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1998 MAZDA Xedos 6 OEM Service and Repair Workshop Manual

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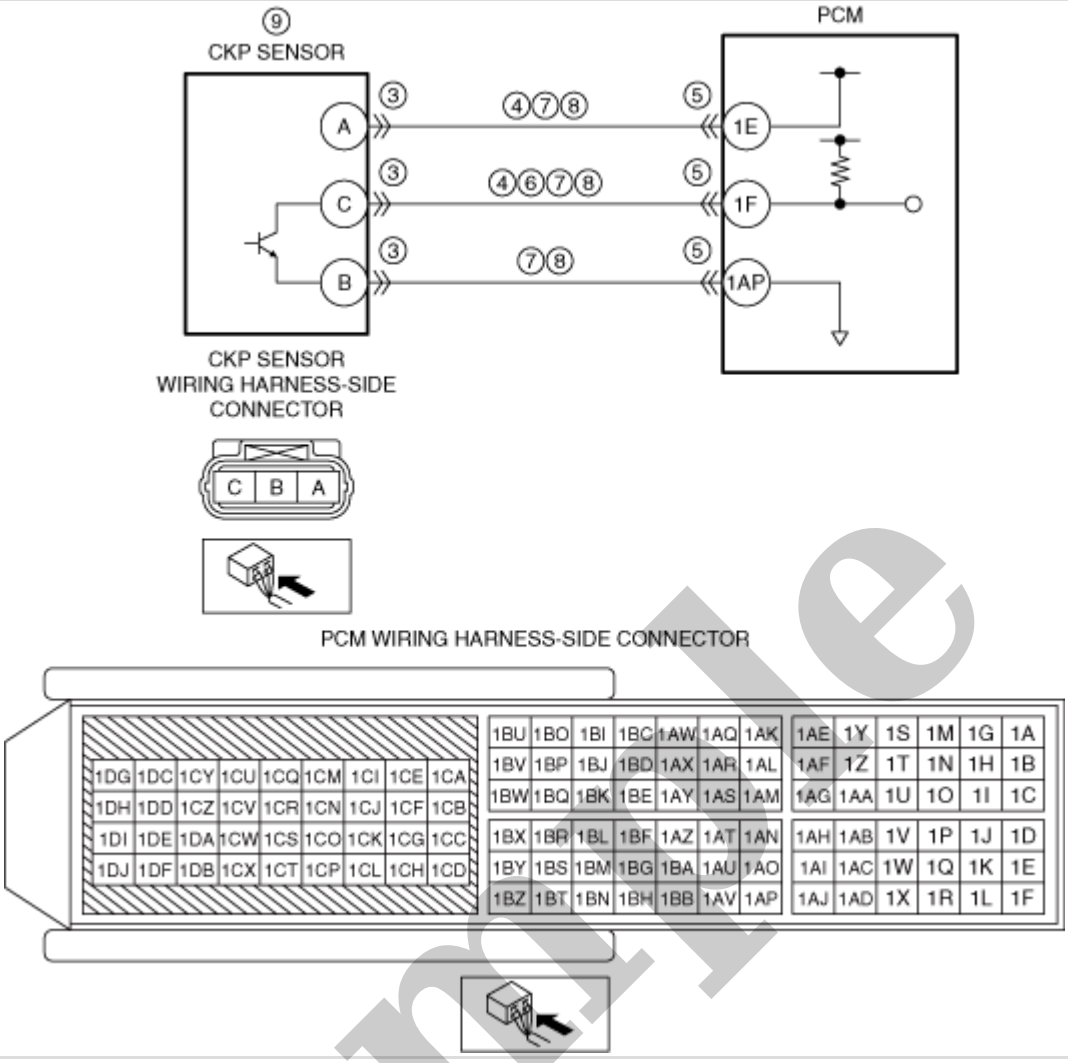
DTC P0335:00	CKP sensor circuit problem



Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION Note • Recording can be facilitated using the screen capture function of the PC. • Record the FREEZE FRAME DATA/snapshot data on the repair order.	–	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.

DTC P0340:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2896959

id0102t370370

DTC P0340:00	**Intake CMP sensor circuit problem**
DETECTION CONDITION	• The intake CMP sensor input signal pattern, received while the crankshaft rotates 24 times, is incorrect. **Diagnostic support note** • This is a continuous monitor (CCM). • The check engine light illuminates if the PCM detects the above malfunction condition during the first drive cycle. • FREEZE FRAME DATA/Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Stops fuel injection. • Stops ignition. • Sets the electric variable valve timing control to the maximum cam retard mode. • Inhibits traction control.
POSSIBLE CAUSE	• Intake CMP sensor connector or terminals malfunction • Short to ground or open circuit in intake CMP sensor power supply circuit — Short to ground in wiring harness between ENGINE2 15 A fuse and intake CMP sensor terminal C — ENGINE2 15 A fuse malfunction — Open circuit in wiring harness between sub relay terminal C and intake CMP sensor terminal C • Short to ground in wiring harness between intake CMP sensor terminal A and PCM terminal 1BT • PCM connector or terminals malfunction • Short to power supply in wiring harness between intake CMP sensor terminal A and PCM terminal 1BT • Intake CMP sensor signal circuit and ground circuit are shorted to each other • Open circuit in wiring harness between the following terminals: — Intake CMP sensor terminal A—PCM terminal 1BT — Intake CMP sensor terminal B—PCM terminal 1AI • Intake CMP sensor malfunction — Intake CMP sensor is dirty — Intake CMP sensor pulse wheel malfunction — Damage to the detection area of the intake CMP sensor • CKP sensor connector or terminals malfunction • Loose timing chain or improper valve timing • PCM malfunction

STEP	INSPECTION	RESULTS	ACTION
5	**INSPECT INTAKE CMP SENSOR POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Verify that the intake CMP sensor connector is disconnected. • Switch the ignition ON (engine off). **Note** **• Another DTC may be stored by the PCM detecting an open circuit.** • Measure the voltage at the intake CMP sensor terminal C (wiring harness-side). • Is the voltage B+?	Yes	Go to the next step.
		No	Inspect the ENGINE2 15 A fuse. • If the fuse is blown: — Refer to the wiring diagram and verify whether or not there is a common connector between ENGINE2 15 A fuse and intake CMP sensor terminal C. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. • Replace the fuse. • If the fuse is damaged: — Replace the fuse. • If the fuse is normal: — Refer to the wiring diagram and verify whether or not there is a common connector between sub relay terminal C and intake CMP sensor terminal C. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 14.

STEP	INSPECTION	RESULTS	ACTION
14	VERIFY DTC TROUBLESHOOTING COMPLETED • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].) • Start the engine and race it. • Perform the KOER self test. (See KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].) • Is the same Pending DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) Go to the next step.
		No	Go to the next step.
15	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].)
		No	DTC troubleshooting completed.

DTC U0315:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2897021

id0102t390120

DTC U0315:00	DSC HU/CM error
DETECTION CONDITION	• When any of the following conditions is met: — CAN communication line malfunction between DSC HU/CM and PCM — DSC HU/CM internal malfunction **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA is not available. • Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Not applicable
POSSIBLE CAUSE	• CAN drive error (DSC HU/CM or PCM) • CAN communication line malfunction between DSC HU/CM and PCM — DSC HU/CM terminal AF—PCM terminal 2S — DSC HU/CM terminal AC—PCM terminal 2T • DSC HU/CM connector or terminals malfunction • PCM connector or terminals malfunction • DSC HU/CM malfunction • PCM malfunction

DTC U0323:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2897023

id0102t390140

DTC U0323:00	Instrument cluster error
DETECTION CONDITION	• When any of the following conditions is met: — CAN communication line malfunction between instrument cluster and PCM — Instrument cluster internal malfunction **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA is not available. • Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Not applicable
POSSIBLE CAUSE	• CAN drive error (instrument cluster or PCM) • CAN communication line malfunction between instrument cluster and PCM — Instrument cluster terminal B—Active driving display terminal J — Instrument cluster terminal D—Active driving display terminal L — Active driving display terminal I—Front body control module (FBCM) terminal 2K — Active driving display terminal K—Front body control module (FBCM) terminal 2I — Front body control module (FBCM) terminal 2P—PCM terminal 2S — Front body control module (FBCM) terminal 2N—PCM terminal 2T • Instrument cluster connector or terminals malfunction • PCM connector or terminals malfunction • Instrument cluster malfunction • PCM malfunction

DTC U0320:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2897022

id0102t390130

DTC U0320:00	EPS control module error
DETECTION CONDITION	• When any of the following conditions is met: — CAN communication line malfunction between EPS control module and PCM — EPS control module internal malfunction **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA is not available. • Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Not applicable
POSSIBLE CAUSE	• CAN drive error (EPS control module or PCM) • CAN communication line malfunction between EPS control module and PCM — EPS control module terminal 2B–Front body control module (FBCM) terminal 2K — EPS control module terminal 2D–Front body control module (FBCM) terminal 2I — Front body control module (FBCM) terminal 2P–PCM terminal 2S — Front body control module (FBCM) terminal 2N–PCM terminal 2T • EPS control module connector or terminals malfunction • PCM connector or terminals malfunction • EPS control module malfunction • PCM malfunction

DTC P0443:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2896961

id0102t370450

DTC P0443:00	Purge solenoid valve circuit problem
DETECTION CONDITION	• The purge control voltage at the PCM terminal 1AW exceeds the specification or the purge control voltage is less than the specification relative to the PCM control condition. Diagnostic support note • This is a continuous monitor (CCM). • The check engine light 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 first drive cycle. • FREEZE FRAME DATA/Snapshot data is available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Not applicable
POSSIBLE CAUSE	• Purge solenoid valve connector or terminals malfunction • Short to ground or open circuit in purge solenoid valve power supply circuit — Short to ground in wiring harness between ENGINE4 15 A fuse and purge solenoid valve terminal B — ENGINE4 15 A fuse malfunction — Open circuit in wiring harness between main relay terminal C and purge solenoid valve terminal B • PCM connector or terminals malfunction • Short to ground in wiring harness between purge solenoid valve terminal A and PCM terminal 1AW • Short to power supply in wiring harness between purge solenoid valve terminal A and PCM terminal 1AW • Open circuit in wiring harness between purge solenoid valve terminal A and PCM terminal 1AW • Purge solenoid valve malfunction • PCM malfunction

STEP	INSPECTION	RESULTS	ACTION
6	**INSPECT PURGE SOLENOID VALVE CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the purge solenoid valve and PCM connectors are disconnected. • Inspect for continuity between purge solenoid valve terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between purge solenoid valve terminal A and PCM terminal 1AW. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 10.
		No	Go to the next step.
7	**INSPECT PURGE SOLENOID VALVE CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the purge solenoid valve and PCM connectors are disconnected. • Switch the ignition ON (engine off). **Note** **• Another DTC may be stored by the PCM detecting an open circuit.** • Measure the voltage at the purge solenoid valve terminal A (wiring harness-side). • Is the voltage 0 V?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between purge solenoid valve terminal A and PCM terminal 1AW. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to power supply. Go to Step 10.
8	**INSPECT PURGE SOLENOID VALVE CONTROL CIRCUIT FOR OPEN CIRCUIT** • Verify that the purge solenoid valve and PCM connectors are disconnected. • Switch the ignition off. • Inspect for continuity between purge solenoid valve terminal A (wiring harness-side) and PCM terminal 1AW (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between purge solenoid valve terminal A and PCM terminal 1AW. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 10.
9	**INSPECT PURGE SOLENOID VALVE** • Inspect the purge solenoid valve. (See PURGE SOLENOID VALVE INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) • Is there any malfunction?	Yes	Replace the purge solenoid valve, then go to the next step. (See PURGE SOLENOID VALVE REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].)
		No	Go to the next step.