

SECTION 9Q

ROOF

TABLE OF CONTENTS

Specifications	9Q-1	Sun Visors	9Q-13
Fastener Tightening Specifications	9Q-1	Passenger Assist Handles	9Q-14
Schematic and Routing Diagrams	9Q-2	Coat Hook	9Q-15
Power Sunroof System	9Q-2	General Description and System	
Diagnosis	9Q-3	Operation	9Q-16
Power Sunroof	9Q-3	Roof	9Q-16
Maintenance and Repair	9Q-5	Power Sunroof	9Q-16
On-Vehicle Service	9Q-5	Power Sunroof Control Switch	9Q-16
Power Sunroof	9Q-5	Sun Visors	9Q-16
Interior Courtesy Lamp/ Power Sunroof Control Switch	9Q-8	Passenger Assist Handles	9Q-16
Formed Headliner	9Q-9	Coat Hook	9Q-16

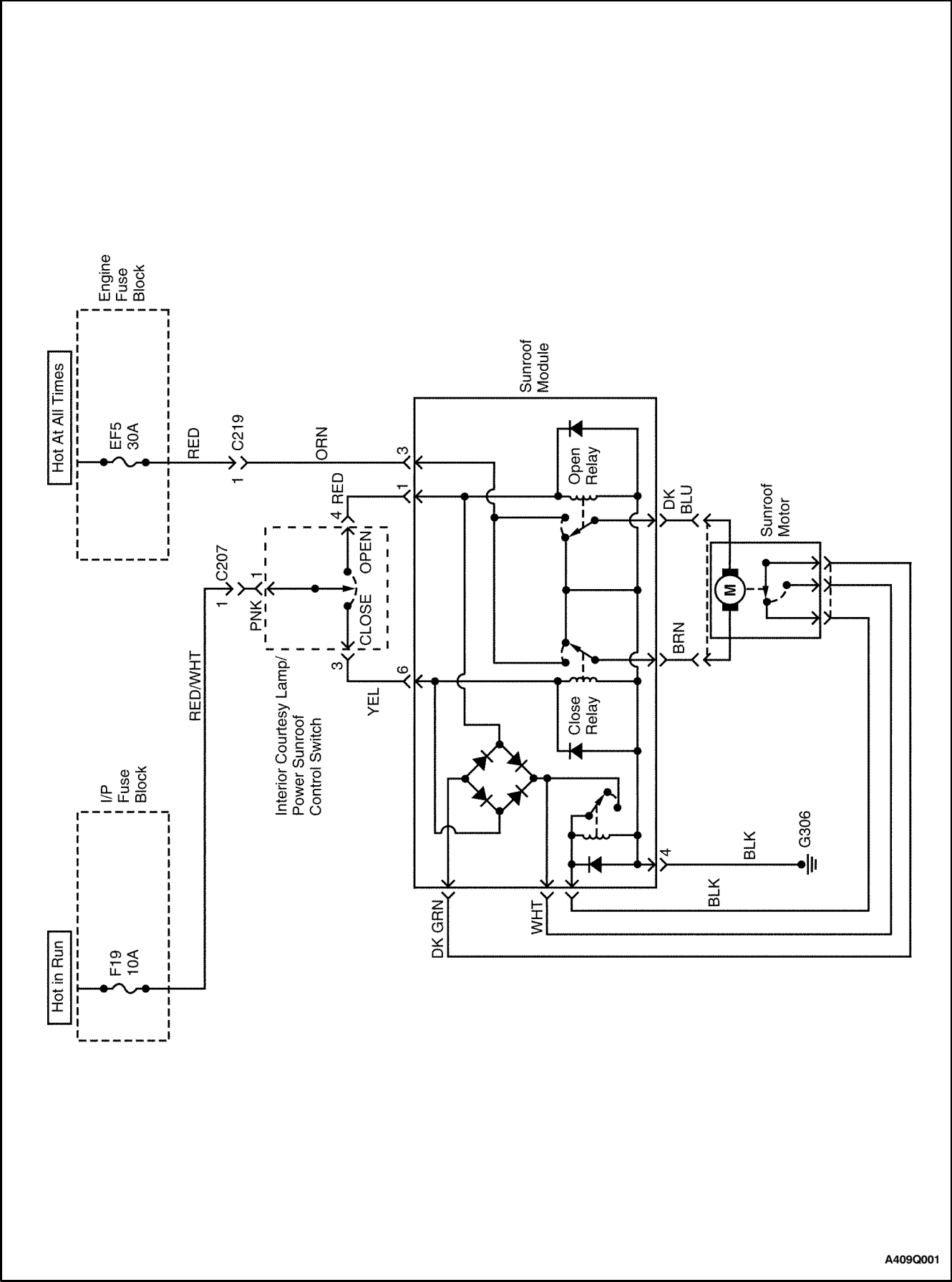
SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb-Ft	Lb-In
B-Pillar Seat Belt Bolts	35	26	-
Coat Hook Screw	3.5	-	31
Interior Courtesy Lamp/Power Sunroof Control Switch Screws	4	-	35
Passenger Assist Handle Screws	3.5	-	31
Sunroof Glass Screws	7	-	62
Sunroof Housing Bolts	7	-	62
Sunroof Motor Screws	5	-	44
Sun Visor Screws	1.5	-	13
Sun Visor Support Screw	1.5	-	13

SCHEMATIC AND ROUTING DIAGRAMS

POWER SUNROOF SYSTEM



A409Q001

DIAGNOSIS

POWER SUNROOF

Power Sunroof Does Not Work

Step	Action	Value(s)	Yes	No
1	Check fuses F19 and EF5. Is either fuse blown?	-	Go to Step 2	Go to Step 3
2	1. Check for a short circuit and repair if necessary. 2. Replace the blown fuse(s). Is the repair complete?	-	System OK	-
3	1. Turn the ignition ON. 2. Check the voltages at fuses F19 and EF5. Are both voltages equal to the specified value?	11-14v	Go to Step 5	Go to Step 4
4	Repair the power supply to the fuse which did not indicate battery voltage with the ignition on. Is the repair complete?	-	System OK	-
5	1. Disconnect the interior courtesy lamp/power sunroof control switch connector. 2. Turn the ignition ON. 3. Check the voltage at terminal 1 of the interior courtesy lamp/power sunroof control switch connector. Is the voltage equal to the specified value?	11-14v	Go to Step 7	Go to Step 6
6	Repair the open circuit between fuse F19 and the interior courtesy lamp/power sunroof control switch connector. Is the repair complete?	-	System OK	-
7	1. Reconnect the interior courtesy lamp/power sunroof control switch connector. 2. With the sunroof switch in the OPEN position, check the voltage at terminal 3 of the interior courtesy lamp/power sunroof control switch connector. 3. With the sunroof switch in the CLOSE position, check the voltage at terminal 4 of the interior courtesy lamp/power sunroof control switch connector. Do both voltages equal the specified value?	11-14v	Go to Step 9	Go to Step 8
8	Replace the interior courtesy lamp/power sunroof control switch. Is the repair complete?	-	System OK	-
9	1. Disconnect the 6-pin sunroof module connector. 2. With the sunroof switch in the OPEN position, check the voltage at terminal 4 of the sunroof module connector. 3. With the sunroof switch in the CLOSE position, check the voltage at terminal 6 of the sunroof module connector. Are the voltages equal to the specified value?	11-14v	Go to Step 11	Go to Step 10
10	Repair the open circuit between the interior courtesy lamp/power sunroof control switch and the sunroof module connector. Is the repair complete?	-	System OK	-

Power Sunroof Does Not Work (Cont'd)

Step	Action	Value(s)	Yes	No
11	1. Reconnect the sunroof module. 2. Remove the sunroof motor, but leave the connectors attached. 3. Turn the ignition ON. 4. Use the sunroof switch to attempt to operate the motor in both directions. Does the motor operate?	-	Go to Step 12	Go to Step 13
12	Repair the jammed sunroof mechanism. Is the repair complete?	-	System OK	-
13	1. Disconnect both of the one-wire connectors at the sunroof motor. 2. Connect a voltmeter between the one-wire connectors, on the module side of the connectors. 3. Turn the ignition ON. 4. Turn the sunroof switch to the OPEN position and observe the voltmeter reading. 5. Turn the sunroof switch to the CLOSE position and observe the voltmeter reading. Does the voltmeter indicate the specified voltage when the switch is in either the OPEN or the CLOSE position (one of the switch positions should show reverse polarity)?	11-14v	Go to Step 15	Go to Step 14
14	Replace the sunroof module. Is the repair complete?	-	System OK	-
15	Replace the sunroof motor. Does the sunroof operate with the new motor?	-	System OK	Go to Step 14

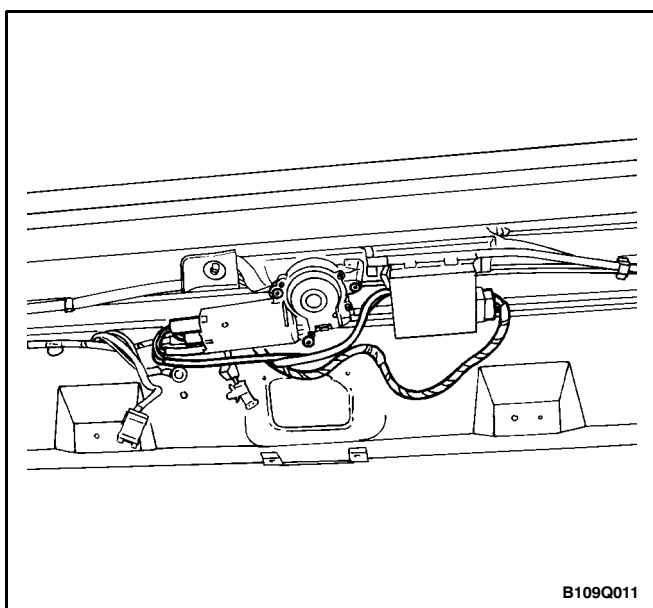
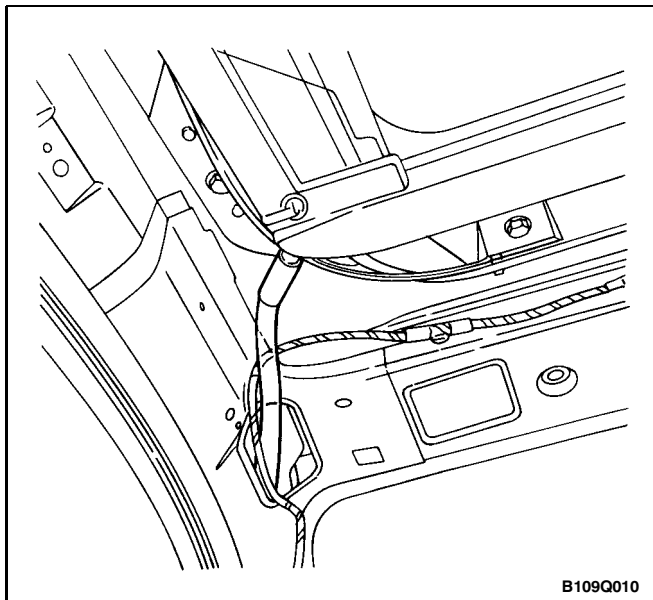
MAINTENANCE AND REPAIR

ON-VEHICLE SERVICE

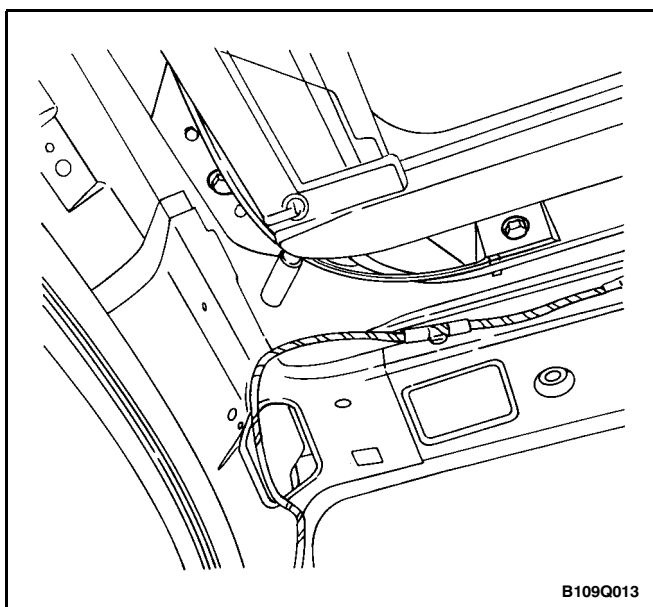
POWER SUNROOF

Removal Procedure

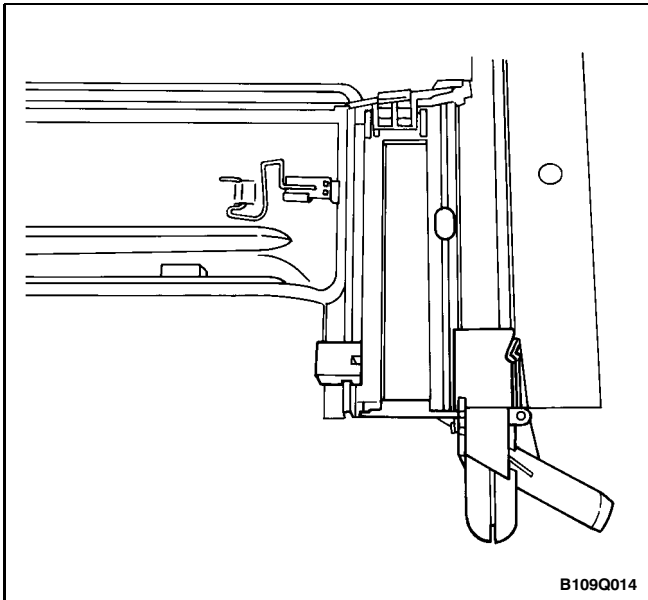
1. Disconnect the negative battery cable.
2. Remove the headliner. Refer to "Formed Headliner" in this section.
3. Remove the drain hoses.



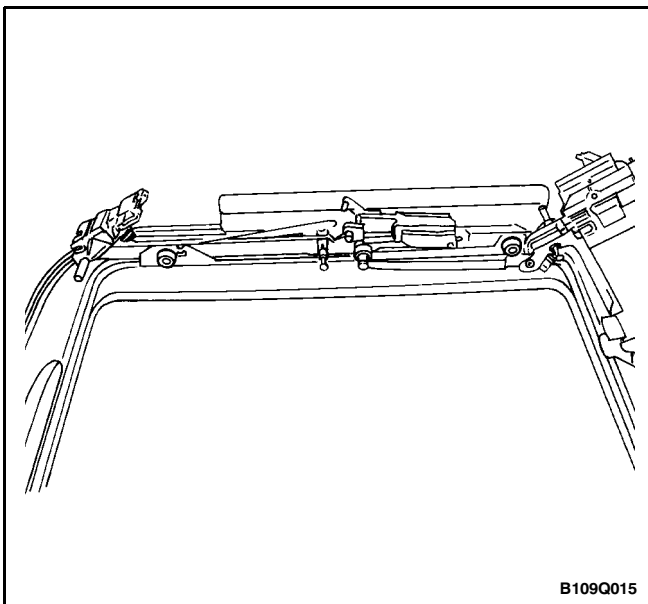
4. Remove the electrical connectors.
5. Remove the screws and the motor.



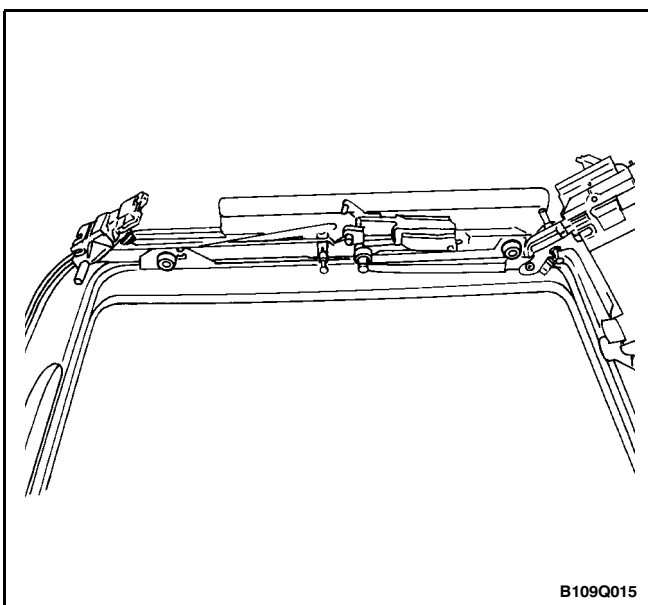
6. Remove the motor control module.
7. Remove the bolts and the housing from the vehicle.



8. Remove the rubber end caps.
9. Remove the drain nozzles.
10. Remove the shade stops.
11. Remove the glass stops.



12. Remove the shade.
13. Remove the glass and the frame from the housing.
14. Remove the plastic trim.
15. Remove the screws and the glass from the frame.



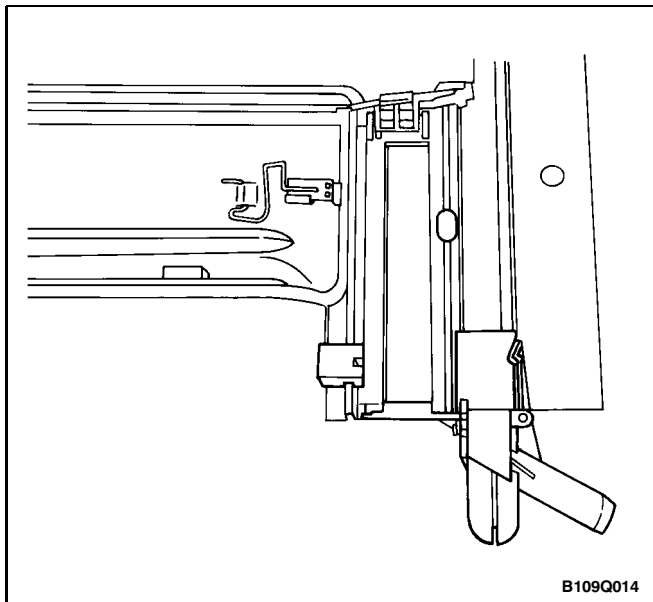
Installation Procedure

Notice: Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

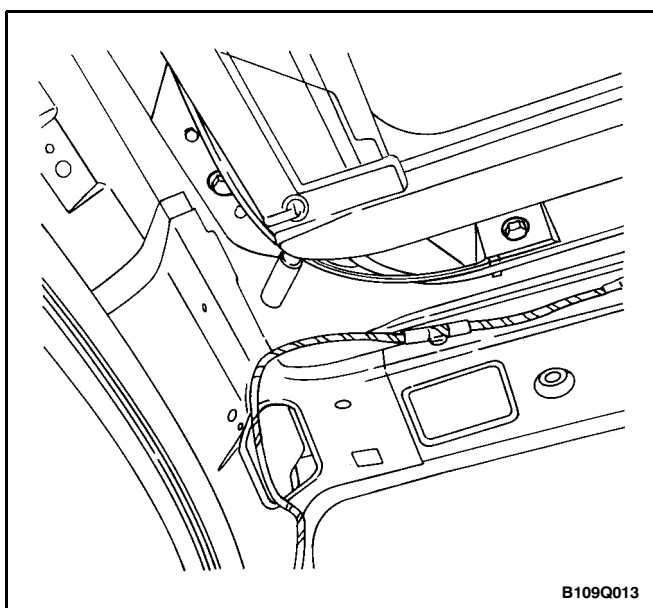
1. Install the glass to the frame with the screws.

Tighten

Tighten the sunroof glass screws to 7 N•m (62 lb-in).



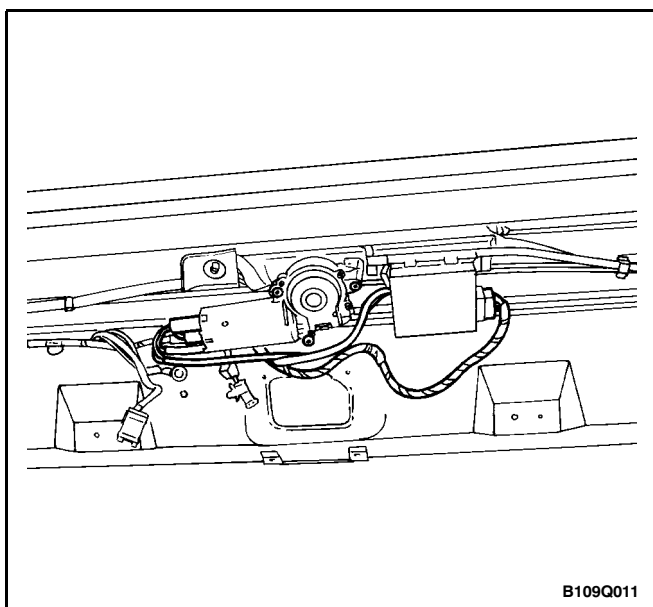
2. Install the plastic trim.
3. Install the glass and the frame to the housing.
4. Install the shade.
5. Install the glass stops.
6. Install the shade stops.
7. Install the drain nozzles.
8. Install the rubber end caps.



9. Install the housing to the roof of the vehicle with the bolts.

Tighten

Tighten the sunroof housing bolts to 7 N·m (62 lb-in).

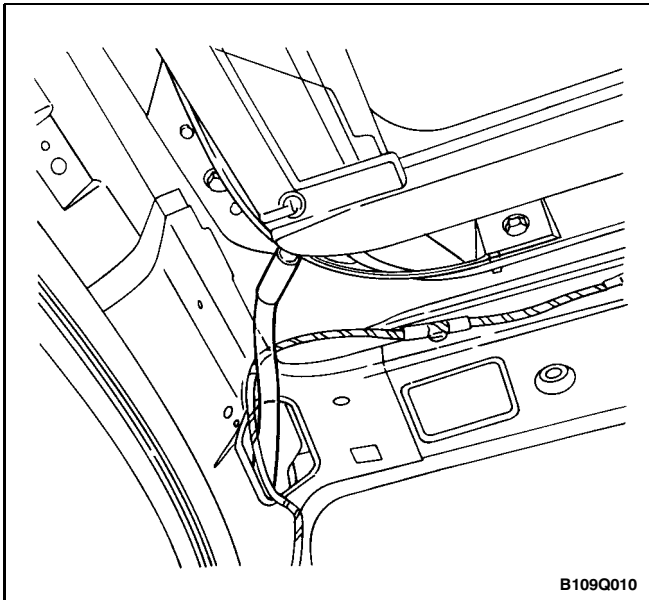


10. Install the motor control module.
11. Install the motor with the screws.

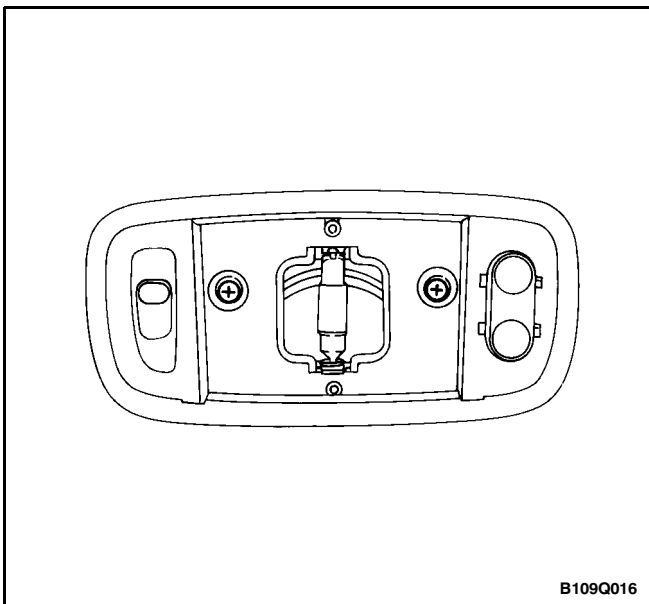
Tighten

Tighten the sunroof motor screws to 5 N·m (44 lb-in).

12. Connect the electrical connectors.



13. Install the drain hoses.
14. Install the headliner. Refer to "Formed Headliner" in this section.
15. Connect the negative battery cable.

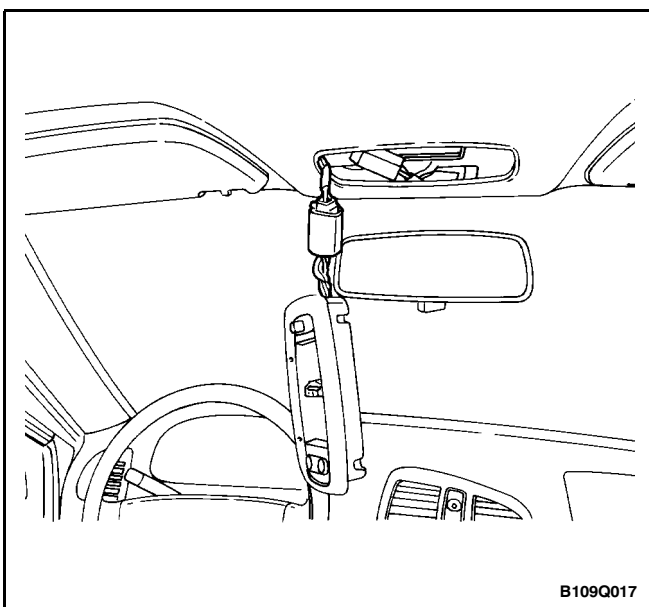


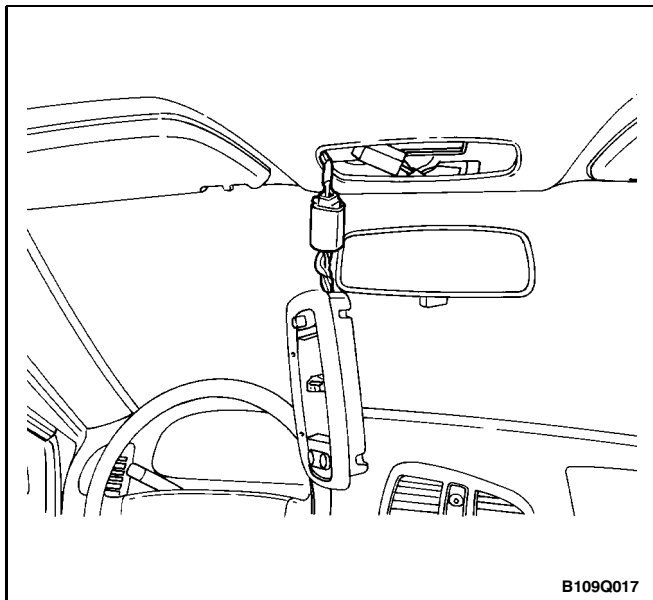
INTERIOR COURTESY LAMP/POWER SUNROOF CONTROL SWITCH

(Left-Hand Drive Shown, Right-Hand Drive Similar)

Removal Procedure

1. Disconnect the negative battery cable.
 2. Pry off the interior courtesy lamp lens.
 3. Remove the screws and the lamp/power sunroof control switch.
-
4. Disconnect the electrical connector.





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Installation Procedure

1. Connect the electrical connector.

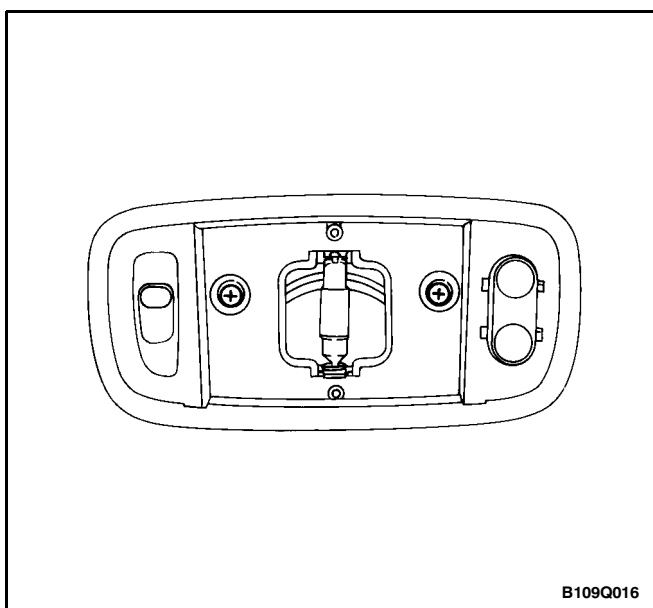
Notice: Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

2. Install the lamp/power sunroof control switch with the screws.

Tighten

Tighten the interior courtesy lamp/power sunroof control switch screws to 4 N•m (35 lb-in).

3. Install the interior courtesy lamp lens.
4. Connect the negative battery cable.

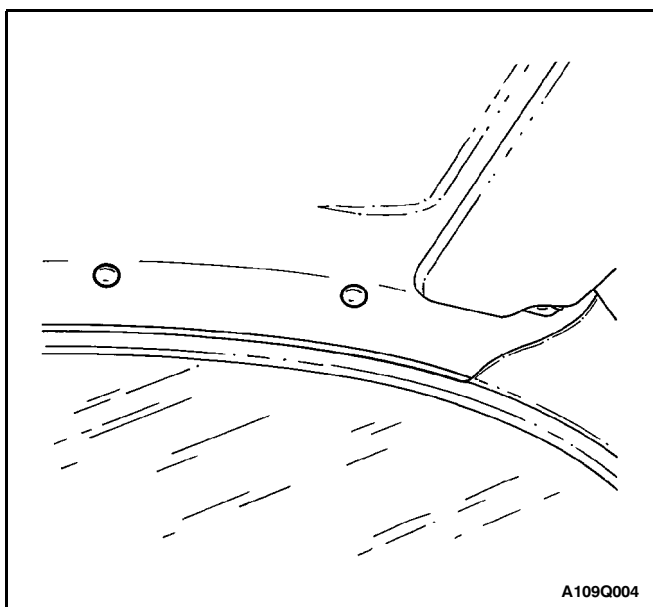


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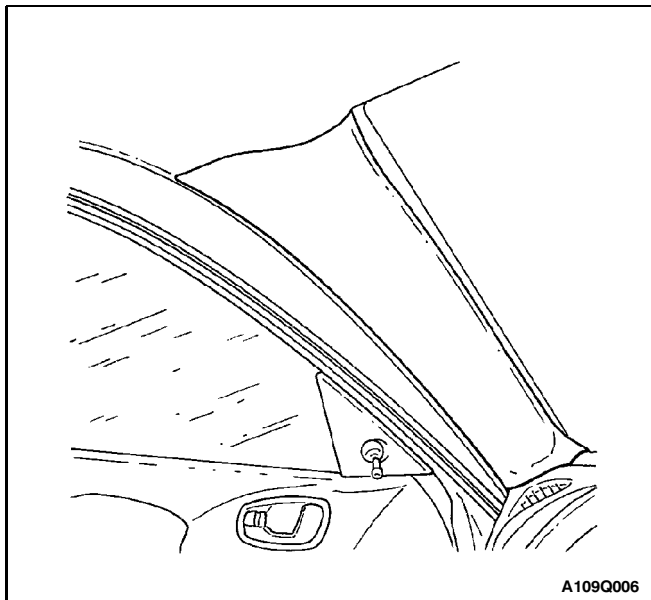
FORMED HEADLINER

Removal Procedure

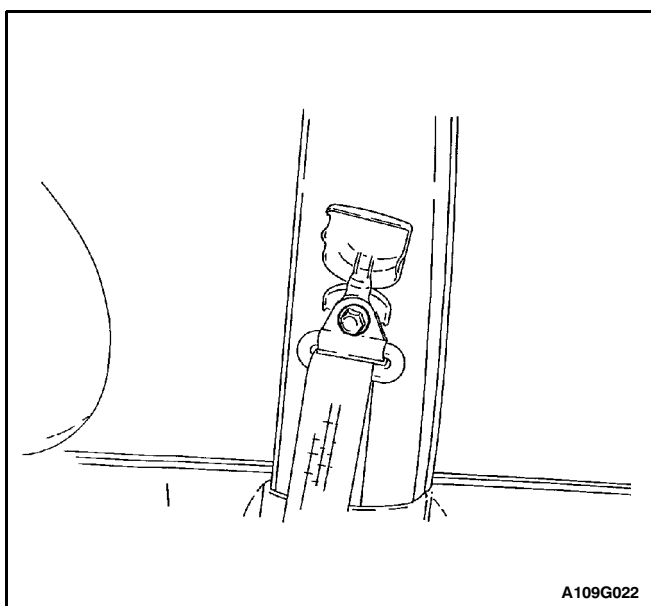
1. Remove the passenger assist handles. Refer to "Passenger Assist Handles" in this section.
2. Remove the coat hook. Refer to "Coat Hook" in this section.
3. Remove the plastic retainers in the headliner on the driver's side.



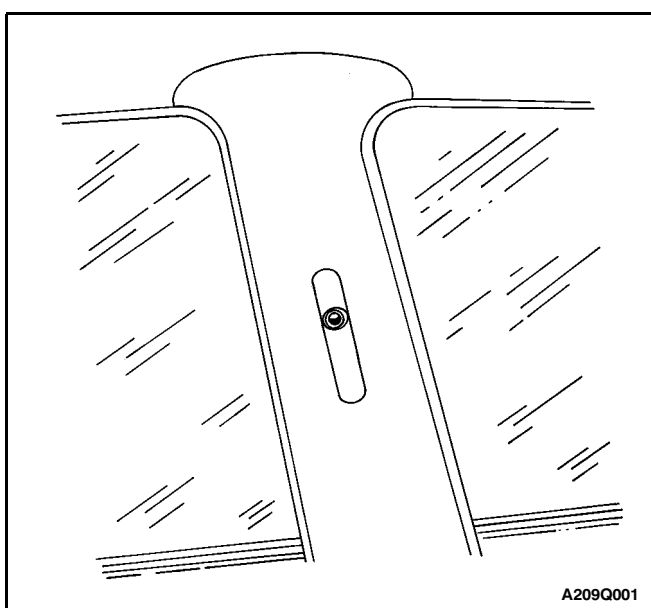
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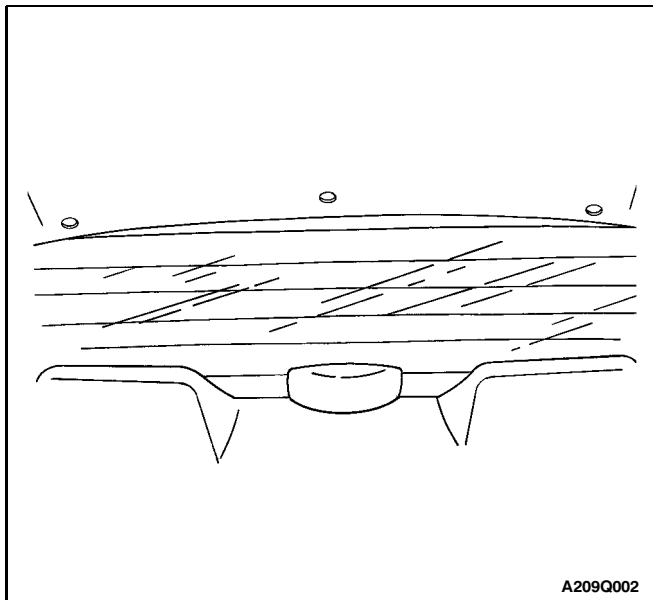
4. Remove the sun visors. Refer to "Sun Visors" in this section.
5. Remove the interior courtesy lamp. Refer to Section 9B, Lighting Systems.
6. Remove the left and the right A-pillar trim panels.



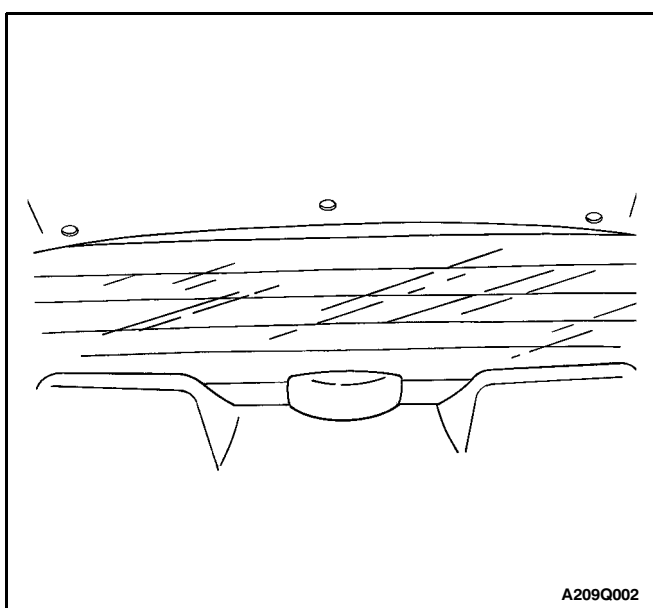
7. Remove the bolts and the seat belt anchors from the left and the right B-pillars.



8. Reposition the top of the left and the right B-pillar trim panels.

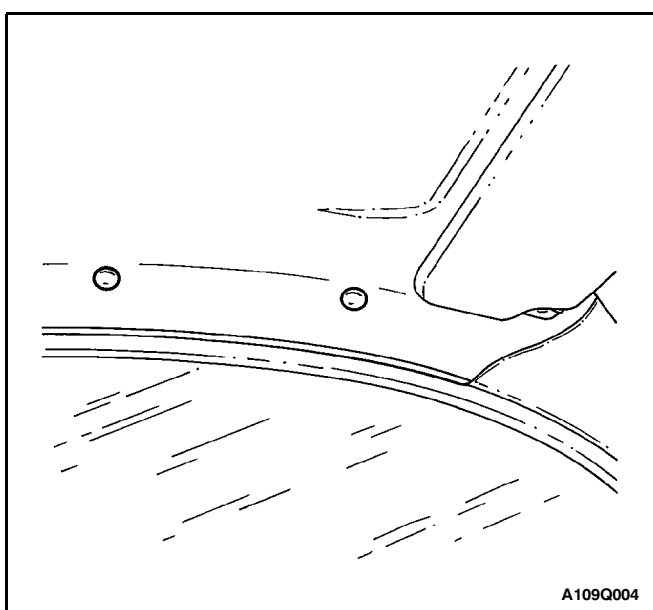


9. Remove the left and the right C-pillar trim panels.
10. Remove the sunroof molding, if equipped.
11. Remove the plastic retainers in the headliner along the rear window.
12. Slide and tilt both front seats forward.
13. Pull the headliner down and turn it 45 degrees.
14. Remove the headliner through a rear door.

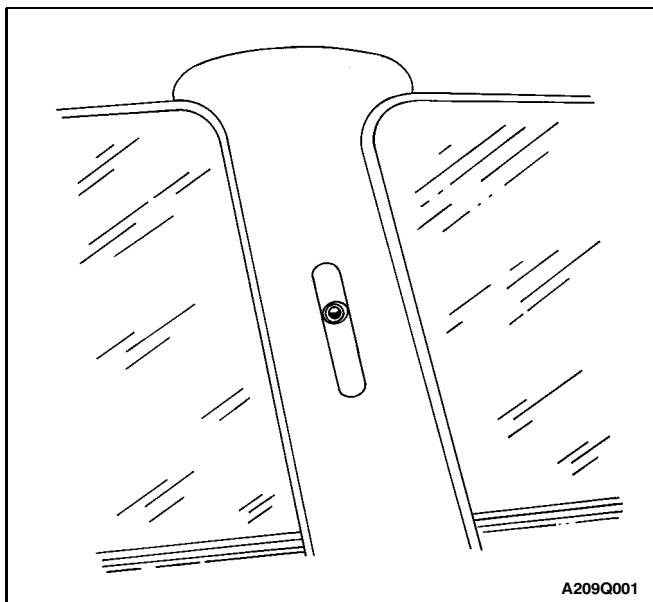


Installation Procedure

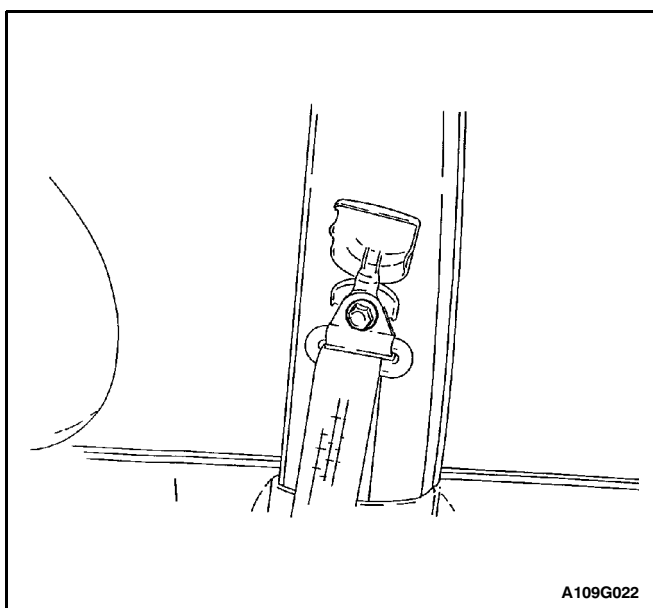
1. Recline both front seats.
2. Tilt the headliner on its side and slide it through a rear door.
3. Tilt and rotate the headliner until it is in position. Push it in place until the seals around the doors cover the edges of the headliner.
4. Install the plastic retainers along the rear window.



5. Install the plastic retainers in the headliner on the driver's side.



6. Install the sunroof molding, if equipped.
7. Install the left and the right C-pillar trim panels.
8. Install the top of the left and the right B-pillar trim panels to the original position.

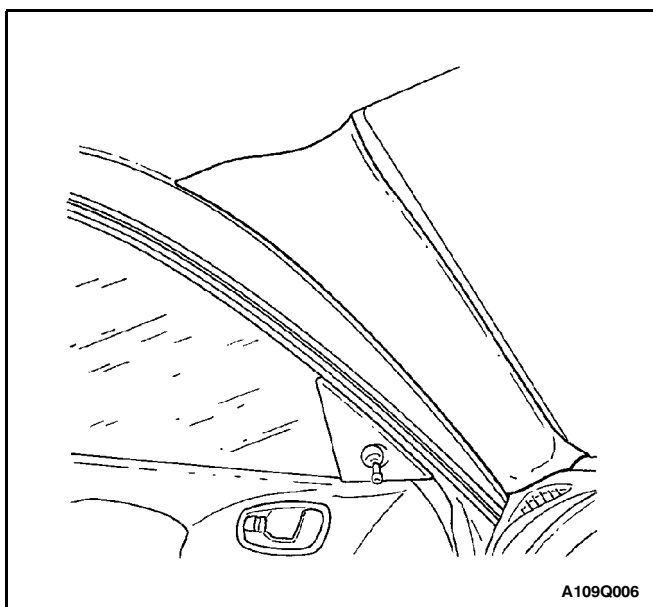


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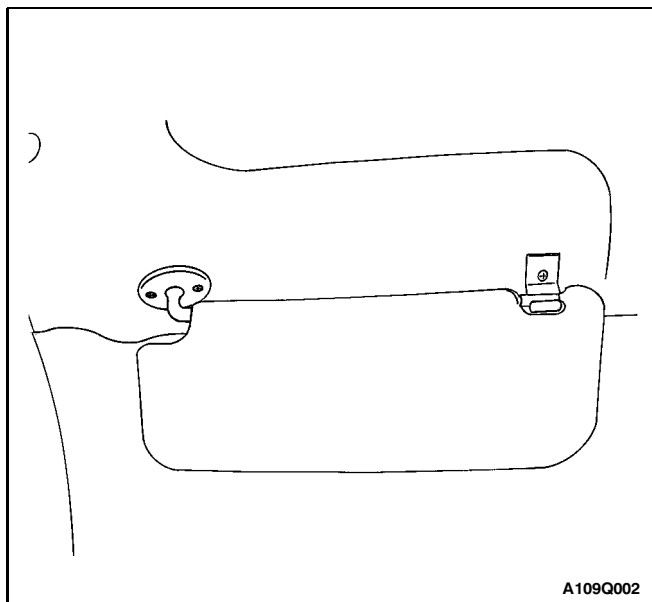
9. Install the seat belt anchors with the bolts in the left and the right B-pillar panels.

Tighten

Tighten the B-pillar seat belt bolts to 35 N•m (26 lb-ft).



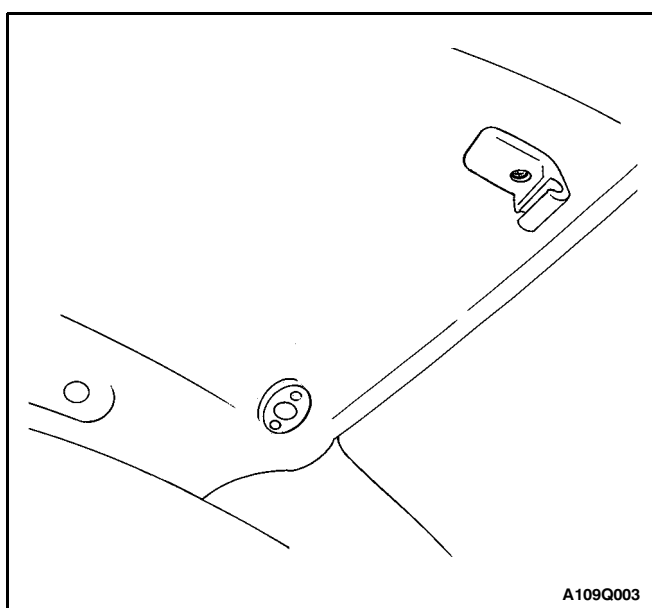
10. Install the left and the right A-pillar trim panels.
11. Install the interior courtesy lamp. Refer to Section 9B, Lighting Systems.
12. Install the sun visors. Refer to "Sun Visors" in this section.
13. Install the coat hook. Refer to "Coat Hook" in this section.
14. Install the passenger assist handles. Refer to "Passenger Assist Handles" in this section.



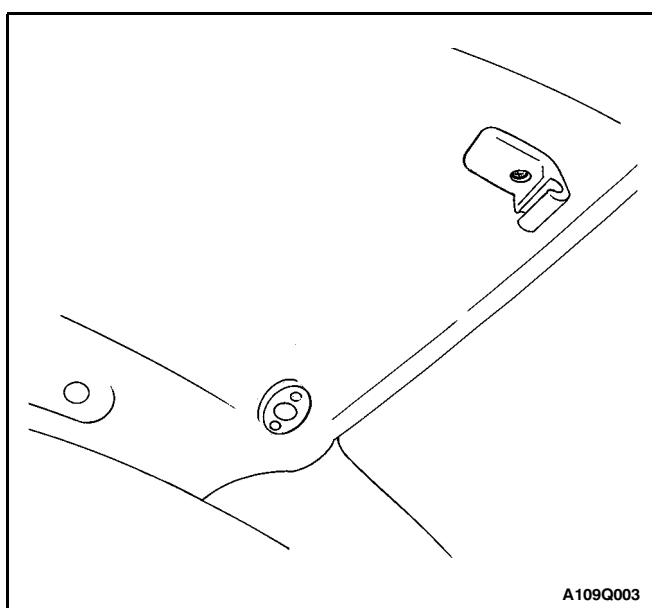
SUN VISORS

Removal Procedure

1. Remove the screws and the sun visor from the headliner.



2. Remove the screw and the sun visor support from the headliner.



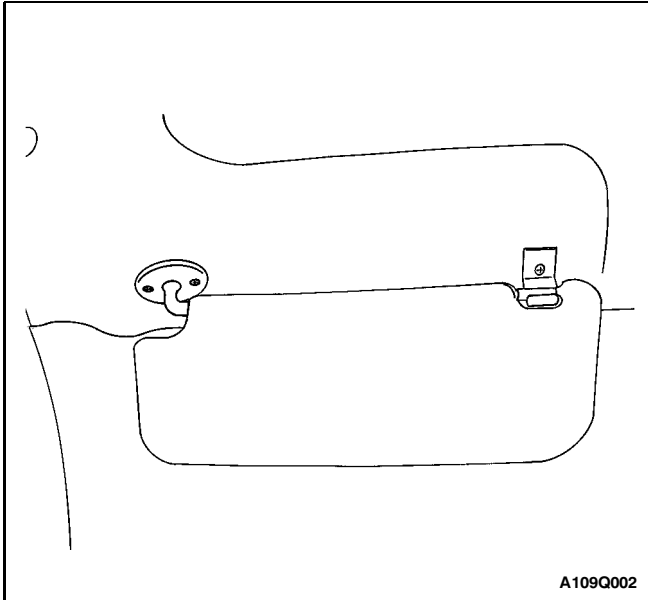
Installation Procedure

Notice: Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the sun visor support to the headliner with the screw.

Tighten

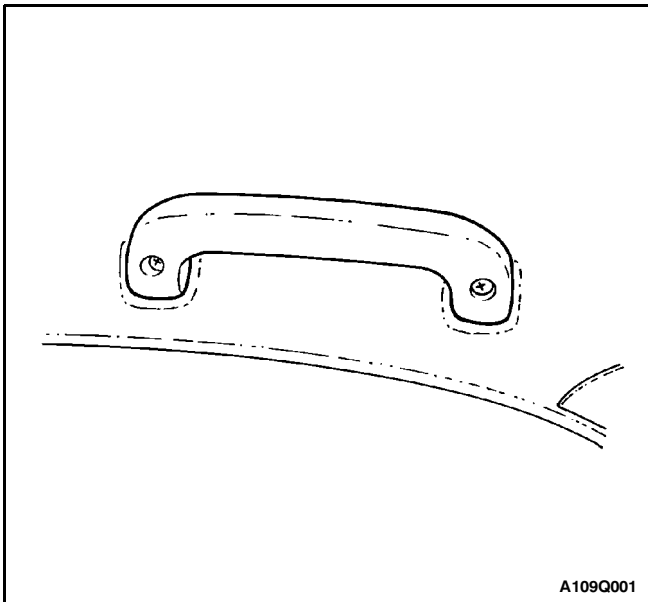
Tighten the sun visor support screw to 1.5 N•m (13 lb-in).



2. Install the sun visor to the headliner with the screws.

Tighten

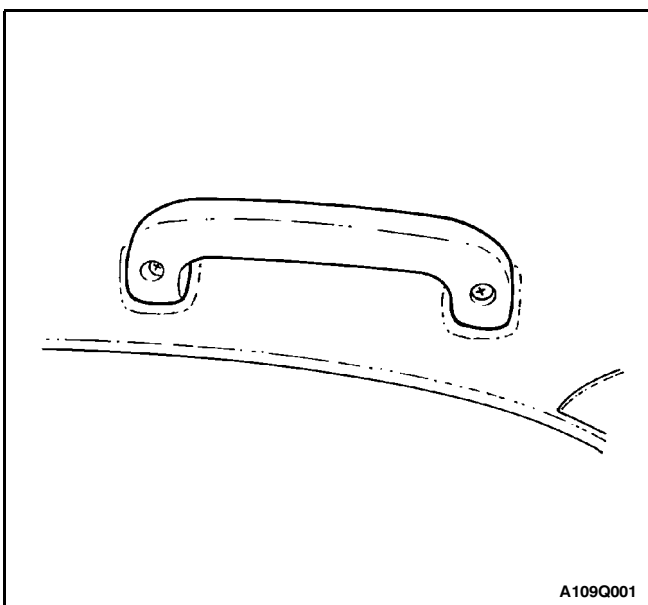
Tighten the sun visor screws to 1.5 N•m (13 lb-in).



PASSENGER ASSIST HANDLES

Removal Procedure

1. Remove the screws and the assist handle from the headliner.



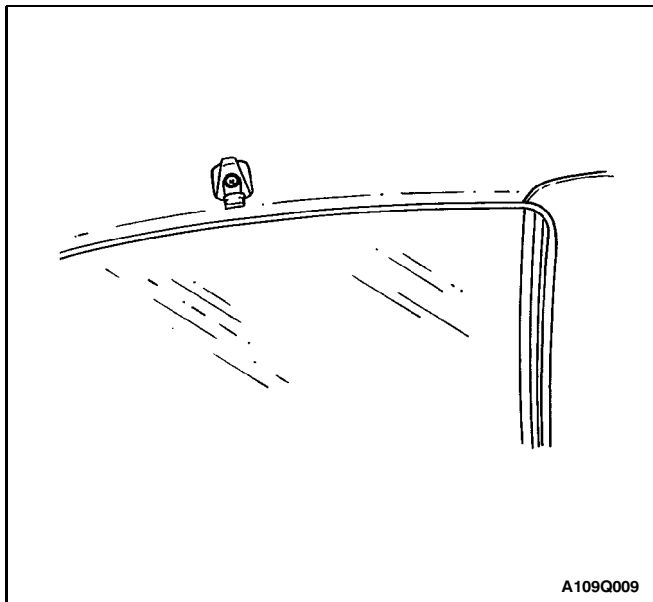
Installation Procedure

Notice: Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the assist handle to the headliner with the screws.

Tighten

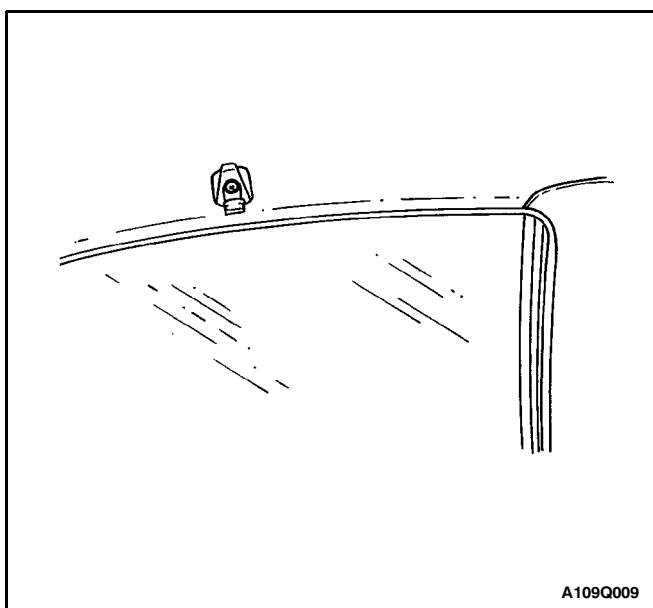
Tighten the passenger assist handle screws to 3.5 N•m (31 lb-in).



COAT HOOK

Removal Procedure

1. Pry open the screw cover on the coat hook.
2. Remove the screw and the coat hook from the headliner.



Installation Procedure

1. Install the coat hook with the screw.

Tighten

Tighten the coat hook screw to 3.5 N•m (31 lb-in).

2. Close the screw cover.

GENERAL DESCRIPTION AND SYSTEM OPERATION

ROOF

The roof is a one-piece painted metal unit which incorporates a single, solid headliner and two moldings, one on each side of the vehicle's roof.

The moldings, which enclose and hide the roof rail seams, are serviceable as individual units.

The one-piece formed headliner, common to both the notchback and the hatchback, consists of a molded substrate covered with a foam-backed cloth facing. The one-piece construction requires servicing the headliner as a complete assembly.

POWER SUNROOF

The sunroof is

- Intended to provide light and air through the roof of the vehicle.
- Built into the roof.
- Made of glass.
- Equipped with a sunshade that opens and closes manually.
- Powered by an electric motor.
- Controlled by a toggle switch built into the interior courtesy lamp assembly.

POWER SUNROOF CONTROL SWITCH

The power sunroof control switch is a toggle button located on the right side of the interior courtesy lamp/power sunroof control switch assembly.

Operating the Power Sunroof

The ignition must be in the ON position in order to operate the power sunroof.

Tilting the Power Sunroof Open and Closed

To tilt open the rear end of the power sunroof, press and hold the forward portion of the toggle button until the power sunroof tilts open.

To close the power sunroof from a tilted-open position, press and hold the rear portion of the toggle button until the sunroof tilts closed.

Sliding the Power Sunroof Open and Closed

To slide open the power sunroof, press the rear portion of the toggle button until the sunroof slides. If the sunshade is closed, the power sunroof will pull the sunshade open as the sunroof slides open.

To close the power sunroof from a slid-open position, press the forward portion of the toggle button until the sunroof slides closed.

SUN VISORS

The sun visors swing down in order to block out glare. They also swing to the side when they are released from the support.

PASSENGER ASSIST HANDLES

There is a passenger assist handle for each rear outboard seat and for the front passenger seat. Passengers can use these handles to assist in keeping their balance over rough roads or during sharp turns.

COAT HOOK

The coat hook is fastened to the headliner above the left-hand rear passenger seat. This position has a coat hook in the place of a passenger assist handle.