

## 2012 - Mazda6 - Body and Accessories

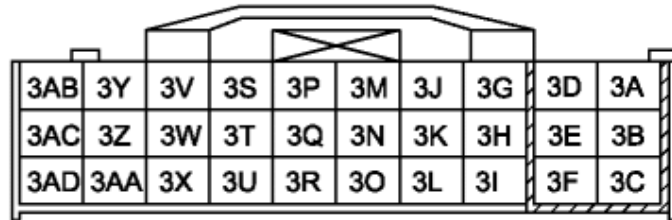
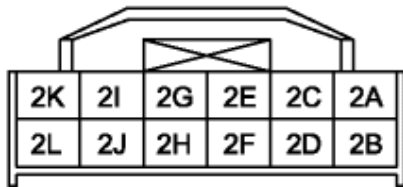
### NO.2 ADVANCED KEYLESS ENTRY FUNCTION INOPERATIVE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| 2                     | <b>Advanced keyless entry function inoperative</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>DESCRIPTION</b>    | <ul style="list-style-type: none"><li>• Cannot door lock with door lock request switch</li><li>• Cannot door unlock with door unlock touch sensor</li><li>• Cannot trunk lid open with trunk lid opener switch</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>POSSIBLE CAUSE</b> | <ul style="list-style-type: none"><li>• Malfunction in transmitter (electrical key) battery or transmitter (electrical key)</li><li>• Malfunction in the keyless control module</li><li>• Malfunction in the door lock request switch</li><li>• Open or short circuit in wiring between lock request switch and keyless control module</li><li>• Malfunction in the door unlock touch sensor</li><li>• Open or short circuit in wiring between unlock touch sensor and keyless control module</li><li>• Malfunction in the keyless receiver</li><li>• Open or short circuit in wiring between keyless receiver and keyless control module</li><li>• Malfunction in the keyless antenna</li><li>• Malfunction in the lock link switch</li><li>• Open circuit in wiring between lock link switch and keyless control module</li><li>• Malfunction in door switch or trunk lid latch switch</li><li>• Open or short circuit in wiring between trunk lid switch and BCM</li><li>• Open or short circuit in wiring harness between door switch and BCM</li><li>• Malfunction in trunk lid opener switch</li><li>• Open or short circuit in wiring harness between trunk lid opener switch and BCM</li><li>• Keyless antenna (exterior) malfunction</li><li>• Open or short circuit in wiring harness between keyless antenna (exterior) and keyless control module</li><li>• Malfunction in door lock actuator</li></ul> |

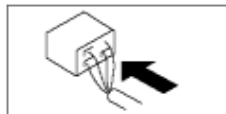
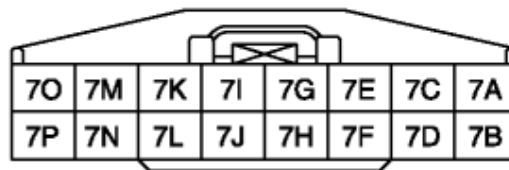
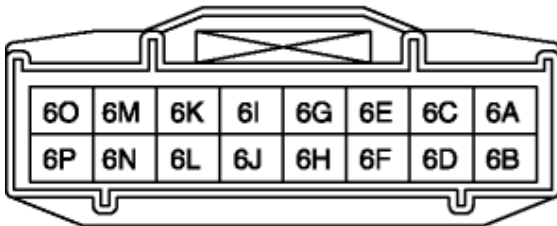
Open or short circuit in wiring between door lock actuator and BCM

- Malfunction in the BCM
- Poor connection of connector, terminal damage
- Wrong usage

## KEYLESS CONTROL MODULE



## BCM



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                     | ACTION |                                                                                                                                                                                                               |
|------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <ul style="list-style-type: none"><li>• Retrieve the advanced keyless system DTC using the M-MDS.</li><li>• Are there DTC displayed?</li></ul> | Yes    | Go to the applicable DTC troubleshooting procedures.<br>(See <b>DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)                                                                        |
|      |                                                                                                                                                | No     | Go to the next step.                                                                                                                                                                                          |
| 2    | <ul style="list-style-type: none"><li>• Did the customer attempt to operate each front doors and trunk lid using the touch sensor?</li></ul>   | Yes    | Go to the next step.                                                                                                                                                                                          |
|      |                                                                                                                                                | No     | <ul style="list-style-type: none"><li>• Inspect the advanced keyless system operations using the request switch.</li><li>• If the advanced keyless system is inoperative, then go to the next step.</li></ul> |
| 3    | <ul style="list-style-type: none"><li>• Prepare the followings:</li></ul>                                                                      | Yes    | The system is normal.                                                                                                                                                                                         |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>▪ All doors and trunk lid closed</li> <li>▪ Switch the ignition to off. (without ACC and IG ON position)</li> <li>▪ Make sure that the transmitter (electrical key) is within the advanced keyless system operative area (<b>within 80 cm { 2.6 ft}</b> from front door)</li> <li>▪ The auxiliary key is not inserted in the ignition switch.</li> </ul> <ul style="list-style-type: none"> <li>• Does the advanced keyless system operate properly?</li> </ul> |     | <p>Explain the advanced keyless system operation.</p> <p>No Go to the next step.</p> |
| 4 | <ul style="list-style-type: none"> <li>• Confirm the problem using another electrical key.</li> <li>• Is the same problem remained?</li> </ul>                                                                                                                                                                                                                                                                                                                                                         | Yes | Go to Step 6.                                                                        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                 |
| 5 | <ul style="list-style-type: none"> <li>• Lock and unlock operation using transmitter (electrical key) button that has problem.</li> <li>• Are the lock and unlock operations properly?</li> </ul>                                                                                                                                                                                                                                                                                                      | Yes | Replace the electrical key.<br>(internal malfunction)                                |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Replace the electrical key battery, then go to Step 28.                              |
| 6 | <ul style="list-style-type: none"> <li>• Verify that the trouble occurred condition.</li> <li>• Is the problem occurred lock operation only?</li> </ul>                                                                                                                                                                                                                                                                                                                                                | Yes | Go to Step 8                                                                         |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                 |
| 7 | <ul style="list-style-type: none"> <li>• Verify that the trouble occurred condition.</li> <li>• Is the problem occurred unlock operation only?</li> </ul>                                                                                                                                                                                                                                                                                                                                              | Yes | Go to Step 14.                                                                       |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to Step 20.                                                                       |
| 8 | <ul style="list-style-type: none"> <li>• Monitor the following keyless</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes | Go to Step 12.                                                                       |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |                                                                                                                                                                             |
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|    | <p>control module PIDs using the M-MDS.</p> <ul style="list-style-type: none"><li>▪ REQ_SW_R<br/>(RF lock request switch)</li><li>▪ REQ_SW_L<br/>(LF lock request switch)</li></ul> <p>• Are PIDs indicated properly?</p> <p><b>Specification</b></p> <ul style="list-style-type: none"><li>◦ <b>Switch pushed: ON</b></li><li>◦ <b>Other: OFF</b></li></ul>                                                                       |     | <p>No Go to the next step.</p>                                                                                                                                              |
| 9  | <ul style="list-style-type: none"><li>• Switch the ignition to off.</li><li>• Disconnect the keyless control module (30-pin) door handle (incorrect PID value at Step 8) connectors.</li><li>• Verify continuity between suspect door handle harness-side connector terminal D and GND.</li><li>• Is there continuity?</li></ul>                                                                                                   | Yes | <ul style="list-style-type: none"><li>• Repair or replace wiring harness for short to GND circuit.</li><li>• Then go to Step 28.</li></ul>                                  |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | Go to the next step.                                                                                                                                                        |
| 10 | <ul style="list-style-type: none"><li>• Keyless control module and handle switch disconnected.</li><li>• Verify continuity between door handle connector terminal D and following keyless control module terminal at each harness-side connector.<ul style="list-style-type: none"><li>▪ Terminal 3U for right-side door handle</li><li>▪ Terminal 3X for left-side door handle</li></ul></li><li>• Is there continuity?</li></ul> | Yes | Go to the next step.                                                                                                                                                        |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                    | No  | <ul style="list-style-type: none"><li>• Repair or replace for open circuit.</li><li>• Then go to Step 28.</li></ul>                                                         |
| 11 | <ul style="list-style-type: none"><li>• Handle switch disconnected.</li><li>• Verify continuity between suspect door handle harness-side connector terminal A and GND.</li></ul>                                                                                                                                                                                                                                                   | Yes | <ul style="list-style-type: none"><li>• Replace suspect door handle.<br/><br/>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION</b>)</li><li>• Then go to Step 28.</li></ul> |

|    |                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                                                                                                                                                                                   |
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|    | <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul>                                                                                                                                                                                                                                                                                                  | No  | <ul style="list-style-type: none"> <li>Repair or replace wiring harness for open circuit.</li> <li>Re-tighten the ground wire as necessary.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                                               |
| 12 | <ul style="list-style-type: none"> <li>Monitor the following BCM PIDs using the M-MDS. <ul style="list-style-type: none"> <li>DRSW—RR (Right rear door latch switch)</li> <li>DRSW—LR (Left rear door latch switch)</li> <li>DRSW—P (Passenger's door latch switch)</li> <li>DRSW—D (Driver's door switch)</li> </ul> </li> <li>Are PIDs indicated properly?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul>                                                                                                                                                                                                                                                                                                            |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | <ul style="list-style-type: none"> <li>Inspect suspect door switch and wiring harness.</li> <li>(See <a href="#">FRONT DOOR LATCH SWITCH INSPECTION .</a>)</li> <li>(See <a href="#">REAR DOOR LATCH SWITCH INSPECTION .</a>)</li> <li>(See <a href="#">TRUNK LID LATCH SWITCH INSPECTION .</a>)</li> <li>Repair or replace as necessary.</li> <li>Then go to Step 28.</li> </ul> |
| 13 | <ul style="list-style-type: none"> <li>Measure the voltage at the BCM terminals 7I and 7M while the lock door using the lock request switch. <ul style="list-style-type: none"> <li>Lock all doors with the transmitter (electrical key): <b>1.0 V or less → B+ → 1.0 V or less</b> (terminal 7I)</li> </ul> </li> <li>Is the voltage as above?</li> </ul>              | Yes | <ul style="list-style-type: none"> <li>Inspect and repair the wiring harness between the BCM and the door lock actuator.</li> <li>Inspect for door lock actuator.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | <ul style="list-style-type: none"> <li>Replace the BCM.</li> <li>(See <a href="#">BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION .</a>)</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                                                  |
| 14 | <ul style="list-style-type: none"> <li>Measure the voltage at the BCM terminals 7K and 7M while the unlock door using the unlock request switch. <ul style="list-style-type: none"> <li>Unlock all driver's doors with the transmitter (electrical key): <b>1.0 V or less → B+ →</b></li> </ul> </li> </ul>                                                             | Yes | <ul style="list-style-type: none"> <li>Inspect and repair the wiring harness between the BCM and the door lock actuator.</li> <li>Inspect for door lock actuator.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                              |

|    |                                                                                                                                                                                                                                                                                                                                                                                                              |     |                                                                                                                                                                                                                                                                                                |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>1.0 V or less<br/>(terminal 7K)</p> <ul style="list-style-type: none"> <li>Unlock all doors with the transmitter (electrical key): 1.0 V or less → B+ → 1.0 V or less (terminal 7M)</li> </ul> <ul style="list-style-type: none"> <li>Is the voltage as above?</li> </ul>                                                                                                                                 |     |                                                                                                                                                                                                                                                                                                |
| 15 | <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the door handle connector of the malfunctioning door from the keyless control module (30-pin) connector.</li> <li>Verify continuity between suspect door handle harness-side connector terminal C and GND.</li> <li>Is there continuity?</li> </ul>                                                                   | Yes | <ul style="list-style-type: none"> <li>Repair or replace wiring harness for short to GND circuit.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                      |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | Go to the next step.                                                                                                                                                                                                                                                                           |
| 16 | <ul style="list-style-type: none"> <li>Monitor the following keyless control module PIDs using the M-MDS. <ul style="list-style-type: none"> <li>LOCK_SW_D (door lock link switch)</li> </ul> </li> <li>Are PIDs indicated properly?</li> </ul> <p><b>Specification</b></p> <ul style="list-style-type: none"> <li><b>Driver's door: LOCK: Lock</b></li> <li><b>Driver's door: UNLOCK: Unlock</b></li> </ul> | Yes | Go to the next Step.                                                                                                                                                                                                                                                                           |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | <p>Inspect the door lock link switch, replace it as necessary.</p> <ul style="list-style-type: none"> <li>Door lock link switch</li> <li>Verify continuity between door lock link switch connector terminal J and keyless control module terminal 3P at each harness-side connector</li> </ul> |
| 17 | <ul style="list-style-type: none"> <li>Keyless control module and handle switch disconnected.</li> <li>Verify continuity between door handle connector terminal C and following keyless control module terminal at each harness-side connector. <ul style="list-style-type: none"> <li>Terminal 3H for right-side</li> </ul> </li> </ul>                                                                     | Yes | Go to the next step.                                                                                                                                                                                                                                                                           |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | <ul style="list-style-type: none"> <li>Repair or replace for open circuit.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                             |

|    |                                                                                                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                                                        |
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|    | <p>door handle</p> <ul style="list-style-type: none"> <li>▪ Terminal 3Q for left-side door handle</li> </ul> <ul style="list-style-type: none"> <li>• Is there continuity?</li> </ul>                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                        |
| 18 | <ul style="list-style-type: none"> <li>• Handle switch disconnected.</li> <li>• Verify continuity between suspect door handle harness-side connector terminal F and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                                                                                       | Yes | Go to the next step.                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for open circuit.</li> <li>• Re-tighten the ground wire as necessary.</li> <li>• Then go to Step 28.</li> </ul>                              |
| 19 | <ul style="list-style-type: none"> <li>• Switch the outer handle of the malfunctioning door with the outer handle of the door on the opposite side (or a normal outer handle): Connecting only the connectors is sufficient.</li> <li>• Verify the malfunction symptom.</li> <li>• Does the malfunction recur on the door on the opposite side? (Is the source of the malfunction determined?)</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Replace suspect door handle.</li> </ul> <p>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION.</b>)</p> <ul style="list-style-type: none"> <li>• Then go to Step 28.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | <ul style="list-style-type: none"> <li>• Replace the BCM.</li> </ul> <p>(See <b>BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION.</b>)</p> <ul style="list-style-type: none"> <li>• Then go to Step 28.</li> </ul>      |
| 20 | <ul style="list-style-type: none"> <li>• Verify that the trunk lid open function.</li> <li>• Is the trunk lid open with trunk lid opener switch?</li> </ul>                                                                                                                                                                                                                                               | Yes | Go to Step 24.                                                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | Go to the next step.                                                                                                                                                                                                   |
| 21 | <ul style="list-style-type: none"> <li>• Measure the voltage at the keyless control module terminal 3G.</li> <li>• Is the voltage normal?</li> </ul> <p><b>Specification</b></p> <ul style="list-style-type: none"> <li>◦ <b>Trunk lid opener switch is pushed: 1.0 V or less</b></li> </ul> <p><b>Others: B+</b></p>                                                                                     | Yes | Go to Step 26.                                                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | Go to the next step.                                                                                                                                                                                                   |
| 22 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the keyless control module (30-pin) and trunk lid opener switch connectors.</li> </ul>                                                                                                                                                                                                                         | Yes | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for short to GND circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                          |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                                                        |

|    |                                                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"> <li>• Verify continuity between trunk lid opener switch harness-side connector terminal A and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                    | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 23 | <ul style="list-style-type: none"> <li>• Keyless control module and opener switch disconnected.</li> <li>• Verify continuity between trunk lid opener switch terminal A and following keyless control module terminal 3G at each harness-side connector.</li> <li>• Is there continuity?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Inspect the trunk lid opener switch, replace it as necessary. <ul style="list-style-type: none"> <li>▪ If normal, inspect following parts and repair or replace as necessary. <ul style="list-style-type: none"> <li>• Trunk lid latch and actuator</li> <li>• Open or short circuit in wiring harness between trunk lid latch and BCM.</li> <li>• Open or short circuit in wiring harness between trunk lid actuator and BCM.</li> </ul> </li> </ul> </li> <li>• Then go to Step 28.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                     | No  | <ul style="list-style-type: none"> <li>• Repair or replace for open circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 24 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the keyless control module and suspect exterior keyless antenna connector.</li> <li>• Verify continuity between following suspect keyless antenna harness-side connector terminal and GND.</li> </ul>    | Yes | Repair or replace for short to GND, then go to Step 28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                     | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |                                                                                                                                                                                                                                                     |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"> <li>▪ Door handle terminal B (exterior LH/RH)</li> <li>▪ Door handle terminal E (exterior LH/RH)</li> <li>▪ Keyless antenna (exterior rear) terminal C</li> <li>▪ Keyless antenna (exterior rear) terminal D</li> </ul> <ul style="list-style-type: none"> <li>• Is there continuity?</li> </ul>                                                                                                                                  |     |                                                                                                                                                                                                                                                     |
| 25 | <ul style="list-style-type: none"> <li>• Replace the suspect exterior keyless antenna to other keyless antenna (interior rear, other side door handle) temporarily. <ul style="list-style-type: none"> <li>▪ If the symptom is occurring while the front outer handle switch operates, replace to the other side front outer handle with connector is connected.</li> </ul> </li> <li>• Verify the malfunction symptom.</li> <li>• Is the symptom solved?</li> </ul> | Yes | Replace the suspect exterior keyless antenna, then go to Step 28.<br><br>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION.</b> )<br><br>(See <b>KEYLESS ANTENNA REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .</b> ) |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No  | Go to the next step.                                                                                                                                                                                                                                |
| 26 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the BCM (16-pin) and keyless control module (12-pin) connectors.</li> <li>• Verify continuity between keyless control module harness-side connector terminal 2F and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                                                       | Yes | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for short to GND circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No  | Go to the next step.                                                                                                                                                                                                                                |

|    |                                                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                                                                                |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27 | <ul style="list-style-type: none"> <li>• BCM (16-pin) and keyless control module (12-pin) connectors disconnected.</li> <li>• Verify continuity between BCM connector terminal 6J and keyless control module terminal 2F at each harness-side connector.</li> <li>• Is there continuity?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Replace the keyless control module.</li> </ul> <p>(See <b>KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</p> <ul style="list-style-type: none"> <li>• Then go to the next step.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                     | No  | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for open circuit.</li> <li>• Then go to the next step.</li> </ul>                                                                                                                                                    |
| 28 | <ul style="list-style-type: none"> <li>• Does the keyless entry system operate properly?</li> </ul>                                                                                                                                                                                                 | Yes | Troubleshooting completed. Explain repairs to the customers.                                                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                     | No  | Re-inspect the malfunction symptoms, then repeat form Step 1 if malfunction recurs.                                                                                                                                                                                                            |

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## 2012 - Mazda6 - Body and Accessories

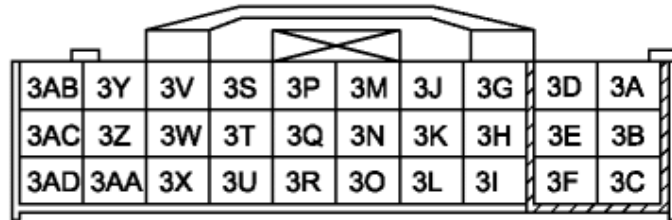
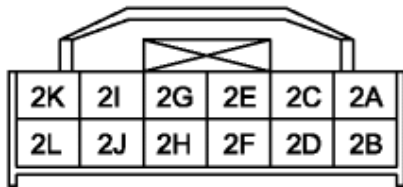
### NO.2 ADVANCED KEYLESS ENTRY FUNCTION INOPERATIVE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2                     | <b>Advanced keyless entry function inoperative</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>DESCRIPTION</b>    | <ul style="list-style-type: none"><li>• Cannot door lock with door lock request switch</li><li>• Cannot door unlock with door unlock touch sensor</li><li>• Cannot trunk lid open with trunk lid opener switch</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>POSSIBLE CAUSE</b> | <ul style="list-style-type: none"><li>• Malfunction in transmitter (electrical key) battery or transmitter (electrical key)</li><li>• Malfunction in the keyless control module</li><li>• Malfunction in the door lock request switch</li><li>• Open or short circuit in wiring between lock request switch and keyless control module</li><li>• Malfunction in the door unlock touch sensor</li><li>• Open or short circuit in wiring between unlock touch sensor and keyless control module</li><li>• Malfunction in the keyless receiver</li><li>• Open or short circuit in wiring between keyless receiver and keyless control module</li><li>• Malfunction in the keyless antenna</li><li>• Malfunction in the lock link switch</li><li>• Open circuit in wiring between lock link switch and keyless control module</li><li>• Malfunction in door switch or trunk lid latch switch</li><li>• Open or short circuit in wiring between trunk lid switch and BCM</li><li>• Open or short circuit in wiring harness between door switch and BCM</li><li>• Malfunction in trunk lid opener switch</li><li>• Open or short circuit in wiring harness between trunk lid opener switch and BCM</li><li>• Keyless antenna (exterior) malfunction</li><li>• Open or short circuit in wiring harness between keyless antenna (exterior) and keyless control module</li><li>• Malfunction in door lock actuator</li></ul> |

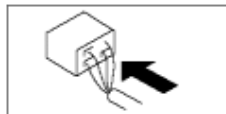
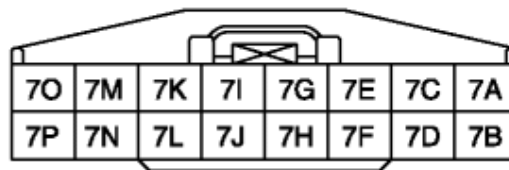
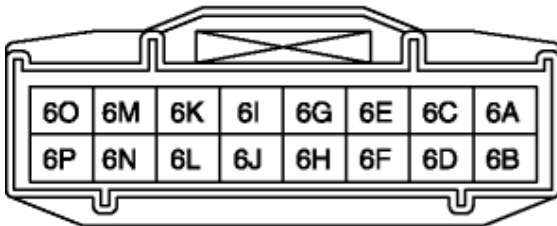
Open or short circuit in wiring between door lock actuator and BCM

- Malfunction in the BCM
- Poor connection of connector, terminal damage
- Wrong usage

## KEYLESS CONTROL MODULE



## BCM



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                     | ACTION |                                                                                                                                                                                                               |
|------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <ul style="list-style-type: none"><li>• Retrieve the advanced keyless system DTC using the M-MDS.</li><li>• Are there DTC displayed?</li></ul> | Yes    | Go to the applicable DTC troubleshooting procedures.<br>(See <b>DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)                                                                        |
|      |                                                                                                                                                | No     | Go to the next step.                                                                                                                                                                                          |
| 2    | <ul style="list-style-type: none"><li>• Did the customer attempt to operate each front doors and trunk lid using the touch sensor?</li></ul>   | Yes    | Go to the next step.                                                                                                                                                                                          |
|      |                                                                                                                                                | No     | <ul style="list-style-type: none"><li>• Inspect the advanced keyless system operations using the request switch.</li><li>• If the advanced keyless system is inoperative, then go to the next step.</li></ul> |
| 3    | <ul style="list-style-type: none"><li>• Prepare the followings:</li></ul>                                                                      | Yes    | The system is normal.                                                                                                                                                                                         |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>▪ All doors and trunk lid closed</li> <li>▪ Switch the ignition to off. (without ACC and IG ON position)</li> <li>▪ Make sure that the transmitter (electrical key) is within the advanced keyless system operative area (<b>within 80 cm { 2.6 ft}</b> from front door)</li> <li>▪ The auxiliary key is not inserted in the ignition switch.</li> </ul> <ul style="list-style-type: none"> <li>• Does the advanced keyless system operate properly?</li> </ul> |     | <p>Explain the advanced keyless system operation.</p> <p>No Go to the next step.</p> |
| 4 | <ul style="list-style-type: none"> <li>• Confirm the problem using another electrical key.</li> <li>• Is the same problem remained?</li> </ul>                                                                                                                                                                                                                                                                                                                                                         | Yes | Go to Step 6.                                                                        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                 |
| 5 | <ul style="list-style-type: none"> <li>• Lock and unlock operation using transmitter (electrical key) button that has problem.</li> <li>• Are the lock and unlock operations properly?</li> </ul>                                                                                                                                                                                                                                                                                                      | Yes | Replace the electrical key.<br>(internal malfunction)                                |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Replace the electrical key battery, then go to Step 28.                              |
| 6 | <ul style="list-style-type: none"> <li>• Verify that the trouble occurred condition.</li> <li>• Is the problem occurred lock operation only?</li> </ul>                                                                                                                                                                                                                                                                                                                                                | Yes | Go to Step 8                                                                         |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to the next step.                                                                 |
| 7 | <ul style="list-style-type: none"> <li>• Verify that the trouble occurred condition.</li> <li>• Is the problem occurred unlock operation only?</li> </ul>                                                                                                                                                                                                                                                                                                                                              | Yes | Go to Step 14.                                                                       |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No  | Go to Step 20.                                                                       |
| 8 | <ul style="list-style-type: none"> <li>• Monitor the following keyless</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes | Go to Step 12.                                                                       |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |                                                                                                                                                                                |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>control module PIDs using the M-MDS.</p> <ul style="list-style-type: none"> <li>▪ REQ_SW_R<br/>(RF lock request switch)</li> <li>▪ REQ_SW_L<br/>(LF lock request switch)</li> </ul> <ul style="list-style-type: none"> <li>• Are PIDs indicated properly?</li> </ul> <p style="text-align: center;"><b>Specification</b></p> <ul style="list-style-type: none"> <li>◦ <b>Switch pushed: ON</b></li> <li>◦ <b>Other: OFF</b></li> </ul>   |     | <p>No Go to the next step.</p>                                                                                                                                                 |
| 9  | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the keyless control module (30-pin) door handle (incorrect PID value at Step 8) connectors.</li> <li>• Verify continuity between suspect door handle harness-side connector terminal D and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                       | Yes | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for short to GND circuit.</li> <li>• Then go to Step 28.</li> </ul>                                  |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | Go to the next step.                                                                                                                                                           |
| 10 | <ul style="list-style-type: none"> <li>• Keyless control module and handle switch disconnected.</li> <li>• Verify continuity between door handle connector terminal D and following keyless control module terminal at each harness-side connector. <ul style="list-style-type: none"> <li>▪ Terminal 3U for right-side door handle</li> <li>▪ Terminal 3X for left-side door handle</li> </ul> </li> <li>• Is there continuity?</li> </ul> | Yes | Go to the next step.                                                                                                                                                           |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                             | No  | <ul style="list-style-type: none"> <li>• Repair or replace for open circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                         |
| 11 | <ul style="list-style-type: none"> <li>• Handle switch disconnected.</li> <li>• Verify continuity between suspect door handle harness-side connector terminal A and GND.</li> </ul>                                                                                                                                                                                                                                                         | Yes | <ul style="list-style-type: none"> <li>• Replace suspect door handle.<br/><br/>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION</b>)</li> <li>• Then go to Step 28.</li> </ul> |

|    |                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                                                                                                                                                                                   |
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|    | <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul>                                                                                                                                                                                                                                                                                                  | No  | <ul style="list-style-type: none"> <li>Repair or replace wiring harness for open circuit.</li> <li>Re-tighten the ground wire as necessary.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                                               |
| 12 | <ul style="list-style-type: none"> <li>Monitor the following BCM PIDs using the M-MDS. <ul style="list-style-type: none"> <li>DRSW—RR (Right rear door latch switch)</li> <li>DRSW—LR (Left rear door latch switch)</li> <li>DRSW—P (Passenger's door latch switch)</li> <li>DRSW—D (Driver's door switch)</li> </ul> </li> <li>Are PIDs indicated properly?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul>                                                                                                                                                                                                                                                                                                            |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | <ul style="list-style-type: none"> <li>Inspect suspect door switch and wiring harness.</li> <li>(See <a href="#">FRONT DOOR LATCH SWITCH INSPECTION .</a>)</li> <li>(See <a href="#">REAR DOOR LATCH SWITCH INSPECTION .</a>)</li> <li>(See <a href="#">TRUNK LID LATCH SWITCH INSPECTION .</a>)</li> <li>Repair or replace as necessary.</li> <li>Then go to Step 28.</li> </ul> |
| 13 | <ul style="list-style-type: none"> <li>Measure the voltage at the BCM terminals 7I and 7M while the lock door using the lock request switch. <ul style="list-style-type: none"> <li>Lock all doors with the transmitter (electrical key): <b>1.0 V or less → B+ → 1.0 V or less</b> (terminal 7I)</li> </ul> </li> <li>Is the voltage as above?</li> </ul>              | Yes | <ul style="list-style-type: none"> <li>Inspect and repair the wiring harness between the BCM and the door lock actuator.</li> <li>Inspect for door lock actuator.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | <ul style="list-style-type: none"> <li>Replace the BCM.</li> <li>(See <a href="#">BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION .</a>)</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                                                  |
| 14 | <ul style="list-style-type: none"> <li>Measure the voltage at the BCM terminals 7K and 7M while the unlock door using the unlock request switch. <ul style="list-style-type: none"> <li>Unlock all driver's doors with the transmitter (electrical key): <b>1.0 V or less → B+ →</b></li> </ul> </li> </ul>                                                             | Yes | <ul style="list-style-type: none"> <li>Inspect and repair the wiring harness between the BCM and the door lock actuator.</li> <li>Inspect for door lock actuator.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                              |

|    |                                                                                                                                                                                                                                                                                                                                                                                                              |     |                                                                                                                                                                                                                                                                                                |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>1.0 V or less<br/>(terminal 7K)</p> <ul style="list-style-type: none"> <li>Unlock all doors with the transmitter (electrical key): 1.0 V or less → B+ → 1.0 V or less (terminal 7M)</li> </ul> <ul style="list-style-type: none"> <li>Is the voltage as above?</li> </ul>                                                                                                                                 |     |                                                                                                                                                                                                                                                                                                |
| 15 | <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the door handle connector of the malfunctioning door from the keyless control module (30-pin) connector.</li> <li>Verify continuity between suspect door handle harness-side connector terminal C and GND.</li> <li>Is there continuity?</li> </ul>                                                                   | Yes | <ul style="list-style-type: none"> <li>Repair or replace wiring harness for short to GND circuit.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                      |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | Go to the next step.                                                                                                                                                                                                                                                                           |
| 16 | <ul style="list-style-type: none"> <li>Monitor the following keyless control module PIDs using the M-MDS. <ul style="list-style-type: none"> <li>LOCK_SW_D (door lock link switch)</li> </ul> </li> <li>Are PIDs indicated properly?</li> </ul> <p><b>Specification</b></p> <ul style="list-style-type: none"> <li><b>Driver's door: LOCK: Lock</b></li> <li><b>Driver's door: UNLOCK: Unlock</b></li> </ul> | Yes | Go to the next Step.                                                                                                                                                                                                                                                                           |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | <p>Inspect the door lock link switch, replace it as necessary.</p> <ul style="list-style-type: none"> <li>Door lock link switch</li> <li>Verify continuity between door lock link switch connector terminal J and keyless control module terminal 3P at each harness-side connector</li> </ul> |
| 17 | <ul style="list-style-type: none"> <li>Keyless control module and handle switch disconnected.</li> <li>Verify continuity between door handle connector terminal C and following keyless control module terminal at each harness-side connector. <ul style="list-style-type: none"> <li>Terminal 3H for right-side</li> </ul> </li> </ul>                                                                     | Yes | Go to the next step.                                                                                                                                                                                                                                                                           |
|    |                                                                                                                                                                                                                                                                                                                                                                                                              | No  | <ul style="list-style-type: none"> <li>Repair or replace for open circuit.</li> <li>Then go to Step 28.</li> </ul>                                                                                                                                                                             |

|    |                                                                                                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                                                        |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>door handle</p> <ul style="list-style-type: none"> <li>▪ Terminal 3Q for left-side door handle</li> </ul> <ul style="list-style-type: none"> <li>• Is there continuity?</li> </ul>                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                        |
| 18 | <ul style="list-style-type: none"> <li>• Handle switch disconnected.</li> <li>• Verify continuity between suspect door handle harness-side connector terminal F and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                                                                                       | Yes | Go to the next step.                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for open circuit.</li> <li>• Re-tighten the ground wire as necessary.</li> <li>• Then go to Step 28.</li> </ul>                              |
| 19 | <ul style="list-style-type: none"> <li>• Switch the outer handle of the malfunctioning door with the outer handle of the door on the opposite side (or a normal outer handle): Connecting only the connectors is sufficient.</li> <li>• Verify the malfunction symptom.</li> <li>• Does the malfunction recur on the door on the opposite side? (Is the source of the malfunction determined?)</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Replace suspect door handle.</li> </ul> <p>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION.</b>)</p> <ul style="list-style-type: none"> <li>• Then go to Step 28.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | <ul style="list-style-type: none"> <li>• Replace the BCM.</li> </ul> <p>(See <b>BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION.</b>)</p> <ul style="list-style-type: none"> <li>• Then go to Step 28.</li> </ul>      |
| 20 | <ul style="list-style-type: none"> <li>• Verify that the trunk lid open function.</li> <li>• Is the trunk lid open with trunk lid opener switch?</li> </ul>                                                                                                                                                                                                                                               | Yes | Go to Step 24.                                                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | Go to the next step.                                                                                                                                                                                                   |
| 21 | <ul style="list-style-type: none"> <li>• Measure the voltage at the keyless control module terminal 3G.</li> <li>• Is the voltage normal?</li> </ul> <p><b>Specification</b></p> <ul style="list-style-type: none"> <li>◦ <b>Trunk lid opener switch is pushed: 1.0 V or less</b></li> </ul> <p><b>Others: B+</b></p>                                                                                     | Yes | Go to Step 26.                                                                                                                                                                                                         |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           | No  | Go to the next step.                                                                                                                                                                                                   |
| 22 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the keyless control module (30-pin) and trunk lid opener switch connectors.</li> </ul>                                                                                                                                                                                                                         | Yes | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for short to GND circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                          |
|    |                                                                                                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                                                        |

|    |                                                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"> <li>• Verify continuity between trunk lid opener switch harness-side connector terminal A and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                    | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 23 | <ul style="list-style-type: none"> <li>• Keyless control module and opener switch disconnected.</li> <li>• Verify continuity between trunk lid opener switch terminal A and following keyless control module terminal 3G at each harness-side connector.</li> <li>• Is there continuity?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Inspect the trunk lid opener switch, replace it as necessary. <ul style="list-style-type: none"> <li>▪ If normal, inspect following parts and repair or replace as necessary. <ul style="list-style-type: none"> <li>• Trunk lid latch and actuator</li> <li>• Open or short circuit in wiring harness between trunk lid latch and BCM.</li> <li>• Open or short circuit in wiring harness between trunk lid actuator and BCM.</li> </ul> </li> </ul> </li> <li>• Then go to Step 28.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                     | No  | <ul style="list-style-type: none"> <li>• Repair or replace for open circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 24 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the keyless control module and suspect exterior keyless antenna connector.</li> <li>• Verify continuity between following suspect keyless antenna harness-side connector terminal and GND.</li> </ul>    | Yes | Repair or replace for short to GND, then go to Step 28.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                     | No  | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |                                                                                                                                                                                                                                                     |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <ul style="list-style-type: none"> <li>▪ Door handle terminal B (exterior LH/RH)</li> <li>▪ Door handle terminal E (exterior LH/RH)</li> <li>▪ Keyless antenna (exterior rear) terminal C</li> <li>▪ Keyless antenna (exterior rear) terminal D</li> </ul> <ul style="list-style-type: none"> <li>• Is there continuity?</li> </ul>                                                                                                                                  |     |                                                                                                                                                                                                                                                     |
| 25 | <ul style="list-style-type: none"> <li>• Replace the suspect exterior keyless antenna to other keyless antenna (interior rear, other side door handle) temporarily. <ul style="list-style-type: none"> <li>▪ If the symptom is occurring while the front outer handle switch operates, replace to the other side front outer handle with connector is connected.</li> </ul> </li> <li>• Verify the malfunction symptom.</li> <li>• Is the symptom solved?</li> </ul> | Yes | Replace the suspect exterior keyless antenna, then go to Step 28.<br><br>(See <b>FRONT OUTER HANDLE REMOVAL/ INSTALLATION.</b> )<br><br>(See <b>KEYLESS ANTENNA REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM] .</b> ) |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No  | Go to the next step.                                                                                                                                                                                                                                |
| 26 | <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the BCM (16-pin) and keyless control module (12-pin) connectors.</li> <li>• Verify continuity between keyless control module harness-side connector terminal 2F and GND.</li> <li>• Is there continuity?</li> </ul>                                                                                                                                                       | Yes | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for short to GND circuit.</li> <li>• Then go to Step 28.</li> </ul>                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No  | Go to the next step.                                                                                                                                                                                                                                |

|    |                                                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                                                                                |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27 | <ul style="list-style-type: none"> <li>• BCM (16-pin) and keyless control module (12-pin) connectors disconnected.</li> <li>• Verify continuity between BCM connector terminal 6J and keyless control module terminal 2F at each harness-side connector.</li> <li>• Is there continuity?</li> </ul> | Yes | <ul style="list-style-type: none"> <li>• Replace the keyless control module.</li> </ul> <p>(See <b>KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]</b> .)</p> <ul style="list-style-type: none"> <li>• Then go to the next step.</li> </ul> |
|    |                                                                                                                                                                                                                                                                                                     | No  | <ul style="list-style-type: none"> <li>• Repair or replace wiring harness for open circuit.</li> <li>• Then go to the next step.</li> </ul>                                                                                                                                                    |
| 28 | <ul style="list-style-type: none"> <li>• Does the keyless entry system operate properly?</li> </ul>                                                                                                                                                                                                 | Yes | Troubleshooting completed. Explain repairs to the customers.                                                                                                                                                                                                                                   |
|    |                                                                                                                                                                                                                                                                                                     | No  | Re-inspect the malfunction symptoms, then repeat form Step 1 if malfunction recurs.                                                                                                                                                                                                            |

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