

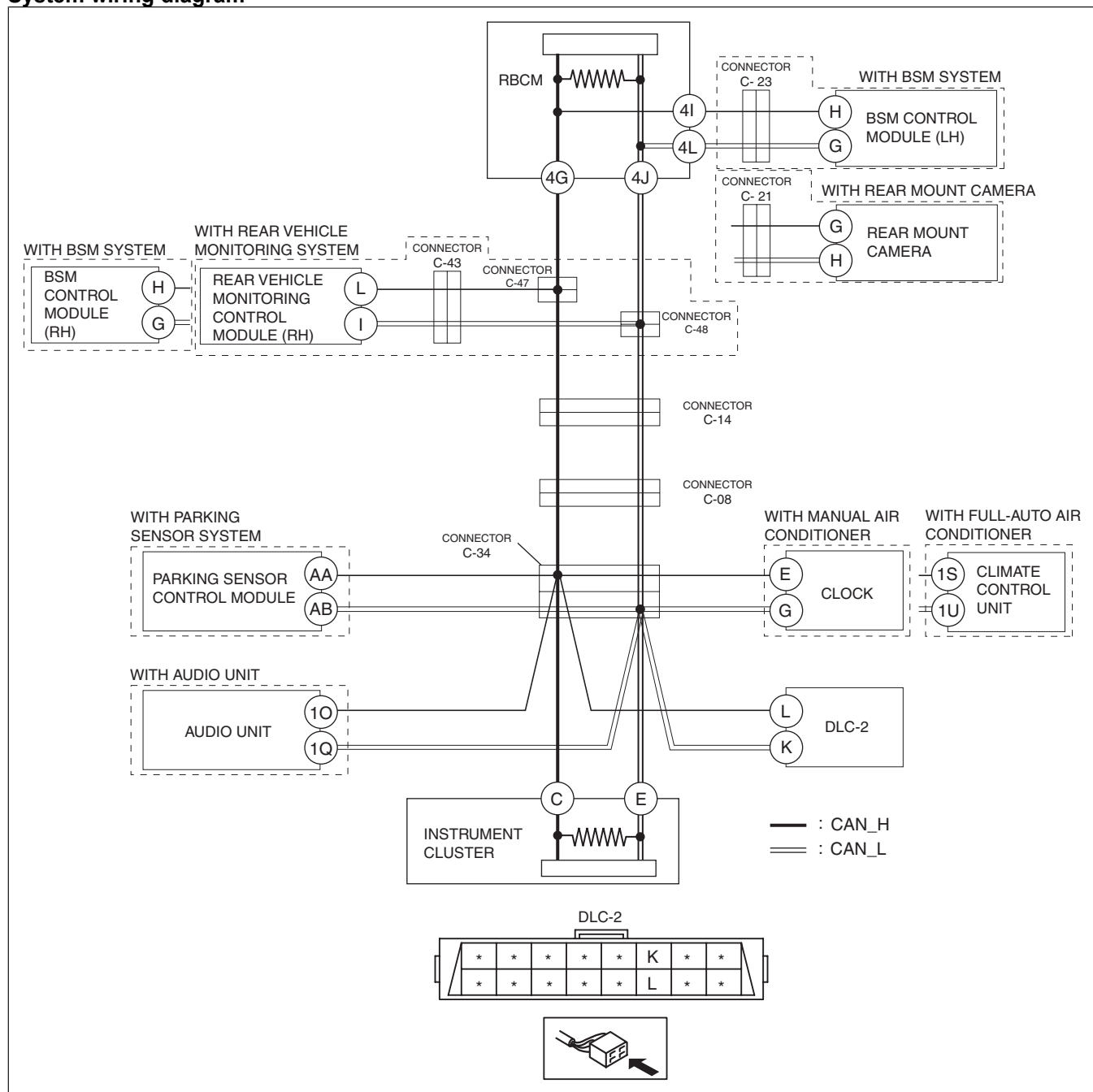
DETERMINING SHORT BETWEEN CIRCUITS LOCATION (MS-CAN) [SKYACTIV-D 2.2 (R.H.D.)]

id100206001100

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-D 2.2 (R.H.D.)].

System wiring diagram



ac5wzw00000685

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 <ul style="list-style-type: none"> • Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • Disconnect connector C-08. • Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • 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 <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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.
6	INSPECT CLIMATE CONTROL UNIT OR CLOCK FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • 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.)

Step	Inspection	Action	
7	INSPECT BETWEEN CONNECTOR C-34 AND AUDIO UNIT FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Switch the ignition off (LOCK). Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) Disconnect connector C-14. Connect connector C-08. Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) 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.
12	INSPECT BETWEEN CONNECTORS C-47 AND C-48 AND CONNECTOR C-14 FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> Switch the ignition off (LOCK). Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) Disconnect connectors C-47 and C-48. Connect connector C-14. Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) 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.

Step	Inspection	Action	
13	INSPECT BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) OR BSM CONTROL MODULE (RH) AND CONNECTORS C-47 AND C-48 FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • 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? 	Yes	<ul style="list-style-type: none"> • Go to the next step. (With rear vehicle monitoring system) • Go to Step 15. (With BSM system)
		No	Go to Step 16.
14	INSPECT BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTOR C-43 FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • 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 BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) OR BSM CONTROL MODULE (RH) FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • Disconnect the rear vehicle monitoring control modules (RH) connector or the BSM control module (RH) connector. • Inspect for continuity between rear vehicle control module (RH) terminals L and I (wiring harness side). (With rear vehicle monitoring system) • Inspect for continuity between BSM control module (RH) terminals H and G (wiring harness side). (With BSM system) • Is there continuity? 	Yes	<ul style="list-style-type: none"> • 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. (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 between circuits. (With BSM system)
		No	Replace the rear vehicle monitoring control module (RH) or the BSM control module (RH) because there is a short between circuits 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 BETWEEN BSM CONTROL MODULE (LH) OR REAR MOUNT CAMERA AND REAR BODY CONTROL MODULE (RBCM) FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • 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? 	Yes	Go to the next step.
		No	Go to Step 19.

Step	Inspection	Action
17	INSPECT BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-23 OR C-21 FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • 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.
		No Go to the next step.
18	INSPECT BSM CONTROL MODULE (LH) OR REAR MOUNT CAMERA FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • 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-D 2.2].) • 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 <ul style="list-style-type: none"> • 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)
		No 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.)
19	INSPECT REAR BODY CONTROL MODULE (RBCM) FOR SHORT BETWEEN CIRCUITS <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • Connect connectors C-47 and C-48 • Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • 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 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.)