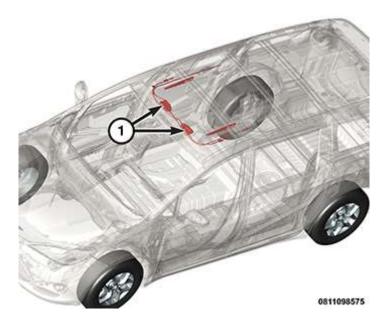
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Description & Operation

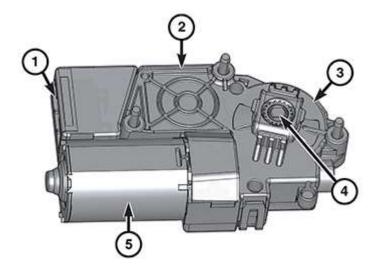
DESCRIPTION AND OPERATION

DESCRIPTION



The sunroof has two motors (1), each secured by three screws to the underside of the front sunroof frame member and concealed above the headliner. The motor to the left of center operates the sliding glass mechanism, while the motor to the right of center operates the power sunshade mechanism.

Sunroof Or Sunshade Motor



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The sunroof and sunshade motor are interchangeable and configure themselves to either sunroof or sunshade operation through a configuration pin in the sunshade connector of the sunroof wire harness. Each sunroof motor (5) is a reversible, 12-volt Direct Current (DC), permanent magnet motor with internal thermal protection.

Each motor is connected mechanically to the sunroof or sunshade drive gear (4) through a right angle drive, gear reduction transmission (3). Each motor also is connected electrically to an on-board electronic control unit (2) that has an integral connector receptacle (1) that connects the unit to the vehicle electrical system through a dedicated take out and connector of the sunroof wire harness.

The sunroof motor or sunshade motor cannot be repaired. If ineffective or damaged, the entire motor must be replaced. (Refer to Electrical/Power Top/MOTOR, Sunroof/Removal and Installation).

OPERATION

The single pane power sunroof motor is completely controlled by the circuitry of the on-board electronic module. The module receives battery current on a fused B(+) circuit from the Power Distribution Center (PDC) and has a path to ground at all times through a take out and eyelet terminal connector secured by a ground screw to the body sheet metal. These connections allow the module to function regardless of the ignition switch position.

However, the module also monitors an input on a fused ignition switch output (run - accessory) circuit, and provides a source current to the sunroof switches in the overhead console only when the ignition switch is in the ON or ACCESSORY positions, or while the accessory delay feature is active. The module then monitors a separate input circuit for each switch position, which it uses to determine the proper outputs to the power sunroof motor. A positive and negative battery connection to the two motor brushes will cause the power sunroof motor to rotate in one direction. Reversing the current through these same two brushes will cause the motor to rotate in the opposite direction.

The hard wired circuits of the power sunroof motor as well as those between the electronic module and the switch in the overhead console may be diagnosed using conventional diagnostic tools and procedures. Refer to the appropriate wiring information. However, conventional diagnostic methods will not prove conclusive in the diagnosis of the electronic module integral to the power sunroof motor. If the power sunroof switch and the hard wired circuitry test okay, but the motor or the express or Excess Force Limitation (EFL) features are still ineffective following the calibration and initialization procedures, the motor and module must be replaced as a unit.