

2012 - Mazda6 - Engine

DTC P0500:00 [MZR 2.5]

DTC P0500:00	VSS circuit problem
DETECTION CONDITION	- If an error in the wheel speed signal from the DSC HU/CM is detected by CAN when the following conditions are met: MONITORING CONDITIONS - Neutral switch and CPP switch: OFF (MTX) - Shift range: except P, N or R position (ATX) - Absolute load: above 40 % - Engine speed: above 2,000 rpm - Brake switch: OFF - Vehicle speed: below 3.76 km/ h { 2.34 mph } Diagnostic support note - This is a continuous monitor (CCM). - The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. - PENDING CODE is available 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	- VSS signal malfunction - Front ABS wheel-speed sensor malfunction - DSC HU/CM malfunction - DSC HU/CM connector or terminal 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 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	VERIFY CURRENT INPUT SIGNAL STATUS - Start the engine. - Access the VSS PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Vehicle speed 20 km/ h { 12.4 mph } : 20km/ h { 12.4 mph } - Vehicle speed 40 km/ h { 24.8 mph } : 40km/ h { 24.8 mph } - Is the PID reading within specification?	Yes Intermittent concern exists. Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (See INTERMITTENT CONCERN TROUBLESHOOTING [MZR 2.5].)
		No Go to the next step.
4	VERIFY DTC TROUBLESHOOTING COMPLETED - Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Warm up the engine. - Access the RPM and LOAD PIDs	Yes Replace the PCM, then go to the next step. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].)
		No Go to the next step.

	using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Drive the vehicle under the following conditions for 18 s. ▪ Gear: except NEUTRAL (MTX) ▪ Shift range: except P, N or R position (ATX) ▪ Absolute load: above 40 % ▪ Engine speed: above 2,000 rpm • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Is the PENDING CODE for this DTC present?		
5	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 P0500:00 [MZR 2.5]

DTC P0500:00	VSS circuit problem
DETECTION CONDITION	- If an error in the wheel speed signal from the DSC HU/CM is detected by CAN when the following conditions are met: MONITORING CONDITIONS - Neutral switch and CPP switch: OFF (MTX) - Shift range: except P, N or R position (ATX) - Absolute load: above 40 % - Engine speed: above 2,000 rpm - Brake switch: OFF - Vehicle speed: below 3.76 km/ h { 2.34 mph } Diagnostic support note - This is a continuous monitor (CCM). - The MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. - PENDING CODE is available 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	- VSS signal malfunction - Front ABS wheel-speed sensor malfunction - DSC HU/CM malfunction - DSC HU/CM connector or terminal 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 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	VERIFY CURRENT INPUT SIGNAL STATUS - Start the engine. - Access the VSS PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Vehicle speed 20 km/ h { 12.4 mph } : 20km/ h { 12.4 mph } - Vehicle speed 40 km/ h { 24.8 mph } : 40km/ h { 24.8 mph } - Is the PID reading within specification?	Yes Intermittent concern exists. Perform the "INTERMITTENT CONCERN TROUBLESHOOTING". (See INTERMITTENT CONCERN TROUBLESHOOTING [MZR 2.5].)
		No Go to the next step.
4	VERIFY DTC TROUBLESHOOTING COMPLETED - Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZR 2.5].) - Warm up the engine. - Access the RPM and LOAD PIDs	Yes Replace the PCM, then go to the next step. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].)
		No Go to the next step.

	using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Drive the vehicle under the following conditions for 18 s. ▪ Gear: except NEUTRAL (MTX) ▪ Shift range: except P, N or R position (ATX) ▪ Absolute load: above 40 % ▪ Engine speed: above 2,000 rpm • Perform the Pending Trouble Code Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) • Is the PENDING CODE for this DTC present?		
5	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.