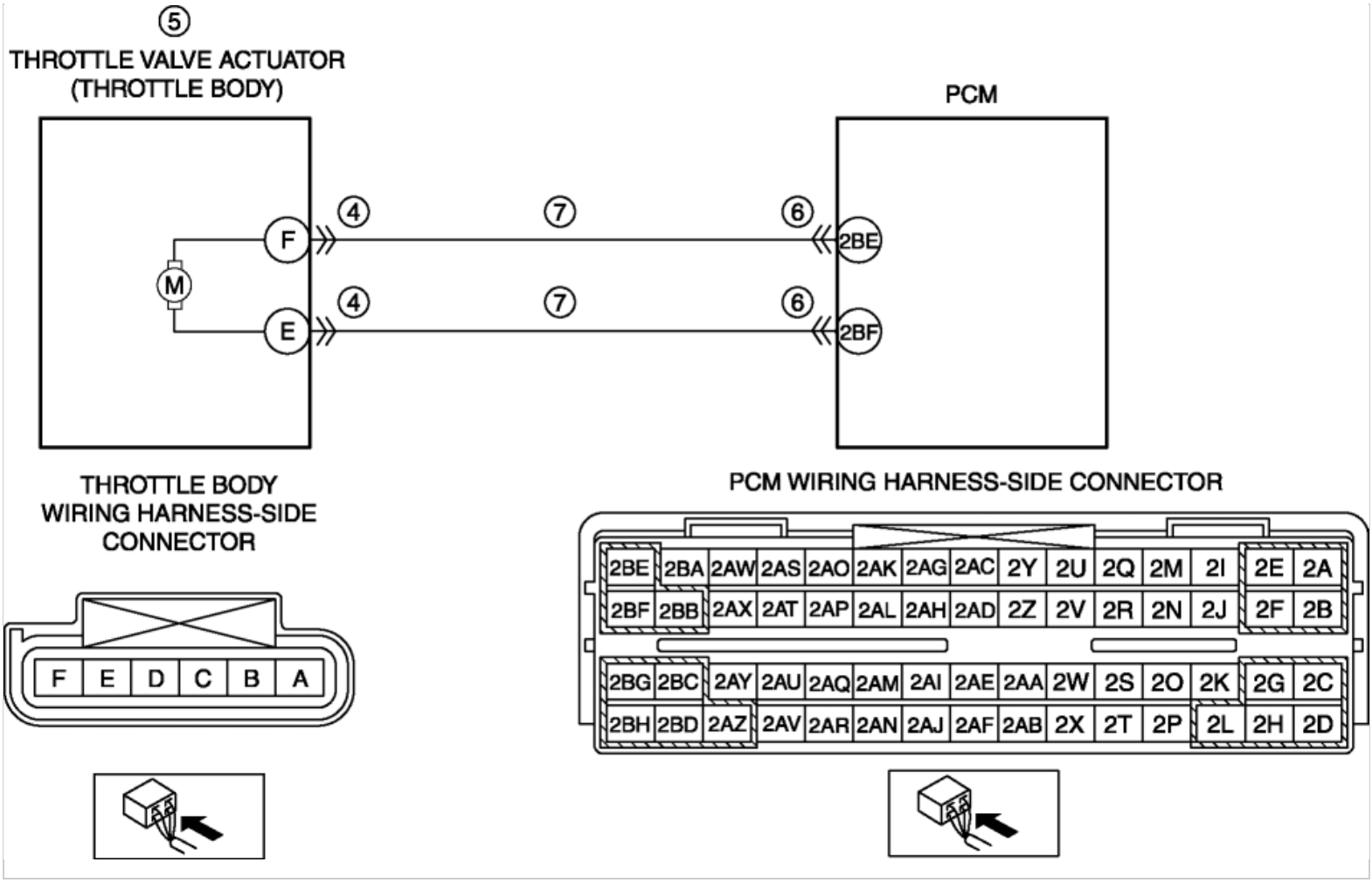
2012 - Mazda6 - Engine

DTC P2100:00 [MZR 2.5]

DTC P2100:00	Throttle valve actuator circuit open
DETECTION CONDITION	• If the difference between the target opening angle voltage and the actual opening angle voltage **exceeds 0.1 V**, the PCM illuminates the MIL. **Diagnostic support note** • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition during the first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• Throttle body connector or terminal malfunction • Throttle valve actuator malfunction • PCM connector or terminal malfunction • Open circuit in wiring harness between throttle body terminal F and PCM terminal 2BE • Open circuit in wiring harness between throttle body terminal E and PCM terminal 2BF • 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	**CLASSIFY INTERMITTENT CONCERN OR CONTINUOUS CONCERN** • Clear the DTC from the PCM memory using the M-MDS. (See **AFTER REPAIR PROCEDURE [MZR 2.5]**.) • Start the engine and idle it. • Perform the DTC Reading Procedure. (See **ON-BOARD DIAGNOSTIC TEST [MZR 2.5]**.)	Yes	Go to the next step.
		No	Intermittent concern exists. • Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (See **INTERMITTENT CONCERN TROUBLESHOOTING [MZR 2.5]**.)

	• Is the same DTC present?		
4	**INSPECT THROTTLE BODY CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the throttle body 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.
5	**INSPECT THROTTLE VALVE ACTUATOR** • Inspect the throttle valve actuator. (See **THROTTLE BODY INSPECTION [MZR 2.5]**.) • Is there any malfunction?	Yes	Replace the throttle body, then go to Step 8. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5]**.)
		No	Go to the next step.
6	**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 8.
		No	Go to the next step.
7	**INSPECT THROTTLE VALVE ACTUATOR CIRCUIT FOR OPEN CIRCUIT** • Throttle body and PCM connectors are disconnected. • Inspect for continuity between the following terminals: ▪ Throttle body terminal F (wiring harness-side) and PCM terminal 2BE (wiring harness-side) ▪ Throttle body terminal E (wiring harness-side) and PCM terminal 2BF (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.
9	**VERIFY AFTER REPAIR PROCEDURE** • 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.

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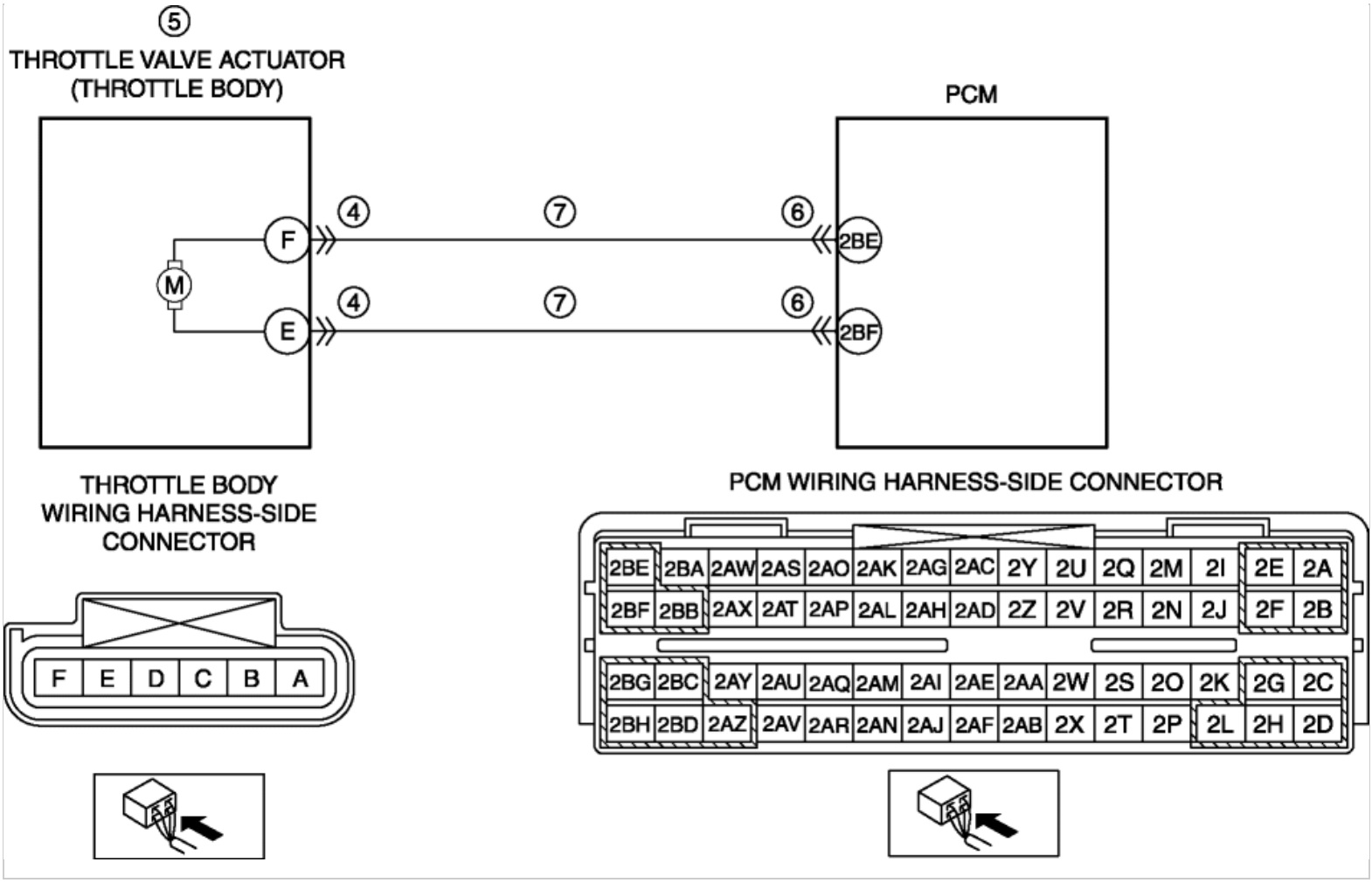
DTC P2100:00	Throttle valve actuator circuit open
DETECTION CONDITION	• If the difference between the target opening angle voltage and the actual opening angle voltage **exceeds 0.1 V**, the PCM illuminates the MIL. **Diagnostic support note** • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition during the first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• Throttle body connector or terminal malfunction • Throttle valve actuator malfunction • PCM connector or terminal malfunction • Open circuit in wiring harness between throttle body terminal F and PCM terminal 2BE • Open circuit in wiring harness between throttle body terminal E and PCM terminal 2BF • 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	**CLASSIFY INTERMITTENT CONCERN OR CONTINUOUS CONCERN** • Clear the DTC from the PCM memory using the M-MDS. (See **AFTER REPAIR PROCEDURE [MZR 2.5]**.) • Start the engine and idle it. • Perform the DTC Reading Procedure. (See **ON-BOARD DIAGNOSTIC TEST [MZR 2.5]**.)	Yes	Go to the next step.
		No	Intermittent concern exists. • Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (See **INTERMITTENT CONCERN TROUBLESHOOTING [MZR 2.5]**.)

	• Is the same DTC present?		
4	**INSPECT THROTTLE BODY CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the throttle body 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.
5	**INSPECT THROTTLE VALVE ACTUATOR** • Inspect the throttle valve actuator. (See **THROTTLE BODY INSPECTION [MZR 2.5]**.) • Is there any malfunction?	Yes	Replace the throttle body, then go to Step 8. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5]**.)
		No	Go to the next step.
6	**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 8.
		No	Go to the next step.
7	**INSPECT THROTTLE VALVE ACTUATOR CIRCUIT FOR OPEN CIRCUIT** • Throttle body and PCM connectors are disconnected. • Inspect for continuity between the following terminals: ▪ Throttle body terminal F (wiring harness-side) and PCM terminal 2BE (wiring harness-side) ▪ Throttle body terminal E (wiring harness-side) and PCM terminal 2BF (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.
9	**VERIFY AFTER REPAIR PROCEDURE** • 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.