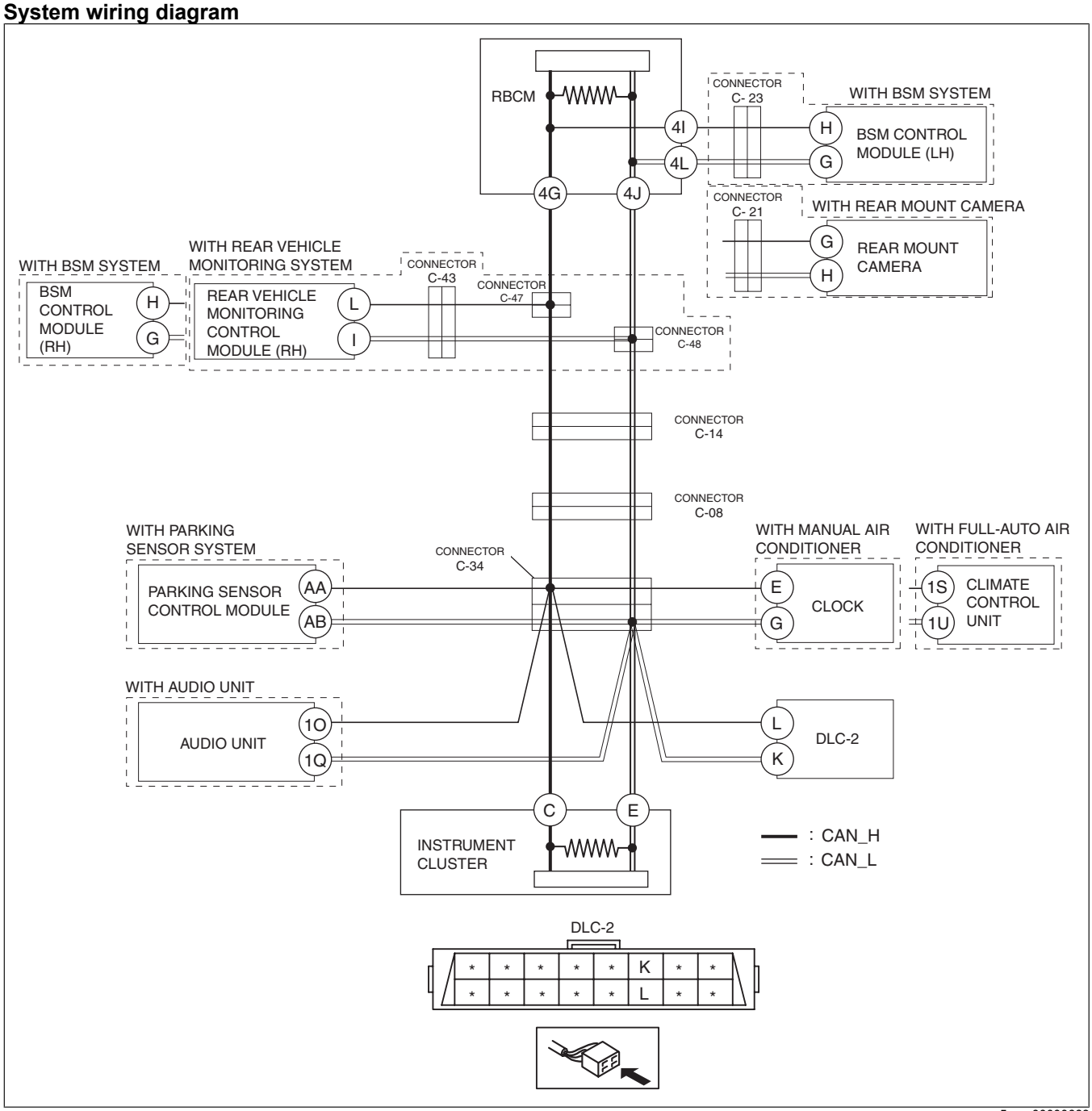
DETERMINING SHORT TO GROUND LOCATION (MS-CAN) [SKYACTIV-G 2.0 (R.H.D.)]

id100202000900

Caution

- **Perform the following malfunction diagnosis only when it is diagnosed with a short to ground by CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0 (R.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 FOR SHORT TO GROUND BETWEEN CONNECTOR C-08 AND INSTRUMENT CLUSTER** • Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) • Disconnect connector C-08. • Inspect for continuity at the following terminals: — Between DLC-2 terminal L and body ground — Between DLC-2 terminal K and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 11.
2	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTORS C-34 AND DLC-2** • Disconnect connector C-34. • Inspect for continuity at the following terminals: — Between DLC-2 terminal L and body ground — Between DLC-2 terminal K and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between connector C-34 and DLC-2 because the wiring harness is shorted to ground.
		No	Go to the next step.
3	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND PARKING SENSOR CONTROL MODULE** • Inspect for continuity at the following terminals: — Between parking sensor control module terminal AA and body ground — Between parking sensor control module terminal AB and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 5.
4	**INSPECT CAN LINE IN PARKING SENSOR CONTROL MODULE FOR SHORT TO GROUND** • Disconnect the parking sensor connector. • Inspect for continuity at the following terminals: — Between parking sensor control module terminal AA (wiring harness side) and body ground — Between parking sensor control module terminal AB (wiring harness side) and body ground • 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 to ground.
		No	Replace the parking sensor control module because there is a short to ground in the parking sensor control module. (See PARKING SENSOR CONTROL MODULE REMOVAL/INSTALLATION.)
5	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND CLIMATE CONTROL UNIT** • Inspect for continuity at the following terminals: — Between climate control unit terminal 1S and body ground (with full-auto air conditioner) — Between climate control unit terminal 1U and body ground (with full-auto air conditioner) — Between clock terminal E and body ground (with manual air conditioner) — Between clock terminal G and body ground (with manual air conditioner) • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 7.

Step	Inspection		Action
6	**INSPECT CAN LINE IN CLIMATE CONTROL UNIT OR CLOCK FOR SHORT TO GROUND** • Disconnect the climate control unit connector or clock connector. • Inspect for continuity at the following terminals: — Between climate control unit terminal 1S (wiring harness side) and body ground (with full-auto air conditioner) — Between climate control unit terminal 1U (wiring harness side) and body ground (with full-auto air conditioner) — Between clock terminal E (wiring harness side) and body ground (with manual air conditioner) — Between clock terminal G (wiring harness side) and body ground (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 to ground.
		No	Replace the climate control unit or the clock because there is a short to ground inside the climate control unit or the clock. (See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See CLOCK REMOVAL/INSTALLATION.)
7	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND AUDIO UNIT** • Inspect for continuity at the following terminals: — Between audio unit terminal 1O and body ground — Between audio unit terminal 1Q and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 9.
8	**INSPECT CAN LINE IN AUDIO UNIT FOR SHORT TO GROUND** • Disconnect the audio unit connector. • Inspect for continuity at the following terminals: — Between audio unit terminal 1O (wiring harness side) and body ground — Between audio unit terminal 1Q (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the audio unit and connector C-34 because the wiring harness is shorted to ground.
		No	Replace the audio unit because there is a short to ground in the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)
9	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND INSTRUMENT CLUSTER** • Inspect for continuity at the following terminals: — Between instrument cluster terminal C and body ground — Between instrument cluster terminal E and body ground • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connectors C-08 and C-34 because the wiring harness is shorted to ground.
10	**INSPECT CAN LINE IN INSTRUMENT CLUSTER FOR SHORT TO GROUND** • Disconnect the instrument cluster connector. • Inspect for continuity at the following terminals: — Between instrument cluster terminal C (wiring harness side) and body ground — Between instrument cluster terminal E (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the instrument cluster and connector C-34 because the wiring harness is shorted to ground.
		No	Replace the instrument cluster because there is a short to ground in the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.)
11	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTORS C-14 AND C-08** • Disconnect connector C-14. • Connect connector C-08. • Inspect for continuity at the following terminals: — Between DLC-2 terminal L and body ground — Between DLC-2 terminal K and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between connectors C-14 and C-08 because the wiring harness is shorted to ground.
		No	Go to the next step.

Step	Inspection		Action
12	**INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-14 AND CONNECTORS C-47 AND C-48** • Disconnect connectors C-47 and C-48. • Connect connector C-14. • Inspect for continuity at the following terminals: — Between DLC-2 terminal L and body ground — Between DLC-2 terminal K and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between connectors C-47 and C-48 and connector C-14 because the wiring harness is shorted to ground.
		No	Go to the next step.
13	**INSPECT FOR SHORT TO GROUND BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) OR BSM CONTROL MODULE (RH) AND CONNECTORS C-47 AND C-48** • Inspect for continuity at the following terminals: — Between rear vehicle monitoring control module (RH) terminal L and body ground (with rear vehicle monitoring system) — Between rear vehicle monitoring control module (RH) terminal I and body ground (with rear vehicle monitoring system) — Between BSM control module (RH) terminal H and body ground (with BSM system) — Between BSM control module (RH) terminal G and body ground (with BSM system) • Is there continuity?	Yes	• Go to the next step. (With rear vehicle monitoring system) • Go to Step 15. (With BSM system)
		No	Go to Step 16.
14	**INSPECT FOR SHORT TO GROUND BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTOR C-43** • Disconnect connector C-43. • Inspect for continuity at the following terminals: — Between rear vehicle monitoring control module (RH) terminal L and body ground — Between rear vehicle monitoring control module (RH) terminal I and body ground • 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 to ground.

Step	Inspection		Action
15	**INSPECT CAN LINE IN REAR VEHICLE MONITORING CONTROL MODULE (RH) OR BSM CONTROL MODULE (RH) FOR SHORT TO GROUND** • Disconnect the rear vehicle monitoring control module (RH) connector or BSM control module (RH) connector. • Inspect for continuity at the following terminals: — Between rear vehicle monitoring control module (RH) terminal L (wiring harness side) and body ground (with rear vehicle monitoring system) — Between rear vehicle monitoring control module (RH) terminal I (wiring harness side) and body ground (with rear vehicle monitoring system) — Between BSM control module (RH) terminal H (wiring harness side) and body ground (with BSM system) — Between rear vehicle monitoring control module (RH) terminal G (wiring harness side) and body ground (with rear vehicle monitoring system) • 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 to ground. (With rear vehicle monitoring system) • Repair or replace the wiring harness between the BSM control module (RH) and connectors C-47 and C-48 because the wiring harness is shorted to ground. (With BSM system)
		No	Replace the rear vehicle monitoring control module (RH) or the BSM control module (RH) because there is a short to ground in the rear vehicle monitoring control module (RH) or the BSM control module (RH). (See REAR VEHICLE MONITORING CONTROL MODULE REMOVAL/INSTALLATION.) (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION.)
16	**INSPECT FOR SHORT TO GROUND BETWEEN REAR BODY CONTROL MODULE (RBCM) AND BSM CONTROL MODULE (LH) OR REAR MOUNT CAMERA** • Disconnect the rear body control module (RBCM) connector. • Inspect for continuity at the following terminals: — Between BSM control module (LH) terminal H and body ground (with BSM system) — Between BSM control module (LH) terminal G and body ground (with BSM system) — Between rear mount camera terminal G and body ground (with rear mount camera) — Between rear mount camera terminal H and body ground (with rear mount camera) • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 19.
17	**INSPECT FOR SHORT TO GROUND BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-23 OR C-21** • Disconnect connector C-23 or C-21. • Inspect for continuity at the following terminals: — Between rear body control module (RBCM) terminal 4I (wiring harness side) and body ground — Between rear body control module (RBCM) terminal 4L (wiring harness side) and body ground • 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 to ground.
		No	Go to the next step.

Step	Inspection		Action
18	**INSPECT CAN LINE IN BSM CONTROL MODULE (LH) OR REAR MOUNT CAMERA FOR SHORT TO GROUND** • Disconnect the BSM control module (LH) connector or the rear mount camera connector. • Inspect for continuity at the following terminals: — Between BSM control module (LH) terminal H (wiring harness side) and body ground (with BSM system) — Between BSM control module (LH) terminal G (wiring harness side) and body ground (with BSM system) — Between rear mount camera terminal G (wiring harness side) and body ground (with rear mount camera) — Between rear mount camera terminal H (wiring harness side) and body ground (with rear mount camera) • Is there continuity?	Yes	• Repair or replace the wiring harness between BSM control module (LH) and connector C-23 because the wiring harness is shorted to ground. (With BSM system) • Repair or replace the wiring harness between the rear mount camera and connector C-21 because the wiring harness is shorted to ground. (With rear mount camera)
		No	Replace the BSM control module (LH) or the rear mount camera because there is a short to ground in the BSM control module (LH) or the rear mount camera. (See BLIND SPOT MONITORING (BSM) CONTROL MODULE REMOVAL/INSTALLATION.)
19	**INSPECT CAN LINE INSIDE REAR BODY CONTROL MODULE (RBCM) FOR SHORT TO GROUND** • Disconnect the rear body control module (RBCM) connector. • Inspect for continuity at the following terminals: — Between rear body control module (RBCM) terminal 4G (wiring harness side) and body ground — Between rear body control module (RBCM) terminal 4J (wiring harness side) and body ground • 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 to ground.
		No	Replace the rear body control module (RBCM) because there is a short to ground in the rear body control module (RBCM). (See REAR BODY CONTROL MODULE (RBCM) REMOVAL/INSTALLATION.)