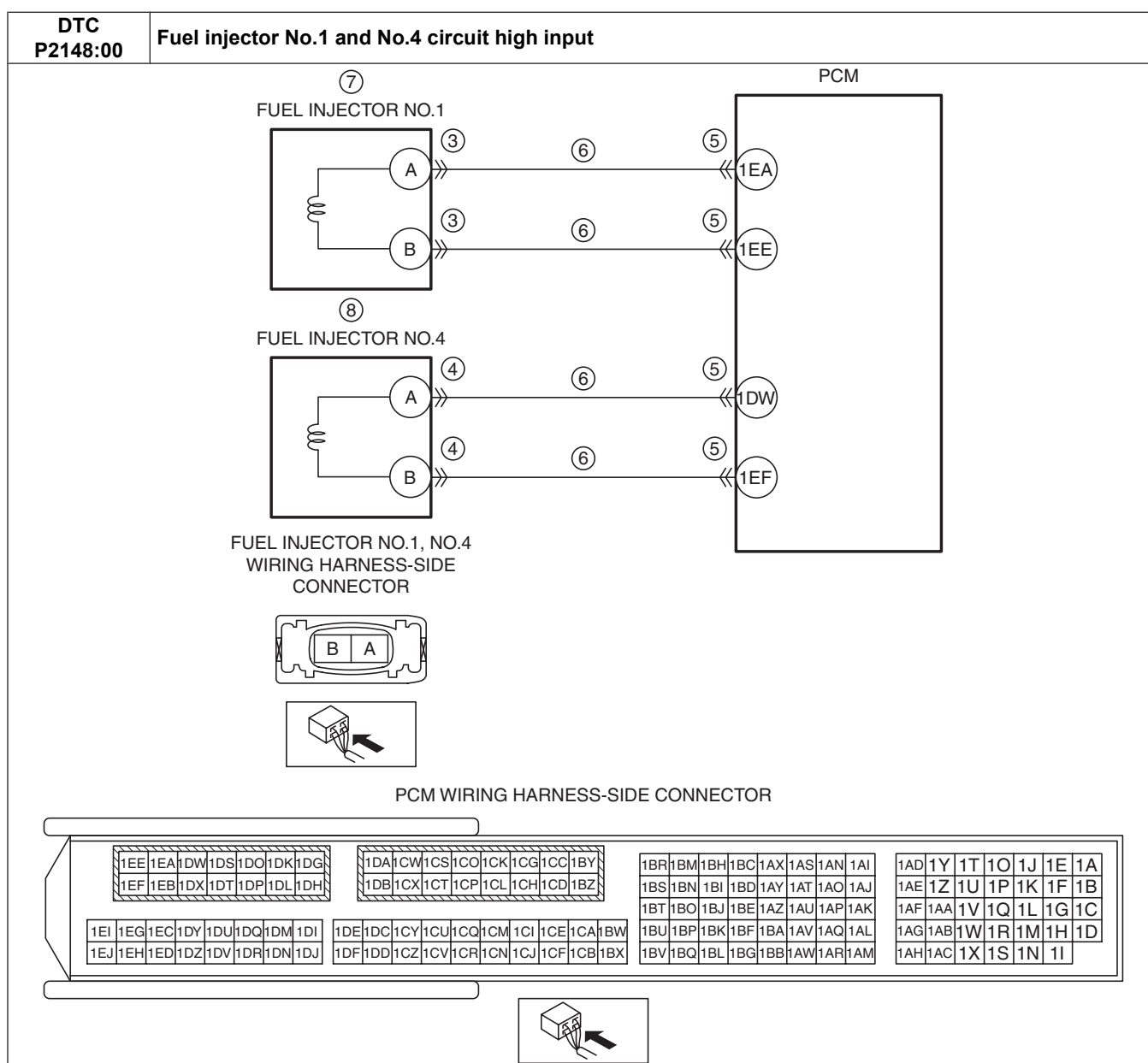


DTC P2148:00 [SKYACTIV-D 2.2]

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DTC P2148:00	Fuel injector No.1 and No.4 circuit high input
DETECTION CONDITION	<ul style="list-style-type: none">• When the following condition is met, the PCM detects the control current at fuel injectors No.1 and No.4 as exceeding 10 A 4 times: MONITORING CONDITIONS <ul style="list-style-type: none">— Battery voltage: more than 8 V Diagnostic support note <ul style="list-style-type: none">• This is an intermittent monitor (fuel system).• The check engine light illuminates if the PCM detects the above malfunction condition during the first drive cycle.• FREEZE FRAME DATA (Mode 2)/Snapshot data is available.• DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	<ul style="list-style-type: none">• PCM restricts engine torque.• Inhibits the EGR control.• Inhibits the diesel particulate filter regeneration control.• Inhibits engine-stop by operating the i-stop function.• PCM restricts engine-transaxle integration control.
POSSIBLE CAUSE	<ul style="list-style-type: none">• Fuel injector No.1 connector or terminals malfunction• Fuel injector No.4 connector or terminals malfunction• PCM connector or terminals malfunction• Short to power supply in wiring harness between the following terminals:<ul style="list-style-type: none">— Fuel injector No.1 terminal A—PCM terminal 1EA— Fuel injector No.1 terminal B—PCM terminal 1EE— Fuel injector No.4 terminal A—PCM terminal 1DW— Fuel injector No.4 terminal B—PCM terminal 1EF• Fuel injector No.1 malfunction• Fuel injector No.4 malfunction• PCM malfunction



Diagnostic Procedure

STEP	INSPECTION	ACTION	
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED <ul style="list-style-type: none"> Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded? 	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	VERIFY RELATED SERVICE INFORMATION AVAILABILITY <ul style="list-style-type: none"> Verify related Service Information availability. Is any related Service Information available? 	Yes	Perform repair or diagnosis according to the available Service Information.
		No	Go to the next step.
3	INSPECT FUEL INJECTOR NO.1 CONNECTOR CONDITION <ul style="list-style-type: none"> Switch the ignition off. Disconnect the fuel injector No.1 connector. Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.

STEP	INSPECTION	ACTION	
4	INSPECT FUEL INJECTOR NO.4 CONNECTOR CONDITION <ul style="list-style-type: none"> • Disconnect the fuel injector No.4 connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.
5	INSPECT PCM CONNECTOR CONDITION <ul style="list-style-type: none"> • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.
6	INSPECT FUEL INJECTOR CIRCUIT FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Verify that the fuel injector No.1 and fuel injector No.4 connectors are disconnected. • Measure the voltage at the following terminals (wiring harness-side): <ul style="list-style-type: none"> — Fuel injector No.1 terminal A — Fuel injector No.1 terminal B — Fuel injector No.4 terminal A — Fuel injector No.4 terminal B • Is the voltage 0 V? 	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 9.
7	INSPECT FUEL INJECTOR NO.1 <ul style="list-style-type: none"> • Inspect the fuel injector No.1. (See FUEL INJECTOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction? 	Yes	Replace the fuel injector No.1, then go to Step 9. (See FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
8	INSPECT FUEL INJECTOR NO.4 <ul style="list-style-type: none"> • Inspect the fuel injector No.4. (See FUEL INJECTOR INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction? 	Yes	Replace the fuel injector No.4, then go to the next step. (See FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
9	VERIFY DTC TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Perform the KOER self test. (See KOEO/KOER SELF TEST [SKYACTIV-D 2.2].) • Is the same DTC present? 	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to the next step.
		No	Go to the next step.
10	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.