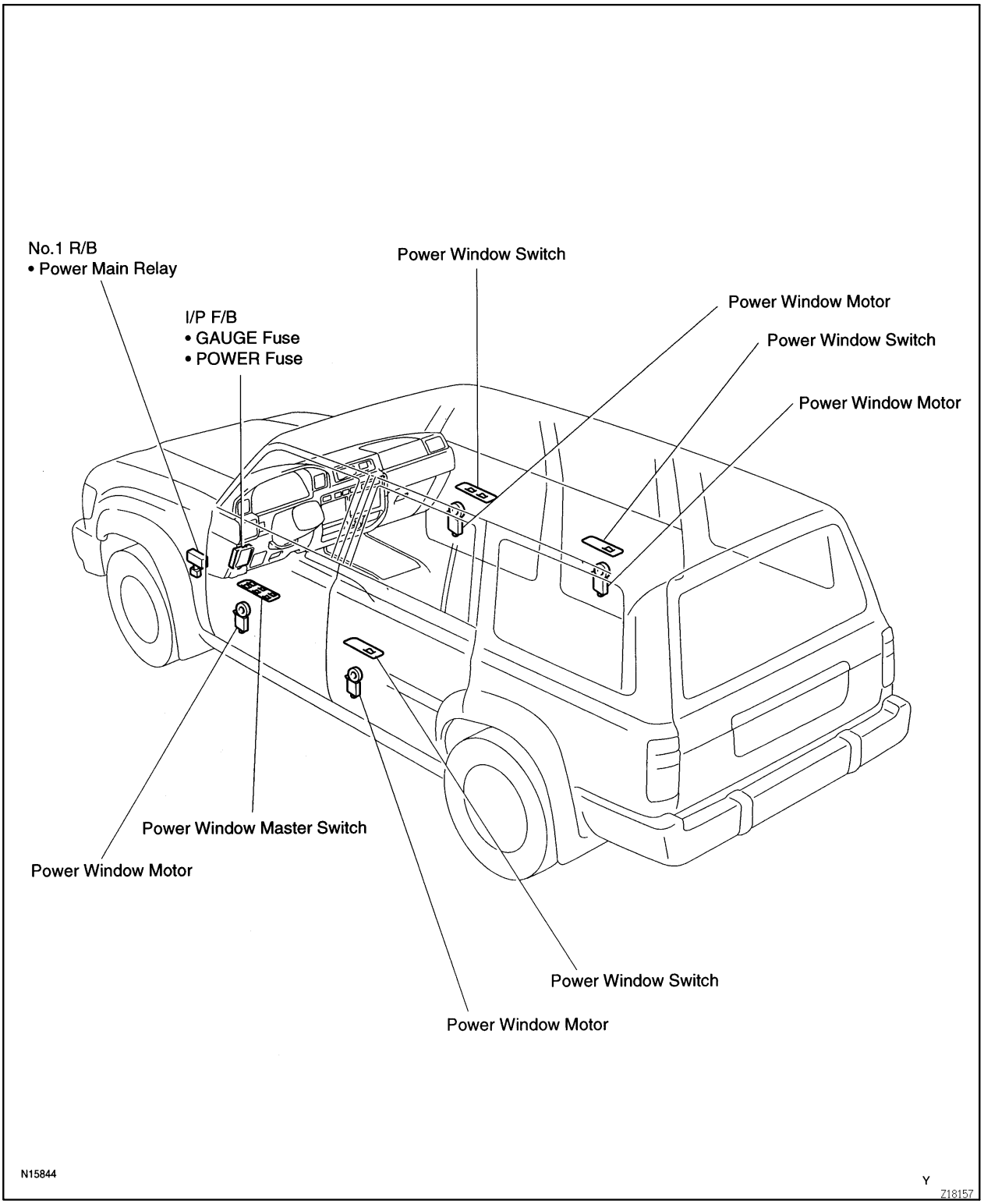
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POWER WINDOW CONTROL SYSTEM

LOCATION

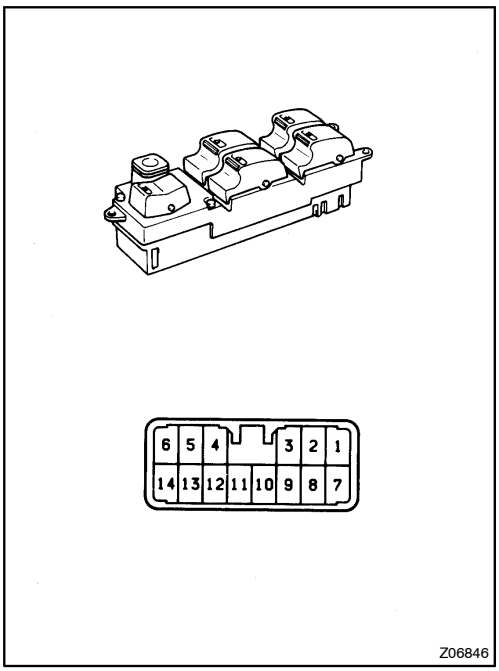
BE1MG–01



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BE1MH–01



INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH CONTINUITY

Front Driver's Switch (Window unlock):

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

Front Driver's Switch (Window lock):

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

Front Passenger's Switch (Window unlock):

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

Front Passenger's Switch (Window lock):

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

Rear Left Switch (Window unlock):

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

Rear Left Switch (Window lock):

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

Rear Right Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	1 – 2 – 14 7 – 8 – 11	Continuity

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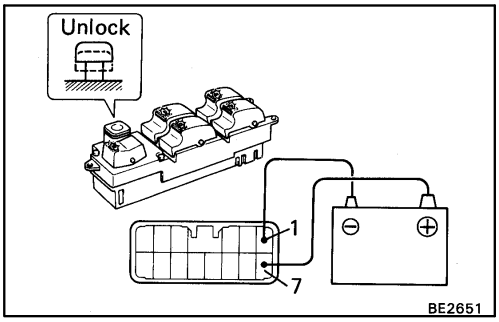
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OFF	1 – 2 – 11 – 14	Continuity
DOWN	1 – 2 – 11 7 – 8 – 14	Continuity

Rear Right Switch (Window lock):

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

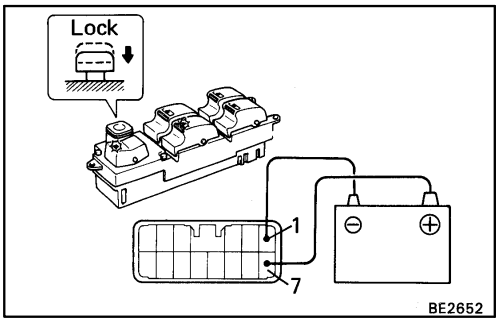
If continuity is not as specified, replace the master switch.



2. INSPECT POWER WINDOW MASTER SWITCH ILLUMINATION

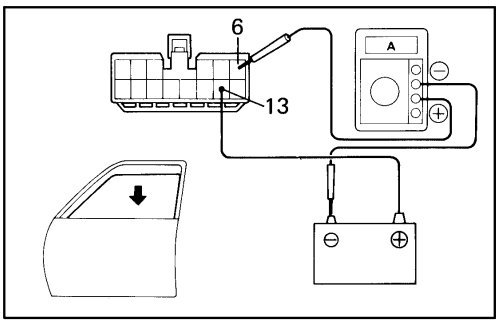
(a) Set the window lock switch to the unlock position.

(b) 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.



(c) 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.

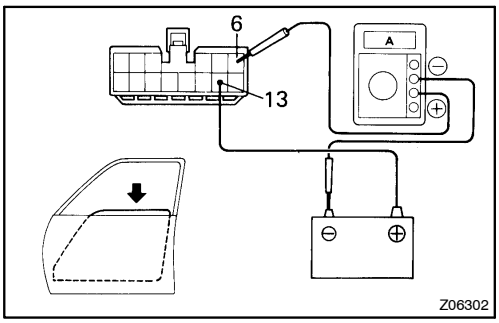


3. Using an ammeter:
INSPECT ONE TOUCH POWER WINDOW SYSTEM

(a) Disconnect the connector from the master switch.

(b) 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.

(c) 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.

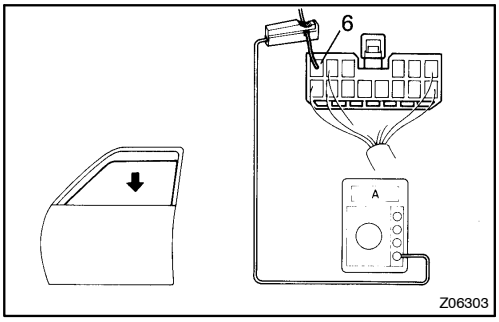
HINT:

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.

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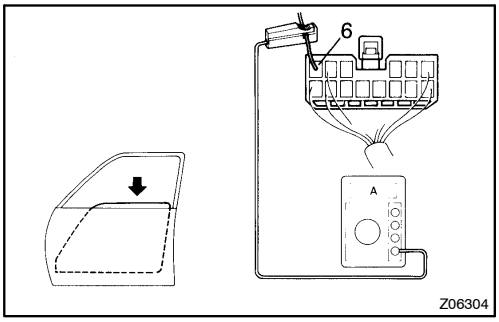
4. Using an ammeter with a current – measuring probe: INSPECT ONE TOUCH POWER WINDOW SYSTEM

(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.

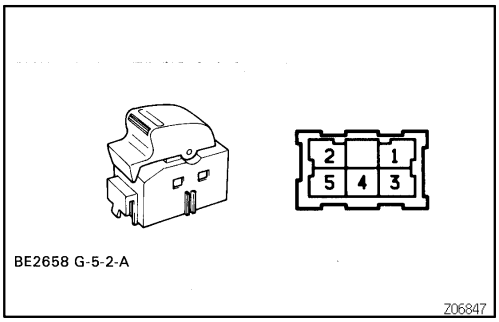


(e) Check that the current increases approximately 14.5 A or more when the window stops going down.

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.

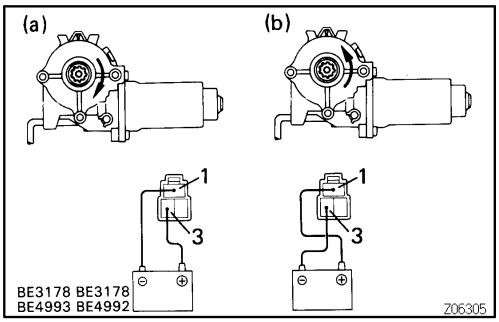
If operation is as specified, replace the master switch.



5. 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.

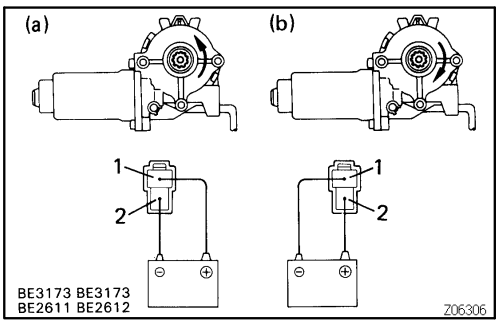


6. Front Door: INSPECT LEFT SIDE DOOR POWER WINDOW MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 3 and the negative (–) lead to terminal 1, and check that the motor turns clockwise.

(b) Reverse the polarity, and check that the motor turns counterclockwise.

If operation is not as specified, replace the motor.



7. Rear Door: INSPECT LEFT SIDE DOOR POWER WINDOW MOTOR OPERATION

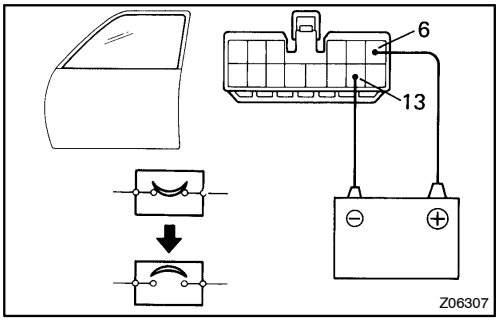
(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2, and check that the motor turns counterclockwise.

(b) Reverse the polarity, and check that the motor turns clockwise.

If operation is not as specified, replace the motor.

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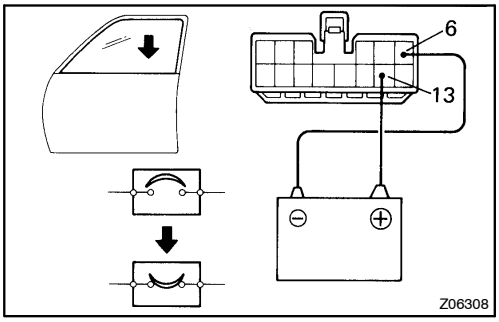


8. INSPECT DRIVER'S DOOR PTC OPERATION

(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the battery to terminal 6 and the negative (–) lead to terminal 13 on the wire harness side connecter and raise the window to full closed position.

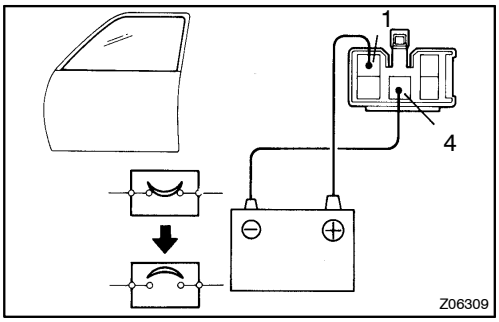
(c) Continue to apply voltage, check that the current changes from approximately 14 A to less that 1 A within 4 to 90 seconds.



(d) Disconnect the leads from terminals.

(e) After approximately 90 seconds, connect the positive (+) lead from the battery to terminal 13 and negative (–) lead to terminal 6, check that the window beginsto desced.

If operation is not as specified, replace the motor.



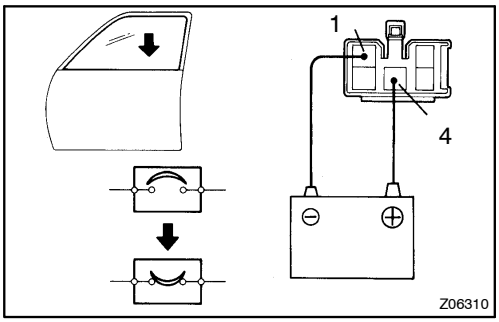
9. INSPECT PASSENGER'S DOOR PTC OPERATION

(a) Disconnect the connector from the power window switch.

(b) 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.

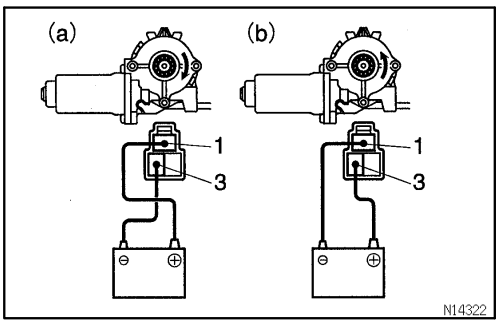
(c) Connect the positive (+) lead from the battery to terminal 1 on the wire harness side connector.

(d) Disconnect the leads from terminals.



(e) After approximately 90 seconds, connect the positive (+) lead from the battery to terminal 4 and negative (–) lead to terminal 1, check that the window begins to descend.

If operation is not as specified, replace the motor.



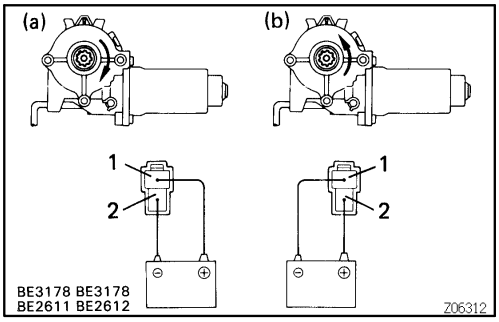
10. INSPECT PASSENGER'S DOOR MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 3, and check that the motor turns clockwise.

(b) Reverse the polarity, and check that the motor turns counterclockwise.

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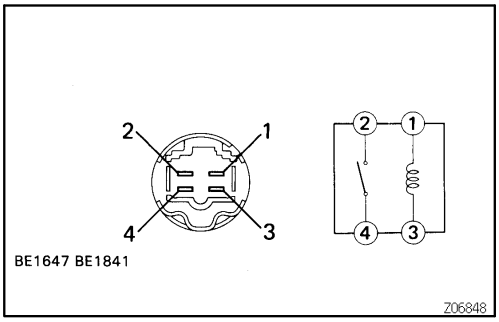
11. INSPECT REAR RIGHT SIDE DOOR MOTOR OPERAION

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

(b) Reverse the polarity, and check that the motor turns clockwise.

If operation is not as specified, replace the motor.

12. INSPECT RIGHT SIDE PTC OPERATION



13. 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.

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