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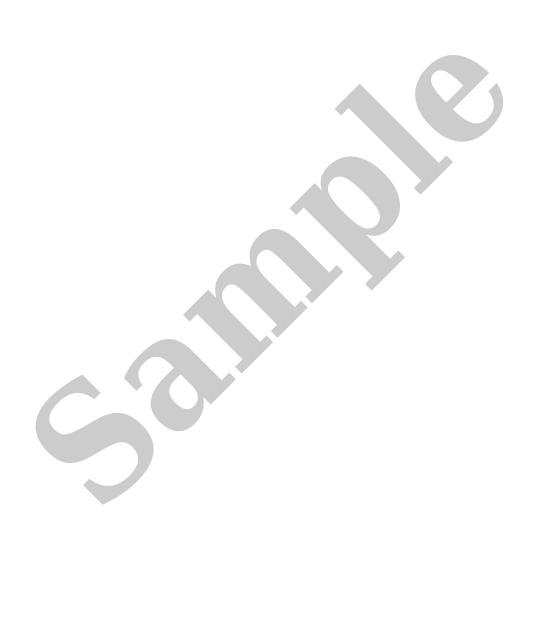
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2012 MAZDA RX-8 OEM Service and Repair Workshop Manual

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| 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: 1. Drive the vehicle for 1 s or more under the following condition: • Vehicle speed: 16 km/h {9.9 | Yes | Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].) |
| | 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? | No | DTC troubleshooting completed. |





| 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: 1. Switch the ignition ON (engine off or on). • Perform the DTC inspection using the M- | Yes | Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].) |
| | MDS. (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Are any DTCs present? | | DTC troubleshooting completed. |



| STEP | INSPECTION | | ACTION |
|------|--|-----|--|
| | | Yes | Go to the next step. |
| 5 | INSPECT SELECTOR LEVER COMPONENT GROUND CIRCUIT FOR OPEN CIRCUIT • Verify that the selector lever component connector is disconnected. • Inspect for continuity between selector lever component terminal H (wiring harness-side) and body ground. • Is there continuity? | No | Refer to the wiring diagram and verify whether or not there is a common connector between selector lever component terminal H and body ground. 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 11. |
| 6 | INSPECT INSTRUMENT CLUSTER CONNECTOR CONDITION • Disconnect the instrument cluster connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). | Yes | Repair or replace the connector and/or terminals, then go to Step 11. |
| | • Is there any malfunction? | No | Go to the next step. |
| 7 | INSPECT SELECTOR LEVER COMPONENT CIRCUIT FOR SHORT TO GROUND • Verify that the selector lever component and instrument cluster connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Selector lever component terminal E — Selector lever component terminal C — Selector lever component terminal F • Is there continuity? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: • Selector lever component terminal E-Instrument cluster terminal H • Selector lever component terminal C-Instrument cluster terminal F • Selector lever component terminal F-Instrument cluster terminal G 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 11. |
| | | No | Go to the next step. |

DTC P0842:00 [TCM (GW6A-EL, GW6AX-EL)]

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| DTC P0842:00 | Oil pressure switch No.1 (Oil pressure switch B) stuck on | | |
|--------------------------|--|--|--|
| DETECTION CONDITION | Under the following conditions, oil pressure switch No.1 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.1 malfunction • TCM malfunction | | |
| SYSTEM WIRING DIAGRAM | Not applicable | | |

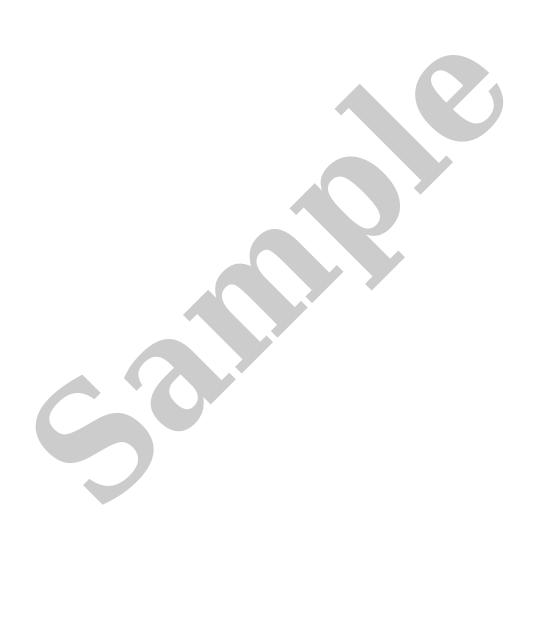
Diagnostic procedure

| STEP | INSPECTION | | ACTION | |
|------|--|-----|---|--|
| | 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. | Yes | Perform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step. | |
| | • Is any related repair information available? | 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: Start the engine. Verify that the ATF temperature is 20 °C {68 °F} or more. Perform the DTC inspection using the M-MDS. (See ON-DAD DECEMBER 1975) 1775. | Yes | Replace the oil pressure switch B, then go to the next step. (See OIL PRESSURE SWITCH REMOVAL/INSTALLATION [GW6A- EL, GW6AX-EL].) |
| | BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Is the DTC P0843:00 present? | 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)].) | Yes | Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL GW6AX-EL)].) |
| | • Are any DTCs present? | No | DTC troubleshooting completed. |



| STEP | INSPECTION | | ACTION |
|------|---|-----|--|
| STEP | INSPECTION | Yes | Go to the next step. Inspect the AT 15 A fuse. If the fuse is blown: — Refer to the wiring diagram and verify whether or not there is a common connector between AT 15 A fuse and TCM terminal A. If there is a common connector: Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin |
| 7 | INSPECT TCM POWER SUPPLY CIRCUIT • Always reconnect all disconnected connectors. • Access the PID VPWR using the M-MDS. (See ON-BOARD DIAGNOSTIC SYSTEM PID/DATA MONITOR INSPECTION [TCM (GW6A-EL, GW6AX-EL)].) • Is the PID value B+? | No | 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 deteriorated: — Replace the malfunctioning fuse. • If the fuse is normal: — Refer to the wiring diagram and verify whether or not there is a common connector between battery positive terminal and TCM terminal A. |
| | | | 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 the next step. |



DTC P0735:00 [TCM (GW6A-EL, GW6AX-EL)]

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| DTC P0735:00 | 5GR incorrect ratio | | |
|--------------------------|---|--|--|
| DETECTION CONDITION | In D position, 5GR, the following phenomenon occurs: There is difference between turbine/input shaft speed and output shaft speed sensor speed for 230 to 1,980 ms (varies with ATF temperature and ECT) during shift-up. There is difference between turbine/input shaft speed and output shaft speed sensor speed for 1,500 to 3,900 ms (varies with ATF temperature) while driving without shifting. | | |
| FAIL-SAFE FUNCTION | Inhibits malfunctioning gear. Limits engine torque. Inhibits learning control. Inhibits manual mode. Inhibits neutral idle control. Inhibits AAS. | | |
| POSSIBLE CAUSE | ATF is less than specified value Clutch burnt Shift solenoid malfunction ATF leakage from clutch circuit Control valve body malfunction | | |
| SYSTEM WIRING DIAGRAM | Not applicable | | |

Diagnostic procedure

| STEP | INSPECTION | | ACTION |
|--|--|--|--|
| 1 | VERIFY DTC OUTPUT STATUS • Are any the following DTCs displayed? — P0746:00, P0751:00, P0752:00, P0756:00, P0757:00, P0761:00, P0762:00, P0766:00, P0767:00, P0771:00, P0772:00, P1738:00, P1784:00 | Yes | Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [TCM (GW6A-EL, GW6AX-EL)].) Go to the next step. |
| INSPECT ATF LEVEL • Inspect the ATF level. (See AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [GW6A-EL, GW6AX-EL].) • Is there any malfunction? | Yes | Adjust the ATF level to the specification, then go to the next step. (See AUTOMATIC TRANSAXLE FLUID (ATF) ADJUSTMENT [GW6A-EL, GW6AX-EL].) | |
| | - - - - - - - - - - | No | Go to the next step. |