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## 1993 MAZDA Xedos 9 OEM Service and Repair Workshop Manual

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DTC P025D:00 [PCM (SKYACTIV-G 2.5T)]

SM2896420

id0102s800850

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P025D:00           | Fuel pump control module result of on-board diagnostic test high input                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• Result of on-board test cannot be received from fuel pump control module (voltage is too high).</li></ul> <b>Diagnostic support note</b> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The check engine light does not illuminate.</li><li>• FREEZE FRAME DATA is not available.</li><li>• Snapshot data is available.</li><li>• DTC is stored in the PCM memory.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FAIL-SAFE FUNCTION     | <ul style="list-style-type: none"><li>• Not applicable</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| POSSIBLE CAUSE         | <ul style="list-style-type: none"><li>• Fuel pump control module connector or terminals malfunction</li><li>• PCM connector or terminals malfunction</li><li>• Short to power supply in wiring harness between fuel pump control module terminal 1A and PCM terminal 2AW</li><li>• Open circuit in wiring harness between fuel pump control module terminal 1A and PCM terminal 2AW</li><li>• Fuel pump control module malfunction</li><li>• Short to ground in wiring harness between fuel pump relay terminal D and fuel pump control module terminal 2A</li><li>• Short to power supply in wiring harness between fuel pump relay terminal D and fuel pump control module terminal 2A</li><li>• Open circuit in wiring harness between fuel pump relay terminal D and fuel pump control module terminal 2A</li><li>• Fuel pump relay malfunction</li><li>• Short to ground or open circuit in fuel pump relay power supply circuit:<ul style="list-style-type: none"><li>— Short to ground in wiring harness between battery positive terminal and fuel pump relay terminal C</li><li>— MAIN 200 A fuse and/or FUEL PUMP 15 A fuse malfunction</li><li>— Open circuit in wiring harness between battery positive terminal and fuel pump relay terminal C</li></ul></li><li>• PCM malfunction</li></ul> |

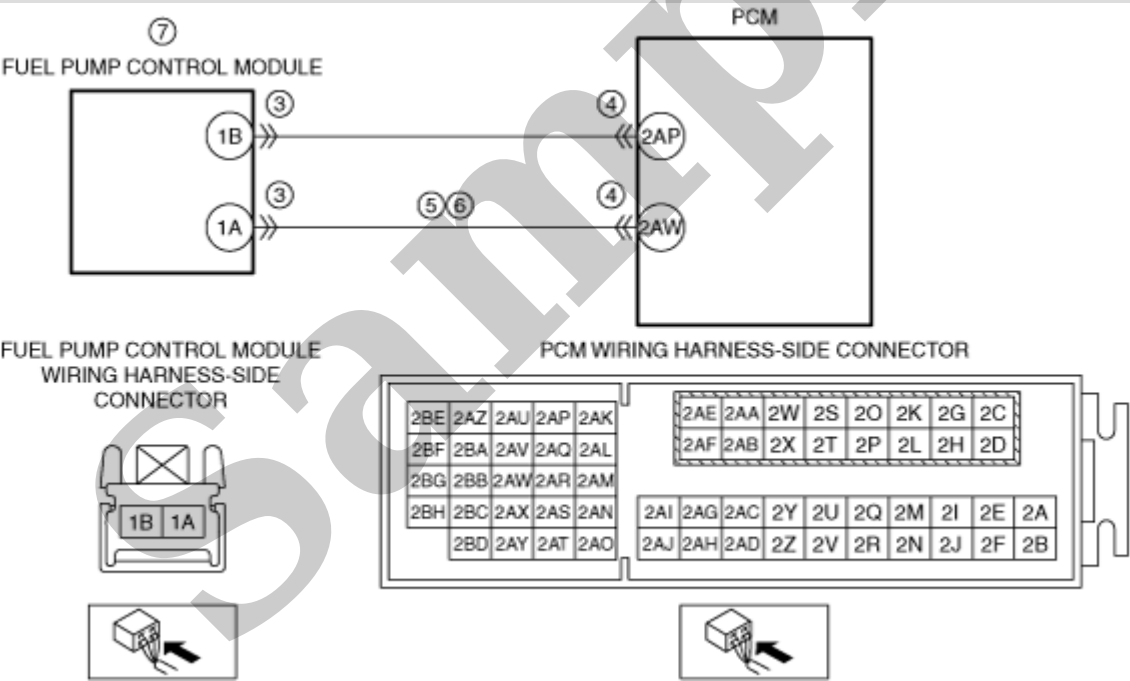
| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | RESULTS | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8    | <b>INSPECT FUEL PUMP RELAY CONTROL CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Remove the fuel pump relay.</li> <li>Verify that the fuel pump control module and PCM connectors are disconnected.</li> <li>Inspect for continuity between fuel pump relay terminal D (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>                                                                                                                                                                                 | Yes     | Refer to the wiring diagram and verify whether or not there is a common connector between fuel pump relay terminal D and fuel pump control module terminal 2A.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.</li> <li>Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness which has a short to ground.</li> </ul> Go to Step 13.             |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No      | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 9    | <b>INSPECT FUEL PUMP RELAY CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>Verify that fuel pump relay is removed.</li> <li>Verify that the fuel pump control module and PCM connectors are disconnected.</li> <li>Switch the ignition ON (engine off).</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Another DTC may be stored by the PCM detecting an open circuit.</li> <li>Measure the voltage at the fuel pump relay terminal D (wiring harness-side).</li> <li>Is the voltage 0 V?</li> </ul> | Yes     | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No      | Refer to the wiring diagram and verify whether or not there is a common connector between fuel pump relay terminal D and fuel pump control module terminal 2A.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply.</li> <li>Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness which has a short to power supply.</li> </ul> Go to Step 13. |
| 10   | <b>INSPECT FUEL PUMP RELAY CONTROL CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Verify that fuel pump relay is removed.</li> <li>Verify that the fuel pump control module and PCM connectors are disconnected.</li> <li>Switch the ignition off.</li> <li>Inspect for continuity between fuel pump relay terminal D (wiring harness-side) and fuel pump control module terminal 2A (wiring harness-side).</li> <li>Is there continuity?</li> </ul>                                                                                       | Yes     | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No      | Refer to the wiring diagram and verify whether or not there is a common connector between fuel pump relay terminal D and fuel pump control module terminal 2A.<br><b>If there is a common connector:</b> <ul style="list-style-type: none"> <li>Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.</li> <li>Repair or replace the malfunctioning part.</li> </ul> <b>If there is no common connector:</b> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness which has an open circuit.</li> </ul> Go to Step 13.                 |
| 11   | <b>INSPECT FUEL PUMP RELAY</b> <ul style="list-style-type: none"> <li>Verify that fuel pump relay is removed.</li> <li>Inspect the fuel pump relay. (See <b>RELAY INSPECTION</b>.)</li> <li>Is there any malfunction?</li> </ul>                                                                                                                                                                                                                                                                                                                                | Yes     | Replace the fuel pump relay, then go to Step 13.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No      | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

DTC P025C:00 [PCM (SKYACTIV-G 2.5T)]

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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P025C:00        | Fuel pump control module result of on-board diagnostic test low input                                                                                                                                                                                                                                                                                                                                                                                            |
| DETECTION CONDITION | <ul style="list-style-type: none"><li>• Result of on-board test cannot be received from fuel pump control module (voltage is too low).</li></ul> <b>Diagnostic support note</b> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The check engine light does not illuminate.</li><li>• FREEZE FRAME DATA is not available.</li><li>• Snapshot data is available.</li><li>• DTC is stored in the PCM memory.</li></ul>       |
| FAIL-SAFE FUNCTION  | <ul style="list-style-type: none"><li>• Not applicable</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                 |
| POSSIBLE CAUSE      | <ul style="list-style-type: none"><li>• Fuel pump control module connector or terminals malfunction</li><li>• PCM connector or terminals malfunction</li><li>• Short to ground in wiring harness between fuel pump control module terminal 1A and PCM terminal 2AW</li><li>• Open circuit in wiring harness between fuel pump control module terminal 1A and PCM terminal 2AW</li><li>• Fuel pump control module malfunction</li><li>• PCM malfunction</li></ul> |



Diagnostic Procedure



DTC P0365:00 [PCM (SKYACTIV-G 2.5T)]

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|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DTC P0365:00           | Exhaust CMP sensor circuit problem                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DETECTION<br>CONDITION | <ul style="list-style-type: none"><li>• The exhaust CMP sensor input signal pattern, received while the crankshaft rotates 24 times, is incorrect.</li><li>• Cylinder identification is not completed while the crankshaft rotates 15 times.</li></ul> <b>Diagnostic support note</b> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The check engine light illuminates if the PCM detects the above malfunction condition during the first drive cycle.</li><li>• FREEZE FRAME DATA/Snapshot data is available.</li><li>• DTC is stored in the PCM memory.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FAIL-SAFE FUNCTION     | <ul style="list-style-type: none"><li>• Stops fuel injection</li><li>• Stops ignition</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| POSSIBLE CAUSE         | <ul style="list-style-type: none"><li>• Exhaust CMP sensor connector or terminals malfunction</li><li>• Short to ground or open circuit in exhaust CMP sensor power supply circuit<ul style="list-style-type: none"><li>— Short to ground in wiring harness between ENGINE2 15 A fuse and exhaust CMP sensor terminal C</li><li>— ENGINE2 15 A fuse malfunction</li><li>— Open circuit in wiring harness between main relay terminal C and exhaust CMP sensor terminal C</li></ul></li><li>• Short to ground in wiring harness between exhaust CMP sensor terminal A and PCM terminal 1Q</li><li>• PCM connector or terminals malfunction</li><li>• Short to power supply in wiring harness between exhaust CMP sensor terminal A and PCM terminal 1Q</li><li>• Exhaust CMP sensor signal circuit and ground circuit are shorted to each other</li><li>• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— Exhaust CMP sensor terminal A–PCM terminal 1Q</li><li>— Exhaust CMP sensor terminal B–PCM terminal 1X</li></ul></li><li>• Exhaust CMP sensor malfunction<ul style="list-style-type: none"><li>— Exhaust CMP sensor is dirty</li><li>— Exhaust CMP sensor pulse wheel malfunction</li></ul></li><li>• CKP sensor connector or terminals malfunction</li><li>• Loose timing chain or improper valve timing</li><li>• PCM malfunction</li></ul> |

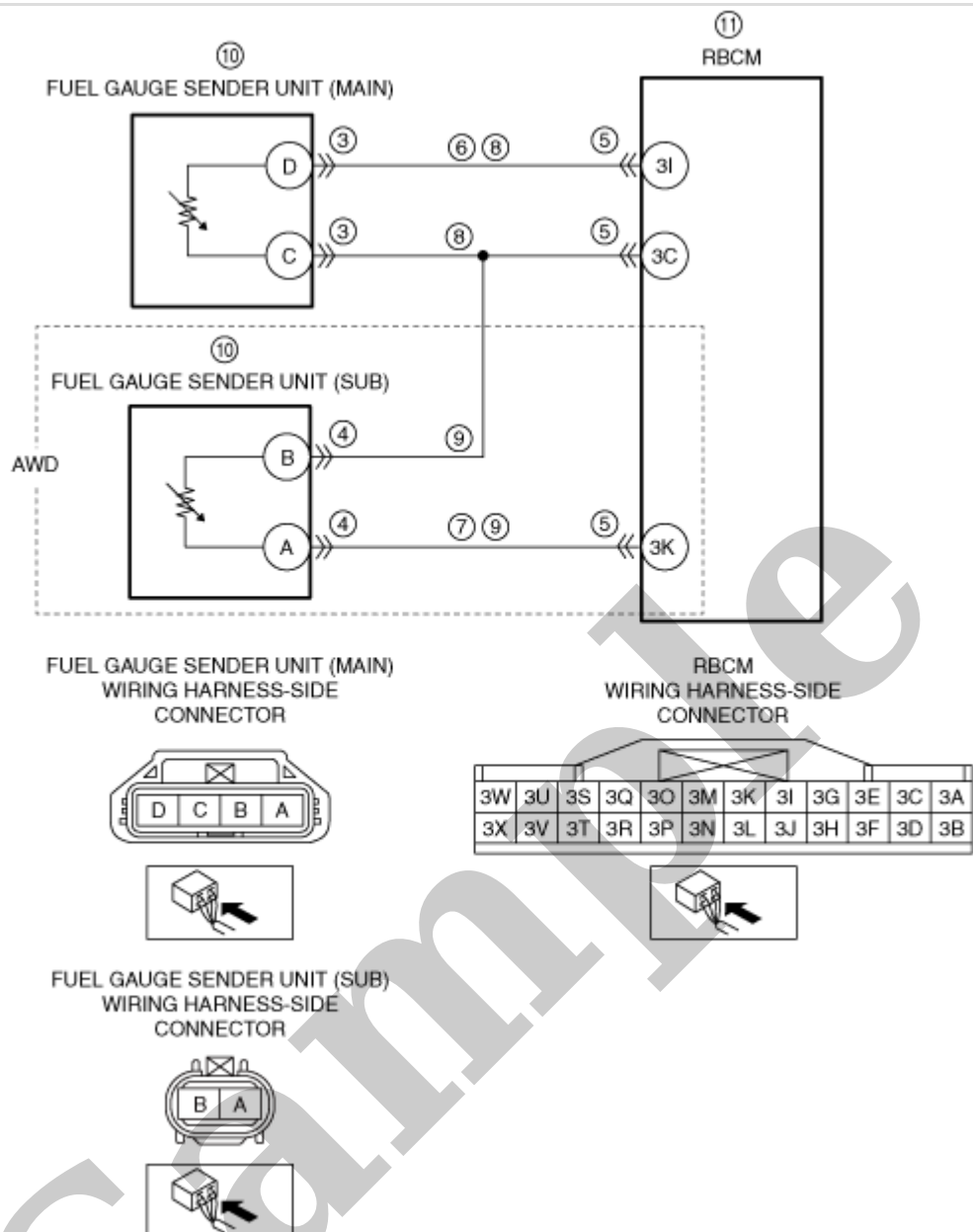
| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RESULTS | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5    | <p><b>INSPECT EXHAUST CMP SENSOR POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT</b></p> <ul style="list-style-type: none"> <li>• Verify that the exhaust CMP sensor connector is disconnected.</li> <li>• Switch the ignition ON (engine off).</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• <b>Another DTC may be stored by the PCM detecting an open circuit.</b></li> <li>• Measure the voltage at the exhaust CMP sensor terminal C (wiring harness-side).</li> <li>• Is the voltage B+?</li> </ul> | Yes     | <p>Go to the next step.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No      | <p>Inspect the ENGINE2 15 A fuse.</p> <ul style="list-style-type: none"> <li>• If the fuse is blown: <ul style="list-style-type: none"> <li>— Refer to the wiring diagram and verify whether or not there is a common connector between ENGINE2 15 A fuse and exhaust CMP sensor terminal C.</li> </ul> </li> </ul> <p><b>If there is a common connector:</b></p> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <p><b>If there is no common connector:</b></p> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness which has a short to ground.</li> <li>• Replace the fuse.</li> </ul> <ul style="list-style-type: none"> <li>• If the fuse is damaged: <ul style="list-style-type: none"> <li>— Replace the fuse.</li> </ul> </li> <li>• If the fuse is normal: <ul style="list-style-type: none"> <li>— Refer to the wiring diagram and verify whether or not there is a common connector between main relay terminal C and exhaust CMP sensor terminal C.</li> </ul> </li> </ul> <p><b>If there is a common connector:</b></p> <ul style="list-style-type: none"> <li>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.</li> <li>• Repair or replace the malfunctioning part.</li> </ul> <p><b>If there is no common connector:</b></p> <ul style="list-style-type: none"> <li>• Repair or replace the wiring harness which has an open circuit.</li> </ul> <p>Go to Step 14.</p> |

| STEP | INSPECTION                                                                                                                                                                                                                | RESULTS | ACTION                                                                                |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------|
| 15   | <b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"><li>• Perform the “AFTER REPAIR PROCEDURE”. (See <b>AFTER REPAIR PROCEDURE [PCM (SKYACTIV-G 2.5T)]</b>.)</li><li>• Are any DTCs present?</li></ul> | Yes     | Go to the applicable DTC inspection. (See <b>DTC TABLE [PCM (SKYACTIV-G 2.5T)]</b> .) |
|      |                                                                                                                                                                                                                           | No      | DTC troubleshooting completed.                                                        |

Sample

| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RESULTS | ACTION                                                                                               |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------|
| 1    | <b>PURPOSE: REPLACE HIGH PRESSURE FUEL SYSTEM RELATED PARTS DUE TO MALFUNCTION IN HIGH PRESSURE FUEL SYSTEM PARTS</b> <ul style="list-style-type: none"> <li>• Replace the following parts. <ul style="list-style-type: none"> <li>— High pressure fuel pump (See <b>HIGH PRESSURE FUEL PUMP REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b>)</li> <li>— High pressure fuel pipe (See <b>HIGH PRESSURE FUEL PUMP REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b>)</li> <li>— Fuel injector No.1 (See <b>FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b>)</li> <li>— Fuel injector No.2</li> <li>— Fuel injector No.3</li> <li>— Fuel injector No.4</li> <li>— Fuel distributor (See <b>FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b>)</li> </ul> </li> </ul> | —       | Go to the next step.                                                                                 |
| 2    | <b>PURPOSE: VERIFICATION OF VEHICLE REPAIR COMPLETION</b> <ul style="list-style-type: none"> <li>• Always reconnect all disconnected connectors.</li> <li>• Clear the DTC from the PCM memory using the M-MDS. (See <b>CLEARING DTC [PCM (SKYACTIV-G 2.5T)].</b>)</li> <li>• Perform the KOER self test. (See <b>KOEO/KOER SELF TEST [PCM (SKYACTIV-G 2.5T)].</b>)</li> <li>• Is the same Pending DTC present?</li> </ul>                                                                                                                                                                                                                                                                                                                                                  | Yes     | Replace the PCM, then go to the next step. (See <b>PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].</b> ) |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No      | Go to the next step.                                                                                 |
| 3    | <b>PURPOSE: VERIFY IF THERE IS ANY OTHER MALFUNCTION</b> <ul style="list-style-type: none"> <li>• Is any other DTC or pending code stored?</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes     | Go to the applicable DTC inspection. (See <b>DTC TABLE [PCM (SKYACTIV-G 2.5T)].</b> )                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No      | DTC troubleshooting completed.                                                                       |

| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | RESULTS | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p><b>RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION</b></p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>Recording can be facilitated using the screen capture function of the PC.</li> <li>Record the FREEZE FRAME DATA/snapshot data on the repair order.</li> </ul>                                                                                                                                                                                                                   | –       | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2    | <p><b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b></p> <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     | <p>Perform repair or diagnosis according to the available repair information.</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    | <p><b>INSPECT HIGH PRESSURE FUEL PUMP CONNECTOR CONDITION</b></p> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the high pressure fuel pump 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 connector and/or terminals, then go to Step 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No      | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4    | <p><b>INSPECT PCM CONNECTOR CONDITION</b></p> <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 connector and/or terminals, then go to Step 8.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No      | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5    | <p><b>INSPECT SPILL VALVE CONTROL SOLENOID VALVE CONTROL CIRCUIT FOR SHORT TO GROUND</b></p> <ul style="list-style-type: none"> <li>Verify that the high pressure fuel pump and PCM connectors are disconnected.</li> <li>Inspect for continuity between high pressure fuel pump terminal B (wiring harness-side) and body ground.</li> <li>Is there continuity?</li> </ul>                                                                                                                                                                       | Yes     | <p>Refer to the wiring diagram and verify whether or not there is a common connector between high pressure fuel pump terminal B and PCM terminal 1EF.</p> <p><b>If there is a common connector:</b></p> <ul style="list-style-type: none"> <li>Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.</li> <li>Repair or replace the malfunctioning part.</li> </ul> <p><b>If there is no common connector:</b></p> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness which has a short to ground.</li> </ul> <p>Go to Step 8.</p>                                                                                                                                |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No      | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6    | <p><b>INSPECT SPILL VALVE CONTROL SOLENOID VALVE CIRCUIT FOR OPEN CIRCUIT</b></p> <ul style="list-style-type: none"> <li>Verify that the high pressure fuel pump and PCM connectors are disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side):</li> </ul> <ul style="list-style-type: none"> <li>High pressure fuel pump terminal A–PCM terminal 1EE</li> <li>High pressure fuel pump terminal B–PCM terminal 1EF</li> </ul> <ul style="list-style-type: none"> <li>Is there continuity?</li> </ul> | Yes     | Go to the next step.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No      | <p>Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:</p> <ul style="list-style-type: none"> <li>High pressure fuel pump terminal A–PCM terminal 1EE</li> <li>High pressure fuel pump terminal B–PCM terminal 1EF</li> </ul> <p><b>If there is a common connector:</b></p> <ul style="list-style-type: none"> <li>Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.</li> <li>Repair or replace the malfunctioning part.</li> </ul> <p><b>If there is no common connector:</b></p> <ul style="list-style-type: none"> <li>Repair or replace the wiring harness which has an open circuit.</li> </ul> <p>Go to Step 8.</p> |



Diagnostic Procedure

| STEP | INSPECTION                                                                                                                                                                                                                                                                                                                       | RESULTS                      | ACTION                                                                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <p><b>RECORD VEHICLE STATUS AT TIME OF DTC DETECTION TO UTILIZE WITH REPEATABILITY VERIFICATION</b></p> <p><b>Note</b></p> <ul style="list-style-type: none"><li>• Recording can be facilitated using the screen capture function of the PC.</li><li>• Record the FREEZE FRAME DATA/snapshot data on the repair order.</li></ul> | –                            | Go to the next step.                                                                                                                                                                    |
| 2    | <p><b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b></p> <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>                                                                           | <div>Yes</div> <div>No</div> | <div>Perform repair or diagnosis according to the available repair information.</div> <div>• If the vehicle is not repaired, go to the next step.</div> <div>Go to the next step.</div> |