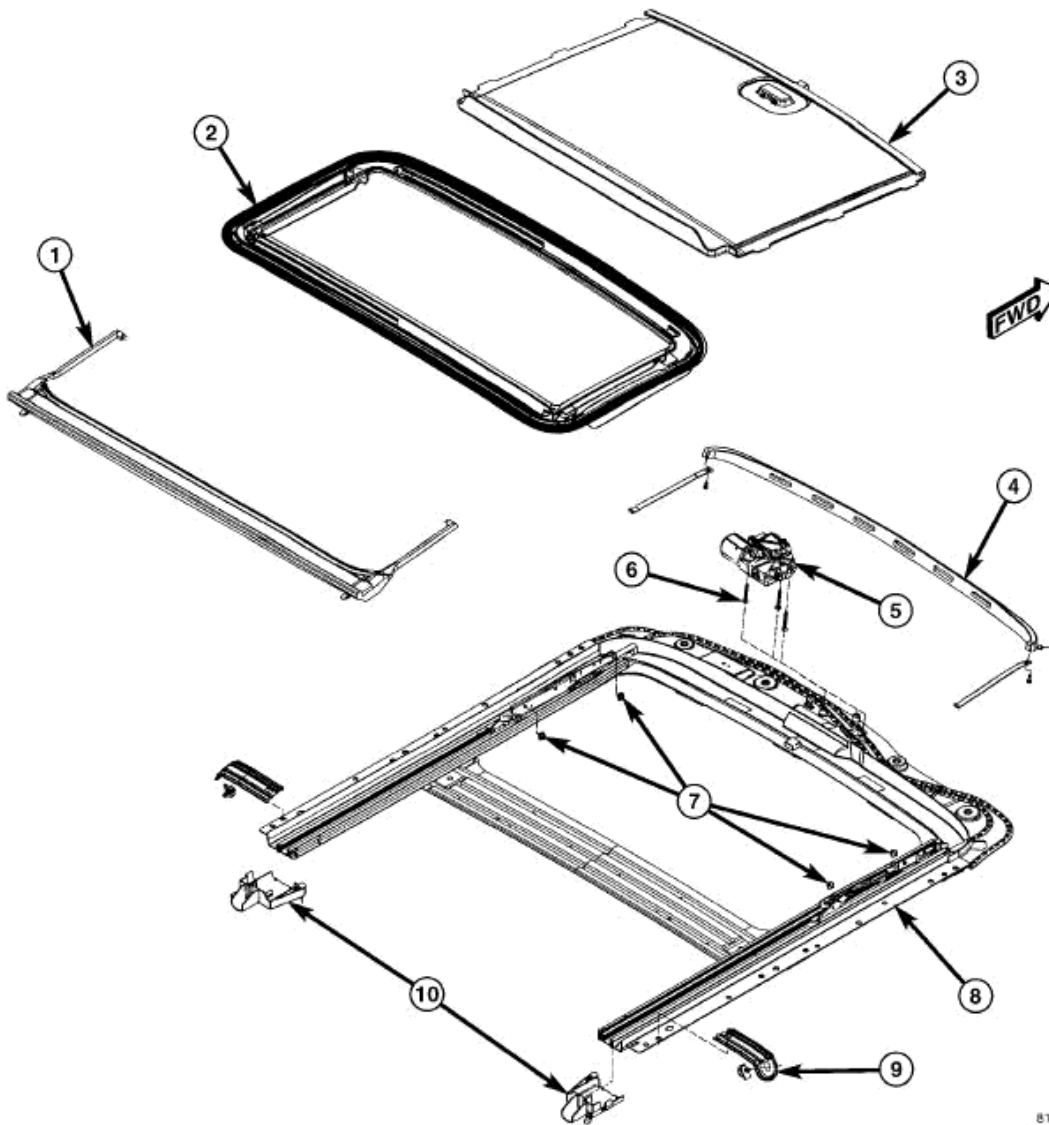


## 2009 ACCESSORIES AND EQUIPMENT

### Power Top, Sunroof - Service Information - Journey

#### DESCRIPTION

#### DESCRIPTION



**Fig. 1: Power Top/Sunroof Components**  
Courtesy of CHRYSLER LLC

- 1 - DRAIN TROUGH
- 2 - GLASS ASSEMBLY
- 3 - SUN SHADE
- 4 - WIND DEFLECTOR

## 2009 Dodge Journey R/T

2009 ACCESSORIES AND EQUIPMENT Power Top, Sunroof - Service Information - Journey

- 5 - MOTOR
- 6 - MOTOR SCREWS (3) 3 N.m (26 in. lbs.)
- 7 - GLASS ASSEMBLY SCREWS (4) 3.5 N.m (31 in. lbs.)
- 8 - FRAME ASSEMBLY
- 9 - BRACKETS
- 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.

The sunroof is electrically operated from two switches located on the windshield header, between the map lamp. To operate the sunroof the ignition switch must be in either the Accessory or On/Run position. One switch (vent) is a push button type and opens the sunroof to the vent position only. The other switch (open/close) is a rocker type for opening and closing the sunroof. Pressing and releasing the open button once the sunroof will express open and the wind deflector will raise. If the button is pressed a second time the sunroof will stop in that position. Pressing and holding the close button will close the sunroof. If the close button is released the sunroof will stop in that position. Also, by pressing the close button the sunroof will close automatically.

### SUNROOF OPERATION INSTRUCTIONS

| SWITCH INPUTS |                                                                                                                                                                         |                                                                                                                                                |                                                                                                                                              |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| -             | OPEN                                                                                                                                                                    | CLOSE                                                                                                                                          | VENT                                                                                                                                         |
| FULL VENT     | 1. Push and hold switch until glass stops in flush closed position glass will then express open<br>2. Press switch for less than 0.65 seconds for express to full open. | 1. Push and hold switch until glass stops in flush closed position.<br>2. Press switch for less than 0.65 seconds for express to flush closed. | No action<br><br>-                                                                                                                           |
| VENT RANGE    | 1. Push and hold switch until glass passes through flush closed position. Glass will then open<br>2. Press switch for less than 0.65 seconds for express to full open.  | 1. Push and hold switch until glass stops in flush closed position.<br>2. Press switch for less than 0.65 seconds for express to flush closed. | 1. Push and hold switch until glass stops in full vent position.<br>2. Press switch for less than 0.65 seconds for express to full vent.     |
| FLUSH         | 1. Press switch for less than 0.65 seconds for express to full open.                                                                                                    | No action                                                                                                                                      | 1. Press and hold switch. Glass will travel through flush closed to full vent. Glass will stop when switch is released or when fully vented. |

## 2009 Dodge Journey R/T

2009 ACCESSORIES AND EQUIPMENT Power Top, Sunroof - Service Information - Journey

|           |                                                                                        |                                                                                                                                                                            |                                                                                                                                                                                                     |
|-----------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | 2. Press switch for more than 0.65 seconds and glass will stop when switch is released | -                                                                                                                                                                          | 2. Press switch for less than 0.65 seconds for express to full vent.                                                                                                                                |
| FULL OPEN | No action<br><br>-                                                                     | 1. Press and hold switch until glass stops in flush closed position or anywhere in between.<br><br>2. Press switch for less than 0.65 seconds for express to flush closed. | 1. Press and hold switch. Glass will travel through flush closed to full vent. Glass will stop when switch is released.<br><br>2. Press switch for less than 0.65 seconds for express to full vent. |

## OPERATION

### OPERATION

This vehicle has a vent, tilt and slide power sunroof system with express (one-touch) open/close feature. The sunroof system receives battery feed through the "sunroof" relay and a 25 amp mini fuse located in the Totally Integrated Power Module (TIPM). The sunroof system power is supplied when the ignition switch is in the RUN and ACCESSORY positions. The sunroof will operate normally with the key in any position while the Accessory Delay system is active.

The sunroof is electrically operated from two switches located in the overhead console in between the two reading lamps. The "VENT" switch is a push button type switch and opens the sunroof to the vent position only. The other switch "OPEN/CLOSED" is a rocker type switch for opening and closing the sunroof. Pressing and releasing the open button once, the sunroof will express open and the wind deflector will raise. If the button is pressed a second time the sunroof will stop in that position. Pressing and releasing the close button once will express close the sunroof. If the close button is pressed a second time during the express close operation the sunroof will stop in that position.

## DIAGNOSIS AND TESTING

### DIAGNOSTIC PROCEDURES

Before beginning sunroof diagnostics, verify that all other power accessories are in proper operating condition. Refer to **SUNROOF DIAGNOSIS CHART** table for possible causes. If not, a common electrical problem may exist. Refer to appropriate wiring diagrams information for circuit, splice and component descriptions. Check the condition of the circuit protection (20 amp circuit breaker in the Totally Integrated Power Module (TIPM)). Inspect all wiring connector pins for proper engagement and continuity. Check for battery voltage at the power sunroof drive motor. Refer to **SYSTEM WIRING DIAGRAMS** for circuit information. If battery voltage of more than 9 volts is detected at the drive motor, proceed with the following tests (the drive motor will not operate at less than 9 volts).

Before beginning diagnosis for wind noise or water leaks, verify that the problem was not caused by releasing the control switch before the sunroof was fully closed. The sunroof module has a water-management system. If

however, the sunroof glass is in a partial closed position, high pressure water may be forced beyond the water management system boundaries and onto the headlining.

### SUNROOF DIAGNOSIS CHART

| SYMPTOM                                                                          | POSSIBLE CAUSE                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sunroof motor inoperative.                                                       | Faulty control switch.<br>Faulty circuit ground between sunroof drive motor, control switch, and body harness.<br>Faulty power circuit between sunroof drive motor, control switch, and body harness.<br>Faulty drive motor.<br>Faulty drive motor electrical connector. |
| Audible whine when switch is depressed, sunroof does not operate.                | Faulty drive motor.<br>Binding cable.                                                                                                                                                                                                                                    |
| Audible clicking or ratcheting when switch is pressed, sunroof does not operate. | Broken or worn drive cable.<br>Worn drive motor gear.<br>Mechanisms not synchronized.                                                                                                                                                                                    |
| Sunroof vents and opens, but does not close.                                     | Binding cable.<br>Faulty circuit.<br>Faulty control switch.<br>Faulty drive motor.<br>Broken trough guide                                                                                                                                                                |
| Sunroof vents, but does not open.                                                | Binding cable or mechanism.<br>Faulty circuit.<br>Faulty switch.<br>Faulty drive motor.                                                                                                                                                                                  |
| Sunroof does not vent.                                                           | Binding cable or mechanism.<br>Faulty circuit.<br>Faulty control switch.<br>Faulty drive motor.                                                                                                                                                                          |
| Sunroof water leak.                                                              | Drain tubes clogged or kinked or disconnected from the sunroof.<br>Glass panel improperly adjusted.<br>Faulty glass panel seal.                                                                                                                                          |
| Gurgling sound from sunroof.                                                     | Low spot in drain hose routing, allowing water to stand.                                                                                                                                                                                                                 |
| Wind noise from sunroof.                                                         | Front of glass panel to high or rear to low.<br>Wind deflector not deploying.<br>Glass not centered in opening.<br>Faulty glass panel seal.                                                                                                                              |
| Rattles from open sunroof while driving.                                         | Loose or broken attaching hardware.<br>Worn or broken mechanism.                                                                                                                                                                                                         |
| Sunroof does not stop in the fully closed position.                              | Drive motor has lost position of glass, teach procedure required to reprogram drive motor. Refer to <b>Standard</b>                                                                                                                                                      |

Procedure .

## MOTOR, SUNROOF

### STANDARD PROCEDURE

#### DRIVE MOTOR TEACH PROCEDURE

#### REPLACEMENT DRIVE MOTOR

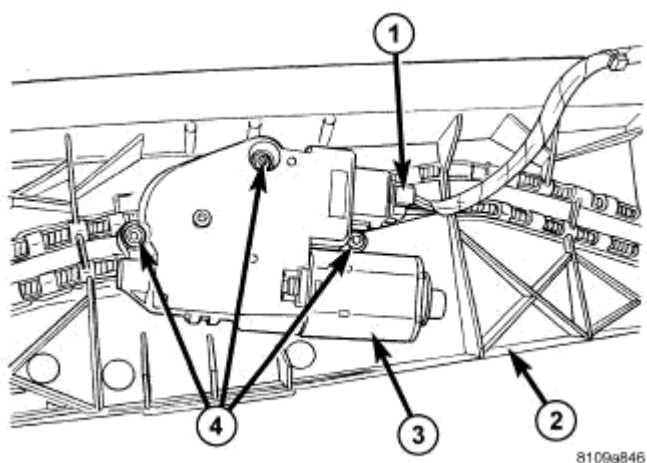
1. Upon first powering up the sunroof, **continuously** press the close button on the power sunroof switch. The sunroof will begin moving in the tilt up direction.
2. The glass panel will move to the hard stop (just past the full tilt position) and then reverse to the soft stop (the full tilt position).
3. Once the sunroof has reversed **immediately** (within 5 seconds of stopping travel), release the switch and **continuously** press the close button again.
4. The sunroof glass will continue to move to the fully closed position. Once fully closed the close button can be released.

#### ORIGINAL DRIVE MOTOR

1. Cycle the sunroof to full close position and release close button on the power sunroof switch.
2. Once the sunroof is in the fully closed position, press and **continuously** hold the close button again.
3. After a ten second delay the sunroof will begin to move past the normal vent position to the hard stop position. It will then reverse to the normal full vent position (also called the soft stop).
4. Once the sunroof has reversed to the vent soft stop, **immediately** (within 5 seconds of stopping travel) release the close button and **continuously** press it again.
5. After a three second delay the sunroof glass will continue to move to the fully closed position. Once fully closed the close button can be released.

## REMOVAL

### REMOVAL



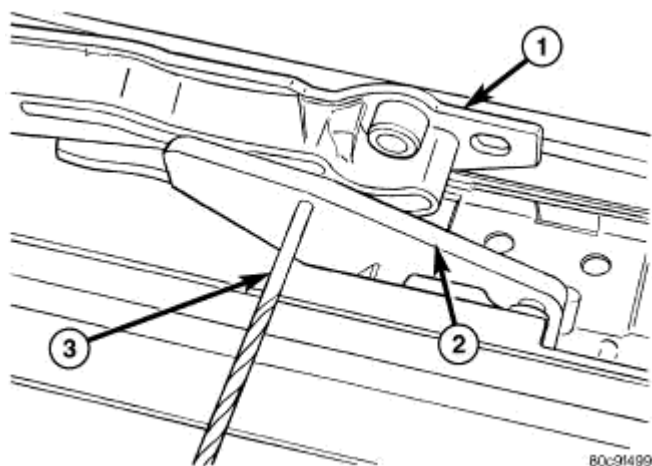
**Fig. 2: Identifying Drive Motor Components**  
Courtesy of CHRYSLER LLC

- 1 - ELECTRICAL CONNECTOR
- 2 - MODULE ASSEMBLY
- 3 - DRIVE MOTOR
- 4 - MOUNTING SCREWS

1. Remove headliner. Refer to **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

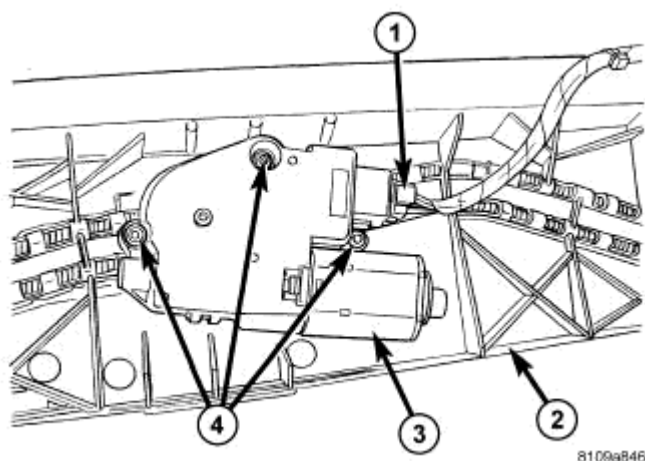
### INSTALLATION



**Fig. 3: Identifying Lifter Arm, Trolley, & Alignment Pin**  
Courtesy of CHRYSLER LLC

- 1 - LIFTER ARM
- 2 - TROLLEY
- 3 - ALIGNMENT PIN

1. If sunroof was open when drive motor was removed, carefully move glass panel into closed position and remove glass panel. Refer to **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.



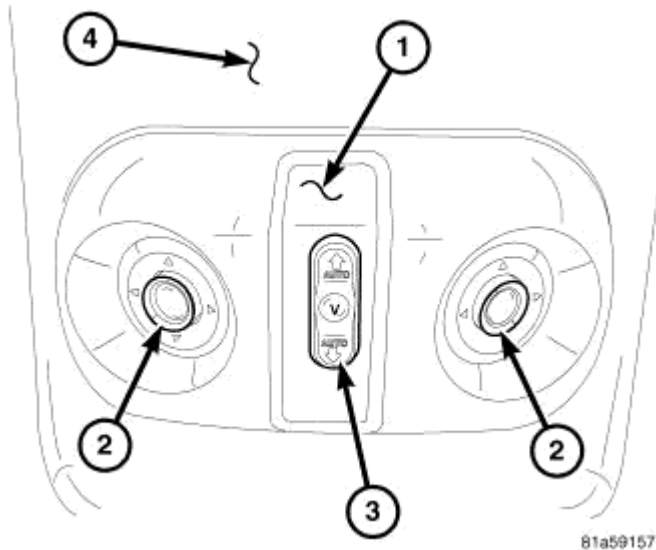
**Fig. 4: Drive Motor Components**  
Courtesy of CHRYSLER LLC

- 1 - ELECTRICAL CONNECTOR
- 2 - MODULE ASSEMBLY
- 3 - DRIVE MOTOR
- 4 - MOUNTING SCREWS

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 **Body/Sunroof/GLASS, Sunroof - Installation**.
6. Partially install the headliner and connect the sunroof wiring electrical connectors. Refer to **Body/Interior/HEADLINER - Installation**.
7. Temporarily install sunroof switch and perform the sunroof motor teach procedure. See **Standard Procedure**.
8. Test sunroof operation, adjust glass as necessary. Refer to **Body/Sunroof/GLASS, Sunroof -**

**Adjustments .**

9. Complete the headliner installation. Refer to **Body/Interior/HEADLINER - Installation .**

**SWITCH, SUNROOF****DESCRIPTION****DESCRIPTION**

**Fig. 5: Power Sunroof Switch**  
**Courtesy of CHRYSLER LLC**

The power sunroof switch (3) is a combination push-button and rocker switch module mounted in the overhead console assembly (1). The sunroof switch is a direct contact unit that is directly wired to the sunroof motor/module assembly. The sunroof switch performs the following functions:

- Power sunroof open (back of switch pushed)
- Power sunroof express open (back of switch pushed and released)
- Power sunroof closed (front of switch pushed)
- Power sunroof express closed (front of switch pushed and released)
- Power sunroof vent (switch center button pushed)

The power sunroof switch cannot be repaired. If the individual components are damaged or inoperative the switch assembly must be replaced. See **Removal .**

**OPERATION****OPERATION**

The sunroof is electrically operated from two switches located in the headliner on the courtesy/reading lamp

assembly. The power sunroof switch is hard wired to the sunroof motor/module assembly. The "VENT" switch is a push button type switch and opens the sunroof to the vent position only. The other switch "OPEN/CLOSED" is a rocker type switch for opening and closing the sunroof. Pressing and releasing the open button once, the sunroof will express open and the wind deflector will raise. If the button is pressed a second time the sunroof will stop in that position. Pressing and releasing the close button once will express close the sunroof. If the close button is pressed a second time during the express close operation the sunroof will stop in that position.

The switch is grounded at one terminal and receives a 5 volt signal from the sunroof motor/module on the remaining three terminals. The switch pulls down the 5 volt reference voltage from the module signaling it to perform the desired function.

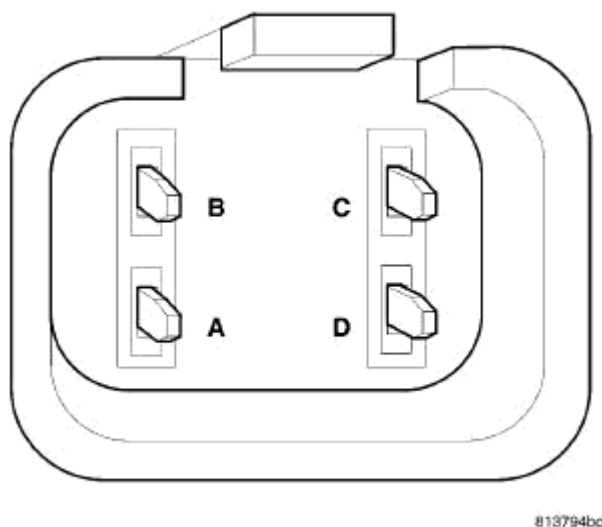
**For complete circuit diagrams, refer to SYSTEM WIRING DIAGRAMS.** The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wire harness connectors, splices and grounds.

## **DIAGNOSIS AND TESTING**

### **SUNROOF SWITCH**

**For complete circuit diagrams, refer to SYSTEM WIRING DIAGRAMS.** The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wire harness connectors, splices and grounds.

1. Remove the overhead console. Refer to **Electrical - Message Systems/Overhead Console - Removal**.
2. Disconnect the power sunroof switch wire harness connector.
3. With the ignition key in the "RUN" position check for 5 volts on the "OPEN", "CLOSE" and "VENT" circuits of the sunroof switch harness connector. If OK, go to step 4. If not OK, inspect the wiring harness and connectors between the motor/module and switch for damage and repair as necessary.
4. With the ignition key in the "OFF" position check for continuity between the ground circuit of the sunroof switch harness connector and a known good ground. Continuity should be present. If OK, go to step 5. If not OK, inspect the wiring harness and connector and repair the ground circuit as necessary.



**Fig. 6: Power Sunroof Switch Wire Harness Connector**  
Courtesy of CHRYSLER LLC

- Using an ohmmeter, test the continuity of the power sunroof switch in each switch position. Refer to the **POWER SUNROOF SWITCH CONTINUITY TABLE**. If OK, inspect the wiring harness and connectors for damage and repair as necessary. If not OK, replace the overhead console assembly. Refer to **Electrical - Message Systems/Overhead Console - Removal**.

#### POWER SUNROOF SWITCH CONTINUITY TABLE

| SWITCH POSITION | CONTINUITY BETWEEN PINS |
|-----------------|-------------------------|
| OFF             | NO CONTINUITY           |
| SUNROOF OPEN    | B AND D                 |
| SUNROOF CLOSED  | B AND C                 |
| SUNROOF VENT    | B AND A                 |

#### REMOVAL

#### REMOVAL

- Disconnect and isolate the battery negative cable.
- Remove overhead console. Refer to **Electrical - Message Systems/Overhead Console - Removal**.
- Using a suitable flat bladed tool, release the mounting tabs from the sides of the sunroof control switch and pull the switch out of the overhead console assembly.

#### INSTALLATION

#### INSTALLATION

- Insert the sunroof control switch into the overhead console assembly. Push the switch until it is securely

## 2009 Dodge Journey R/T

2009 ACCESSORIES AND EQUIPMENT Power Top, Sunroof - Service Information - Journey

held in place by the mounting tabs.

2. Install the overhead console. Refer to **Electrical - Message Systems/Overhead Console - Installation**.
3. Connect the battery negative cable.