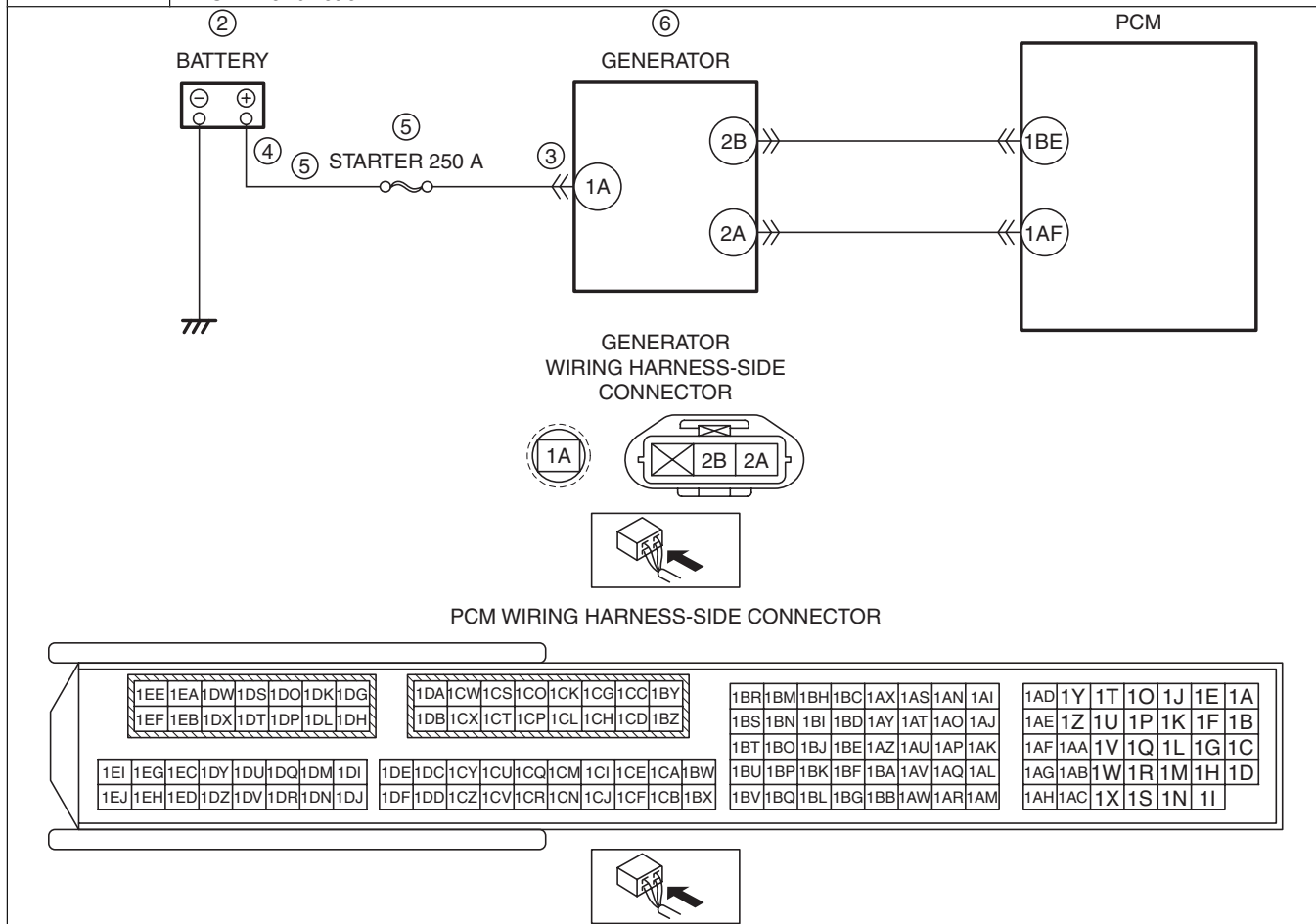


DTC P2502:00	Charging system voltage problem
DETECTION CONDITION	<ul style="list-style-type: none"> The PCM determines that the generator output voltage is more than 17 V, and the battery voltage is less than 11 V, for 5 s while the engine is running. Diagnostic support note <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Illuminates the charging system warning light.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Battery malfunction Loose generator terminal 1A installation nut Battery positive terminal is poorly connected Short to ground or open circuit in battery charging circuit <ul style="list-style-type: none"> Short to ground in wiring harness between STARTER 250 A fuse and generator terminal 1A STARTER 250 A fuse malfunction Open circuit in wiring harness between battery positive terminal and generator terminal 1A Generator malfunction PCM malfunction



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	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.

STEP	INSPECTION		ACTION
2	INSPECT BATTERY <ul style="list-style-type: none"> Switch the ignition to off. Inspect the battery. (See BATTERY INSPECTION [SKYACTIV-G 2.0].) (See BATTERY INSPECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) • Is there any malfunction? 	Yes	Recharge or replace the battery, then go to Step 7. (See BATTERY RECHARGING [SKYACTIV-G 2.0].) (See BATTERY RECHARGING [SKYACTIV-G 2.0 (WITHOUT i-stop)].) (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.
3	INSPECT POOR INSTALLATION OF GENERATOR TERMINAL <ul style="list-style-type: none"> Switch the ignition to off. Inspect for looseness of the generator terminal 1A installation nut. • Is the nut loose? 	Yes	Tighten the generator terminal 1A installation nut, then go to Step 7.
		No	Go to the next step.
4	INSPECT POOR INSTALLATION OF BATTERY POSITIVE TERMINAL <ul style="list-style-type: none"> Inspect for looseness of the battery positive terminal. • Is the terminal loose? 	Yes	Connect the battery positive terminal correctly, then go to Step 7.
		No	Go to the next step.
5	INSPECT BATTERY CHARGING CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT <ul style="list-style-type: none"> Disconnect the generator terminal 1A. Measure the voltage at the generator terminal 1A (wiring harness-side). • Is the voltage B+? 	Yes	Go to the next step.
		No	Inspect the STARTER 250 A fuse. • If the fuse is blown: — Repair or replace the wiring harness for a possible short to ground. — Replace the fuse. • If the fuse is deteriorated: — Replace the fuse. • If the fuse is normal: — Repair or replace the wiring harness for a possible open circuit. Go to Step 7.
6	INSPECT GENERATOR <ul style="list-style-type: none"> 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.
7	VERIFY DTC TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> 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.
8	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> 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.