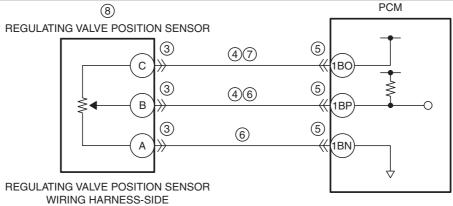
## DTC P2564:00 [SKYACTIV-D 2.2]

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DTC P2564:00	Regulating valve position sensor circuit low input					
	• If the input voltage at the PCM terminal 1BP is less than 0.2 V for 1 s, the PCM determines that the regulating					
	valve position sensor circuit has a malfunction.  MONITORING CONDITIONS					
DETECTION	— Battery voltage: 8—20 V					
DETECTION	Diagnostic support note					
CONDITION	• This is a continuous monitor (CCM).					
	• The check engine light illuminates if the PCM detects the above malfunction condition during the first drive					
	cycle.					
	FREEZE FRAME DATA (Mode 2)/Snapshot data is available.					
	DTC is stored in the PCM memory.					
FAIL-SAFE	Inhibits engine-stop by operating the i-stop function.					
FUNCTION	PCM restricts engine-transaxle integration control.					
	Regulating valve position sensor connector or terminals malfunction					
	• Short to ground in wiring harness between the following terminals:					
	Regulating valve position sensor terminal C—PCM terminal 1BO					
DOCCIDI E	Regulating valve position sensor terminal B—PCM terminal 1BP					
POSSIBLE	PCM connector or terminals malfunction					
CAUSE	Regulating valve position sensor signal circuit and ground circuit are shorted to each other					
	• Open circuit in wiring harness between regulating valve position sensor terminal C and PCM terminal 1BO					
	Regulating valve position sensor malfunction					
	• PCM malfunction					
	PCM					





CONNECTOR



## PCM WIRING HARNESS-SIDE CONNECTOR

1			1EE	1EA	1DW	1DS	1D0	1DK	1DG	Ì		1DA	1CW	1CS	1CO	1CK	1CG	1CC	1BY	
			1EF	1EB	1DX	1DT	1DP	1DL	1DH	H		1DB	1CX	1CT	1CP	1CL	1CH	1CD	1BZ	
	١,									_										_
	l	1EI	1EG	1EC	1DY	1DU	1DQ	1DM	1DI		1DE	1DC	1CY	1CU	1CQ	1CM	1CI	1CE	1CA	1BW
		1EJ	1EH	1ED	1DZ	1DV	1DR	1DN	1DJ		1DF	1DD	1CZ	1CV	1CR	1CN	1CJ	1CF	1CB	1BX
ı.																				

1BR	1BM	1BH	1BC	1AX	1AS	1AN	1AI
1BS	1BN	1BI	1BD	1AY	1AT	1AO	1AJ
1BT	1BO	1BJ	1BE	1AZ	1AU	1AP	1AK
1BU	1BP	1BK	1BF	1BA	1AV	1AQ	1AL
1BV	1BQ	1BL	1BG	1BB	1AW	1AR	1AM

1AD	1Y	1T	10	1J	1E	1A
1AE	1Z	1U	1P	1K	1F	1B
1AF						
1AG	1AB	1W	1R	1M	1H	1D
1AH	1AC	1X	1S	1N	11	



**Diagnostic Procedure** 

VERIFY FREEZE FRAME DATA (MODE 2)/	STEP	INSPECTION		ACTION
SNAPSHOT DATA HAS BEEN RECORDED  Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?  2 VERIFY RELATED SERVICE INFORMATION AVAILABILITY  - Verify related Service Information availability Is any related Service Information availability Is any related Service Information availability Is any related Service Information availabile?  3 INSPECT REGULATING VALVE POSITION SENSOR CONNECTOR CONDITION - Switch the ignition off Disconnect the regulating valve position sensor connector Inspect for poor connection (such as damaged/ pulled-out pins, corrosion) Is there any maffunction?  4 INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR SHORT TO GROUND - Verify that the regulating valve position sensor connector is disconnected Inspect for continuity between the following terminals (wring hamses-side) and body ground: - Regulating valve position sensor terminal B - Is there continuity?  5 INSPECT PCM CONNECTOR CONDITION - Disconnect the PCM connector Inspect for poor connection (such as damaged/ pulled-out pins, corrosion) Is there any maffunction?  6 INSPECT REGULATING VALVE POSITION - SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER - Verify that the regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side) and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected Inspect for continuity between regulating valve position sensor and PCM connectors are disconnected.			Vec	
VERIFY RELATED SERVICE INFORMATION   AVAILABILITY	, '	• Has the FREEZE FRAME DATA (Mode 2)/		Record the FREEZE FRAME DATA (Mode 2)/snapshot data
- Is any related Service Information available?  3	2	VERIFY RELATED SERVICE INFORMATION AVAILABILITY	Yes	Service Information.
Sensor Connector Condition   Switch the ignition off.			No	
SENSOR CONNECTOR CONDITION  Switch the ignition off.  Disconnect the regulating valve position sensor connector.  Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).  Is there any malfunction?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR SHORT TO GROUND Verify that the regulating valve position sensor connector is disconnected.  Inspect for continuity between the following terminals (wiring harness-side) and body ground:  Regulating valve position sensor terminal B is there continuity?  INSPECT PCM CONNECTOR CONDITION  INSPECT PCM CONNECTOR CONDITION  Disconnect the PCM connector.  Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).  Is there any malfunction?  INSPECT REGULATING VALVE POSITION SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER  Verify that the regulating valve position sensor and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal BC (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal BC (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal BC (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal BC (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal BC (wiring harness-side) and PCM connectors are disconnected.  Inspect for continuity between regulating valve position sensor terminal CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		-		•
Disconnect the regulating valve position sensor connector.     Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).     Is there any malfunction?  4 INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR SHORT TO GROUND     Note of the regulating valve position sensor connector is disconnected.     Inspect for continuity between the following terminals (wiring harness-side) and body ground:     Regulating valve position sensor terminal B     Is there continuity?  5 INSPECT PCM CONNECTOR CONDITION     Disconnect the PCM connector.     Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).     Is there any malfunction?  6 INSPECT REGULATING VALVE POSITION SENSOR SIGNAL CIRCUIT FOR SHORT TO EACH OTHER     Verify that the regulating valve position sensor and PCM connectors are disconnected.     Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side).     Is there continuity?  7 INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT     Verify that the regulating valve position sensor and PCM connectors are disconnected.     Inspect for continuity between regulating valve position sensor terminal BO (wring harness-side).     Is there continuity?  8 INSPECT REGULATING VALVE POSITION SENSOR     Repair or replace the wiring harness for a possible short to ground circuit could not be detected in the wirin harness:     Repair or replace the wiring harness for a possible short to ground.     If the short to ground circuit could be detected in the wirin harness:     Repair or replace the wiring harness for a possible short to ground.     If the short to ground circuit could be detected in the wirin harness:     Repair or replace the wiring harness for a possible short to ground.     If the short to ground circuit could not be detected in the wirin harness:     Repair or replace the wiring harness for a possible short to ground.     If the short to ground circuit could not be detected in the wirin harness:     Repair or r	3	SENSOR CONNECTOR CONDITION		Step 9.
SENSOR CIRCUIT FOR SHORT TO GROUND  Verify that the regulating valve position sensor connector is disconnected.  Inspect for continuity between the following terminals (wiring harness-side) and body ground:  Regulating valve position sensor terminal B  Is there continuity?  INSPECT PCM CONNECTOR CONDITION  Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).  Inspect on Sensor terminals and PCM connectors.  Verify that the regulating valve position sensor and PCM connectors are disconnected.  Inspect for continuity?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT  Verify that the regulating valve position sensor and PCM connectors are disconnected.  Inspect for continuity?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT  Verify that the regulating valve position sensor and PCM connectors are disconnected.  Inspect for continuity?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT  Verify that the regulating valve position sensor and PCM connectors are disconnected.  Inspect for continuity?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT  Verify that the regulating valve position sensor terminal 1BO (wiring harness-side) and PCM terminal 1BO (wiring harness-side).  INSPECT REGULATING VALVE POSITION SENSOR  Repair or replace the wiring harness for a possible short to ground.  If the short to ground circuit could not be detected in the wiring harness:  Replace the PCM (short to ground in the PCM internal circuit).  If the short to ground circuit could not be detected in the wiring harness:  Replace the PCM (short to ground in the PCM internal circuit).  If the short to ground circuit could not be detected in the wiring harness:  Replace the PCM (short to ground circuit.  Replace the PCM (short to ground circuit.  If the short to ground.  If the short to ground circuit.  Replace the PCM (short t		<ul><li>connector.</li><li>Inspect for poor connection (such as damaged/ pulled-out pins, corrosion).</li></ul>		·
Signature   Sign	4	<ul> <li>SENSOR CIRCUIT FOR SHORT TO GROUND</li> <li>Verify that the regulating valve position sensor connector is disconnected.</li> <li>Inspect for continuity between the following terminals (wiring harness-side) and body ground:         <ul> <li>Regulating valve position sensor terminal C</li> <li>Regulating valve position sensor terminal B</li> </ul> </li> </ul>	Yes	Repair or replace the wiring harness for a possible short to ground.  If the short to ground circuit could not be detected in the wiring harness: Replace the PCM (short to ground in the PCM internal circuit).  (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to Step 9.
Disconnect the PCM connector.     Inspect for poor connection (such as damaged/pulled-out pins, corrosion).     Is there any malfunction?  INSPECT REGULATING VALVE POSITION SENSOR SIGNAL CIRCUIT AND GROUND CIRCUIT FOR SHORT TO EACH OTHER     Verify that the regulating valve position sensor and PCM connectors are disconnected.     Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side).     Is there continuity?  INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT     Verify that the regulating valve position sensor and PCM connectors are disconnected.     Inspect for continuity between regulating valve position sensor terminal C (wiring harness-side) and PCM terminal 1BO (wiring harness-side).     Is there continuity?  INSPECT REGULATING VALVE POSITION SENSOR     Reconnect all disconnected connectors.     Inspect the regulating valve position sensor.     (See REGULATING VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].)  INSPECTION [SKYACTIV-D 2.2].)			No	Go to the next step.
Sensor signal circuit And ground Circuit For Short to Each Other	5	<ul> <li>Disconnect the PCM connector.</li> <li>Inspect for poor connection (such as damaged/pulled-out pins, corrosion).</li> </ul>		·
CIRCUIT FOR SHORT TO EACH OTHER  • Verify that the regulating valve position sensor and PCM connectors are disconnected.  • Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side).  • Is there continuity?  7 INSPECT REGULATING VALVE POSITION SENSOR CIRCUIT FOR OPEN CIRCUIT  • Verify that the regulating valve position sensor and PCM connectors are disconnected.  • Inspect for continuity between regulating valve position sensor terminal C (wiring harness-side) and PCM terminal 1BO (wiring harness-side).  • Is there continuity?  8 INSPECT REGULATING VALVE POSITION SENSOR  • Reconnect all disconnected connectors.  • Inspect the regulating valve position sensor.  (See REGULATING VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].)  No Go to the next step.  Yes Go to the next step.  Yes Replace the regulating valve actuator, then go to the next step.  Yes Replace the regulating valve actuator, then go to the next step.  See TURBOCHARGER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)  Go to the next step.	6	INSPECT REGULATING VALVE POSITION	Yes	Repair or replace the wiring harness for a possible short to
SENSOR CIRCUIT FOR OPEN CIRCUIT  • Verify that the regulating valve position sensor and PCM connectors are disconnected.  • Inspect for continuity between regulating valve position sensor terminal C (wiring harness-side) and PCM terminal 1BO (wiring harness-side).  • Is there continuity?  8 INSPECT REGULATING VALVE POSITION SENSOR  • Reconnect all disconnected connectors.  • Inspect the regulating valve position sensor. (See REGULATING VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].)  No Repair or replace the wiring harness for a possible open circuit, then go to Step 9.  Repair or replace the wiring harness for a possible open circuit, then go to Step 9.  Repair or replace the wiring harness for a possible open circuit, then go to Step 9.  Yes Replace the regulating valve actuator, then go to the next step.  (See TURBOCHARGER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)  Go to the next step.		<ul> <li>CIRCUIT FOR SHORT TO EACH OTHER</li> <li>Verify that the regulating valve position sensor and PCM connectors are disconnected.</li> <li>Inspect for continuity between regulating valve position sensor terminals B and A (wiring harness-side).</li> </ul>	No	
Verify that the regulating valve position sensor and PCM connectors are disconnected.     Inspect for continuity between regulating valve position sensor terminal C (wiring harness-side) and PCM terminal 1BO (wiring harness-side).     Is there continuity?    INSPECT REGULATING VALVE POSITION SENSOR     Reconnect all disconnected connectors.     Inspect the regulating valve position sensor. (See REGULATING VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].)    We circuit, then go to Step 9.    Circuit, then go to Step 9.    Circuit, then go to Step 9.    Ves Replace the regulating valve actuator, then go to the next step.   See TURBOCHARGER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)   On the next step.	7	INSPECT REGULATING VALVE POSITION	Yes	Go to the next step.
SENSOR  • Reconnect all disconnected connectors. • Inspect the regulating valve position sensor. (See REGULATING VALVE POSITION SENSOR INSPECTION [SKYACTIV-D 2.2].)  Step. (See TURBOCHARGER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)  Go to the next step.		<ul> <li>Verify that the regulating valve position sensor and PCM connectors are disconnected.</li> <li>Inspect for continuity between regulating valve position sensor terminal C (wiring harness-side) and PCM terminal 1BO (wiring harness-side).</li> <li>Is there continuity?</li> </ul>		circuit, then go to Step 9.
(See REGULATING VALVE POSITION SENSOR No Go to the next step.  INSPECTION [SKYACTIV-D 2.2].)	8	SENSOR • Reconnect all disconnected connectors.	Yes	•
		(See REGULATING VALVE POSITION SENSOR	No	

STEP	INSPECTION		ACTION
9	VERIFY DTC TROUBLESHOOTING	Yes	Repeat the inspection from Step 1.
	COMPLETED		If the malfunction recurs, replace the PCM.
	Always reconnect all disconnected connectors.		(See PCM REMOVAL/INSTALLATION [SKYACTIV-D
	Clear the DTC from the PCM memory using the		2.2].)
	M-MDS.		Go to the next step.
	(See AFTER REPAIR PROCEDURE	No	Go to the next step.
	[SKYACTIV-D 2.2].)		
	Perform the KOEO or KOER self test.		
	(See KOEO/KOER SELF TEST [SKYACTIV-D		
	2.2].)		
	Is the same DTC present?		
10	VERIFY AFTER REPAIR PROCEDURE	Yes	Go to the applicable DTC inspection.
	<ul> <li>Perform the "AFTER REPAIR PROCEDURE".</li> </ul>		(See DTC TABLE [SKYACTIV-D 2.2].)
	(See AFTER REPAIR PROCEDURE	No	DTC troubleshooting completed.
	[SKYACTIV-D 2.2].)		
	Are any DTCs present?		