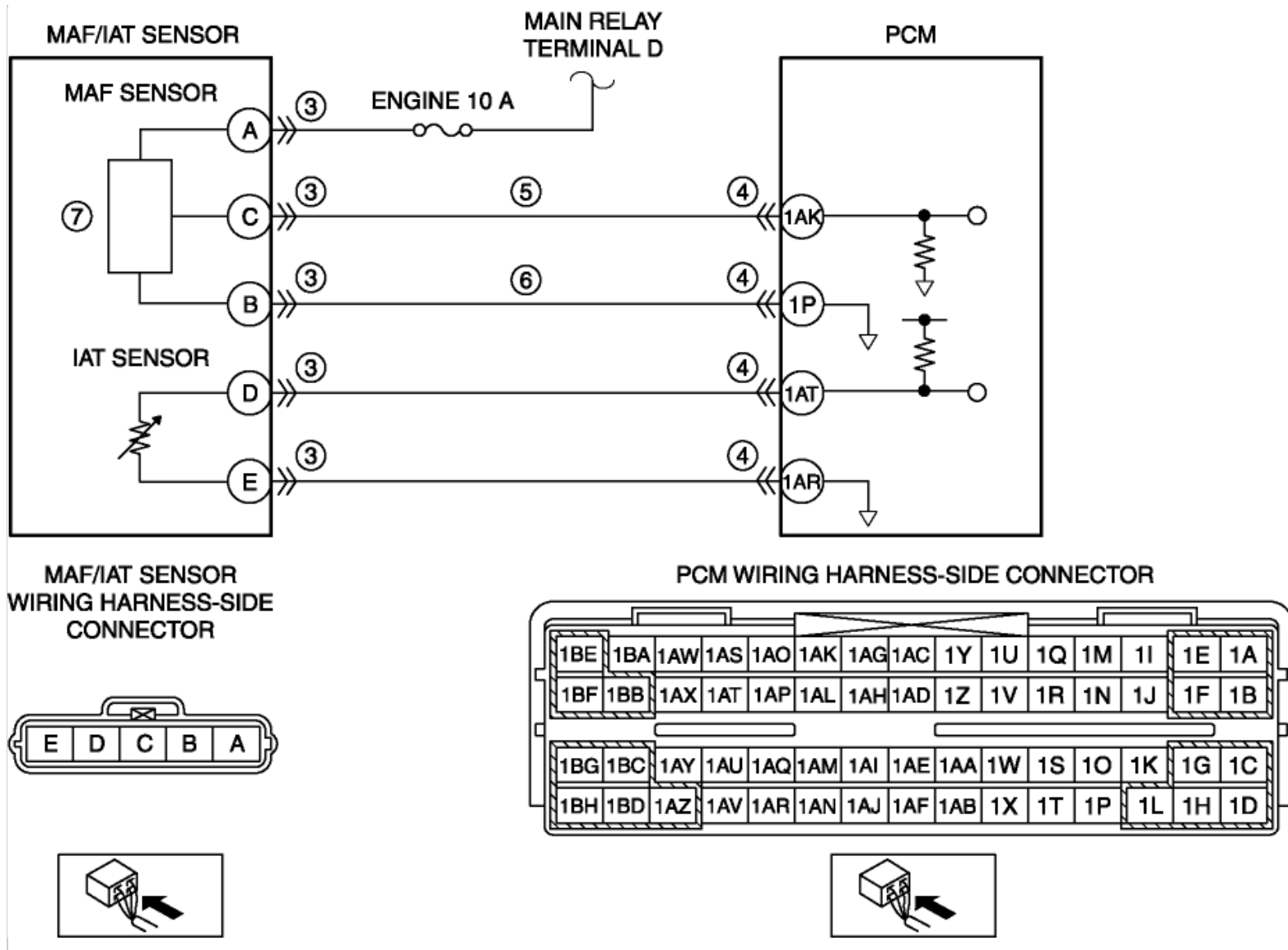


2012 - Mazda6 - Engine

DTC P0103:00 [MZR 2.5]

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0103:00        | MAF sensor circuit high input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>• The PCM monitors the input voltage from the MAF sensor when the engine running. If the input voltage is <b>above 4.9 V</b> for <b>5 s</b>, the PCM determines that the MAF circuit has a malfunction.</li></ul> <p><b>Diagnostic support note</b></p> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle.</li><li>• FREEZE FRAME DATA (Mode 2)/Snapshot data is available.</li><li>• The DTC is stored in the PCM memory.</li></ul> |
| POSSI BLE CAUSE     | <ul style="list-style-type: none"><li>• MAF/IAT sensor connector or terminal malfunction</li><li>• PCM connector or terminal malfunction</li><li>• Short to power supply in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK</li><li>• Open circuit in wiring harness between MAF/IAT sensor terminal B and PCM terminal 1P</li><li>• MAF sensor malfunction</li><li>• PCM malfunction</li></ul>                                                                                                                                                                                          |



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                                                                                                     | ACTION                                                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?</li> </ul>                                                    | Yes Go to the next step.<br><br>No Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.                                                                            |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <ul style="list-style-type: none"> <li>Verify related Service Bulletins and/or on-line repair information availability.</li> <li>Is any related repair information available?</li> </ul> | Yes Perform repair or diagnosis according to the available repair information. <ul style="list-style-type: none"> <li>If the vehicle is not repaired, go to the next step.</li> </ul><br>No Go to the next step. |
| 3    | <b>INSPECT MAF/ IAT SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the MAF/IAT sensor connector.</li> </ul>                                                             | Yes Repair or replace the terminal and/or connector, then go to Step 8.<br><br>No Go to the next step.                                                                                                           |

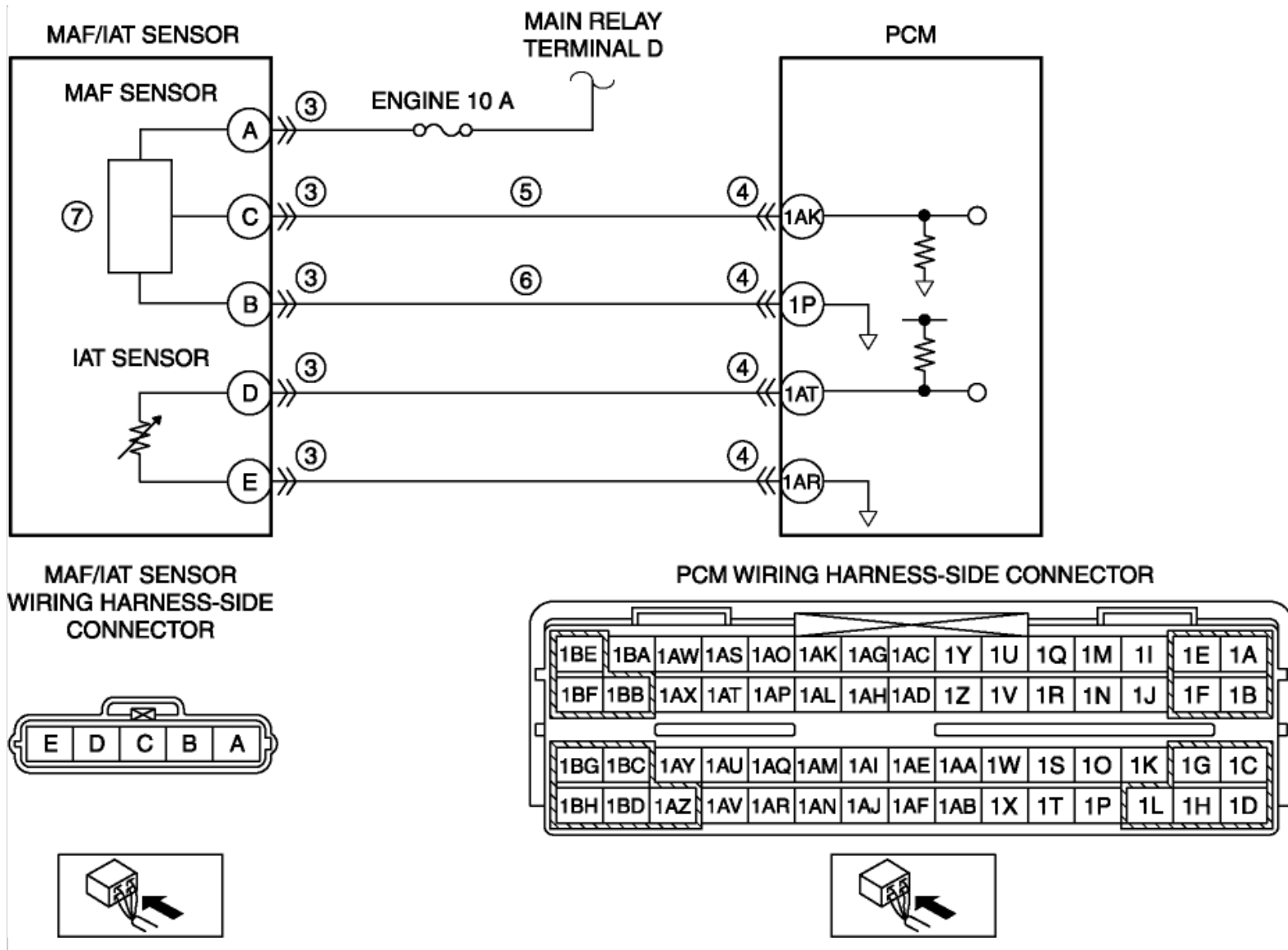
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                                                                                                                               |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                                               |
| 4 | <b>INSPECT PCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <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 the terminal and/or connector, then go to Step 8.                                                                                                                                           |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                                                          |
| 5 | <b>INSPECT MAF SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>MAF/IAT sensor and PCM connectors are disconnected.</li> <li>Switch the ignition to ON (engine off).</li> <li>Measure the voltage between MAF/IAT sensor terminal C (wiring harness-side) and body ground.</li> <li>Is there any voltage?</li> </ul>                                                                                                                           | Yes | Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.                                                                                                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                                                          |
| 6 | <b>INSPECT MAF SENSOR GROUND CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>MAF/IAT sensor and PCM connectors are disconnected.</li> <li>Switch the ignition to off.</li> <li>Inspect for continuity between MAF/IAT sensor terminal B (wiring harness-side) and PCM terminal 1P (wiring harness-side).</li> <li>Is there continuity?</li> </ul>                                                                                                                    | Yes | Go to the next step.                                                                                                                                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Repair or replace the wiring harness for a possible open circuit, then go to Step 8.                                                                                                                          |
| 7 | <b>INSPECT MAF SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the MAF sensor.</li> </ul> <p>(See <b>MASS AIR FLOW (MAF) SENSOR INSPECTION [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                     | Yes | Replace the MAF/IAT sensor, then go to the next step.                                                                                                                                                         |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     | (See <b>INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [MZR 2.5]</b> .)                                                                                                                                               |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                                                          |
| 8 | <b>VERIFY DTC TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect all disconnected connectors.</li> <li>Clear the DTC from the PCM memory using the M-MDS.</li> </ul> <p>(See <b>AFTER REPAIR PROCEDURE [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Perform the KOEO or KOER self test.</li> </ul> <p>(See <b>KOEO/ KOER SELF TEST [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Is the same 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.</li> </ul> <p>(See <b>PCM REMOVAL/INSTALLATION [MZR 2.5]</b>.)</p> Go to the next step. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                                                          |
| 9 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"> <li>Perform the "AFTER REPAIR PROCEDURE".</li> </ul> <p>(See <b>AFTER REPAIR PROCEDURE [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                                                                               | Yes | Go to the applicable DTC inspection.                                                                                                                                                                          |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     | (See <b>DTC TABLE [MZR 2.5]</b> .)                                                                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | DTC troubleshooting completed.                                                                                                                                                                                |



2012 - Mazda6 - Engine

DTC P0103:00 [MZR 2.5]

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0103:00        | MAF sensor circuit high input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>• The PCM monitors the input voltage from the MAF sensor when the engine running. If the input voltage is <b>above 4.9 V</b> for <b>5 s</b>, the PCM determines that the MAF circuit has a malfunction.</li></ul> <p><b>Diagnostic support note</b></p> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The MIL illuminates if the PCM detects the above malfunction condition during first drive cycle.</li><li>• FREEZE FRAME DATA (Mode 2)/Snapshot data is available.</li><li>• The DTC is stored in the PCM memory.</li></ul> |
| POSSI BLE CAUSE     | <ul style="list-style-type: none"><li>• MAF/IAT sensor connector or terminal malfunction</li><li>• PCM connector or terminal malfunction</li><li>• Short to power supply in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK</li><li>• Open circuit in wiring harness between MAF/IAT sensor terminal B and PCM terminal 1P</li><li>• MAF sensor malfunction</li><li>• PCM malfunction</li></ul>                                                                                                                                                                                          |



## Diagnostic procedure

| STEP | INSPECTION                                                                                                                                                                                                                                     | ACTION                                                                                                                                                                                                           |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?</li> </ul>                                                    | Yes Go to the next step.<br><br>No Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.                                                                            |
| 2    | <b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> <ul style="list-style-type: none"> <li>Verify related Service Bulletins and/or on-line repair information availability.</li> <li>Is any related repair information available?</li> </ul> | Yes Perform repair or diagnosis according to the available repair information. <ul style="list-style-type: none"> <li>If the vehicle is not repaired, go to the next step.</li> </ul><br>No Go to the next step. |
| 3    | <b>INSPECT MAF/ IAT SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the MAF/IAT sensor connector.</li> </ul>                                                             | Yes Repair or replace the terminal and/or connector, then go to Step 8.<br><br>No Go to the next step.                                                                                                           |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                                                                                                   |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                           |     |                                                                                                                                                                                   |
| 4 | <b>INSPECT PCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <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 the terminal and/or connector, then go to Step 8.                                                                                                               |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                              |
| 5 | <b>INSPECT MAF SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>MAF/IAT sensor and PCM connectors are disconnected.</li> <li>Switch the ignition to ON (engine off).</li> <li>Measure the voltage between MAF/IAT sensor terminal C (wiring harness-side) and body ground.</li> <li>Is there any voltage?</li> </ul>                                                                                                                           | Yes | Repair or replace the wiring harness for a possible short to power supply, then go to Step 8.                                                                                     |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                              |
| 6 | <b>INSPECT MAF SENSOR GROUND CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>MAF/IAT sensor and PCM connectors are disconnected.</li> <li>Switch the ignition to off.</li> <li>Inspect for continuity between MAF/IAT sensor terminal B (wiring harness-side) and PCM terminal 1P (wiring harness-side).</li> <li>Is there continuity?</li> </ul>                                                                                                                    | Yes | Go to the next step.                                                                                                                                                              |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Repair or replace the wiring harness for a possible open circuit, then go to Step 8.                                                                                              |
| 7 | <b>INSPECT MAF SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the MAF sensor.</li> </ul> <p>(See <b>MASS AIR FLOW (MAF) SENSOR INSPECTION [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                     | Yes | Replace the MAF/IAT sensor, then go to the next step.                                                                                                                             |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     | (See <b>INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [MZR 2.5]</b> .)                                                                                                                   |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                              |
| 8 | <b>VERIFY DTC TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>Make sure to reconnect all disconnected connectors.</li> <li>Clear the DTC from the PCM memory using the M-MDS.</li> </ul> <p>(See <b>AFTER REPAIR PROCEDURE [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Perform the KOEO or KOER self test.</li> </ul> <p>(See <b>KOEO/ KOER SELF TEST [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Is the same 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.</li> </ul> <p>(See <b>PCM REMOVAL/INSTALLATION [MZR 2.5]</b>.)</p> <p>Go to the next step.</p> |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | Go to the next step.                                                                                                                                                              |
| 9 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"> <li>Perform the "AFTER REPAIR PROCEDURE".</li> </ul> <p>(See <b>AFTER REPAIR PROCEDURE [MZR 2.5]</b>.)</p> <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                                                                               | Yes | Go to the applicable DTC inspection.                                                                                                                                              |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     | (See <b>DTC TABLE [MZR 2.5]</b> .)                                                                                                                                                |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No  | DTC troubleshooting completed.                                                                                                                                                    |

