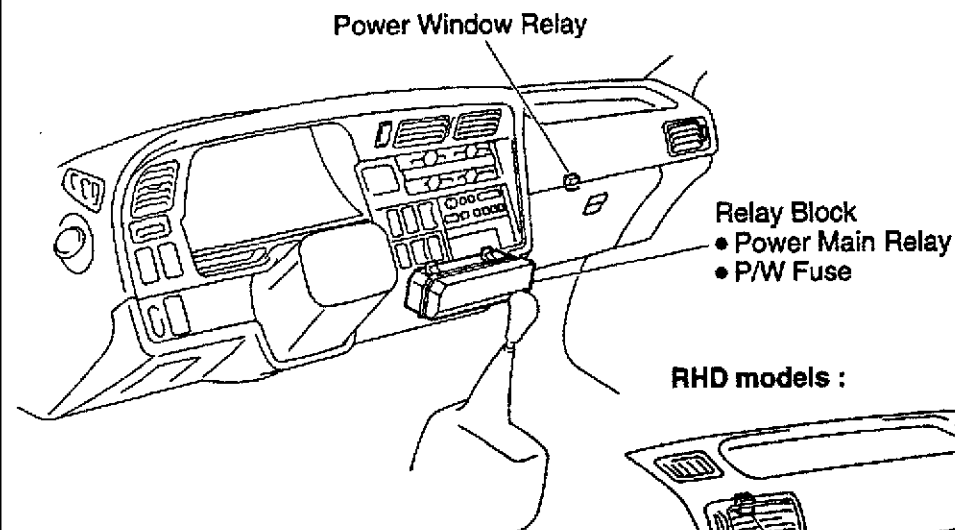


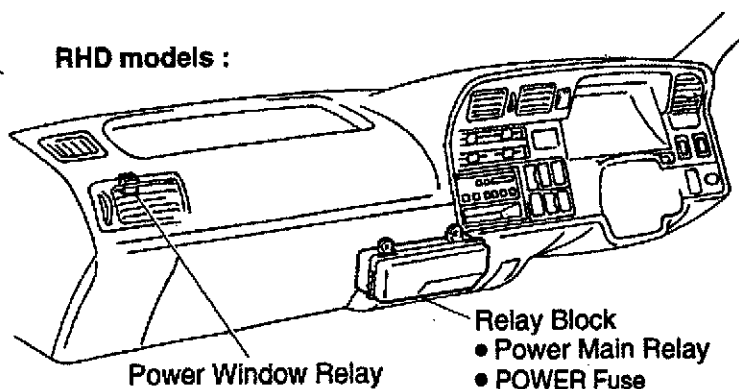
POWER WINDOW CONTROL SYSTEM PARTS LOCATION

BE2WG-01

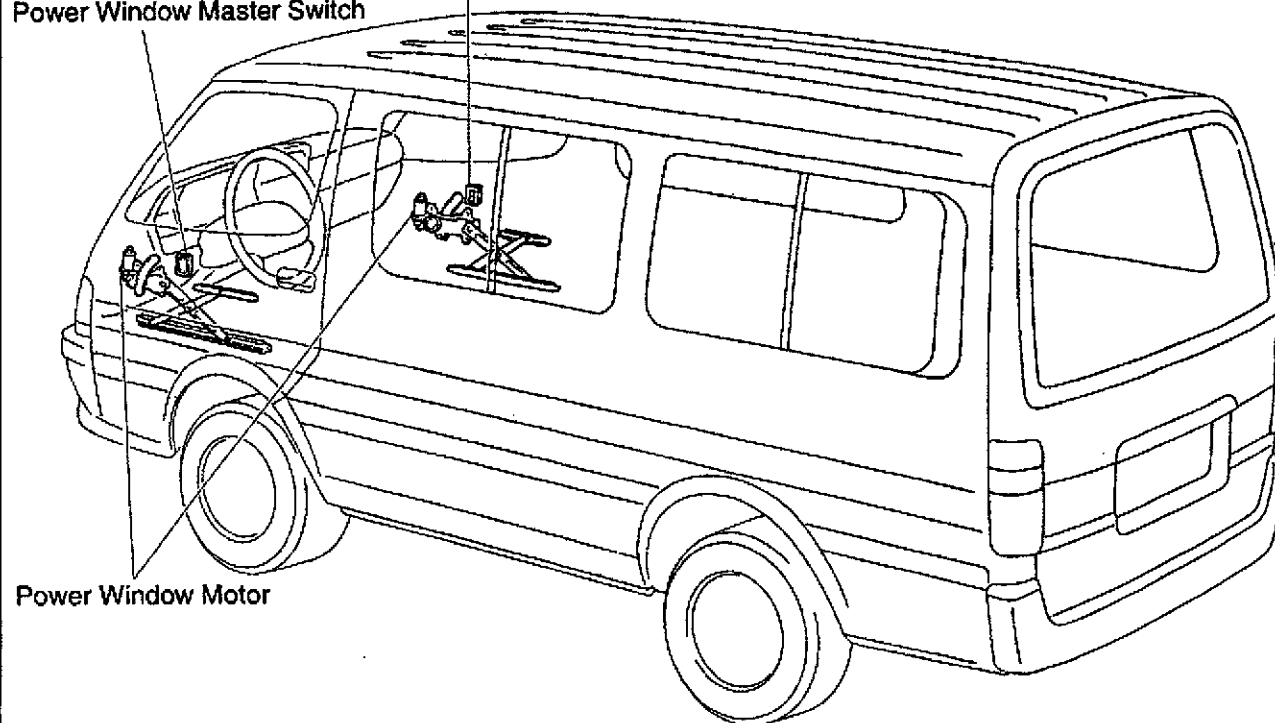
LHD models :



RHD models :



Power Window Master Switch

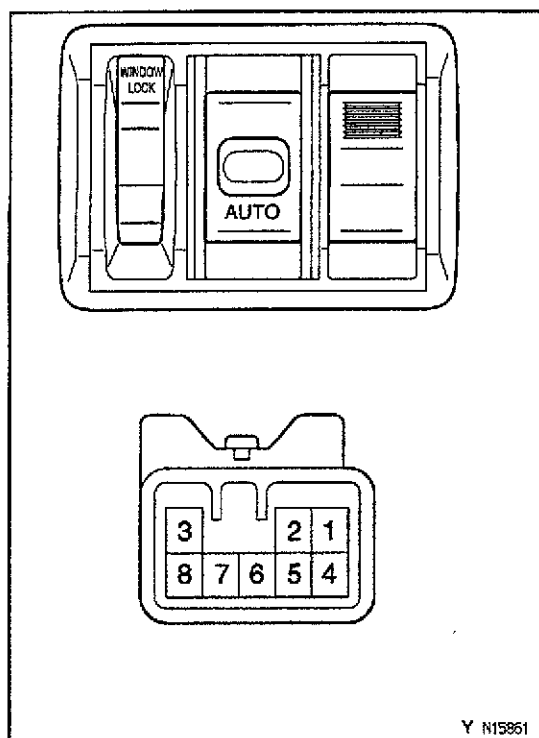


TROUBLESHOOTING

The table below will be useful for you in troubleshooting these electrical problems. The most likely causes of the malfunction are shown in the order of their probability. Inspect each part in the order shown, and replace the part when it is found to be faulty.

Trouble	Parts name (See page)
Power Window does not operate	1. LHD models: P/W Fuse (Relay Block) 2. RHD models: POWER Fuse (Relay Block) 3. Power Main Relay (BE-25) 4. Power Window Relay (BE-25) 5. Ignition Switch ¹ 6. Power Window Master Switch (BE-21 and 22) 7. Power Window Switch (BE-23) 8. Wire Harness
"One Touch Power Window System" does not operate	1. Power Window Master Switch (BE-21 and 22)
Only one window glass does not move	1. Power Window Master Switch (BE-21 and 22) 2. Power Window Switch (BE-23) 3. Power Window Motor (BE-23) 4. Wire Harness
"Window lock System" does not operate	1. Power Window Master Switch (BE-21 and 22)

¹: Refer to HIACE Chasis & Body (Pub.No.RM156E).



POWER WINDOW MASTER SWITCH INSPECTION

1. INSPECT SWITCH CONTINUITY (LHD models:)

Driver's Switch

Switch position	Tester connection	Specified condition
UP AUTO	—	No continuity
UP MANUAL	3 – 8	Continuity
DOWN AUTO	3 – 6, 3 – 7	Continuity
DOWN MANUAL	3 – 7	Continuity

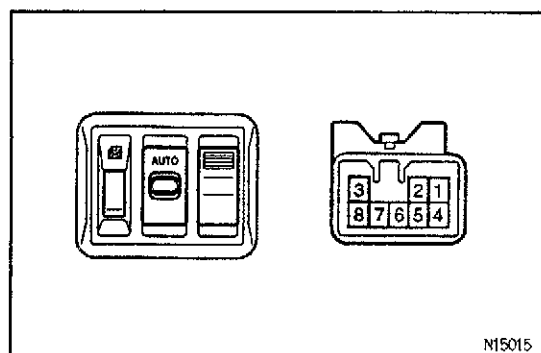
Passenger's Switch (Window unlock)

Switch position	Tester connection	Specified condition
UP	1 – 3, 2 – 4	Continuity
OFF	1 – 2, 2 – 4	Continuity
DOWN	1 – 2, 3 – 4	Continuity

Passenger's Switch (Window lock)

Switch position	Tester connection	Specified condition
UP	1 – 3	Continuity
OFF	1 – 4	Continuity
DOWN	3 – 4	Continuity

If continuity is not as specified, replace the master switch.



2. INSPECT SWITCH CONTINUITY (RHD models:) Driver's Switch

Switch position	Tester connection	Specified condition
UP AUTO	3 - 5, 3 - 8	Continuity
UP MANUAL	3 - 8	Continuity
DOWN AUTO	3 - 6, 3 - 7	Continuity
DOWN MANUAL	3 - 7	Continuity

Passenger's Switch (Window unlock)

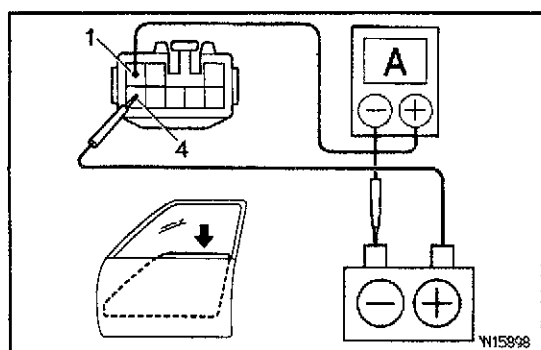
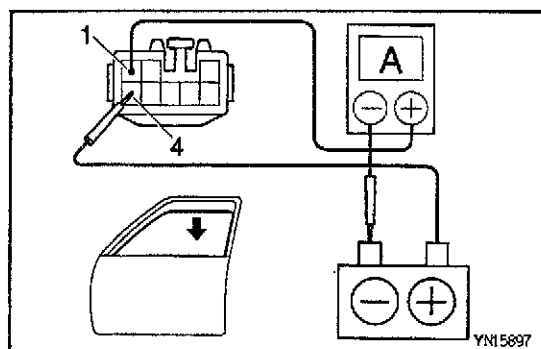
Switch position	Tester connection	Specified condition
UP	1 - 3, 2 - 4	Continuity
OFF	1 - 2, 2 - 4	Continuity
DOWN	1 - 2, 3 - 4	Continuity

Passenger's Switch (Window lock)

Switch position	Tester connection	Specified condition
UP	1 - 3	Continuity
OFF	1 - 4	Continuity
DOWN	3 - 4	Continuity

If continuity is not as specified, replace the master switch.

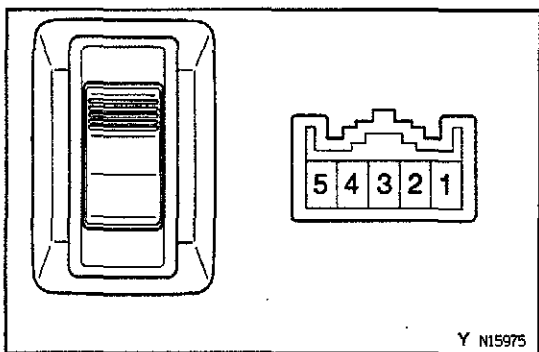
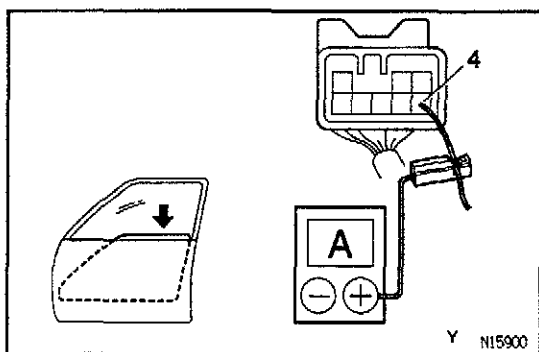
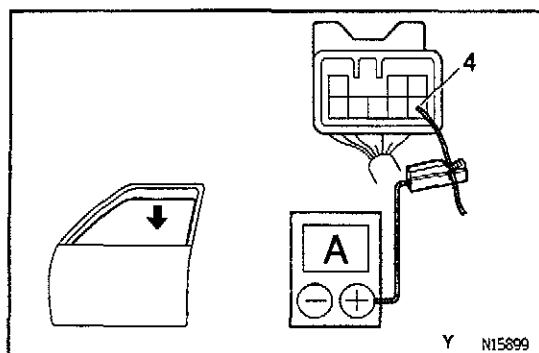
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One Touch Power Window System/ Current of Circuit

Inspection using an ammeter:

- Disconnect the connector from the master switch.
- Connect the positive (+) lead from the ammeter to terminal 1 on the wire harness side connector and the negative (-) lead to the negative (-) terminal of the battery.
- Connect the positive (+) lead from the battery to terminal 4 on the wire harness side connector.
- As the window goes down, check that the current flow is approximately 7 A.
- Check that the current increases up to approximately 14.5 A or more when the window stops going down. HINT: The circuit breaker opens some 4 - 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates. If operation is not as specified, replace the master switch.



Inspection using an ammeter with a current—measuring probe:

- Remove the master switch with connector connected.
- Attach a current—measuring probe to terminal of the wire harness.
- Turn the ignition switch ON and set the power window switch in the down position.
- As the window goes down, check that the current flow is approximately 7 A.
- Check that the current increases up to approximately 14.5 A or more when the window stops going down.
HINT: The circuit breaker opens some 4 – 40 seconds after the window stops going down, so that check must be made before the circuit breaker operates.
If operation is not as specified, replace the master switch.

POWER WINDOW SWITCH INSPECTION

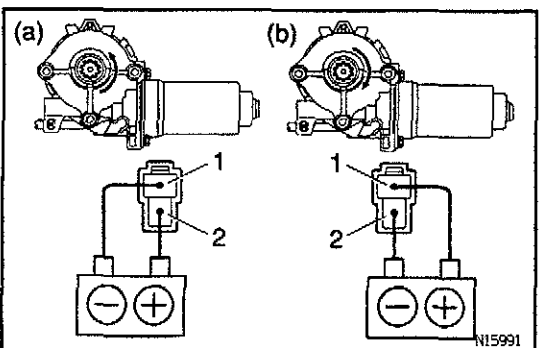
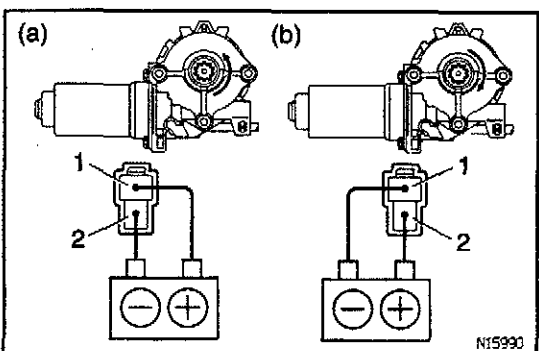
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1. INSPECT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
UP	1 – 2, 3 – 5	Continuity
OFF	1 – 2, 4 – 5	Continuity
DOWN	1 – 3, 4 – 5	Continuity

If continuity is not as specified, replace the switch.



POWER WINDOW MOTOR INSPECTION

862WJ-01

1. INSPECT MOTOR OPERATION

LH Driver's Door and RH Passenger's Door

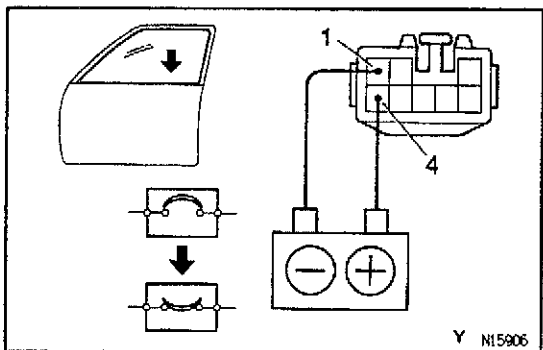
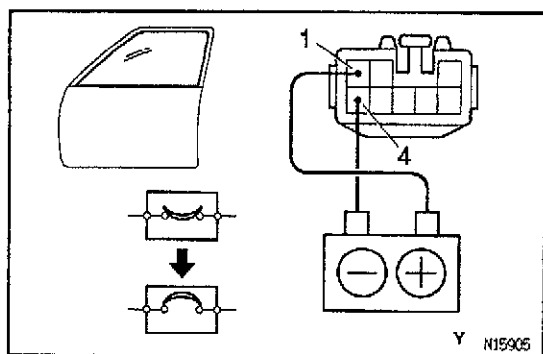
- Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2, and check that the motor turns counterclockwise.
- Reverse the polarity, and check that the motor turns clockwise.

If operation is not as specified, replace the motor.

RH Driver's Door and LH Passenger's Door

- Connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to terminal 1, and check that the motor turns counterclockwise.
- Reverse the polarity, and check that the motor turns clockwise.

If operation is not as specified, replace the motor.



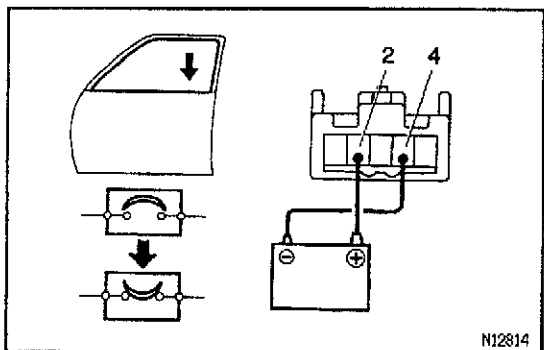
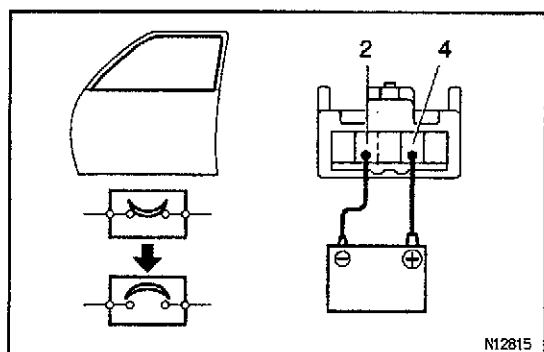
2. INSPECT PTC OPERATION

Driver's Door:

- Disconnect the connector from the power window switch.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 4 on the wire harness side connector, and raise the window to full closed position.
- Continue to apply voltage, and check that the current changes from approximately 14 A to less than 1 A within 4 to 90 seconds.
- Disconnect the leads from the terminals.
- After approximately 90 seconds, connect the positive (+) lead from the battery to terminal 4 and negative (–) lead to terminal 1, and check that the window begins to descend.

If operation is not as specified, replace the motor.

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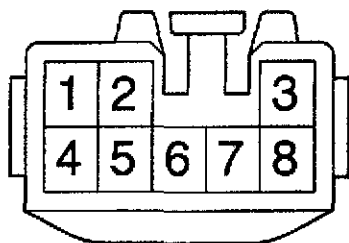


Passenger's Door:

- Disconnect the connector from the power window switch.
- Connect the positive (+) lead from the battery to terminal 4 and the negative (–) lead to terminal 2 on the wire harness side connector, and raise the window to full closed position.
- Continue to apply voltage, and check that the current changes from approximately 14 A to less than 1 A within 4 to 90 seconds.
- Disconnect the leads from terminals.
- After approximately 90 seconds later, connect the positive (+) lead from the battery to terminal 2 and negative (–) lead to terminal 4, and check that the window begins to descend.

If operation is not as specified, replace the motor.

• Wire Harness Side



N15716

POWER WINDOW RELAY INSPECTION

INSPECT RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side, as shown in the chart.

Tester connection	Condition	Specified condition
6 — Ground	Constant	Continuity
1 — 3	Constant	Continuity
2 — Ground	Ignition switch LOCK or ACC	No voltage
2 — Ground	Ignition switch ON	Battery voltage
4 — Ground	Power window master switch OFF	No voltage
4 — Ground	Power window master switch AUTO UP or MANUAL UP	Battery voltage
5 — Ground	Power window master switch MANUAL UP or OFF	No voltage
5 — Ground	Power window master switch AUTO UP	Battery voltage
7 — Ground	Power window master switch MANUAL DOWN or OFF	No voltage
7 — Ground	Power window master switch AUTO DOWN	Battery voltage
8 — Ground	Power window master switch OFF	No voltage
8 — Ground	Power window master switch AUTO DOWN or MANUAL DOWN	Battery voltage

If continuity is not as specified, replace the relay.

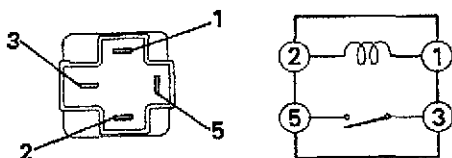
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POWER MAIN RELAY INSPECTION

INSPECT RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 — 2	Continuity
Apply B+ between terminals 1 and 2.	3 — 5	Continuity

If continuity is not as specified, replace the relay.



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