

## 2012 - Mazda6 - Transmission/ Transaxle

### DTC P0766:00 [FS5A-EL]

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| DTC<br>P0766:00        | Shift solenoid D stuck off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• The TCM detects that revolution ratio of the input revolution to output revolution is 2.185 or less for 1 s four times when the following conditions are met.<ul style="list-style-type: none"><li>▪ M position</li><li>▪ 1GR</li><li>▪ Accelerator pedal position: 4.67% or more</li></ul></li><li>• The TCM detects that revolution ratio of the input revolution to output revolution is 1.277 or more or 0.57 or less when the following conditions are met.<ul style="list-style-type: none"><li>▪ 4GR</li><li>▪ Vehicle speed: 30 km/h {19 mph} or more</li></ul></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 in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the TCM.</li><li>• The AT warning light illuminates.</li><li>• PENDING CODE is available.</li><li>• FREEZE FRAME DATA is available.</li><li>• The DTC is stored in the TCM memory.</li></ul> |
| POSSIBLE<br>CAUSE      | <ul style="list-style-type: none"><li>• Deteriorated ATF</li><li>• ATF level low</li><li>• Shift solenoid D malfunction</li><li>• Line pressure malfunction</li><li>• Primary control valve body malfunction</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>                                                                               | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Record the FREEZE FRAME DATA on the repair order, then go to the next step.                                                                                                       |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <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 ATF CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the ATF condition.<br/>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]</a>.)</li> <li>Is it normal?</li> </ul>                               | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Replace the ATF, then go to Step 8.<br>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]</a> .)                                                              |
| 4    | <b>INSPECT ATF LEVEL</b> <ul style="list-style-type: none"> <li>Inspect the ATF level.<br/>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]</a>.)</li> <li>Is it normal?</li> </ul>                                       | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Add ATF to the specified level, then go to Step 8.<br>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]</a> .)                                               |
| 5    | <b>INSPECT SHIFT SOLENOID D</b> <ul style="list-style-type: none"> <li>Inspect the shift solenoid D.<br/>(See <a href="#">SOLENOID VALVE INSPECTION [FS5A-EL]</a>.)</li> <li>Is there any malfunction?</li> </ul>                              | Yes    | Replace the shift solenoid D, then go to Step 8.<br>(See <a href="#">SOLENOID VALVE REMOVAL/ INSTALLATION [FS5A-EL]</a> .)                                                        |
|      |                                                                                                                                                                                                                                                | No     | Go to the next step.                                                                                                                                                              |
| 6    | <b>INSPECT LINE PRESSURE</b> <ul style="list-style-type: none"> <li>Perform the "Line Pressures Test".<br/>(See <a href="#">MECHANICAL SYSTEM TEST [FS5A-EL]</a>.)</li> <li>Is there any malfunction?</li> </ul>                               | Yes    | Repair or replace malfunctioning part according to test result, then go to Step 8.                                                                                                |
|      |                                                                                                                                                                                                                                                | No     | Go to the next step.                                                                                                                                                              |
|      | <b>INSPECT PRIMARY CONTROL VALVE BODY</b>                                                                                                                                                                                                      |        |                                                                                                                                                                                   |

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| 7 | <ul style="list-style-type: none"> <li>Remove the primary control valve body.<br/>(See <b>CONTROL VALVE BODY REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</li> <li>Disassemble the primary control valve body.</li> <li>Inspect the following parts: <ul style="list-style-type: none"> <li>Shift valve</li> <li>Return spring</li> <li>Hydraulic passage</li> </ul> </li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                                                            | <div>Yes</div> <div>Repair or replace malfunctioning part according to inspection result, then go to next step.</div> <div>No</div> <div>Replace the transaxle, then go to the next step.<br/><br/>(See <b>AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</div> |
| 8 | <b>VERIFY TROUBLESHOOTING OF DTC P0766:00 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>Drive the vehicle under the following conditions for 1 s or more. <ul style="list-style-type: none"> <li>M position</li> <li>1GR</li> <li>Accelerator pedal position: 4.67% or more</li> </ul> </li> <li>Drive the vehicle under the following conditions. <ul style="list-style-type: none"> <li>4GR</li> <li>Vehicle speed: 30 km/h {19 mph} or more</li> </ul> </li> </ul> </li> <li>Is the PENDING CODE same as the DTC present?</li> </ul> | <div>Yes</div> <div>Replace the TCM, then go to the next step.<br/><br/>(See <b>TCM REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</div> <div>No</div> <div>Go to the next step.</div>                                                                                              |
| 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</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>Yes</div> <div>Go to the applicable DTC inspection.<br/><br/>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]</b> .)</div>                                                                                                                                       |

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|  | <b>INSPECTION [FS5A-EL] .)</b>                                        |  |                                   |
|  | <ul style="list-style-type: none"><li>Are any DTCs present?</li></ul> |  | No DTC troubleshooting completed. |

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| DTC<br>P0766:00        | Shift solenoid D stuck off                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• The TCM detects that revolution ratio of the input revolution to output revolution is 2.185 or less for 1 s four times when the following conditions are met.<ul style="list-style-type: none"><li>▪ M position</li><li>▪ 1GR</li><li>▪ Accelerator pedal position: 4.67% or more</li></ul></li><li>• The TCM detects that revolution ratio of the input revolution to output revolution is 1.277 or more or 0.57 or less when the following conditions are met.<ul style="list-style-type: none"><li>▪ 4GR</li><li>▪ Vehicle speed: 30 km/h {19 mph} or more</li></ul></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 in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the TCM.</li><li>• The AT warning light illuminates.</li><li>• PENDING CODE is available.</li><li>• FREEZE FRAME DATA is available.</li><li>• The DTC is stored in the TCM memory.</li></ul> |
| POSSIBLE<br>CAUSE      | <ul style="list-style-type: none"><li>• Deteriorated ATF</li><li>• ATF level low</li><li>• Shift solenoid D malfunction</li><li>• Line pressure malfunction</li><li>• Primary control valve body malfunction</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>                                                                               | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Record the FREEZE FRAME DATA on the repair order, then go to the next step.                                                                                                       |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <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 ATF CONDITION</b> <ul style="list-style-type: none"> <li>Inspect the ATF condition.<br/>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]</a>.)</li> <li>Is it normal?</li> </ul>                               | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Replace the ATF, then go to Step 8.<br>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]</a> .)                                                              |
| 4    | <b>INSPECT ATF LEVEL</b> <ul style="list-style-type: none"> <li>Inspect the ATF level.<br/>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [FS5A-EL]</a>.)</li> <li>Is it normal?</li> </ul>                                       | Yes    | Go to the next step.                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                | No     | Add ATF to the specified level, then go to Step 8.<br>(See <a href="#">AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FS5A-EL]</a> .)                                               |
| 5    | <b>INSPECT SHIFT SOLENOID D</b> <ul style="list-style-type: none"> <li>Inspect the shift solenoid D.<br/>(See <a href="#">SOLENOID VALVE INSPECTION [FS5A-EL]</a>.)</li> <li>Is there any malfunction?</li> </ul>                              | Yes    | Replace the shift solenoid D, then go to Step 8.<br>(See <a href="#">SOLENOID VALVE REMOVAL/ INSTALLATION [FS5A-EL]</a> .)                                                        |
|      |                                                                                                                                                                                                                                                | No     | Go to the next step.                                                                                                                                                              |
| 6    | <b>INSPECT LINE PRESSURE</b> <ul style="list-style-type: none"> <li>Perform the "Line Pressures Test".<br/>(See <a href="#">MECHANICAL SYSTEM TEST [FS5A-EL]</a>.)</li> <li>Is there any malfunction?</li> </ul>                               | Yes    | Repair or replace malfunctioning part according to test result, then go to Step 8.                                                                                                |
|      |                                                                                                                                                                                                                                                | No     | Go to the next step.                                                                                                                                                              |
|      | <b>INSPECT PRIMARY CONTROL VALVE BODY</b>                                                                                                                                                                                                      |        |                                                                                                                                                                                   |

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| 7 | <ul style="list-style-type: none"> <li>Remove the primary control valve body.<br/>(See <b>CONTROL VALVE BODY REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</li> <li>Disassemble the primary control valve body.</li> <li>Inspect the following parts: <ul style="list-style-type: none"> <li>Shift valve</li> <li>Return spring</li> <li>Hydraulic passage</li> </ul> </li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                                                            | <div>Yes</div> <div>Repair or replace malfunctioning part according to inspection result, then go to next step.</div> <div>No</div> <div>Replace the transaxle, then go to the next step.<br/><br/>(See <b>AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</div> |
| 8 | <b>VERIFY TROUBLESHOOTING OF DTC P0766:00 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>Drive the vehicle under the following conditions for 1 s or more. <ul style="list-style-type: none"> <li>M position</li> <li>1GR</li> <li>Accelerator pedal position: 4.67% or more</li> </ul> </li> <li>Drive the vehicle under the following conditions. <ul style="list-style-type: none"> <li>4GR</li> <li>Vehicle speed: 30 km/h {19 mph} or more</li> </ul> </li> </ul> </li> <li>Is the PENDING CODE same as the DTC present?</li> </ul> | <div>Yes</div> <div>Replace the TCM, then go to the next step.<br/><br/>(See <b>TCM REMOVAL/ INSTALLATION [FS5A-EL]</b> .)</div> <div>No</div> <div>Go to the next step.</div>                                                                                              |
| 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</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <div>Yes</div> <div>Go to the applicable DTC inspection.<br/><br/>(See <b>ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]</b> .)</div>                                                                                                                                       |

|  |                                                                         |  |                                   |
|--|-------------------------------------------------------------------------|--|-----------------------------------|
|  | <b>INSPECTION [FS5A-EL] .)</b>                                          |  |                                   |
|  | <ul style="list-style-type: none"><li>• Are any DTCs present?</li></ul> |  | No DTC troubleshooting completed. |