

2012 - Mazda6 - Engine

DTC P2299:00 [MZR 2.5]

DTC P2299:00	Accelerator pedal: spring back malfunction
DETECTION CONDITION	• Brake override system operates. Diagnostic support note • This is a continuous monitor (other). • The MIL does not illuminate. • FREEZE FRAME DATA (Mode 2) is not available. • Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	NOTE: • If the brake override system operates, the PCM detects DTC P2299:00. • Driver depresses accelerator and brake pedals simultaneously (during braking operation using left foot) • Accelerator pedal is pressed in due to object such as floor mat • Accelerator pedal sticking • APP sensor signal malfunction ▪ APP sensor malfunction ▪ Related connector or terminals malfunction ▪ Related wiring harness malfunction • Brake switch signal malfunction ▪ Brake switch malfunction ▪ Related connector or terminals malfunction ▪ Related wiring harness malfunction ▪ Brake pedal malfunction (increase in play due to joint pin wear) • PCM malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION	
1	VERIFY SNAPSHOT DATA HAS BEEN RECORDED Has the snapshot data been recorded?	Yes	Go to the next step.
		No	Record the 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	VERIFY VEHICLE USE CONDITION - Verify the vehicle use condition. - The floor mat is doubled over - The floor mat is spread against the accelerator pedal - The accelerator and brake pedals are being depressed simultaneously - Are any of the conditions above applicable to vehicle use condition?	Yes	There is a malfunction in a related floor mat - Explain to the customer that the floor mat may prevent the accelerator pedal from springing back after release, then go to Step 11. There is a malfunction in the pedal operation - Give the customer advice on how to depress the accelerator and brake pedals while driving the vehicle, then go to Step 11.
		No	Go to the next step.
4	INSPECT APP SENSOR - Is the condition of the accelerator pedal one of the following? - Accelerator pedal sticking has occurred when operated - There is evidence of accelerator pedal disassembly	Yes	Replace the accelerator pedal, then go to Step 11. (See ACCELERATOR PEDAL REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
	VERIFY CURRENT INPUT SIGNAL STATUS OF		

5	APP SENSOR - Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - IVS - APP1 - APP2 - Is the value for PID IVS Idle when the accelerator pedal is not depressed? - Do the values for PIDs APP1 and APP2 change when the accelerator pedal is continually depressed?	Yes	Go to the next step.
6	INSPECT APP SENSOR RELATED WIRING HARNESS AND CONNECTOR - Inspect the wiring harness related to the APP sensor for connector disconnection, short circuit, and poor contact. - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
7	VERIFY CURRENT INPUT SIGNAL STATUS OF BRAKE SWITCH - Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - BOO - BPA - Are all PIDs normal?	Yes	Go to Step 10.
8	INSPECT BRAKE SWITCH - Inspect the brake switch. (See BRAKE SWITCH INSPECTION.) - Is there any malfunction?	Yes	Replace the brake switch, then go to Step 11. (See BRAKE PEDAL REMOVAL/ INSTALLATION.)
		No	Go to the next step.

9	INSPECT BRAKE PEDAL PLAY AMOUNT - Inspect the brake pedal play amount. (See BRAKE PEDAL INSPECTION.) - Is the amount of brake pedal play normal?	Yes Inspect the wiring harness related to the brake switch for connector disconnection, short circuit, and poor contact. - If there is any malfunction: - Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
		No Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
10	VERIFY IF A DTC RELATED TO DRIVE-BY-WIRE CONTROL IS DETECTED - Perform the KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is a DTC related to the drive-by-wire control present?	Yes Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5].) No Go to the next step.
11	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].) CAUTION: - While performing this step, always operate the vehicle in a safe and lawful manner. - When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. - Drive the vehicle under the snapshot data condition.	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.

	• Perform the KOER self test. (See KOE O/ KOER SELF TEST [MZR 2.5].) • Is the same DTC present?		
12	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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Diagnostic procedure

STEP	INSPECTION	ACTION	
1	VERIFY SNAPSHOT DATA HAS BEEN RECORDED Has the snapshot data been recorded?	Yes	Go to the next step.
		No	Record the 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	VERIFY VEHICLE USE CONDITION - Verify the vehicle use condition. - The floor mat is doubled over - The floor mat is spread against the accelerator pedal - The accelerator and brake pedals are being depressed simultaneously - Are any of the conditions above applicable to vehicle use condition?	Yes	There is a malfunction in a related floor mat - Explain to the customer that the floor mat may prevent the accelerator pedal from springing back after release, then go to Step 11. There is a malfunction in the pedal operation - Give the customer advice on how to depress the accelerator and brake pedals while driving the vehicle, then go to Step 11.
		No	Go to the next step.
4	INSPECT APP SENSOR - Is the condition of the accelerator pedal one of the following? - Accelerator pedal sticking has occurred when operated - There is evidence of accelerator pedal disassembly	Yes	Replace the accelerator pedal, then go to Step 11. (See ACCELERATOR PEDAL REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
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5	APP SENSOR - Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - IVS - APP1 - APP2 - Is the value for PID IVS Idle when the accelerator pedal is not depressed? - Do the values for PIDs APP1 and APP2 change when the accelerator pedal is continually depressed?	Yes	Go to the next step.
6	INSPECT APP SENSOR RELATED WIRING HARNESS AND CONNECTOR - Inspect the wiring harness related to the APP sensor for connector disconnection, short circuit, and poor contact. - Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
7	VERIFY CURRENT INPUT SIGNAL STATUS OF BRAKE SWITCH - Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - BOO - BPA - Are all PIDs normal?	Yes	Go to Step 10.
8	INSPECT BRAKE SWITCH - Inspect the brake switch. (See BRAKE SWITCH INSPECTION.) - Is there any malfunction?	Yes	Replace the brake switch, then go to Step 11. (See BRAKE PEDAL REMOVAL/ INSTALLATION.)
		No	Go to the next step.

9	INSPECT BRAKE PEDAL PLAY AMOUNT - Inspect the brake pedal play amount. (See BRAKE PEDAL INSPECTION.) - Is the amount of brake pedal play normal?	Yes Inspect the wiring harness related to the brake switch for connector disconnection, short circuit, and poor contact. - If there is any malfunction: - Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
		No Repair or replace the malfunctioning part according to the inspection results, then go to Step 11.
10	VERIFY IF A DTC RELATED TO DRIVE-BY-WIRE CONTROL IS DETECTED - Perform the KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is a DTC related to the drive-by-wire control present?	Yes Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5].) No Go to the next step.
11	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].) CAUTION: - While performing this step, always operate the vehicle in a safe and lawful manner. - When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later. - Drive the vehicle under the snapshot data condition.	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.

	• Perform the KOER self test. (See KOE O/ KOER SELF TEST [MZR 2.5].) • Is the same DTC present?		
12	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.