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1996 MAZDA 323 F (CB) OEM Service and Repair Workshop Manual

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STEP	INSPECTION	RESULTS	ACTION
11	VERIFY DTC TROUBLESHOOTING COMPLETED Caution <ul style="list-style-type: none"> • Connect the negative battery terminal before connecting the current sensor connector. If the current sensor connector is connected first, the PCM may mistakenly recognize a signal from the current sensor and learn the battery condition incorrectly. • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See CLEARING DTC [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Start the engine. • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Is the same Pending DTC present? 	Yes	Repeat the inspection from Step 1.
		No	Go to the next step.
12	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .)
		No	DTC troubleshooting completed.

STEP	INSPECTION	RESULTS	ACTION
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY <ul style="list-style-type: none"> • 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 RELATED PENDING CODE AND/OR DTC <ul style="list-style-type: none"> • Switch the ignition off, then ON (engine off). • Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].) • Are any other PENDING CODEs and/or DTCs present? 	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .)
		No	Go to the next step.
4	INSPECT ENGINE OIL LEVEL SENSOR CONNECTOR CONDITION <ul style="list-style-type: none"> • Switch the ignition off. • Disconnect the engine oil level sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 8.
		No	Go to the next step.

DTC P04DB:00 [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))]

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Note

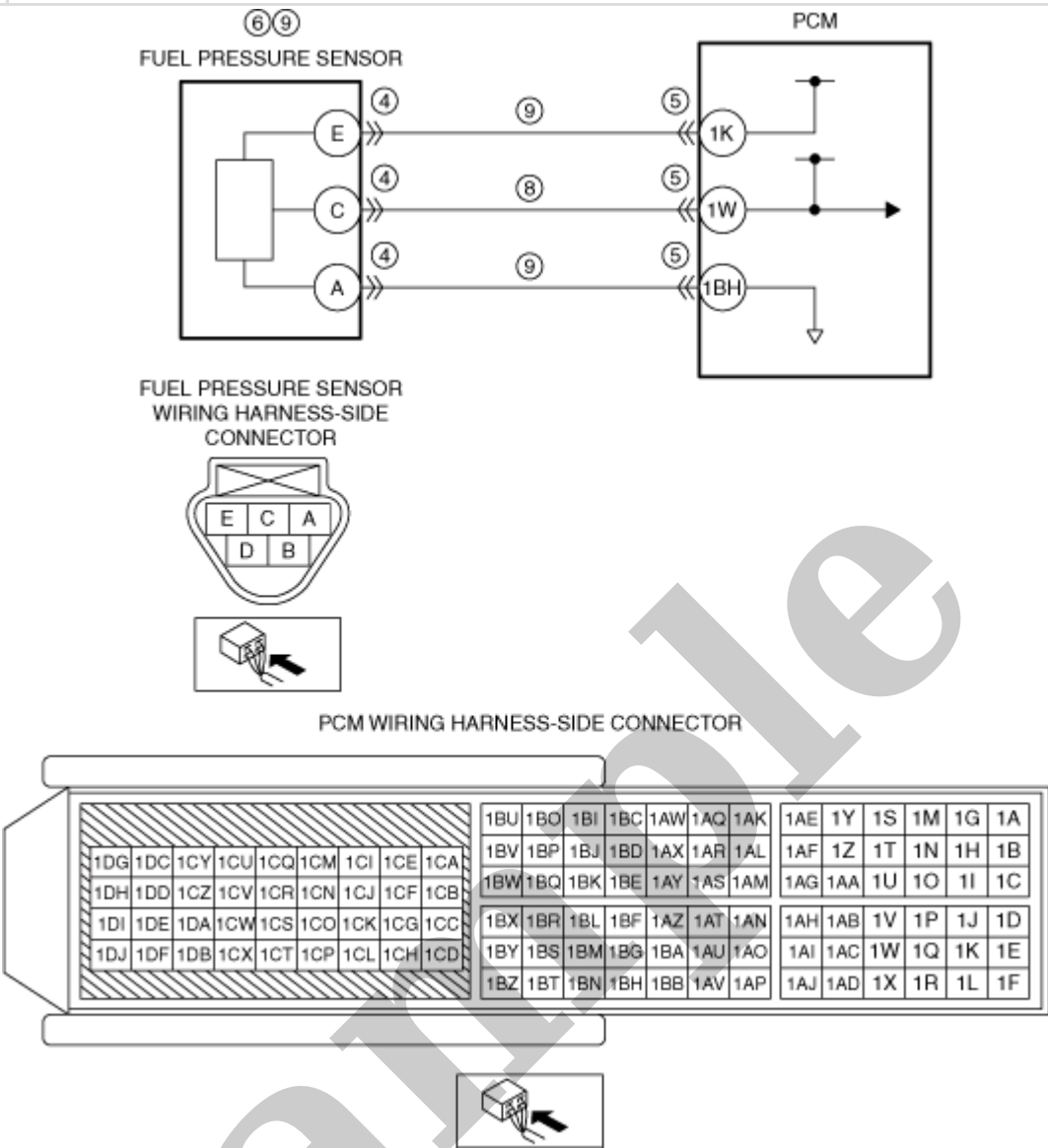
- To determine the malfunctioning part, proceed with the diagnostics from “Function Inspection Using M-MDS”.

Details On DTCs

DESCRIPTION	Positive crankcase ventilation (PCV) System: Excessive flow detected	
DETECTION CONDITION	Determination conditions	<ul style="list-style-type: none">• The estimated PCV flow volume is exceeds threshold.
	Preconditions	<ul style="list-style-type: none">• Fuel injection control: During fuel cut at deceleration ^{*1}• Barometric pressure: 70.75 kPa {0.7215 kgf/cm², 10.27 psi} or more ^{*1}• Engine speed: 3,000 rpm or less ^{*1}• The following DTCs are not detected:<ul style="list-style-type: none">— TP sensor: P0122:00, P0123:00, P0222:00, P0223:00 and P0638:00— ECT sensor: P0117:00 and P0118:00— MAP sensor: P0107:00 and P0108:00— MAF sensor: P0100:00 and U060F:00— BARO sensor: P2226:00, P2228:00 and P2229:00— IAT sensor No.1: P0110:00— IAT sensor No.2: P0097:00 and P0098:00— Purge solenoid valve: P0443:00— Intake CMP sensor: P0340:00— Exhaust CMP sensor: P0365:00— Electric variable valve timing control system: P0010:00, P0011:00 and P0012:00 and P2138:00— Hydraulic variable valve timing control system: P0014:00, P0015:00, P2090:00 and P2091:00— Throttle valve actuator control: P2101:00, P2107:00, P2109:00, P2112:00, P2119:00 and P2135:00 <p>^{*1}: Standard can be verified by displaying PIDs using M-MDS</p>
	Drive cycle	<ul style="list-style-type: none">• 2
	Self test type	<ul style="list-style-type: none">• CMDTC self test
	Sensor used	<ul style="list-style-type: none">• MAF sensor• MAP sensor
FAIL-SAFE FUNCTION	<ul style="list-style-type: none">• Not applicable	
VEHICLE STATUS WHEN DTCs ARE OUTPUT	<ul style="list-style-type: none">• Not applicable	
POSSIBLE CAUSE	<ul style="list-style-type: none">• Blow-by gas passage between PCV valve and intake manifold malfunction<ul style="list-style-type: none">— Poor connection of blow-by gas hose between PCV valve and intake manifold• A non-genuine air cleaner or air cleaner cover installed• PCV valve malfunction (stuck open)• PCM malfunction	

STEP	INSPECTION		ACTION
4	PURPOSE: VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none">• Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))].)• Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))] .)
		No	DTC troubleshooting completed.

Sample



Diagnostic Procedure

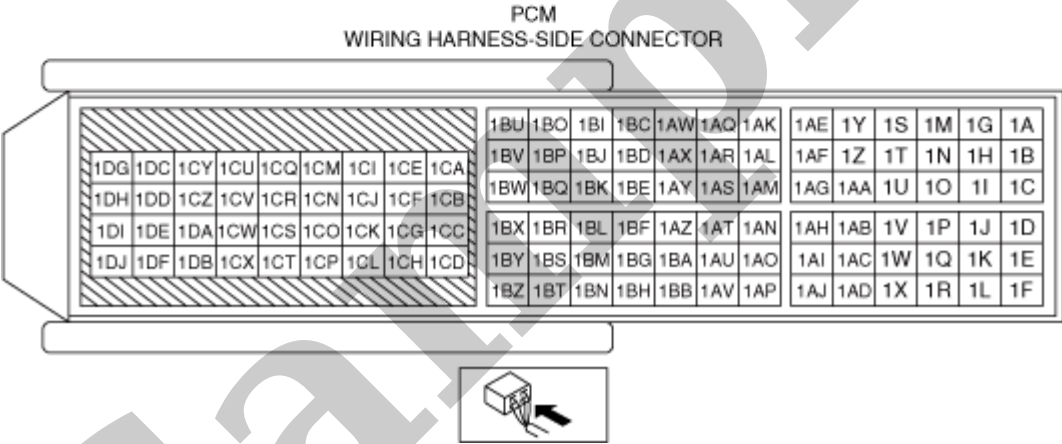
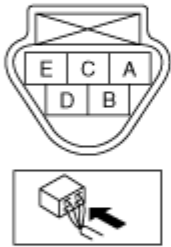
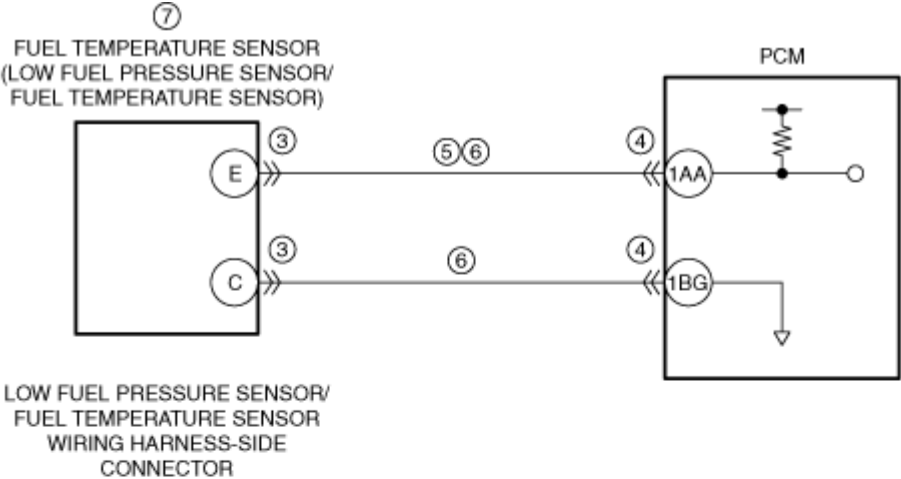
STEP	INSPECTION	RESULTS	ACTION
1	RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION Note <ul style="list-style-type: none">Recording can be facilitated using the screen capture function of the PC.Record the FREEZE FRAME DATA/snapshot data on the repair order.	–	Go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY <ul style="list-style-type: none">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. <ul style="list-style-type: none">If the vehicle is not repaired, go to the next step.
		No	Go to the next step.

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DTC P0182:00	Fuel temperature sensor circuit low input
DETECTION CONDITION	<ul style="list-style-type: none"> • The PCM monitors the fuel temperature sensor signal. If the PCM detects that the fuel temperature sensor voltage at the PCM terminal 1AA is below 0.11 V for 5 s, the PCM determines that the fuel temperature sensor circuit has a malfunction. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> — Battery voltage: 8 V or more <p>Diagnostic support note</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Not applicable
POSSIBLE CAUSE	<ul style="list-style-type: none"> • Low fuel pressure sensor/fuel temperature sensor connector or terminals malfunction • Fuel temperature sensor malfunction • Short to ground in wiring harness between low fuel pressure sensor/fuel temperature sensor terminal E and PCM terminal 1AA • PCM connector or terminals malfunction • Fuel temperature sensor signal circuit and ground circuit are shorted to each other • PCM malfunction

STEP	INSPECTION	RESULTS	ACTION
5	INSPECT FUEL TEMPERATURE SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND <ul style="list-style-type: none"> • Verify that the low fuel pressure sensor/fuel temperature sensor connector is disconnected. • Switch the ignition off. • Inspect for continuity between low fuel pressure sensor/fuel temperature sensor terminal E (wiring harness-side) and body ground. • Is there continuity? 	Yes	<p>Disconnect the PCM connector and inspect the wiring harness for short to ground.</p> <ul style="list-style-type: none"> • If the short to ground circuit could be detected in the wiring harness: <ul style="list-style-type: none"> — Refer to the wiring diagram and verify whether or not there is a common connector between low fuel pressure sensor/fuel temperature sensor terminal E and PCM terminal 1AA. <p>If there is a common connector:</p> <ul style="list-style-type: none"> • 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. <p>If there is no common connector:</p> <ul style="list-style-type: none"> • Repair or replace the wiring harness which has a short to ground. <ul style="list-style-type: none"> • If the short to ground circuit could not be detected in the wiring harness: <ul style="list-style-type: none"> — Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].) <p>Go to Step 9.</p>
		No	Go to the next step.
6	INSPECT PCM CONNECTOR CONDITION <ul style="list-style-type: none"> • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.
7	INSPECT FUEL TEMPERATURE SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER <ul style="list-style-type: none"> • Verify that the low fuel pressure sensor/fuel temperature sensor and PCM connectors are disconnected. • Inspect for continuity between low fuel pressure sensor/fuel temperature sensor terminals E and C (wiring harness-side). • Is there continuity? 	Yes	<p>Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:</p> <ul style="list-style-type: none"> • Low fuel pressure sensor/fuel temperature sensor terminal E–PCM terminal 1AA • Low fuel pressure sensor/fuel temperature sensor terminal C–PCM terminal 1BG <p>If there is a common connector:</p> <ul style="list-style-type: none"> • 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 each other. • Repair or replace the malfunctioning part. <p>If there is no common connector:</p> <ul style="list-style-type: none"> • Repair or replace the wiring harness which has a short to each other. <p>Go to Step 9.</p>
		No	Go to the next step.



Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	<p>RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION</p> <p>Note</p> <ul style="list-style-type: none">• Recording can be facilitated using the screen capture function of the PC.• Record the snapshot data on the repair order.	-	Go to the next step.
2	<p>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</p> <ul style="list-style-type: none">• 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. <ul style="list-style-type: none">• If the vehicle is not repaired, go to the next step.
		No	Go to the next step.

DTC P0192:00 [PCM (SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION))]

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DTC P0192:00	Fuel pressure sensor circuit low input
DETECTION CONDITION	<p>Until 2021MY</p> <ul style="list-style-type: none">• If the input voltage at the PCM terminal 1W is less than 0.66 V for 5 s, the PCM determines that the fuel pressure sensor circuit is low. <p>2022MY</p> <ul style="list-style-type: none">• If the input voltage at the PCM terminal 1W is less than 0.51 V for 5 s, the PCM determines that the fuel pressure sensor circuit is low. <p>Diagnostic support note</p> <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Stops high pressure fuel pump control• Limits intake air amount
POSSIBLE CAUSE	<ul style="list-style-type: none">• Fuel pressure sensor connector or terminals malfunction• PCM connector or terminals malfunction• Short to ground in wiring harness between the following terminals:<ul style="list-style-type: none">— Fuel pressure sensor terminal E–PCM terminal 1K— Fuel pressure sensor terminal C–PCM terminal 1W• Fuel pressure sensor signal circuit and ground circuit are shorted to each other• Fuel pressure sensor malfunction• High pressure fuel pump malfunction• PCM malfunction