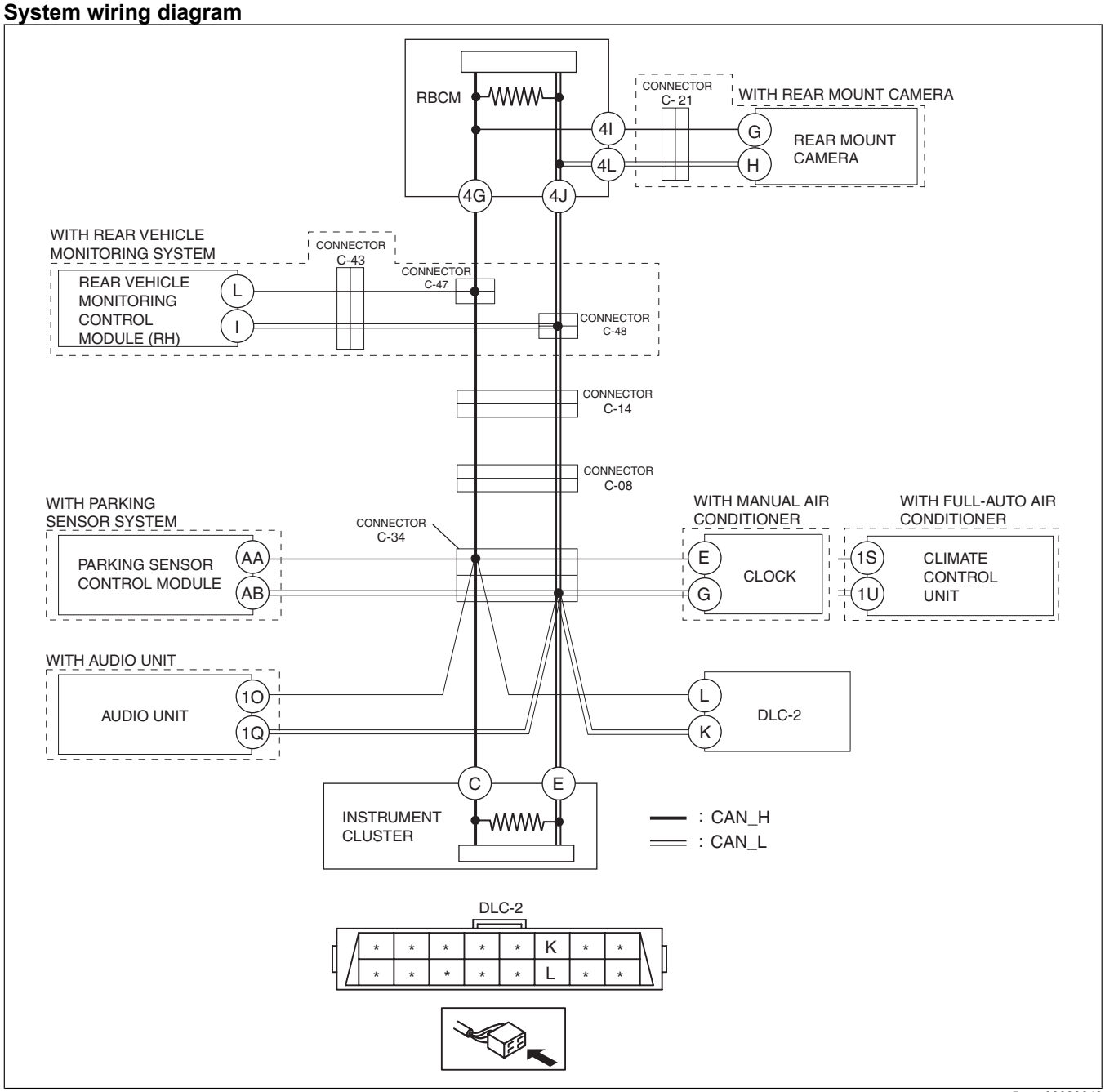
DETERMINING SHORT BETWEEN CIRCUITS LOCATION (MS-CAN) [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)]

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.)].**

System wiring diagram



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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 INSTRUMENT CLUSTER FOR SHORT 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?	Yes	Go to the next step.
		No	Go to Step 11.
2	**INSPECT BETWEEN CONNECTOR C-34 AND DLC-2 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)].) • Disconnect connector C-34. • Inspect for continuity between DLC-2 terminals L and K. • Is there continuity?	Yes	Repair or replace the wiring harness between connector C-34 and DLC-2 because the wiring harness is shorted between circuits.
		No	Go to the next step.
3	**INSPECT BETWEEN CONNECTOR C-34 AND PARKING SENSOR CONTROL MODULE FOR SHORT BETWEEN CIRCUITS** • Inspect for continuity between parking sensor control module terminals AA and AB. • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 5.
4	**INSPECT PARKING SENSOR CONTROL MODULE FOR SHORT BETWEEN CIRCUITS** • Disconnect the parking sensor control module connector. • Inspect for continuity between parking sensor control module terminals AA and AB (wiring harness side). • Is there continuity?	Yes	Repair or replace the wiring harness between the parking sensor control module and connector C-34 because the wiring harness is shorted between circuits.
		No	Replace the parking sensor control module because there is a short between circuits in the parking sensor control module. (See PARKING SENSOR CONTROL MODULE REMOVAL/INSTALLATION.)
5	**INSPECT BETWEEN CONNECTOR C-34 AND CLIMATE CONTROL UNIT OR CLOCK FOR SHORT BETWEEN CIRCUITS** • 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?	Yes	Go to the next step.
		No	Go to Step 7.

Step	Inspection		Action
6	**INSPECT CLIMATE CONTROL UNIT OR CLOCK FOR SHORT BETWEEN CIRCUITS** • Disconnect the climate control unit connector or the clock connector. • Inspect for continuity between climate control unit terminals 1S and 1U (wiring harness side). (with full-auto air conditioner) • Inspect for continuity between clock terminals E and G (wiring harness side). (with manual air conditioner) • Is there continuity?	Yes	Repair or replace the wiring harness between the climate control unit or clock and connector C-34 because the wiring harness is shorted between circuits.
		No	Replace the climate control unit or the clock because there is a short between circuits inside the climate control unit or the clock. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See CLOCK REMOVAL/INSTALLATION.)
7	**INSPECT BETWEEN CONNECTOR C-34 AND AUDIO UNIT FOR SHORT BETWEEN CIRCUITS** • Inspect for continuity between audio unit terminals 1O and 1Q. • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 9.
8	**INSPECT AUDIO UNIT FOR SHORT BETWEEN CIRCUITS** • Disconnect the audio unit connector. • Inspect for continuity between audio unit terminals 1O and 1Q (wiring harness side). • Is there continuity?	Yes	Repair or replace the wiring harness between the audio unit and connector C-34 because the wiring harness is shorted between circuits.
		No	Replace the audio unit because there is a short between circuits in the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)
9	**INSPECT BETWEEN CONNECTOR C-34 AND INSTRUMENT CLUSTER FOR SHORT BETWEEN CIRCUITS** • Inspect for continuity between instrument cluster terminals C and E. • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connectors C-34 and C-08 because the wiring harness is shorted between circuits.
10	**INSPECT INSTRUMENT CLUSTER FOR SHORT BETWEEN CIRCUITS** • Disconnect the instrument cluster connector. • Inspect for continuity between instrument cluster terminals C and E (wiring harness side). • Is there continuity?	Yes	Repair or replace the wiring harness between the instrument cluster and connector C-34 because the wiring harness is shorted between circuits.
		No	Replace the instrument cluster because there is a short between circuits in the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
11	**INSPECT BETWEEN CONNECTORS C-14 AND C-08 FOR SHORT BETWEEN CIRCUITS** • Switch the ignition off (LOCK). • 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?	Yes	Repair or replace the wiring harness between connectors C-14 and C-08 because the wiring harness is shorted between circuits.
		No	Go to the next step.

Step	Inspection		Action
12	**INSPECT BETWEEN CONNECTORS C-47 AND C-48 AND CONNECTOR C-14 FOR SHORT BETWEEN CIRCUITS** • Switch the ignition off (LOCK). • 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?	Yes	Repair or replace the wiring harness between connectors C-47 and C-48 and connector C-14 because the wiring harness is shorted between circuits.
		No	Go to the next step.
13	**INSPECT BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTORS C-47 AND C-48 FOR SHORT BETWEEN CIRCUITS** • Inspect for continuity between rear vehicle control module (RH) terminals L and I. • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 16.
14	**INSPECT BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTOR C-43 FOR SHORT BETWEEN CIRCUITS** • Disconnect connector C-43. • Inspect for continuity between rear vehicle control module (RH) terminals L and I. • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connector C-43 and connectors C-47 and C-48 because the wiring harness is shorted between circuits.
15	**INSPECT REAR VEHICLE MONITORING CONTROL MODULE (RH) FOR SHORT BETWEEN CIRCUITS** • Disconnect the rear vehicle monitoring control modules (RH) connector. • Inspect for continuity between rear vehicle control module (RH) terminals L and I (wiring harness side). • Is there continuity?	Yes	Repair or replace the wiring harness between the rear vehicle monitoring control module (RH) and connector C-43 because the wiring harness is shorted between circuits.
		No	Replace the rear vehicle monitoring control module (RH) because there is a short between circuits in the rear vehicle monitoring control module (RH). (See REAR VEHICLE MONITORING CONTROL MODULE REMOVAL/INSTALLATION.)
16	**INSPECT BETWEEN REAR MOUNT CAMERA AND REAR BODY CONTROL MODULE (RBCM) FOR SHORT BETWEEN CIRCUITS** • Disconnect the rear body control module (RBCM) connector. • Inspect the continuity between rear mount camera terminals G and H. • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 19.
17	**INSPECT BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-21 FOR SHORT BETWEEN CIRCUITS** • Disconnect connector C-21. • Inspect the continuity between rear mount camera terminals G and H. • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between the rear body control module (RBCM) and connector C-21 because the wiring harness is shorted between circuits.

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