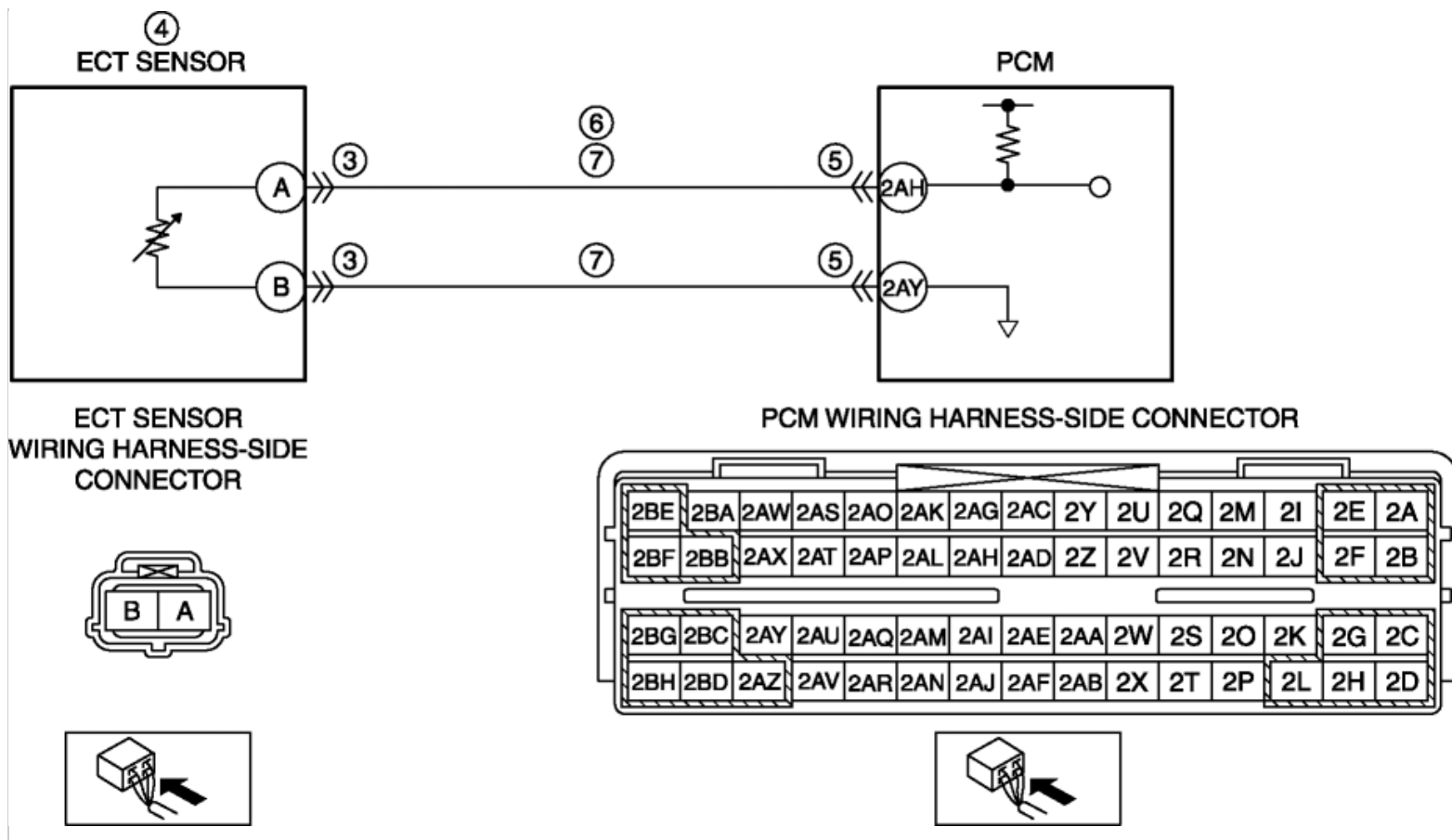


2012 - Mazda6 - Engine

DTC P0118:00 [MZR 2.5]

DTC P0118:00	ECT sensor circuit high input
DETECTION CONDITION	• The PCM monitors the ECT sensor signal. If the PCM detects that the ECT sensor voltage is above 4.6 V for 5 s, the PCM determines that the ECT sensor circuit has a malfunction. Diagnostic support note • This is a continuous monitor (engine cooling system). • The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• ECT sensor connector or terminal malfunction • ECT sensor malfunction • PCM connector or terminal malfunction • Short to power supply in wiring harness between ECT sensor terminal A and PCM terminal 2AH • Open circuit in wiring harness between ECT sensor terminal A and PCM terminal 2AH • Open circuit in wiring harness between ECT sensor terminal B and PCM terminal 2AY • PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (engine cooling system related) been recorded?	Yes Go to the next step. No Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step. No Go to the next step.
3	INSPECT ECT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the ECT sensor connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 8. No Go to the next step.
4	VERIFY PID DATA FOR ECT SENSOR MALFUNCTION ECT sensor connector is disconnected.	Yes Replace the ECT sensor, then go to Step 8.

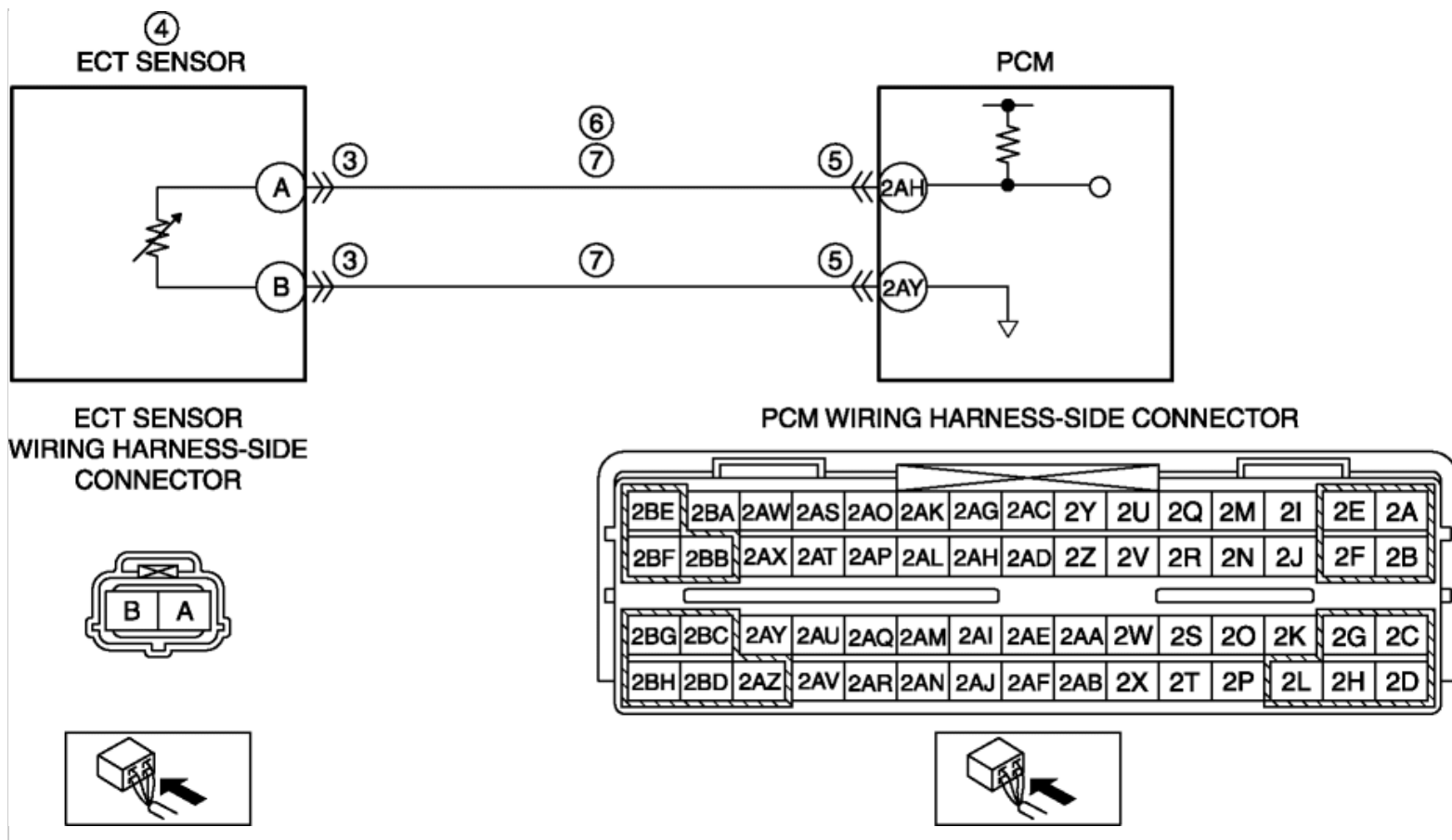
	- Access the ECT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Connect a jumper wire between ECT sensor terminals A and B (wiring harness-side). - Is the voltage 4.6 V or below?	(See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .)	No Go to the next step.
5	INSPECT PCM CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 8.	No Go to the next step.
6	INSPECT ECT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - ECT sensor and PCM connectors are disconnected. - Switch the ignition to ON (engine off). - Measure the voltage between ECT sensor terminal A (wiring harness-side) and body ground. - Is there any voltage?	Yes Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.	No Go to the next step.
7	INSPECT ECT SENSOR CIRCUIT FOR OPEN CIRCUIT - ECT sensor and PCM connectors are disconnected. - Switch the ignition to off. - Inspect for continuity between the following terminals: - ECT sensor terminal A (wiring harness-side) and PCM terminal 2AH (wiring harness-side) - ECT sensor terminal B (wiring harness-side) and PCM terminal 2AY (wiring harness-side) - Is there continuity?	Yes Go to the next step.	No Repair or replace the wiring harness for a possible open circuit, then 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 [MZR 2.5].) - Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is the same DTC present?	Yes Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.	No Go to the next step.
	VERIFY AFTER REPAIR PROCEDURE		

9	• Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.

2012 - Mazda6 - Engine

DTC P0118:00 [MZR 2.5]

DTC P0118:00	ECT sensor circuit high input
DETECTION CONDITION	• The PCM monitors the ECT sensor signal. If the PCM detects that the ECT sensor voltage is above 4.6 V for 5 s, the PCM determines that the ECT sensor circuit has a malfunction. Diagnostic support note • This is a continuous monitor (engine cooling system). • The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• ECT sensor connector or terminal malfunction • ECT sensor malfunction • PCM connector or terminal malfunction • Short to power supply in wiring harness between ECT sensor terminal A and PCM terminal 2AH • Open circuit in wiring harness between ECT sensor terminal A and PCM terminal 2AH • Open circuit in wiring harness between ECT sensor terminal B and PCM terminal 2AY • PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED Have the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (engine cooling system related) been recorded?	Yes Go to the next step. No Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step. No Go to the next step.
3	INSPECT ECT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the ECT sensor connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 8. No Go to the next step.
4	VERIFY PID DATA FOR ECT SENSOR MALFUNCTION ECT sensor connector is disconnected.	Yes Replace the ECT sensor, then go to Step 8.

	- Access the ECT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Connect a jumper wire between ECT sensor terminals A and B (wiring harness-side). - Is the voltage 4.6 V or below?	(See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/ INSTALLATION [MZR 2.5].)	No Go to the next step.
5	INSPECT PCM CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes Repair or replace the terminal and/or connector, then go to Step 8.	No Go to the next step.
6	INSPECT ECT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - ECT sensor and PCM connectors are disconnected. - Switch the ignition to ON (engine off). - Measure the voltage between ECT sensor terminal A (wiring harness-side) and body ground. - Is there any voltage?	Yes Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.	No Go to the next step.
7	INSPECT ECT SENSOR CIRCUIT FOR OPEN CIRCUIT - ECT sensor and PCM connectors are disconnected. - Switch the ignition to off. - Inspect for continuity between the following terminals: - ECT sensor terminal A (wiring harness-side) and PCM terminal 2AH (wiring harness-side) - ECT sensor terminal B (wiring harness-side) and PCM terminal 2AY (wiring harness-side) - Is there continuity?	Yes Go to the next step.	No Repair or replace the wiring harness for a possible open circuit, then 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 [MZR 2.5].) - Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is the same DTC present?	Yes Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.	No Go to the next step.
	VERIFY AFTER REPAIR PROCEDURE		

9	• Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.