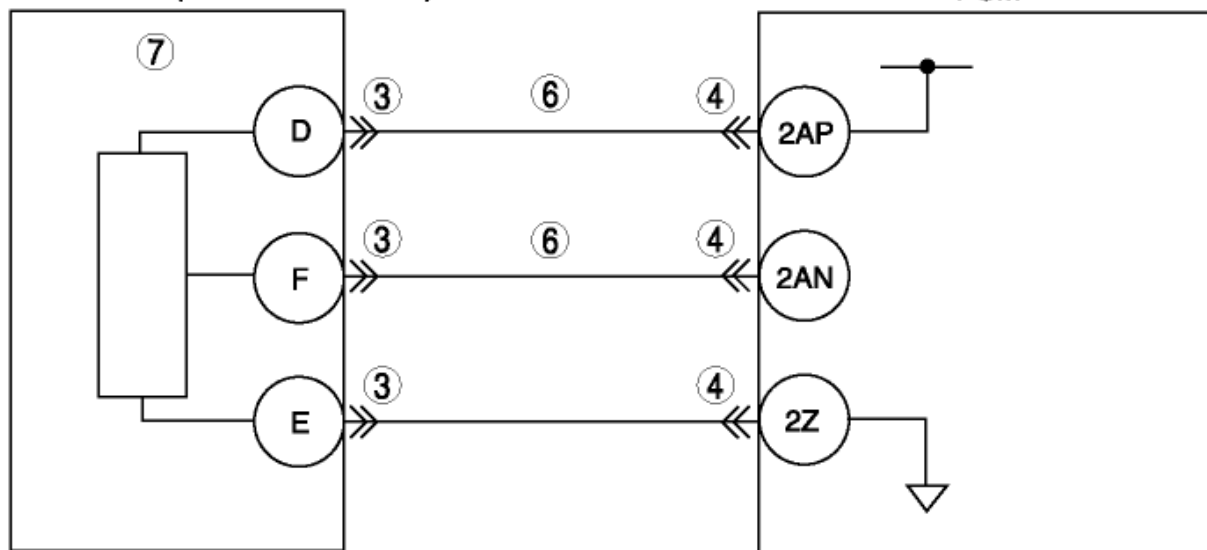


2012 - Mazda6 - Engine

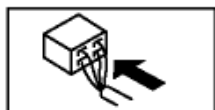
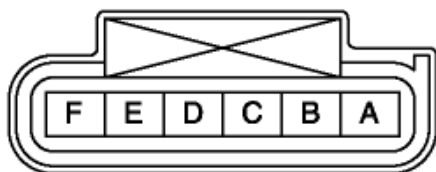
DTC P0123:00 [MZI 3.7 V6]

DTC P0123:00	TP sensor No.1 circuit high input
DETECTI ON CONDI TI ON	• The TP sensor No.1 circuit was flagged as a concern by the PCM indicating a high voltage.
POSSI BLE CAUSE	• Connector or terminal malfunction • Short to constant voltage supply circuit between throttle body terminal F and PCM terminal 2AN • TP sensor signal circuits are shorted each other • TP sensor No.1 malfunction

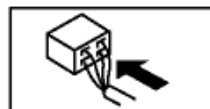
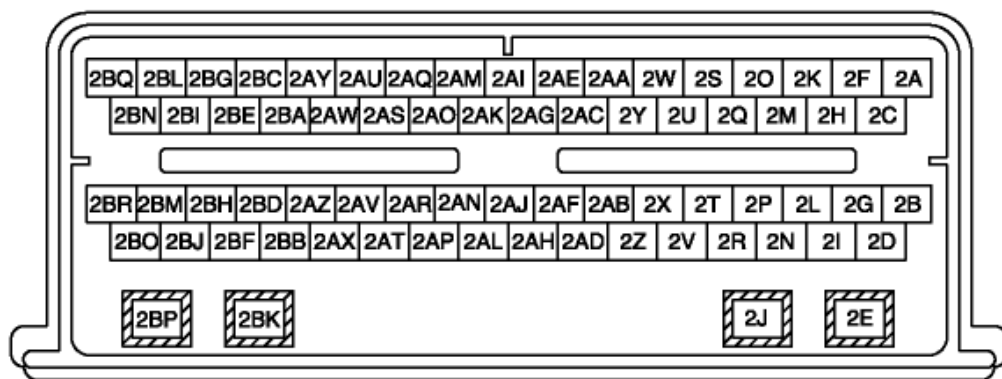
TP SENSOR NO.1 (THROTTLE BODY)



THROTTLE BODY WIRING HARNESS-SIDE CONNECTOR



PCM WIRING HARNESS-SIDE CONNECTOR



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record FREEZE FRAME 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 Service Bulletins available?	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		No Go to the next step.

3	INSPECT TP SENSOR CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the throttle body connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
4	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
5	INSPECT TP SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to ON (Engine off). - Measure the voltage between Throttle body connector terminal F (wiring harness-side) and body ground. - Is the voltage B+?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
6	INSPECT TP SENSOR SIGNAL CIRCUITS FOR SHORT EACH OTHER - Disconnect the TP sensor and PCM connector. - Measure resistance between Throttle body connector terminal D and F - Is the resistance more than 10 kilohms?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 8.
7	INSPECT TP SENSOR NO.1 - Inspect the TP sensor No.1. (See THROTTLE POSITION (TP) SENSOR INSPECTION [MZI 3.7 V6].) - Are there any malfunction?	Yes	Replace the throttle body, then go to the next step.
		No	Go to the next step.
8	VERIFY TROUBLESHOOTING OF DTC P0123:00 HAS BEEN COMPLETED - Make sure to reconnect all disconnected connectors. - Clear the DTC from the PCM memory using the M-MDS. - Start the engine. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].)	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.

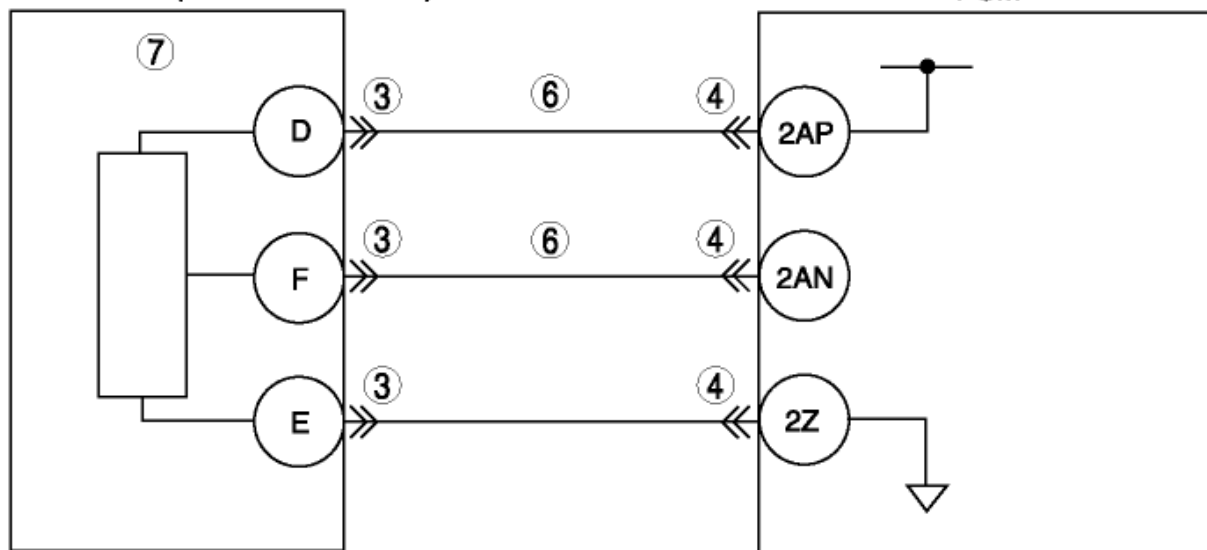
	• Is same DTC present?		
9	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.

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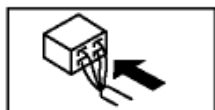
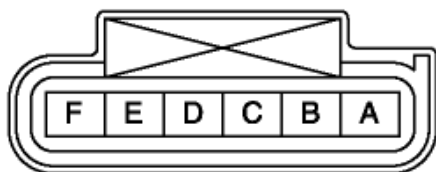
DTC P0123:00 [MZI 3.7 V6]

DTC P0123:00	TP sensor No.1 circuit high input
DETECTI ON CONDI TI ON	• The TP sensor No.1 circuit was flagged as a concern by the PCM indicating a high voltage.
POSSI BLE CAUSE	• Connector or terminal malfunction • Short to constant voltage supply circuit between throttle body terminal F and PCM terminal 2AN • TP sensor signal circuits are shorted each other • TP sensor No.1 malfunction

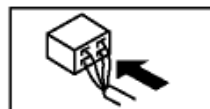
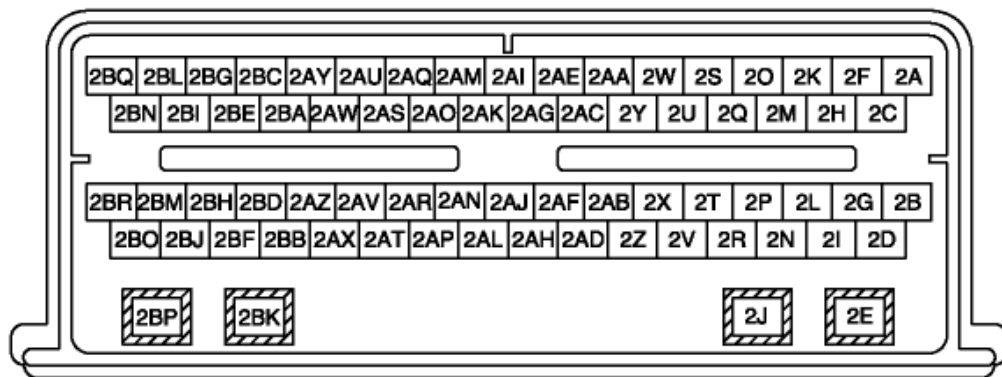
TP SENSOR NO.1 (THROTTLE BODY)



THROTTLE BODY WIRING HARNESS-SIDE CONNECTOR



PCM WIRING HARNESS-SIDE CONNECTOR



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record FREEZE FRAME 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 Service Bulletins available?	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		No Go to the next step.

3	INSPECT TP SENSOR CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the throttle body connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
4	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition to off. - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
5	INSPECT TP SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to ON (Engine off). - Measure the voltage between Throttle body connector terminal F (wiring harness-side) and body ground. - Is the voltage B+?	Yes	Repair or replace suspected part, then go to Step 8.
		No	Go to the next step.
6	INSPECT TP SENSOR SIGNAL CIRCUITS FOR SHORT EACH OTHER - Disconnect the TP sensor and PCM connector. - Measure resistance between Throttle body connector terminal D and F - Is the resistance more than 10 kilohms?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 8.
7	INSPECT TP SENSOR NO.1 - Inspect the TP sensor No.1. (See THROTTLE POSITION (TP) SENSOR INSPECTION [MZI 3.7 V6].) - Are there any malfunction?	Yes	Replace the throttle body, then go to the next step.
		No	Go to the next step.
8	VERIFY TROUBLESHOOTING OF DTC P0123:00 HAS BEEN COMPLETED - Make sure to reconnect all disconnected connectors. - Clear the DTC from the PCM memory using the M-MDS. - Start the engine. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].)	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.

	• Is same DTC present?		
9	VERI FY AFTER REPAI R PROCEDURE • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAI R PROCEDURE [MZI 3.7 V6] .)	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.