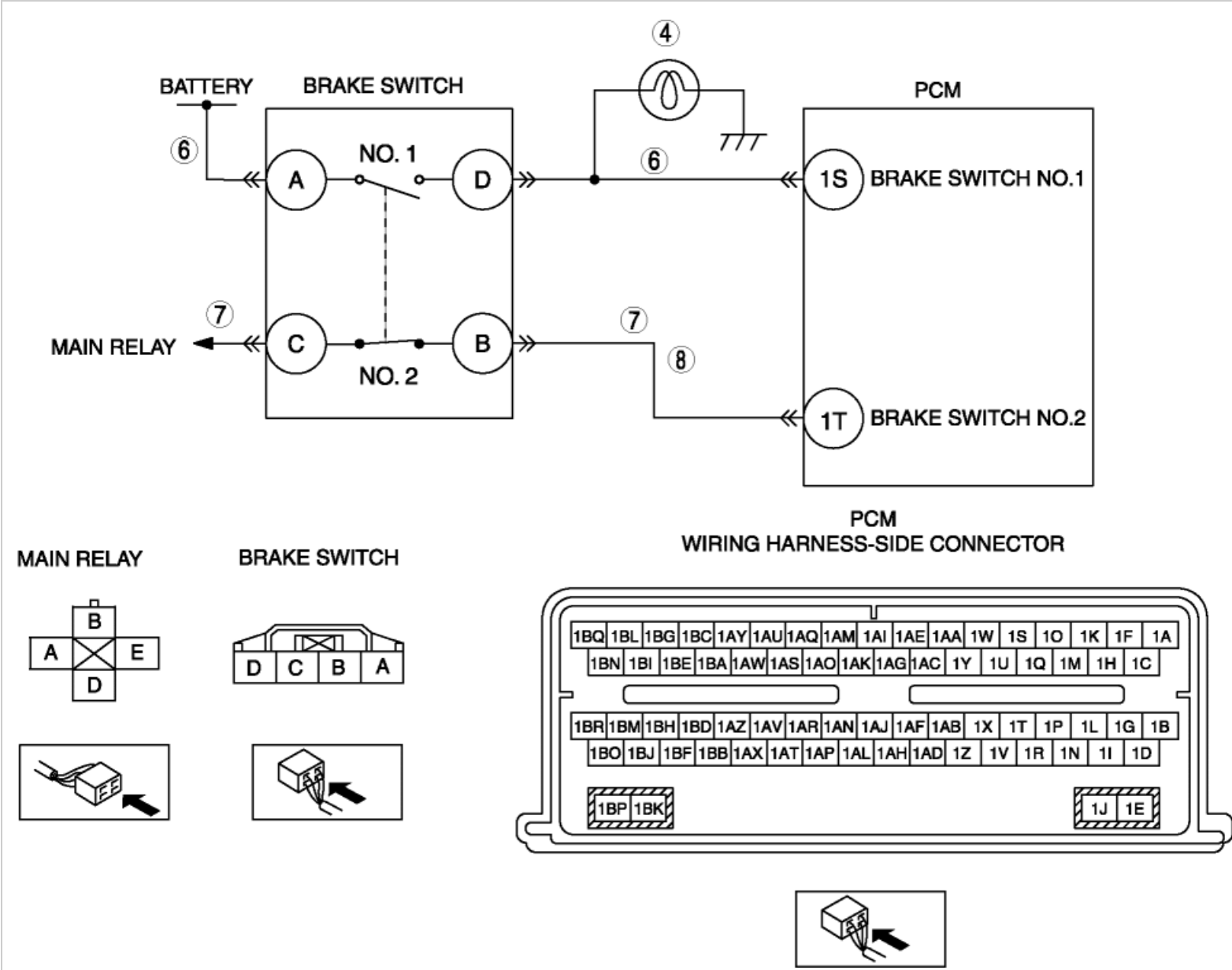


2012 - Mazda6 - Engine

DTC P1703:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P1703:00        | Brake switch out of self-test range                                                                                                                                                                          |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates that during the KOEO self-test, the brake pedal position signal was high, or during the KOER self-test, the BPP signal did not cycle high and low.</li></ul> |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Brake switch mis installation</li><li>Brake switch circuit malfunction</li><li>Brake switch malfunction</li><li>Connector or terminal malfunction</li></ul>            |



## Diagnostic procedure

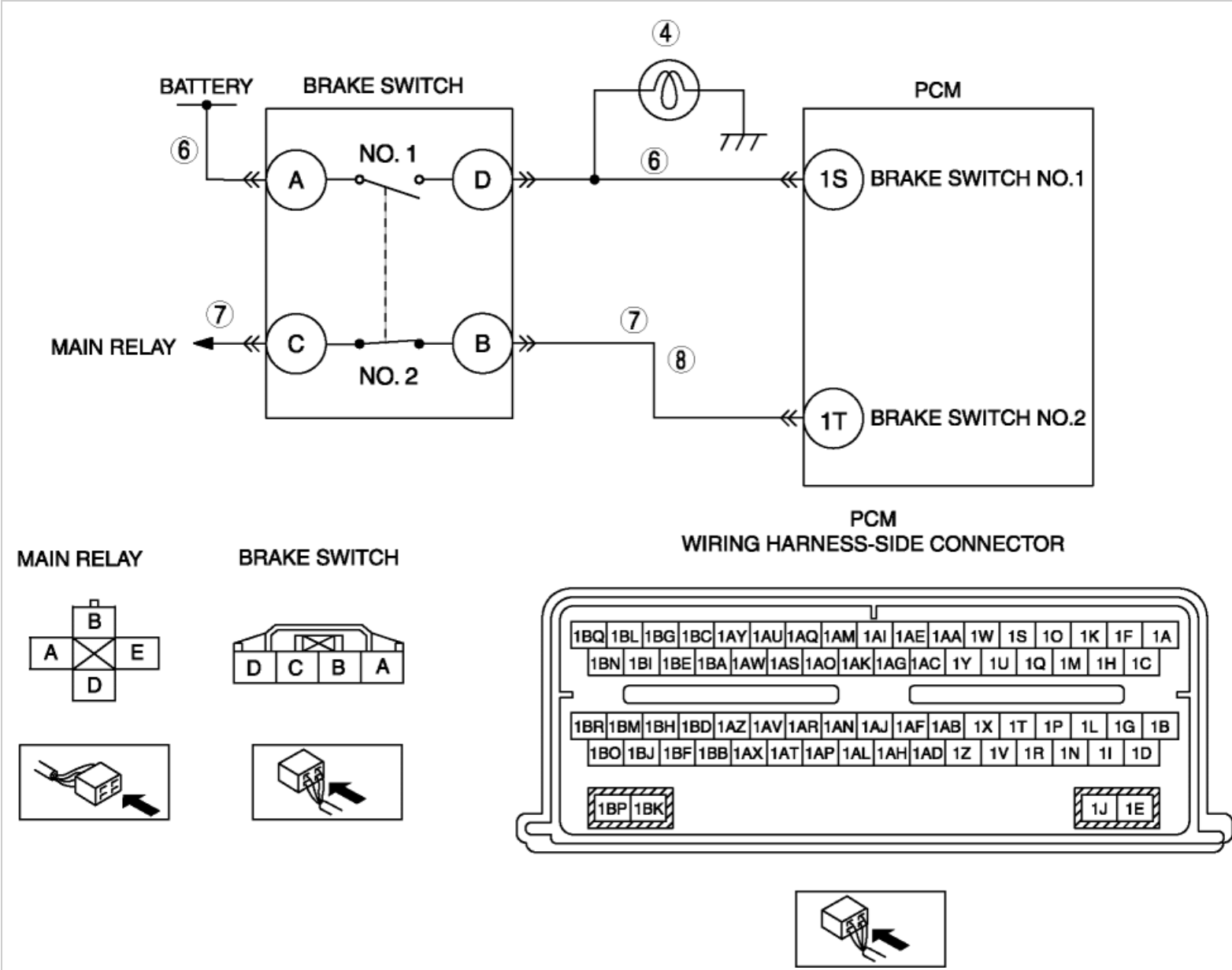
| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                              | ACTION                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has FREEZE FRAME DATA been recorded?</li> </ul>                                                                                                                                                                                                                                                                                | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Record FREEZE FRAME DATA on the repair order, then go to the next step.                                                                                                   |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <ul style="list-style-type: none"> <li>Verify related Service Bulletins availability.</li> <li>Is any related Service Bulletins available?</li> </ul>                                                                                                                                                                                                             | Yes Perform repair or diagnosis according to available Service Bulletins. <ul style="list-style-type: none"> <li>If vehicle is not repaired, go to the next step.</li> </ul> |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Go to the next step.                                                                                                                                                      |
| 3    | <b>VERIFY THE BRAKE PEDAL WAS APPLIED</b> <ul style="list-style-type: none"> <li>Was the brake pedal applied and released during the KOEO self-test?</li> </ul>                                                                                                                                                                                                                                                         | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Perform the KOER self-test.<br>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6]</a> .)<br>Apply and release the brake pedal during the KOER test, then go to Step 10    |
| 4    | <b>INSPECT THE OPERATION OF THE BLAKE/ TAILLIGHT</b> <ul style="list-style-type: none"> <li>Switch the ignition ON (Engine off).</li> <li>Depress and release the brake pedal and check the blake/taillight operation.</li> <li>Do the blake/taillight operate correctly?</li> </ul>                                                                                                                                    | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace harness or blake/taillight, then go to Step 10.                                                                                                         |
| 5    | <b>INSPECT THE CRUISE CONTROL OPERATION</b> <ul style="list-style-type: none"> <li>Check for cruise control operation.</li> <li>Does the cruise control operate correctly?</li> </ul>                                                                                                                                                                                                                                   | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace suspected part, then go to Step 10.                                                                                                                     |
| 6    | <b>INSPECT BRAKE SWITCH AND PCM CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the brake switch connector.</li> <li>Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).</li> <li>Are there any malfunction?</li> </ul>                                                                                                    | Yes Repair or replace suspected part, then go to Step 10.                                                                                                                    |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Go to the next step.                                                                                                                                                      |
| 7    | <b>INSPECT BRAKE SWITCH NO.1 CIRCUIT MALFUNCTION</b> <ul style="list-style-type: none"> <li>Switch the ignition ON (Engine off).</li> <li>Measure the voltage between PCM terminal 1S (wiring harness-side) and body ground.</li> <li>Verify the following values when the brake pedal to the floor and releasing. <ul style="list-style-type: none"> <li>Brake pedal fully depressed: more than</li> </ul> </li> </ul> | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace suspected part, then go to Step 10.                                                                                                                     |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |                                                                                                                                                                                                                                            |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>10 V</p> <ul style="list-style-type: none"> <li>▪ Brake pedal fully released: less than 1.0 V</li> </ul> <ul style="list-style-type: none"> <li>• Is the voltage normal?</li> </ul>                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                            |
| 8  | <p><b>INSPECT BRAKE SWITCH</b></p> <ul style="list-style-type: none"> <li>• Inspect the brake switch.</li> </ul> <p>(See <a href="#">BRAKE SWITCH INSPECTION</a>.)</p> <ul style="list-style-type: none"> <li>• Is there any malfunction?</li> </ul>                                                                                                                                                                                                       | Yes | Repair or replace suspected part, then go to Step 10.                                                                                                                                                                                      |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                                                                                       |
| 9  | <p><b>INSPECT FOR CORRECT PCM OPERATION</b></p> <ul style="list-style-type: none"> <li>• Disconnect all the PCM connectors.</li> <li>• Visually inspect for: <ul style="list-style-type: none"> <li>▪ Pushed out pins</li> <li>▪ Corrosion</li> </ul> </li> <li>• Connect all the PCM connectors and verify that they seat correctly.</li> <li>• Retrieve DTCs using the M-MDS.</li> <li>• Is the PENDING CODE for this DTC present?</li> </ul>            | Yes | Go to the next step.                                                                                                                                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | The system is correctly. Go to the next step.                                                                                                                                                                                              |
| 10 | <p><b>VERIFY TROUBLESHOOTING OF DTC P1703:00 HAS BEEN COMPLETED</b></p> <ul style="list-style-type: none"> <li>• Verify that all disconnected connectors reconnected.</li> <li>• Clear the DTC from the PCM memory using the M-MDS.</li> <li>• Perform the KOEO or KOER self-test.</li> </ul> <p>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6]</a>.)</p> <ul style="list-style-type: none"> <li>• Is the PENDING CODE same as DTC present?</li> </ul> | Yes | <p>Repeat the inspection from Step 1.</p> <ul style="list-style-type: none"> <li>• If the malfunction recurs, replace the PCM.</li> </ul> <p>(See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]</a>.)</p> <p>Go to the next step.</p> |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                                                                                       |
| 11 | <p><b>VERIFY AFTER REPAIR PROCEDURE</b></p> <ul style="list-style-type: none"> <li>• Perform the "AFTER REPAIR PROCEDURE".</li> </ul> <p>(See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6]</a>.)</p> <ul style="list-style-type: none"> <li>• Are any DTCs present?</li> </ul>                                                                                                                                                                          | Yes | Go to the applicable DTC inspection.                                                                                                                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Troubleshooting completed.                                                                                                                                                                                                                 |

2012 - Mazda6 - Engine

DTC P1703:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P1703:00        | Brake switch out of self-test range                                                                                                                                                                          |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates that during the KOEO self-test, the brake pedal position signal was high, or during the KOER self-test, the BPP signal did not cycle high and low.</li></ul> |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Brake switch mis installation</li><li>Brake switch circuit malfunction</li><li>Brake switch malfunction</li><li>Connector or terminal malfunction</li></ul>            |



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                              | ACTION                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has FREEZE FRAME DATA been recorded?</li> </ul>                                                                                                                                                                                                                                                                                | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Record FREEZE FRAME DATA on the repair order, then go to the next step.                                                                                                   |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <ul style="list-style-type: none"> <li>Verify related Service Bulletins availability.</li> <li>Is any related Service Bulletins available?</li> </ul>                                                                                                                                                                                                             | Yes Perform repair or diagnosis according to available Service Bulletins. <ul style="list-style-type: none"> <li>If vehicle is not repaired, go to the next step.</li> </ul> |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Go to the next step.                                                                                                                                                      |
| 3    | <b>VERIFY THE BRAKE PEDAL WAS APPLIED</b> <ul style="list-style-type: none"> <li>Was the brake pedal applied and released during the KOEO self-test?</li> </ul>                                                                                                                                                                                                                                                         | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Perform the KOER self-test.<br>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6]</a> .)<br>Apply and release the brake pedal during the KOER test, then go to Step 10    |
| 4    | <b>INSPECT THE OPERATION OF THE BLAKE/ TAILLIGHT</b> <ul style="list-style-type: none"> <li>Switch the ignition ON (Engine off).</li> <li>Depress and release the brake pedal and check the blake/taillight operation.</li> <li>Do the blake/taillight operate correctly?</li> </ul>                                                                                                                                    | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace harness or blake/taillight, then go to Step 10.                                                                                                         |
| 5    | <b>INSPECT THE CRUISE CONTROL OPERATION</b> <ul style="list-style-type: none"> <li>Check for cruise control operation.</li> <li>Does the cruise control operate correctly?</li> </ul>                                                                                                                                                                                                                                   | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace suspected part, then go to Step 10.                                                                                                                     |
| 6    | <b>INSPECT BRAKE SWITCH AND PCM CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the brake switch connector.</li> <li>Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).</li> <li>Are there any malfunction?</li> </ul>                                                                                                    | Yes Repair or replace suspected part, then go to Step 10.                                                                                                                    |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Go to the next step.                                                                                                                                                      |
| 7    | <b>INSPECT BRAKE SWITCH NO.1 CIRCUIT MALFUNCTION</b> <ul style="list-style-type: none"> <li>Switch the ignition ON (Engine off).</li> <li>Measure the voltage between PCM terminal 1S (wiring harness-side) and body ground.</li> <li>Verify the following values when the brake pedal to the floor and releasing. <ul style="list-style-type: none"> <li>Brake pedal fully depressed: more than</li> </ul> </li> </ul> | Yes Go to the next step.                                                                                                                                                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                         | No Repair or replace suspected part, then go to Step 10.                                                                                                                     |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |                                                                                                                                                                                                                                            |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>10 V</p> <ul style="list-style-type: none"> <li>▪ Brake pedal fully released: less than 1.0 V</li> </ul> <ul style="list-style-type: none"> <li>• Is the voltage normal?</li> </ul>                                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                            |
| 8  | <p><b>INSPECT BRAKE SWITCH</b></p> <ul style="list-style-type: none"> <li>• Inspect the brake switch.</li> </ul> <p>(See <a href="#">BRAKE SWITCH INSPECTION</a>.)</p> <ul style="list-style-type: none"> <li>• Is there any malfunction?</li> </ul>                                                                                                                                                                                                       | Yes | Repair or replace suspected part, then go to Step 10.                                                                                                                                                                                      |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                                                                                       |
| 9  | <p><b>INSPECT FOR CORRECT PCM OPERATION</b></p> <ul style="list-style-type: none"> <li>• Disconnect all the PCM connectors.</li> <li>• Visually inspect for: <ul style="list-style-type: none"> <li>▪ Pushed out pins</li> <li>▪ Corrosion</li> </ul> </li> <li>• Connect all the PCM connectors and verify that they seat correctly.</li> <li>• Retrieve DTCs using the M-MDS.</li> <li>• Is the PENDING CODE for this DTC present?</li> </ul>            | Yes | Go to the next step.                                                                                                                                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | The system is correctly. Go to the next step.                                                                                                                                                                                              |
| 10 | <p><b>VERIFY TROUBLESHOOTING OF DTC P1703:00 HAS BEEN COMPLETED</b></p> <ul style="list-style-type: none"> <li>• Verify that all disconnected connectors reconnected.</li> <li>• Clear the DTC from the PCM memory using the M-MDS.</li> <li>• Perform the KOEO or KOER self-test.</li> </ul> <p>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6]</a>.)</p> <ul style="list-style-type: none"> <li>• Is the PENDING CODE same as DTC present?</li> </ul> | Yes | <p>Repeat the inspection from Step 1.</p> <ul style="list-style-type: none"> <li>• If the malfunction recurs, replace the PCM.</li> </ul> <p>(See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]</a>.)</p> <p>Go to the next step.</p> |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Go to the next step.                                                                                                                                                                                                                       |
| 11 | <p><b>VERIFY AFTER REPAIR PROCEDURE</b></p> <ul style="list-style-type: none"> <li>• Perform the "AFTER REPAIR PROCEDURE".</li> </ul> <p>(See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6]</a>.)</p> <ul style="list-style-type: none"> <li>• Are any DTCs present?</li> </ul>                                                                                                                                                                          | Yes | Go to the applicable DTC inspection.                                                                                                                                                                                                       |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No  | Troubleshooting completed.                                                                                                                                                                                                                 |