

4. Power Window

A: DIAGNOSTICS PROCEDURE-1

TROUBLE SYMPTOM

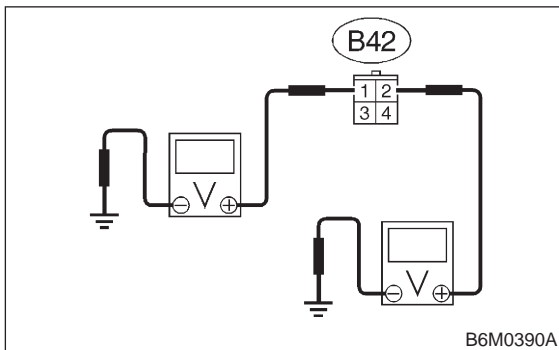
All door windows do not operate.

4A1 : CHECK FUSE AND POWER SUPPLY.

- 1) Check fuse No. 15.
- 2) Disconnect connector of power window relay.
- 3) Turn ignition switch to ON.
- 4) Measure voltage between power window relay connector and chassis ground.

Connector & terminal

(B42) No. 1 (+) — Chassis ground (-):



CHECK : **Is the voltage more than 10 V?**

YES : Go to step **4A2**.

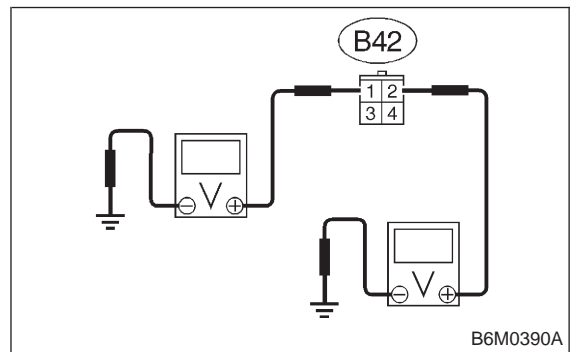
NO : Repair wiring harness or replace fuse or circuit breaker. Go to step **4A2**.

4A2 : CHECK FUSE AND POWER SUPPLY.

Measure voltage between power window relay connector and chassis ground.

Connector & terminal

(B42) No. 2 (+) — Chassis ground (-):



CHECK : **Is the voltage more than 10 V?**

YES : Go to step **4A3**.

NO : Repair wiring harness or replace fuse or circuit breaker.

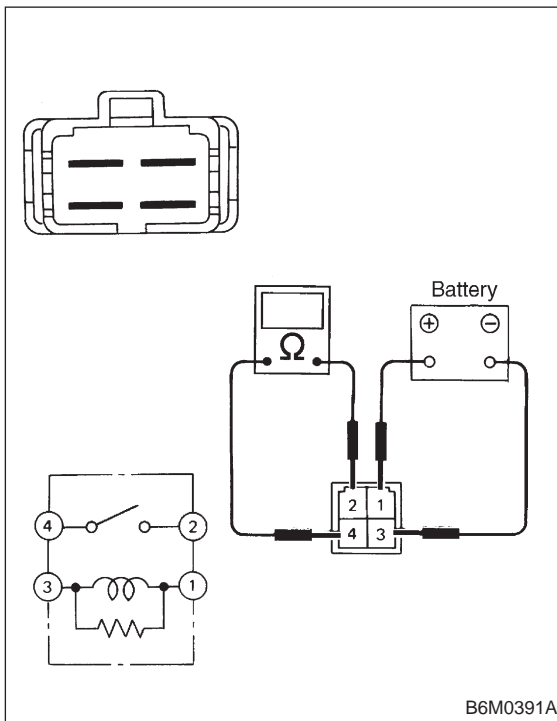
6-2b [T4A3] BODY ELECTRICAL SYSTEM (ELECTRICAL PARTS)

4. Power Window

4A3 : CHECK POWER WINDOW RELAY.

- 1) Disconnect connector of power window relay.
- 2) Connect battery to terminal No. 1 and ground terminal No. 3.
- 3) Check continuity between terminals.

When current flows.	Between terminals No. 2 and No. 4	Continuity exists.
When current does not flow.	Between terminals No. 2 and No. 4	Continuity does not exist.
	Between terminals No. 1 and No. 3	Continuity exists.



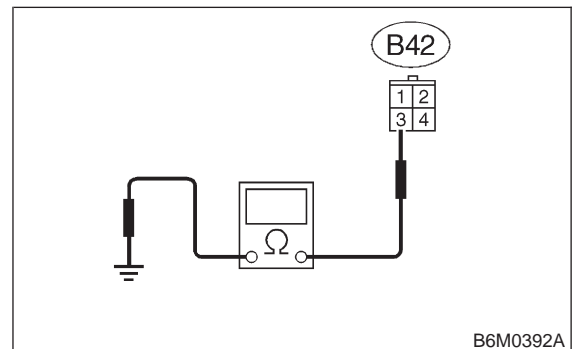
- CHECK** : Is power window relay normal?
- YES** : Go to step 4A4.
- NO** : Replace power window relay.

4A4 : CHECK GROUND CIRCUIT OF POWER WINDOW RELAY.

- 1) Disconnect connector of power window relay.
- 2) Measure resistance of harness connector between power window relay and chassis ground.

Connector & terminal

(B42) No. 3 (+) — Chassis ground (-):



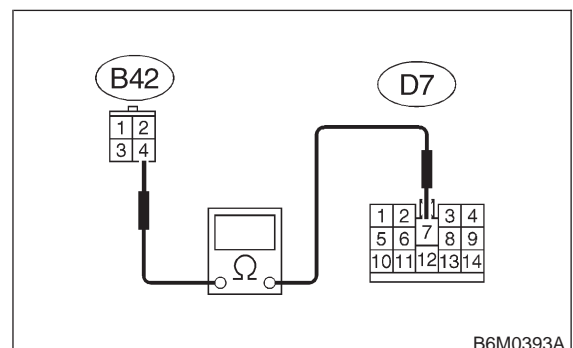
- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 4A5.
- NO** : Repair wiring harness.

4A5 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW RELAY AND POWER WINDOW MAIN SWITCH (DRIVER'S DOOR SWITCH).

- 1) Disconnect connectors of power window relay and power window main switch.
- 2) Measure resistance of harness connector between power window relay and power window main switch.

Connector & terminal

(B42) No. 4 — (D7) No. 7:



- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 4A6.
- NO** : Repair wiring harness.

4A6 : CHECK POWER WINDOW MAIN SWITCH.

Perform inspection of power window main switch.
<Ref. to 6-2 [W17B1].>

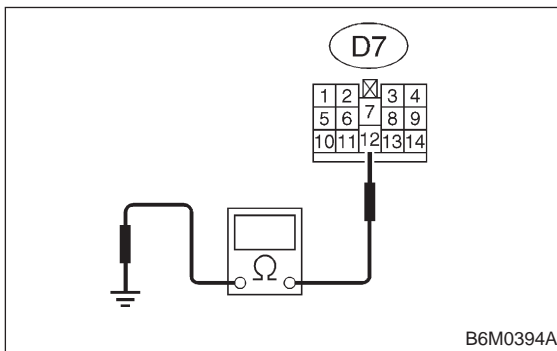
- CHECK** : *Is power window main switch normal?*
- YES** : Go to step **4A7**.
- NO** : Replace power window main switch.

4A7 : CHECK GROUND CIRCUIT OF POWER WINDOW MAIN SWITCH.

- 1) Disconnect connector of power window main switch.
- 2) Measure resistance of harness connector between power window main switch and chassis ground.

Connector & terminal

(D7) No. 12 (+) — Chassis ground (-):



- CHECK** : *Is the resistance less than 10 Ω?*
- YES** : System circuit is normal.
- NO** : Repair wiring harness.

B: DIAGNOSTICS PROCEDURE-2

TROUBLE SYMPTOM

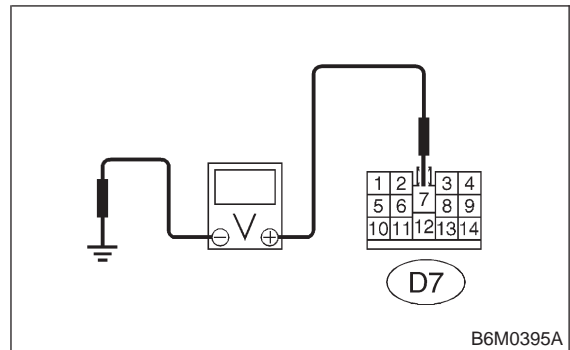
Only driver's door window does not operate.

4B1 : CHECK POWER SUPPLY FOR POWER WINDOW MAIN SWITCH.

- 1) Disconnect connector of power window main switch.
- 2) Turn ignition switch to ON.
- 3) Measure voltage between power window main switch connector and chassis ground.

Connector & terminal

(D7) No. 7 (+) — Chassis ground (-):



- CHECK** : *Is the voltage more than 10 V?*
- YES** : Go to step **4B2**.
- NO** : Go to diagnostics procedure-1. <Ref. to 6-2b [T4A0].>

4B2 : CHECK POWER WINDOW MAIN SWITCH (DRIVER'S DOOR SWITCH).

Perform inspection of power window main switch.
<Ref. to 6-2 [W17B1].>

- CHECK** : *Is power window main switch normal?*
- YES** : Go to step **4B3**.
- NO** : Replace power window main switch.

6-2b [T4B3] BODY ELECTRICAL SYSTEM (ELECTRICAL PARTS)

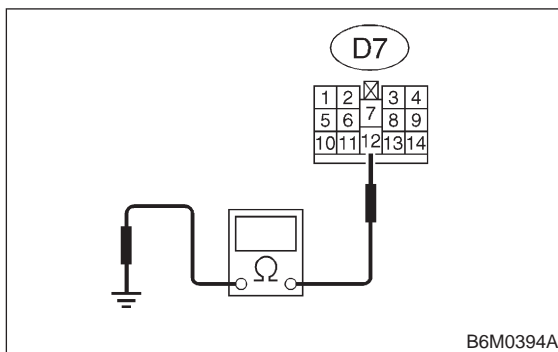
4. Power Window

4B3 : CHECK GROUND CIRCUIT OF POWER WINDOW MAIN SWITCH.

- 1) Disconnect connector of power window main switch.
- 2) Measure resistance of harness connector between power window main switch and chassis ground.

Connector & terminal

(D7) No. 12 (+) — Chassis ground (-):



- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 4B4.
- NO** : Repair wiring harness.

4B4 : CHECK DRIVER'S DOOR WINDOW MOTOR.

- 1) Disconnect connector of power window motor (driver's door).
- 2) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
- 3) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

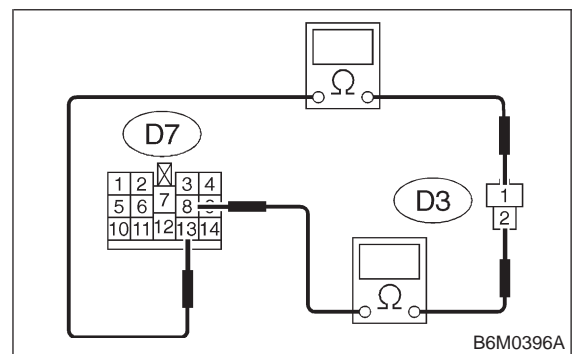
- CHECK** : Is driver side power window motor normal?
- YES** : Go to step 4B5.
- NO** : Replace driver side power window motor.

4B5 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW MAIN SWITCH AND DRIVER'S DOOR WINDOW MOTOR.

- 1) Disconnect connectors of power window main switch and power window motor (driver's door).
- 2) Measure resistance of harness connector between power window main switch and power window motor.

Connector & terminal

(D7) No. 8 — (D3) No. 2:



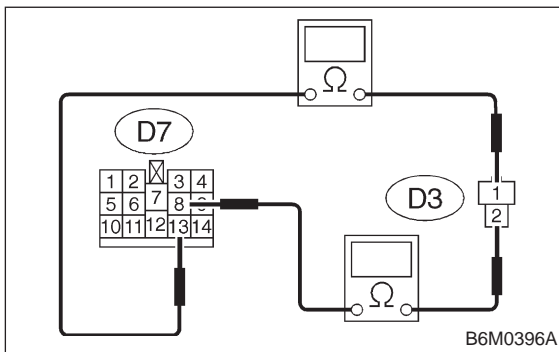
- CHECK** : Is the resistance less than 10 Ω?
- YES** : Go to step 4B6.
- NO** : Repair wiring harness. Go to step 4B6.

4B6 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW MAIN SWITCH AND DRIVER'S DOOR WINDOW MOTOR.

Measure resistance of harness connector between power window main switch and power window motor.

Connector & terminal

(D7) No. 13 — (D3) No. 1:



- CHECK** : **Is the resistance less than 10 Ω?**
- YES** : System circuit is normal but mechanical trouble may be caused in door window system such as break of window regulator.
- NO** : Repair wiring harness.

C: DIAGNOSTICS PROCEDURE-3

TROUBLE SYMPTOM

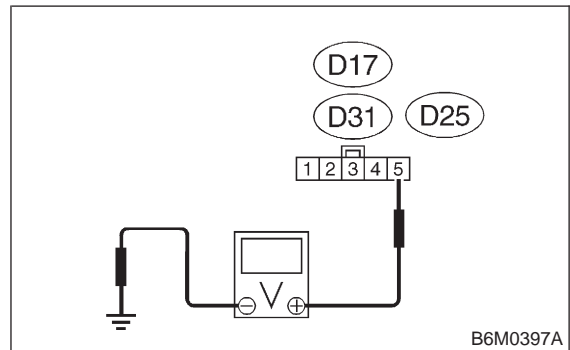
One or more of passenger's door window do not operate.

4C1 : CHECK POWER SUPPLY FOR POWER WINDOW SUB SWITCH WHICH IS OUT OF ORDER.

- 1) Disconnect connector of power window sub switch.
- 2) Turn ignition switch to ON.
- 3) Measure voltage between power window sub switch connector and chassis ground.

Connector & terminal

(D17) No. 5 (+) — Chassis ground (-):



- CHECK** : **Is the voltage more than 10 V? (Front passenger side)**
- YES** : Go to step **4C2**.
- NO** : Repair wiring harness. Go to step **4C2**.

6-2b [T4C2] BODY ELECTRICAL SYSTEM (ELECTRICAL PARTS)

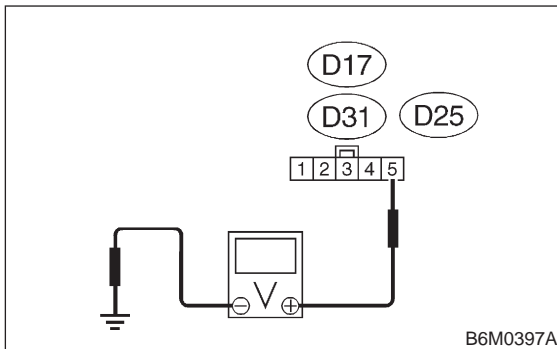
4. Power Window

4C2 : CHECK POWER SUPPLY FOR POWER WINDOW SUB SWITCH WHICH IS OUT OF ORDER.

Measure voltage between power window sub switch connector and chassis ground.

Connector & terminal

(D31) No. 5 (+) — Chassis ground (-):



CHECK : *Is the voltage more than 10 V? (Rear RH side)*

YES : Go to step 4C3.

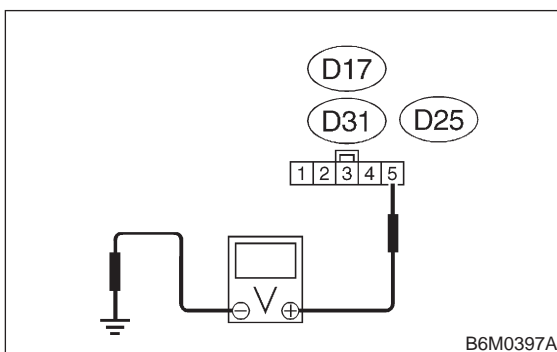
NO : Repair wiring harness. Go to step 4C3.

4C3 : CHECK POWER SUPPLY FOR POWER WINDOW SUB SWITCH WHICH IS OUT OF ORDER.

Measure voltage between power window sub switch connector and chassis ground.

Connector & terminal

(D25) No. 5 (+) — Chassis ground (-):



CHECK : *Is the voltage more than 10 V? (Rear LH side)*

YES : Go to step 4C4.

NO : Repair wiring harness.

4C4 : CHECK POWER WINDOW SUB SWITCH WHICH IS OUT OF ORDER.

Perform inspection of power window sub switch.
<Ref. to 6-2 [W17B2].>

CHECK : *Is power window sub switch normal?*

YES : Go to step 4C5.

NO : Replace power window sub switch.

4C5 : CHECK POWER WINDOW MOTOR WHICH IS OUT OF ORDER.

- 1) Disconnect connector of power window motor.
- 2) Make sure that power window motor rotates properly when battery voltage is applied to terminals of motor connector.
- 3) Change polarity of battery connections to terminals to ensure that motor rotates in reverse direction.

CHECK : *Is passenger side power window motor normal?*

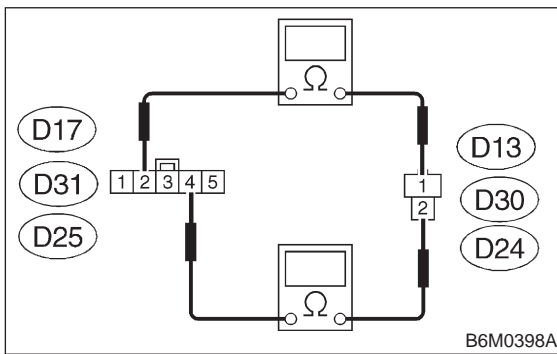
YES : Go to step 4C6.

NO : Replace passenger side power window motor.

4C6 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

- 1) Disconnect connectors of power window sub switch and power window motor.
- 2) Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal
(D17) No. 2 — (D13) No. 1:

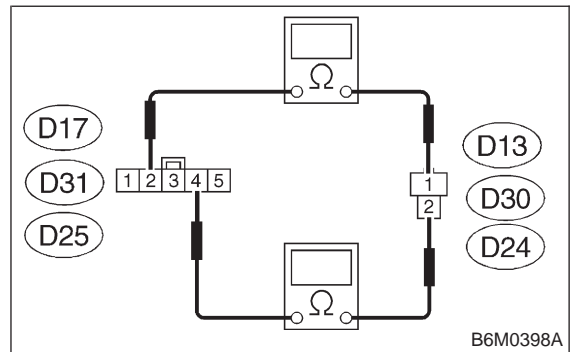


- CHECK** : Is the resistance less than 10 Ω?
(Front passenger side)
- YES** : Go to step 4C7.
- NO** : Repair wiring harness. Go to step 4C7.

4C7 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal
(D17) No. 4 — (D13) No. 2:

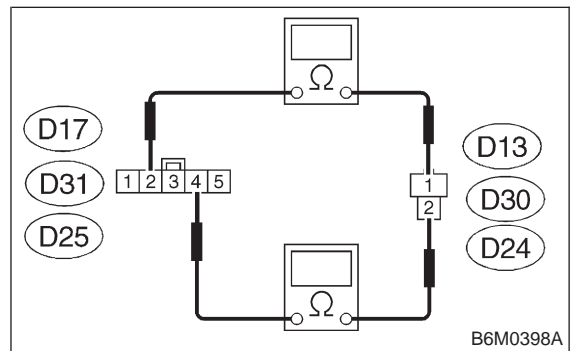


- CHECK** : Is the resistance less than 10 Ω?
(Front passenger side)
- YES** : Go to step 4C8.
- NO** : Repair wiring harness. Go to step 4C8.

4C8 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal
(D31) No. 2 — (D30) No. 1:



- CHECK** : Is the resistance less than 10 Ω?
(Rear RH side)
- YES** : Go to step 4C9.
- NO** : Repair wiring harness. Go to step 4C9.

6-2b [T4C9] BODY ELECTRICAL SYSTEM (ELECTRICAL PARTS)

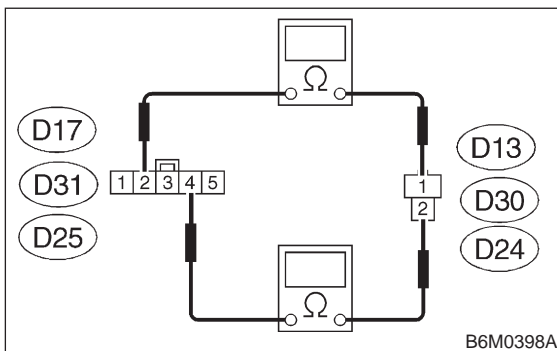
4. Power Window

4C9 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal

(D31) No. 4 — (D30) No. 2:



CHECK : Is the resistance less than 10 Ω?
(Rear RH side)

YES : Go to step 4C10.

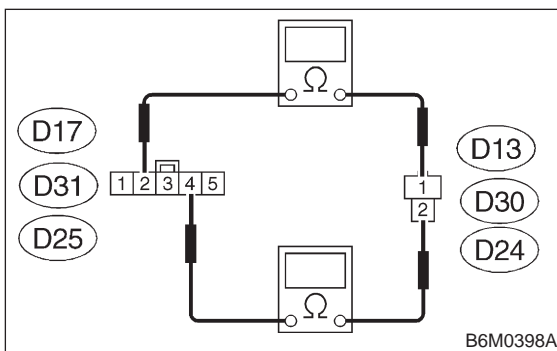
NO : Repair wiring harness. Go to step 4C10.

4C10 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal

(D25) No. 2 — (D24) No. 1:



CHECK : Is the resistance less than 10 Ω?
(Rear LH side)

YES : Go to step 4C11.

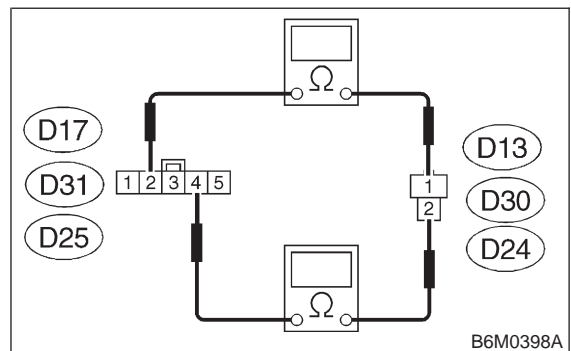
NO : Repair wiring harness. Go to step 4C11.

4C11 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND POWER WINDOW MOTOR.

Measure resistance of harness connector between power window sub switch and power window motor.

Connector & terminal

(D25) No. 4 — (D24) No. 2:



CHECK : Is the resistance less than 10 Ω?
(Rear LH side)

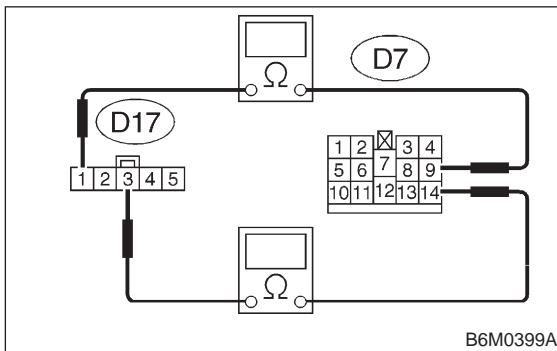
YES : Go to step 4C12.

NO : Repair wiring harness.

4C12 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

- 1) Disconnect connectors of power window sub switch and main switch.
- 2) Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal
(D17) No. 1 — (D7) No. 9:

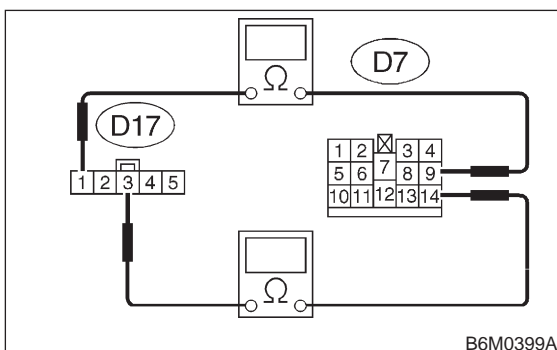


- CHECK** : Is the resistance less than 10 Ω?
(Front passenger side)
- YES** : Go to step 4C13.
- NO** : Repair wiring harness. Go to step 4C13.

4C13 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal
(D17) No. 3 — (D7) No. 14:

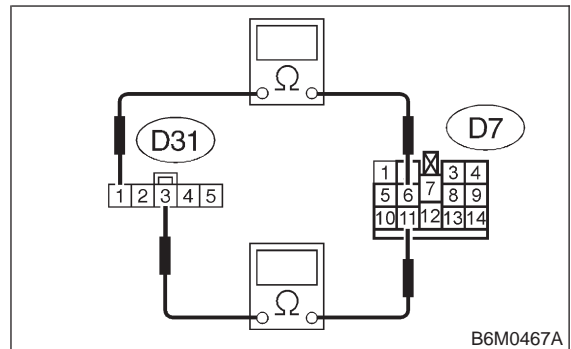


- CHECK** : Is the resistance less than 10 Ω?
(Front passenger side)
- YES** : Go to step 4C14.
- NO** : Repair wiring harness. Go to step 4C14.

4C14 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal
(D31) No. 1 — (D7) No. 6:

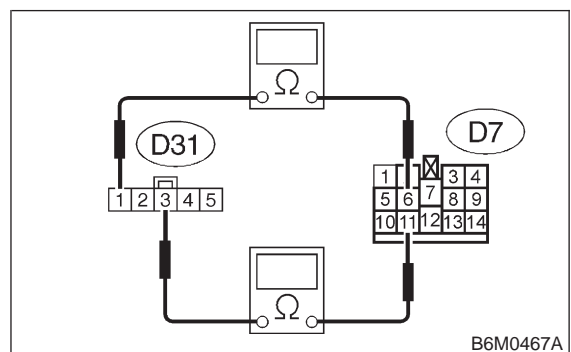


- CHECK** : Is the resistance less than 10 Ω?
(Rear RH side)
- YES** : Go to step 4C15.
- NO** : Repair wiring harness. Go to step 4C15.

4C15 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal
(D31) No. 3 — (D7) No. 11:



- CHECK** : Is the resistance less than 10 Ω?
(Rear RH side)
- YES** : Go to step 4C16.
- NO** : Repair wiring harness. Go to step 4C16.

6-2b [T4C16] BODY ELECTRICAL SYSTEM (ELECTRICAL PARTS)

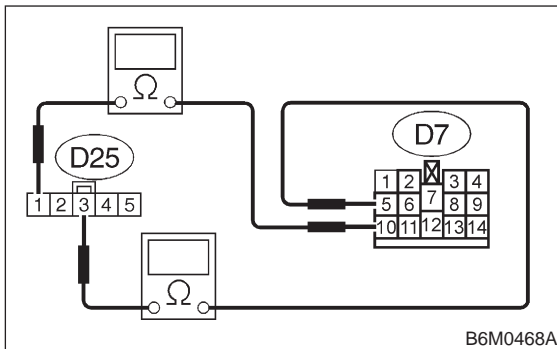
4. Power Window

4C16 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal

(D25) No. 1 — (D7) No. 10:



CHECK : Is the resistance less than 10 Ω?
(Rear LH side)

YES : Go to step 4C17.

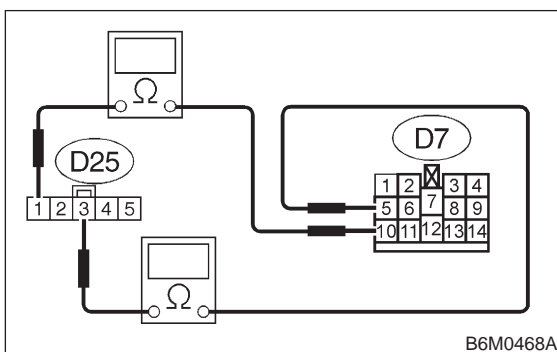
NO : Repair wiring harness. Go to step 4C17.

4C17 : CHECK HARNESS CONNECTOR BETWEEN POWER WINDOW SUB SWITCH AND MAIN SWITCH.

Measure resistance of harness connector between power window sub switch and main switch.

Connector & terminal

(D25) No. 3 — (D7) No. 5:



CHECK : Is the resistance less than 10 Ω?
(Rear LH side)

YES : Go to step 4C18.

NO : Repair wiring harness.

4C18 : CHECK POWER WINDOW MAIN SWITCH.

Perform inspection of power window main switch.
<Ref. to 6-2 [W16B1].>

CHECK : Is power window main switch normal?

YES : Go to step 4C19.

NO : Replace power window main switch.

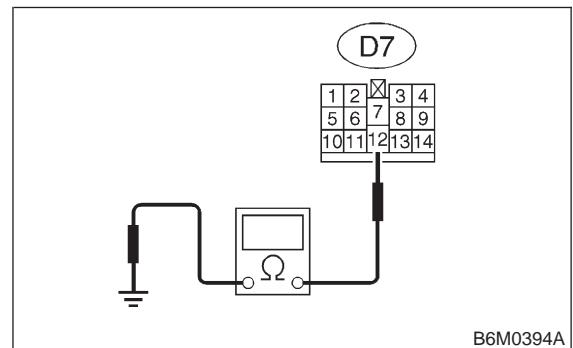
4C19 : CHECK GROUND CIRCUIT OF POWER WINDOW MAIN SWITCH.

1) Disconnect connector of power window main switch.

2) Measure resistance of harness connector between power window main switch and chassis ground.

Connector & terminal

(D7) No. 12 (+) — Chassis ground (-):



CHECK : Is the resistance less than 10 Ω?

YES : System circuit is normal but mechanical trouble may be caused in door window system such as break of window regulator.

NO : Repair wiring harness.