



POWER WINDOWS

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GENERAL INFORMATION

Front and rear door window lift motors are of the permanent magnet type. A positive and negative battery connection to either of the two motor terminals will cause the motor to rotate in one direction. Reversing current through these same two connections will cause the motor to rotate in the opposite direction.

Each individual motor is grounded through the master switch by a black wire attached to the left cowl panel.

It is necessary that the window be free to slide up and down in the glass channels. If the window is not free to move up and down, the window lift motor will not be able to move the glass.

To determine if the glass is free is to disconnect the regulator from the glass lift plate. Remove the two attaching screws, and slide the window up and down by hand.

WIRING VOLTAGE TEST

The following wiring test determines whether or not voltage is continuous through the body harness to switch.

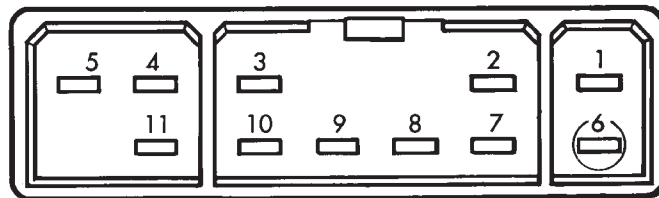
After removing switch for testing purposes, carefully separate multiple terminal block on wiring harness from switch body. Ignition switch in the ON position, connect one lead of test light to black (or gray) wire terminal and touch other test light lead to tan wire terminal. If the test light comes on, the wiring circuit between the battery and switch is functional. If light does not come on, check 30 amp main fuse (circuit breaker) or for a broken wire. For wiring, specific connector type and location, refer to Group 8W, Wiring Diagrams.

WINDOW LIFT SWITCH TEST

For switch testing, remove the switch from its mounting. Using an ohmmeter, refer to Window Switch Continuity Charts to determine if continuity is correct. If the results are not obtained, replace the switch (Fig. 1 and 2).

The master window switches has a Auto-Down feature. Actuation of the master switch to the second down position will move the drivers side window completely down. The electron switch will automati-

SWITCH POSITION		CONTINUITY BETWEEN TERMINALS
OFF		PIN 8 to 10 PIN 8 to 11 PIN 8 to 7 PIN 8 to 6 PIN 8 to 3 PIN 8 to 4 PIN 8 to 9 PIN 8 to 2
UP	DRIVER'S	PIN 8 to 10 PIN 5 to 11
UP	RIGHT FRONT	PIN 8 to 7 PIN 5 to 6
UP	LEFT REAR	PIN 8 to 3 PIN 5 to 4
UP	RIGHT REAR	PIN 8 to 9 PIN 5 to 2
DOWN	DRIVER'S	PIN 8 to 11 PIN 5 to 10
DOWN	RIGHT FRONT	PIN 8 to 6 PIN 5 to 7
DOWN	LEFT REAR	PIN 8 to 4 PIN 5 to 3
DOWN	RIGHT REAR	PIN 8 to 2 PIN 5 to 9
WINDOW LOCK		PIN 5 to 1

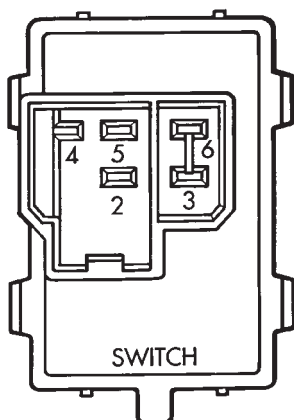


938S-2

Fig. 1 Master Window Switch



SWITCH POSITION	CONTINUITY BETWEEN TERMINALS
OFF	PIN 2 to 5 PIN 6 to 3
UP	PIN 2 to 5 PIN 4 to 3
DOWN	PIN 6 to 3 PIN 4 to 5



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Fig. 2 Passenger Window Switch

cally disconnect the motor approximately 1 second after the window bottoms out. Failure of the electron switch to detect stall current, will cause the switch to disconnect after approximately 13 seconds. The auto down function can be canceled by any movement of the switch.

WINDOW LIFT MOTOR TEST

- (1) Remove door trim panel, refer to Group 23, body.
- (2) Connect positive (+) lead from a test battery to either of the two motor terminals.
- (3) Connect negative (-) lead from test battery to remaining motor terminal.
- (4) The motor should now rotate in one direction to either move window up or down.

(a) If window happens to already be in full UP position and motor is connected so as to rotate in UP direction no movement will be observed.

(b) Likewise, motor connected to DOWN direction rotation, no movement will be observed if window is already in full DOWN position.

(5) Reverse battery leads (steps 1 and 2 above) and window should now move. If window does not move, remove motor. See below for motor removal from vehicle.

(6) If window moved completely up or down, motor should be reversed one more time (reverse leads from step 5) to complete a full window travel inspection.

SWITCH REMOVAL

MASTER SWITCH

- (1) Using a trim stick, remove switch bezel.
- (2) Remove three mounting screws.
- (3) Remove switch and disconnect wire connector.

- (4) For installation, reverse above procedures.

DOOR SWITCH

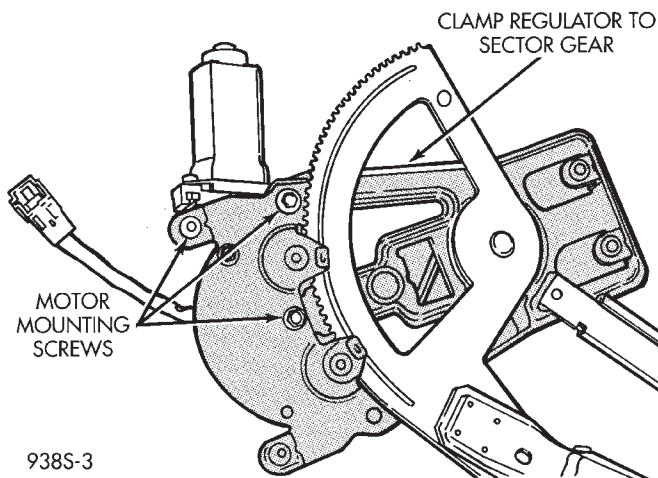
- (1) Using a trim stick, remove bezel and switch.
- (2) Disconnect switch wire connector.
- (3) For installation, reverse above procedures.

MOTOR REPLACEMENT

REMOVAL

WARNING: DO NOT HAVE ANY HANDS OR FINGERS IN SECTOR GEAR AREA WHERE THEY CAN BE PINCHED BY SMALL MOVEMENTS OF REGULATOR LINKAGE.

- (1) Remove door trim panel and window regulator, refer to Group 23, Body.
- (2) Disconnect wiring connector from motor.
- (3) Secure regulator in vise to prevent regulator sector gear from rotating.
- (4) Remove three mounting screws that hold motor gearbox to regulator (Fig. 3).

**Fig. 3 Motor Removal**

- (5) Remove motor from regulator.

INSTALLATION

(1) Install new motor on regulator by positioning motor gearbox so that it engages regulator sector teeth.

(2) A slight rotational or rocking movement may be necessary to bring three motor gearbox screw holes into proper position.

(3) Install three gearbox screws and one tie down bracket screw, if applicable. Tighten to 5.6 to 8 N•m (50 to 70 in. lbs.) torque.

(4) Install regulator, using the switch, test operation of motor.