

Z06846

INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH CONTINUITY

Front Driver's Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	1 - 13, 2 - 13 6 - 7, 6 - 8	Continuity
OFF	1 - 6 - 13 2 - 6 - 13	Continuity
DOWN	1 - 6, 2 - 6 7 - 13, 8 - 13	Continuity

Front Driver's Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	1 - 13, 2 - 13 6 - 7, 6 - 8	Continuity
OFF	1 - 6 - 13 2 - 6 - 13	Continuity
DOWN	1 - 6, 2 - 6 7 - 13, 8 - 13	Continuity

Front Passenger's Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	1 - 5, 2 - 5 7 - 12, 8 - 12	Continuity
OFF	1 - 5 - 12 2 - 5 - 12	Continuity
DOWN	1 - 12, 2 - 12 5 - 7, 5 - 8	Continuity

Front Passenger's Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	7 - 12, 8 - 12	Continuity
OFF	5 - 12	Continuity
DOWN	5 - 7, 5 - 8	Continuity

Rear Left Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	1 - 9, 2 - 9 7 - 10, 8 - 10	Continuity
OFF	1 - 9 - 10 2 - 9 - 10	Continuity
DOWN	1 - 10, 2 - 10 7 - 9, 8 - 9	Continuity

Rear Left Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	7 - 10, 8 - 10	Continuity
OFF	9 - 10	Continuity
DOWN	7 - 9, 8 - 9	Continuity

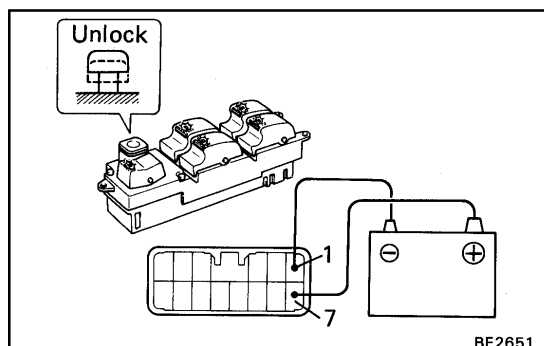
Rear Right Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	1 - 14, 2 - 14 7 - 11, 8 - 11	Continuity
OFF	1 - 11 - 14 2 - 11 - 14	Continuity
DOWN	1 - 11, 2 - 11 7 - 14, 8 - 14	Continuity

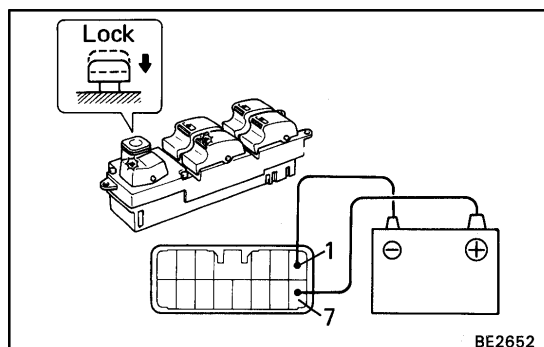
Rear Right Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	7 - 11, 8 - 11	Continuity
OFF	11 - 14	Continuity
DOWN	7 - 14, 8 - 14	Continuity

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

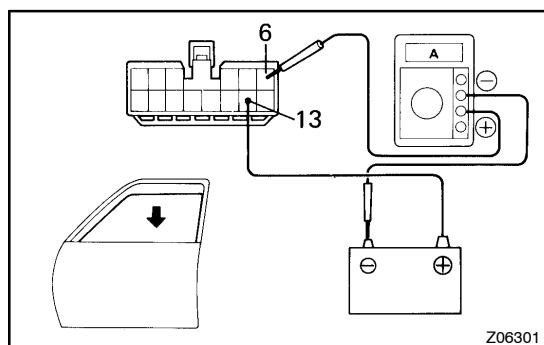
**2. INSPECT POWER WINDOW MASTER SWITCH ILLUMINATION**

- Set the window lock switch to the unlock position.
- Connect the positive (+) lead from the battery to terminal 7 and the negative (-) lead to terminal 1, and check that all the illuminations light up.



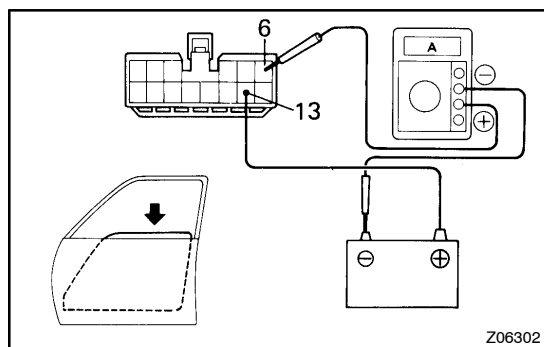
- Set the window lock switch to the lock position, and check that all the passenger's power window switch illuminations go out.

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

**3. Using an ammeter:****INSPECT ONE TOUCH POWER WINDOW SYSTEM/CURRENT OF CIRCUIT**

- Disconnect the connector from the master switch.
- Connect the positive (+) lead from the ammeter to terminal 6 on the wire harness side connector and the negative (-) lead to negative terminal of the battery.
- Connect the positive (+) lead from the battery to terminal 13 on the wire harness side connector.

- (d) As the window goes down, check that the current flow is up to approximately 7 A.

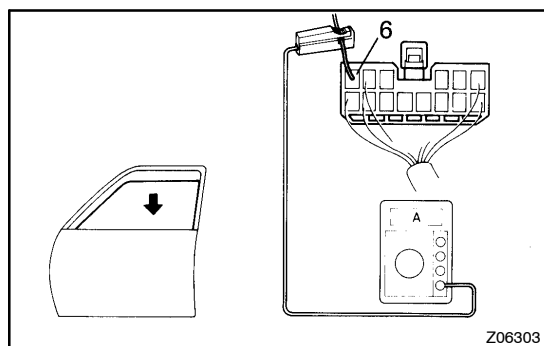


- (e) Check that the current increases approximately 14.5 A or more when the window stops going down.

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 the operation is as specified, replace the master switch.



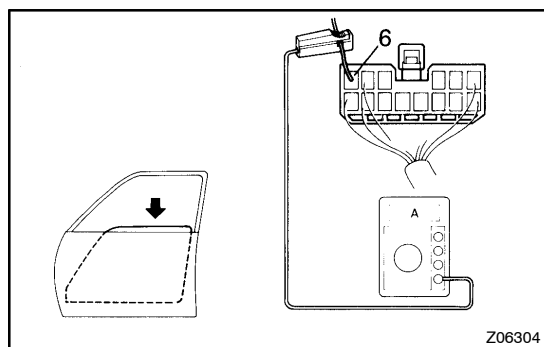
4. Using an ammeter with a current-measuring probe: INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT

- (a) Remove the master switch with connector connected.
 (b) Attach a current-measuring probe to terminal 6 of the wire harness.
 (c) Turn the ignition switch ON, and set the power window switch in the down position.
 (d) As the window goes down, check that the current flow is up to approximately 7 A.
 (e) Check that the current increases approximately 14.5 A or more when the window stops going down.

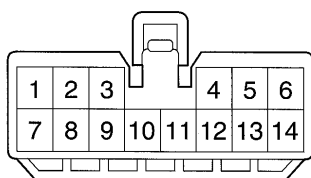
HINT:

The circuit breaker opens some 4 – 40 seconds after the window stops going down, so check must be made before the circuit breaker operates.

If operation is as specified, replace the master switch.



Wire Harness Side



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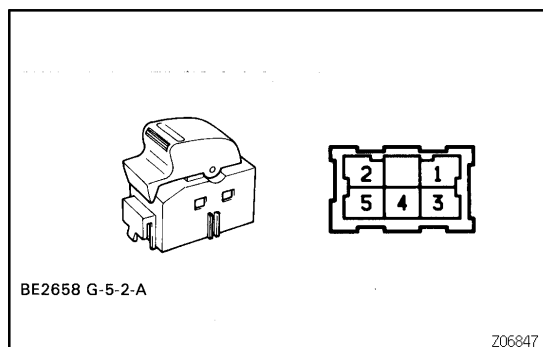
5. INSPECT POWER WINDOW MASTER SWITCH CIRCUIT

Disconnect the connector from the master switch and inspect the connector on the wire harness side, as shown next page.

Tester connection	Condition	Specified condition
1 – Ground	Constant	Continuity
7 – Ground	Ignition switch position LOCK or ACC	*No voltage
7 – Ground	Ignition switch position ON	Battery positive voltage

*: Exceptions: During 60 seconds after the ignition switch ON → OFF (ACC) or until driver or a passenger's door is opened after the ignition switch ON → OFF (ACC).

If the circuit is not as specified, inspect the circuits connected to other parts.

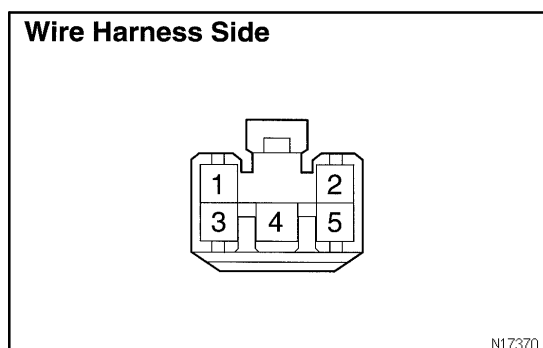


6. INSPECT POWER WINDOW SWITCH CONTINUITY

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

If continuity is not as specified, replace the switch.

Wire Harness Side

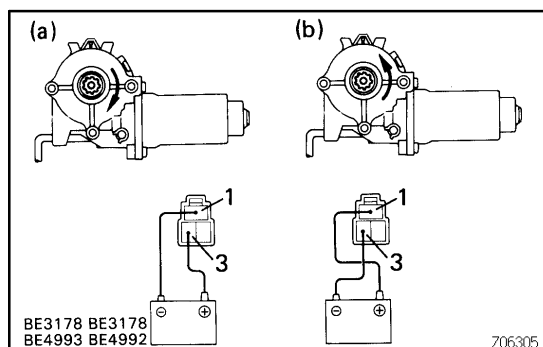


7. INSPECT POWER WINDOW SWITCH CIRCUIT

Disconnect the connector from the switch and inspect the connector on the wire harness side, as shown.

If the circuit is not as specified, inspect the circuits to other parts.

Tester connection	Condition	Specified condition
1 – Ground	Ignition switch ON and master switch OFF	No voltage
1 – Ground	Ignition switch ON and master switch DOWN	Battery positive voltage
4 – Ground	Ignition switch ON and master switch OFF	No voltage
4 – Ground	Ignition switch ON and master switch UP	Battery positive voltage
5 – Ground	Ignition switch ON	Battery positive voltage

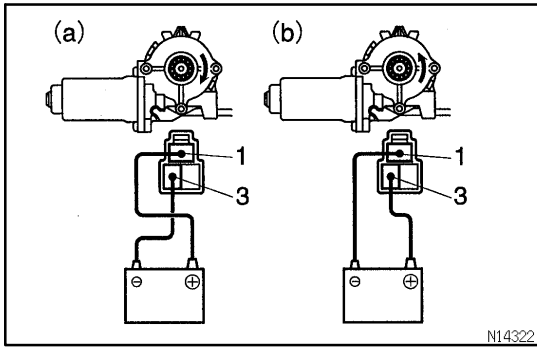


8. Driver's Door:

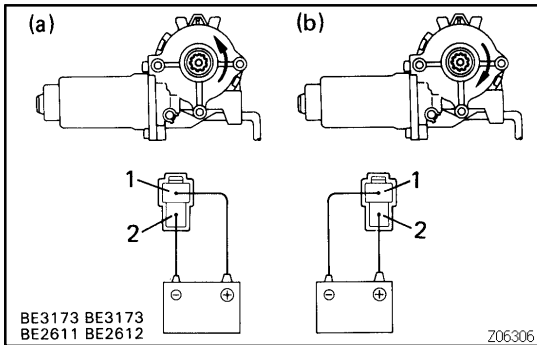
INSPECT POWER WINDOW MOTOR OPERATION

- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1, and check that the motor turns clockwise.
- Reverse the polarity, and check that the motor turns counterclockwise.

If operation is not as specified, replace the motor.

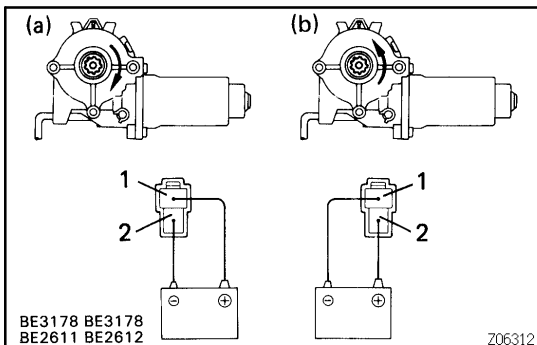
**9. Front Passenger's Door:****INSPECT POWER WINDOW MOTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 3, and check that the motor turns clockwise.
- Reverse the polarity, and check that the motor turns counterclockwise.

**10. Rear Left Side Door:****INSPECT POWER WINDOW MOTOR OPERATION**

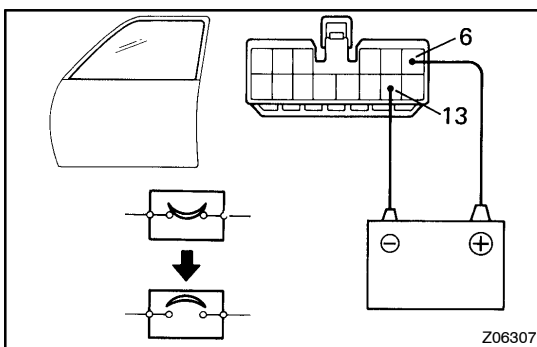
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns counterclockwise.
- Reverse the polarity, and check that the motor turns clockwise.

If operation is not as specified, replace the motor.

**11. Rear Right Side Door:****INSPECT POWER WINDOW MOTOR OPERATION**

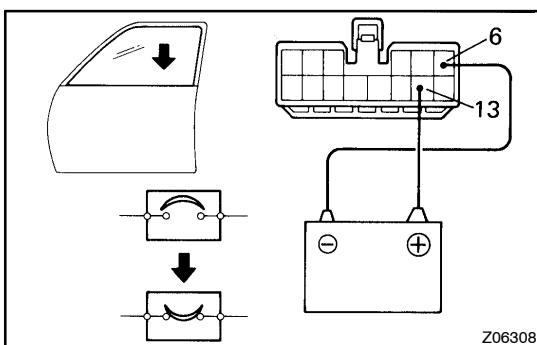
- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, and check that the motor turns counterclockwise.
- Reverse the polarity, and check that the motor turns clockwise.

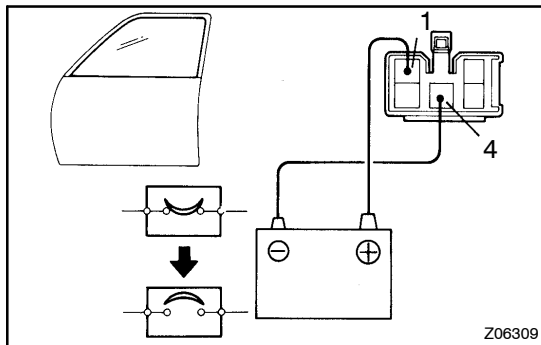
If operation is not as specified, replace the motor.

**12. Driver's Door:****INSPECT POWER WINDOW MOTOR PTC OPERATION**

- Disconnect the connector from the master switch.
- Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 13 on the wire harness side connector and raise the window to the fully closed position.
- Continue to apply voltage, and check that there is a PTC operation noise within approximately 4 to 40 seconds.
- Reverse the polarity, and check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.

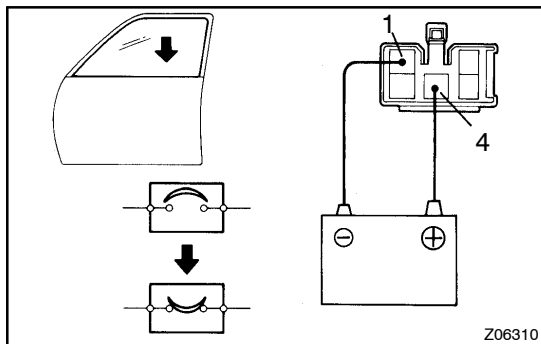




**13. Front Passenger's Door:
INSPECT POWER WINDOW MOTOR PTC OPERATION**

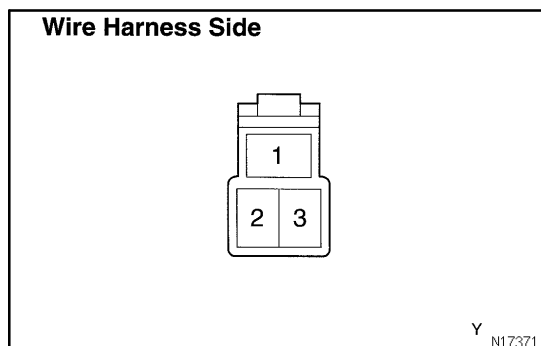
- Disconnect the connector from the power window switch.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 4 on the wire harness side connector, and raise the window to full closed position.
- Continue to apply voltage, and check that there is a PTC operation noise within approximately 4 to 40 seconds.
- Reverse the polarity, and check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.



**14. Rear Left Side Door:
INSPECT POWER WINDOW MOTOR PTC OPERATION (See page BE-43)**

**15. Rear Right Side Door:
INSPECT POWER WINDOW MOTOR PTC OPERATION (See page BE-43)**



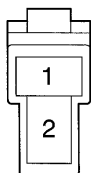
**16. Front Door:
INSPECT POWER WINDOW MOTOR CIRCUIT**

- Disconnect the connector from the motor.
- Connect the connector to the master switch and power window switch.
- Inspect the connector on the wire harness side as shown.
- Turn the ignition switch ON.

Tester connection	Condition	Specified condition
1 - Ground	Master switch UP or OFF	No voltage
1 - Ground	Master switch DOWN	Battery positive voltage
1 - Ground	*Power window Switch UP or OFF	No voltage
1 - Ground	*Power window Switch UP or OFF	Battery positive voltage
3 - Ground	Master switch DOWN or OFF	No voltage
3 - Ground	Master switch UP	Battery positive voltage
3 - Ground	*Power window switch DOWN or OFF	No voltage
3 - Ground	*Power window switch UP	Battery positive voltage

*: Set the window lock switch to the unlock position.

If the circuit is not as specified, inspect the circuits connected to other parts.

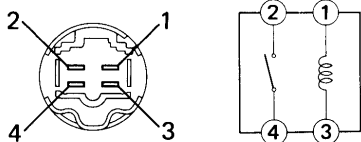
Wire Harness SideY
N17372**17. Rear Door:****INSPECT POWER WINDOW MOTOR CIRCUIT**

- (a) Disconnect the connector from the motor.
- (b) Connect the connector to the master switch and power window switch.
- (c) Inspect the connector on the wire harness side as shown.
- (d) Turn the ignition switch ON.

Tester connection	Condition	Specified condition
1 – Ground	Master switch UP or OFF	No voltage
1 – Ground	Master switch DOWN	Battery positive voltage
1 – Ground	*Power window Switch UP or OFF	No voltage
1 – Ground	*Power window Switch UP or OFF	Battery positive voltage
2 – Ground	Master switch DOWN or OFF	No voltage
2 – Ground	Master switch UP	Battery positive voltage
2 – Ground	*Power window switch DOWN or OFF	No voltage
2 – Ground	*Power window switch UP	Battery positive voltage

*: Set the window lock switch to the unlock position.

If the circuit is not as specified, inspect the circuits connected to other parts.



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18. INSPECT POWER MAIN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 – 3	Continuity
Apply B+ between terminals 1 and 3.	2 – 4	Continuity

If continuity is not as specified, replace the relay.

19. INSPECT POWER MAIN RELAY CIRCUIT (See page BE-11)