DTC P2507:00 [SKYACTIV-D 2.2]

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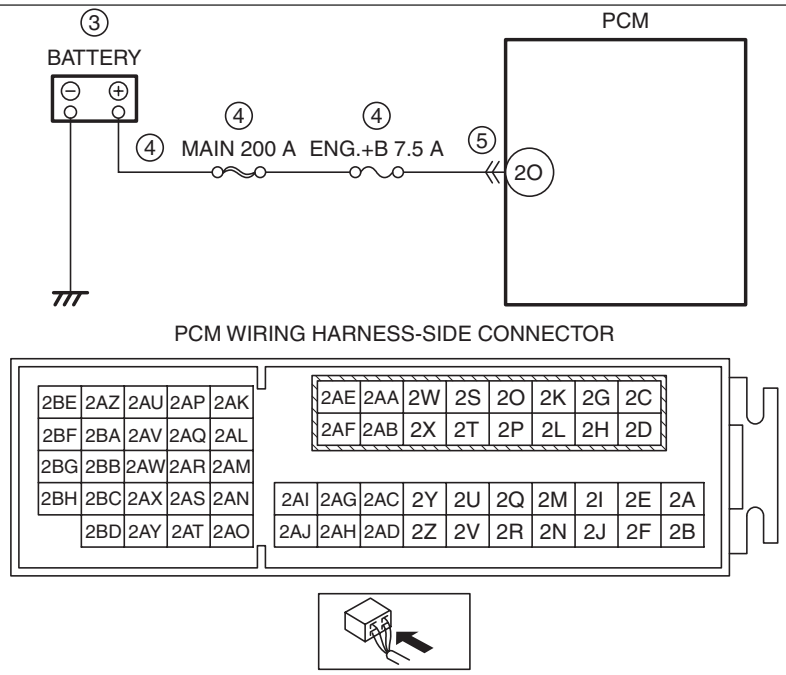
DTC P2507:00	PCM battery voltage low input
DETECTION CONDITION	• The PCM monitors the voltage of backup battery positive terminal. If the PCM detects that the battery positive terminal voltage is **below 6 V** for **5 s**, the PCM determines that the backup voltage circuit has a malfunction. **MONITORING CONDITIONS** — Battery voltage: **8 V or more** **Diagnostic support note** • This is a continuous monitor (CCM). • 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	• Inhibits engine-stop by operating the i-stop function.
POSSIBLE CAUSE	• Battery malfunction • Short to ground or open circuit in backup voltage circuit — Short to ground in wiring harness between MAIN 200 A fuse and PCM terminal 2O — MAIN 200 A fuse and/or ENG.+B 7.5 A fuse malfunction — Open circuit in wiring harness between battery positive terminal and PCM terminal 2O • PCM connector or terminals 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 BATTERY** • Switch the ignition off. • Inspect the battery. (See BATTERY INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Recharge or replace the battery, then go to Step 6. (See BATTERY RECHARGING [SKYACTIV-D 2.2].) (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
4	**INSPECT BACKUP VOLTAGE CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Reconnect all disconnected connectors. • Access the VPWR PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Verify the VPWR PID value. • Is the VPWR PID value **B+**?	Yes	Go to the next step.
		No	Inspect the MAIN 200 A fuse and ENG.+B 7.5 A fuse. • If the fuse is blown: — Repair or replace the wiring harness for a possible short to ground. — Replace the malfunctioning fuse. • If the fuse is deteriorated: — Replace the malfunctioning fuse. • If all fuses are normal: — Repair or replace the wiring harness for a possible open circuit. Go to Step 6.
5	**INSPECT PCM CONNECTOR CONDITION** • Switch the ignition off. • 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 the next step.
		No	Go to the next step.
6	**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].) • 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.
7	**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.