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2013 MAZDA 2 / Demio - sedan OEM Service and Repair Workshop Manual

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STEP	INSPECTION		ACTION
5	VERIFY DTC TROUBLESHOOTING COMPLETED • Clear the DTC using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Perform the following procedure to ensure that the DTC has been resolved: 1. Start the engine and wait for 10 s or more. • Perform the DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)
		No	DTC troubleshooting completed.

Sample

DTC P0716:00 [TCM (GW6A-EL, GW6AX-EL)]

SM2898348

id0502o990400

DTC P0716:00	Turbine/input shaft speed sensor range/performance problem
DETECTION CONDITION	• Under the following condition, the turbine/input shaft speed is 9,000 rpm or more for 1 s: — Battery voltage is 8 V or more.
FAIL-SAFE FUNCTION	• Set to TCC control. • Inhibits learning control. • Inhibits manual mode. • Inhibits neutral idle control. • Inhibits AAS. • Inhibits 5GR and 6GR. • Inhibits shift down when the accelerator pedal is depressed.
POSSIBLE CAUSE	• Turbine/input shaft speed sensor malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic procedure

STEP	INSPECTION	ACTION
1	RECORD VEHICLE STATUS WHEN DTC WAS DETECTED TO UTILIZE WITH REPEATABILITY VERIFICATION Note • Recording can be facilitated using the screen capture of the PC function. • Record the freeze frame data/snap shot data.	— 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, replace the control valve body. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL].) Go to the next step. No Replace the control valve body, then go to the next step. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL].)

STEP	INSPECTION		ACTION
5	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, replace the control valve body. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL].) Go to the next step.
		No	Replace the control valve body, then go to the next step. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL] .)
6	VERIFY DTC TROUBLESHOOTING COMPLETED • Clear the DTC using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Perform the following procedure to ensure that the DTC has been resolved: 1. Drive the vehicle for 1 s or more under the following condition: • Vehicle speed: 30 km/h {19 mph} or more • Perform the DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)
		No	DTC troubleshooting completed.

DTC P0748:00 [TCM (GW6A-EL, GW6AX-EL)]

SM2898351

id0502o990430

DTC P0748:00	Pressure control solenoid circuit malfunction
DETECTION CONDITION	- Under the following condition, the TCM detects the pressure control solenoid circuit malfunction: - Battery voltage is 10.5 V or more.
FAIL-SAFE FUNCTION	- Set to emergency mode. - Inhibits learning control. - Inhibits manual mode. - Inhibits neutral idle control. - Inhibits AAS.
POSSIBLE CAUSE	- Short or open circuit in pressure control solenoid circuit - Pressure control solenoid malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic procedure

STEP	INSPECTION		ACTION
1	RECORD VEHICLE STATUS WHEN DTC WAS DETECTED TO UTILIZE WITH REPEATABILITY VERIFICATION Note - Recording can be facilitated using the screen capture of the PC function. - Record the freeze frame data/snap shot data.	–	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, replace the control valve body. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL].) Go to the next step.
		No	Replace the control valve body, then go to the next step. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL].)

STEP	INSPECTION	ACTION	
3	VERIFY DTC TROUBLESHOOTING COMPLETED - Clear the DTC using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) - Perform the following procedure to ensure that the DTC has been resolved: - Soak for 6 hours or more. - Start the engine, and warm it up until the ATF temperature is 60 °C {140 °F} or more, and the engine coolant temperature is 80 °C {176 °F} or more. - Perform the DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)
		No	DTC troubleshooting completed.

DTC P0848:00 [TCM (GW6A-EL, GW6AX-EL)]

SM2898353

id0502o990460

DTC P0848:00	Oil pressure switch No.2 (Oil pressure switch A) stuck off
DETECTION CONDITION	• Under the following conditions, oil pressure switch No.2 stuck-off detected by combination of gear ratio malfunction and oil pressure switch pattern malfunction: — Engine is running. — ATF temperature is 20 °C {68 °F} or more. — There is no difference between vehicle speed signal from DSC HU/CM and output shaft speed sensor signal. — Turbine/input shaft speed sensor and output shaft speed sensor DTC is not recorded.
FAIL-SAFE FUNCTION	• Inhibits malfunctioning gear. • Limits engine torque. • Inhibits learning control. • Inhibits manual mode. • Inhibits neutral idle control. • Inhibits AAS.
POSSIBLE CAUSE	• Oil pressure switch No.2 malfunction • TCM malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic procedure

STEP	INSPECTION		ACTION
1	VERIFY DTC OUTPUT STATUS • Is the DTC P1738:00 also present?	Yes	Go to the applicable DTC inspection. (See DTC P1738:00 [TCM (GW6A-EL, GW6AX-EL)] .)
		No	Go to the next step.
2	RECORD VEHICLE STATUS WHEN DTC WAS DETECTED TO UTILIZE WITH REPEATABILITY VERIFICATION Note • Recording can be facilitated using the screen capture of the PC function. • Record the freeze frame data/snap shot data.	—	Go to the next step.
3	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.

STEP	INSPECTION		ACTION
4	PERFORM ON-BOARD DIAGNOSTIC TEST - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Verify that the ATF temperature is 55 °C {131 °F} or more. - Perform the on-board diagnostic test. (See ON-BOARD DIAGNOSTIC TEST MODE [TCM (GW6A-EL, GW6AX-EL)].) - Is the P0872:00 present?	Yes	Replace the oil pressure switch A, then go to the next step. (See OIL PRESSURE SWITCH REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL] .)
		No	No DTCs are displayed: - Drive the vehicle to check it, and if there is no problem then the DTC troubleshooting is complete. If a DTC other than the one indicated on the left is displayed: - Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].)
5	RE-PERFORM ON-BOARD DIAGNOSTIC TEST - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Verify that the ATF temperature is 55 °C {131 °F} or more. - Perform the on-board diagnostic test. (See ON-BOARD DIAGNOSTIC TEST MODE [TCM (GW6A-EL, GW6AX-EL)].) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)
		No	DTC troubleshooting completed.

DTC P0877:00 [TCM (GW6A-EL, GW6AX-EL)]

SM2898356

id0502o990490

DTC P0877:00	Oil pressure switch No.4 (Oil pressure switch B) stuck on
DETECTION CONDITION	• Under the following conditions, oil pressure switch No.4 stuck-on detected by combination of gear ratio malfunction and oil pressure switch pattern malfunction: — Engine is running. — ATF temperature is 20 °C {68 °F} or more. — There is no difference between vehicle speed signal from DSC HU/CM and output shaft speed sensor signal. — Turbine/input shaft speed sensor and output shaft speed sensor DTC is not recorded.
FAIL-SAFE FUNCTION	• Limits engine torque. • Inhibits learning control. • Inhibits manual mode. • Inhibits neutral idle control. • Inhibits AAS.
POSSIBLE CAUSE	• Oil pressure switch No.4 malfunction • TCM malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic procedure

STEP	INSPECTION		ACTION
1	VERIFY DTC OUTPUT STATUS • Is the DTC P1738:00 also present?	Yes	Go to the applicable DTC inspection. (See DTC P1738:00 [TCM (GW6A-EL, GW6AX-EL)] .)
		No	Go to the next step.
2	RECORD VEHICLE STATUS WHEN DTC WAS DETECTED TO UTILIZE WITH REPEATABILITY VERIFICATION Note • Recording can be facilitated using the screen capture of the PC function. • Record the freeze frame data/snap shot data.	–	Go to the next step.
3	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.

STEP	INSPECTION		ACTION
4	VERIFY THAT DTC IS PRESENT • Clear the DTC using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Perform the following procedure to ensure that the DTC has been resolved: 1. Start the engine. 2. Verify that the ATF temperature is 20 °C (68 °F) or more. • Perform the DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Is the DTC P0878:00 present?	Yes	Replace the oil pressure switch B, then go to the next step. (See OIL PRESSURE SWITCH REMOVAL/INSTALLATION [GW6A-EL, GW6AX-EL] .)
		No	DTC troubleshooting completed.
5	RE-PERFORM ON-BOARD DIAGNOSTIC TEST • Perform the following procedure to ensure that the DTC has been resolved: 1. Start the engine. 2. Verify that the ATF temperature is 20 °C (68 °F) or more. • Perform the on-board diagnostic test. (See ON-BOARD DIAGNOSTIC TEST MODE [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)] .)
		No	DTC troubleshooting completed.