NO.9 ACCELERATION MALFUNCTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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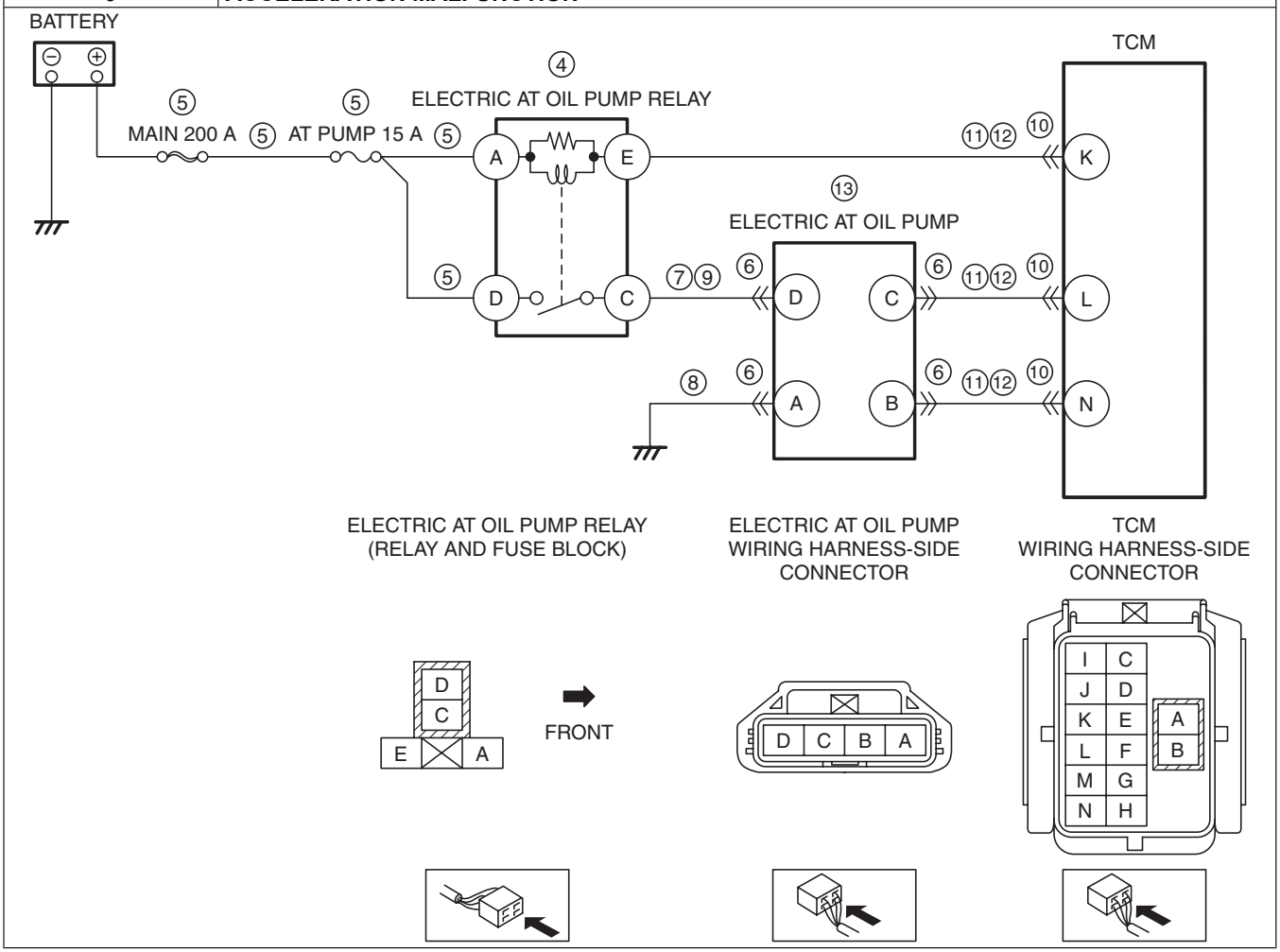
9	ACCELERATION MALFUNCTION
DESCRIPTION	• Acceleration from i-stop is not smooth. • Suppresses (shock) when accelerating vehicle from i-stop. • Engine vibration increases when engine is restarted.
POSSIBLE CAUSE	**Note** • MT vehicles are not included because the driver releases the brake pedal and depresses the clutch pedal to accelerate. **ATX system malfunction** • Electric AT oil pump malfunction (operation malfunction, insufficient pressure) — Electric AT oil pump relay malfunction (stuck open) — Short to ground or open circuit in electric AT oil pump relay power supply circuit • Short to ground in wiring harness between MAIN 200 A fuse and electric AT oil pump relay terminal A • Short to ground in wiring harness between MAIN 200 A fuse and electric AT oil pump relay terminal D • MAIN 200 A fuse and/or AT PUMP 15 A fuse malfunction • Open circuit in wiring harness between battery positive terminal and electric AT oil pump relay terminal A • Open circuit in wiring harness between battery positive terminal and electric AT oil pump relay terminal D — Electric AT oil pump connector or terminals malfunction — Short to ground in wiring harness between electric AT oil pump relay terminal C and electric AT oil pump terminal D — Open circuit in wiring harness between electric AT oil pump terminal A and body ground — Open circuit in wiring harness between electric AT oil pump relay terminal C and electric AT oil pump terminal D — TCM connector or terminals malfunction — Short to ground in wiring harness between the following terminals: • Electric AT oil pump relay terminal E—TCM terminal K • Electric AT oil pump terminal C—TCM terminal L • Electric AT oil pump terminal B—TCM terminal N — Open circuit in wiring harness between the following terminals: • Electric AT oil pump relay terminal E—TCM terminal K • Electric AT oil pump terminal C—TCM terminal L • Electric AT oil pump terminal B—TCM terminal N — Electric AT oil pump malfunction — TCM malfunction • ATX malfunction **Hill launch assist function system (DSC) malfunction** • False detection of inclination angle (cannot calculate correct road slope) — Low-G (XY) sensor (built-into SAS control module) malfunction (In this case, the SAS control module records DTCs C0061:29 and C0062:29.) — Low-G (XY) sensor (built-into SAS control module) initialization malfunction • False detection of brake fluid pressure — Brake fluid pressure sensor (built-into DSC HU/CM) malfunction • Cannot maintain brake fluid pressure — DSC HU/CM malfunction

9	ACCELERATION MALFUNCTION



Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	**DETERMINE IF MALFUNCTION CAUSED BY ATX BODY** • Compare the malfunction symptom with the i-stop system stop condition. • Is there any shock or slippage during acceleration with the i-stop system disabled?	Yes	Perform the applicable symptom troubleshooting procedure. (See SYMPTOM TROUBLESHOOTING ITEM TABLE [FW6A-EL, FW6AX-EL].)
		No	Go to the next step.
2	**VERIFY DTC** • Retrieve the PCM, TCM, DSC HU/CM, SAS control module DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FW6A-EL, FW6AX-EL].) (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) (See DTC INSPECTION.) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FW6A-EL, FW6AX-EL].) (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) (See DTC TABLE.)
		No	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
3	**DETERMINE IF MALFUNCTION CAUSE IS BRAKE FLUID PRESSURE SENSOR SIGNAL OR OTHER** • Put the vehicle in an i-stop condition (engine stopped). • Monitor the PCM PID BFP using the M-MDS while the brake is depressed and held with the i-stop function operating. (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].) • Does the monitoring value change?	Yes	Brake fluid pressure sensor (built-into DSC HU/CM) or DSC HU/CM brake pressure hold function malfunction. • Replace the DSC HU/CM. (See DSC HU/CM REMOVAL/INSTALLATION.)
		No	Go to the next step.
4	**INSPECT ELECTRIC AT OIL PUMP RELAY** • Switch the ignition off. • Remove the electric AT oil pump relay. • Inspect the electric AT oil pump relay. (See RELAY INSPECTION.) • Is there any malfunction?	Yes	Replace the electric AT oil pump relay.
		No	Go to the next step.
5	**INSPECT ELECTRIC AT OIL PUMP RELAY POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Electric AT oil pump relay is removed. • Measure the voltage at the following terminals (wiring harness-side): — Electric AT oil pump relay terminal A — Electric AT oil pump relay terminal D • Is the voltage **B+**?	Yes	Go to the next step.
		No	Inspect the MAIN 200 A fuse and AT PUMP 15 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.
6	**INSPECT ELECTRIC AT OIL PUMP CONNECTOR CONDITION** • Disconnect the electric AT oil pump 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.
		No	Go to the next step.
7	**INSPECT ELECTRIC AT OIL PUMP POWER SUPPLY CIRCUIT FOR SHORT TO GROUND** • Electric AT oil pump relay is removed. • Verify that the electric AT oil pump connector is disconnected. • Inspect for continuity between electric AT oil pump relay terminal C (wiring harness-side) and body ground. • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground.
		No	Go to the next step.
8	**INSPECT ELECTRIC AT OIL PUMP GROUND CIRCUIT FOR OPEN CIRCUIT** • Electric AT oil pump relay is removed. • Verify that the electric AT oil pump connector is disconnected. • Inspect for continuity between electric AT oil pump terminal A (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.
9	**INSPECT ELECTRIC AT OIL PUMP POWER SUPPLY CIRCUIT FOR OPEN CIRCUIT** • Electric AT oil pump relay is removed. • Verify that the electric AT oil pump connector is disconnected. • Inspect for continuity between electric AT oil pump relay terminal C (wiring harness-side) and electric AT oil pump terminal D (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit.

STEP	INSPECTION	RESULTS	ACTION
10	**INSPECT TCM CONNECTOR CONDITION** • Disconnect the TCM 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.
		No	Go to the next step.
11	**INSPECT TCM CIRCUIT FOR SHORT TO GROUND** • Electric AT oil pump relay is removed. • Verify that the electric AT oil pump and TCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Electric AT oil pump relay terminal E — Electric AT oil pump terminal C — Electric AT oil pump terminal B • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground.
		No	Go to the next step.
12	**INSPECT TCM CIRCUIT FOR OPEN CIRCUIT** • Electric AT oil pump relay is removed. • Verify that the electric AT oil pump and TCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Electric AT oil pump relay terminal E—TCM terminal K — Electric AT oil pump terminal C—TCM terminal L — Electric AT oil pump terminal B—TCM terminal N • Is there continuity?	Yes	Replace the electric AT oil pump. (See ELECTRIC AT OIL PUMP REMOVAL/ INSTALLATION [FW6A-EL, FW6AX-EL].)
		No	Repair or replace the wiring harness for a possible open circuit.
13	Verify the test results. • If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • 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, SKYACTIV-G 2.5].)		