

## 2012 - Mazda6 - Body and Accessories

### No.2 AUTO DOOR UNLOCK FUNCTION DOES NOT OPERATE [AUTO DOOR LOCK SYSTEM]

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2              | Auto door unlock function does not operate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DESCRIPTION    | <ul style="list-style-type: none"> <li>After auto door lock control, all the doors do not unlock when the ignition is switched from ON to ACC or Off.</li> <li>After auto door lock control, when the shift lever is shifted to park (P) while the ignition is switched ON, all the doors do not unlock automatically.</li> </ul>                                                                                                                                                                                                                                           |
| POSSIBLE CAUSE | <ul style="list-style-type: none"> <li>Auto door unlock function (customer's desired operation mode does not activate)</li> <li>Door lock actuator or related wiring harness malfunction</li> <li>Door switch (driver-side, passenger-side, LR and/or RR) or related wiring harness malfunction</li> <li>Transaxle range improperly</li> <li>Engine speed signal improperly</li> <li>Short to power in BCM power supply (IG1) circuit</li> <li>Communication error between BCM and PCM</li> <li>Communication error between BCM and TCM</li> <li>BCM malfunction</li> </ul> |

#### Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                                                                                                                  | ACTION                                                                                                            |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY IF MALFUNCTION CAUSE IS AUTO DOOR UNLOCK FUNCTION ERROR</b> <ul style="list-style-type: none"> <li>Set the auto door lock function to the customer's desired operation mode.</li> </ul> (See <b>PERSONALIZATION FEATURES SETTING PROCEDURE.</b> ) | Yes System is normal. (Malfunction cause is auto door lock function not set to customer's desired operation mode) |
|      |                                                                                                                                                                                                                                                             | No Go to the next step.                                                                                           |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                                                                                                                                                                                 |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Has the malfunction symptom been eliminated?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                                                                                                                                                                                 |
| 2 | <p><b>DETERMINE IF THE MALFUNCTION CAUSE IS DOOR LOCK RELATED OR ANOTHER PART</b></p> <ul style="list-style-type: none"> <li>Verify that the keyless entry system door lock function is operating.</li> <li>Does the door lock function operate normally?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                   | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | <p>Perform the keyless entry system on-board diagnosis.</p> <p>(See <a href="#">SYMPTOM TROUBLESHOOTING CHART [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <p>(See <a href="#">SYMPTOM TROUBLESHOOTING CHART [KEYLESS ENTRY SYSTEM]</a> .)</p>                                                                                                              |
| 3 | <p><b>VERIFY THE DTCs FOR THE MODULES RELATED TO THE AUTO DOOR LOCK SYSTEM</b></p> <ul style="list-style-type: none"> <li>Retrieve DTCs from BCM,PCM, and TCM using the M-MDS.</li> </ul> <p>(See <a href="#">ON-BOARD DIAGNOSTIC TEST [MZR 2.5]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [FS5A-EL]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL]</a> .)</p> <p>(See <a href="#">DTC INSPECTION [BCM]</a> .)</p> <ul style="list-style-type: none"> <li>Is there any DTC present?</li> </ul> | Yes | <p>Go to applicable DTC troubleshooting procedure.</p> <p>(See <a href="#">DTC TABLE [MZR 2.5]</a> .)</p> <p>(See <a href="#">DTC TABLE [MZI 3.7 V6]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [FS5A-EL]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL]</a> .)</p> <p>(See <a href="#">DTC INSPECTION [BCM]</a> .)</p> |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                            |
| 4 | <p><b>DETERMINE IF THE MALFUNCTION CAUSE IS THE AUTO DOOR LOCK SYSTEM SIGNAL RELATED</b></p> <ul style="list-style-type: none"> <li>Monitor the following PCM and TCM PIDs using the M-MDS.</li> </ul> <p>(See <a href="#">PCM INSPECTION [MZR 2.5]</a> .)</p> <p>(See <a href="#">PCM INSPECTION [MZI 3.7 V6]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [FS5A-EL]</a> .)</p> <p>(See <a href="#">ON-BOARD DIAGNOSTIC SYSTEM PID/ DATA MONITOR INSPECTION [AY6A-EL]</a> .)</p>                                                                                                            | Yes | Go to the next step.                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | <p>Inspect the followings and repair or replace malfunctioning part.</p> <p><b>PID RPM:</b></p> <ul style="list-style-type: none"> <li>CKP sensor and plus wheel</li> </ul> <p>(See <a href="#">CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZR 2.5]</a> .)</p> <p>(See <a href="#">CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [MZI 3.7 V6]</a> .)</p> <p><b>PID TR:</b></p>  |

|   |                                                                                                                                                                                                                                                                                                                                              |     |                                                                                                                                                                                                                             |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p><b>PCM PID:</b></p> <ul style="list-style-type: none"> <li>▪ RPM (Engine speed)</li> </ul> <p><b>TCM PID:</b></p> <ul style="list-style-type: none"> <li>▪ TR (Transaxle range)</li> </ul> <ul style="list-style-type: none"> <li>• Are PIDs indicated properly?</li> </ul>                                                               |     | <ul style="list-style-type: none"> <li>• TR switch</li> </ul> <p>(See <a href="#">TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL]</a>.)</p> <p>(See <a href="#">TRANSAXLE RANGE (TR) SWITCH INSPECTION [AY6A-EL]</a>.)</p> |
| 5 | <p><b>DETERMINE IF THE MALFUNCTION CAUSE IS BCM IG1 POWER SUPPLY SYSTEM OR BCM RELATED</b></p> <ul style="list-style-type: none"> <li>• Measure the voltage of the BCM 4A terminal.</li> </ul> <p>(See <a href="#">BODY CONTROL MODULE (BCM) INSPECTION</a>.)</p> <ul style="list-style-type: none"> <li>• Is the voltage normal?</li> </ul> | Yes | <p>Replace the BCM.</p> <p>(See <a href="#">BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION</a>.)</p>                                                                                                                       |
|   |                                                                                                                                                                                                                                                                                                                                              | No  | <p>Repair for short to power supply in wiring harness between ignition switch<sup>*1</sup>/IG relay<sup>*2</sup>and BCM terminal 4A.</p>                                                                                    |

\*1

**Vehicles without advanced keyless entry and push button start system**

\*2

**Vehicles with advanced keyless entry and push button start system**

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#### Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                                                                                                                  | ACTION                                                                                                            |
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|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                                                                                                                                                                                 |
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|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | <p>Perform the keyless entry system on-board diagnosis.</p> <p>(See <a href="#">SYMPTOM TROUBLESHOOTING CHART [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</a> .)</p> <p>(See <a href="#">SYMPTOM TROUBLESHOOTING CHART [KEYLESS ENTRY SYSTEM]</a> .)</p>                                                                                                              |
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|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                            |
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|   |                                                                                                                                                                                                                                                                                                                                              | No  | <p>Repair for short to power supply in wiring harness between ignition switch<sup>*1</sup>/IG relay<sup>*2</sup> and BCM terminal 4A.</p>                                                                                   |

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