NO.3 WILL NOT CRANK [SKYACTIV-G 2.0]

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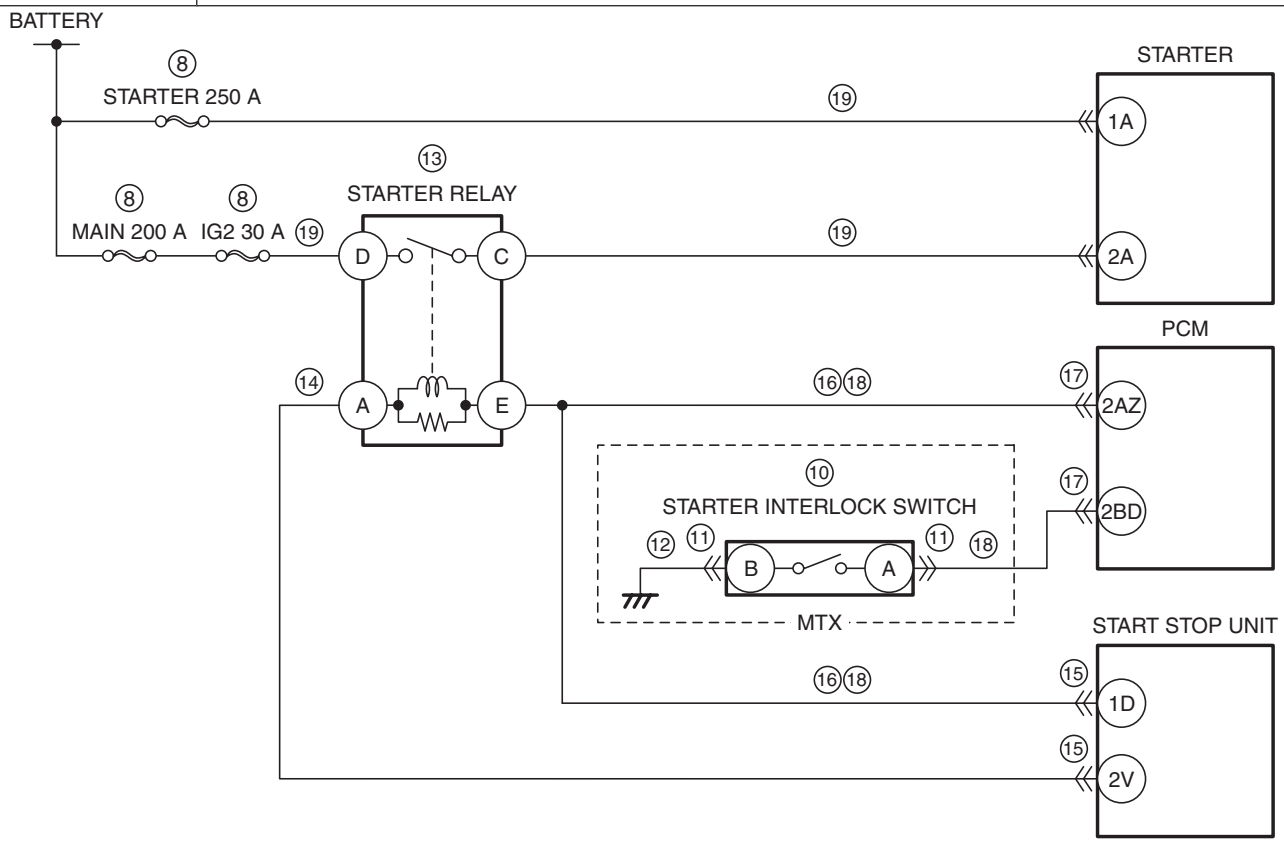
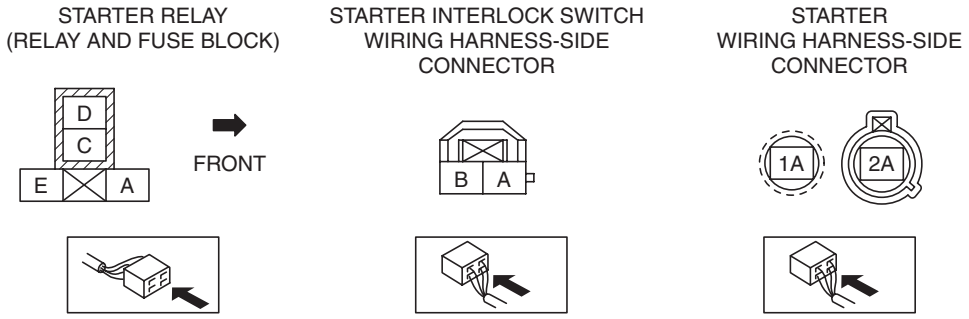
3	WILL NOT CRANK
DESCRIPTION	• Starter does not work.
POSSIBLE CAUSE	• Poor connection of push button start connector • Instrument cluster or related wiring harness malfunction • Immobilizer system malfunction • PCM continuous memory DTC is stored • Open circuit in wiring harness between the following terminals: — Main relay terminal E—PCM terminal 2K — Main relay terminal C—PCM terminal 2S, 1CK — DLC-2—PCM terminal 2AK, 2AL • Main relay malfunction (stuck open) • Open or poor ground circuit • Poor connection of vehicle body ground • Battery malfunction • Fuse malfunction • Starter relay malfunction • Starter relay related wiring harness malfunction — Between starter relay terminal E and PCM terminal 2AZ — Between starter relay terminal E and start stop unit terminal 1D — Between start stop unit terminal 2V and starter relay terminal A • Following circuit malfunction: — Between battery positive terminal and starter terminal 1A — Between battery positive terminal and starter relay terminal D — Between starter relay terminal C and starter terminal 2A • Starter interlock switch and related wiring harness malfunction (MTX) • Starting system malfunction • Following circuit and/or connector malfunction: — Between push button start terminal A and start stop unit terminal 1AC — Between push button start terminal B and start stop unit terminal 1AE — Between PCM terminal 2AK and start stop unit terminal 2M — Between PCM terminal 2AL and start stop unit terminal 2O • Seized engine, flywheel (MTX) or drive plate (ATX) • Engine damage during compression due to liquid (such as water, fuel, or engine oil) penetration into cylinder

3	WILL NOT CRANK





START STOP UNIT
WIRING HARNESS-SIDE CONNECTOR

1AE	1AC	1AA	1Y	1W	1U	1S	1Q	1O	1M	1K	1I	1G	1E	1C	1A
1AF	1AD	1AB	1Z	1X	1V	1T	1R	1P	1N	1L	1J	1H	1F	1D	1B

2W	2U	2S	2Q	2O	2M	2K	2I	2G	2E	2C	2A
2X	2V	2T	2R	2P	2N	2L	2J	2H	2F	2D	2B

PCM WIRING HARNESS-SIDE CONNECTOR

2BE	2AZ	2AU	2AP	2AK
2BF	2BA	2AV	2AQ	2AL
2BG	2BB	2AW	2AR	2AM
2BH	2BC	2AX	2AS	2AN
	2BD	2AY	2AT	2AO

2AE	2AA	2W	2S	2O	2K	2G	2C	
2AF	2AB	2X	2T	2P	2L	2H	2D	

2AI	2AG	2AC	2Y	2U	2Q	2M	2I	2E	2A
2AJ	2AH	2AD	2Z	2V	2R	2N	2J	2F	2B

Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	**DETERMINE IF MALFUNCTION CAUSE IS IMMOBILIZER SYSTEM OR OTHER** • Are any of the following conditions present? — Engine does not start completely. — PCM DTC P1260:00 is displayed.	Yes	Both conditions present: • Go to Step 4.
		No	Either or other condition present: • Go to the next step.
2	**INSPECT PUSH BUTTON START CONNECTOR CONNECTION** • Inspect the connection of push button start connector. • Is the push button start connector securely connected to the coil antenna?	Yes	Go to the next step.
		No	Reconnect the push button start securely, then repeat from Step 1.
3	**DETERMINE IF MALFUNCTION CAUSE IS INSTRUMENT CLUSTER OR OTHER** • Does the security indicator light illuminate?	Yes	Go to the next step.
		No	Inspect the instrument cluster and related wiring harness. (See INSTRUMENT CLUSTER INSPECTION.) Repair or replace the malfunctioning part according to the inspection results. (See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
4	**VERIFY IMMOBILIZER SYSTEM DTC** • Retrieve the immobilizer system DTC using the M-MDS. (See DTC INSPECTION [IMMOBILIZER SYSTEM].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [IMMOBILIZER SYSTEM].)
		No	Go to the next step.
5	**DETERMINE IF MALFUNCTION CAUSE IS i-stop SYSTEM OR OTHER** • Turn off the i-stop system. • Verify the symptom. • Is the symptom confirmed?	Yes	Go to the next step.
		No	Perform the symptom troubleshooting “NO.6 ENGINE DOES NOT RESTART”. (See NO.6 ENGINE DOES NOT RESTART [SKYACTIV-G 2.0].)
6	**VERIFY PCM DTC** • Retrieve any DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0].) • Are any continuous memory DTCs present?	Yes	Continuous memory DTC is displayed: • Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].) Communication error message is displayed: • Inspect the following: — Open circuit in wiring harness between main relay terminal E and PCM terminal 2K — Open circuit in wiring harness between main relay terminal C and PCM terminal 1CK or 2S — Main relay (stuck open) — Open or short circuit in wiring harness between DLC-2 and PCM terminal 2AK or 2AL — Open or poor ground circuit (PCM terminal 1BZ, 1CL, 1CP, 1CT, 1CX, 1DB, 1DH, 1DL and 2AA) — Poor connection of vehicle body ground • Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
7	**INSPECT POWER SUPPLY** • Access the VPWR PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0].) • Verify the VPWR PID value. • Is the VPWR PID value **B+**?	Yes	Go to the next step.
		No	Inspect the following: • Battery connection • Battery condition (See BATTERY INSPECTION [SKYACTIV-G 2.0].) • Fuse (See NO.1 BLOWN FUSES [SKYACTIV-G 2.0].) — If there is any malfunction: • Repair or replace the malfunctioning part according to the inspection results, then repeat this step.

STEP	INSPECTION	RESULTS	ACTION
8	**DETERMINE IF MALFUNCTION CAUSE IS STARTER RELAY CONTROL SIGNAL CIRCUIT OR OTHER** • Switch the ignition to start. • Is a clicking sound heard from the starter relay?	Yes	Go to Step 18.
		No	ATX: • Go to Step 12. MTX: • Go to the next step.
9	**DETERMINE IF MALFUNCTION CAUSE IS STARTER INTERLOCK SWITCH OR OTHER** • Switch the ignition to off. • Short the starter interlock switch terminals A and B (wiring harness-side) using a jumper wire. • Switch the ignition to start. • Does the engine start?	Yes	Inspect the starter interlock switch. (See STARTER INTERLOCK SWITCH INSPECTION [SKYACTIV-G 2.0].) • If there is any malfunction: — Replace the starter interlock switch, then repeat Step 8. (See STARTER INTERLOCK SWITCH REMOVAL/INSTALLATION [C66M-R, C66MX-R].) • If there is no malfunction: — Go to the next step.
		No	Go to the next step.
10	**INSPECT STARTER INTERLOCK SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the starter interlock switch 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 repeat Step 8.
		No	Go to the next step.
11	**INSPECT STARTER INTERLOCK SWITCH GROUND CIRCUIT FOR OPEN CIRCUIT** • Verify that the starter interlock switch connector is disconnected. • Inspect for continuity between starter interlock switch terminal B (wiring harness-side) and body ground. • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then repeat Step 8.
12	**INSPECT STARTER RELAY** • Remove the starter relay. • Inspect the starter relay. (See RELAY INSPECTION.) • Is there any malfunction?	Yes	Replace the starter relay. Repeat Step 8.
		No	Go to the next step.
13	**INSPECT STARTER RELAY CONTROL CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Starter relay is removed. • Verify that the starter interlock switch connector is disconnected. (MTX) • Measure the voltage at the starter relay terminal A (wiring harness-side) while cranking the engine. • Is the voltage **B+**?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to ground or open circuit. Repeat Step 8.
14	**INSPECT START STOP UNIT CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the start stop unit 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 repeat Step 8.
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
15	**INSPECT STARTER RELAY CONTROL CIRCUIT FOR SHORT TO GROUND** • Starter relay is removed. • Verify that the starter interlock switch and start stop unit connectors are disconnected. • Inspect for continuity between starter relay terminal E (wiring harness-side) and body ground. • 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].) Repeat Step 8.
		No	Go to the next step.
16	**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 repeat Step 8.
		No	Go to the next step.
17	**INSPECT STARTER RELAY CONTROL CIRCUIT FOR OPEN CIRCUIT** • Starter relay is removed. • Verify that the starter interlock switch, start stop unit and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Starter relay terminal E—PCM terminal 2AZ — Starter interlock switch terminal A—PCM terminal 2BD (MTX) — Starter relay terminal E—Start stop unit terminal 1D • Is there continuity?	Yes	Inspect the start stop unit. (See START STOP UNIT INSPECTION.) • If there is any malfunction: — Replace the start stop unit, then repeat Step 8. (See START STOP UNIT REMOVAL/INSTALLATION.) • If there is no malfunction: — Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then repeat Step 8.
18	**INSPECT WIRING HARNESS OF STARTER POWER SUPPLY CIRCUIT** • Inspect the following circuit: — Between battery positive terminal and starter terminal 1A — Between battery positive terminal and starter relay terminal D — Between starter relay terminal C and starter terminal 2A • Is there any malfunction?	Yes	Repair or replace the suspected wiring harness.
		No	Go to the next step.
19	**INSPECT STARTING SYSTEM** • Inspect the starting system. (See STARTER INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
20	**INSPECT IMMOBILIZER SYSTEM RELATED CIRCUIT** • Inspect the following wiring harness and connectors: — Between push button start terminal A and start stop unit terminal 1AC — Between push button start terminal B and start stop unit terminal 1AE — Between PCM terminal 2AK and start stop unit terminal 2M — Between PCM terminal 2AL and start stop unit terminal 2O • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Go to the next step.
21	**VERIFY PRESENT MALFUNCTION DTC** • Perform the KOEO self test. (See KOEO/KOER SELF TEST [SKYACTIV-G 2.0].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
22	**DETERMINE IF MALFUNCTION CAUSE IS BASE ENGINE OR OTHER** • Inspect for a seized flywheel (MTX) or drive plate (ATX). • Is the flywheel (MTX) or drive plate (ATX) seized?	Yes	Repair or replace the malfunctioning part according to the inspection results.
		No	Base engine malfunction or engine damage during compression due to liquid (such as water, fuel, or engine oil) penetration into cylinder. • Overhaul or replace the engine.
23	Verify the test results. • If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-G 2.0].) • If a malfunction remains, inspect the related Service Information and perform the repair or diagnosis. — If the vehicle is repaired, troubleshooting is completed. — If the vehicle is not repaired or additional diagnostic information is not available, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)		