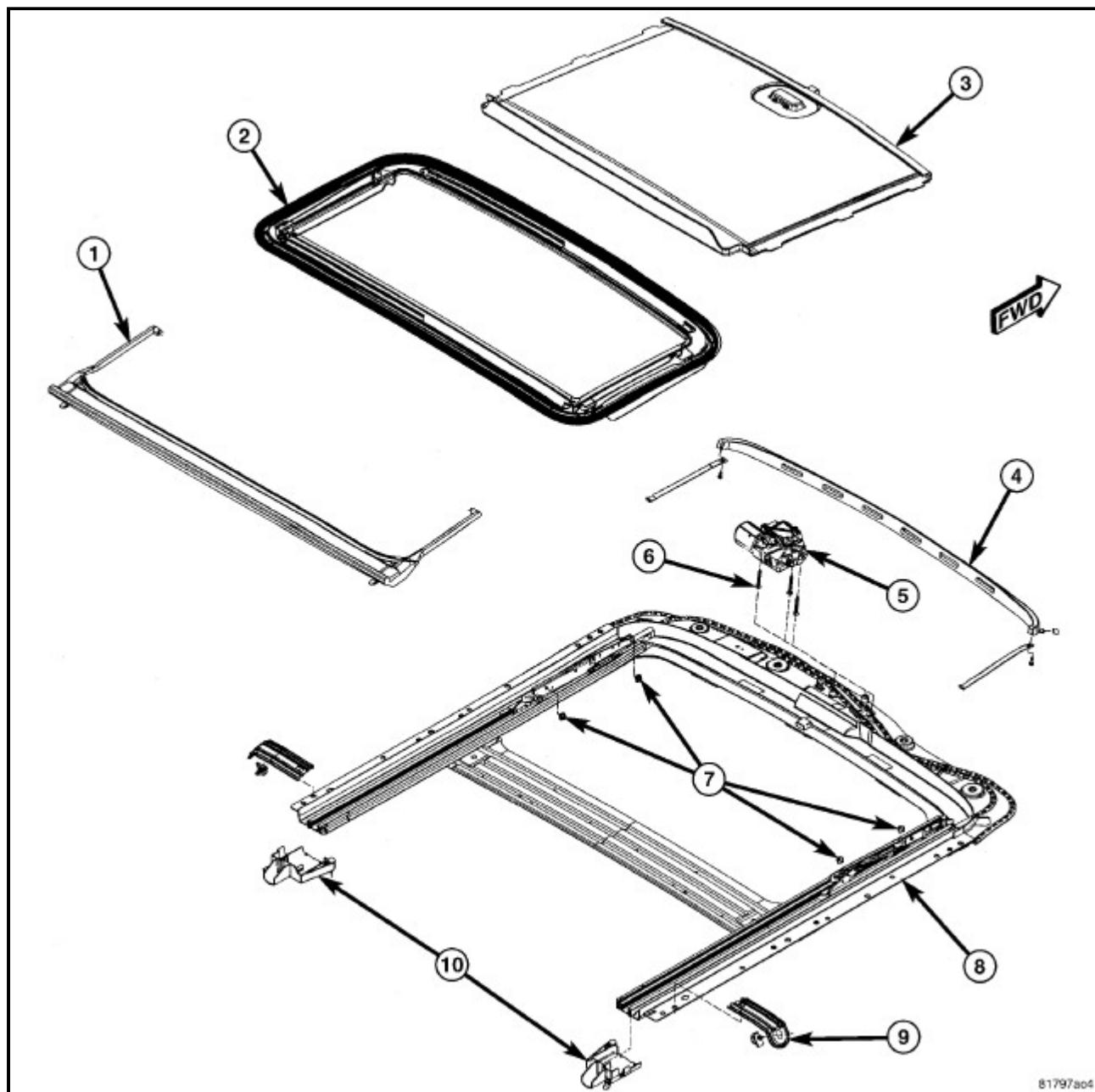


DESCRIPTION



EXPLODED VIEW

SUNROOF ASSEMBLY BREAKDOWN

1 - DRAIN TROUGH	6 - MOTOR SCREWS (3) 3 N·m (26 in. lbs.)
2 - GLASS ASSEMBLY	7 - GLASS ASSEMBLY SCREWS (4) 3.5 N·m (31 in. lbs.)
3 - SUN SHADE	8 - FRAME ASSEMBLY
4 - WIND DEFLECTOR	9 - BRACKETS
5 - MOTOR	10 - END CAPS

WARNING: Keep fingers and other body parts out of sunroof opening at all times.

The sunroof features a power sliding glass panel and a sunshade which can be manually positioned anywhere along its travel, rearward of glass panel front edge.

WATER DRAINAGE AND WIND NOISE

The sliding glass panel is designed to seal water entry with a snug fit between the roof and the seal. The fit can be checked by inserting a piece of paper between the roof and the seal. The piece of paper should have some resistance when pulled out when the glass panel is in the closed position. The sunroof housing will drain off a minimum amount of water. Excessive wind noise could result if the gap clearances are exceeded. The sunroof glass panel may need to be adjusted ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Adjustments](#)).

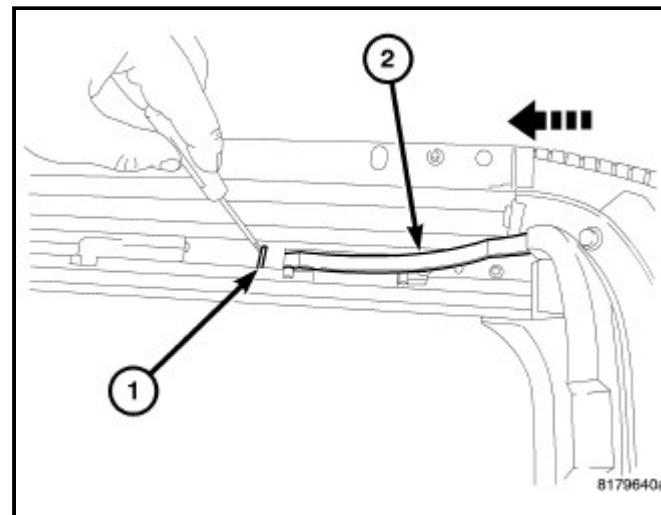
Adequate drainage is provided by a drain trough in the sunroof housing which encircles the sliding glass panel and leads to drain hoses. If a wet headliner or other water leak complaints are encountered, before performing any adjustments, first ensure that the drainage system is not plugged or disconnected. Use a pint container to pour water into the sunroof housing drain trough. If water flow is restricted, use compressed air to blow out any material plugging the drain system. Retest system again.

To further check for a disconnected drain hose:

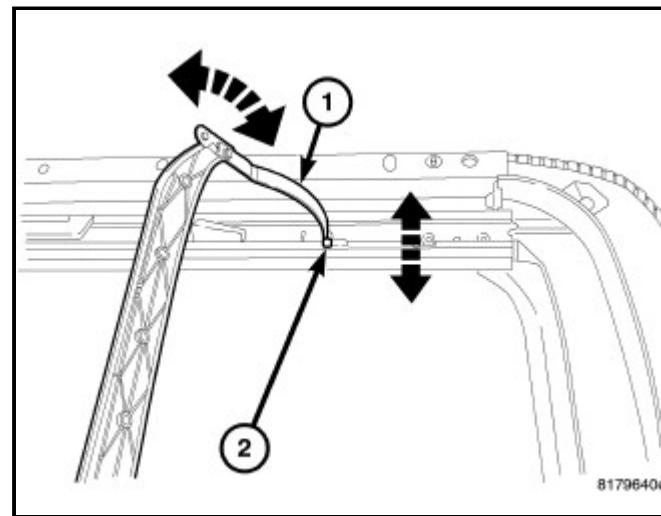
1. Remove A-pillar trim, sun visors, and map lamps/mini console.
2. Lower headliner as necessary to gain access to sunroof housing drain tubes ([Refer to 23 - Body/Interior/HEADLINER - Removal](#)).
3. Repair as necessary.
4. Install headliner ([Refer to 23 - Body/Interior/HEADLINER - Installation](#)).

REMOVAL

1. Open the sunroof glass to the full open position.
2. Press the spring lock (1) with a small flat bladed tool and push the wind deflector (2) reward to release from the car top opening.
3. Repeat the previous step on the opposite side.

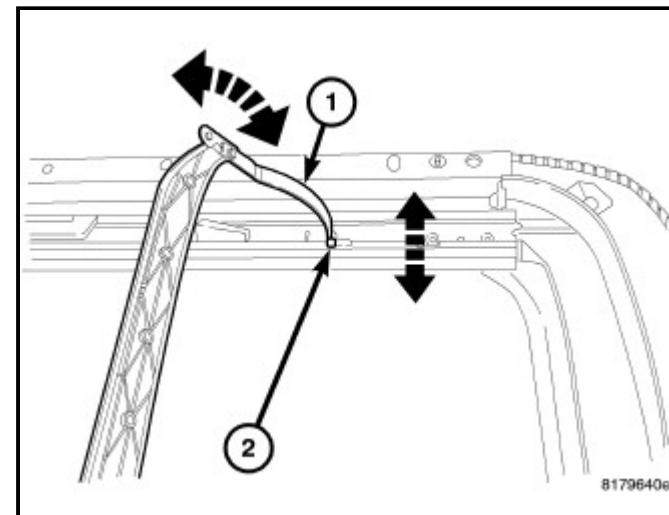


4. Rotate the wind deflector (1) up and release from the mounting hole (2) in the sunroof frame.

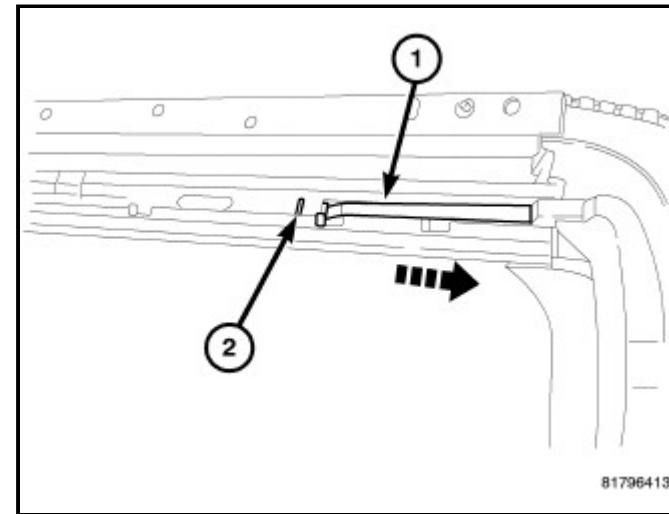


INSTALLATION

1. Position the wind deflector springs (1) into the mounting holes (2) in the sunroof frame.
2. Rotate forward and down into position.

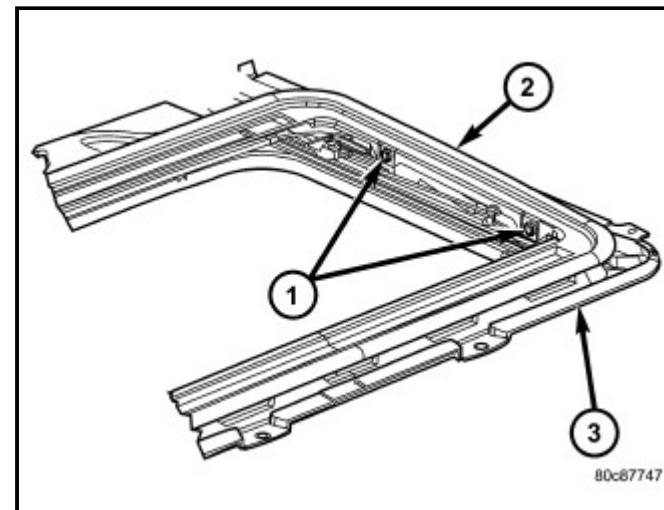


3. Slide the wind deflector and spring (1) forward under the car top lip and make sure the spring lock snaps into place (2) fully.



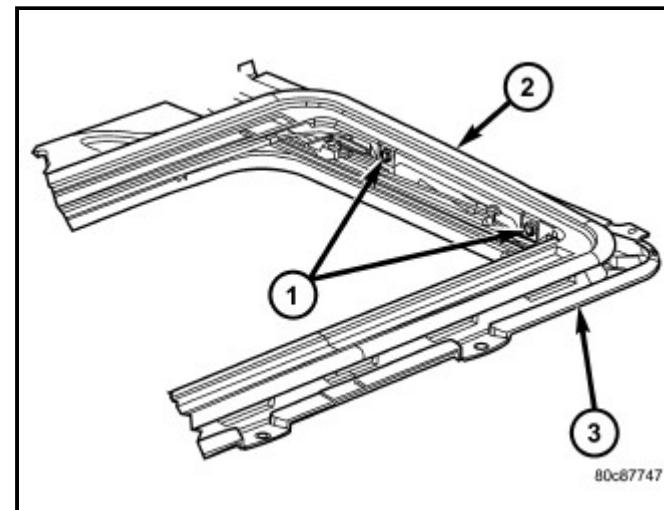
REMOVAL

1. Slide sunshade rearward to the open position.
2. Move the glass panel to the closed position.
3. Remove the four glass panel screws (1).
4. Lift off glass panel and remove from vehicle.



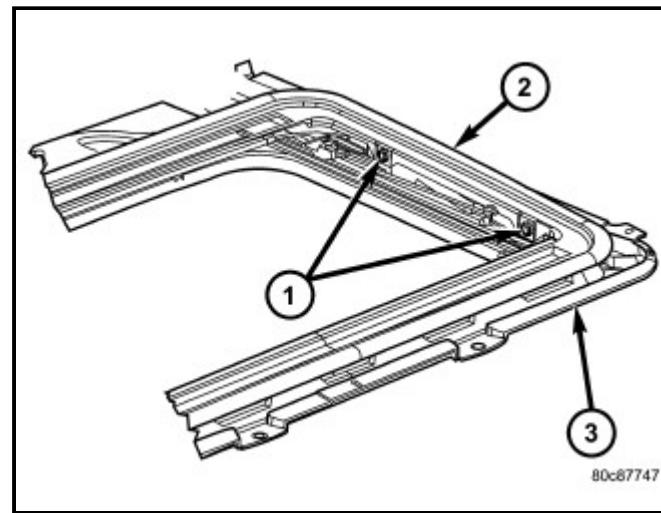
INSTALLATION

1. Position glass panel (2) on to mechanism lift arm.
2. Start the four attaching screws (1).
3. Center glass in opening by running a business card around the glass.
4. Adjust glass panel ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Adjustments](#)).



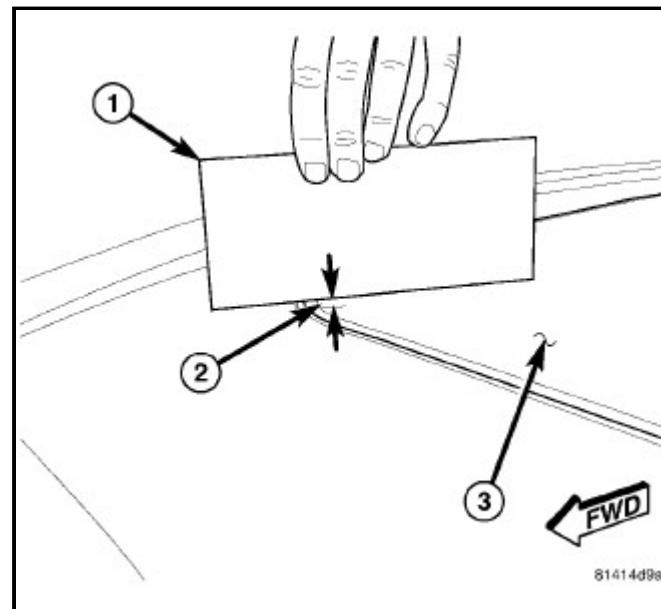
GLASS PANEL

1. Move the sunshade rearward to the open position.
2. Move the sunroof glass panel to the fully closed position.
3. Adjust the glass one corner at a time.
 - a. Loosen four glass screws (1).
 - b. Lift glass assembly and align the top of the glass panel to the top of the roof panel.
 - c. Tighten screw to 3 N·m (26 in. lbs.).
 - d. Repeat steps a. and b. for each corner of the glass panel.
 - e. When properly adjusted, the front of the glass panel is 1.0 mm (0.04 in.) to 2.0 mm (0.08 in.) lower than the roof surface and the rear edge of the glass panel is 1.0 mm (0.04 in.) to 2.0 mm (0.08 in.) higher than the roof surface.



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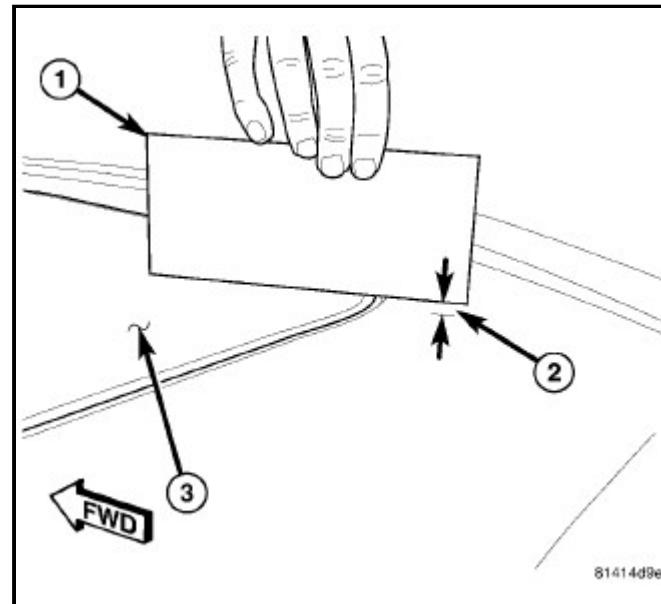
NOTE: When properly adjusted, the front of the glass panel (3) is 1.0 mm (0.04 in.) to 2.0 mm (0.08 in.) lower than the roof surface (2).



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NOTE: When properly adjusted, the rear edge of the glass panel (3) is 1.0 mm (0.04 in.) to 2.0 mm (0.08 in.) higher than the roof surface (2).

4. Verify sunroof operation and alignment. Check fit and re-adjust as necessary.



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DRIVE MOTOR TEACH PROCEDURE

REPLACEMENT DRIVE MOTOR

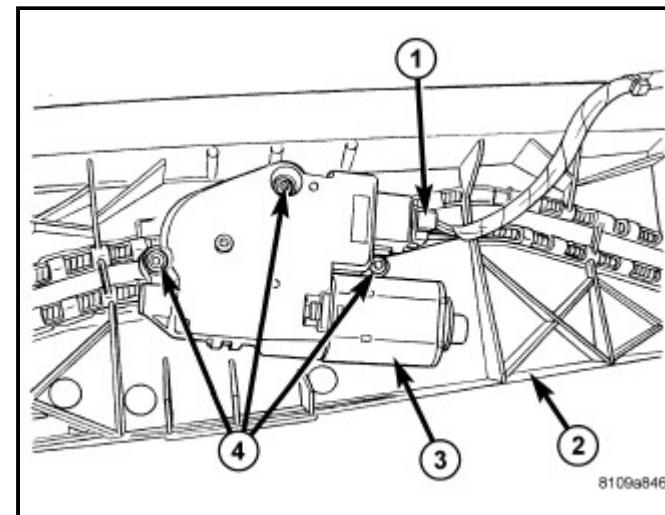
1. Press and hold the sunroof switch open until the sunroof glass fully opens, automatically reverses direction, and stops at a position just forward of the full open position.
2. Release sunroof switch.
3. Within five seconds of releasing sunroof switch, press and hold the sunroof switch open again until the sunroof glass closes, goes into vent position, and then finally stops in the closed position.
4. Release sunroof switch. Sunroof will now operate normally.

ORIGINAL DRIVE MOTOR

1. Press and hold sunroof switch open until the sunroof glass opens and stops.
2. Release sunroof switch.
3. Press and hold sunroof switch open once again for at least 10 seconds. After 10 seconds of pressing the switch open, the sunroof glass will automatically move and stop at a new location.
4. Release sunroof switch.
5. Within five seconds of releasing the sunroof switch, press and hold the switch open again until the sunroof glass closes, goes into vent position, and then finally stops in the closed position.
6. Release sunroof switch. The sunroof will now operate normally.

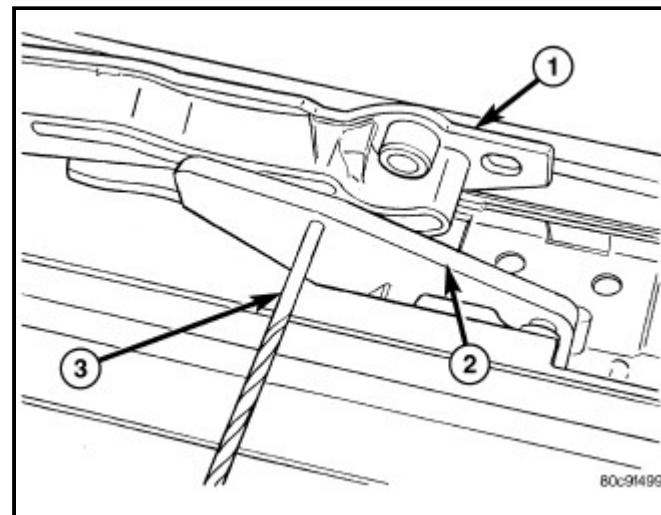
REMOVAL

1. Drop headliner to dash. [\(Refer to 23 - Body/Interior/HEADLINER - Removal\)](#)
2. Disconnect the electrical connector (1).
3. Remove three motor assembly attaching screws (4) from bottom side of motor assembly (3) and remove motor assembly from the motor bracket.

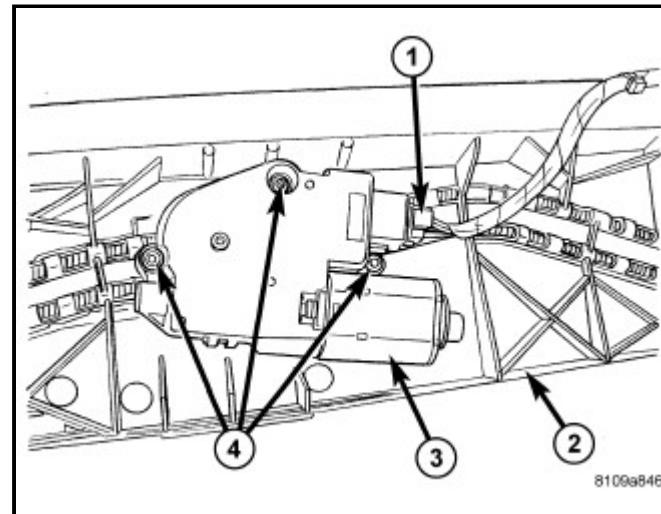


INSTALLATION

1. If sunroof was open when drive motor was removed, carefully move glass panel into closed position and remove glass panel. [\(Refer to 23 - Body/Sunroof/GLASS, Sunroof - Removal\)](#)
2. Set lifter arm timing by manually sliding the mechanisms (1) in the track until timing holes in the trolleys are aligned with the timing holes in the lifter arm cams (2) and insert pins (3) into the mechanisms to hold mechanisms in closed position.

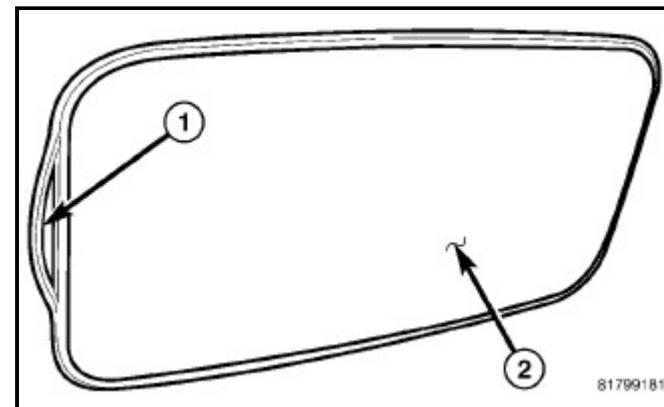


3. Place motor (3) into position and install screws (4) attaching motor to bracket (2).
4. Tighten the screws (4) to 3 N·m (26 in. lbs.).
5. If sunroof glass panel was removed previously, remove the timing pins and install the sunroof glass panel. [\(Refer to 23 - Body/Sunroof/GLASS, Sunroof - Installation\)](#)
6. Partially install the headliner and connect the sunroof wiring electrical connectors. [\(Refer to 23 - Body/Interior/HEADLINER - Installation\)](#)
7. Temporarily install sunroof switch and perform the sunroof motor teach procedure. [\(Refer to 23 - Body/Sunroof/MOTOR, Sunroof - Standard Procedure\)](#)
8. Test sunroof operation, adjust glass as necessary. [\(Refer to 23 - Body/Sunroof/GLASS, Sunroof - Adjustments\)](#)
9. Raise headliner to roof. Complete the headliner installation. [\(Refer to 23 - Body/Interior/HEADLINER - Installation\)](#)



REMOVAL

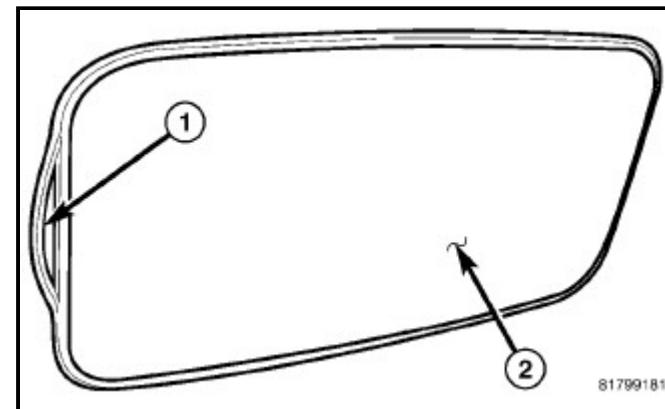
1. Remove sunroof glass panel ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Removal](#)).
2. Place glass panel on clean work area with the top side up. Support the glass assembly from underside to avoid bending or otherwise damaging the mounting tabs.
3. Grasp the seal (1) and pull seal away from the glass panel (2). The seal is a one piece seal.



INSTALLATION

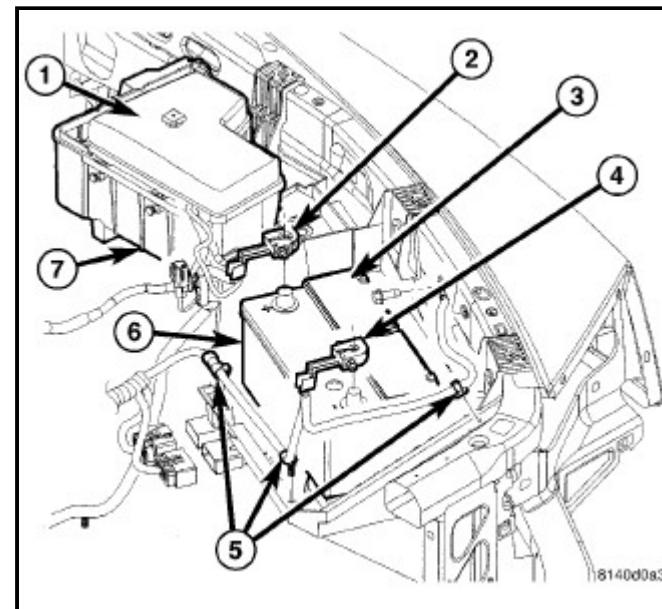
NOTE: Always position seal seam on center of the passenger side of glass panel.

1. Place seal (1) into position.
2. Seat the seal into the glass channel fully. Using care working the seal around the glass (2), being careful not to over stretch the seal while installing.
3. Install the glass panel ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Installation](#)).

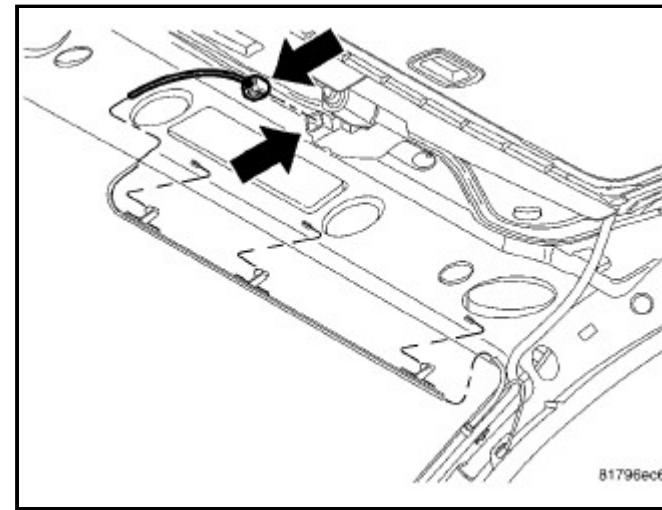


REMOVAL

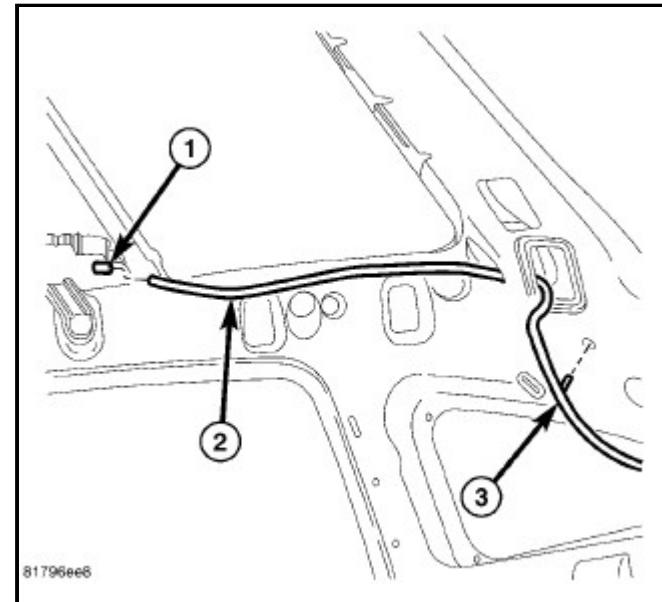
1. Move glass panel to fully closed position.
2. Disconnect and isolate negative battery cable (4).
3. Remove control switch, [\(Refer to 08 - Electrical/8N - Power Systems/Power Top/SWITCH, Sunroof - Removal\)](#).
4. Drop headliner to seat. [\(Refer to 23 - Body/Interior/HEADLINER - Removal\)](#).

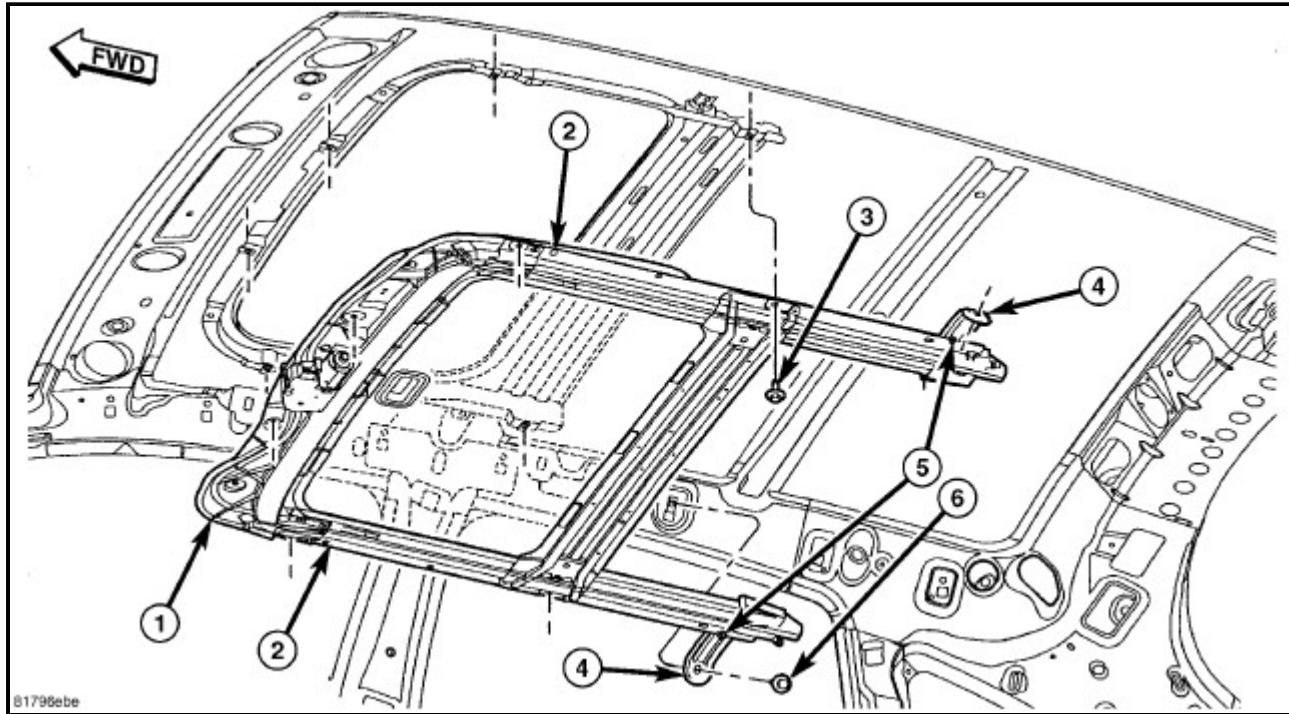


5. Disconnect the electrical connector.



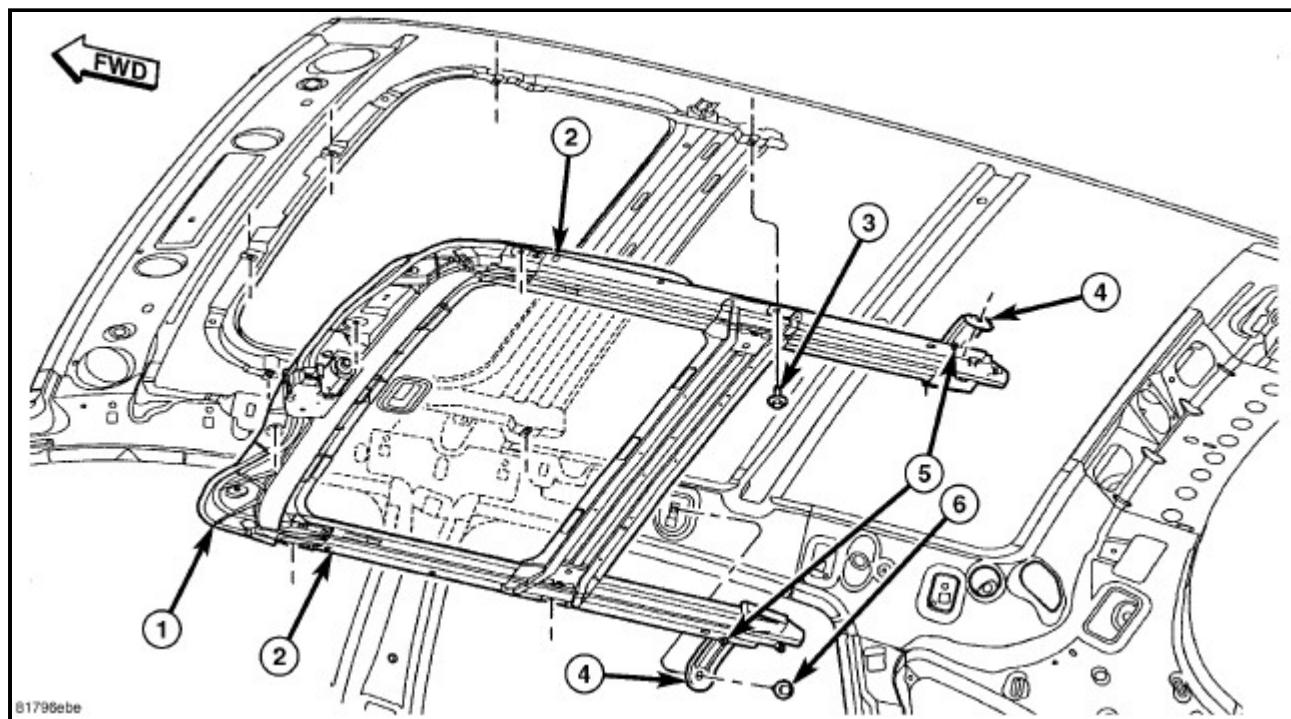
6. Disconnect drain tubes (2) from sunroof housing (1).





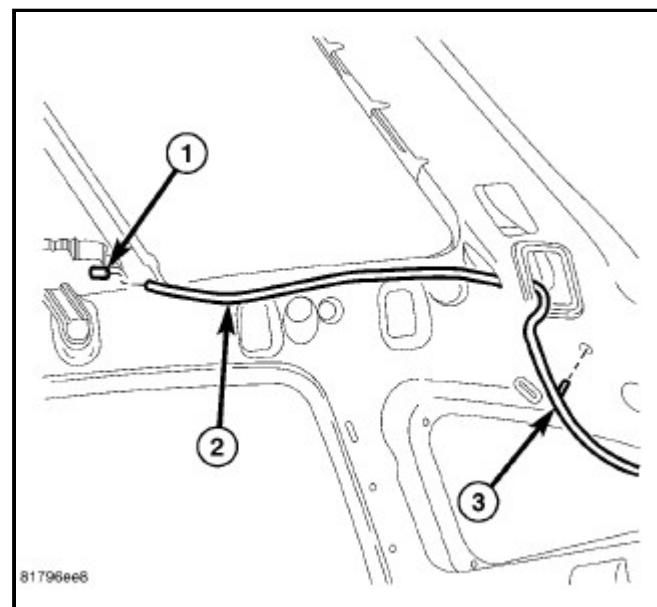
7. Remove two module side bracket (4) bolts (6) and loosen the six remaining fasteners (3).
8. Remove the six (3) fasteners attaching sunroof module assembly (1) to roof panel.
9. Remove the glass panel [\(Refer to 23 - Body/Sunroof/GLASS, Sunroof - Removal\)](#).
10. Remove the sunshade [\(Refer to 23 - Body/Sunroof/SUNSHADE, Sunroof - Removal\)](#).
11. Remove the drive motor [\(Refer to 23 - Body/Sunroof/MOTOR, Sunroof - Removal\)](#).
12. Remove the wire harness.
13. Remove the trough guides, [\(Refer to 23 - Body/Sunroof/TROUGH, Sunroof - Removal\)](#)

INSTALLATION



1. Install the trough guides ([Refer to 23 - Body/Sunroof/TROUGH, Sunroof - Installation](#)) .
2. Install the drive motor ([Refer to 23 - Body/Sunroof/MOTOR, Sunroof - Installation](#)) .
3. Install the sunshade ([Refer to 23 - Body/Sunroof/SUNSHADE, Sunroof - Installation](#)) .
4. Install the glass panel ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Installation](#)) .
5. Raise rear end of sunroof module assembly (1) and guide into position and start the six fasteners (3).
6. Visually line up the alignment guide holes (2) with the guide holes in the roof of the vehicle.
7. Tighten the six fasteners (3) to 9 N·m (80 in. lbs.).
8. Tighten the two side bracket fasteners (6) to 9 N·m (80 in. lbs.).

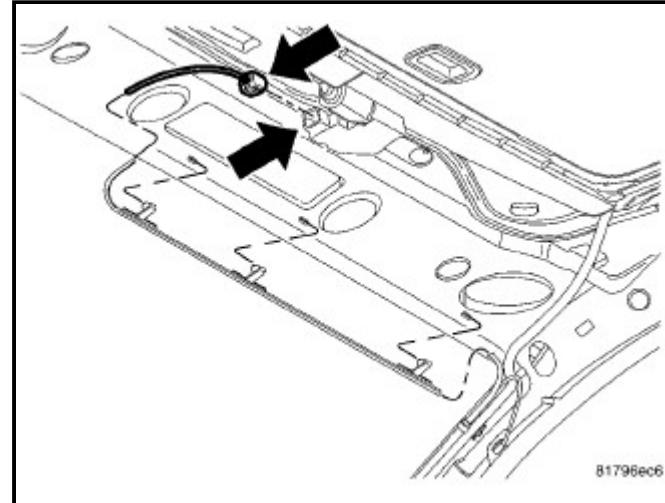
9. Connect the drain tubes (2) to the assembly (1).



10. Connect the electrical connector.
11. Connect the battery negative cable.
12. Test sunroof operation, adjust glass as necessary ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Adjustments](#)) .
13. Partially install the headliner and connect the sunroof wiring

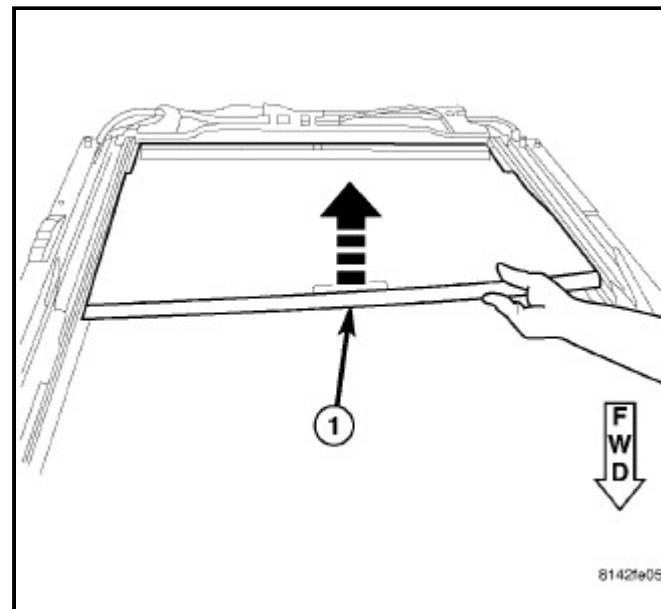
electrical connectors ([Refer to 23 - Body/Interior/HEADLINER - Installation](#)) .

14. Temporarily install sunroof switch and perform the sunroof motor teach procedure ([Refer to 23 - Body/Sunroof/MOTOR, Sunroof - Standard Procedure](#)) .
15. Install the headliner ([Refer to 23 - Body/Interior/HEADLINER - Installation](#)) .
16. Verify correct sunroof operation.

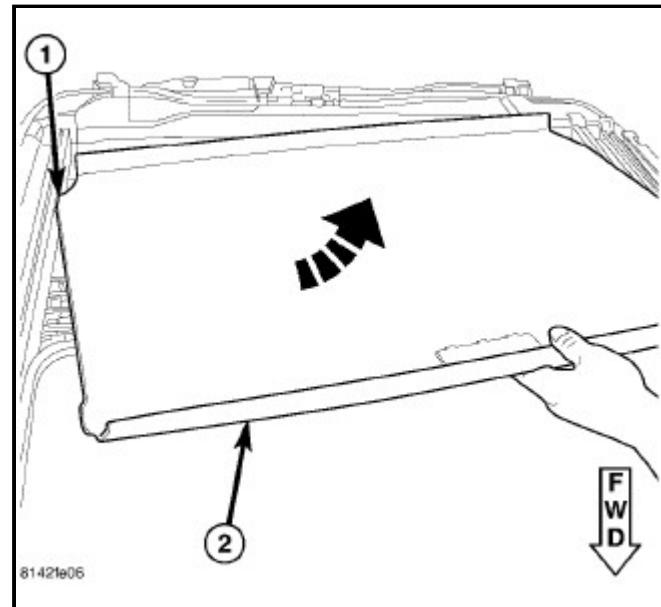


REMOVAL

1. Remove the drain trough, [\(Refer to 23 - Body/Sunroof/TROUGH, Sunroof - Removal\)](#)
2. Push up the front center of the sunshade (1) to pop out the front two feet.

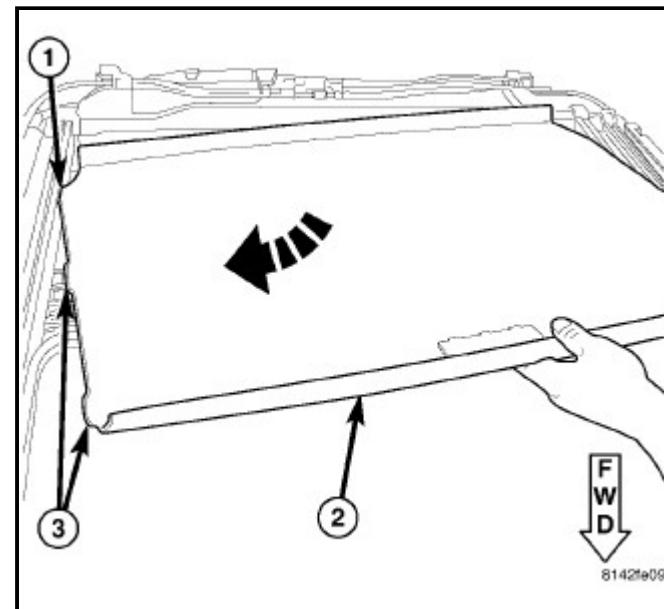


3. Rotate the sunshade (2) so that the other feet (1) are removed from the guide track.

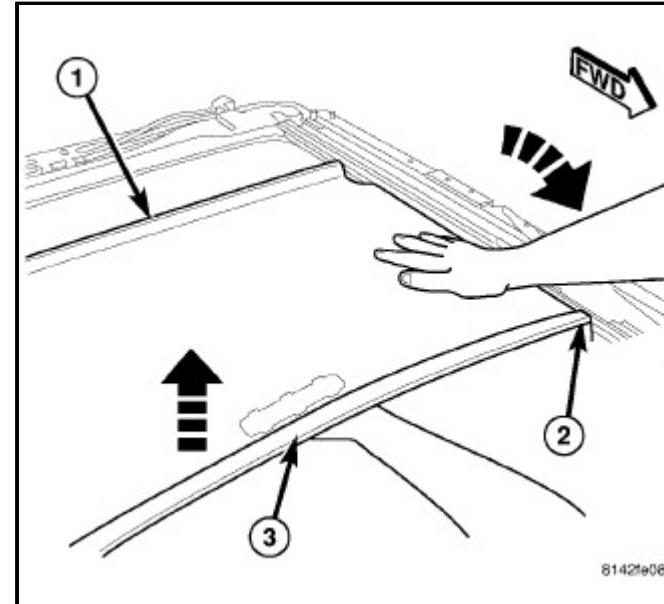


INSTALLATION

1. Verify the sunshade track is free of obstructions like the trim lace/ring.
2. Start with sunshade (2) at an angle with one foot (1) in the track.
3. Rotate the sunshade so the other rear foot is in the track as well as the 2 other feet (3) on the same side as the first foot.

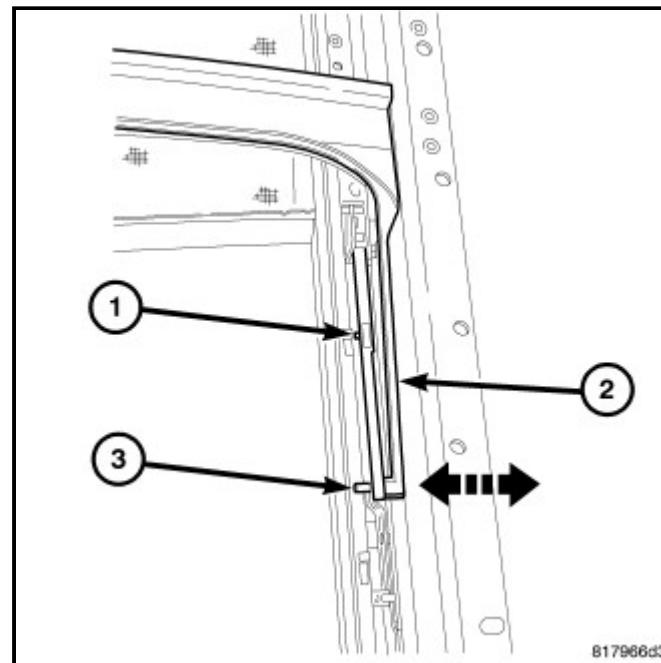


4. To insert the remaining two feet (2) apply force to the middle front of sunshade (3) and guide them into the track.
5. Check that all the feet are in the right track and verify sunshade operation.
6. Install the drain trough, [\(Refer to 23 - Body/Sunroof/TROUGH, Sunroof - Installation\)](#)



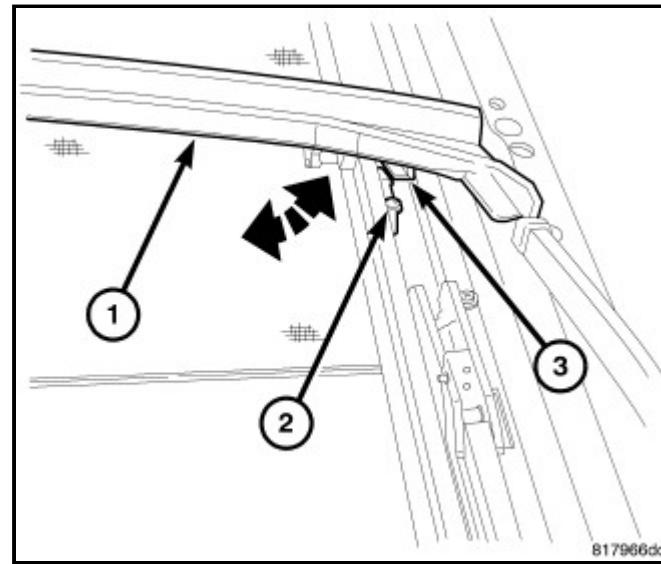
REMOVAL

1. Remove the glass ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Removal](#)).
2. Separate the trough pins (3) from the glass lift mechanisms (1).



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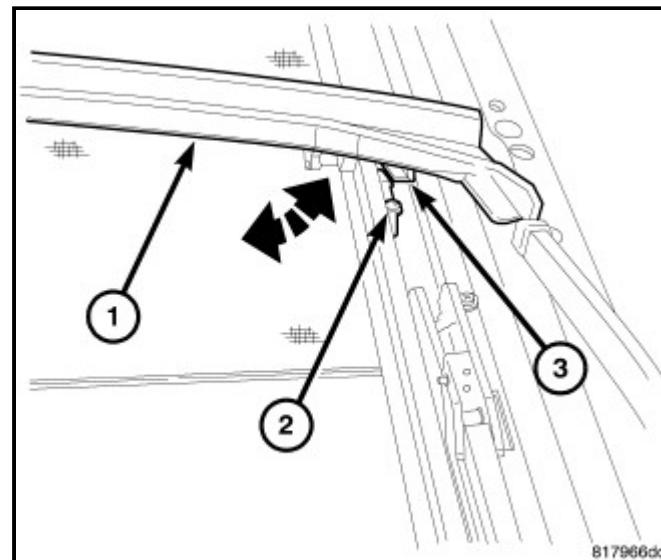
3. Slide trough (1) to one side and push down on the center of the trough until the guide shoe tab (3) releases from the track (2).
4. Slide the trough in the opposite direction to release the other shoe and lift the trough out of the sunroof opening.



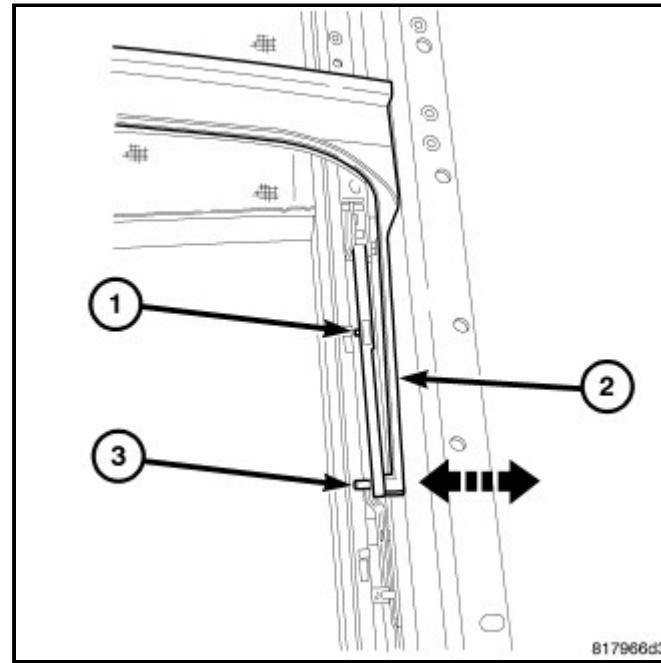
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INSTALLATION

1. Insert one of the trough guides (3) and guide shoe (2) into the track.
2. Push down on the center of the trough (1) to flatten it out and install the remaining trough guide (3) and guide shoe (2) into the track.

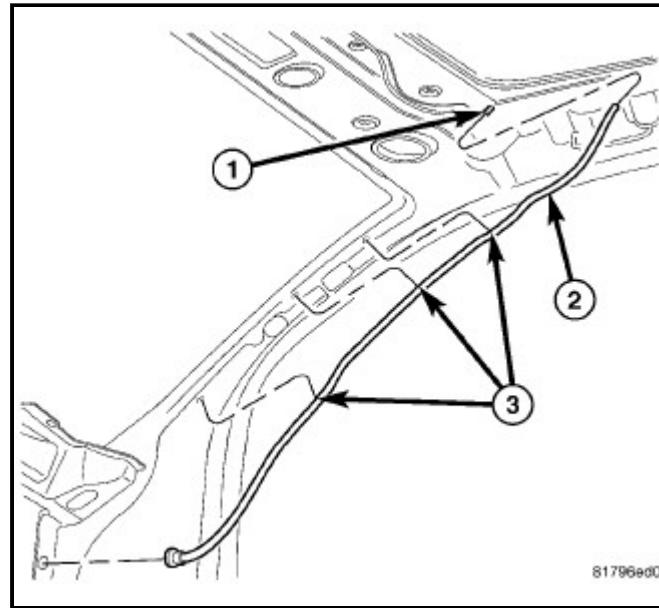


3. Install the trough guide pins into the glass lift mechanism (3) and seat fully.
4. Install the glass ([Refer to 23 - Body/Sunroof/GLASS, Sunroof - Installation](#)).

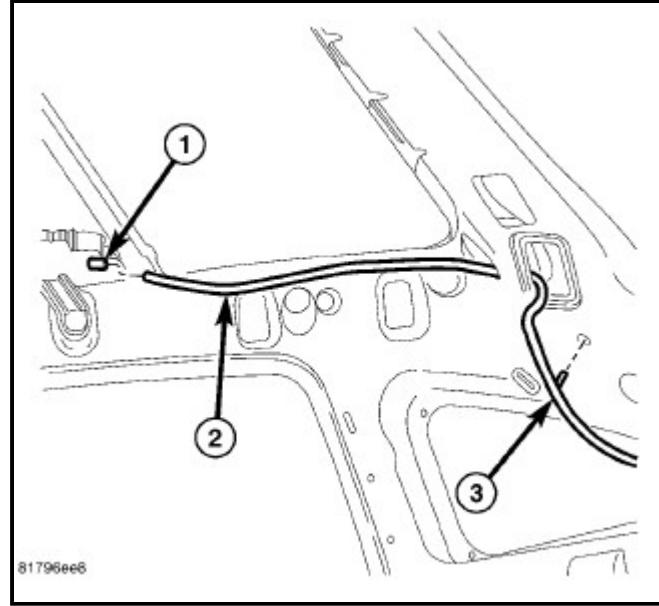


REMOVAL

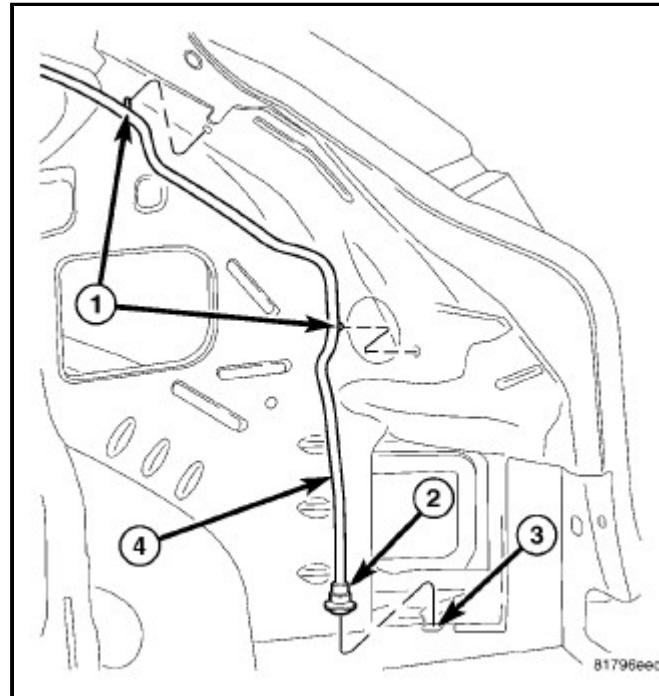
1. Drop down the headliner as necessary to gain access to the drain hoses ([Refer to 23 - Body/Interior/HEADLINER - Removal](#)).
2. Disconnect the front hoses (2) from the sunroof assembly (1).
3. Release the support clips (3) and disconnect the lower grommet and remove the hose.



4. Disconnect the rear hoses (2) from the sunroof assembly (1) and release the support clips (3).

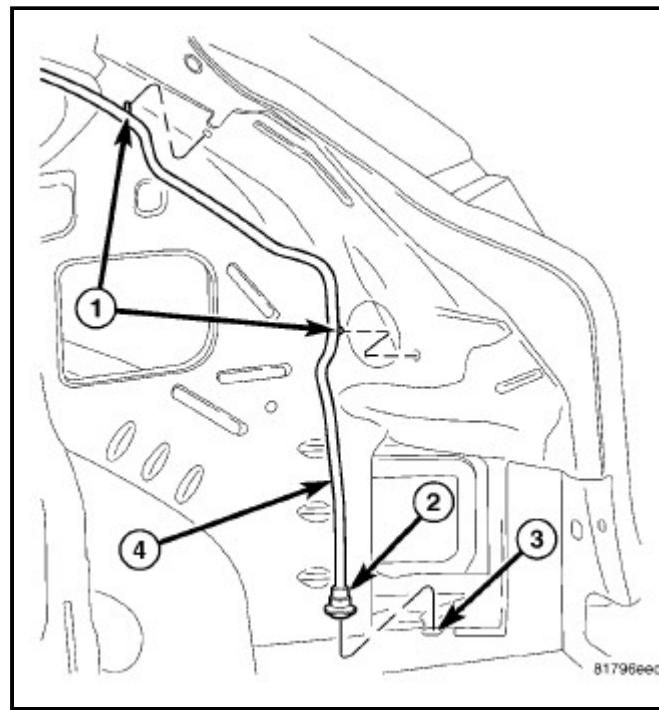


5. Separate the remaining support clips (1).
6. Disconnect the grommet (2) from the body (3) and remove the rear hoses as necessary.

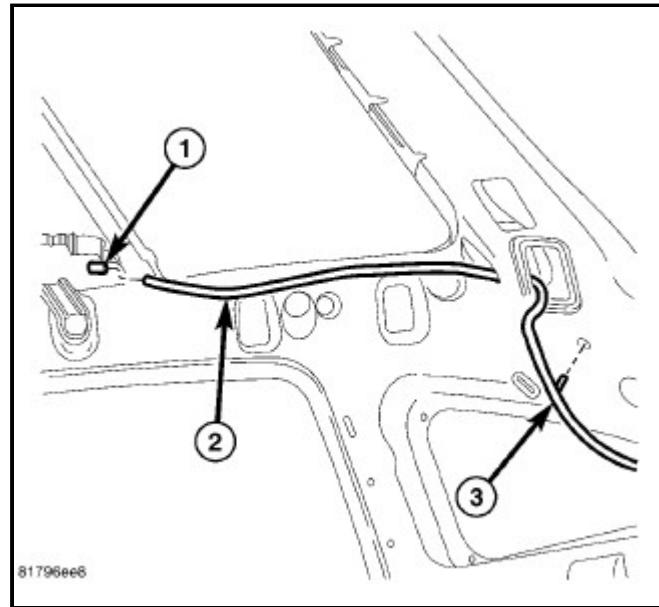


INSTALLATION

1. Install the rear hoses (4) and connect the grommets (2) to the body (3).
2. Connect the support clips (1).



3. Route the hose as required and connect the remaining support clips (3).
4. Connect the hoses (2) to the sunroof assembly (1).



5. Connect the front hose lower grommet to the body.
6. Connect the front hose (2) to the sunroof assembly (1) and connect the support clips (3).

