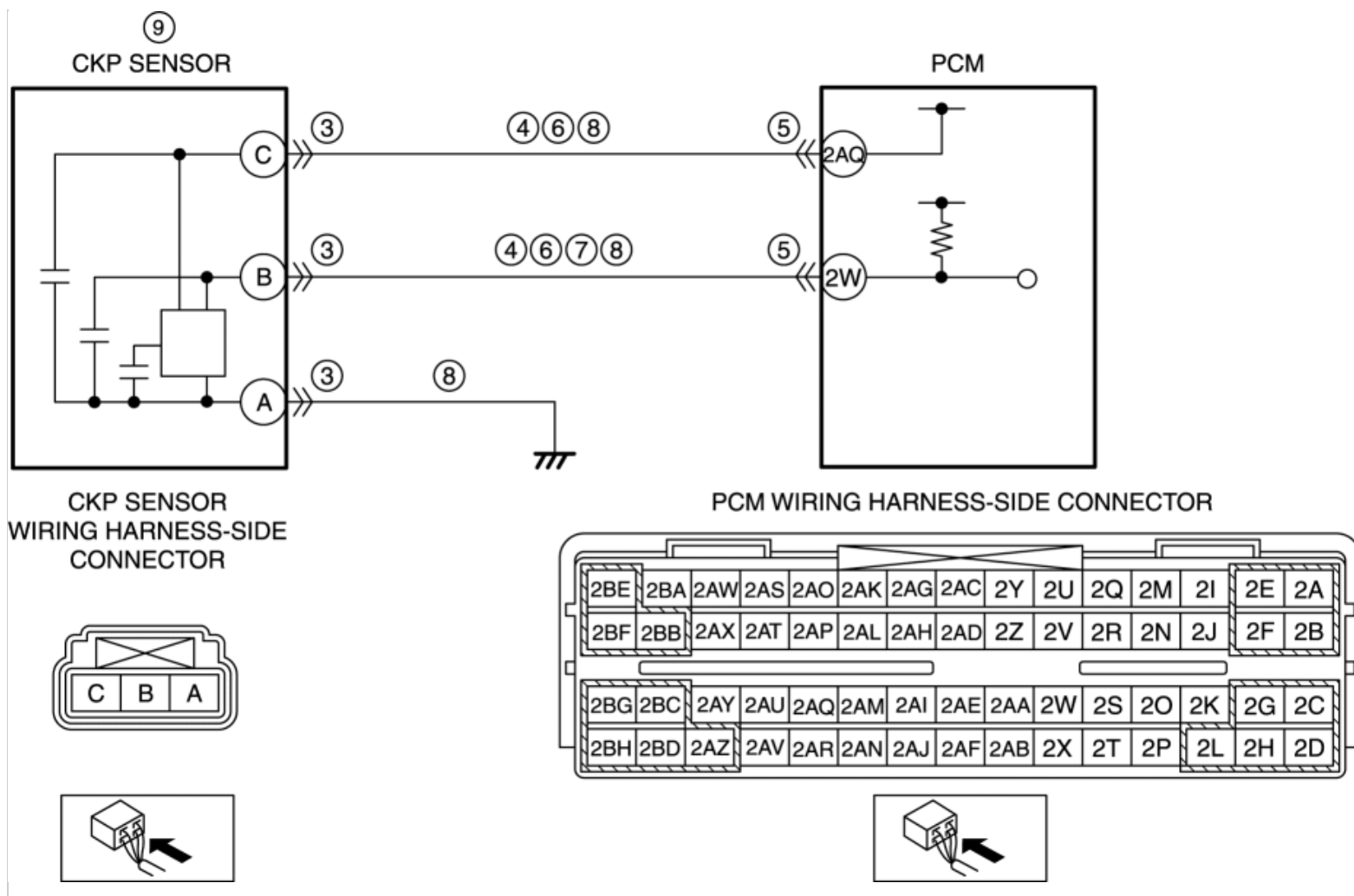


2012 - Mazda6 - Engine

DTC P0335:00 [MZR 2.5]

DTC P0335:00	CKP sensor circuit problem
DETECTION CONDITION	• If the PCM does not receive the input voltage from the CKP sensor for 4.2 s while the MAF is 1.95 g/ s { 0.25 lb/ min} or above, the PCM determines that the CKP sensor circuit has a malfunction. Diagnostic support note • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• CKP sensor connector or terminal malfunction • Short to ground in wiring harness between CKP sensor terminal C and PCM terminal 2AQ • Short to ground in wiring harness between CKP sensor terminal B and PCM terminal 2W • PCM connector or terminal malfunction • Short circuit in CKP sensor circuits each other • Short to power supply in wiring harness between CKP sensor terminal B and PCM terminal 2W • Open circuit in wiring harness between CKP sensor terminal C and PCM terminal 2AQ • Open circuit in wiring harness between CKP sensor terminal B and PCM terminal 2W • Open circuit in wiring harness between CKP sensor terminal A and body ground • CKP sensor malfunction ▪ CKP sensor is dirty ▪ CKP sensor pulse wheel 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	INSPECT CKP SENSOR CONNECTOR CONDITION - CKP sensor connector is disconnected. - Switch the ignition to off. - 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 10. No Go to the next step.
	INSPECT CKP SENSOR CIRCUIT FOR SHORT TO GROUND	

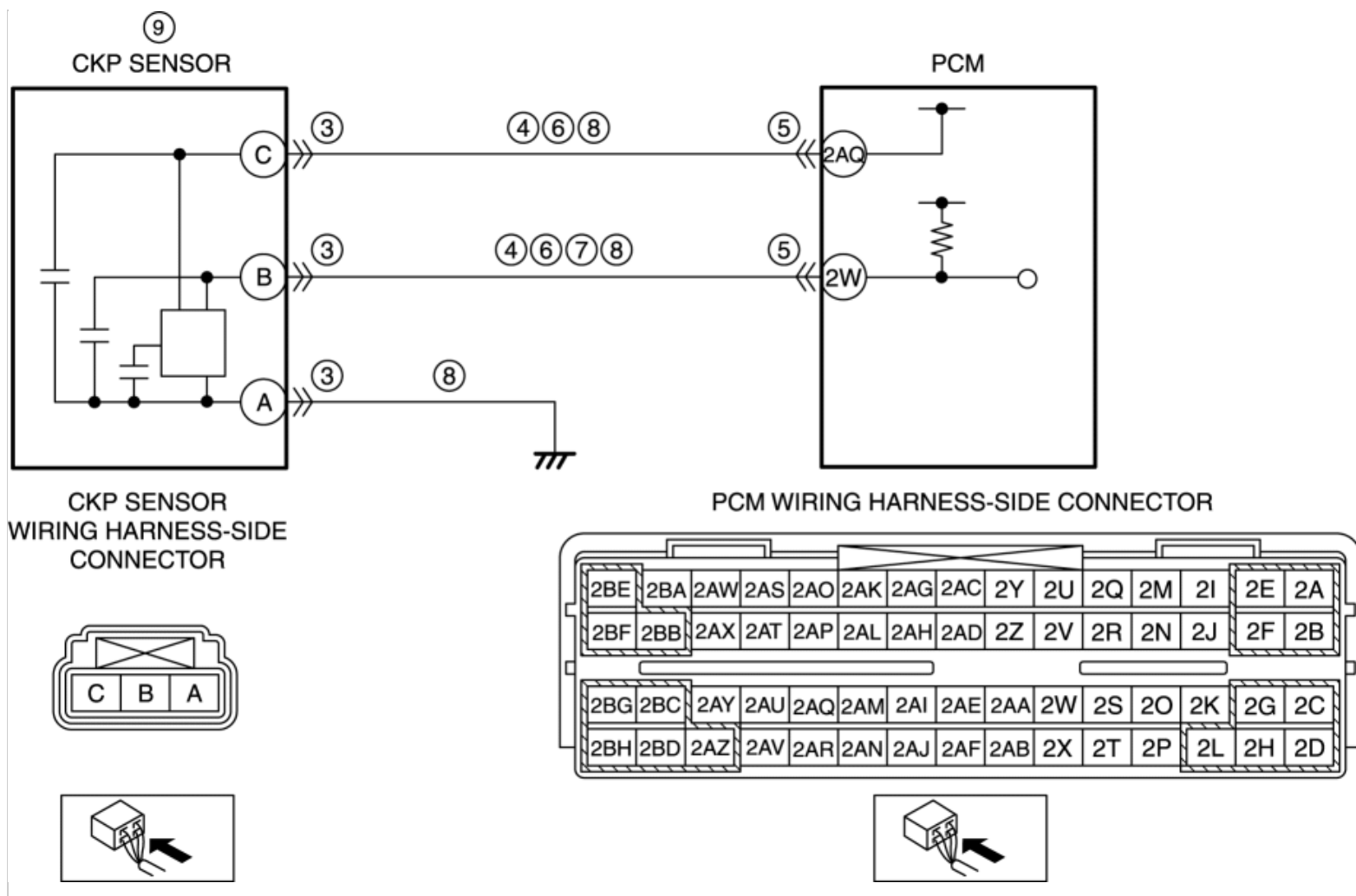
4	• CKP sensor connector is disconnected. • Inspect for continuity between the following terminals and body ground: ▪ CKP sensor terminal C (wiring harness-side) ▪ CKP sensor terminal B (wiring harness-side) • Is there continuity?	YesIf the short to ground circuit could be detected: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected: • Replace the PCM (short to ground in PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to Step 10.	NoGo to the next step.
5	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal and/or connector, then go to Step 10.	NoGo to the next step.
6	INSPECT CKP SENSOR CIRCUITS FOR SHORT EACH OTHER • CKP sensor and PCM connectors are disconnected. • Inspect for continuity between CKP sensor terminals B and C (wiring harness-side). • Is there continuity?	YesRepair or replace the malfunctioning wiring harness, then go to Step 10.	NoGo to the next step.
7	INSPECT CKP SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY • CKP sensor and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between CKP sensor terminal B (wiring harness-side) and body ground. • Is there any voltage?	YesRepair or replace the wiring harness for a possible short to power supply, then go to Step 10.	NoGo to the next step.
8	INSPECT CKP CIRCUIT FOR OPEN CIRCUIT • CKP sensor and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between the following terminals: ▪ CKP sensor terminal C (wiring harness-side) and PCM terminal 2AQ ▪ CKP sensor terminal B (wiring harness-side) and PCM terminal 2W (wiring harness-side) ▪ CKP sensor terminal A (wiring harness-side) and body ground • Is there continuity?	YesGo to the next step.	NoRepair or replace the wiring harness for a possible open circuit, then go to Step 10.

9	INSPECT CKP SENSOR - Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?	Yes	Replace the CKP sensor, then go to the next step. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
10	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].) - Start the engine and warm it up completely. - Access the MAF PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) NOTE: - The MAF PID should indicate 1.95 g/ s { 0.25 lb/ min} or above during this test. - Perform the 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.
11	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 P0335:00 [MZR 2.5]

DTC P0335:00	CKP sensor circuit problem
DETECTION CONDITION	• If the PCM does not receive the input voltage from the CKP sensor for 4.2 s while the MAF is 1.95 g/ s { 0.25 lb/ min} or above, the PCM determines that the CKP sensor circuit has a malfunction. Diagnostic support note • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• CKP sensor connector or terminal malfunction • Short to ground in wiring harness between CKP sensor terminal C and PCM terminal 2AQ • Short to ground in wiring harness between CKP sensor terminal B and PCM terminal 2W • PCM connector or terminal malfunction • Short circuit in CKP sensor circuits each other • Short to power supply in wiring harness between CKP sensor terminal B and PCM terminal 2W • Open circuit in wiring harness between CKP sensor terminal C and PCM terminal 2AQ • Open circuit in wiring harness between CKP sensor terminal B and PCM terminal 2W • Open circuit in wiring harness between CKP sensor terminal A and body ground • CKP sensor malfunction ▪ CKP sensor is dirty ▪ CKP sensor pulse wheel 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	INSPECT CKP SENSOR CONNECTOR CONDITION - CKP sensor connector is disconnected. - Switch the ignition to off. - 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 10. No Go to the next step.
	INSPECT CKP SENSOR CIRCUIT FOR SHORT TO GROUND	

4	• CKP sensor connector is disconnected. • Inspect for continuity between the following terminals and body ground: ▪ CKP sensor terminal C (wiring harness-side) ▪ CKP sensor terminal B (wiring harness-side) • Is there continuity?	YesIf the short to ground circuit could be detected: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected: • Replace the PCM (short to ground in PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to Step 10.	NoGo to the next step.
5	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	YesRepair or replace the terminal and/or connector, then go to Step 10.	NoGo to the next step.
6	INSPECT CKP SENSOR CIRCUITS FOR SHORT EACH OTHER • CKP sensor and PCM connectors are disconnected. • Inspect for continuity between CKP sensor terminals B and C (wiring harness-side). • Is there continuity?	YesRepair or replace the malfunctioning wiring harness, then go to Step 10.	NoGo to the next step.
7	INSPECT CKP SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY • CKP sensor and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage between CKP sensor terminal B (wiring harness-side) and body ground. • Is there any voltage?	YesRepair or replace the wiring harness for a possible short to power supply, then go to Step 10.	NoGo to the next step.
8	INSPECT CKP CIRCUIT FOR OPEN CIRCUIT • CKP sensor and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between the following terminals: ▪ CKP sensor terminal C (wiring harness-side) and PCM terminal 2AQ ▪ CKP sensor terminal B (wiring harness-side) and PCM terminal 2W (wiring harness-side) ▪ CKP sensor terminal A (wiring harness-side) and body ground • Is there continuity?	YesGo to the next step.	NoRepair or replace the wiring harness for a possible open circuit, then go to Step 10.

9	INSPECT CKP SENSOR - Inspect the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZR 2.5].) - Is there any malfunction?		Yes Replace the CKP sensor, then go to the next step. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/ INSTALLATION [MZR 2.5] .) No Go to the next step.
10	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].) - Start the engine and warm it up completely. - Access the MAF PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) NOTE: - The MAF PID should indicate 1.95 g/ s { 0.25 lb/ min} or above during this test. - Perform the KOER self test. (See KOE0/ 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.
11	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.