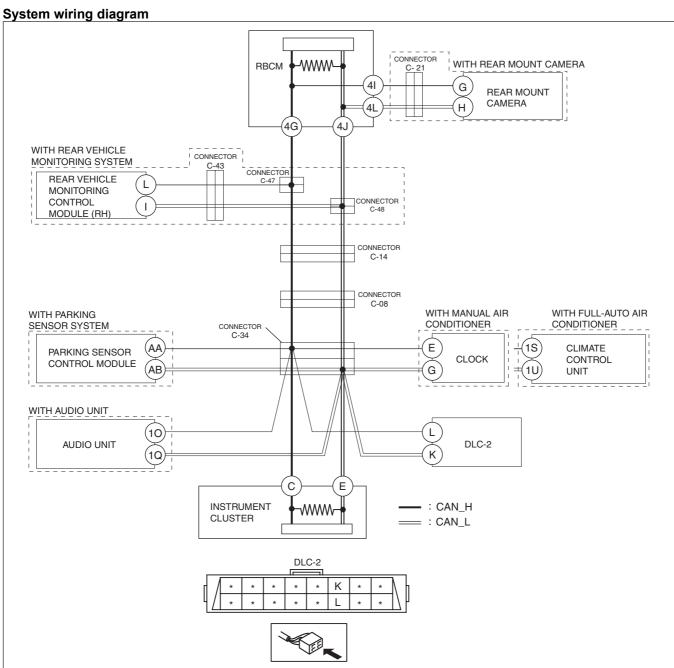
# DETERMINING SHORT BETWEEN CIRCUITS LOCATION (MS-CAN) [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)]

id100208001100

#### Caution

 Perform the following malfunction diagnosis only when it is diagnosed with a short between circuits by CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)].



## ac5wzw00000648

## **Determination procedure**

### Caution

- When disconnecting the connector, verify that there is no looseness, damage, deformation, corrosion, or poor connection of the connector terminals.
- When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting
  a tester into the terminals.

Step	Inspection		Action
1	INSPECT BETWEEN CONNECTOR C-08 AND	Yes	Go to the next step.
	INSTRUMENT CLUSTER FOR SHORT	No	Go to Step 11.
	BETWEEN CIRCUITS		
	Disconnect the negative battery cable.		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	(See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION		
	SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	• Disconnect connector C-08.		
	Connect the negative battery cable.		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	• Switch the ignition ON (engine off).		
	Measure the voltage at DLC-2 terminals L and K.		
	Is the voltage at DLC-2 terminals L and K the		
	same?		
2	INSPECT BETWEEN CONNECTOR C-34 AND	Yes	Repair or replace the wiring harness between connector
_	DLC-2 FOR SHORT BETWEEN CIRCUITS		C-34 and DLC-2 because the wiring harness is shorted
	Switch the ignition off (LOCK).		between circuits.
	Disconnect the negative battery cable.	No	Go to the next step.
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].)		
	• Disconnect connector C-34.		
	Inspect for continuity between DLC-2 terminals		
	L and K.		
	Is there continuity?		
3	INSPECT BETWEEN CONNECTOR C-34 AND	Yes	Go to the next step.
	PARKING SENSOR CONTROL MODULE FOR	No	Go to Step 5.
	SHORT BETWEEN CIRCUITS		
	Inspect for continuity between parking sensor control module terminals AA and AB.		
	Is there continuity?		
4	INSPECT PARKING SENSOR CONTROL	Yes	Repair or replace the wiring harness between the parking
	MODULE FOR SHORT BETWEEN CIRCUITS	. 55	sensor control module and connector C-34 because the
	Disconnect the parking sensor control module		wiring harness is shorted between circuits.
	connector.	No	Replace the parking sensor control module because there
	Inspect for continuity between parking sensor		is a short between circuits in the parking sensor control
	control module terminals AA and AB (wiring		module.
	harness side).		(See PARKING SENSOR CONTROL MODULE
	• Is there continuity?	\ <u>\</u>	REMOVAL/INSTALLATION.)
5	INSPECT BETWEEN CONNECTOR C-34 AND	Yes	Go to the next step.
	CLIMATE CONTROL UNIT OR CLOCK FOR SHORT BETWEEN CIRCUITS	No	Go to Step 7.
	Inspect for continuity between climate control		
	unit terminals 1S and 1U. (with full-auto air		
	conditioner)		
	Inspect for continuity between clock terminals E		
	and G. (with manual air conditioner)		
	Is there continuity?		

Step	Inspection		Action
6	INSPECT CLIMATE CONTROL UNIT OR	Yes	Repair or replace the wiring harness between the climate
	CLOCK FOR SHORT BETWEEN CIRCUITS		control unit or clock and connector C-34 because the wiring
	Disconnect the climate control unit connector or		harness is shorted between circuits.
	the clock connector.	No	Replace the climate control unit or the clock because there
	Inspect for continuity between climate control		is a short between circuits inside the climate control unit or
	unit terminals 1S and 1U (wiring harness side).		the clock.
	(with full-auto air conditioner)		(See CLIMATE CONTROL UNIT REMOVAL/
	Inspect for continuity between clock terminals E		INSTALLATION [FULL-AUTO AIR CONDITIONER].)
	and G (wiring harness side). (with manual air		(See CLOCK REMOVAL/INSTALLATION.)
	conditioner)		,
	Is there continuity?		
7	INSPECT BETWEEN CONNECTOR C-34 AND	Yes	Go to the next step.
	AUDIO UNIT FOR SHORT BETWEEN	No	Go to Step 9.
	CIRCUITS		•
	Inspect for continuity between audio unit		
	terminals 10 and 1Q.		
	Is there continuity?		
8	INSPECT AUDIO UNIT FOR SHORT	Yes	Repair or replace the wiring harness between the audio
	BETWEEN CIRCUITS		unit and connector C-34 because the wiring harness is
	Disconnect the audio unit connector.		shorted between circuits.
	Inspect for continuity between audio unit	No	Replace the audio unit because there is a short between
	terminals 10 and 1Q (wiring harness side).		circuits in the audio unit.
	Is there continuity?		(See AUDIO UNIT REMOVAL/INSTALLATION.)
9	INSPECT BETWEEN CONNECTOR C-34 AND	Yes	Go to the next step.
	INSTRUMENT CLUSTER FOR SHORT	No	Repair or replace the wiring harness between connectors
	BETWEEN CIRCUITS		C-34 and C-08 because the wiring harness is shorted
	Inspect for continuity between instrument		between circuits.
	cluster terminals C and E.		
	• Is there continuity?		
10	INSPECT INSTRUMENT CLUSTER FOR	Yes	Repair or replace the wiring harness between the
	SHORT BETWEEN CIRCUITS		instrument cluster and connector C-34 because the wiring
	Disconnect the instrument cluster connector.	No	harness is shorted between circuits.
	Inspect for continuity between instrument cluster terminals C and E (wiring harness side).	INO	Replace the instrument cluster because there is a short between circuits in the instrument cluster.
	• Is there continuity?		(See INSTRUMENT CLUSTER REMOVAL/
	13 there continuity:		INSTALLATION.)
11	INSPECT BETWEEN CONNECTORS C-14	Yes	Repair or replace the wiring harness between connectors
	AND C-08 FOR SHORT BETWEEN CIRCUITS	103	C-14 and C-08 because the wiring harness is shorted
	• Switch the ignition off (LOCK).		between circuits.
	Disconnect connector C-14.	No	Go to the next step.
	Connect connector C-08.	110	or to the next step.
	Connect the negative battery cable.		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	Switch the ignition ON (engine off).		
	Measure the voltage at DLC-2 terminals L and		
	K.		
	Is the voltage at DLC-2 terminals L and K the		
	same?		

Step	Inspection		Action
12	INSPECT BETWEEN CONNECTORS C-47	Yes	Repair or replace the wiring harness between connectors
	AND C-48 AND CONNECTOR C-14 FOR		C-47 and C-48 and connector C-14 because the wiring
	SHORT BETWEEN CIRCUITS		harness is shorted between circuits.
	Switch the ignition off (LOCK).	No	Go to the next step.
	• Disconnect connectors C-47 and C-48.	''	Co to the next step.
	• Connect connector C-14.		
	Connect the negative battery cable.		
	(See NEGATIVE BATTERY CABLE		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE		
	· ·		
	DISCONNECTION/CONNECTION		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5		
	(WITHOUT i-stop)].)		
	• Switch the ignition ON (engine off).		
	Measure the voltage at DLC-2 terminals L and		
	K.		
	• Is the voltage at DLC-2 terminals L and K the		
	same?		
13	INSPECT BETWEEN REAR VEHICLE	Yes	Go to the next step.
	MONITORING CONTROL MODULE (RH) AND	No	Go to Step 16.
	CONNECTORS C-47 AND C-48 FOR SHORT		
	BETWEEN CIRCUITS		
	<ul> <li>Inspect for continuity between rear vehicle</li> </ul>		
	control module (RH) terminals L and I.		
	<ul><li>Is there continuity?</li></ul>		
14	INSPECT BETWEEN REAR VEHICLE	Yes	Go to the next step.
	MONITORING CONTROL MODULE (RH) AND	No	Repair or replace the wiring harness between connector
	<b>CONNECTOR C-43 FOR SHORT BETWEEN</b>		C-43 and connectors C-47 and C-48 because the wiring
	CIRCUITS		harness is shorted between circuits.
	Disconnect connector C-43.		
	Inspect for continuity between rear vehicle		
	control module (RH) terminals L and I.		
	Is there continuity?		
15	INSPECT REAR VEHICLE MONITORING	Yes	Repair or replace the wiring harness between the rear
	CONTROL MODULE (RH) FOR SHORT		vehicle monitoring control module (RH) and connector
	BETWEEN CIRCUITS		C-43 because the wiring harness is shorted between
	Disconnect the rear vehicle monitoring control		circuits.
	modules (RH) connector.	No	Replace the rear vehicle monitoring control module (RH)
	Inspect for continuity between rear vehicle		because there is a short between circuits in the rear vehicle
	control module (RH) terminals L and I (wiring		monitoring control module (RH).
	harness side).		(See REAR VEHICLE MONITORING CONTROL
	• Is there continuity?		MODULE REMOVAL/INSTALLATION.)
16	INSPECT BETWEEN REAR MOUNT CAMERA	Yes	Go to the next step.
10	AND REAR BODY CONTROL MODULE	No	Go to Step 19.
	(RBCM) FOR SHORT BETWEEN CIRCUITS	''	00 to 0top 10.
	Disconnect the rear body control module		
	(RBCM) connector.		
	Inspect the continuity between rear mount		
	camera terminals G and H.		
	• Is there continuity?		
17	INSPECT BETWEEN REAR BODY CONTROL	Yes	Go to the next step.
''	MODULE (RBCM) AND CONNECTOR C-21	No	Repair or replace the wiring harness between the rear body
	FOR SHORT BETWEEN CIRCUITS	INO	
			control module (RBCM) and connector C-21 because the
	Disconnect connector C-21.      Inspect the continuity between rear mount.		wiring harness is shorted between circuits.
	Inspect the continuity between rear mount		
	camera terminals G and H.		
	Is there continuity?		

Step	Inspection		Action
18	INSPECT REAR MOUNT CAMERA FOR	Yes	Repair or replace the wiring harness between the rear
	SHORT BETWEEN CIRCUITS		mount camera and connector C-21 because the wiring
	Disconnect the rear mount camera connector.		harness is shorted between circuits.
	Inspect for continuity between rear mount	No	Replace the rear mount camera because there is a short
	camera terminals G and H (wiring harness		between circuits in the rear mount camera.
	side).		(See REAR MOUNT CAMERA REMOVAL/
	Is there continuity?		INSTALLATION.)
19	INSPECT REAR BODY CONTROL MODULE	Yes	Repair or replace the wiring harness between the rear body
	(RBCM) FOR SHORT BETWEEN CIRCUITS		control module (RBCM) and connectors C-47 and C-48
	• Inspect for continuity between rear body control		because the wiring harness is shorted between circuits.
	module (RBCM) terminals 4G and 4J (wiring	No	Replace the rear body control module (RBCM) because
	harness side).		there is a short between circuits in the rear body control
	Is there continuity?		module (RBCM).
			(See REAR BODY CONTROL MODULE (RBCM)
			REMOVAL/INSTALLATION.)