

2012 - Mazda6 - Engine

DTC P2138:00 [MZR 2.5]

DTC P2138:00	APP sensor No.1/No.2 voltage correlation problem
DETECTION CONDITION	- The PCM compares the input voltage from APP sensor No.1 with the input voltage from APP sensor No.2 when the engine is running. If the difference is more than the specification, the PCM determines that there is an APP sensor No.1/No.2 angle correlation problem. 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 data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- APP sensor connector or terminal malfunction - APP sensor No.1 malfunction - APP sensor No.2 malfunction - PCM connector or terminal malfunction - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	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	Yes Perform repair or diagnosis according to the available repair information.

	Verify related Service Bulletins and/or on-line repair information availability. Is any related repair information available?		If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	INSPECT APP SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the APP 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 6.
		No	Go to the next step.
4	INSPECT APP SENSOR - Reconnect all disconnected connectors. - Inspect the APP sensor. (See ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?	Yes	Replace the APP sensor, then go to Step 6. (See ACCELERATOR PEDAL 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 the next step.
		No	Go to the next step.
6	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.	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.

	(See KOEO/ KOER SELF TEST [MZR 2.5] .) • Is the same DTC present?		
7	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.

2012 - Mazda6 - Engine

DTC P2138:00 [MZR 2.5]

DTC P2138:00	APP sensor No.1/No.2 voltage correlation problem
DETECTION CONDITION	- The PCM compares the input voltage from APP sensor No.1 with the input voltage from APP sensor No.2 when the engine is running. If the difference is more than the specification, the PCM determines that there is an APP sensor No.1/No.2 angle correlation problem. 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 data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- APP sensor connector or terminal malfunction - APP sensor No.1 malfunction - APP sensor No.2 malfunction - PCM connector or terminal malfunction - PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	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	Yes Perform repair or diagnosis according to the available repair information.

	Verify related Service Bulletins and/or on-line repair information availability. Is any related repair information available?		If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	INSPECT APP SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the APP 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 6.
		No	Go to the next step.
4	INSPECT APP SENSOR - Reconnect all disconnected connectors. - Inspect the APP sensor. (See ACCELERATOR PEDAL POSITION (APP) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?	Yes	Replace the APP sensor, then go to Step 6. (See ACCELERATOR PEDAL 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 the next step.
		No	Go to the next step.
6	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.	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.

	(See KOE O/ KOER SELF TEST [MZR 2.5] .)		
	Is the same DTC present?		
7	VERI FY AFTER REPAI R PROCEDURE Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAI R PROCEDURE [MZR 2.5] .)	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.
	Are any DTCs present?		