DETERMINING SHORT TO POWER SUPPLY LOCATION (MS-CAN) [SKYACTIV-G 2.0 (L.H.D.)]

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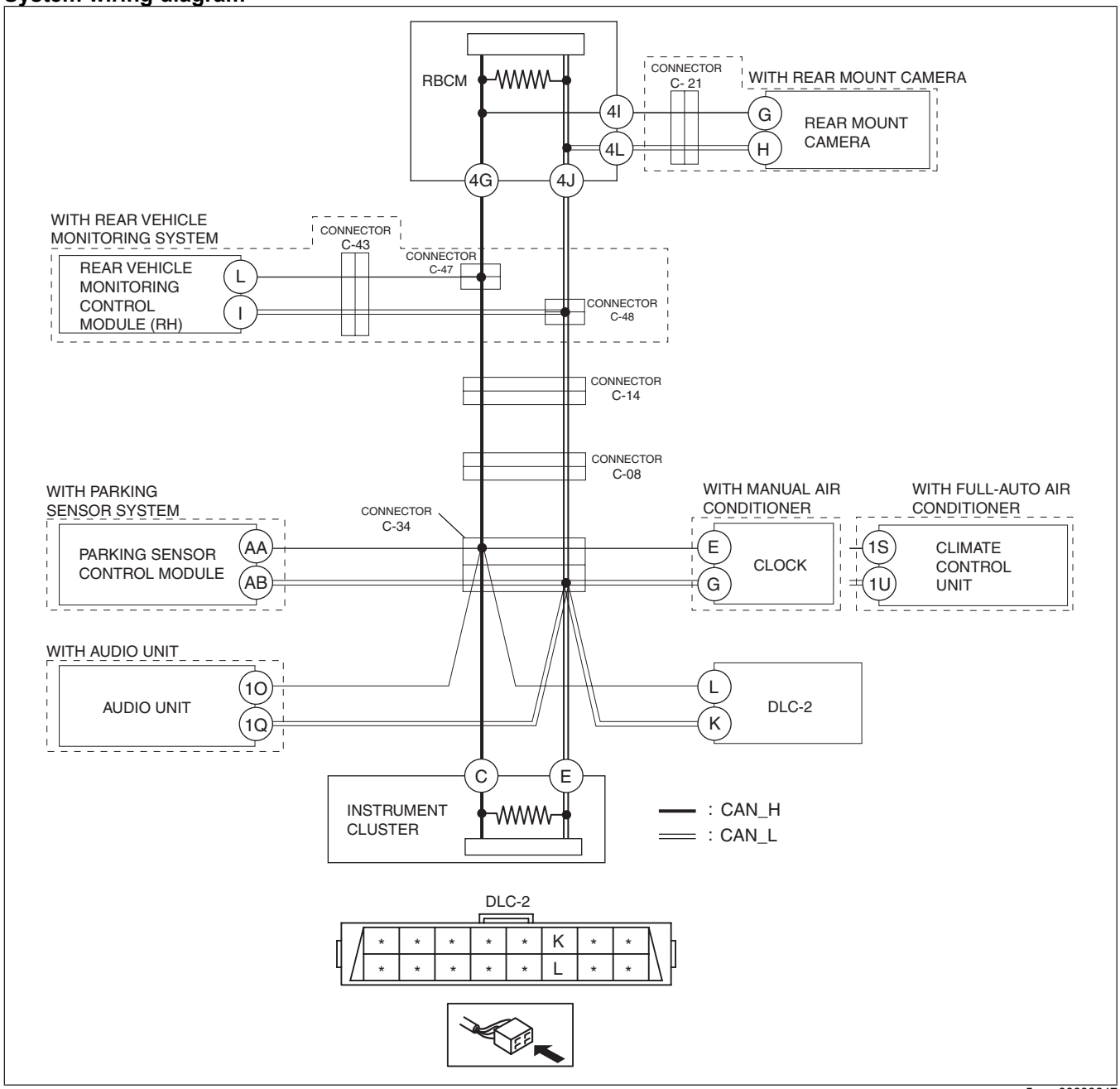
Caution

- **Perform the following malfunction diagnosis only when it is diagnosed with a short to the power supply by CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0 (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.**
- **Disconnect the negative battery cable before performing any work that requires handling of connectors.**

Step	Inspection		Action
1	**INSPECT FOR SHORT TO POWER SUPPLY 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. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 11.
		No	Go to the next step.
2	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTORS C-34 AND DLC-2** • Switch the ignition off (LOCK). • 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-34. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage 0 V?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between DLC-2 and connector C-34 because the wiring harness is shorted to the power supply.
3	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTOR C-34 AND PARKING SENSOR CONTROL MODULE** • Measure the voltage at parking sensor control module terminals AA and AB. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 5.
		No	Go to the next step.

Step	Inspection		Action
4	**INSPECT PARKING SENSOR CONTROL MODULE FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the parking sensor control module connector. • Connect connector C-34. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the parking sensor control module because there is a short to power supply in the parking sensor control module. (See PARKING SENSOR CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the parking sensor control module and connector C-34 because the wiring harness is shorted to the power supply.
5	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTOR C-34 AND CLIMATE CONTROL UNIT/CLOCK** • Measure the voltage at climate control unit terminals 1S and 1U (with full-auto air conditioner). • Measure the voltage at clock terminals E and G (with manual air conditioner). • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 7.
		No	Go to the next step.
6	**INSPECT CLIMATE CONTROL UNIT/CLOCK FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the climate control unit/clock connector. • Connect connector C-34. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the climate control unit/clock because there is a short to the power supply in the climate control unit/clock. (See CLIMATE CONTROL UNIT REMOVAL/INSTALLATION [FULL-AUTO AIR CONDITIONER].) (See CLOCK REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the climate control unit/clock and connector C-34 because the wiring harness is shorted to the power supply.
7	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTOR C-34 AND AUDIO UNIT** • Measure the voltage at audio unit terminals 1O and 1Q. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 9.
		No	Go to the next step.

Step	Inspection		Action
8	**INSPECT AUDIO UNIT FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the audio unit connector. • Connect connector C-34. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the audio unit because there is a short to the power supply in the audio unit. (See AUDIO UNIT REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the audio unit and connector C-34 because the wiring harness is shorted to the power supply.
9	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTOR C-34 AND INSTRUMENT CLUSTER** • Measure the voltage at instrument cluster terminals C and E. • Is the voltage between 1.5 — 3.5 V?	Yes	Repair or replace the wiring harness between connector C-08 and connector C-34 because the wiring harness is shorted to the power supply.
		No	Go to the next step.
10	**INSPECT INSTRUMENT CLUSTER FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the instrument cluster connector. • Connect connector C-34. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the instrument cluster because there is a short to the power supply in the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the instrument cluster and connector C-34 because the wiring harness is shorted to the power supply.

Step	Inspection		Action
11	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTORS C-14 AND C-08** • Switch the ignition off (LOCK). • 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-14. • Connect connector C-08. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connector C-14 and connector C-08 because the wiring harness is shorted to the power supply.
12	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN CONNECTORS C-47 AND C-48 AND CONNECTOR C-14** • Switch the ignition off (LOCK). • 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 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].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connectors C-47 and C-48 and connector C-14 because the wiring harness is shorted to the power supply.
13	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTORS C-47 AND C-48** • Measure the voltage at rear vehicle monitoring (RH) terminals L and I. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 16.
		No	Go to the next step.

Step	Inspection		Action
14	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN REAR VEHICLE MONITORING CONTROL MODULE (RH) AND CONNECTOR C-43** • Switch the ignition off (LOCK). • 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-43. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at rear vehicle monitoring (RH) terminals L and I. • Is the voltage between 1.5 — 3.5 V?	Yes	Repair or replace the wiring harness between connector C-43 and connectors C-47 and C-48 because the wiring harness is shorted to the power supply.
		No	Go to the next step.
15	**INSPECT REAR VEHICLE MONITORING CONTROL MODULE (RH) FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the rear vehicle monitoring control modules (RH) connector. • Connect connector C-43. • Connect connectors C-47 and C-48. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the rear vehicle monitoring control module (RH) because there is a short to power supply in the rear vehicle monitoring control module (RH). (See REAR VEHICLE MONITORING CONTROL MODULE REMOVAL/INSTALLATION.)
		No	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 power supply.

Step	Inspection		Action
16	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN REAR MOUNT CAMERA AND REAR BODY CONTROL MODULE (RBCM)** • Switch the ignition off (LOCK). • 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 the rear body control module (RBCM) connector. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at rear mount camera (RH) terminals G and H. • Is the voltage between 1.5 — 3.5 V?	Yes	Go to Step 19.
		No	Go to the next step.
17	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN REAR BODY CONTROL MODULE (RBCM) AND CONNECTOR C-21** • Switch the ignition off (LOCK). • 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-21. • 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].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0 (WITHOUT i-stop)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	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 to the power supply.

Step	Inspection		Action
18	**INSPECT REAR MOUNT CAMERA FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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 the rear mount camera connector. • Connect connector C-21. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the rear mount camera because there is a short to power supply in the rear mount camera. (See REAR MOUNT CAMERA REMOVAL/ INSTALLATION.)
		No	Repair or replace the wiring harness between the rear mount camera and connector C-21 because the wiring harness is shorted to the power supply.
19	**INSPECT REAR BODY CONTROL MODULE (RBCM) FOR SHORT TO POWER SUPPLY** • Switch the ignition off (LOCK). • 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)].) • Connect connectors C-47 and C-48. • Connect 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)].) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals L and K. • Is the voltage between 1.5 — 3.5 V?	Yes	Replace the rear body control module (RBCM) because there is a short to the power supply in the rear body control module (RBCM). (See REAR BODY CONTROL MODULE (RBCM) REMOVAL/INSTALLATION.)
		No	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 the power supply.