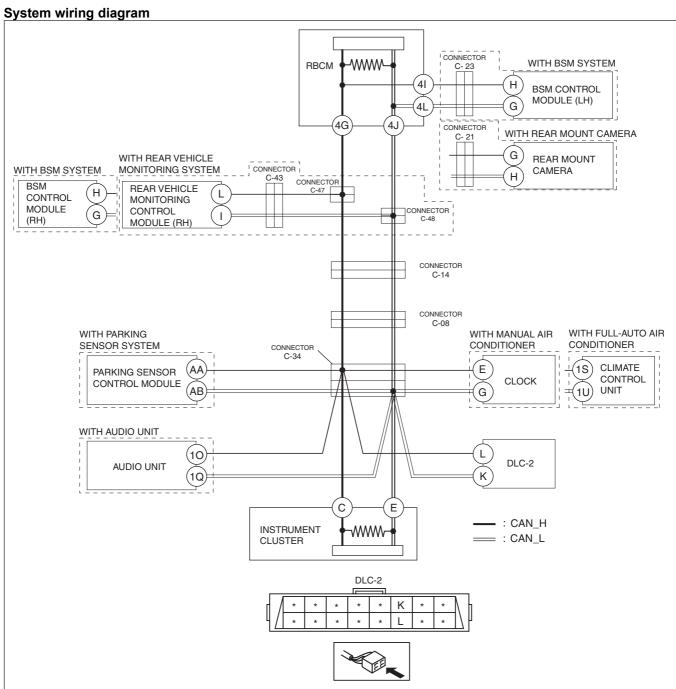
DETERMINING SHORT BETWEEN CIRCUITS LOCATION (MS-CAN) [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (R.H.D.)]

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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 (R.H.D.)].



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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
O	BETWEEN CIRCUITS	165	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).	INO	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.
Ū	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.		harness is shorted between circuits.
	Inspect for continuity between instrument	No	Replace the instrument cluster because there is a short
	cluster terminals C and E (wiring harness side).		between circuits in the instrument cluster.
	• Is there continuity?		(See INSTRUMENT CLUSTER REMOVAL/
			INSTALLATION.)
11	INSPECT BETWEEN CONNECTORS C-14	Yes	Repair or replace the wiring harness between connectors
	AND C-08 FOR SHORT BETWEEN CIRCUITS		C-14 and C-08 because the wiring harness is shorted
	Switch the ignition off (LOCK). Disconnect the negative battery cable.	No	between circuits.
	(See NEGATIVE BATTERY CABLE	No	Go to the next step.
	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-14.		
	Connect 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?		
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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 the negative battery cable.	INO	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 connectors C-47 and C-48. 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		Vaa	Co to the post step (Mith recoverable)
13	INSPECT BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) OR	Yes	• Go to the next step. (With rear vehicle monitoring system)
	BSM CONTROL MODULE (RH) AND	No	• Go to Step 15. (With BSM system)
	CONNECTORS C-47 AND C-48 FOR SHORT	No	Go to Step 16.
	BETWEEN CIRCUITS		
	• Switch the ignition off (LOCK).		
	Inspect for continuity between rear vehicle		
	control module (RH) terminals L and I. (With		
	rear vehicle monitoring system)		
	Inspect for continuity between BSM control		
	module (RH) terminals H and G. (With BSM		
	system)		
	• Is there continuity?		
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
	CONNECTOR C-43 FOR SHORT BETWEEN	140	C-43 and connectors C-47 and C-48 because the wiring
	CIRCUITS		harness is shorted between circuits.
	Disconnect connector C-43.		That is one is offered between sir oute.
	Inspect for continuity between rear vehicle		
	control module (RH) terminals L and I.		
	• Is there continuity?		
15	INSPECT BETWEEN REAR VEHICLE	Yes	Repair or replace the wiring harness between the rear
	MONITORING CONTROL MODULE (RH) OR		vehicle monitoring control module (RH) and connector
	BSM CONTROL MODULE (RH) FOR SHORT		C-43 because the wiring harness is shorted between
	BETWEEN CIRCUITS		circuits. (With rear vehicle monitoring system)
	Disconnect the rear vehicle monitoring control		Repair or replace the wiring harness between the BSM
	modules (RH) connector or the BSM control		control module (RH) and connectors C-47 and C-48
	module (RH) connector.		because the wiring harness is shorted between circuits.
	Inspect for continuity between rear vehicle		(With BSM system)
	control module (RH) terminals L and I (wiring	No	Replace the rear vehicle monitoring control module (RH)
	harness side). (With rear vehicle monitoring		or the BSM control module (RH) because there is a short
	system)		between circuits in the rear vehicle monitoring control
	Inspect for continuity between BSM control		module (RH) or the BSM control module (RH).
	module (RH) terminals H and G (wiring harness		(See REAR VEHICLE MONITORING CONTROL
	side). (With BSM system)		MODULE REMOVAL/INSTALLATION.)
	• Is there continuity?		(See BLIND SPOT MONITORING (BSM) CONTROL
			MODULE REMOVAL/INSTALLATION.)
	• Is there continuity?		

Step	Inspection		Action
16	INSPECT BETWEEN BSM CONTROL	Yes	Go to the next step.
	MODULE (LH) OR REAR MOUNT CAMERA AND REAR BODY CONTROL MODULE (RBCM) FOR SHORT BETWEEN CIRCUITS	No	Go to Step 19.
	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 the rear body control module (RBCM) connector. Inspect for continuity between BSM control module (LH) terminals H and G (wiring harness side). (With BSM system) Inspect the continuity between rear mount camera terminals G and H (wiring harness side). (With rear mount camera) Is there continuity?		
17	INSPECT BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-23 OR C-21 FOR SHORT BETWEEN CIRCUITS • Disconnect connector C-23 or C-21. • Inspect for continuity between BSM control module (LH) terminals H and G (wiring harness side). (With BSM system) • Inspect the continuity between rear mount camera terminals G and H (wiring harness side). (With rear mount camera) • Is there continuity?	Yes	Repair or replace the wiring harness between the rear body control module (RBCM) and connector C-23 or C-21 because the wiring harness is shorted between circuits. Go to the next step.
18	INSPECT BSM CONTROL MODULE (LH) OR REAR MOUNT CAMERA FOR SHORT BETWEEN CIRCUITS • Disconnect the BSM control module (LH) connector or the rear mount camera connector. • Connect the rear body control module (RBCM) connector. • Connect connectors C-47 and C-48 • 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?	Yes	Repair or replace the wiring harness between BSM control module (LH) and rear body control module (RBCM) because the wiring harness is shorted between circuits. (With BSM system) Repair or replace the wiring harness between the rear mount camera and rear body control module (RBCM) because the wiring harness is shorted between circuits. (With rear mount camera) Replace the BSM control module (LH) or the rear mount camera because there is a short between circuits in the BSM control module (LH) or the rear mount camera. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION.) (See REAR MOUNT CAMERA REMOVAL/INSTALLATION.)

Step	Inspection		Action
19	INSPECT REAR BODY CONTROL MODULE (RBCM) FOR SHORT BETWEEN CIRCUITS • Switch the ignition off (LOCK). • 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)].) • Connect connectors C-47 and C-48 • Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE	Yes	Repair or replace the wiring harness between the rear body control module (RBCM) and connectors C-47 and C-48 because the wiring harness is shorted between circuits. Replace the rear body control module (RBCM) because there is a short between circuits in the rear body control module (RBCM). (See REAR BODY CONTROL MODULE (RBCM) REMOVAL/INSTALLATION.)
	(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?		