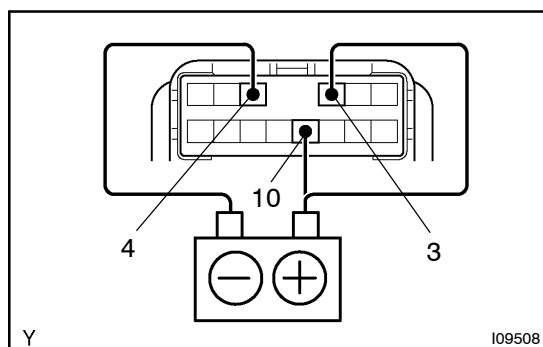




INSPECTION

1. INSPECT POWER WINDOW MASTER SWITCH CONTINUITY

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

Front driver's switch (Window lock and unlock):

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

Front passenger's switch (Window lock and unlock):

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

Rear left switch (Window unlock):

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

Rear left switch (Window lock):

Switch position	Tester connection	Specified condition
UP	9 – 10	Battery positive voltage
	11 – 4	No continuity
DOWN	11 – 10	Battery positive voltage
	9 – 4	No continuity

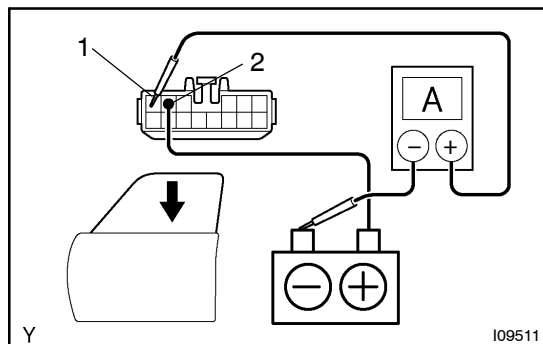
Rear right switch (Window unlock):

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

Rear right switch (Window lock):

Switch position	Tester connection	Specified condition
UP	13 – 10	Battery positive voltage
	14 – 4	No continuity
DOWN	14 – 10	Battery positive voltage
	13 – 4	No continuity

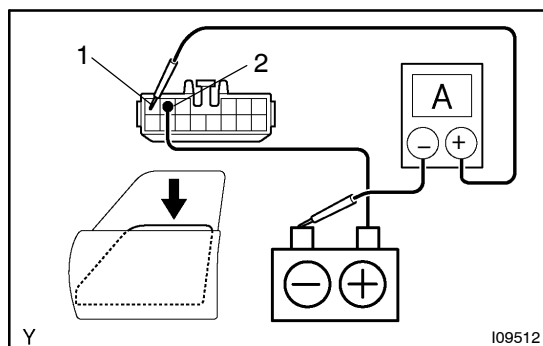
If continuity is not as specified, replace the master switch.



2. 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 1 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 2 on the wire harness side connector.
- As the window goes down, check that the current flow is approximately 7 A.

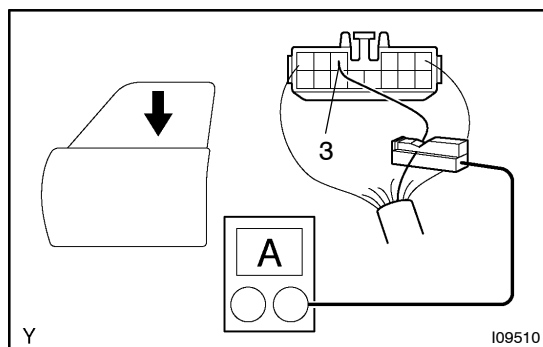


- Check that the current increases up to approximately 14.5 A or more when the window stops going down.

HINT:

The circuit breaker opens for 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.



3. Using an ammeter with a current – measuring probe:

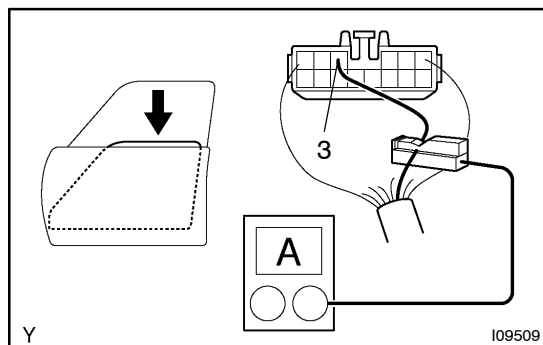
INSPECT ONE TOUCH POWER WINDOW SYSTEM/ CURRENT OF CIRCUIT

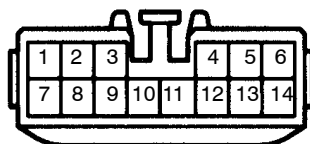
- Remove the master switch with connector connected.
- Attach a current-measuring probe to terminal 8 of the wire harness.
- Turn the ignition switch ON and set the power window switch in the down position.
- As the window goes down, check that the current flow is approximately 7 A.
- Check that the 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 as specified, replace the master switch.



Wire Harness Side:

Z05742

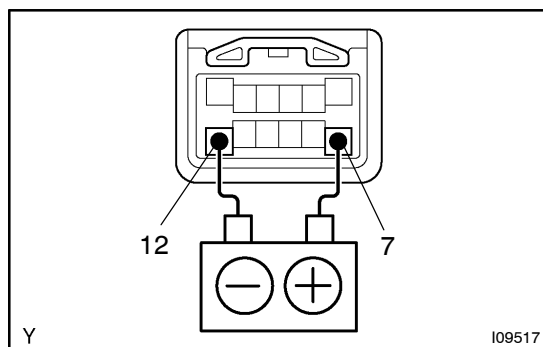
4. INSPECT POWER WINDOW MASTER SWITCH CIRCUIT

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

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

* Exceptions: During 43 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.



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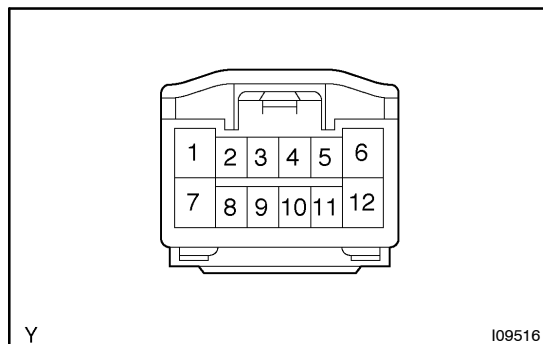
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5. INSPECT POWER WINDOW SWITCH CONTINUITY

Connect the positive (+) lead to the battery to terminal 7 and negative (-) lead to terminal 12.

Switch position	Tester connection	Specified condition
UP	1 – 12	Battery positive voltage
	6 – 12	Continuity
DOWN	6 – 12	Battery positive voltage
	1 – 12	Continuity

If continuity is not as specified, replace the switch.



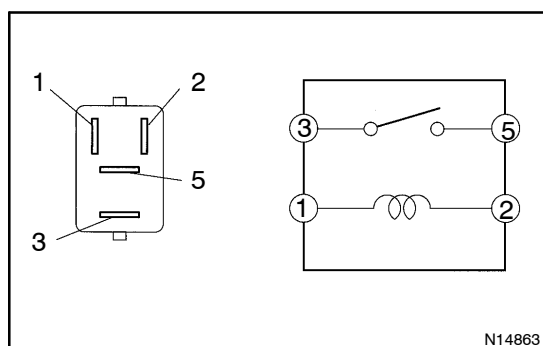
6. INSPECT POWER WINDOW SWITCH CIRCUIT

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

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

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

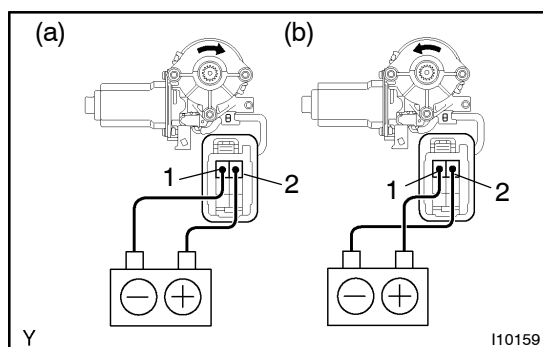
If the circuit is not as specified, inspect the circuits connected to other parts.



7. INSPECT POWER MAIN RELAY CONTINUITY

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

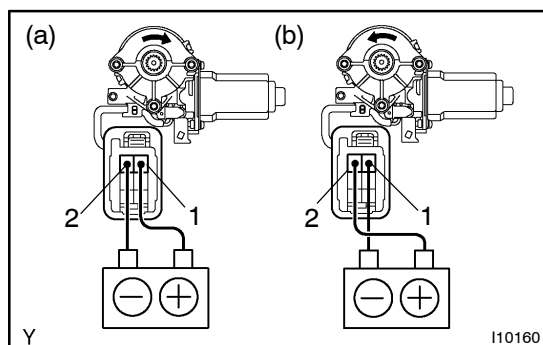
If continuity is not as specified, replace the relay.



8. INSPECT DRIVER'S DOOR 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 clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

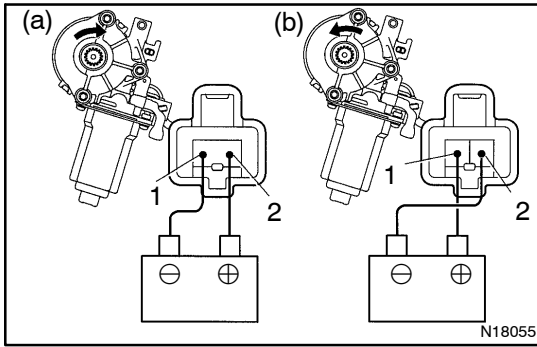
If operation is not as specified, replace the motor.



9. INSPECT FRONT PASSENGER'S DOOR 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 clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

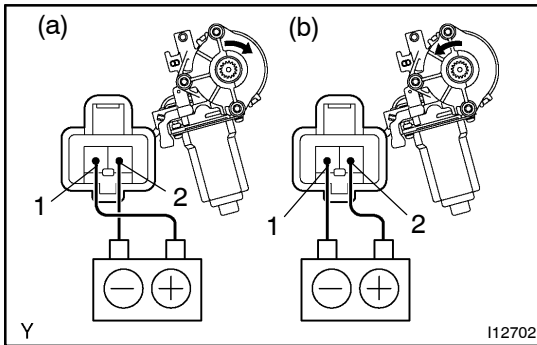
If operation is not as specified, replace the motor.



10. INSPECT REAR LEFT SIDE DOOR 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 clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

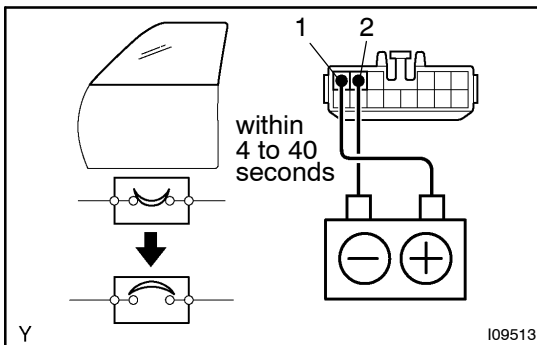
If operation is not as specified, replace the motor.



11. INSPECT REAR RIGHT SIDE DOOR 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 clockwise.
- Reverse the polarity, check that the motor turns counter-clockwise.

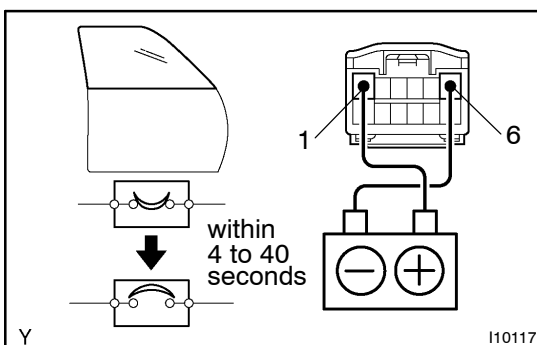
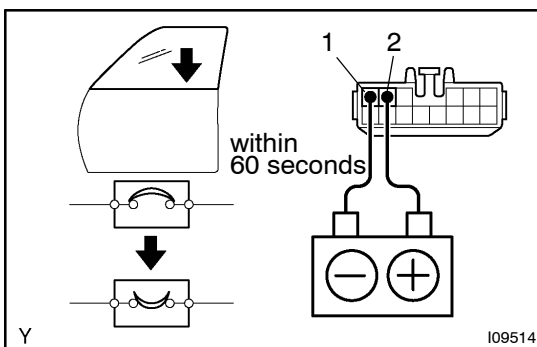
If operation is not as specified, replace the motor.



12. INSPECT DRIVER'S DOOR POWER WINDOW MOTOR CIRCUIT BREAKER OPERATION

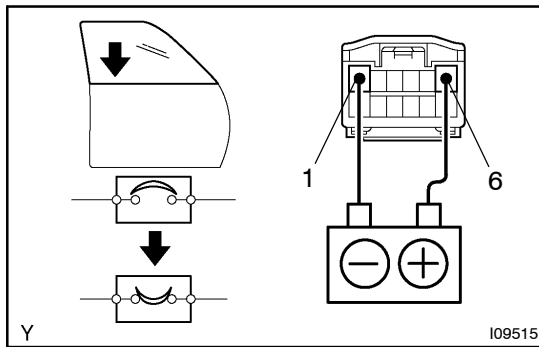
- Disconnect the connector from the master switch.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2 on the wire harness side connector and raise the window to full closed position.
- Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.
- Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.



13. INSPECT FRONT PASSENGER'S DOOR POWER WINDOW MOTOR CIRCUIT BREAKER OPERATION

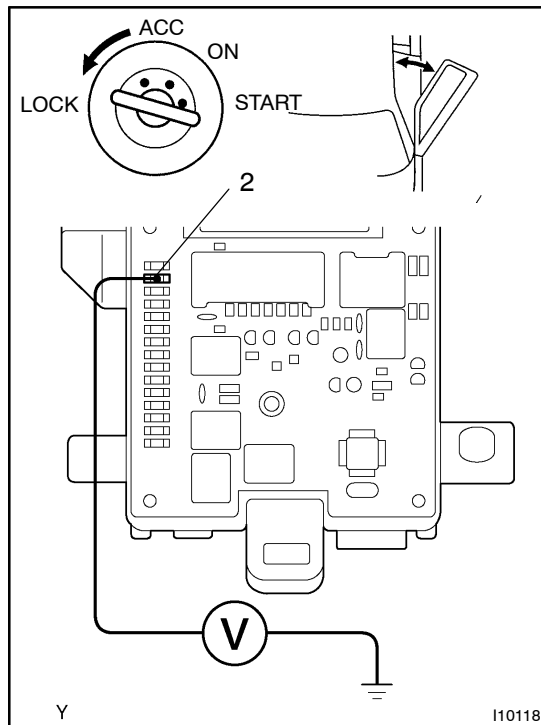
- Disconnect the connector from the power window switch.
- Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 1 on the wire harness side connector, and raise the window to full closed position.
- Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.



- (d) Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

If operation is not as specified, replace the motor.

14. **INSPECT REAR LEFT SIDE DOOR POWER WINDOW MOTOR CIRCUIT BREAKER OPERATION (See step 13)**
15. **INSPECT REAR RIGHT SIDE DOOR POWER WINDOW MOTOR CIRCUIT BREAKER OPERATION (See step 13)**



16. **INSPECT KEY-OFF POWER WINDOW SIGNAL OPERATION OF INTEGRATION RELAY**

HINT:

When the ECU circuit is as specified, inspect the key-off power window signal.

- (a) Connect the positive (+) lead from the voltmeter to terminal 2 and the negative (-) lead to body ground.
- (b) Close the door with ignition switch turned to LOCK or ACC, and check that the meter needle indicates battery positive voltage.
- (c) Open the door and check that the meter needle indicates 0 V.
- (d) Turn the ignition switch ON and check that the meter needle indicates battery positive voltage again.

If operation is not as specified, replace the No.1 J/B.