POWER MIRROR SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

Power operated or power operated and heated outside rear view mirrors are available factory-installed options on this model. Following are general descriptions of the major components in the power mirror system.

Refer to 8W-62 - Power Mirrors in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams. Refer to the owner's manual for more information on the features and use of this system.

NOTE: This group covers both Left-Hand Drive (LHD) and Right-Hand Drive (RHD) versions of this model. Whenever required and feasible, the RHD versions of affected vehicle components have been constructed as mirror-image of the LHD versions. While most of the illustrations used in this group represent only the LHD version, the diagnostic and service procedures outlined can generally be applied to either version. Exceptions to this rule have been clearly identified as LHD or RHD, if a special illustration or procedure is required.

DESCRIPTION AND OPERATION

POWER MIRROR

The power mirrors are connected to an ignition-switched battery feed so that the mirrors will only operate with the ignition switch in the On position. Each mirror head contains two electric motors, two drive mechanisms, and the mirror glass. One motor and drive controls mirror up-and-down movement, and the other controls right-and-left movement.

The power mirrors in vehicles equipped with the available heated mirror option also include an electric heating grid located behind the mirror glass. This heating grid is energized by the rear window defogger relay whenever the rear window defogger system is turned on. Refer to Group 8N - Electrically Heated Systems for more information on the operation of the rear window defogger system.

The power mirror assembly cannot be repaired. Only the mirror glass is serviced separately. If any other component of the power mirror unit is faulty or damaged, the entire assembly must be replaced.

POWER MIRROR SWITCH

Both the right and left power outside mirrors are controlled by a single multi-function switch unit located on the driver side front door trim panel. Two versions of this switch are offered. Models without power windows or power locks have a stand-alone switch mounted in the driver side front door trim panel. Models equipped with power windows and power locks have a power mirror switch that is integral to the Driver Door Module (DDM).

Both versions of the switch are operated in the same manner. A three position rocker-type mirror selector switch is moved right (right mirror control), left (left mirror control), or center to turn the power mirrors off. Then one of four directional control buttons is depressed to control movement of the selected mirror up, down, right, or left. The directional control buttons of the DDM-mounted switch are illuminated when the ignition switch is in the On position. The stand-alone switch is not illuminated.

The stand-alone power mirror switch cannot be repaired and, if faulty or damaged, it must be replaced as a complete unit. The DDM power mirror switch requires replacement of the entire DDM if the switch is faulty or damaged.

DOOR MODULE

A Driver Door Module (DDM) and a Passenger Door Module (PDM) are used on all models equipped with power locks and power windows. Each door module houses both the front door power lock and power window switches. The DDM also houses individual switches for each passenger door power window, a power window lockout switch, a power mirror

DESCRIPTION AND OPERATION (Continued)

switch, and circuitry to support the one-touch down feature of the driver side front door power window. The PDM also houses the control circuitry and the power lock and unlock relays for the power lock system.

The DDM and the PDM are mounted to their respective front door trim panels. The DDM and PDM are serviced individually and cannot be repaired. If the DDM or PDM, or any of the switches and circuitry they contain are faulty or damaged, the complete module must be replaced.

DIAGNOSIS AND TESTING

POWER MIRROR SYSTEM

For circuit descriptions and diagrams, refer to 8W-62 - Power Mirrors in Group 8W - Wiring Diagrams.

(1) Check the fuse in the junction block. If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(2) If the problem being diagnosed is inoperative power mirror switch directional button illumination for the Driver Door Module (DDM)-type switch, proceed as follows. If not, go to Step 4. Check the power window circuit breaker in the junction block. If OK, go to Step 3. If not OK, replace the faulty circuit breaker.

(3) Check for battery voltage at the fused ignition switch output circuit cavity of the 12-way DDM wire harness connector with the ignition switch in the On position. If OK, replace the faulty DDM. If not OK, repair the open circuit to the power window circuit breaker in the junction block as required.

(4) If the problem being diagnosed is an inoperative power mirror electric heating grid, proceed as follows. If not, go to Step 7. Disconnect and isolate the battery negative cable. Unplug the wire harness connector at the inoperative mirror as described in this group. Check for continuity between the ground circuit cavity in the body half of the power mirror wire harness connector and a good ground. If OK, go to Step 5. If not OK, repair the open circuit to ground as required.

(5) Connect the battery negative cable. Turn the ignition switch to the On position. Turn on the rear window defogger system. Check for battery voltage at the rear window defogger relay output circuit cavity in the body half of the power mirror wire harness connector. If OK, go to Step 6. If not OK, repair the open circuit to the rear window defogger relay as required.

(6) Check for continuity between the ground circuit and the rear window defogger relay output circuit cavities in the mirror half of the power mirror wire harness connector. There should be continuity. If not OK, replace the faulty power mirror. If OK, check the resistance through the electric heating grid circuit. Correct resistance through the electric heating grid should be from 10 to 16 ohms when measured at an ambient temperature of 21°C (70°F). If not OK, replace the faulty power mirror.

(7) Disconnect and isolate the battery negative cable. Remove the stand-alone power mirror switch or the DDM as described in this group. Unplug the wire harness connector from the stand-alone switch or the 8-way wire harness connector from the DDM. Connect the battery negative cable. Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output circuit cavity of the stand-alone switch wire harness connector or the 8-way DDM wire harness connector. If OK, go to Step 8. If not OK, repair the open circuit to the junction block as required.

(8) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Check for continuity between the ground circuit cavity of the stand-alone switch wire harness connector or the 8-way DDM wire harness connector and a good ground. There should be continuity. If OK, go to Step 9. If not OK, repair the circuit to ground as required.

(9) Check the stand-alone power mirror switch or DDM-mounted power mirror switch continuity as shown in (Fig. 1) or (Fig. 2). If OK, go to Step 10. If not OK, replace the faulty stand-alone power mirror switch or the faulty DDM.

(10) Connect the battery negative cable. Use two jumper wires, one connected to a 12-volt battery feed, and the other connected to a good body ground. See the Power Mirror Test chart for the correct jumper wire connections at the mirror half of the power mirror wire harness connector (Fig. 3). If the mirror reactions are OK, repair the wire harness between the mirror and the stand-alone power mirror switch or the DDM as required. If the mirror reactions are not OK, replace the faulty power outside mirror assembly.

REMOVAL AND INSTALLATION

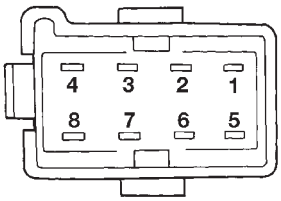
POWER MIRROR SWITCH

This procedure covers removal of only the stand-alone power mirror switch. Vehicles with power windows and power locks have the a power mirror switch integral to the Driver Door Module (DDM). See Door Module in this group for the service procedures.

(1) Disconnect and isolate the battery negative cable.

(2) Using a trim stick or another suitable wide flat-bladed tool, gently pry the edge of the switch out

REMOVAL AND INSTALLATION (Continued)



SELECT RIGHT MIRROR	
SWITCH POSITION	CONTINUITY BETWEEN
OFF	1 & 3, 1 & 4, 1 & 5, 1 & 6
UP	2 & 4, 1 & 3, 1 & 5, 1 & 6
DOWN	2 & 5, 1 & 3, 1 & 4, 1 & 6
RIGHT	2 & 6, 1 & 3, 1 & 4, 1 & 5
LEFT	2 & 3, 1 & 4, 1 & 5, 1 & 6

SELECT LEFT MIRROR	
SWITCH POSITION	CONTINUITY BETWEEN
OFF	1 & 5, 1 & 6, 1 & 7, 1 & 8
UP	2 & 8, 1 & 5, 1 & 6, 1 & 7
DOWN	2 & 5, 1 & 6, 1 & 7, 1 & 8
RIGHT	2 & 6, 1 & 5, 1 & 7, 1 & 8
LEFT	2 & 7, 1 & 5, 1 & 6, 1 & 8

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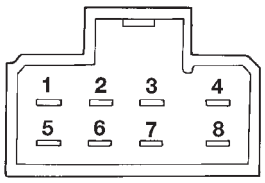
Fig. 1 Stand-Alone Power Mirror Switch Continuity



CONNECTOR 1 (C-1)

SELECT RIGHT MIRROR	
SWITCH POSITION	CONTINUITY BETWEEN
UP	7 & 3, 2 & 5
DOWN	2 & 3, 7 & 5
RIGHT	4 & 3, 2 & 5
LEFT	2 & 3, 4 & 5

SELECT LEFT MIRROR	
SWITCH POSITION	CONTINUITY BETWEEN
UP	1 & 3, 2 & 5
DOWN	2 & 3, 1 & 5
RIGHT	6 & 3, 2 & 5
LEFT	2 & 3, 6 & 5

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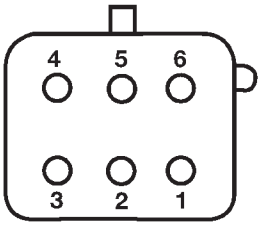
Fig. 2 Driver Door Module Power Mirror Switch Continuity

of the trim panel to release the snap clip retainers (Fig. 4).



POWER MIRROR TEST		
12 VOLTS	GROUND	MIRROR REACTION
PIN 1	PIN 4	UP
PIN 4	PIN 1	DOWN
PIN 2	PIN 3	LEFT
PIN 3	PIN 2	RIGHT
PIN 5	PIN 6	HEATER

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Fig. 3 Power Mirror Test

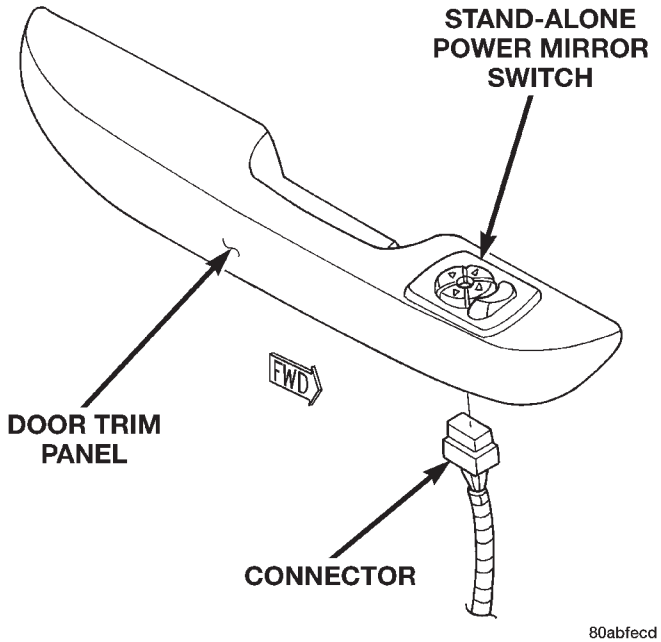

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Fig. 4 Stand-Alone Power Mirror Switch Remove/ Install

(3) Pull the power mirror switch away from the trim panel far enough to access the wire harness connector.

(4) Unplug the power mirror switch wire harness connector.

REMOVAL AND INSTALLATION (Continued)

(5) Remove the power mirror switch from the vehicle.

(6) Reverse the removal procedures to install.

DOOR MODULE

(1) Disconnect and isolate the battery negative cable.

(2) Remove the screws that secure the door trim panel to the inner door panel (Fig. 5).

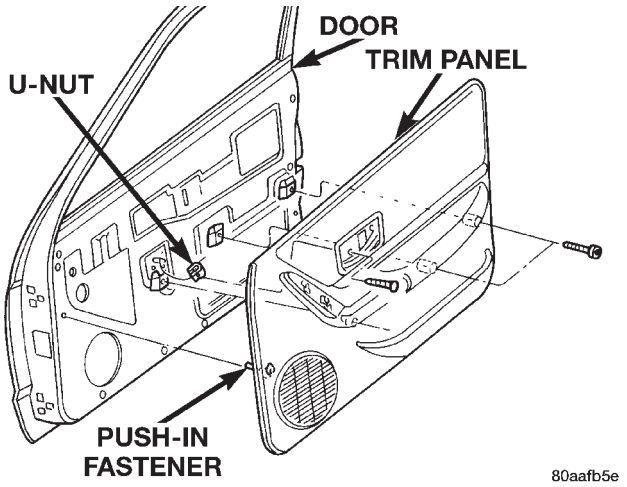

Fig. 5 Front Door Trim Panel Remove/Install

(3) Using a trim stick or another suitable wide flat-bladed tool, gently pry the trim panel away from the door around the perimeter to release the trim panel retainers.

NOTE: To aid in the removal of the trim panel, start at the bottom of the panel.

(4) Lift the door trim panel upwards and away from the door to disengage the top of the panel from the inner belt weatherstrip.

(5) Pull the door trim panel away from the inner door far enough to access the inside door latch release and lock linkage rods near the back of the inside door remote controls.

(6) Unsnap the plastic retainer clips from the inside door remote control ends of the latch release and lock linkage rods, and remove the rod ends from the inside door remote controls.

(7) Unplug the wire harness connectors from the door module.

(8) Remove the front door trim panel from the vehicle.

(9) Remove the three screws that secure the door module to the door trim panel (Fig. 6).

(10) Remove the door module from the trim panel.

(11) Reverse the removal procedures to install. Tighten the mounting screws to 2.2 N·m (20 in. lbs.).

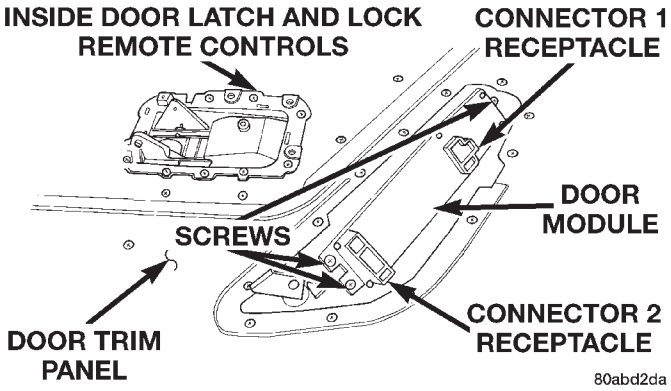

Fig. 6 Door Module Remove/Install

POWER MIRROR

(1) Disconnect and isolate the battery negative cable.

(2) If the vehicle is so equipped, remove the manual window regulator crank handle with a removal tool (Fig. 7).

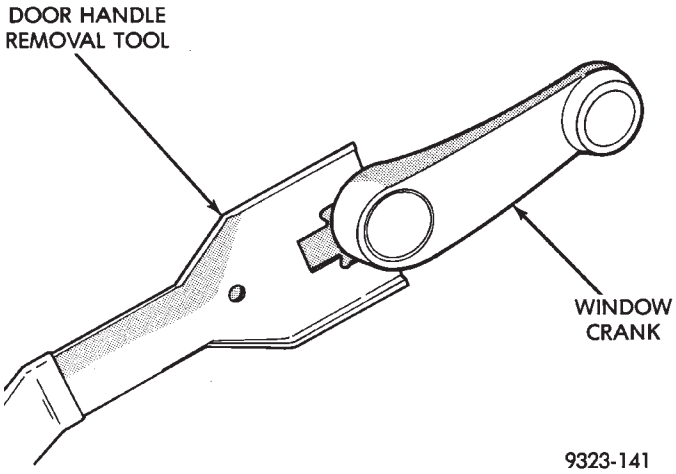

Fig. 7 Window Regulator Crank Handle Remove - Typical

(3) Remove the screws that secure the door trim panel to the inner door panel (Fig. 8) or (Fig. 9).

(4) Using a trim stick or another suitable wide flat-bladed tool, gently pry the trim panel away from the door around the perimeter to release the trim panel retainers.

NOTE: To aid in the removal of the trim panel, start at the bottom of the panel.

(5) Lift the door trim panel upwards and away from the door to disengage the top of the panel from the inner belt weatherstrip.

(6) Pull the door trim panel away from the inner door far enough to access the inside door latch release and lock linkage rods near the back of the inside door remote control.

REMOVAL AND INSTALLATION (Continued)

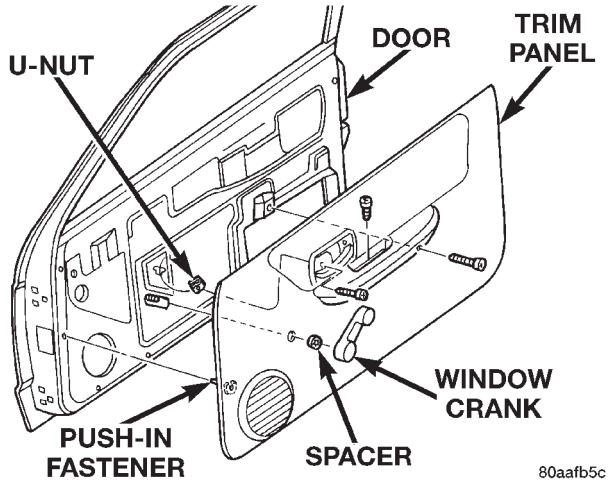

Fig. 8 Front Door Trim Panel Remove/Install - Manual Window

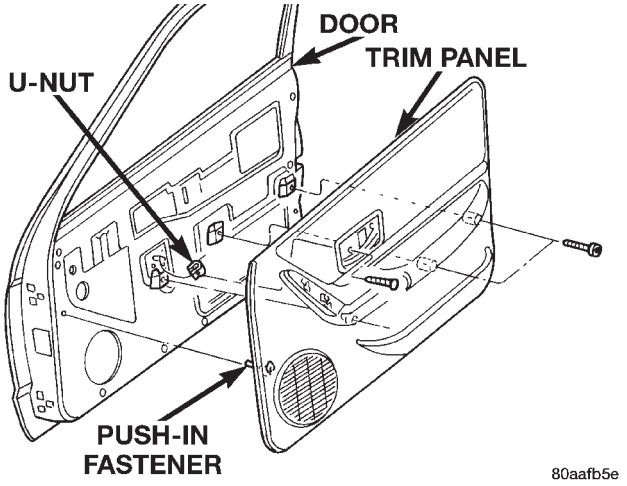

Fig. 9 Front Door Trim Panel Remove/Install - Power Window

(7) Unsnap the plastic retainer clips from the inside door remote control ends of the latch release and lock linkage rods, and remove the rod ends from the inside door remote control.

(8) Unplug the wire harness connectors from the door power switch module or, on the driver side only, the stand-alone power mirror switch.

(9) Remove the front door trim panel from the vehicle.

(10) Remove the one screw that secures the door flag trim to the inner door panel (Fig. 10).

(11) Using a trim stick or another suitable wide flat-bladed tool, gently pry the door flag trim away from the inner door to release the trim panel retainer.

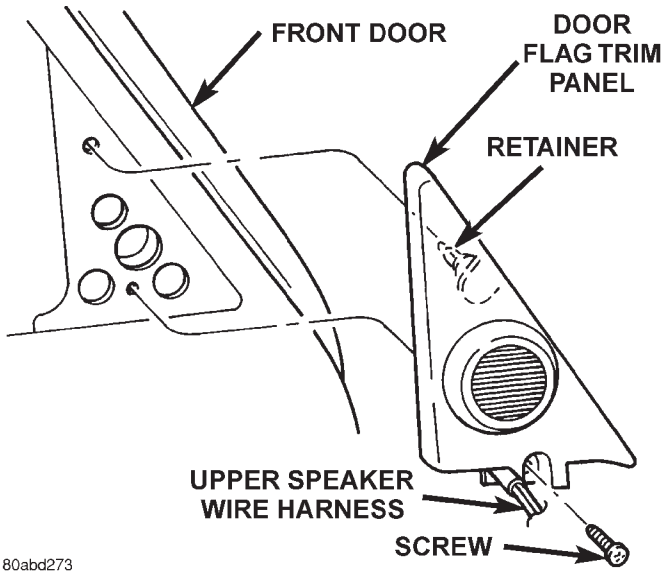

Fig. 10 Front Door Flag Trim Panel Remove/Install

(12) Unplug the power mirror wire harness connector.

(13) Remove the three screws that secure the power mirror to the inner door panel (Fig. 11).

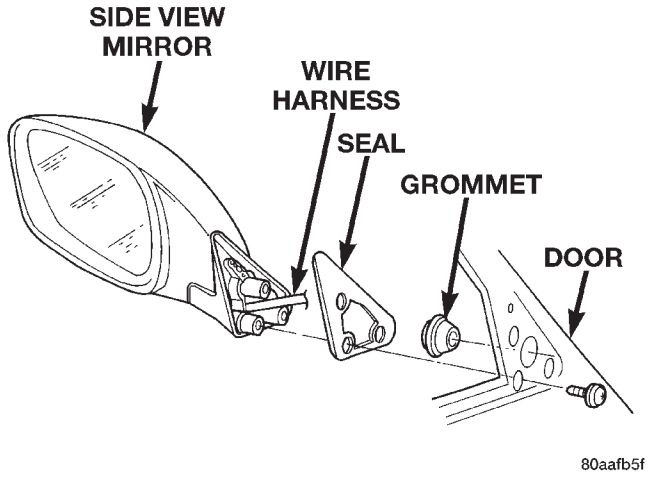

Fig. 11 Power Mirror Remove/Install

(14) Unseat the power mirror wire harness grommet by pushing it out through the hole in the door flag from the inside.

(15) Pull the mirror and seal from the outside of the door while feeding the wire harness, grommet, and connector out through the hole from the inside of the door.

(16) Reverse the removal procedures to install. Tighten the mirror mounting screws to 4.3 N·m (38 in. lbs.).