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1998 MAZDA 121/ Revue (Mk.2) OEM Service and Repair Workshop Manual

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STEP	INSPECTION	RESULTS	ACTION
7	**INSPECT LOW FUEL PRESSURE SENSOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the low fuel pressure sensor/fuel temperature sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Low fuel pressure sensor/fuel temperature sensor terminal D–PCM terminal 1BL — Low fuel pressure sensor/fuel temperature sensor terminal C–PCM terminal 1BG • Is there continuity?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Low fuel pressure sensor/fuel temperature sensor terminal D–PCM terminal 1BL • Low fuel pressure sensor/fuel temperature sensor terminal C–PCM terminal 1BG **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 9.
8	**INSPECT LOW FUEL PRESSURE SENSOR** • Inspect the low fuel pressure sensor. (See LOW FUEL PRESSURE SENSOR INSPECTION [SKYACTIV-G (WITH EGR COOLER)].) • Is there any malfunction?	Yes	Replace the low fuel pressure sensor/fuel temperature sensor, then go to the next step. (See LOW FUEL PRESSURE SENSOR/FUEL TEMPERATURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-G (WITH EGR COOLER)].)
		No	Go to the next step.
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Perform the KOEO or KOER self test. (See KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
10	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.

STEP	INSPECTION	RESULTS	ACTION
7	VERIFY DTC TROUBLESHOOTING COMPLETED • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Perform the KOER self test. (See KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the PENDING CODE for this DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.

STEP	INSPECTION	RESULTS	ACTION
7	**INSPECT ECT SENSOR No.1 SIGNAL CIRCUIT FOR SHORT TO GROUND** • Verify that the ECT sensor No.1 and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between ECT sensor No.1 terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between ECT sensor No.1 terminal A and PCM terminal 1AH. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 9.
		No	Go to the next step.
8	**INSPECT ECT SENSOR No.1 SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the ECT sensor No.1 and PCM connectors are disconnected. • Inspect for continuity between ECT sensor No.1 terminals A and B (wiring harness-side). • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • ECT sensor No.1 terminal A—PCM terminal 1AH • ECT sensor No.1 terminal B—PCM terminal 1AB **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to each other. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to each other. Go to the next step.
		No	Go to the next step.
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Perform the KOEO or KOER self test. (See KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
10	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.

STEP	INSPECTION	RESULTS	ACTION
3	**VERIFY CURRENT INPUT SIGNAL STATUS IS CONCERN INTERMITTENT OR CONSTANT** • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Start the engine. • Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) — ECT — TP_REL — RPM • Warm up the engine until the ECT PID is above 70 °C {158 °F}. • Perform the following: 1. Depress the accelerator pedal to increase the engine speed to approx. 5,000 rpm. 2. Release the accelerator pedal to decrease the engine speed to idle speed. 3. Repeat Step 1 and Step 2 operations above 3 times in succession. • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the PENDING CODE for this DTC present?	Yes	Go to the next step.
		No	Intermittent concern exists. • Perform the "INTERMITTENT CONCERN TROUBLESHOOTING" procedure. (See INTERMITTENT CONCERN TROUBLESHOOTING [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
4	**INSPECT MAP SENSOR/IAT SENSOR No.2 CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the MAP sensor/IAT sensor No.2 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 14.
		No	Go to the next step.
5	**INSPECT MAF SENSOR/IAT SENSOR No.1 CONNECTOR CONDITION** • Disconnect the MAF sensor/IAT sensor No.1 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 14.
		No	Go to the next step.
6	**INSPECT INSTALLATION OF MAP SENSOR/IAT SENSOR No.2** • Inspect installation of MAP sensor/IAT sensor No.2. • Is the MAP sensor/IAT sensor No.2 installed securely?	Yes	Go to the next step.
		No	Retighten the MAP sensor/IAT sensor No.2, then go to Step 14. (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR/INTAKE AIR TEMPERATURE (IAT) SENSOR NO.2 REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)

DTC P0107:00 [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))]

SM2896740

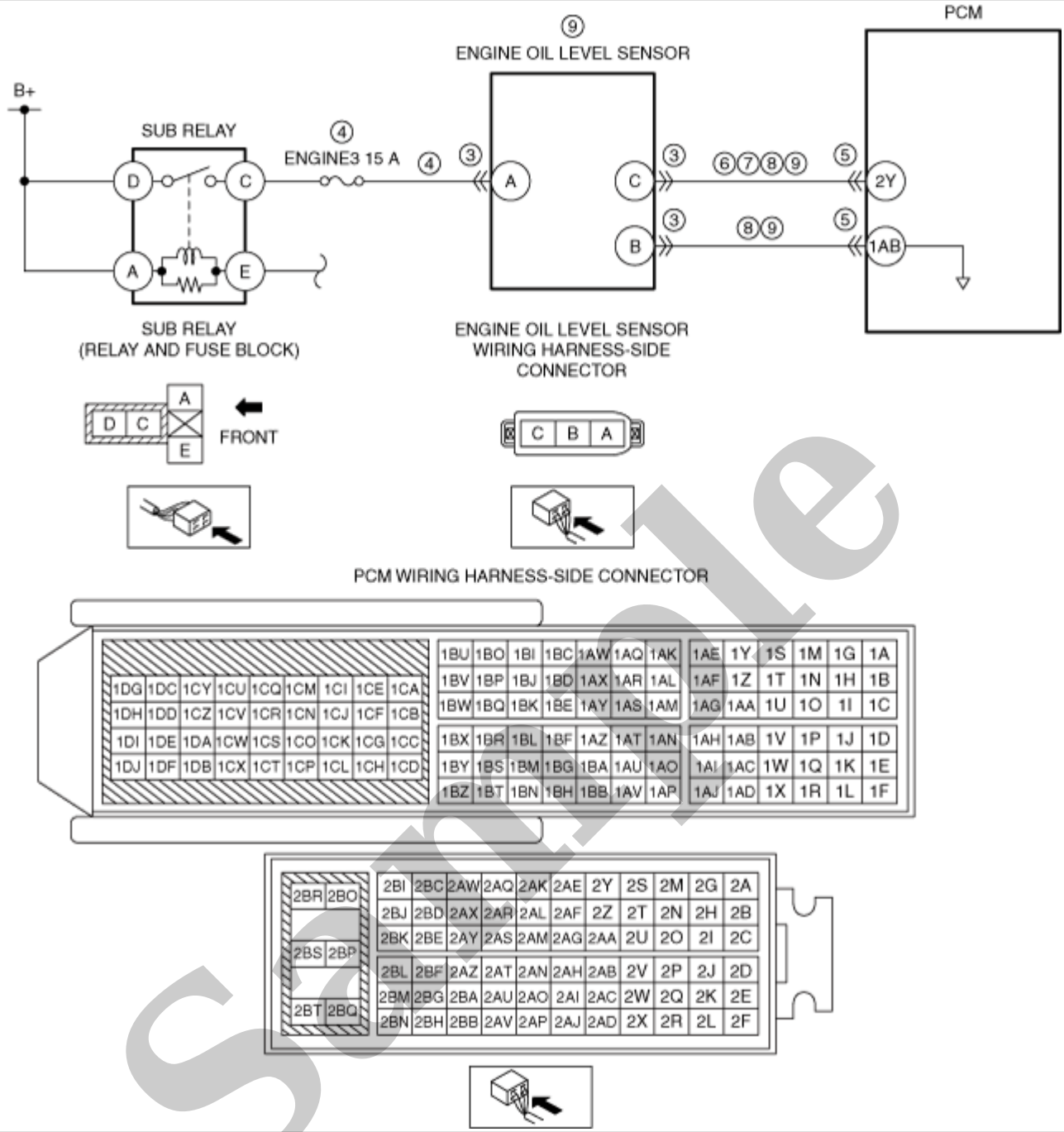
id0102s970110

DTC P0107:00	MAP sensor circuit low input
DETECTION CONDITION	• The PCM monitors the input voltage from the MAP sensor. If the input voltage at the PCM terminal 1X is below 0.08 V for 5 s, the PCM determines that the MAP sensor circuit has a malfunction. 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/Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Estimates MAP using MAF sensor and engine speed. • Restricts the upper limit of the engine speed. • Inhibits the evaporative purge control.
POSSIBLE CAUSE	• MAP sensor/IAT sensor No.2 connector or terminals malfunction • PCM connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — MAP sensor/IAT sensor No.2 terminal C—PCM terminal 1J — MAP sensor/IAT sensor No.2 terminal D—PCM terminal 1X • Open circuit in wiring harness between MAP sensor/IAT sensor No.2 terminal C and PCM terminal 1J • MAP sensor signal circuit and ground circuit are shorted to each other • MAP sensor malfunction • PCM malfunction

STEP	INSPECTION	RESULTS	ACTION
7	**INSPECT MAP SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the MAP sensor/IAT sensor No.2 and PCM connectors are disconnected. • Inspect for continuity between MAP sensor/IAT sensor No.2 terminals D and A (wiring harness-side). • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • MAP sensor/IAT sensor No.2 terminal D−PCM terminal 1X • MAP sensor/IAT sensor No.2 terminal A−PCM terminal 1BH **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to each other. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to each other. Go to Step 9.
		No	Go to the next step.
8	**INSPECT MAP SENSOR** • Reconnect all disconnected connectors. • Inspect the MAP sensor. (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) • Is there any malfunction?	Yes	Replace the MAP sensor/IAT sensor No.2, then go to the next step. (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR/INTAKE AIR TEMPERATURE (IAT) SENSOR NO.2 REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
		No	Go to the next step.
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Perform the KOEO or KOER self test. (See KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
10	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.

STEP	INSPECTION	RESULTS	ACTION
3	**INSPECT MAP SENSOR/IAT SENSOR No.2 CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the MAP sensor/IAT sensor No.2 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 9.
		No	Go to the next step.
4	**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 9.
		No	Go to the next step.
5	**INSPECT MAP SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the MAP sensor/IAT sensor No.2 connector is disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the following terminals (wiring harness-side): **Note** **• Another DTC may be stored by the PCM detecting an open circuit.** — MAP sensor/IAT sensor No.2 terminal C — MAP sensor/IAT sensor No.2 terminal D • Is the voltage 0 V?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • MAP sensor/IAT sensor No.2 terminal C—PCM terminal 1J • MAP sensor/IAT sensor No.2 terminal D—PCM terminal 1X **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to power supply. Go to Step 9.
6	**INSPECT MAP SENSOR POWER SUPPLY CIRCUIT AND SIGNAL CIRCUIT FOR SHORT TO EACH OTHER** • Verify that the MAP sensor/IAT sensor No.2 and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between MAP sensor/IAT sensor No.2 terminals C and D (wiring harness-side). • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • MAP sensor/IAT sensor No.2 terminal C—PCM terminal 1J • MAP sensor/IAT sensor No.2 terminal D—PCM terminal 1X **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to each other. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to each other. Go to Step 9.
		No	Go to the next step.

DTC P250C:00	Engine oil level sensor power supply circuit malfunction



Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION Note • Recording can be facilitated using the screen capture function of the PC. • Record the snapshot data on the repair order.	–	Go to the next step.

STEP	INSPECTION	RESULTS	ACTION
9	**INSPECT ENGINE OIL LEVEL SENSOR CIRCUIT FOR OPEN CIRCUIT** • Verify that the engine oil level sensor and PCM connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side): — Engine oil level sensor terminal C—PCM terminal 2Y — Engine oil level sensor terminal B—PCM terminal 1AB • Is there continuity?	Yes	Replace the engine oil level sensor, then go to the next step. (See ENGINE OIL LEVEL SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
		No	Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Engine oil level sensor terminal C—PCM terminal 2Y • Engine oil level sensor terminal B—PCM terminal 1AB **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to the next step.
10	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
11	**VERIFY AFTER REPAIR PROCEDURE** • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.