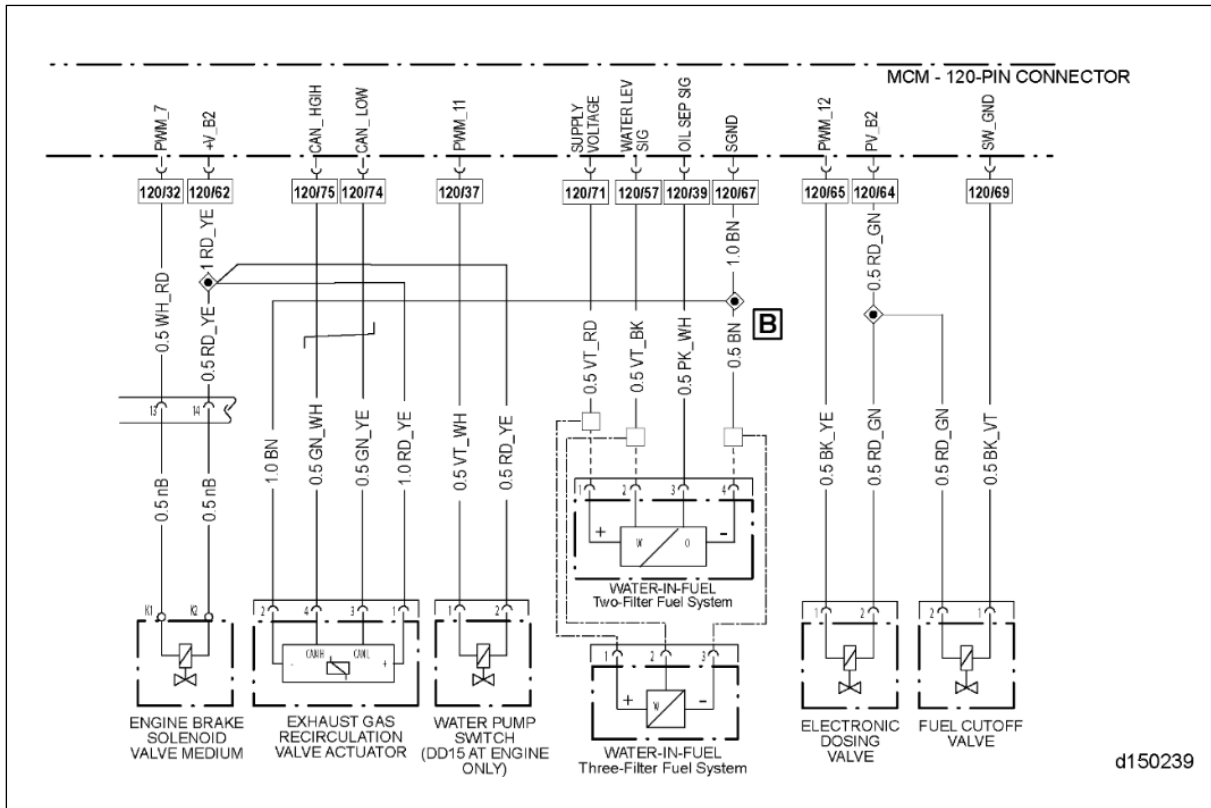


387.1 SPN 3598/FMI 4 - EPA10 - GHG14

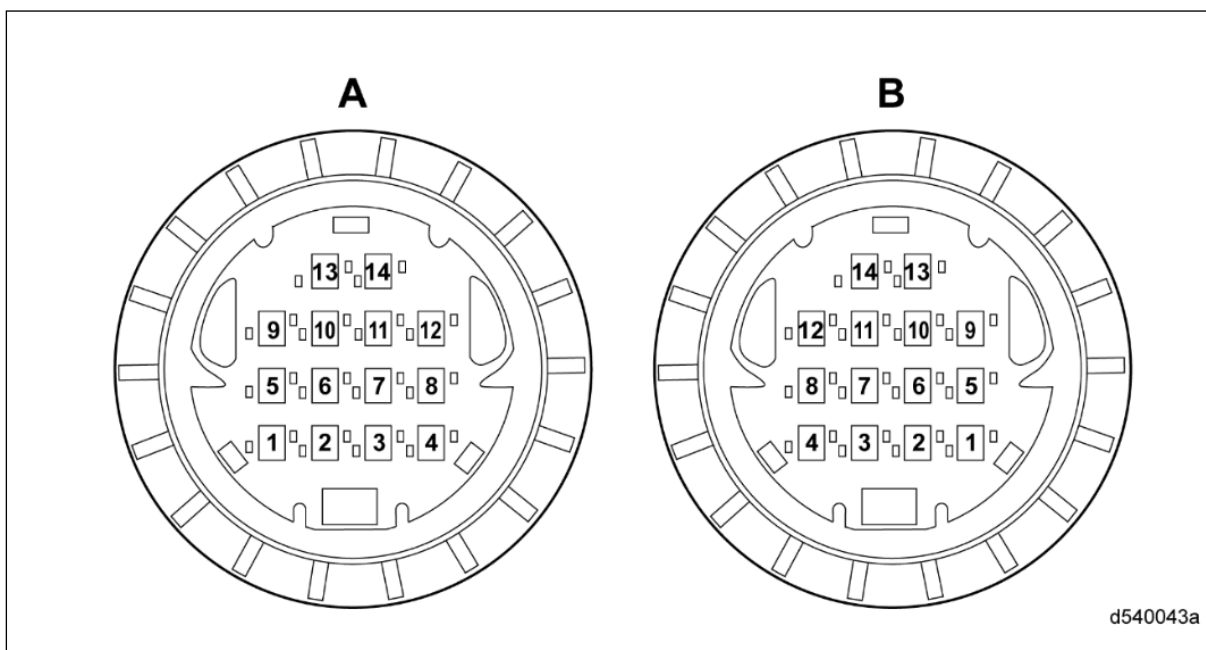
Proportional Valve Bank 2 Circuit Failed Low.



SPN 3598/FMI 4	
Description	Proportional Valve Bank 2 Circuit Failed Low
Monitored Parameter	Proportional Valve Bank 2 circuit
Typical Enabling Conditions	Always Enabled
Monitor Sequence	None
Execution Frequency	Always Enabled
Typical Duration	2 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	25% Derate
Verification	Ignition Key Cycle

Check as follows:

Note : Other circuit low fault codes may set as a result of SPN 3598/FMI 4.



A	Engine Harness Side
B	Valve Cover Side

1. Disconnect the rear fuel injector harness 14-pin injector connector.
2. Inspect the rear fuel injector harness 14-pin injector connectors for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage found?
 - 2.a Yes; repair as necessary. Verify repairs.
 - 2.b No; [Go to step 3.](#)
3. Turn the ignition ON (key ON, engine OFF).

Note : Additional fault codes will be present as a result of turning the ignition ON while there are disconnected components. Disregard these new fault codes at this time.

4. Using DiagnosticLink , does SPN 3598/FMI 4 fault code become inactive with the rear fuel injector harness disconnected?
 - 4.a Yes; [Go to step 5.](#)
 - 4.b No; [Go to step 8.](#)
5. Remove the rocker cover. [Refer to section "Removal of the Rocker Cover"](#) .
6. Disconnect the rear Jake Brake® electrical harness connector.
7. Measure resistance between either terminal on the Jake Brake® solenoid and ground. Is the resistance greater than 10k ohms?
 - 7.a Yes; install a new rear fuel injector valve cover harness.

[Refer to section "Removal of the Two-Piece Fuel Injector Wiring Harness - Three-Filter System"](#) .

[Refer to section "Removal of the Two-Piece Fuel Injector Wiring Harness - Two-Filter System"](#) .
 - 7.b No; replace the Jake Brake® solenoid. [Refer to section "Removal of Camshaft and Rocker Shaft/Engine Brake Assembly"](#) . Verify repairs.
8. Disconnect the fuel cutoff valve connector.
9. Inspect the harness connector and valve for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage found?

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- 9.a Yes; repair as necessary. Verify repairs.
- 9.b No; [Go to step 10.](#)
10. Using DiagnosticLink, does SPN 3598/FMI 4 become inactive with the fuel cutoff valve disconnected?
- 10.a Yes; replace the HC doser block assembly. [Refer to section "Removal of the Hydrocarbon Doser Block "](#) . Verify repairs.
- 10.b No; [Go to step 11.](#)
11. Disconnect the electronic dosing valve connector.
12. Inspect the harness connector and valve for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage found?
- 12.a Yes; repair as necessary. Verify repairs.
- 12.b No; [Go to step 13.](#)
13. Using DiagnosticLink, does SPN 3598/FMI 4 become inactive with the electronic dosing valve disconnected?
- 13.a Yes; replace the Hydrocarbon (HC) doser block assembly. [Refer to section "Removal of the Hydrocarbon Doser Block "](#) . Verify repairs.
- 13.b No; [Go to step 14.](#)
14. Disconnect the Exhaust Gas Recirculation (EGR) valve actuator connector.
15. Inspect the harness connector and valve for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage present?
- 15.a Yes; repair as necessary. Verify repairs.
- 15.b No; [Go to step 16.](#)
16. Using DiagnosticLink, does SPN 3598/FMI 4 become inactive with the EGR valve disconnected?
- 16.a Yes; replace the EGR valve actuator.
- For DD13: [Refer to section "Removal of the DD13 Exhaust Gas Recirculation Valve Actuator"](#) .
- For DD15 and DD16: [Refer to section "Removal of the DD15 and DD16 Delphi © Exhaust Gas Recirculation Valve Actuator"](#) . Verify repairs.
- 16.b No; [Go to step 17.](#)
17. Is vehicle equipped with variable speed water pump?
- 17.a Yes; [Go to step 18.](#)
- 17.b No; [Go to step 21.](#)
18. Disconnect the variable speed water pump connector.
19. Inspect the harness connector and water pump for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage found?
- 19.a Yes; repair as necessary. Verify repairs.
- 19.b No; [Go to step 20.](#)
20. Using DiagnosticLink, does SPN 3598/FMI 4 become inactive with the variable speed water pump disconnected?
- 20.a Yes; replace the variable speed water pump. [Refer to section "Removal of the Variable Speed Water Pump"](#) Verify repairs.
- 20.b No; [Go to step 21.](#)
21. While monitoring fault code, wiggle-test the harness. Does SPN 3598/FMI 4 change or become inactive?
- 21.a Yes; isolate that section of harness and inspect for wire chaffing, corrosion, improper connections or physical damage and repair as necessary. Verify repairs.
- 21.b No; [Go to step 22.](#)
22. Turn the ignition OFF.
23. Disconnect the Motor Control Module (MCM) 120-pin connector.

24. Inspect the 120-pin connector and MCM for bent or spread pins; inspect the connector seal for damage (signs of water or oil intrusion). Is there any damage found?
 - 24.a Yes; repair as necessary. Verify repairs.
 - 24.b No; [Go to step 25.](#)
25. Measure the resistance between pin 62 on the 120-pin MCM harness side connector and battery ground. Is the resistance greater than 10K ohms?
 - 25.a Yes; [Go to step 26.](#)
 - 25.b No; repair the short to ground on pin 62 of the MCM 120-pin connector. Verify repairs.
26. Measure the resistance between pin 64 of the 120-pin MCM harness side connector and battery ground. Is the resistance greater than 10K ohms?
 - 26.a Yes; replace the MCM. [Refer to section "Removal of the Motor Control Module"](#) . Verify repairs.
 - 26.b No; repair the short to ground on pin 64 of the MCM 120-pin connector. Verify repairs.