

<b>DTC</b> <b>P0328:00</b>	<b>KS circuit high input</b>
<b>DETECTION</b> <b>CONDITION</b>	<ul style="list-style-type: none"><li>• The PCM monitors the input signal from the KS when the engine is running. If the input voltage is <b>above 2.4 V</b> for <b>5 s</b>, the PCM determines that the KS circuit has a malfunction.</li></ul> <p><b>Diagnostic support note</b></p> <ul style="list-style-type: none"><li>• This is a continuous monitor (CCM).</li><li>• The 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>• The DTC is stored in the PCM memory.</li></ul>
<b>FAIL-SAFE</b> <b>FUNCTION</b>	<ul style="list-style-type: none"><li>• Sets the knocking spark retard correction value of the ignition control to the fixed value.</li></ul>
<b>POSSIBLE</b> <b>CAUSE</b>	<ul style="list-style-type: none"><li>• KS connector or terminals malfunction</li><li>• KS malfunction</li><li>• PCM connector or terminals malfunction</li><li>• Short to power supply in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— KS terminal A—PCM terminal 1H</li><li>— KS terminal B—PCM terminal 1D</li></ul></li><li>• KS circuits are shorted to each other</li><li>• Open circuit in wiring harness between the following terminals:<ul style="list-style-type: none"><li>— KS terminal A—PCM terminal 1H</li><li>— KS terminal B—PCM terminal 1D</li></ul></li><li>• PCM malfunction</li></ul>

④

KS

## 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 No	Go to the next step. Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.

STEP	INSPECTION		ACTION
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.
		No	Go to the next step.
3	<b>INSPECT KS CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the KS 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 9.
		No	Go to the next step.
4	<b>INSPECT KS</b> <ul style="list-style-type: none"> <li>• Inspect the KS.</li> <li>(See KNOCK SENSOR (KS) INSPECTION [SKYACTIV-G 2.0].)</li> <li>• Is there any malfunction?</li> </ul>	Yes	Replace the KS, then go to Step 9.
		No	(See KNOCK SENSOR (KS) REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Go to the next step.
5	<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 9.
		No	Go to the next step.
6	<b>INSPECT KS CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>• Verify that the KS and PCM connectors are disconnected.</li> <li>• Switch the ignition ON (engine off or on).</li> <li>• Measure the voltage at the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— KS terminal A</li> <li>— KS terminal B</li> </ul> </li> <li>• Is the voltage <b>0 V</b>?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 9.
7	<b>INSPECT KS CIRCUITS FOR SHORT TO EACH OTHER</b> <ul style="list-style-type: none"> <li>• Verify that the KS and PCM connectors are disconnected.</li> <li>• Switch the ignition to off.</li> <li>• Inspect for continuity between KS terminals A and B (wiring harness-side).</li> <li>• Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness for a possible short to each other, then go to Step 9.
		No	Go to the next step.
8	<b>INSPECT KS CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Verify that the KS and PCM connectors are disconnected.</li> <li>• Inspect for continuity between the following terminals (wiring harness-side): <ul style="list-style-type: none"> <li>— KS terminal A—PCM terminal 1H</li> <li>— KS terminal B—PCM terminal 1D</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
9	<b>VERIFY DTC TROUBLESHOOTING COMPLETED</b> <ul style="list-style-type: none"> <li>• Make sure to reconnect all disconnected connectors.</li> <li>• Clear the DTC from the PCM memory using the M-MDS.</li> <li>(See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].)</li> <li>• Start the engine.</li> <li>• Perform the KOEO or KOER self test.</li> <li>(See KOEO/KOER SELF TEST [SKYACTIV-G 2.0].)</li> <li>• Is the same DTC present?</li> </ul>	Yes	Repeat the inspection from Step 1.
		No	• If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Go to the next step.
		No	Go to the next step.

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STEP	INSPECTION		ACTION
10	<b>VERIFY AFTER REPAIR PROCEDURE</b> • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No	DTC troubleshooting completed.