

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 |

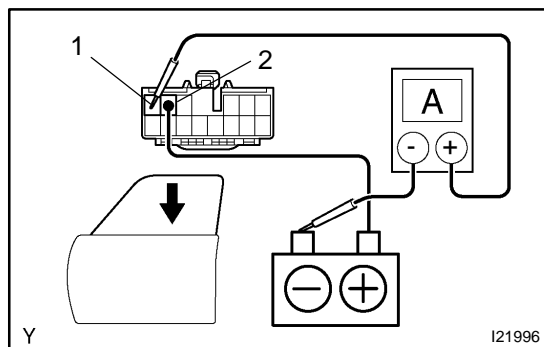
Rear right switch (Window unlock):

| 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):

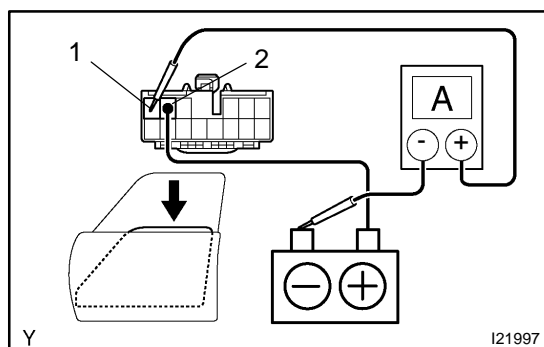
| Switch position | Tester connection | Specified condition |
|-----------------|-------------------|--------------------------|
| UP | 13 - 10 | Battery positive voltage |
| | 14 - 4 | No continuity |
| DOWN | 14 - 10 | Battery positive voltage |
| | 13 - 4 | No continuity |

If the 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.

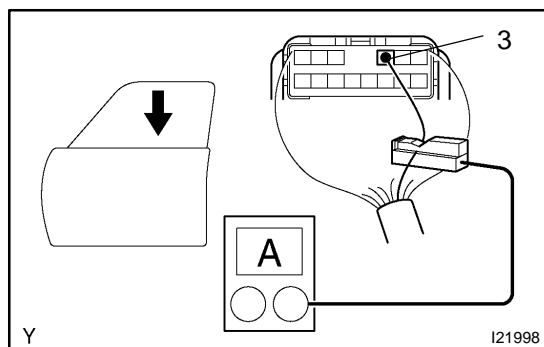


- Check that the current increases up to approximately 14.5 A or more when the window stops going down.

HINT:

The circuit breaker opens for 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

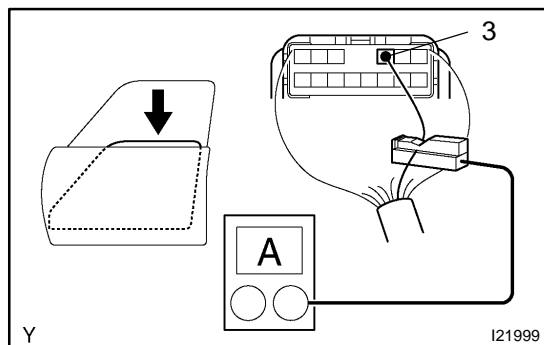
- Remove the master switch with the connector connected.
- Attach a current-measuring probe to terminal 3 of the wire harness.
- Turn the ignition switch ON and set the power window switch in the down position.
- As the window goes down, check that the current flow is approximately 7 A.

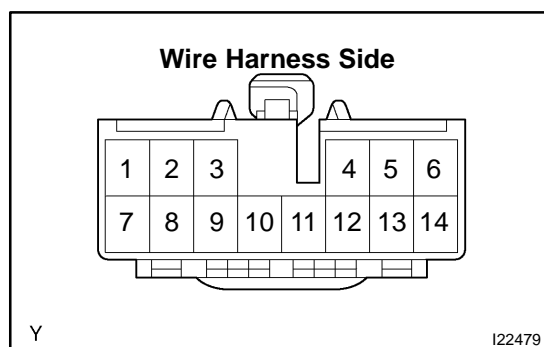
- Check that the current increases up to approximately 14.5 A or more when the window stops going down.

HINT:

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

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





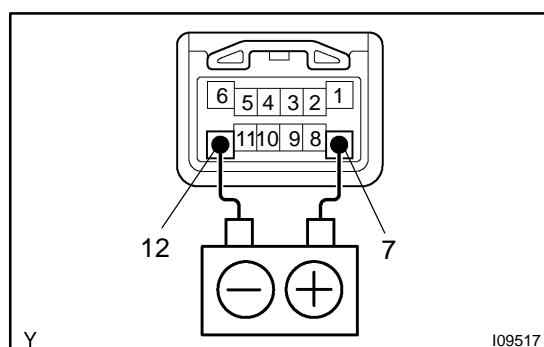
4. INSPECT POWER WINDOW MASTER SWITCH CIRCUIT

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

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

*Exceptions: During 43 seconds after the ignition switch ON → OFF (ACC) or until the 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.

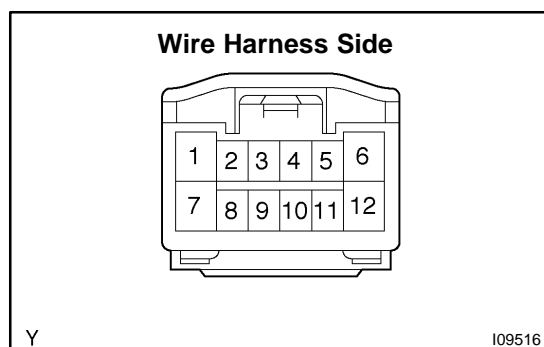


5. INSPECT POWER WINDOW SWITCH CONTINUITY

Connect the positive (+) lead from 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 the continuity is not as specified, replace the switch.



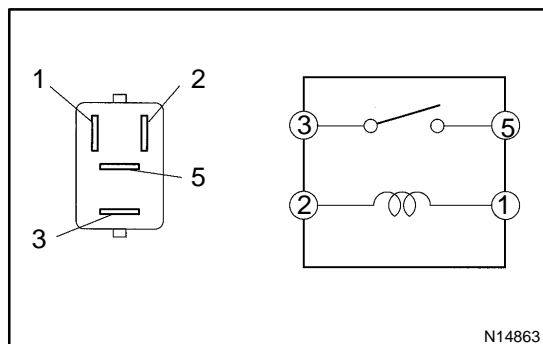
6. INSPECT POWER WINDOW SWITCH CIRCUIT

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

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

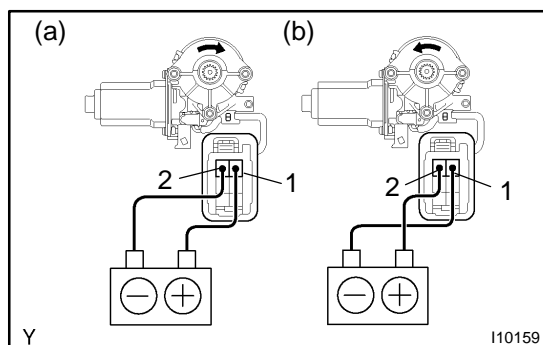
*Exceptions: During 60 seconds after the ignition switch ON → OFF (ACC) or until the driver or a passenger's door is opened after the ignition switch ON → OFF (ACC).

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

**7. INSPECT POWER MAIN RELAY CONTINUITY**

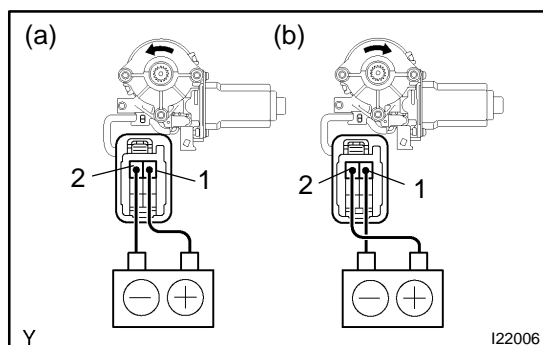
| Condition | Tester connection | Specified condition |
|------------------------------------|-------------------|---------------------|
| Constant | 1 - 2 | Continuity |
| Apply B+ between terminals 1 and 2 | 3 - 5 | Continuity |

If the continuity is not as specified, replace the relay.

**8. INSPECT DRIVER'S DOOR POWER WINDOW MOTOR OPERATION**

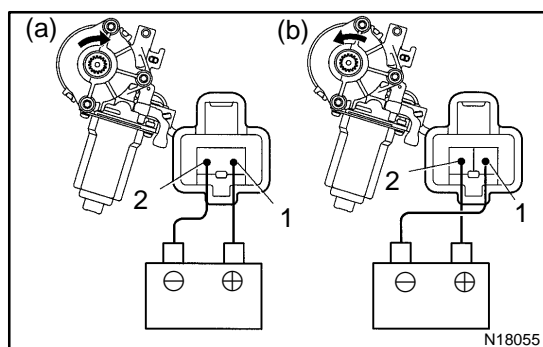
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns clockwise.
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If the operation is not as specified, replace the motor.

**9. INSPECT FRONT PASSENGER'S DOOR POWER WINDOW MOTOR OPERATION**

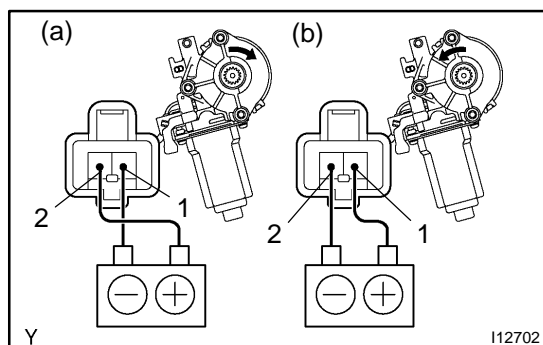
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns clockwise.
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If the operation is not as specified, replace the motor.

**10. INSPECT REAR LEFT SIDE DOOR POWER WINDOW MOTOR OPERATION**

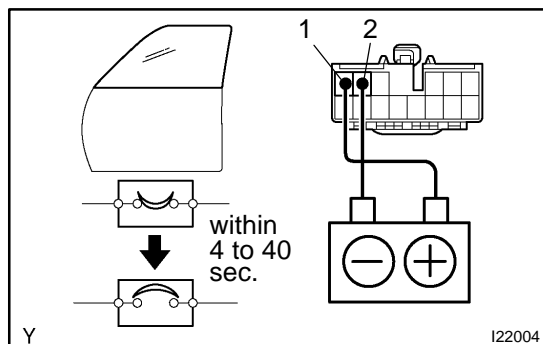
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, and check that the motor turns clockwise.
- (b) Reverse the polarity, check that the motor turns counter-clockwise.

If the operation is not as specified, replace the motor.

**11. INSPECT REAR RIGHT SIDE DOOR POWER WINDOW MOTOR OPERATION**

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

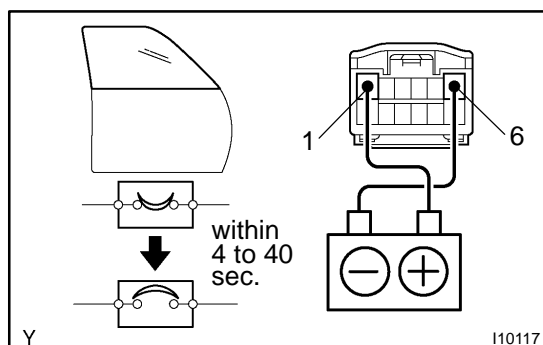
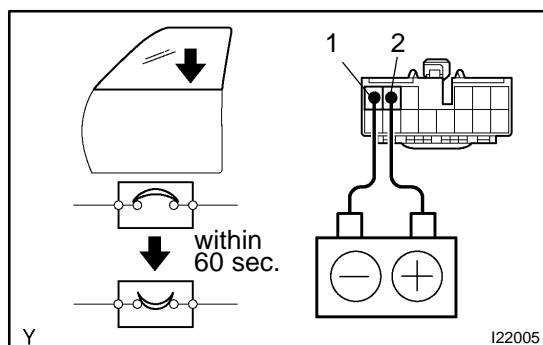
If the operation is not as specified, replace the motor.



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 the fully 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.

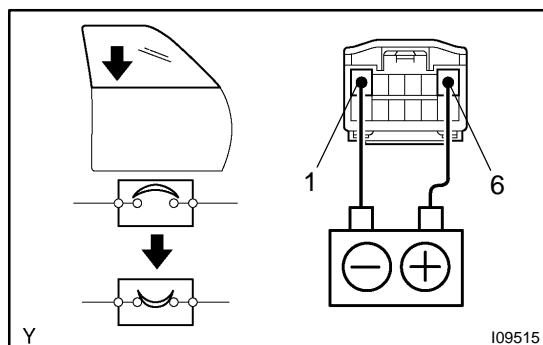
If the operation is not as specified, replace the motor.



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

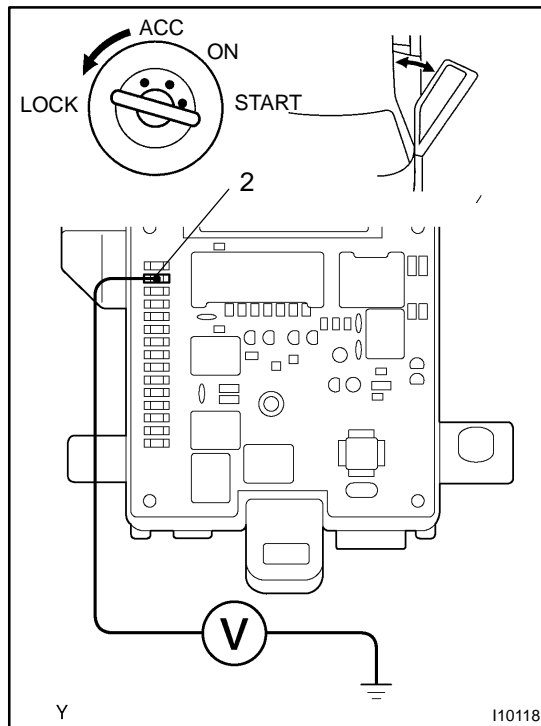
- Disconnect the connector from the power window switch.
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 6 on the wire harness side connector, and raise the window to the fully closed position.
- Continue to apply voltage, check that there is a circuit breaker operation noise within approximately 4 to 40 seconds.
- Reverse the polarity, check that the window begins to descend within approximately 60 seconds.

If the 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 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.

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

If the operation is not as specified, replace the driver side J/B.