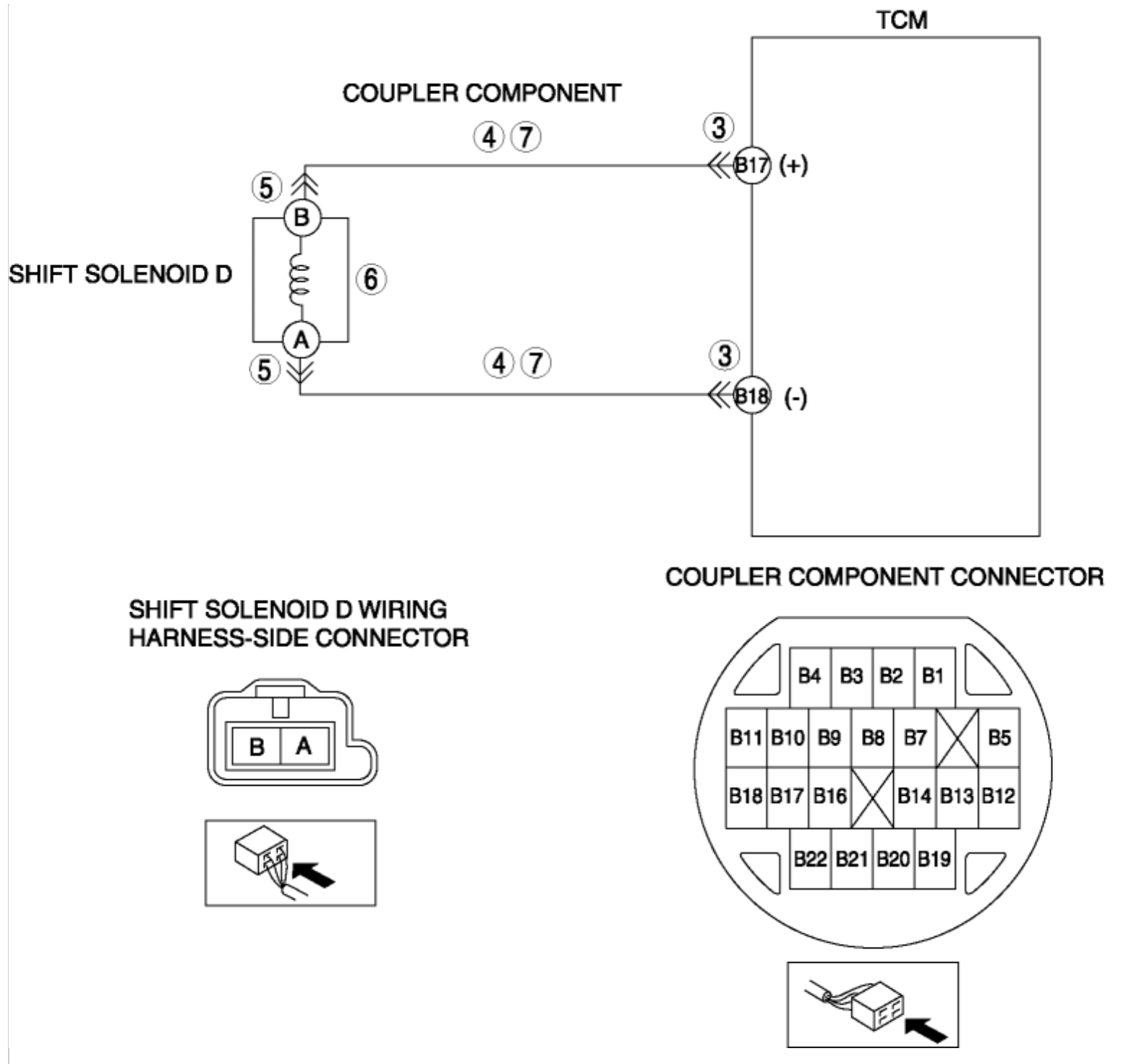


## 2012 - Mazda6 - Transmission/ Transaxle

### DTC P0982:00 [AY6A-EL]

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0982:00           | Shift solenoid D circuit low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• Conditions: TCM communication normal</li><li>• Circumstances: Shift solenoid D system disconnection or short circuit to GND detected</li><li>• Time period: Determined after 5 consecutive times lasting 0.1 or more seconds</li></ul> <p><b>Diagnostic support note:</b></p> <ul style="list-style-type: none"><li>• The MIL illuminates if the TCM detects the above malfunction condition during the first drive cycle.</li><li>• The AT warning light illuminates.</li><li>• PENDING CODE is not available.</li><li>• FREEZE FRAME DATA is available.</li><li>• The DTC is stored in the TCM memory.</li></ul>              |
| FAIL-SAFE<br>FUNCTION  | <ul style="list-style-type: none"><li>• Emergency mode 1</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| POSSIBLE CAUSE         | <ul style="list-style-type: none"><li>• Coupler component connector or terminal malfunction</li><li>• Short to GND in wiring harness between shift solenoid D terminal B and TCM terminal B17</li><li>• Short to GND in wiring harness between shift solenoid D terminal A and TCM terminal B18</li><li>• Open circuit between shift solenoid D terminal B and TCM terminal B17</li><li>• Open circuit between shift solenoid D terminal A and TCM terminal B18</li><li>• Shift solenoid D connector or terminal malfunction</li><li>• Solenoid valve malfunction<ul style="list-style-type: none"><li>▪ Shift solenoid D</li></ul></li><li>• TCM malfunction</li></ul> |



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                       | ACTION                                                                                                                |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has the FREEZE FRAME DATA been recorded on the repair order?</li> </ul> | <p>Yes Go to the next step.</p> <p>No Record the FREEZE FRAME DATA on the repair order, then go to the next step.</p> |
|      | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b>                                                                                                            |                                                                                                                       |

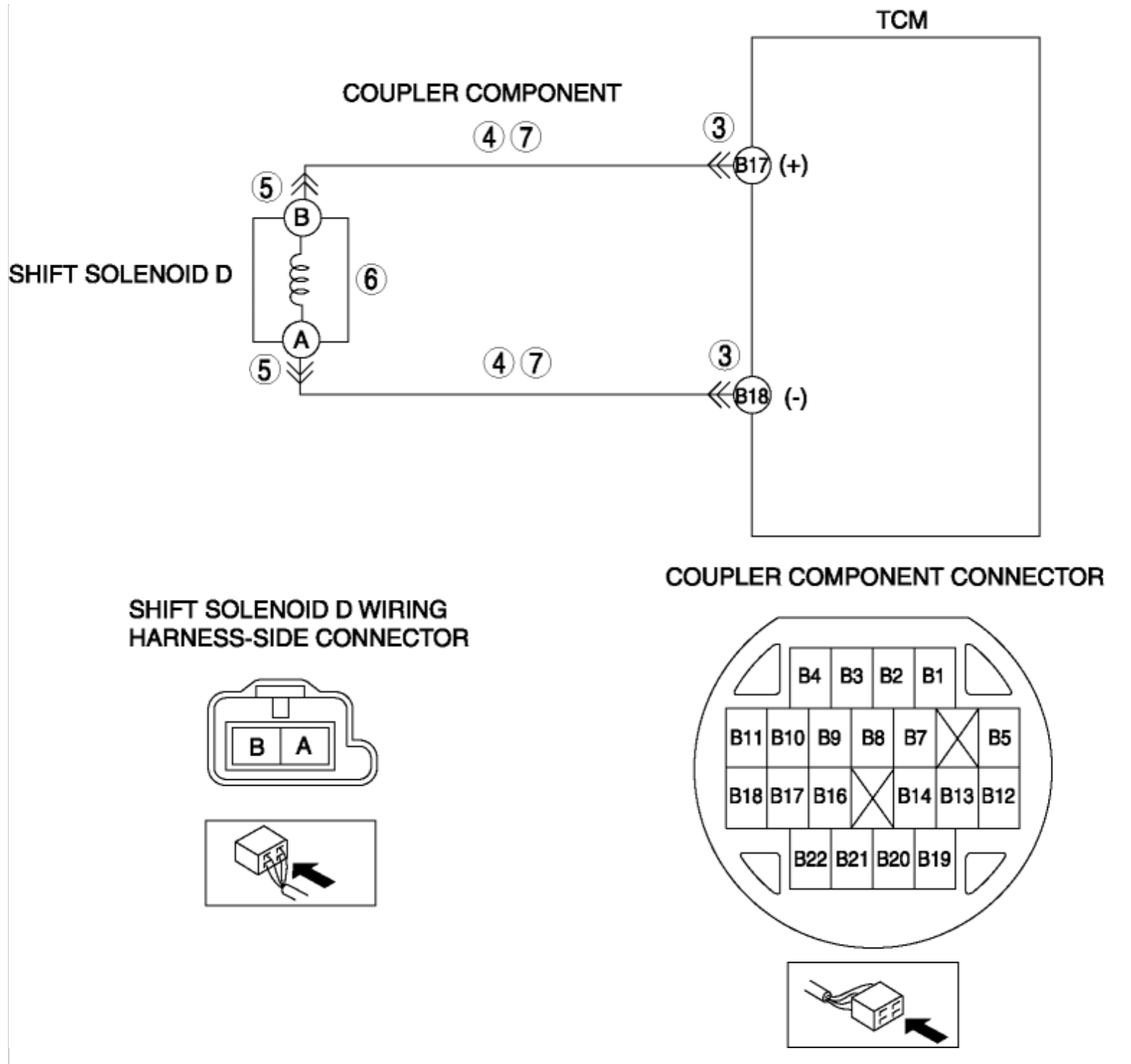
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |                                                                                                                             |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------|
| 2 | <ul style="list-style-type: none"> <li>• Verify related Service Bulletins and/or on-line repair information availability.</li> <li>• Is any related repair information available?</li> </ul>                                                                                                                                                                                                                                                       | Yes | Perform repair or diagnosis according to the available repair information.                                                  |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     | <ul style="list-style-type: none"> <li>• If the vehicle is not repaired, go to the next step.</li> </ul>                    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 3 | <b>INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Remove the TCM.<br/>(See <b>TCM REMOVAL/ INSTALLATION [AY6A-EL]</b>.)</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                      | Yes | Repair or replace the terminal, then go to Step 8.                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 4 | <b>INSPECT SHIFT SOLENOID D CIRCUIT FOR SHORT TO GND</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>▪ Coupler component terminal B17 (wiring harness-side) and body GND</li> <li>▪ Coupler component terminal B18 (wiring harness-side) and body GND</li> </ul> </li> <li>• Is there continuity?</li> </ul> | Yes | Repair or replace the wiring harness for a possible short to GND, then go to Step 8.                                        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 5 | <b>INSPECT SHIFT SOLENOID D CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Disconnect the shift solenoid D connector.</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                                                  | Yes | Repair or replace the terminal, then go to Step 8.                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 6 | <b>INSPECT SHIFT SOLENOID D</b> <ul style="list-style-type: none"> <li>• Inspect the shift solenoid D.<br/>(See <b>SHIFT SOLENOID D INSPECTION [AY6A-EL]</b>.)</li> </ul>                                                                                                                                                                                                                                                                          | Yes | Replace the control valve body, then go to Step 8.<br><br>(See <b>CONTROL VALVE BODY REMOVAL/ INSTALLATION [AY6A-EL]</b> .) |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                           |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No  | Go to the next step.                                                                                      |
| 7 | <b>INSPECT SHIFT SOLENOID D CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Switch the ignition OFF (LOCK).</li> <li>Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>Shift solenoid D terminal B (wiring harness-side) and coupler component terminal B17 (wiring harness-side)</li> <li>Shift solenoid D terminal A (wiring harness-side) and coupler component terminal B18 (wiring harness-side)</li> </ul> </li> <li>Is there continuity?</li> </ul>               | Yes | Go to the next step.                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Repair or replace the wiring harness for a possible open circuit, then go to the next step.               |
| 8 | <b>VERIFY DTC TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect all the disconnected connectors.</li> <li>Clear the DTC using the M-MDS.</li> <li>Perform the following procedure to ensure that the DTC has been resolved: <ul style="list-style-type: none"> <li>Start the engine.</li> <li>Warm up the engine and transaxle.</li> <li>Drive the vehicle in D position and make sure that the gears shift smoothly from 1GR to 6GR.</li> </ul> </li> <li>Is the same DTC present?</li> </ul> | Yes | Replace the TCM, then go to the next step.<br><br>(See <b>TCM REMOVAL/ INSTALLATION [AY6A-EL]</b> .)      |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                      |
| 9 | <b>VERIFY NO DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Perform the "Reading DTCs Procedure".<br/>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL]</b> .)</li> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                                                                                                                                                          | Yes | Go to the applicable DTC inspection.<br><br>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL]</b> .) |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | DTC troubleshooting completed.                                                                            |

## 2012 - Mazda6 - Transmission/ Transaxle

### DTC P0982:00 [AY6A-EL]

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0982:00           | Shift solenoid D circuit low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• Conditions: TCM communication normal</li><li>• Circumstances: Shift solenoid D system disconnection or short circuit to GND detected</li><li>• Time period: Determined after 5 consecutive times lasting 0.1 or more seconds</li></ul> <p><b>Diagnostic support note:</b></p> <ul style="list-style-type: none"><li>• The MIL illuminates if the TCM detects the above malfunction condition during the first drive cycle.</li><li>• The AT warning light illuminates.</li><li>• PENDING CODE is not available.</li><li>• FREEZE FRAME DATA is available.</li><li>• The DTC is stored in the TCM memory.</li></ul>              |
| FAIL-SAFE<br>FUNCTION  | <ul style="list-style-type: none"><li>• Emergency mode 1</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| POSSIBLE CAUSE         | <ul style="list-style-type: none"><li>• Coupler component connector or terminal malfunction</li><li>• Short to GND in wiring harness between shift solenoid D terminal B and TCM terminal B17</li><li>• Short to GND in wiring harness between shift solenoid D terminal A and TCM terminal B18</li><li>• Open circuit between shift solenoid D terminal B and TCM terminal B17</li><li>• Open circuit between shift solenoid D terminal A and TCM terminal B18</li><li>• Shift solenoid D connector or terminal malfunction</li><li>• Solenoid valve malfunction<ul style="list-style-type: none"><li>▪ Shift solenoid D</li></ul></li><li>• TCM malfunction</li></ul> |



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                       | ACTION                                                                                                                |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has the FREEZE FRAME DATA been recorded on the repair order?</li> </ul> | <p>Yes Go to the next step.</p> <p>No Record the FREEZE FRAME DATA on the repair order, then go to the next step.</p> |
|      | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b>                                                                                                            |                                                                                                                       |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |                                                                                                                             |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------|
| 2 | <ul style="list-style-type: none"> <li>• Verify related Service Bulletins and/or on-line repair information availability.</li> <li>• Is any related repair information available?</li> </ul>                                                                                                                                                                                                                                                       | Yes | Perform repair or diagnosis according to the available repair information.                                                  |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 3 | <b>INSPECT COUPLER COMPONENT CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Remove the TCM.<br/>(See <b>TCM REMOVAL/ INSTALLATION [AY6A-EL]</b>.)</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                      | Yes | Repair or replace the terminal, then go to Step 8.                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 4 | <b>INSPECT SHIFT SOLENOID D CIRCUIT FOR SHORT TO GND</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>▪ Coupler component terminal B17 (wiring harness-side) and body GND</li> <li>▪ Coupler component terminal B18 (wiring harness-side) and body GND</li> </ul> </li> <li>• Is there continuity?</li> </ul> | Yes | Repair or replace the wiring harness for a possible short to GND, then go to Step 8.                                        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 5 | <b>INSPECT SHIFT SOLENOID D CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition OFF (LOCK).</li> <li>• Disconnect the shift solenoid D connector.</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                                                  | Yes | Repair or replace the terminal, then go to Step 8.                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                        |
| 6 | <b>INSPECT SHIFT SOLENOID D</b> <ul style="list-style-type: none"> <li>• Inspect the shift solenoid D.<br/>(See <b>SHIFT SOLENOID D INSPECTION [AY6A-EL]</b>.)</li> </ul>                                                                                                                                                                                                                                                                          | Yes | Replace the control valve body, then go to Step 8.<br><br>(See <b>CONTROL VALVE BODY REMOVAL/ INSTALLATION [AY6A-EL]</b> .) |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                           |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No  | Go to the next step.                                                                                      |
| 7 | <b>INSPECT SHIFT SOLENOID D CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Switch the ignition OFF (LOCK).</li> <li>Inspect for continuity between the following circuits: <ul style="list-style-type: none"> <li>Shift solenoid D terminal B (wiring harness-side) and coupler component terminal B17 (wiring harness-side)</li> <li>Shift solenoid D terminal A (wiring harness-side) and coupler component terminal B18 (wiring harness-side)</li> </ul> </li> <li>Is there continuity?</li> </ul>               | Yes | Go to the next step.                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Repair or replace the wiring harness for a possible open circuit, then go to the next step.               |
| 8 | <b>VERIFY DTC TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect all the disconnected connectors.</li> <li>Clear the DTC using the M-MDS.</li> <li>Perform the following procedure to ensure that the DTC has been resolved: <ul style="list-style-type: none"> <li>Start the engine.</li> <li>Warm up the engine and transaxle.</li> <li>Drive the vehicle in D position and make sure that the gears shift smoothly from 1GR to 6GR.</li> </ul> </li> <li>Is the same DTC present?</li> </ul> | Yes | Replace the TCM, then go to the next step.<br><br>(See <b>TCM REMOVAL/ INSTALLATION [AY6A-EL]</b> .)      |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                      |
| 9 | <b>VERIFY NO DTCs ARE PRESENT</b> <ul style="list-style-type: none"> <li>Perform the "Reading DTCs Procedure".<br/>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL]</b> .)</li> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                                                                                                                                                          | Yes | Go to the applicable DTC inspection.<br><br>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL]</b> .) |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | DTC troubleshooting completed.                                                                            |