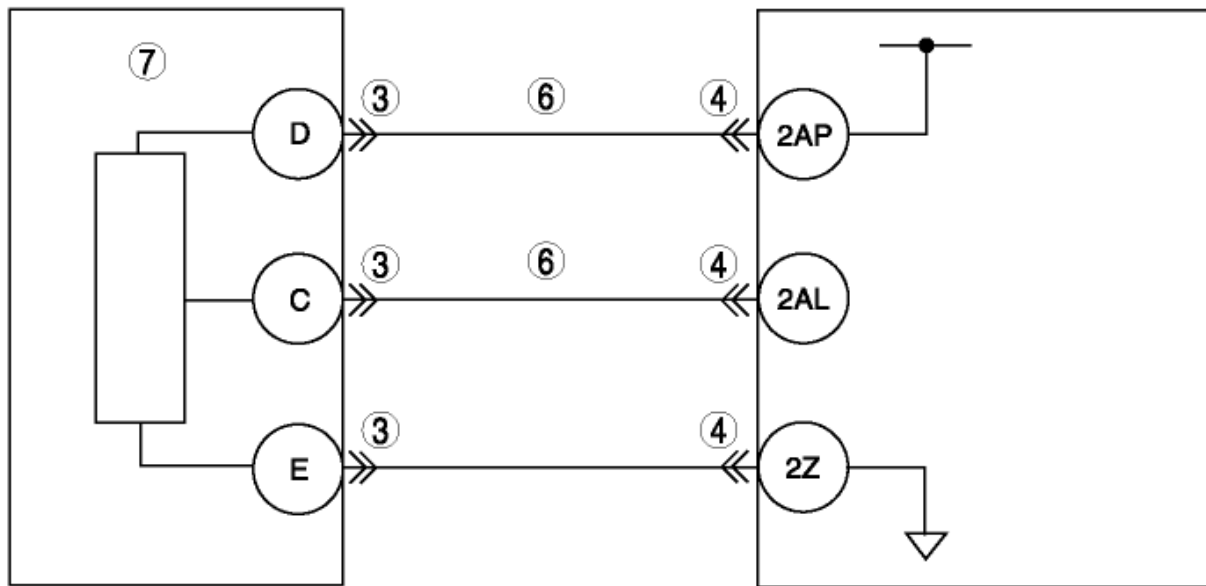


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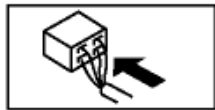
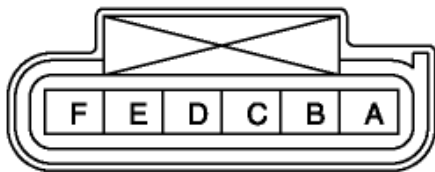
DTC P0223:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0223:00        | TP sensor No.2 circuit high input                                                                                                                                                                                                                                               |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>• The TP sensor No.2 circuit was flagged as a concern by the PCM indicating a high voltage.</li></ul>                                                                                                                                     |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>• Connector or terminal malfunction</li><li>• Open circuit wiring harness between throttle body terminal C and PCM terminal 2AL</li><li>• TP sensor No.2 malfunction</li><li>• TP sensor signal circuits are shorted each other</li></ul> |
|                     |                                                                                                                                                                                                                                                                                 |

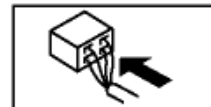
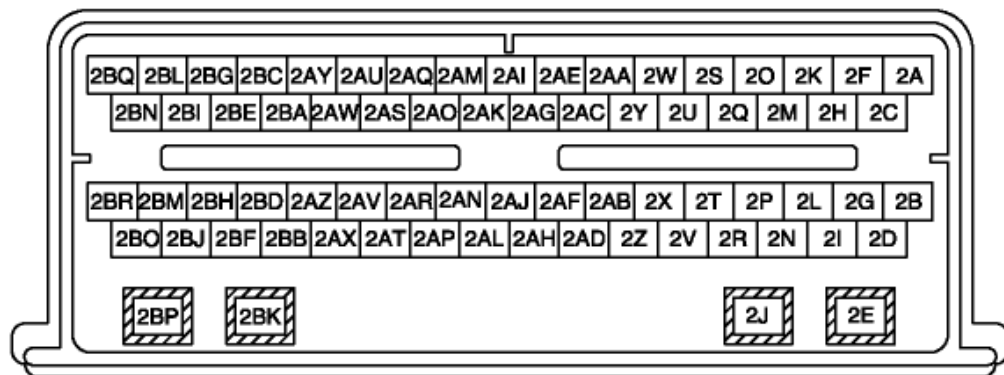
**TP SENSOR NO.2  
(THROTTLE BODY)**



**THROTTLE BODY  
WIRING HARNESS-SIDE CONNECTOR**



**PCM  
WIRING HARNESS-SIDE CONNECTOR**



**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.<br>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 and/or on-line repair information availability.</li> </ul> | Yes Perform repair or diagnosis according to the available Service Bulletins. <ul style="list-style-type: none"> <li>If the vehicle is not repaired, go to the next</li> </ul> |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Is any related Service Bulletins available?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     | step.                                                |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Go to the next step.                                 |
| 3 | <p><b>INSPECT TP SENSOR CONNECTOR FOR POOR CONNECTION</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the throttle body 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 8. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Go to the next step.                                 |
| 4 | <p><b>INSPECT PCM CONNECTOR FOR POOR CONNECTION</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the PCM 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 8. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Go to the next step.                                 |
| 5 | <p><b>INSPECT TP SIGNAL CIRCUIT FOR OPEN CIRCUIT</b></p> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the PCM connector.</li> <li>Disconnect the throttle body connector.</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Throttle body terminal C (wiring harness-side) and PCM terminal 2AL (wiring harness-side)</li> <li>Throttle body terminal D (wiring harness-side) and PCM terminal 2AP (wiring harness-side)</li> </ul> </li> <li>Are there continuity?</li> </ul> | Yes | Go to the next step.                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Repair or replace suspected part, then go to Step 8. |
| 6 | <p><b>INSPECT TP SENSOR NO.2</b></p> <ul style="list-style-type: none"> <li>Inspect the TP sensor No.2.</li> </ul> <p>(See <b>THROTTLE POSITION (TP) SENSOR INSPECTION [MZI 3.7 V6]</b>.)</p> <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                      | Yes | Replace the throttle body, then go to Step 8.        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Go to the next step.                                 |
| 7 | <p><b>INSPECT TP SENSOR SIGNAL CIRCUITS FOR SHORT EACH OTHER</b></p> <ul style="list-style-type: none"> <li>Disconnect the TP sensor and PCM connector.</li> <li>Measure resistance between Throttle body connector terminal D and C.</li> <li>Is the resistance more than 10 kilohms?</li> </ul>                                                                                                                                                                                                                                                                              | Yes | Go to the next step.                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No  | Repair or replace suspected part, then go to Step 8. |

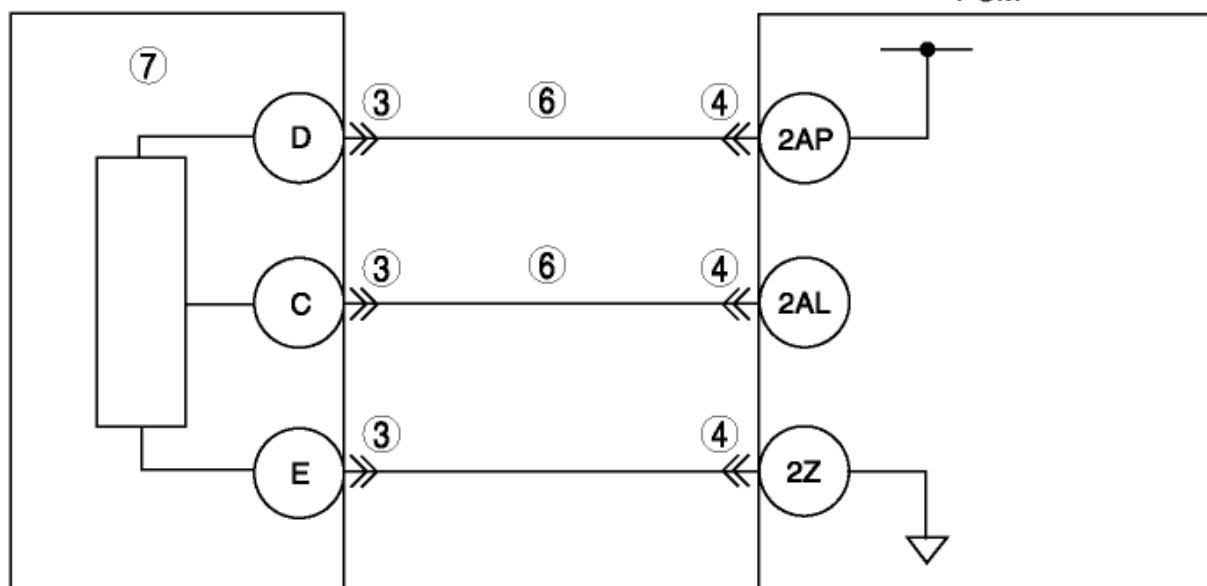
|   |                                                                                                                                                                                                                                                                                                                                                                                                                  |     |                                                                                                                                                                                                                                 |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 | <b>VERIFY TROUBLESHOOTING OF DTC P0223:00 HAS BEEN 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> <li>• Start the engine.</li> <li>• Perform the KOEO or KOER self-test.<br/>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6] .</a>)</li> <li>• Is 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.<br/><br/>(See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .</a>)</li> </ul> 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".<br/>(See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6] .</a>)</li> <li>• Are any DTCs present?</li> </ul>                                                                                                                                                                                  | Yes | Go to the applicable DTC inspection.<br><br>(See <a href="#">DTC TABLE [MZI 3.7 V6] .</a> )                                                                                                                                     |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                  | No  | Troubleshooting completed.                                                                                                                                                                                                      |

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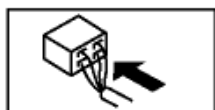
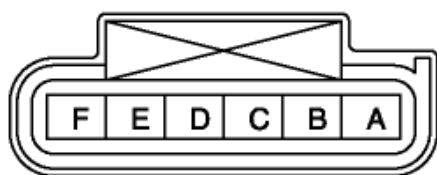
DTC P0223:00 [MZI 3.7 V6]

|                     |                                                                                                                                                                                                                                                                                 |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0223:00        | TP sensor No.2 circuit high input                                                                                                                                                                                                                                               |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>• The TP sensor No.2 circuit was flagged as a concern by the PCM indicating a high voltage.</li></ul>                                                                                                                                     |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>• Connector or terminal malfunction</li><li>• Open circuit wiring harness between throttle body terminal C and PCM terminal 2AL</li><li>• TP sensor No.2 malfunction</li><li>• TP sensor signal circuits are shorted each other</li></ul> |

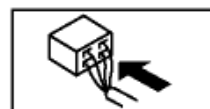
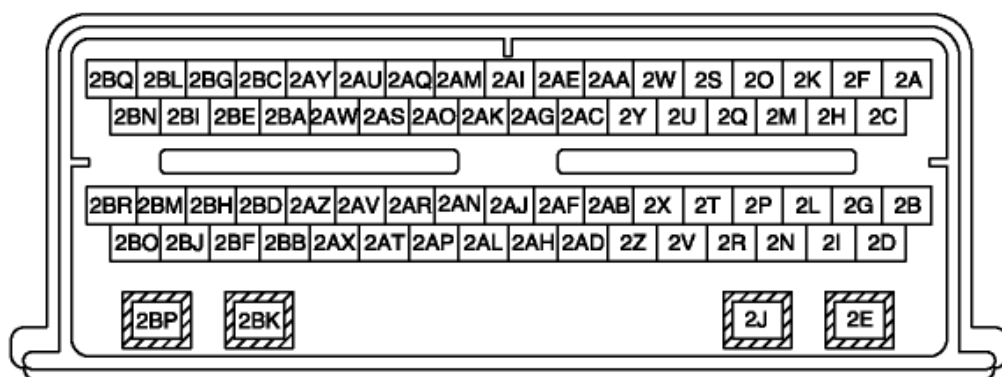
**TP SENSOR NO.2  
(THROTTLE BODY)**



**THROTTLE BODY  
WIRING HARNESS-SIDE CONNECTOR**



**PCM  
WIRING HARNESS-SIDE CONNECTOR**



**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.<br>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 and/or on-line repair information availability.</li> </ul> | Yes Perform repair or diagnosis according to the available Service Bulletins. <ul style="list-style-type: none"> <li>If the vehicle is not repaired, go to the next</li> </ul> |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                      |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Is any related Service Bulletins available?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     | step.                                                |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                 |
| 3 | <b>INSPECT TP SENSOR CONNECTOR FOR POOR CONNECTION</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the throttle body 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 8. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 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 to off.</li> <li>Disconnect the PCM 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 8. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                 |
| 5 | <b>INSPECT TP SIGNAL CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Switch the ignition to off.</li> <li>Disconnect the PCM connector.</li> <li>Disconnect the throttle body connector.</li> <li>Inspect for continuity between the following terminals: <ul style="list-style-type: none"> <li>Throttle body terminal C (wiring harness-side) and PCM terminal 2AL (wiring harness-side)</li> <li>Throttle body terminal D (wiring harness-side) and PCM terminal 2AP (wiring harness-side)</li> </ul> </li> <li>Are there continuity?</li> </ul> | Yes | Go to the next step.                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Repair or replace suspected part, then go to Step 8. |
| 6 | <b>INSPECT TP SENSOR NO.2</b> <ul style="list-style-type: none"> <li>Inspect the TP sensor No.2.</li> </ul> <p>(See <b>THROTTLE POSITION (TP) SENSOR INSPECTION [MZI 3.7 V6]</b>.)</p> <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                      | Yes | Replace the throttle body, then go to Step 8.        |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Go to the next step.                                 |
| 7 | <b>INSPECT TP SENSOR SIGNAL CIRCUITS FOR SHORT EACH OTHER</b> <ul style="list-style-type: none"> <li>Disconnect the TP sensor and PCM connector.</li> <li>Measure resistance between Throttle body connector terminal D and C.</li> <li>Is the resistance more than 10 kilohms?</li> </ul>                                                                                                                                                                                                                                                                              | Yes | Go to the next step.                                 |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No  | Repair or replace suspected part, then go to Step 8. |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                  |     |                                                                                                                                                                                                                                 |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 | <b>VERIFY TROUBLESHOOTING OF DTC P0223:00 HAS BEEN 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> <li>• Start the engine.</li> <li>• Perform the KOEO or KOER self-test.<br/>(See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6] .</a>)</li> <li>• Is 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.<br/><br/>(See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .</a>)</li> </ul> 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".<br/>(See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6] .</a>)</li> <li>• Are any DTCs present?</li> </ul>                                                                                                                                                                                  | Yes | Go to the applicable DTC inspection.<br><br>(See <a href="#">DTC TABLE [MZI 3.7 V6] .</a> )                                                                                                                                     |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                  | No  | Troubleshooting completed.                                                                                                                                                                                                      |