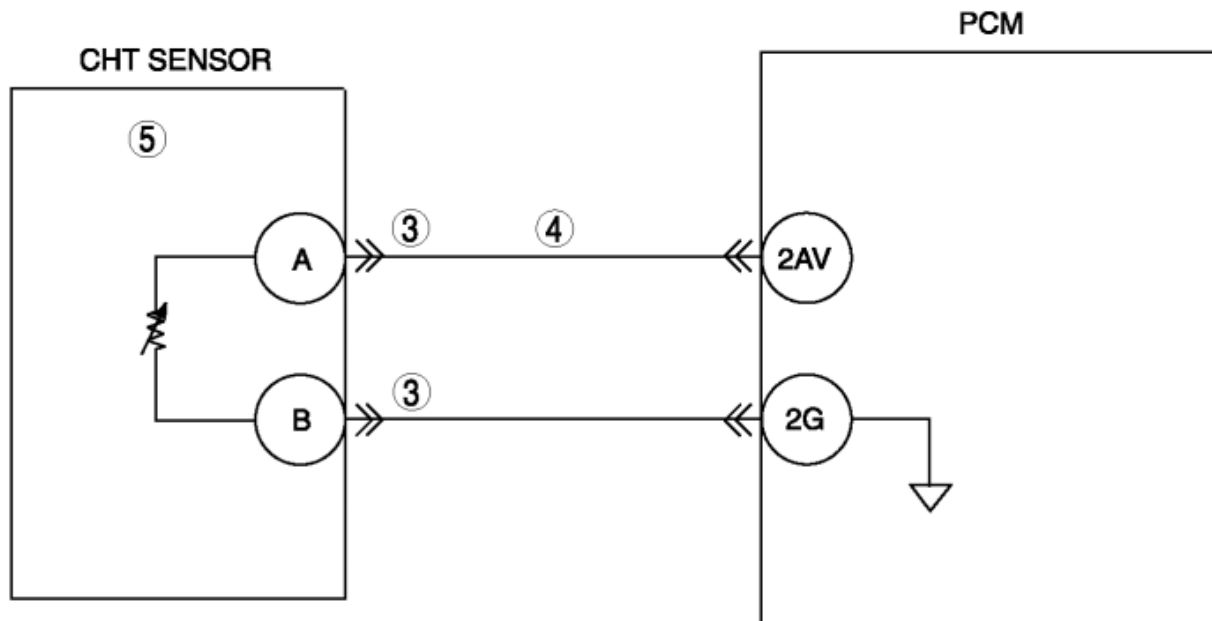


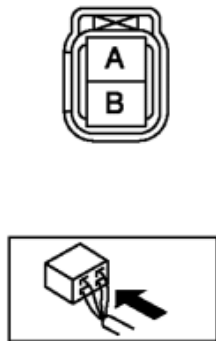
2012 - Mazda6 - Engine

DTC P1290:00 [MZI 3.7 V6]

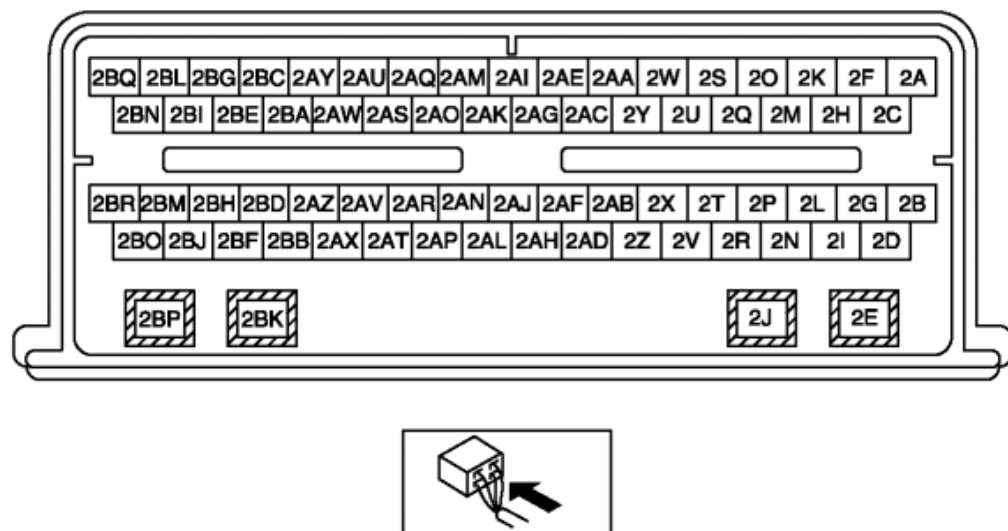
|                     |                                                                                                                                                                                                               |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P1290:00        | CHT sensor circuit low input                                                                                                                                                                                  |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates a CHT sensor circuit short to ground.</li></ul>                                                                                                               |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Short to ground in wiring harness between CHT sensor terminal A and PCM terminal 2AV</li><li>CHT sensor malfunction</li><li>Connector or terminal malfunction</li></ul> |
|                     |                                                                                                                                                                                                               |



**CHT SENSOR  
WIRING HARNESS-SIDE CONNECTOR**



**PCM  
WIRING HARNESS-SIDE CONNECTOR**



## Diagnostic procedure

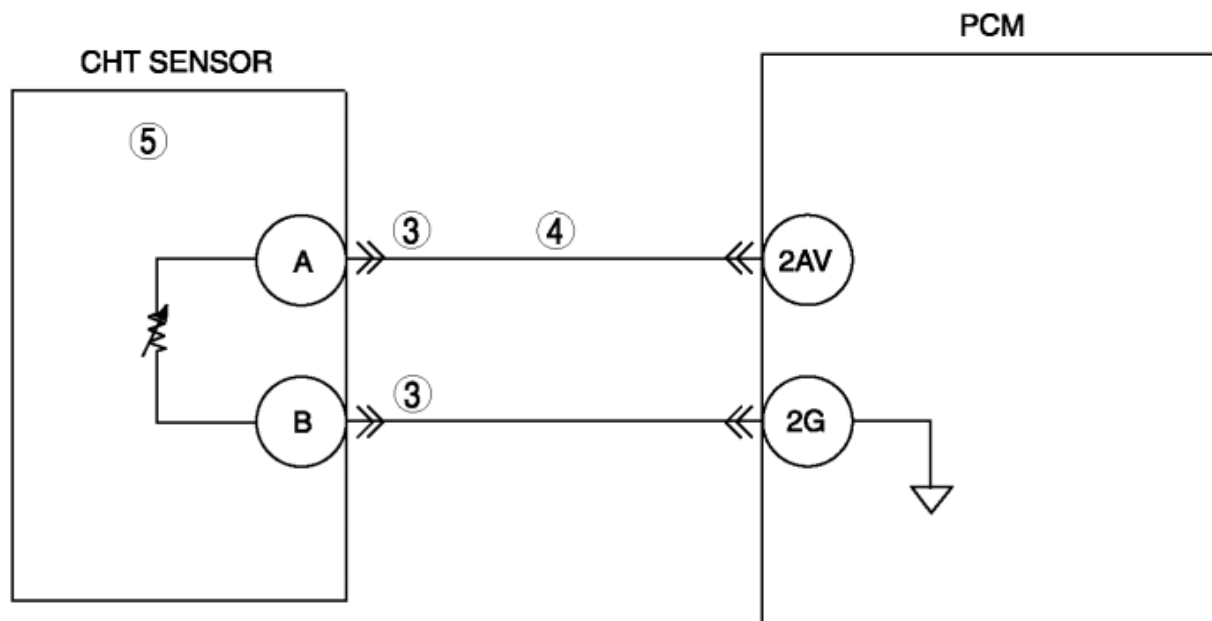
| STEP | INSPECTION                                                                                                                                                                                                                                    | ACTION                                                                                                                                                                                      |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>                                                                                                      | <p>Yes Go to the next step.</p> <p>No Record FREEZE FRAME DATA on the repair order, then go to the next step.</p>                                                                           |
| 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 Service Bulletins available?</li> </ul> | <p>Yes Perform repair or diagnosis according to the available Service Bulletins.</p> <ul style="list-style-type: none"> <li>If the vehicle is not repaired, go to the next step.</li> </ul> |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |                                                                                                                                                                                                                                |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                           |
| 3 | <b>INSPECT TERMINAL BENT</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the CHT sensor connector.</li> <li>Inspect for bent of CHT sensor terminals A and B (part-side).</li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                       | Yes | Repair or replace the terminal, then go to Step 6.                                                                                                                                                                             |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                           |
| 4 | <b>INSPECT CHT SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Inspect for continuity between CHT sensor terminal A (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>                                                                                                                                                            | Yes | Repair or replace suspected part, then go to Step 6.                                                                                                                                                                           |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                           |
| 5 | <b>INSPECT CHT SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the CHT sensor.</li> </ul> (See <a href="#">CYLINDER HEAD TEMPERATURE (CHT) SENSOR INSPECTION [MZI 3.7 V6]</a> .) <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                | Yes | Replace the CHT sensor, then go to the next step.                                                                                                                                                                              |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                           |
| 6 | <b>VERIFY TROUBLESHOOTING OF DTC P1290:00 HAS BEEN COMPLETED</b> <ul style="list-style-type: none"> <li>Verify that all disconnected connectors reconnected.</li> <li>Clear the DTC from the PCM memory using the M-MDS.</li> <li>Perform the KOEO or KOER self-test.</li> </ul> (See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6]</a> .) <ul style="list-style-type: none"> <li>Is the PENDING CODE for the 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> (See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]</a> .)           Go to the next step. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                           |
| 7 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"> <li>Perform the "AFTER REPAIR PROCEDURE".</li> </ul> (See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6]</a> .) <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                      | Yes | Go to the applicable DTC inspection.           (See <a href="#">DTC TABLE [MZI 3.7 V6]</a> .)                                                                                                                                  |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Troubleshooting completed.                                                                                                                                                                                                     |

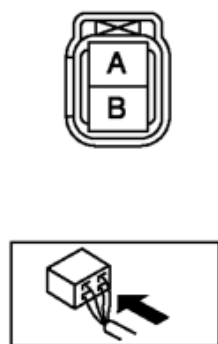
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DTC P1290:00 [MZI 3.7 V6]

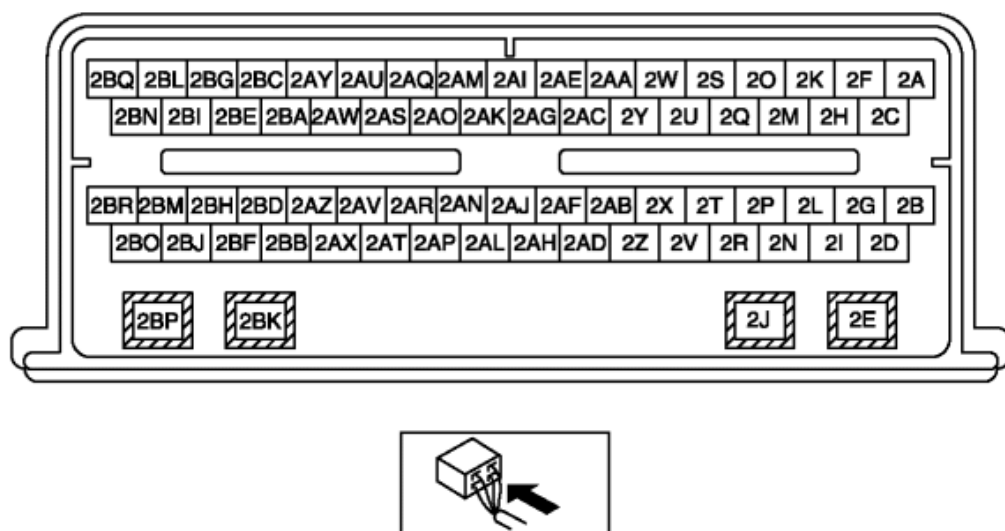
|                     |                                                                                                                                                                                                               |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P1290:00        | CHT sensor circuit low input                                                                                                                                                                                  |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>Indicates a CHT sensor circuit short to ground.</li></ul>                                                                                                               |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>Short to ground in wiring harness between CHT sensor terminal A and PCM terminal 2AV</li><li>CHT sensor malfunction</li><li>Connector or terminal malfunction</li></ul> |
|                     |                                                                                                                                                                                                               |



**CHT SENSOR  
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> <li>Is any related Service Bulletins available?</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 step.</li> </ul> |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |                                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                    |
| 3 | <b>INSPECT TERMINAL BENT</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the CHT sensor connector.</li> <li>Inspect for bent of CHT sensor terminals A and B (part-side).</li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                       | Yes | Repair or replace the terminal, then go to Step 6.                                                                                                                                                                      |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                    |
| 4 | <b>INSPECT CHT SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Inspect for continuity between CHT sensor terminal A (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>                                                                                                                                                            | Yes | Repair or replace suspected part, then go to Step 6.                                                                                                                                                                    |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                    |
| 5 | <b>INSPECT CHT SENSOR</b> <ul style="list-style-type: none"> <li>Inspect the CHT sensor.</li> </ul> (See <a href="#">CYLINDER HEAD TEMPERATURE (CHT) SENSOR INSPECTION [MZI 3.7 V6].</a> ) <ul style="list-style-type: none"> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                | Yes | Replace the CHT sensor, then go to the next step.                                                                                                                                                                       |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                    |
| 6 | <b>VERIFY TROUBLESHOOTING OF DTC P1290:00 HAS BEEN COMPLETED</b> <ul style="list-style-type: none"> <li>Verify that all disconnected connectors reconnected.</li> <li>Clear the DTC from the PCM memory using the M-MDS.</li> <li>Perform the KOEO or KOER self-test.</li> </ul> (See <a href="#">KOEO/ KOER SELF TEST [MZI 3.7 V6].</a> ) <ul style="list-style-type: none"> <li>Is the PENDING CODE for the 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> (See <a href="#">PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].</a> )<br>Go to the next step. |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Go to the next step.                                                                                                                                                                                                    |
| 7 | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"> <li>Perform the "AFTER REPAIR PROCEDURE".</li> </ul> (See <a href="#">AFTER REPAIR PROCEDURE [MZI 3.7 V6].</a> ) <ul style="list-style-type: none"> <li>Are any DTCs present?</li> </ul>                                                                                                                                                                      | Yes | Go to the applicable DTC inspection.<br>(See <a href="#">DTC TABLE [MZI 3.7 V6].</a> )                                                                                                                                  |
|   |                                                                                                                                                                                                                                                                                                                                                                                                                                       | No  | Troubleshooting completed.                                                                                                                                                                                              |