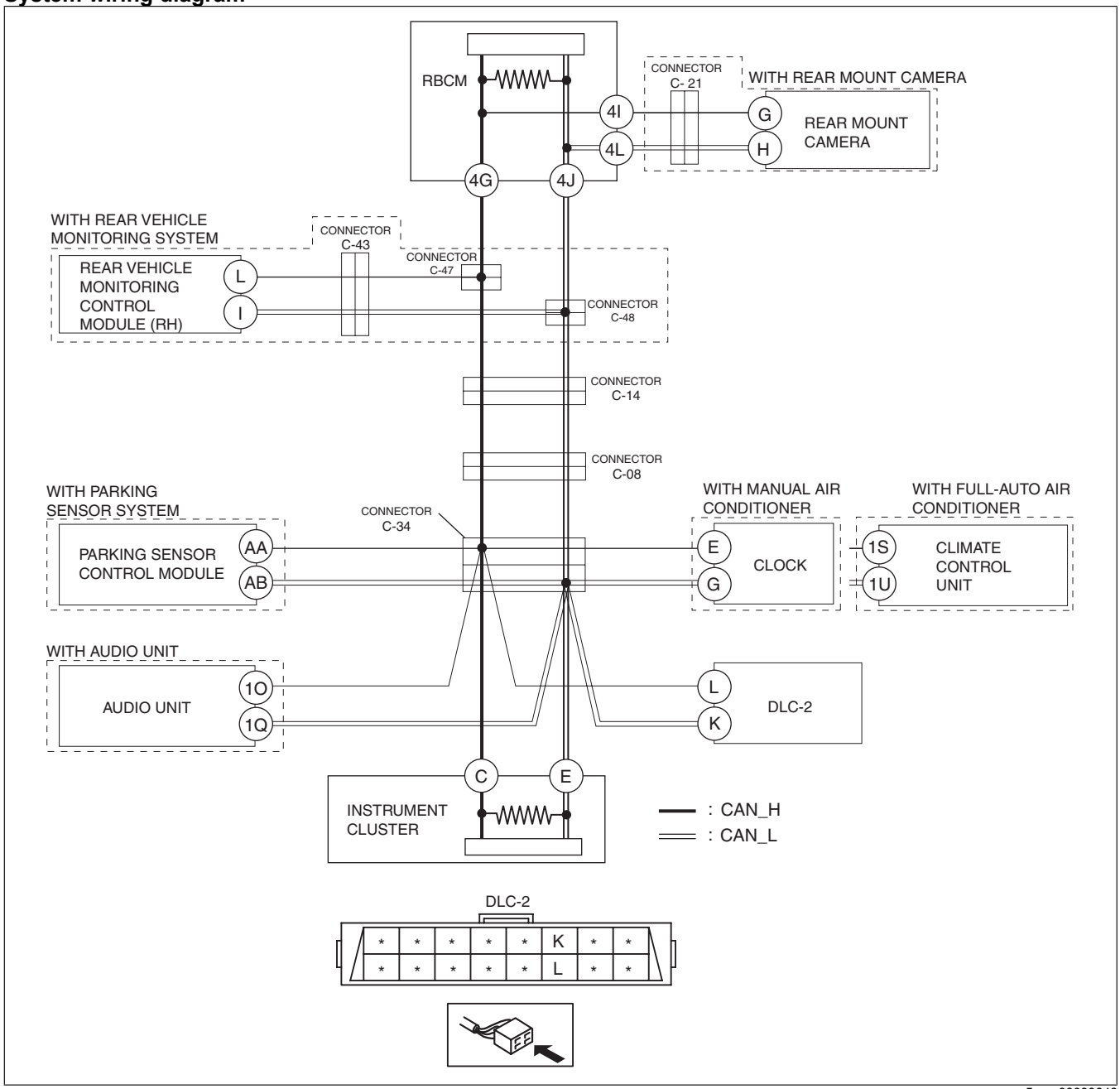
## DETERMINING SHORT TO GROUND LOCATION (MS-CAN) [SKYACTIV-D 2.2 (L.H.D.)]

id100205000900

**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-D 2.2 (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 FOR SHORT TO GROUND BETWEEN CONNECTOR C-08 AND INSTRUMENT CLUSTER**<br>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)<br>• Disconnect connector C-08.<br>• Inspect for continuity at the following terminals:<br>— Between DLC-2 terminal L and body ground<br>— Between DLC-2 terminal K and body ground<br>• 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**<br>• Disconnect connector C-34.<br>• Inspect for continuity at the following terminals:<br>— Between DLC-2 terminal L and body ground<br>— Between DLC-2 terminal K and body ground<br>• 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**<br>• Inspect for continuity at the following terminals:<br>— Between parking sensor control module terminal AA and body ground<br>— Between parking sensor control module terminal AB and body ground<br>• 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**<br>• Disconnect the parking sensor control module connector.<br>• Inspect for continuity at the following terminals:<br>— Between parking sensor control module terminal AA (wiring harness side) and body ground<br>— Between parking sensor control module terminal AB (wiring harness side) and body ground<br>• 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 OR CLOCK**<br>• Inspect for continuity at the following terminals:<br>— Between climate control unit terminal 1S and body ground (with full-auto air conditioner)<br>— Between climate control unit terminal 1U and body ground (with full-auto air conditioner)<br>— Between clock terminal E and body ground (with manual air conditioner)<br>— Between clock terminal G and body ground (with manual air conditioner)<br>• 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**<br>• Disconnect the climate control unit connector or clock connector.<br>• Inspect for continuity at the following terminals:<br>— Between climate control unit terminal 1S (wiring harness side) and body ground (with full-auto air conditioner)<br>— Between climate control unit terminal 1U (wiring harness side) and body ground (with full-auto air conditioner)<br>— Between clock terminal E (wiring harness side) and body ground (with manual air conditioner)<br>— Between clock terminal G (wiring harness side) and body ground (with manual air conditioner)<br>• 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.<br>(See CLIMATE CONTROL UNIT REMOVAL/ INSTALLATION [FULL-AUTO AIR CONDITIONER].)<br>(See CLOCK REMOVAL/INSTALLATION.) |
| 7 | **INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND AUDIO UNIT**<br>• Inspect for continuity at the following terminals:<br>— Between audio unit terminal 1O and body ground<br>— Between audio unit terminal 1Q and body ground<br>• 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**<br>• Disconnect the audio unit connector.<br>• Inspect for continuity at the following terminals:<br>— Between audio unit terminal 1O (wiring harness side) and body ground<br>— Between audio unit terminal 1Q (wiring harness side) and body ground<br>• 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 inside the audio unit.<br>(See AUDIO UNIT REMOVAL/INSTALLATION.) |
| 9 | **INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-34 AND INSTRUMENT CLUSTER**<br>• Inspect for continuity at the following terminals:<br>— Between instrument cluster terminal C and body ground<br>— Between instrument cluster terminal E and body ground<br>• 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**<br>• Disconnect the instrument cluster connector.<br>• Inspect for continuity at the following terminals:<br>— Between instrument cluster terminal C (wiring harness side) and body ground<br>— Between instrument cluster terminal E (wiring harness side) and body ground<br>• 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.<br>(See INSTRUMENT CLUSTER REMOVAL/ INSTALLATION.) |
| 11 | **INSPECT FOR SHORT TO GROUND BETWEEN CONNECTORS C-14 AND C-08**<br>• Disconnect connector C-14.<br>• Connect connector C-08.<br>• Inspect for continuity at the following terminals:<br>— Between DLC-2 terminal L and body ground<br>— Between DLC-2 terminal K and body ground<br>• 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 |
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| 12 | **INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-14 AND CONNECTORS C-47 AND C-48**<br>• Disconnect connectors C-47 and C-48.<br>• Connect connector C-14.<br>• Inspect for continuity at the following terminals:<br>— Between DLC-2 terminal L and body ground<br>— Between DLC-2 terminal K and body ground<br>• 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) AND CONNECTORS C-47 AND C-48**<br>• Inspect for continuity at the following terminals:<br>— Between rear vehicle monitoring control module (RH) terminal L and body ground<br>— Between rear vehicle monitoring control module (RH) terminal I and body ground<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Go to Step 16. |
| 14 | **INSPECT FOR SHORT TO GROUND BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTOR C-43**<br>• Disconnect connector C-43.<br>• Inspect for continuity at the following terminals:<br>— Between rear vehicle monitoring control module (RH) terminal L and body ground<br>— Between rear vehicle monitoring control module (RH) terminal I and body ground<br>• 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. |
| 15 | **INSPECT CAN LINE IN REAR VEHICLE MONITORING CONTROL MODULE (RH) FOR SHORT TO GROUND**<br>• Disconnect the rear vehicle monitoring control module connector.<br>• Inspect for continuity at the following terminals:<br>— Between rear vehicle monitoring control module (RH) terminal L (wiring harness side) and body ground<br>— Between rear vehicle monitoring control module (RH) terminal I (wiring harness side) and body ground<br>• 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. |
| | | No | Replace the rear vehicle monitoring control module (RH) because there is a short to ground in the rear vehicle monitoring control module (RH).<br>(See REAR VEHICLE MONITORING CONTROL MODULE REMOVAL/INSTALLATION.) |
| 16 | **INSPECT FOR SHORT TO GROUND BETWEEN REAR BODY CONTROL MODULE (RBCM) AND REAR MOUNT CAMERA**<br>• Disconnect the rear body control module (RBCM) connector.<br>• Inspect for continuity at the following terminals:<br>— Between rear body control module (RBCM) terminal 4I (wiring harness side) and body ground<br>— Between rear body control module (RBCM) terminal 4L (wiring harness side) and body ground<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Go to Step 19. |

| Step | Inspection | | Action |
|---|---|---|---|
| 17 | **INSPECT FOR SHORT TO GROUND BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-21**<br>• Disconnect connector C-21.<br>• Inspect for continuity at the following terminals:<br>— Between rear body control module (RBCM) terminal 4I (wiring harness side) and body ground<br>— Between rear body control module (RBCM) terminal 4L (wiring harness side) and body ground<br>• Is there continuity? | Yes | Repair or replace the wiring harness between the rear body control module (RBCM) and connector C-21 because the wiring harness is shorted to ground. |
| | | No | Go to the next step. |
| 18 | **INSPECT CAN LINE IN REAR MOUNT CAMERA FOR SHORT TO GROUND**<br>• Disconnect the rear mount camera connector.<br>• Inspect for continuity at the following terminals:<br>— Between rear mount camera terminal G (wiring harness side) and body ground<br>— Between rear mount camera terminal H (wiring harness side) and body ground<br>• 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 to ground. |
| | | No | Replace the rear mount camera because there is a short to ground in the rear mount camera.<br>(See REAR MOUNT CAMERA REMOVAL/ INSTALLATION.) |
| 19 | **INSPECT CAN LINE INSIDE REAR BODY CONTROL MODULE (RBCM) FOR SHORT TO GROUND**<br>• Inspect for continuity at the following terminals:<br>— Between rear body control module (RBCM) terminal 4G (wiring harness side) and body ground<br>— Between rear body control module (RBCM) terminal 4J (wiring harness side) and body ground<br>• 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).<br>(See REAR BODY CONTROL MODULE (RBCM) REMOVAL/INSTALLATION.) |