WINDOWS CANNOT BE OPERATED VIA REGULATOR SWITCH AT EACH SEAT

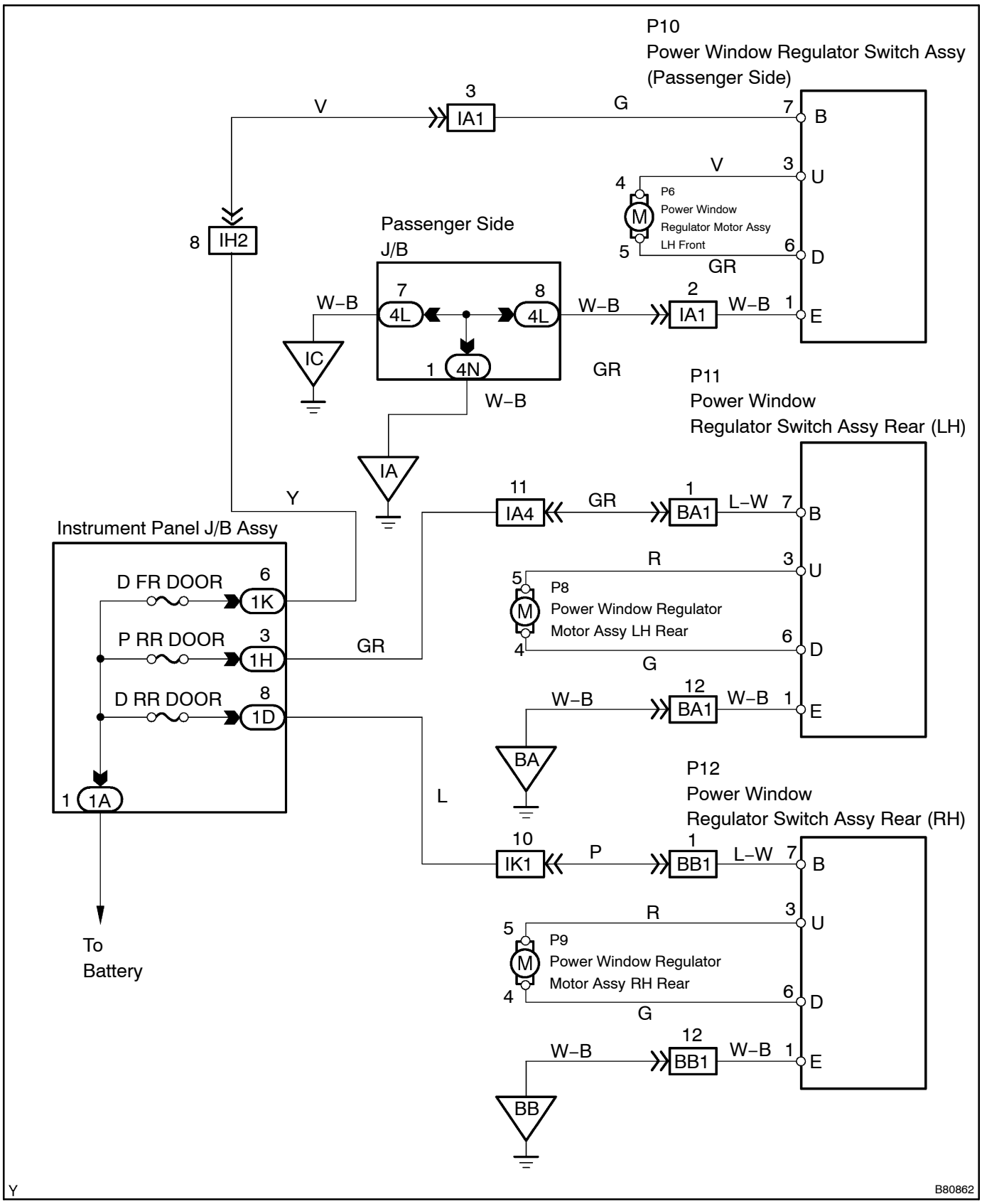
CIRCUIT DESCRIPTION

With the ignition switch ON and the window lock switch at NORMAL (not pushed), each regulator switch (except driver side) activates each power window motor.

HINT:

The power window system is part of the large–scale multiplex communication system. This system features shared communication wiring that reduces the wiring complexity of the communication lines. The first step in any repair is to confirm the proper operation of the communication system. Proceed with troubleshooting after the communication has been verified (see multiplex communication system).

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
Check which power window does not operate. Find the window in the table below and proceed to the appropriate step for troubleshooting.

Position	Go to Step
Passenger side	1
Rear LH	5
Rear RH	9

1 INSPECT FUSE (D FR DOOR)

(a) Remove the D FR DOOR fuse from the instrument panel J/B.
(b) Measure the resistance.
Standard: Below 1 Ω

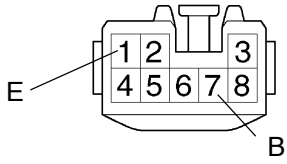
NG → **REPLACE FUSE**

OK

2 CHECK WIRE HARNESS (POWER WINDOW REGULATOR SWITCH ASSY LH (PASSENGER SIDE) – BATTERY AND BODY GROUND)

Wire Harness Side

P10
Power Window Regulator Switch Assy LH (Passenger Side)



(a) Disconnect the P10 regulator switch connector.
(b) Measure the voltage and resistance of the wire harness side connector.
Standard:

Tester Connection	Specified Condition
P10–7 (B) – Body ground	10 to 14 V
P10–1 (E) – Body ground	Below 1 Ω

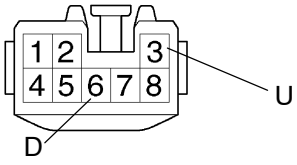
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

3 CHECK POWER WINDOW REGULATOR MOTOR ASSY LH (PASSENGER SIDE)

Wire Harness Side

P10
Power Window Regulator Switch Assy LH (Passenger Side)



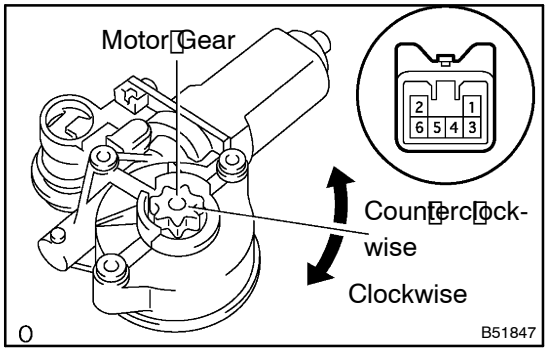
(a) Disconnect the P10 regulator switch connector.
(b) Apply the battery voltage to the wire harness connector.
(c) Check the door glass operation.
Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 3 (U) Battery negative – Terminal 6 (D)	Door glass moves upward
Battery positive – Terminal 6 (D) Battery negative – Terminal 3 (U)	Door glass moves downward

OK → **REPLACE POWER WINDOW REGULATOR SWITCH ASSY**

NG

4	INSPECT POWER WINDOW REGULATOR MOTOR ASSY LH FRONT (PASSENGER SIDE)



(a) Check the power window regulator motor operation.
(1) Remove the motor (see page 70–23).
(2) Apply the battery voltage to the motor terminals.
(3) Check that the motor rotates smoothly.

Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 4 Battery negative – Terminal 5	Motor gear rotates clockwise
Battery positive – Terminal 5 Battery negative – Terminal 4	Motor gear rotates counterclockwise

(b) Inspect the PTC operation inside the power window regulator motor.

NOTICE:

The inspection should be performed with the power window regulator and door glass installed to the vehicle.

(1) Set a DC 400 A probe of the electrical tester in the wire harness of terminal 1 or 2.

NOTICE:

Match the arrow mark of the probe with the current direction.

(2) Set the door glass in the fully closed position.
(3) When 60 seconds have elapsed after the door glass is fully closed, turn the power window switch UP once again. Check how long the current takes to charge from a range of 16 to 34 A into less than 1 A.

Standard: Approximately 4 to 90 seconds

(4) When approximately 60 seconds have elapsed after the inspection of the current cut–off, check that the door glass moves down when the power window regulator DOWN switch is pressed.

NG → **REPLACE POWER WINDOW REGULATOR MOTOR ASSY LH FRONT**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR (POWER WIDOW REGULATOR SWITCH ASSY LH – POWER WINDOW REGULATOR MOTOR ASSY LH FRONT)

5	INSPECT FUSE (P RR DOOR)

(a) Remove the P RR DOOR fuse from the instrument panel J/B.
(b) Measure the resistance.

Standard: Below 1 Ω

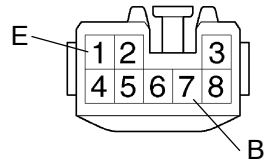
NG → **REPLACE FUSE**

OK

6 CHECK WIRE HARNESS (POWER WINDOW REGULATOR SWITCH ASSY REAR (LH) – BATTERY AND BODY GROUND)

Wire Harness Side

P11
Power Window Regulator Switch Assy Rear (LH)



(a) Disconnect the P11 regulator switch connector.
(b) Measure the voltage and resistance of the wire harness side connector.

Standard:

Tester Connection	Specified Condition
P11–7 (B) – Body ground	10 to 14 V
P11–1 (E) – Body ground	Below 1 Ω

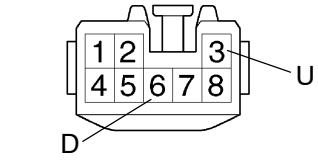
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

7 CHECK POWER WINDOW REGULATOR MOTOR ASSY LH REAR

Wire Harness Side

P11
Power Window Regulator Switch Assy Rear (LH)



(a) Disconnect the P11 regulator switch connector.
(b) Apply the battery voltage to the wire harness connector.
(c) Check the door glass operation.

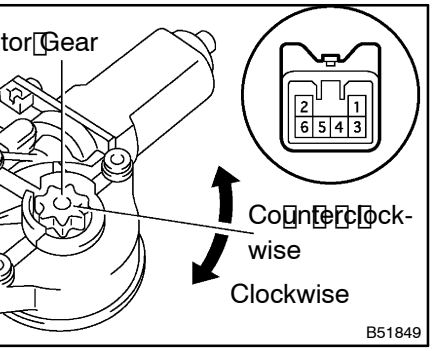
Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 3 (U) Battery negative – Terminal 6 (D)	Door glass upward
Battery positive – Terminal 6 (D) Battery negative – Terminal 3 (U)	Door glass downward

OK → **REPLACE POWER WINDOW REGULATOR SWITCH ASSY REAR (LH)**

NG

8 INSPECT POWER WINDOW REGULATOR MOTOR ASSY LH REAR



(a) Check the power window regulator motor operation.
(1) Remove the motor (see page 70–23).
(2) Apply the battery voltage to the motor terminals.
(3) Check that the motor rotates smoothly.

Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 4 Battery negative – Terminal 5	Motor gear rotates clockwise
Battery positive – Terminal 5 Battery negative – Terminal 4	Motor gear rotates counterclockwise

(b) Inspect the PTC operation inside the power window regulator motor.

NOTICE:

The inspection should be performed with the power window regulator and door glass installed to the vehicle.

(1) Set a DC 400 A probe of the electrical tester in the wire harness of terminal 1 or 2.

NOTICE:
Match the arrow mark of the probe with the current direction.

(2) Set the door glass in the fully closed position.
(3) When 60 seconds have elapsed after the door glass is fully closed, turn the power window switch UP once again. Check how long the current takes to charge from a range of 16 to 34 A into less than 1 A.
Standard: Approximately 4 to 90 seconds
(4) When approximately 60 seconds have elapsed after the inspection of the current cut–off, check that the door glass moves down when the power window regulator DOWN switch is pressed.

NG → **REPLACE POWER WINDOW REGULATOR MOTOR ASSY LH REAR**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR (POWER WIDOW REGULATOR SWITCH ASSY LH – POWER WINDOW REGULATOR MOTOR ASSY LH REAR)

9	INSPECT FUSE (D RR DOOR)

(a) Remove the D RR DOOR fuse from the instrument panel J/B.
(b) Measure the resistance.
Standard: Below 1 Ω

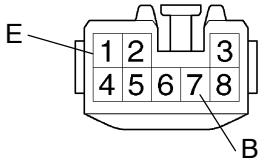
NG → **REPLACE FUSE**

OK

10	CHECK WIRE HARNESS (POWER WINDOW REGULATOR SWITCH ASSY REAR (RH) – BATTERY AND BODY GROUND)

Wire Harness Side

P12
Power Window Regulator Switch Assy Rear (RH)



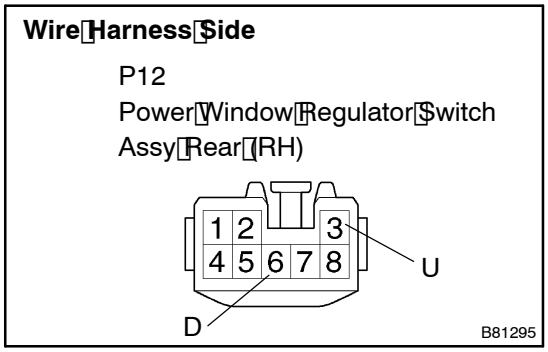
(a) Disconnect the P12 regulator switch connector.
(b) Measure the voltage and resistance of the wire harness side connector.
Standard:

Tester Connection	Specified Condition
P12–7 (B) – Body ground	10 to 14 V
P12–1 (E) – Body ground	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

11 CHECK POWER WINDOW REGULATOR MOTOR ASSY RH REAR



(a) Disconnect the P12 regulator switch connector.
(b) Apply the battery voltage to the wire harness connector.
(c) Check the door glass operation.

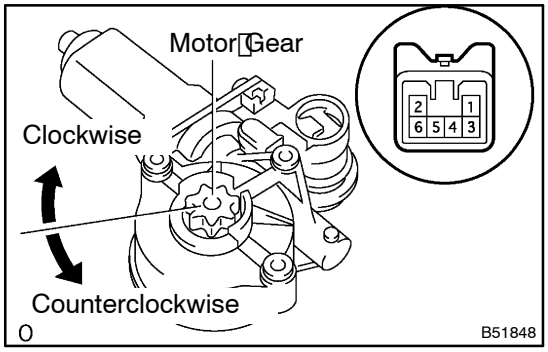
Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 3 (U) Battery negative – Terminal 6 (D)	Door glass upward
Battery positive – Terminal 6 (D) Battery negative – Terminal 3 (U)	Door glass downward

OK → **REPLACE POWER WINDOW REGULATOR SWITCH ASSY REAR (RH)**

NG

12 INSPECT POWER WINDOW REGULATOR MOTOR ASSY RH REAR



(a) Check the power window regulator motor operation.
(1) Remove the motor (see page 70–23).
(2) Apply the battery voltage to the motor terminals.
(3) Check that the motor rotates smoothly.

Standard:

Measurement Condition	Specified Condition
Battery positive – Terminal 4 Battery negative – Terminal 5	Motor gear rotates clockwise
Battery positive – Terminal 5 Battery negative – Terminal 4	Motor gear rotates counterclockwise

(b) Inspect the PTC operation inside the power window regulator motor.

NOTICE:

The inspection should be performed with the power window regulator and door glass installed to the vehicle.

(1) Set a DC 400 A probe of the electrical tester on the wire harness of terminal 1 or 2.

NOTICE:

Match the arrow mark of the probe with the current direction.

(2) Set the door glass in the fully closed position.
(3) When 60 seconds have elapsed after the door glass is fully closed, turn the power window switch UP once again. Check how long the current takes to charge from a range of 16 to 34 A into less than 1 A.

Standard: Approximately 4 to 90 seconds

(4) When approximately 60 seconds have elapsed after the inspection of the current cut–off, check that the door glass moves down when the power window regulator DOWN switch is pressed.

NG → **REPLACE POWER WINDOW REGULATOR MOTOR ASSY RH REAR**

OK

REPAIR OR REPLACE HARNESS AND CONNECTOR (POWER WIDOW REGULATOR SWITCH ASSY RH – POWER WINDOW REGULATOR MOTOR ASSY RH REAR)