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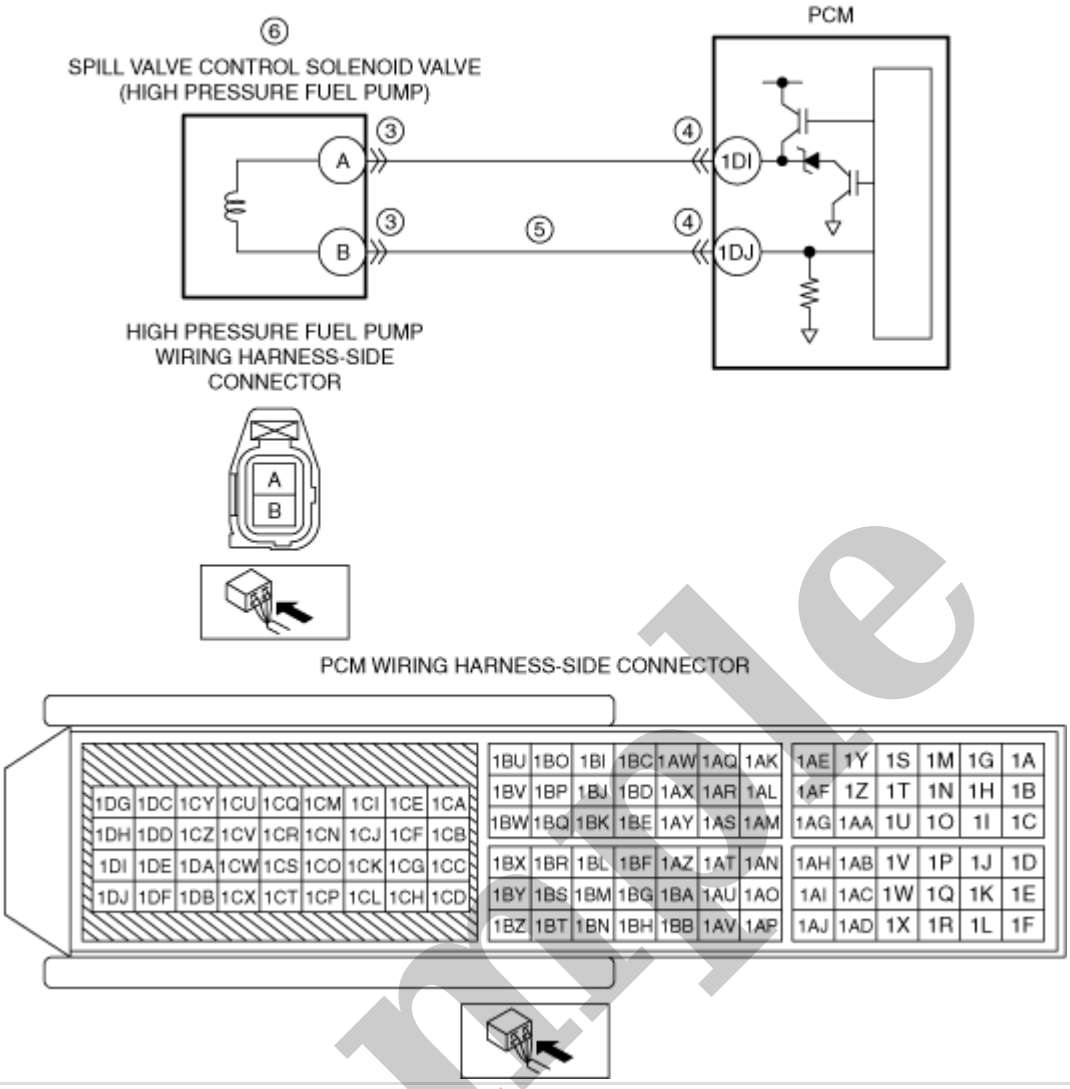
2001 MAZDA B Series / Bravo Dual Cab OEM Service and Repair Workshop Manual

Go to manual page

STEP	INSPECTION	RESULTS	ACTION
5	**INSPECT OCV CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the OCV connector is disconnected. • Switch the ignition off. • Inspect for continuity between OCV terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes	Disconnect the PCM connector and inspect the wiring harness for short to ground. • If the short to ground circuit could be detected in the wiring harness: — Refer to the wiring diagram and verify whether or not there is a common connector between OCV terminal A and PCM terminal 1CO. **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. • If the short to ground circuit could not be detected in the wiring harness: — Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) Go to Step 9.
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR CONDITION** • 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 OCV CONTROL CIRCUIT FOR OPEN CIRCUIT** • Verify that the OCV and PCM connectors are disconnected. • Inspect for continuity between OCV terminal A (wiring harness-side) and PCM terminal 1CO (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 OCV terminal A and PCM terminal 1CO. **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 9.
8	**INSPECT OCV** • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) • Is there any malfunction?	Yes	Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].)
		No	Go to the next step.

DTC P0092:00	Fuel pressure regulator control circuit high input



Caution

• Verify the malfunction symptom according to not only the PID value but also the symptom troubleshooting.

Related PIDs

Item	Definition	Unit	Condition/Specification
FUEL_PRES	Fuel pressure input from fuel pressure sensor	KPa {MPA}, mBar {BAR}, psi, in H20	• Displays fuel pressure
	Fuel pressure sensor voltage	V	Idle (ECT 80 °C {176 °F}) • Fuel pressure is 10 MPa {102 kgf/cm ^{2}, 1450 psi}: Approx. 1.4 V

Diagnostic Procedure

DTC P1380:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2896849

id0102t300970

DTC P1380:00	Electric variable valve timing control circuit problem
DETECTION CONDITION	• A malfunction is detected in the results of the on-board diagnostic test received from the electric variable valve timing driver. Diagnostic support note • This is a continuous monitor (CCM). • 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	• Stops activation of the electric variable valve timing driver.
POSSIBLE CAUSE	• Electric variable valve timing motor/driver connectors or terminals malfunction • Short to ground in wiring harness between electric variable valve timing motor/driver terminal 1A and PCM terminal 1AD • PCM connector or terminals malfunction • Short to power supply in wiring harness between electric variable valve timing motor/driver terminal 1A and PCM terminal 1AD • Open circuit in wiring harness between electric variable valve timing motor/driver terminal 1A and PCM terminal 1AD • Electric variable valve timing driver malfunction • Electric variable valve timing motor malfunction • PCM malfunction

STEP	INSPECTION	RESULTS	ACTION
4	**INSPECT ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER SIGNAL CIRCUIT FOR SHORT TO GROUND** • Verify that the electric variable valve timing motor/driver connector is disconnected. • Inspect for continuity between electric variable valve timing motor/driver terminal 1A (wiring harness-side) and body ground. • Is there continuity?	Yes	Disconnect the PCM connector and inspect the wiring harness for short to ground. • If the short to ground circuit could be detected in the wiring harness: — Refer to the wiring diagram and verify whether or not there is a common connector between electric variable valve timing motor/driver terminal 1A and PCM terminal 1AD. **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. • If the short to ground circuit could not be detected in the wiring harness: — Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) Go to Step 10.
		No	Go 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?	Yes	Repair or replace the connector and/or terminals, then go to Step 10.
		No	Go to the next step.
6	**INSPECT ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the electric variable valve timing motor/driver 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 electric variable valve timing motor/driver terminal 1A (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 electric variable valve timing motor/driver terminal 1A and PCM terminal 1AD. **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.

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.
3	**INSPECT OCV CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the OCV 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 7.
		No	Go to the next step.
4	**INSPECT PCM CONNECTOR CONDITION** • 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 7.
		No	Go to the next step.
5	**INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the OCV 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 OCV 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 OCV terminal A and PCM terminal 1CO. **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 7.
6	**INSPECT OCV** • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].) • Is there any malfunction?	Yes	Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].)
		No	Go to the next step.
7	**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))].) • 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.

STEP	INSPECTION	RESULTS	ACTION
2	PURPOSE: VERIFY IF THERE IS ANY MALFUNCTION • Has any DTC or pending code been recorded?	Yes	Repair the malfunctioning location according to the applicable DTC troubleshooting. (See DTC TABLE [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].)
		No	The corresponding troubleshooting for the inappropriate operation and control code is completed.

INAPPROPRIATE OPERATION AND CONTROL RECORD [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2896853

id0102t304290

How to Use

Note

• Because the inappropriate operation and control record cannot be cleared, always check the odometer value and verify that repairs have not already been performed.

• If any inappropriate operation and control record is displayed, refer to the corresponding troubleshooting for the inappropriate operation and control code to explain to the customer, and perform malfunction diagnosis. (See Inappropriate Operation and Control Code Table.)

• When an inappropriate operation and control code not in the inappropriate operation and control code table is stored, the related module simultaneously stores the DTC. When an inappropriate operation and control code not in the inappropriate operation and control code table is stored, refer to the DTC troubleshooting to explain to the customer, and perform malfunction diagnosis.

Operation Procedure

1.Connect the M-MDS to the DLC-2.

2.After vehicle identification, select the following from the M-MDS initial screen.

(1)"Operational Record"

3.Then, select the followings from the screen menu.

(1)"Inappropriate Operation and Control Record"

(2)"PCM"

4.Display the DTC store record history according to the screen instructions.

Inappropriate Operation and Control Code Table

Inappropriate operation and control code	Inappropriate operation and control code type	Reference
0x30	Temperature restriction control	(See INAPPROPRIATE OPERATION AND CONTROL RECORD 0x30 (TEMPERATURE RESTRICTION CONTROL) [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].)
0x43	Unusual voltage of a battery	(See INAPPROPRIATE OPERATION AND CONTROL RECORD 0x43 (UNUSUAL VOLTAGE OF A BATTERY) [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))].)

DTC U053B:00 [PCM (SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION))]

SM2896856

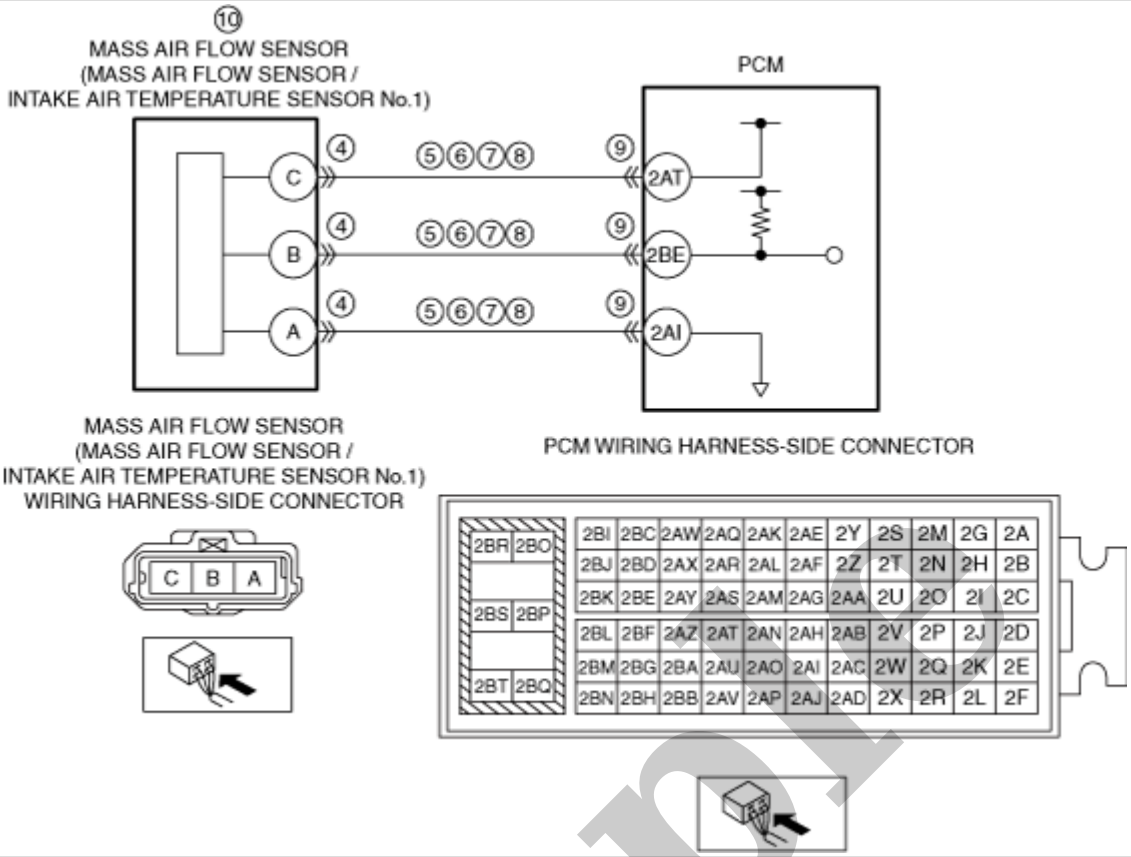
id0102t305300

DTC U053B:00	Abnormal message from forward sensing camera (FSC)
DETECTION CONDITION	• Correct data cannot be received from forward sensing camera (FSC). 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	• Inhibits the smart city brake support (SCBS) control. (With smart city brake support (SCBS)) • Displays a message related to a smart city brake support (SCBS) in the display. (With smart city brake support (SCBS)) • Illuminates smart city brake support (SCBS) indicator light (red). (With smart city brake support (SCBS), without multi-information display)
POSSIBLE CAUSE	• Forward sensing camera (FSC) malfunction
SYSTEM WIRING DIAGRAM	• Not applicable

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 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.
3	VERIFY FORWARD SENSING CAMERA (FSC) DTC • Switch the ignition off, then ON (engine off). • Perform the forward sensing camera (FSC) DTC inspection using the M-MDS. (See DTC INSPECTION [FORWARD SENSING CAMERA (FSC)].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [FORWARD SENSING CAMERA (FSC)].) Go to the next step.
		No	Go to the next step.

DTC U060F:00	SENT communication: Communication error between MAF sensor/IAT sensor No.1 and PCM



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.
3	**VERIFY DTC FOR MODULE COMMUNICATION** • 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 (WITHOUT 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 (WITHOUT CYLINDER DEACTIVATION))].)
		No	Go to the next step.