DTC P2503:00 [SKYACTIV-G 2.0]

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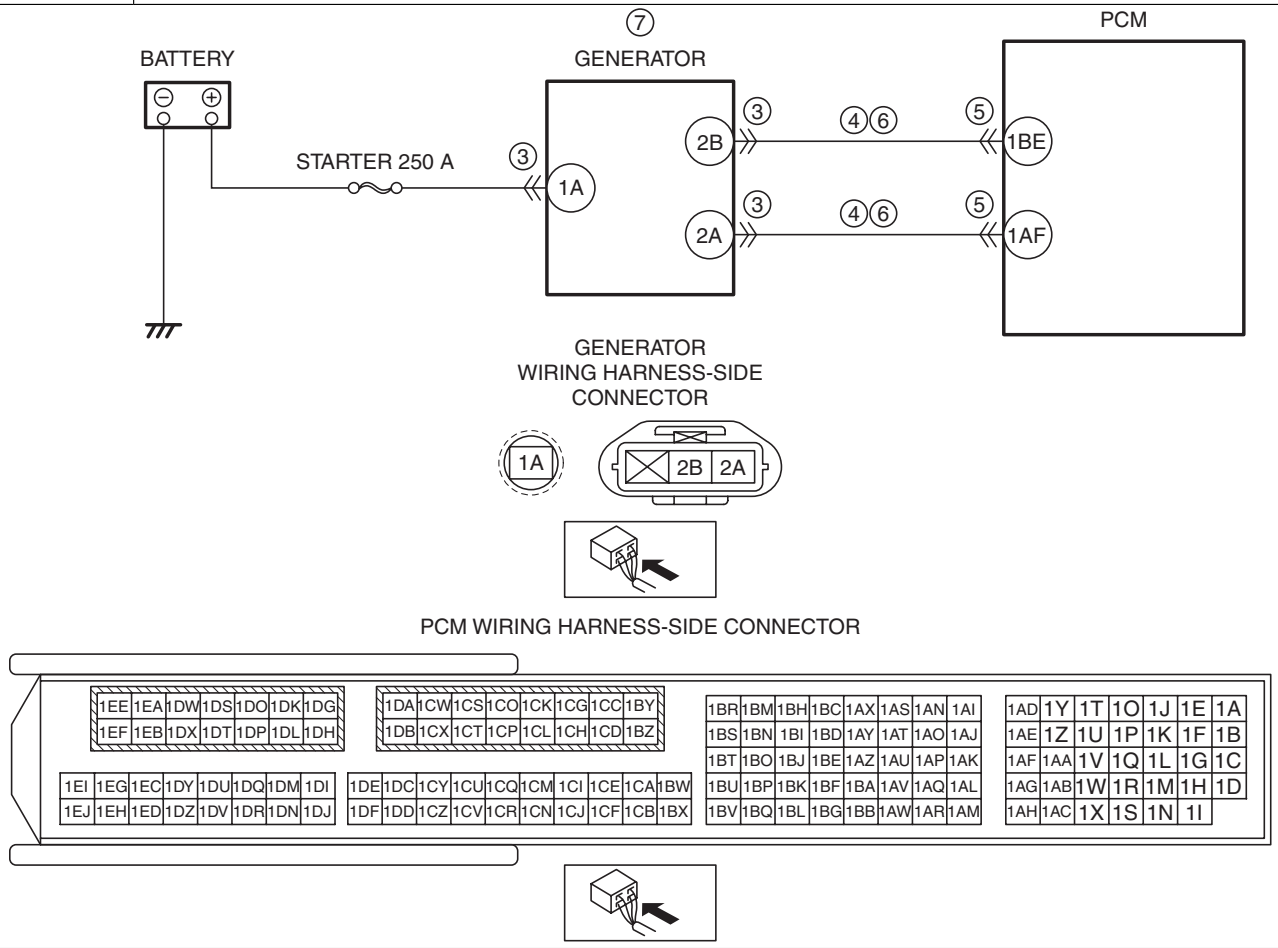
DTC P2503:00	Charging system voltage low input
DETECTION CONDITION	• The PCM determines that the generator output voltage is **less than 8.5 V**, and the generator target output current is **more than 20 A**, for **5 s** while the engine is running. **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA (Mode 2)/Snapshot data is not available. • The DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Illuminates the charging system warning light.
POSSIBLE CAUSE	• Drive belt exceeds limit • Generator connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — Generator terminal 2B—PCM terminal 1BE — Generator terminal 2A—PCM terminal 1AF • PCM connector or terminals malfunction • Open circuit in wiring harness between the following terminals: — Generator terminal 2B—PCM terminal 1BE — Generator terminal 2A—PCM terminal 1AF • Generator malfunction • PCM malfunction



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**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.

STEP	INSPECTION		ACTION
2	**INSPECT DRIVE BELT CONDITION** • Verify that the drive belt auto tensioner indicator mark does not exceed limit. (See DRIVE BELT INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Replace the drive belt, then go to Step 8. (See DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.
3	**INSPECT GENERATOR CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the generator 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 8.
		No	Go to the next step.
4	**INSPECT GENERATOR CIRCUIT FOR SHORT TO GROUND** • Verify that the generator connector is disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Generator terminal 2B — Generator terminal 2A • 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-G 2.0].) Go to Step 8.
		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 8.
		No	Go to the next step.
6	**INSPECT GENERATOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the generator and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Generator terminal 2B—PCM terminal 1BE — Generator terminal 2A—PCM terminal 1AF • 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 8.
7	**INSPECT GENERATOR** • Inspect the generator. (See GENERATOR INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to the next step. (See GENERATOR DISASSEMBLY/ASSEMBLY [SKYACTIV-G 2.0].) (See GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.
8	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Perform the KOER self test. (See KOEO/KOER SELF TEST [SKYACTIV-G 2.0].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Go to the next step.
		No	Go to the next step.
9	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No	DTC troubleshooting completed.