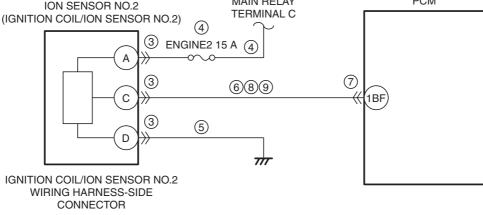
DTC P2305:00	Ion sensor No.2 circuit problem					
	• After the engine is started, when the engine speed is 2,000 rpm or less, the signal input to the PCM from ion					
	sensor No.2 is in error.					
DETECTION	Diagnostic support note • This is a continuous monitor (other).					
CONDITION	This is a continuous monitor (other). The check engine light does not illuminate.					
	FREEZE FRAME DATA (Mode 2)/Snapshot data is not available.					
	• DTC is stored in the PCM memory.					
FAIL-SAFE	Not applicable					
FUNCTION						
	• Cylinder No.2 misfire					
	• Ignition coil/ion sensor No.2 connector or terminals malfunction					
	 Short to ground or open circuit in ion sensor No.2 power supply circuit Short to ground in wiring harness between ENGINE2 15 A fuse and ignition coil/ion sensor No.2 termina 					
	A					
	ENGINE2 15 A fuse malfunction					
	— Open circuit in wiring harness between main relay terminal C and ignition coil/ion sensor No 2 term					
POSSIBLE	Open circuit in wiring harness between ignition coil/ion sensor No.2 terminal D and body ground					
CAUSE	 Short to ground in wiring harness between ignition coil/ion sensor No.2 terminal C and PCM terminal 1E PCM connector or terminals malfunction Short to power supply in wiring harness between ignition coil/ion sensor No.2 terminal C and PCM terminal C 					
	1BF					
	Open circuit in wiring harness between ignition coil/ion sensor No.2 terminal C and PCM terminal 1BF					
	• Ion sensor No.2 malfunction					
	• PCM malfunction					
(10) ION SENSOR NO 2 MAIN RELAY PCM						
ION SENSOR NO.2 MAIN RELAY PCM (IGNITION COIL/ION SENSOR NO.2) TERMINAL C						
	4					
③ ENGINE2 15 A 4						
	689 (1BF)					





PCM WIRING HARNESS-SIDE CONNECTOR

	TIEBLE LE PLO LE PROPERTIE DE LA CONTRA LA CON						
	1EF 1EB IDX 1DT 1DP 1DL 1DH 1DB 1CX 1CT 1CP 1CL 1CH 1CD 1BZ	1BS 1BN 1BI 1BD 1AY 1AT 1AO 1AJ 1AE 1Z 1U 1P 1K 1F 1B					
		1BT 1BO 1BJ 1BE 1AZ 1AU 1AP 1AK 1AF 1AA 1V 1Q 1L 1G 1C					
	1EI 1EG 1EC 1DY 1DU 1DQ 1DM 1DI 1DE 1DC 1CY 1CU 1CQ 1CM 1CI 1CE 1CA 1BW	1BU 1BP 1BK 1BF 1BA 1AV 1AQ 1AL 1AG 1AB 1W 1R 1M 1H 1D					
	1EJ 1EH 1ED 1DZ 1DV 1DR 1DN 1DJ 1DF 1DD 1CZ 1CV 1CR 1CN 1CJ 1CF 1CB 1BX	1BV 1BQ 1BL 1BG 1BB 1AW 1AR 1AM					
لاے							



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	VERIFY RELATED SERVICE INFORMATION	Yes	Perform repair or diagnosis according to the available
'	AVAILABILITY	100	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.
2	VERIFY RELATED PENDING CODE AND/OR	Yes	Go to the applicable PENDING CODE or DTC inspection.
	DTC	165	(See DTC P0301:00, P0302:00, P0303:00, P0304:00
	Switch the ignition off, then ON (engine off).		[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	Perform the Pending Trouble Code Access	No	Go to the next step.
	Procedure and DTC Reading Procedure.	INO	Go to the next step.
	(See ON-BOARD DIAGNOSTIC TEST		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	• Is the PENDING CODE/DTC P0302:00 also		
	present?		
3	INSPECT IGNITION COIL/ION SENSOR NO.2	Yes	Repair or replace the connector and/or terminals, then go to
၂ ၁	CONNECTOR CONDITION	res	Step 11.
		No	
	Switch the ignition off. Disconnect the ignition soil/ion concer No. 2.	No	Go to the next step.
	Disconnect the ignition coil/ion sensor No.2		
	connector.		
	 Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). 		
	• Is there any malfunction?		
4	INSPECT ION SENSOR NO.2 POWER SUPPLY	Voc	Co to the payt stan
4	CIRCUIT FOR SHORT TO GROUND OR OPEN	Yes No	Go to the next step. Inspect the ENGINE2 15 A fuse.
	CIRCUIT	INO	If the fuse is blown:
	Verify that the ignition coil/ion sensor No.2		Repair or replace the wiring harness for a possible
	connector is disconnected.		short to ground.
	Switch the ignition ON (engine off).		Replace the fuse.
	Measure the voltage at the ignition coil/ion sensor		If the fuse is deteriorated:
	No.2 terminal A (wiring harness-side).		Replace the fuse.
	• Is the voltage B+?		If the fuse is normal:
	is the voltage Di		Repair or replace the wiring harness for a possible
			open circuit.
			Go to Step 11.
5	INSPECT ION SENSOR NO.2 GROUND CIRCUIT	Yes	Go to the next step.
	FOR OPEN CIRCUIT	No	Repair or replace the wiring harness for a possible open
	Verify that the ignition coil/ion sensor No.2	110	circuit, then go to Step 11.
	connector is disconnected.		circuit, then go to otep 11.
	Switch the ignition off.		
	Inspect for continuity between ignition coil/ion		
	sensor No.2 terminal D (wiring harness-side) and		
	body ground.		
	• Is there continuity?		
6	INSPECT ION SENSOR NO.2 SIGNAL CIRCUIT	Yes	If the short to ground circuit could be detected in the wiring
	FOR SHORT TO GROUND		harness:
	Verify that the ignition coil/ion sensor No.2		Repair or replace the wiring harness for a possible short to
	connector is disconnected.		ground.
	Inspect for continuity between ignition coil/ion		If the short to ground circuit could not be detected in the
	sensor No.2 terminal C (wiring harness-side) and		wiring harness:
	body ground.		Replace the PCM (short to ground in the PCM internal
	Is there continuity?		circuit).
	·		(See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0,
			SKYACTIV-G 2.5].)
			Go to Step 11.
		No	Go to the next step.
7	INSPECT PCM CONNECTOR CONDITION	Yes	Repair or replace the connector and/or terminals, then go to
	Disconnect the PCM connector.		Step 11.
	Inspect for poor connection (such as damaged/	No	Go to the next step.
	pulled-out pins, corrosion).		
	Is there any malfunction?		
	•		

STEP	INSPECTION		ACTION
8	INSPECT ION SENSOR NO.2 SIGNAL CIRCUIT	Yes	Go to the next step.
	FOR SHORT TO POWER SUPPLY	No	Repair or replace the wiring harness for a possible short to
	 Verify that the ignition coil/ion sensor No.2 and 		power supply, then go to Step 11.
	PCM connectors are disconnected.		
	Switch the ignition ON (engine off). Magazine the violation of the ignition point in a second of the control of the		
	Measure the voltage at the ignition coil/ion sensor No.2 terminal C (wiring harness-side).		
	• Is the voltage 0 V ?		
9	INSPECT ION SENSOR NO.2 SIGNAL CIRCUIT	Yes	Go to the next step.
	FOR OPEN CIRCUIT	No	Repair or replace the wiring harness for a possible open
	Verify that the ignition coil/ion sensor No.2 and		circuit, then go to Step 11.
	PCM connectors are disconnected.		
	Switch the ignition off.		
	Inspect for continuity between ignition coil/ion		
	sensor No.2 terminal C (wiring harness-side) and		
	PCM terminal 1BF (wiring harness-side).		
10	Is there continuity? INSPECT ION SENSOR NO.2	Yes	Replace the ignition coil/ion sensor No.2, then go to the next
10	• Inspect the ion sensor No.2.	165	step.
	(See ION SENSOR INSPECTION [SKYACTIV-G		(See IGNITION COIL/ION SENSOR REMOVAL/
	2.0, SKYACTIV-G 2.5].)		INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	Is there any malfunction?	No	Go to the next step.
11	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-G 2.0,
	Clear the DTC from the PCM memory using the		SKYACTIV-G 2.5].)
	M-MDS. (See AFTER REPAIR PROCEDURE	No	Go to the next step. Go to the next step.
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)	INO	Go to the next step.
	• Start the engine.		
	Perform the KOER self test.		
	(See KOEO/KOER SELF TEST [SKYACTIV-G		
	2.0, SKYACTIV-G 2.5].)		
	Is the same DTC present?		
12	VERIFY AFTER REPAIR PROCEDURE	Yes	Go to the applicable DTC inspection.
	Perform the "AFTER REPAIR PROCEDURE".		(See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	(See AFTER REPAIR PROCEDURE	No	DTC troubleshooting completed.
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	Are any DTCs present?		