

Symptom:

P2149-BANK 2 (CYLINDERS 4-6) SHORTED HIGH OR LOW

When Monitored and Set Condition:

P2149-BANK 2 (CYLINDERS 4-6) SHORTED HIGH OR LOW

When Monitored: While the engine is running.

Set Condition: A misfire detected at cylinders 4,5, or 6 or any combination of cylinders 4,5, or 6.

POSSIBLE CAUSES

OTHER DTC'S
 HIGH SIDE DRIVER CIRCUIT OPEN
 LOW SIDE DRIVER CIRCUIT OPEN
 HIGH SIDE DRIVER SHORTED TO LOW SIDE DRIVER
 HIGH SIDE DRIVERS SHORTED LOW
 LOW SIDE DRIVER CIRCUIT SHORTED OTHER LOW SIDE DRIVER CIRCUIT
 LOW SIDE DRIVERS SHORTED LOW
 HIGH SIDE DRIVER SHORTED TO VOLTAGE
 LOW SIDE DRIVER SHORTED TO VOLTAGE
 LOW SIDE DRIVER CIRCUIT SHORTED IN INJECTOR HARNESS
 INJECTOR
 INJECTOR HARNESS
 INTERMITTENT CONDITION
 ECM
 INTERMITTENT CONDITION

TEST	ACTION	APPLICABILITY
1	With the DRBIII®, read DTCs. Do you have any combination of DTC's P0201, P0202, or P0203? Yes → Repair other DTC's first. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Go To 2	All

P2149-BANK 2 (CYLINDERS 4-6) SHORTED HIGH OR LOW — Continued

TEST	ACTION	APPLICABILITY
2	Turn the ignition off. Disconnect the ECM harness connectors. Disconnect the Injector 4-6 harness connector. NOTE: Check connectors - Clean/repair as necessary. Measure the resistance of the injector high side driver circuit between the Bank 2 high side driver circuit in the ECM harness connector and the high side driver circuit in the injector harness connectors for cylinders 4-6. Is the resistance less than 10 Ohms? Yes → Go To 3 No → Repair the open high side driver circuit from ECM harness connector to the Injector harness connector. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
3	Measure the resistance of the #4,#5, and #6 injector low side driver circuits between the ECM harness connector and the injector harness connectors. Is the resistance less than 10 Ohms? Yes → Go To 4 No → Repair the open low side driver circuit. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
4	Measure the resistance between the Bank 2 high side driver circuit at the ECM harness connector and the low side driver circuit for injectors 4-6 at the ECM harness connector. Is the resistance more than 100k Ohms? Yes → Go To 5 No → Repair the High side circuit shorted to the low side circuit. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
5	Measure the resistance of the injector harness connector high side driver circuits to battery negative for injectors 4-6. Is the resistance more than 100k Ohms? Yes → Go To 6 No → Repair the High side driver shorted low in the harness. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
6	Measure the resistance of the injector harness connector Low side driver circuits to battery negative for injectors 4-6. Is the resistance more than 100k Ohms? Yes → Go To 7 No → Repair the Low side driver shorted low in the harness. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All

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TEST	ACTION	APPLICABILITY
7	Measure the voltage between the high side driver circuit in the engine harness and battery negative. Is the voltage less than 1 volt? Yes → Go To 8 No → Repair the high side driver shorted to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
8	Measure the voltage between the low side driver circuit in the engine harness and battery negative for cylinders 4-6. Is the voltage less than 1 volt? Yes → Go To 9 No → Repair the low side driver shorted to voltage. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
9	Measure the resistance of each of the Bank 2 low side driver circuit to all other Bank 1 low side driver circuits at the ECM harness connector. Is the resistance greater than 100k ohms? Yes → Go To 10 No → Repair Low side driver circuit shorted to other Low side driver circuit. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
10	Reconnect the disconnected injector harness connector. Measure the resistance of each of the Bank 2 low side driver circuit to all other Bank 2 low side driver circuit at the ECM harness connector. Is the resistance greater than 100k ohms? Yes → Go To 11 No → Replace the injector harness. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
11	Measure the resistance of each injector from the through head connector. NOTE: Be sure to zero the ohm meter prior to checking the injector circuit. Is the resistance greater than .8 ohm? Yes → Go To 12 No → Go To 14	All
12	Disconnect the pigtail nuts from injectors 4-6. NOTE: Check connectors - Clean/repair as necessary. Measure the resistance between the solenoid posts of each injector. NOTE: Be sure to zero the ohm meter prior to checking the injector circuit. Is the resistance less than 1 ohm and greater than 0 ohms? Yes → Go To 13 No → Replace the fuel injector or injectors. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All

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TEST	ACTION	APPLICABILITY
13	Measure resistance of each circuit in the injector harness from pigtail side to injector harness connector. Is resistance above 1 ohm? Yes → Replace the injector harness. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Refer to the INTERMITTENT CONDITION Symptom (Diagnostic Procedure). Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL).	All
14	Reconnect the all injector pig tails harness connector. Reconnect the ECM harness connector. Reconnect the Injector harness connector. Start the engine. With the DRBIII®, read DTCs. Did the DTC return? Yes → Replace and program the ECM in accordance with the Service Information. Perform POWERTRAIN VERIFICATION TEST VER - 1 (DIESEL). No → Test Complete.	All