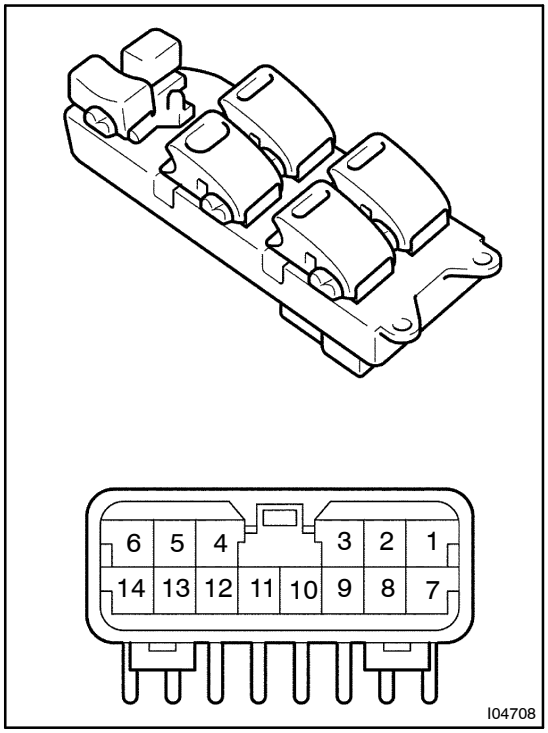
BE0S3–01



INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH CONTINUITY

Connect the battery positive (+) lead to terminal 3 and 10, and battery negative (–) lead to terminal 4 and 5.

Front Driver's Switch (Window unlock and lock):

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

Front Passenger's Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	7 – 8	Battery positive voltage
UP	4 – 5 – 8 7 – 10	Continuity
OFF	4 – 5 – 7 – 8	Continuity
DOWN	7 – 8	Battery positive voltage
DOWN	4 – 5 – 7 8 – 10	Continuity

Front Passenger's Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	7 – 8	Battery positive voltage
UP	7 – 10	Continuity
OFF	7 – 8	Continuity
DOWN	7 – 8	Battery positive voltage
DOWN	8 – 10	Continuity

Rear Left Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	9 – 11	Battery positive voltage
UP	4 – 5 – 11 9 – 10	Continuity
OFF	4 – 5 – 9 – 11	Continuity
DOWN	9 – 11	Battery positive voltage
DOWN	4 – 5 – 9 10 – 11	Continuity

Rear Left Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	9 – 11	Battery positive voltage
UP	9 – 10	Continuity
OFF	9 – 11	Continuity
DOWN	9 – 11	Battery positive voltage
DOWN	10 – 11	Continuity

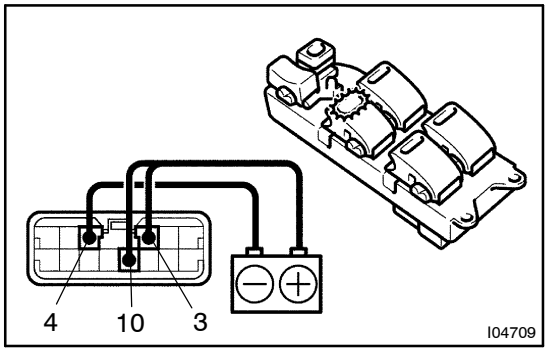
Rear Right Switch (Window unlock):

Switch position	Tester connection	Specified condition
UP	13 – 14	Battery positive voltage
UP	4 – 5 – 14 10 – 13	Continuity
OFF	4 – 5 – 13 – 14	Continuity
DOWN	13 – 14	Battery positive voltage
DOWN	4 – 5 – 13 10 – 14	Continuity

Rear Right Switch (Window lock):

Switch position	Tester connection	Specified condition
UP	13 – 14	Battery positive voltage
UP	10 – 13	Continuity
OFF	13 – 14	Continuity
DOWN	13 – 14	Battery positive voltage
DOWN	10 – 14	Continuity

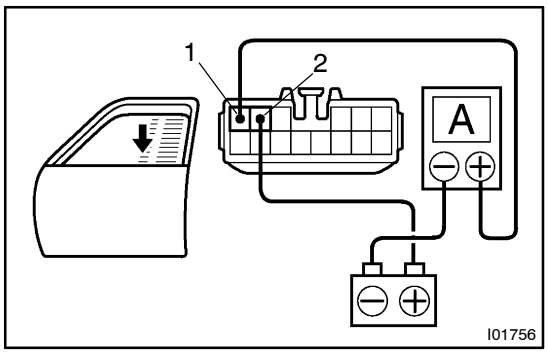
If continuity and voltage is not as specified, replace the master switch.



2. INSPECT POWER WINDOW MASTER SWITCH ILLUMINATION

Connect the positive (+) lead from the battery to terminal 3 and 10, and the negative (–) lead to terminal 4, and check that all the illuminations light up.

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

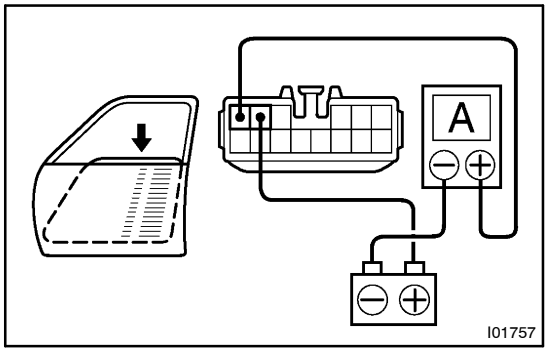


3. INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT

Using an ammeter:

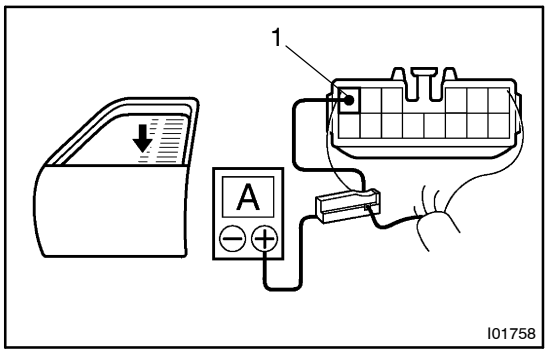
(a) Disconnect the connector from the master switch.

(b) Connect the positive (+) lead from the ammeter to terminal 1 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 2 on the wire harness side connector.
(d) As the window goes down, check that the current flow is approximately 7 A.
(e) 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 the operation is not as specified, replace the master switch.

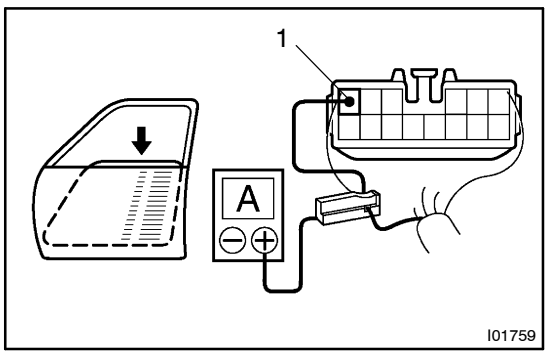


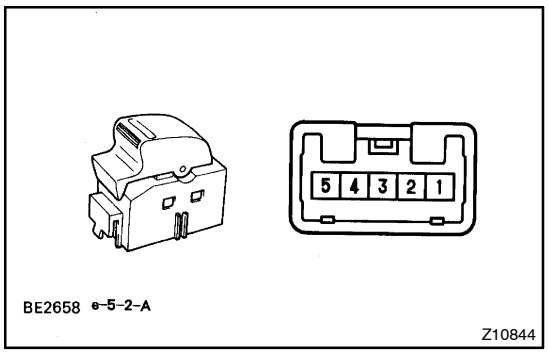
4. INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT

Using an ammeter with a current–measuring probe:

(a) Remove the master switch with connector connected.
(b) Attach a current–measuring probe to terminal 1 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 approximately 7 A.
(e) 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.

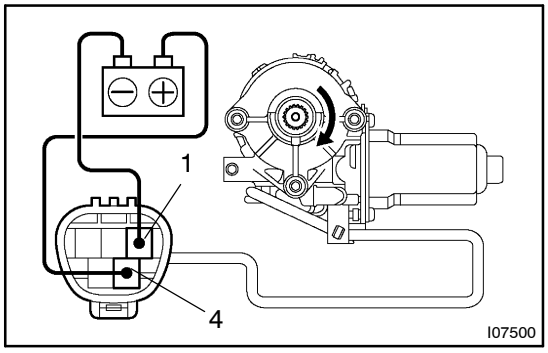




5. INSPECT POWER WINDOW SWITCH CONTINUITY

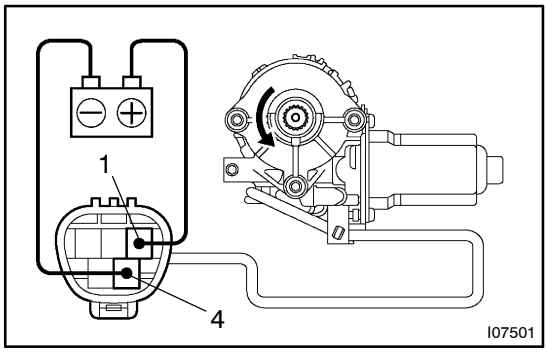
Switch position	Tester connection	Specified condition
UP	1 – 2, 3 – 4	Continuity
OFF	1 – 2, 3 – 5	Continuity
DOWN	1 – 4, 3 – 5	Continuity

If continuity is not as specified, replace the switch.



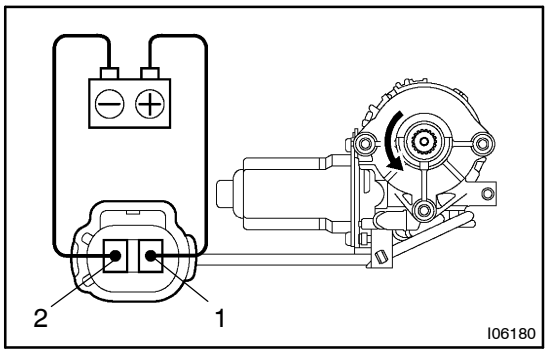
6. Driver's Door:
INSPECT POWER WINDOW MOTOR OPERATION

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 4, check that the motor turns clockwise.



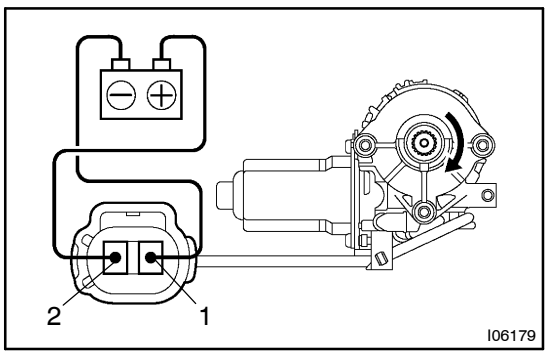
(b) Reverse the polarity, check that the motor turns counterclockwise.

If operation is not as specified, replace the motor.



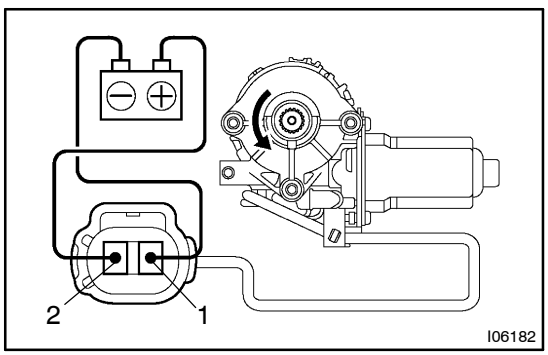
7. Passenger's Door and rear left side:
INSPECT POWER WINDOW MOTOR OPERATION

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



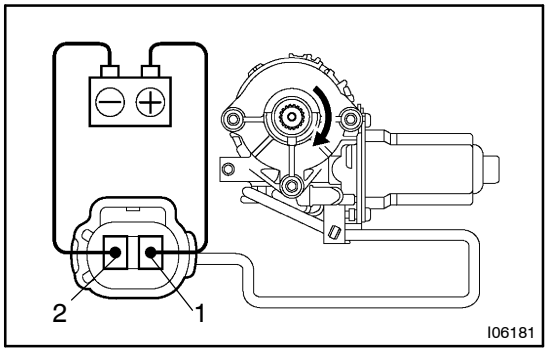
(b) Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the motor.



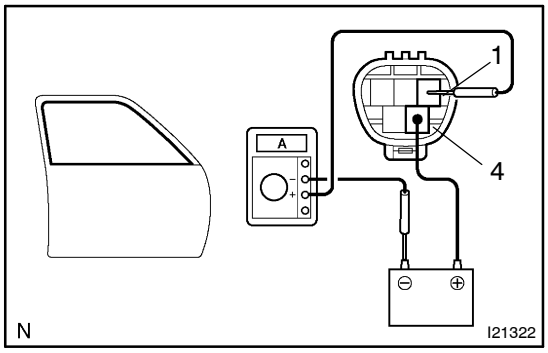
8. Rear right side:
INSPECT POWER WINDOW MOTOR OPERATION

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



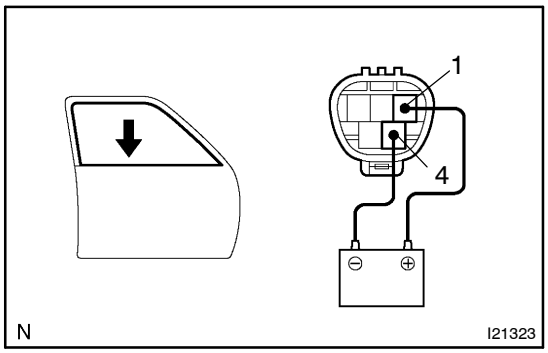
(b) Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the motor.



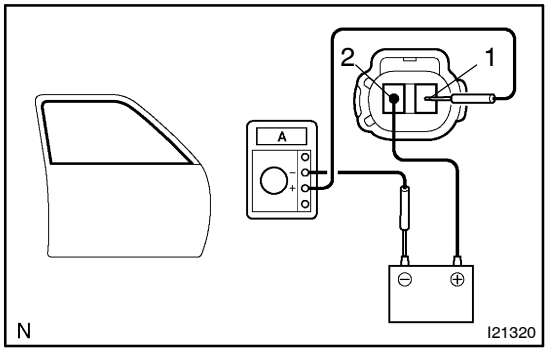
9. Driver's door:
INSPECT POWER WINDOW MOTOR PTC THERMISTOR OPERATION

(a) Disconnect the connector from the power window motor.
(b) Connect the positive (+) lead from the ammeter to terminal 1 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 4 on the wire harness side connector, and raise the window to the fully position.



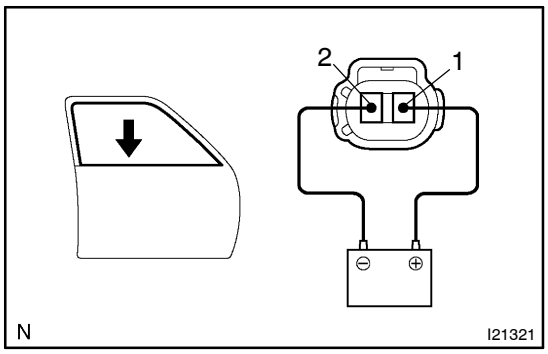
(d) Continue to apply voltage, and check that the current changes to less than 1 A with 4 to 90 seconds.
(e) Disconnect the leads from terminals.
(f) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and negative (–) lead to terminal 4, and check that the window begins to descended.

If operation is not as specified, replace the motor.



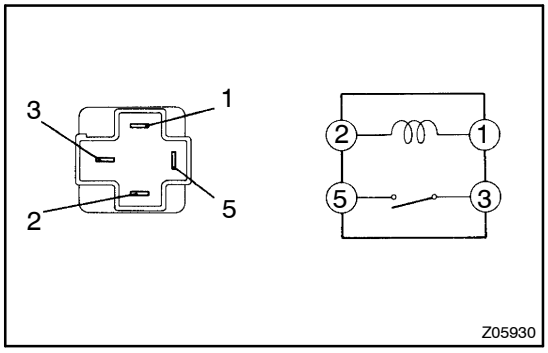
10. Passenger's door and rear door:
INSPECT POWER WINDOW MOTOR PTC THERMISTOR OPERATION

(a) Disconnect the connector from the power window motor.
(b) Connect the positive (+) lead from the ammeter to terminal 2 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 1 on the wire harness side connector, and raise the window to the fully position.



(d) Continue to apply voltage and check that the current changes to less than 1 A within 4 to 90 seconds.
(e) Disconnect the leads from the terminals.
(f) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (–) lead to terminal 1, and check that the window begins to descend.

If operation is not as specified, replace the motor.



11. INSPECT POWER MAIN 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.

12. CHECKING OF THE JAM PROTECTION FUNCTION

NOTICE:

Never, ever be caught any part of your body when checking.

HINT:

In case of performing resetting of the limit switch, do checking after repeating up and down of the glass with automatic operation.

(a) Confirmation of AUTO up operation:
Confirm that the window will be fully close with AUTO up operation.

(b) Checking of the operation of the jam protection function:
(1) Move up the window with AUTO up operation and check that the window will go down when it touches the handle of the hammer stetted.
(2) Confirm that the window will then stop going down about 200 mm.

HINT:

In case of removing the glass, glass guide, regulator and etc. be sure to perform checking of the jam protection function.

If the jam protection is not function properly, adjust power window motor reset switch and pulse switch.