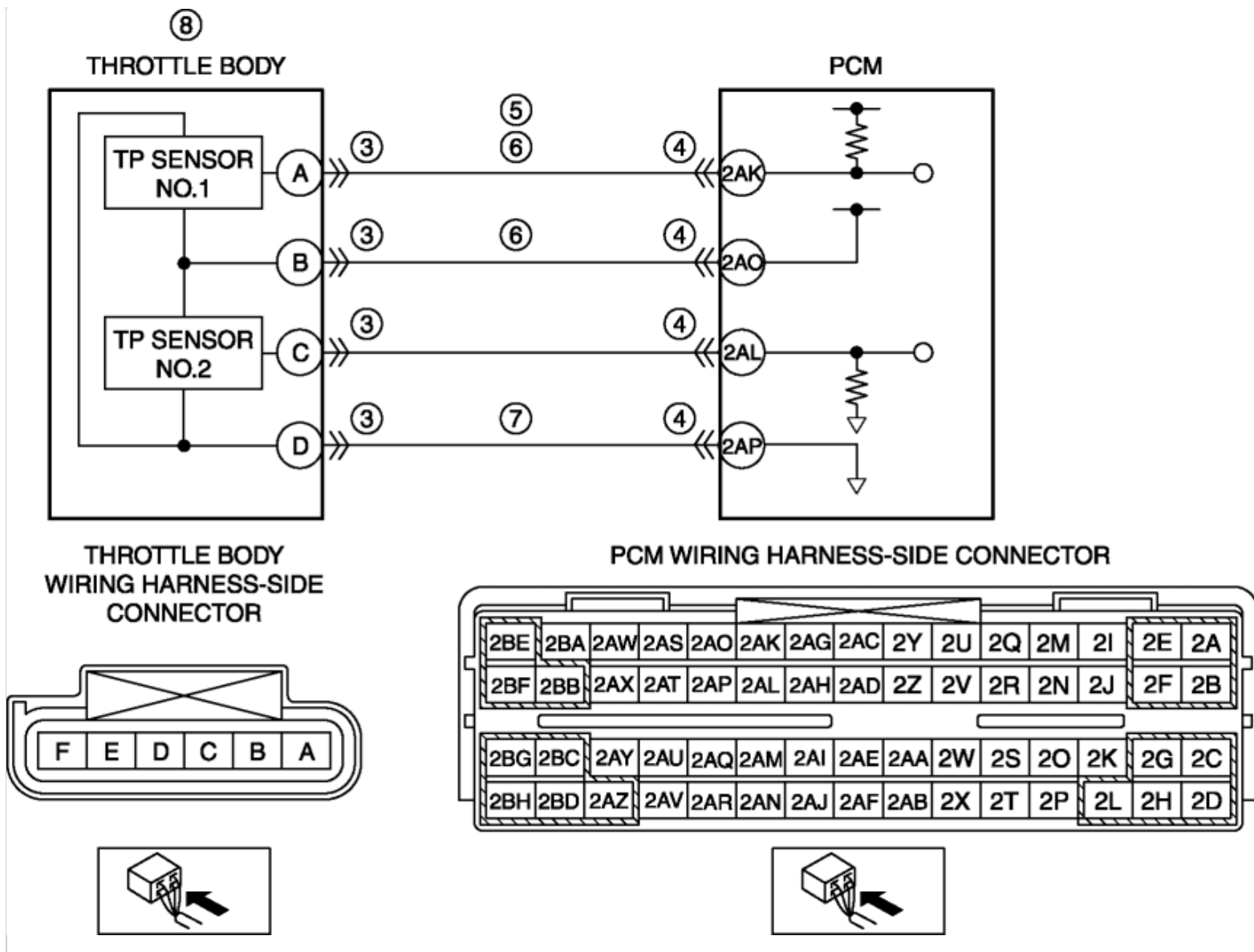


2012 - Mazda6 - Engine

DTC P0123:00 [MZR 2.5]

DTC P0123:00	TP sensor No.1 circuit high input
DETECTION CONDITION	• If the PCM detects the TP sensor No.1 voltage is to be above 4.85 V after switch the ignition to ON, PCM determines that TP circuit has a malfunction. Diagnostic support note • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition in first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• Throttle body connector or terminal malfunction • PCM connector or terminal malfunction • Short to power supply in wiring harness between throttle body terminal A and PCM terminal 2AK • Short circuit in TP sensor No.1 signal circuit and power supply circuit each other • Open circuit in wiring harness between throttle body terminal D and PCM terminal 2AP • TP sensor No.1 malfunction • PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	Yes Go to the next step. No Record the FREEZE FRAME DATA (Mode 2)/snapshot data 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 THROTTLE BODY CONNECTOR CONDITION Switch the ignition to off.	Yes Repair or replace the terminal and/or connector, then go to Step 9.

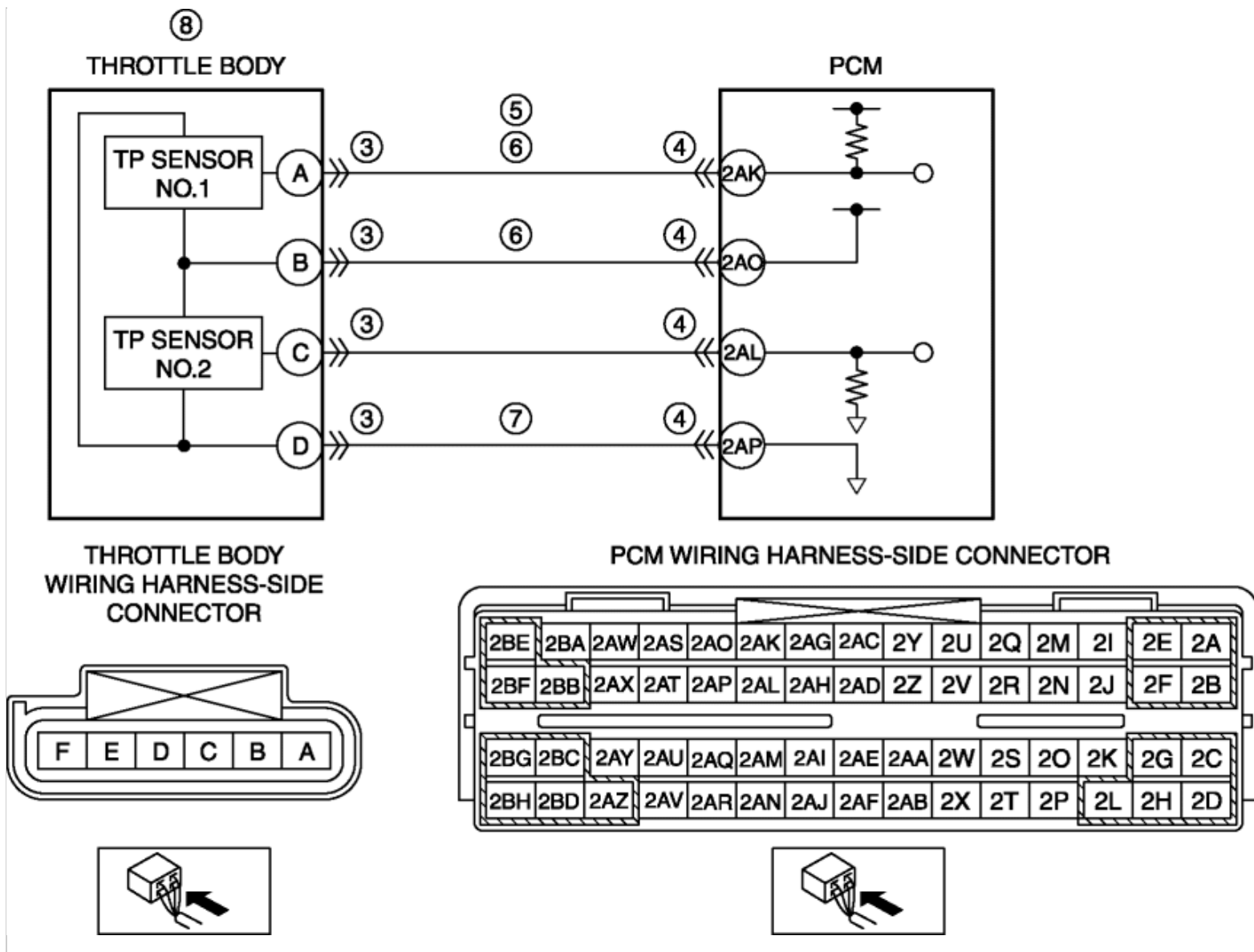
	• Disconnect the throttle body connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?		No Go to the next step.
4	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the terminal and/or connector, then go to Step 9.
		No	Go to the next step.
5	INSPECT TP SENSOR NO.1 SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY • Throttle body and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between throttle body 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 9.
		No	Go to the next step.
6	INSPECT TP SENSOR NO.1 SIGNAL AND POWER SUPPLY CIRCUITS FOR SHORT EACH OTHER • Throttle body and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between throttle body terminals A and B (wiring harness-side). • Is there continuity?	Yes	Repair or replace the malfunctioning wiring harness, then go to Step 9.
		No	Go to the next step.
7	INSPECT TP SENSOR NO.1 GROUND CIRCUIT FOR OPEN CIRCUIT • Throttle body and PCM connectors are disconnected. • Inspect for continuity between throttle body terminal D (wiring harness-side) and PCM terminal 2AP (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 Step 9.
8	INSPECT TP SENSOR NO.1 • Reconnect all disconnected connectors. • Inspect the TP sensor No.1. (See THROTTLE POSITION (TP) SENSOR INSPECTION [MZR 2.5].) • Is there any malfunction?	Yes	Replace the throttle body, then go to the next step. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
9	VERIFY DTC TROUBLESHOOTING COMPLETED	Yes	Repeat the inspection from Step 1.

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

2012 - Mazda6 - Engine

DTC P0123:00 [MZR 2.5]

DTC P0123:00	TP sensor No.1 circuit high input
DETECTION CONDITION	• If the PCM detects the TP sensor No.1 voltage is to be above 4.85 V after switch the ignition to ON, PCM determines that TP circuit has a malfunction. Diagnostic support note • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition in first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• Throttle body connector or terminal malfunction • PCM connector or terminal malfunction • Short to power supply in wiring harness between throttle body terminal A and PCM terminal 2AK • Short circuit in TP sensor No.1 signal circuit and power supply circuit each other • Open circuit in wiring harness between throttle body terminal D and PCM terminal 2AP • TP sensor No.1 malfunction • PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	Yes Go to the next step. No Record the FREEZE FRAME DATA (Mode 2)/snapshot data 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 THROTTLE BODY CONNECTOR CONDITION Switch the ignition to off.	Yes Repair or replace the terminal and/or connector, then go to Step 9.

	• Disconnect the throttle body connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?		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 terminal and/or connector, then go to Step 9.
		No	Go to the next step.
5	INSPECT TP SENSOR NO.1 SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY • Throttle body and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between throttle body 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 9.
		No	Go to the next step.
6	INSPECT TP SENSOR NO.1 SIGNAL AND POWER SUPPLY CIRCUITS FOR SHORT EACH OTHER • Throttle body and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between throttle body terminals A and B (wiring harness-side). • Is there continuity?	Yes	Repair or replace the malfunctioning wiring harness, then go to Step 9.
		No	Go to the next step.
7	INSPECT TP SENSOR NO.1 GROUND CIRCUIT FOR OPEN CIRCUIT • Throttle body and PCM connectors are disconnected. • Inspect for continuity between throttle body terminal D (wiring harness-side) and PCM terminal 2AP (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 Step 9.
8	INSPECT TP SENSOR NO.1 • Reconnect all disconnected connectors. • Inspect the TP sensor No.1. (See THROTTLE POSITION (TP) SENSOR INSPECTION [MZR 2.5].) • Is there any malfunction?	Yes	Replace the throttle body, then go to the next step. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
9	VERIFY DTC TROUBLESHOOTING COMPLETED	Yes	Repeat the inspection from Step 1.

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