pin 33 and the vehicle 10-pin interface connector pin 3.
 - a. If the resistance is less than five ohms, Go to step 8.
 - b. If the resistance is greater than five ohms, repair the open circuit on fan circuit pin 33 of the 120-pin MCM connector to the vehicle 10-pin interface connector pin 3.
8. Measure the resistance between MCM harness connector pin 91 and the vehicle 10-pin interface connector pin 1.
 - a. If the resistance is less than five ohms, Go to step 9.
 - b. If the resistance is greater than five ohms, repair the open circuit on fan power circuit pin 91 of the 120-pin MCM connector to the vehicle 10-pin interface connector pin 1.
9. Disconnect the fan control solenoid connector.
10. Inspect the fan control solenoid connector for corroded, unseated (pushed out) or damaged pins, bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion).
 - a. If water or oil intrusion, bent or spread pins are found, repair as necessary. Verify repairs.
 - b. If the connector shows no signs of damage, Go to step 11.
11. Measure the resistance between the fan control solenoid pins.

- a. If the resistance is less than 10K Ω , repair the open circuit(s) between the fan control solenoid connector and the vehicle 10-pin interface connector pin 3 and/or pin 1. Refer to Original Equipment Manufacturer (OEM) procedures.
- b. If the resistance is greater than 10K Ω , replace the fan control solenoid. Refer to Original Equipment Manufacturer (OEM) procedures.