	1010211010000				
DTC P2091:00	OCV circuit high input				
DETECTION CONDITION	<ul> <li>The PCM monitors the OCV current. If the PCM detects that the OCV control current (calculated from the OCV) is above the specification current, the PCM determines that the OCV circuit has a malfunction.</li> <li>Diagnostic support note</li> <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>				
FAIL-SAFE FUNCTION	Performs the exhaust variable valve timing control with a maximum cam retard request				
POSSIBLE CAUSE	OCV connector or terminals malfunction PCM connector or terminals malfunction Short to power supply in wiring harness between OCV terminal A and PCM terminal 1AN OCV malfunction PCM malfunction				
MAIN RELAY TERMINAL C	ENGINE2 15 A 3 6 4 A A A A A A A A A A A A A A A A A A				
PCM WIRING HARNESS-SIDE CONNECTOR					
1EI 1EG	1EAHDW1DS1DO1DK1DG				

**Diagnostic Procedure** 

Diagnostic Frocedure					
STEP	INSPECTION		ACTION		
1	VERIFY FREEZE FRAME DATA (MODE 2)/	Yes	Go to the next step.		
	SNAPSHOT DATA HAS BEEN RECORDED	No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data		
	Has the FREEZE FRAME DATA (Mode 2)/		on the repair order, then go to the next step.		
	snapshot data been recorded?				
2	VERIFY RELATED SERVICE INFORMATION	Yes	Perform repair or diagnosis according to the available		
	AVAILABILITY		Service Information.		
	Verify related Service Information availability.		If the vehicle is not repaired, go to the next step.		
	Is any related Service Information available?	No	Go to the next step.		

Switch the ignition to off.	STEP	INSPECTION		ACTION
Switch the ignition to off.     Disconnect the OCV connector.     Inspect for poor connection (such as damaged/pulled-out pins, corrosion).     Is there any malfunction?  INSPECT PCM CONNECTOR CONDITION     Disconnect the PCM connector.     Inspect for poor connection (such as damaged/pulled-out pins, corrosion).     Is there any malfunction?  INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY     Verify that the OCV and PCM connectors are disconnected.     Switch the ignition ON (engine off or on).     Measure the voltage at the OCV terminal A (wiring harness-side).     Inspect the OCV.     Inspect for poor connection.     Step 7.  Repair or replace the connector and/or terminals, then go to Step 7.  Go to the next step.  Yes Go to the next step.  Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Repair or replace the ocvirule wiring harness for a possible short to power supply, then go to Step 7.  Repair or replace the ocvirule to connector and/or terminals, then go to the next step.  Repair or replace the connector and/or terminals, then go to the next step.  Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Repair or replace the ocvirule the connector and/or terminals, then go to the next step.  Repair or replace the ocvirule the connector and/or terminals, then go to the next step.  Repair or replace the connector and/or terminals, then go to the next step.  Repair or replace the ocvirule the connector and/or terminals, then go to the next step.  Step 7.  Repair or replace the ocvirule the connector and/or terminals, then go to the next step.  Step 7.  Repair or replace the ocvirule the connector and/or terminals, then go to the next step.  Step 7.	-		Voc	
<ul> <li>Disconnect the OCV connector.</li> <li>Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>Is there any malfunction?</li> <li>INSPECT PCM CONNECTOR CONDITION</li> <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> <li>INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY</li> <li>Verify that the OCV and PCM connectors are disconnected.</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the OCV terminal A (wiring harness-side).</li> <li>Is the voltage 0 V?</li> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>Inspect OCV CONTROL VALVE (OCV) INSPECTION</li> </ul>	3		165	
<ul> <li>Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> <li>Is there any malfunction?</li> <li>INSPECT PCM CONNECTOR CONDITION         <ul> <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> </li> <li>INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY         <ul> <li>Verify that the OCV and PCM connectors are disconnected.</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the OCV terminal A (wiring harness-side).</li> <li>Is the voltage 0 V?</li> </ul> </li> <li>INSPECT OCV         <ul> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>Inspect TOCV (See OIL CONTROL VALVE (OCV) INSPECTION</li> </ul> </li> </ul>			No	
pulled-out pins, corrosion). Is there any malfunction?  INSPECT PCM CONNECTOR CONDITION Disconnect the PCM connector. Inspect for poor connection (such as damaged/pulled-out pins, corrosion). Is there any malfunction?  INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY Verify that the OCV and PCM connectors are disconnected. Switch the ignition ON (engine off or on). Measure the voltage at the OCV terminal A (wiring harness-side). Is the voltage 0 V?  INSPECT OCV Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION  Pyes Repair or replace the connector and/or terminals, then go to Step 7.  No Go to the next step.  Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Yes Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)			110	Ou to the next step.
<ul> <li>Is there any malfunction?</li> <li>INSPECT PCM CONNECTOR CONDITION         <ul> <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> </li> <li>INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY         <ul> <li>Verify that the OCV and PCM connectors are disconnected.</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the OCV terminal A (wiring harness-side).</li> <li>Is the voltage 0 V?</li> </ul> </li> <li>INSPECT OCV         <ul> <li>Inspect the OCV.</li> <li>Inspect the OCV.</li> <li>(See OIL CONTROL VALVE (OCV) INSPECTION</li> </ul> </li> <li>Yes Repair or replace the connector and/or terminals, then go to Step 7.</li> </ul> <li>Yes Go to the next step.</li> <li>Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.</li>		, , ,		
4 INSPECT PCM CONNECTOR CONDITION				
<ul> <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> <li>INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY</li> <li>Verify that the OCV and PCM connectors are disconnected.</li> <li>Switch the ignition ON (engine off or on).</li> <li>Measure the voltage at the OCV terminal A (wiring harness-side).</li> <li>Is the voltage 0 V?</li> <li>INSPECT OCV</li> <li>Inspect the OCV.</li> <li>(See OIL CONTROL VALVE (OCV) INSPECTION</li> </ul> Step 7. No <ul> <li>Go to the next step.</li> <li>Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.</li> </ul> Replace the OCV, then go to the next step. <ul> <li>(See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)</li> </ul>	4		Yes	Repair or replace the connector and/or terminals, then go to
pulled-out pins, corrosion).  • Is there any malfunction?  5 INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY  • Verify that the OCV and PCM connectors are disconnected.  • Switch the ignition ON (engine off or on).  • Measure the voltage at the OCV terminal A (wiring harness-side).  • Is the voltage 0 V?  6 INSPECT OCV  • Inspect the OCV.  (See OIL CONTROL VALVE (OCV) INSPECTION  Pes Go to the next step.  No Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Yes Replace the OCV, then go to the next step.  (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)		Disconnect the PCM connector.		
INSPECT OCV CONTROL CIRCUIT FOR SHORT     TO POWER SUPPLY		Inspect for poor connection (such as damaged/	No	
5 INSPECT OCV CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY • Verify that the OCV and PCM connectors are disconnected. • Switch the ignition ON (engine off or on). • Measure the voltage at the OCV terminal A (wiring harness-side). • Is the voltage 0 V?  6 INSPECT OCV • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION  Yes Go to the next step. Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Yes Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)		pulled-out pins, corrosion).		
TO POWER SUPPLY  • Verify that the OCV and PCM connectors are disconnected.  • Switch the ignition ON (engine off or on).  • Measure the voltage at the OCV terminal A (wiring harness-side).  • Is the voltage 0 V?  6 INSPECT OCV  • Inspect the OCV.  (See OIL CONTROL VALVE (OCV) INSPECTION  Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.  Yes Replace the OCV, then go to the next step.  (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)				
Verify that the OCV and PCM connectors are disconnected.     Switch the ignition ON (engine off or on).     Measure the voltage at the OCV terminal A (wiring harness-side).     Is the voltage 0 V?  INSPECT OCV     Inspect the OCV.     (See OIL CONTROL VALVE (OCV) INSPECTION  Power supply, then go to Step 7.	5		Yes	
disconnected.  • Switch the ignition ON (engine off or on).  • Measure the voltage at the OCV terminal A (wiring harness-side).  • Is the voltage 0 V?  6 INSPECT OCV  • Inspect the OCV.  (See OIL CONTROL VALVE (OCV) INSPECTION  Ves Replace the OCV, then go to the next step.  (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)			No	
Switch the ignition ON (engine off or on).     Measure the voltage at the OCV terminal A (wiring harness-side).     Is the voltage 0 V?  INSPECT OCV     Inspect the OCV.     (See OIL CONTROL VALVE (OCV) INSPECTION  Personal A (wiring harness-side).  Yes Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)				power supply, then go to Step 7.
Measure the voltage at the OCV terminal A (wiring harness-side).     Is the voltage 0 V?      INSPECT OCV     Inspect the OCV.     (See OIL CONTROL VALVE (OCV) INSPECTION      INSTALLATION [SKYACTIV-G 2.0].)				
harness-side).  • Is the voltage 0 V?  6 INSPECT OCV • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION  Page 1. See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)				
Is the voltage 0 V?  INSPECT OCV Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION  INSTALLATION [SKYACTIV-G 2.0].)  INSTALLATION [SKYACTIV-G 2.0].)				
6 INSPECT OCV • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION  Yes Replace the OCV, then go to the next step. (See OIL CONTROL VALVE (OCV) REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)		,		
Inspect the OCV.     (See OIL CONTROL VALVE (OCV) REMOVAL/     INSTALLATION [SKYACTIV-G 2.0].)	6		Vas	Replace the OCV, then go to the next step
(See OIL CONTROL VALVE (OCV) INSPECTION INSTALLATION [SKYACTIV-G 2.0].)	"		163	
I ION LACTIVED 2.01.7 INO 1 GO TO THE NEXT STEP.		[SKYACTIV-G 2.0].)	No	Go to the next step.
• Is there any malfunction?				
7 <b>VERIFY DTC TROUBLESHOOTING</b> Yes Repeat the inspection from Step 1.	7		Yes	Repeat the inspection from Step 1.
COMPLETED • If the malfunction recurs, replace the PCM.		COMPLETED		If the malfunction recurs, replace the PCM.
Make sure to reconnect all disconnected     (See PCM REMOVAL/INSTALLATION [SKYACTIV-G		Make sure to reconnect all disconnected		
connectors. 2.0].)				
Clear the DTC from the PCM memory using the     Go to the next step.		1		·
M-MDS.  No Go to the next step.			No	Go to the next step.
(See AFTER REPAIR PROCEDURE				
[SKYACTIV-G 2.0].)		1		
Perform the KOER self test.     (See KOEO/KOER SELF TEST [SKYACTIV-G				
2.0].)		· ·		
• Is the same DTC present?				
8 VERIFY AFTER REPAIR PROCEDURE Yes Go to the applicable DTC inspection.	8		Yes	Go to the applicable DTC inspection.
• Perform the "AFTER REPAIR PROCEDURE". (See DTC TABLE [SKYACTIV-G 2.0].)			. 55	
(See AFTER REPAIR PROCEDURE No DTC troubleshooting completed.			No	
[SKYACTIV-G 2.0].)				
• Are any DTCs present?				