DTC P009B:00 [SKYACTIV-D 2.2]

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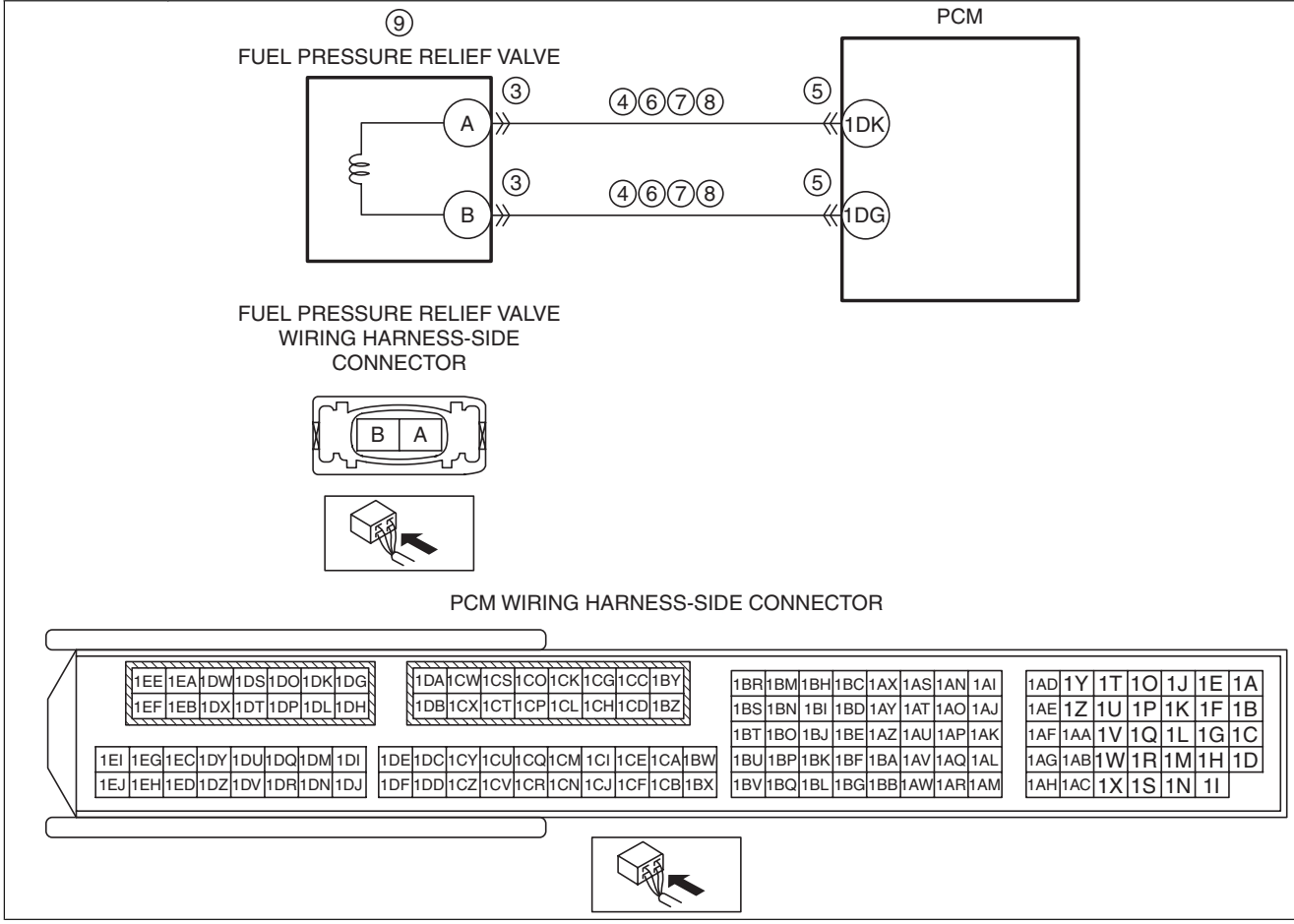
DTC P009B: 00	Fuel pressure relief valve signal circuit problem
DETECTION CONDITION	• The operation amount of the fuel pressure relief valve is the specified value or more when the following conditions are met: **MONITORING CONDITIONS** — Battery voltage: **10—16 V** **Diagnostic support note** • This 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	• PCM restricts engine torque. • PCM restricts fuel pressure. (high pressure side). • Inhibits engine-stop by operating the i-stop function.
POSSIBLE CAUSE	• Fuel pressure relief valve connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — Fuel pressure relief valve terminal A—PCM terminal 1DK — Fuel pressure relief valve terminal B—PCM terminal 1DG • PCM connector or terminals malfunction • Short to power supply in wiring harness between the following terminals: — Fuel pressure relief valve terminal A—PCM terminal 1DK — Fuel pressure relief valve terminal B—PCM terminal 1DG • Fuel pressure relief valve circuits are shorted to each other • Open circuit in wiring harness between the following terminals: — Fuel pressure relief valve terminal A—PCM terminal 1DK — Fuel pressure relief valve terminal B—PCM terminal 1DG • Fuel pressure relief valve malfunction • PCM malfunction



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED** • 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** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	**INSPECT FUEL PRESSURE RELIEF VALVE CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the fuel pressure relief valve 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 10.
		No	Go to the next step.
4	**INSPECT FUEL PRESSURE RELIEF VALVE SIGNAL CIRCUIT FOR SHORT TO GROUND** • Verify that the fuel pressure relief valve connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Fuel pressure relief valve terminal A — Fuel pressure relief valve terminal B • Is there continuity?	Yes	If the short to ground circuit could be detected in the wiring harness: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected in the wiring harness: • Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to Step 10.
		No	Go to the next step.
5	**INSPECT PCM CONNECTOR CONDITION** • 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 10.
		No	Go to the next step.
6	**INSPECT FUEL PRESSURE RELIEF VALVE SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the fuel pressure relief valve and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the following terminals (wiring harness-side): — Fuel pressure relief valve terminal A — Fuel pressure relief valve 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 10.
7	**INSPECT FUEL PRESSURE RELIEF VALVE CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the fuel pressure relief valve and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between fuel pressure relief valve terminals A and B (wiring harness-side). • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to each other, then go to Step 10.
		No	Go to the next step.

STEP	INSPECTION		ACTION
8	**INSPECT FUEL PRESSURE RELIEF VALVE SIGNAL CIRCUIT FOR OPEN CIRCUIT** • Verify that the fuel pressure relief valve and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Fuel pressure relief valve terminal A—PCM terminal 1DK — Fuel pressure relief valve terminal B—PCM terminal 1DG • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 10.
9	**INSPECT FUEL PRESSURE RELIEF VALVE** • Inspect the fuel pressure relief valve. (See FUEL PRESSURE RELIEF VALVE INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the common rail, then go to the next step. (See COMMON RAIL REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
10	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Start the engine. • Repeat deceleration **10 times** using engine braking after accelerating the vehicle speed to **60 km/h {37 mph}**. • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC 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.
11	**VERIFY AFTER REPAIR PROCEDURE** • 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.