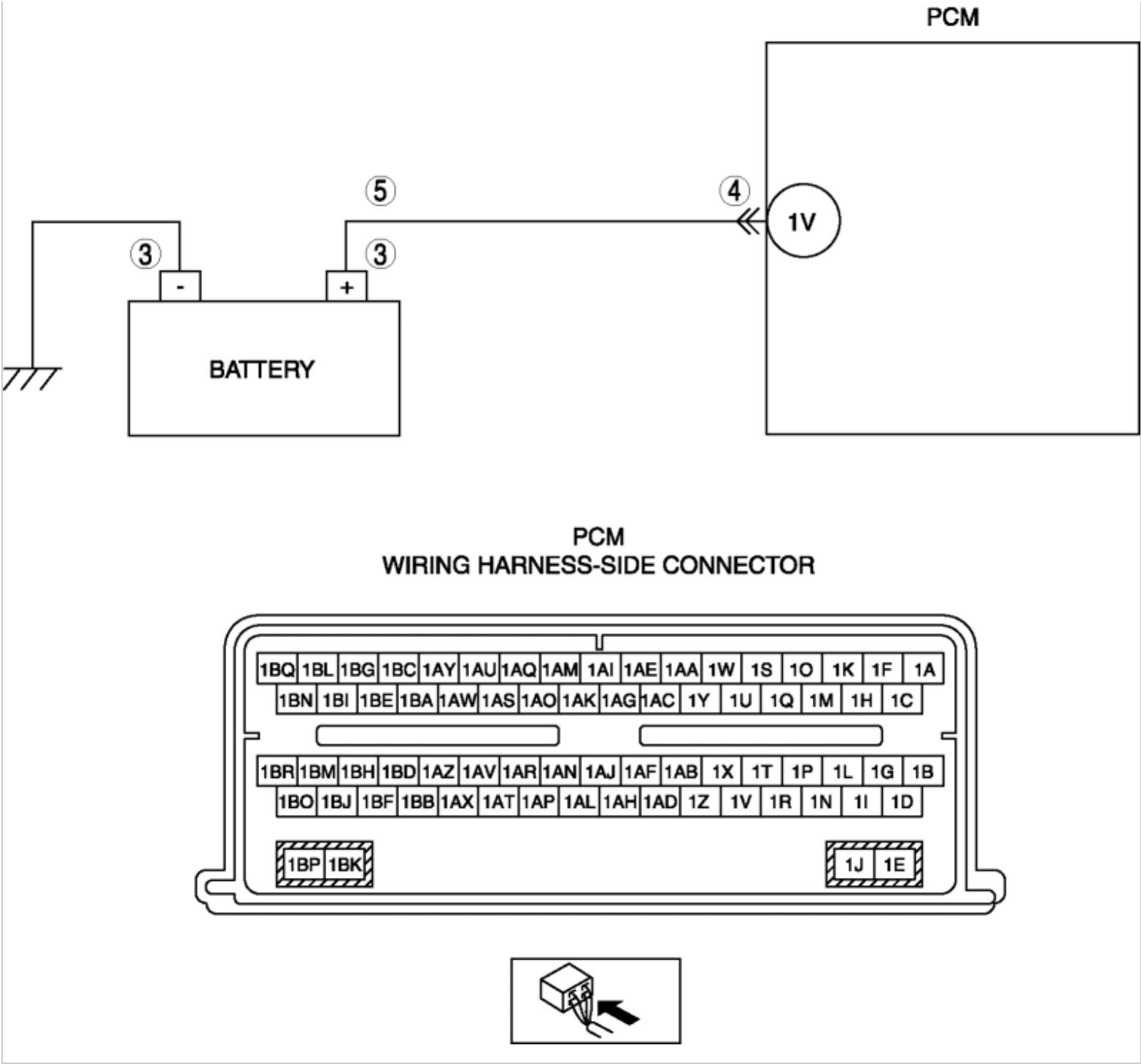


2012 - Mazda6 - Engine

DTC P0603:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0603:00        | PCM keep alive memory (KAM) error                                                                                                                                                                                                                      |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates the PCM has experienced an internal memory concern. However, there are external items that can cause this DTC.</li></ul>                                                                               |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Battery terminal corrosion</li><li>Loose battery connection</li><li>Connector or terminal malfunction</li><li>Open circuit between battery positive terminal and PCM terminal 1V</li><li>Reprogramming</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>                                                                                    | Yes Perform repair or diagnosis according to available Service Bulletins.  |

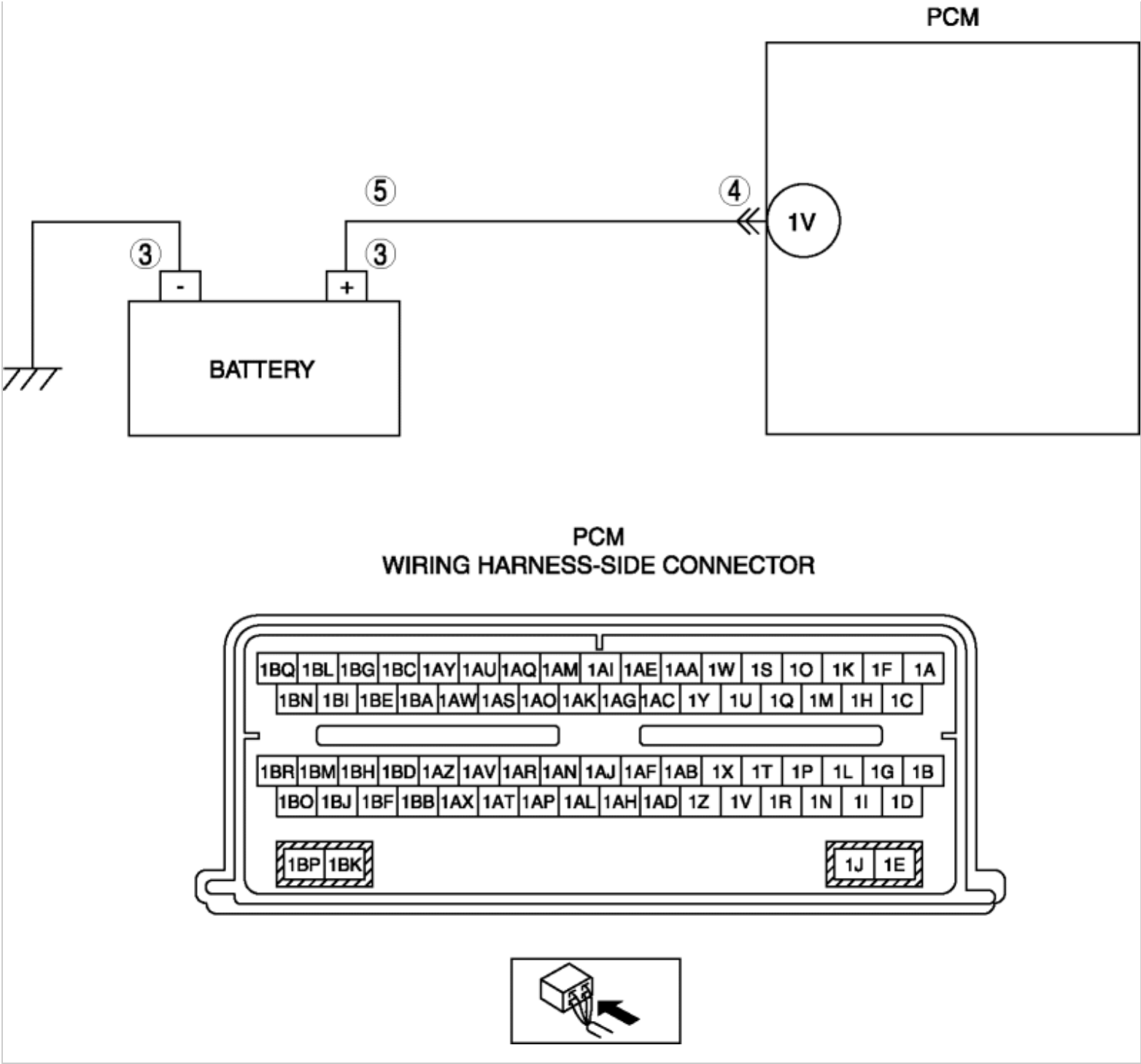
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |                                                                                                      |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>• Verify related Service Bulletins and/or on-line repair information availability.</li> <li>• Is any Service Bulletins available?</li> </ul>                                                                                                                                                                                                                                             |     | <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>INSPECT BATTERY TERMINALS FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Inspect for poor connection and corrosion.</li> <li>• Are there any malfunction?</li> </ul>                                                                                                                                                                                                   | Yes | Repair or replace suspected part, then go to Step 7.                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Go to the next step.                                                                                 |
| 4 | <b>INSPECT PCM CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the PCM connector.</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                                                                | Yes | Repair or replace suspected part, then go to Step 7.                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Go to the next step.                                                                                 |
| 5 | <b>INSPECT MONITOR CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the battery cables.</li> <li>• Disconnect the PCM connector.</li> <li>• Inspect the continuity between battery positive terminal (wiring harness-side) and PCM terminal 1V (wiring harness-side).</li> <li>• Is there continuity?</li> </ul>                                            | Yes | Go to the next step.                                                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Repair or replace suspected part, then go to Step 7.                                                 |
| 6 | <b>INSPECT FOR CORRECT PCM OPERATION</b> <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</li> </ul> | Yes | Go to the next step.                                                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | The system is correctly. Go to the next step.                                                        |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                      |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                                                                                                                                      |
| 7 | <b>VERIFY TROUBLESHOOTING OF DTC P0603:00 HAS BEEN COMPLETED</b> <ul style="list-style-type: none"><li>• Verify that all disconnected connectors are reconnected.</li><li>• Switch the ignition ON (Engine off).</li><li>• Clear the DTC from the PCM memory using the M-MDS.</li><li>• Perform the KOEO or KOER self-test.<br/>(See <b>KOEO/ KOER SELF TEST [MZI 3.7 V6]</b> .)</li><li>• Retrieve DTCs using the M-MDS.</li><li>• Is the PENDING CODE for this DTC present?</li></ul> | Yes | Repeat the inspection from Step 1. <ul style="list-style-type: none"><li>• If the malfunction recurs, replace the PCM.<br/><br/>(See <b>PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]</b> .)</li></ul> Go to the next step. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                                 |
| 8 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"><li>• Perform the "AFTER REPAIR PRECAUTION".<br/><br/>(See <b>AFTER REPAIR PROCEDURE [MZI 3.7 V6]</b> .)</li><li>• Are any DTCs present?</li></ul>                                                                                                                                                                                                                                                               | Yes | Go to the applicable DTC inspection.<br><br>(See <b>DTC TABLE [MZI 3.7 V6]</b> .)                                                                                                                                    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Troubleshooting completed.                                                                                                                                                                                           |

2012 - Mazda6 - Engine

DTC P0603:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0603:00        | PCM keep alive memory (KAM) error                                                                                                                                                                                                                      |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates the PCM has experienced an internal memory concern. However, there are external items that can cause this DTC.</li></ul>                                                                               |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Battery terminal corrosion</li><li>Loose battery connection</li><li>Connector or terminal malfunction</li><li>Open circuit between battery positive terminal and PCM terminal 1V</li><li>Reprogramming</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>                                                                                    | Yes Perform repair or diagnosis according to available Service Bulletins.  |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |                                                                                                      |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>• Verify related Service Bulletins and/or on-line repair information availability.</li> <li>• Is any Service Bulletins available?</li> </ul>                                                                                                                                                                                                                                             |     | <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>INSPECT BATTERY TERMINALS FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Inspect for poor connection and corrosion.</li> <li>• Are there any malfunction?</li> </ul>                                                                                                                                                                                                   | Yes | Repair or replace suspected part, then go to Step 7.                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Go to the next step.                                                                                 |
| 4 | <b>INSPECT PCM CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the PCM connector.</li> <li>• Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>• Is there any malfunction?</li> </ul>                                                                                                                                | Yes | Repair or replace suspected part, then go to Step 7.                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Go to the next step.                                                                                 |
| 5 | <b>INSPECT MONITOR CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Switch the ignition off.</li> <li>• Disconnect the battery cables.</li> <li>• Disconnect the PCM connector.</li> <li>• Inspect the continuity between battery positive terminal (wiring harness-side) and PCM terminal 1V (wiring harness-side).</li> <li>• Is there continuity?</li> </ul>                                            | Yes | Go to the next step.                                                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | Repair or replace suspected part, then go to Step 7.                                                 |
| 6 | <b>INSPECT FOR CORRECT PCM OPERATION</b> <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</li> </ul> | Yes | Go to the next step.                                                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                 | No  | The system is correctly. Go to the next step.                                                        |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                                                                                                                                      |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                                                                                                                                      |
| 7 | <b>VERIFY TROUBLESHOOTING OF DTC P0603:00 HAS BEEN COMPLETED</b> <ul style="list-style-type: none"><li>• Verify that all disconnected connectors are reconnected.</li><li>• Switch the ignition ON (Engine off).</li><li>• Clear the DTC from the PCM memory using the M-MDS.</li><li>• Perform the KOEO or KOER self-test.<br/>(See <b>KOEO/ KOER SELF TEST [MZI 3.7 V6]</b> .)</li><li>• Retrieve DTCs using the M-MDS.</li><li>• Is the PENDING CODE for this DTC present?</li></ul> | Yes | Repeat the inspection from Step 1. <ul style="list-style-type: none"><li>• If the malfunction recurs, replace the PCM.<br/><br/>(See <b>PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]</b> .)</li></ul> Go to the next step. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                                                                                                                                                                                 |
| 8 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"><li>• Perform the "AFTER REPAIR PRECAUTION".<br/><br/>(See <b>AFTER REPAIR PROCEDURE [MZI 3.7 V6]</b> .)</li><li>• Are any DTCs present?</li></ul>                                                                                                                                                                                                                                                               | Yes | Go to the applicable DTC inspection.<br><br>(See <b>DTC TABLE [MZI 3.7 V6]</b> .)                                                                                                                                    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Troubleshooting completed.                                                                                                                                                                                           |