

# DTC P0488:00 [SKYACTIV-D 2.2]

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<b>DTC P0488:00</b>	<b>Duty signal error in EGR valve (cooler side) control system</b>
<b>DETECTION CONDITION</b>	<ul style="list-style-type: none"> <li>When the following conditions are met, the EGR valve control duty value is <b>90 % or more</b> for a continuous <b>2 s</b>:  <b>MONITORING CONDITIONS</b> <ul style="list-style-type: none"> <li>EGR valve is operating</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 (Mode 2)/Snapshot data is available.</li> <li>DTC is stored in the PCM memory.</li> </ul> </li> </ul>
<b>FAIL-SAFE FUNCTION</b>	<ul style="list-style-type: none"> <li>Inhibits the two-stage turbo control.</li> <li>Inhibits the EGR control.</li> <li>Inhibits engine-stop by operating the i-stop function.</li> <li>PCM restricts engine-transaxle integration control.</li> </ul>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>EGR valve/EGR valve position sensor connector or terminals malfunction</li> <li>PCM connector or terminals malfunction</li> <li>EGR valve malfunction</li> <li>PCM malfunction</li> </ul>
<b>SYSTEM WIRING DIAGRAM</b>	Not applicable

## Diagnostic Procedure

STEP	INSPECTION		ACTION
1	<b>VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED</b> <ul style="list-style-type: none"> <li>Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?</li> </ul>	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	<b>VERIFY RELATED SERVICE INFORMATION AVAILABILITY</b> <ul style="list-style-type: none"> <li>Verify related Service Information availability.</li> <li>Is any related Service Information available?</li> </ul>	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	<b>INSPECT EGR VALVE/EGR VALVE POSITION SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Switch the ignition off.</li> <li>Disconnect the EGR valve/EGR valve position sensor 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 6.
		No	Go to the next step.
4	<b>INSPECT PCM CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>Disconnect the PCM connector.</li> <li>Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).</li> <li>Is there any malfunction?</li> </ul>	Yes	Repair or replace the connector and/or terminals, then go to Step 6.
		No	Go to the next step.
5	<b>INSPECT EGR VALVE</b> <ul style="list-style-type: none"> <li>Inspect the EGR valve. (See EGR VALVE INSPECTION [SKYACTIV-D 2.2].)</li> <li>Is there any malfunction?</li> </ul>	Yes	Replace the EGR valve, then go to the next step. (See EGR VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
6	<b>VERIFY DTC TROUBLESHOOTING COMPLETED</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 AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].)</li> <li>• Start the engine and warm it up completely.</li> <li>• Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].)</li> <li>• Is the same DTC present?</li> </ul>	Yes	Repeat the inspection from Step 1. <ul style="list-style-type: none"> <li>• If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)</li> </ul> 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". (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].)</li> <li>• Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.