

2005-08 ACCESSORIES AND EQUIPMENT

Moonroof (Body) - RL

COMPONENT LOCATION INDEX

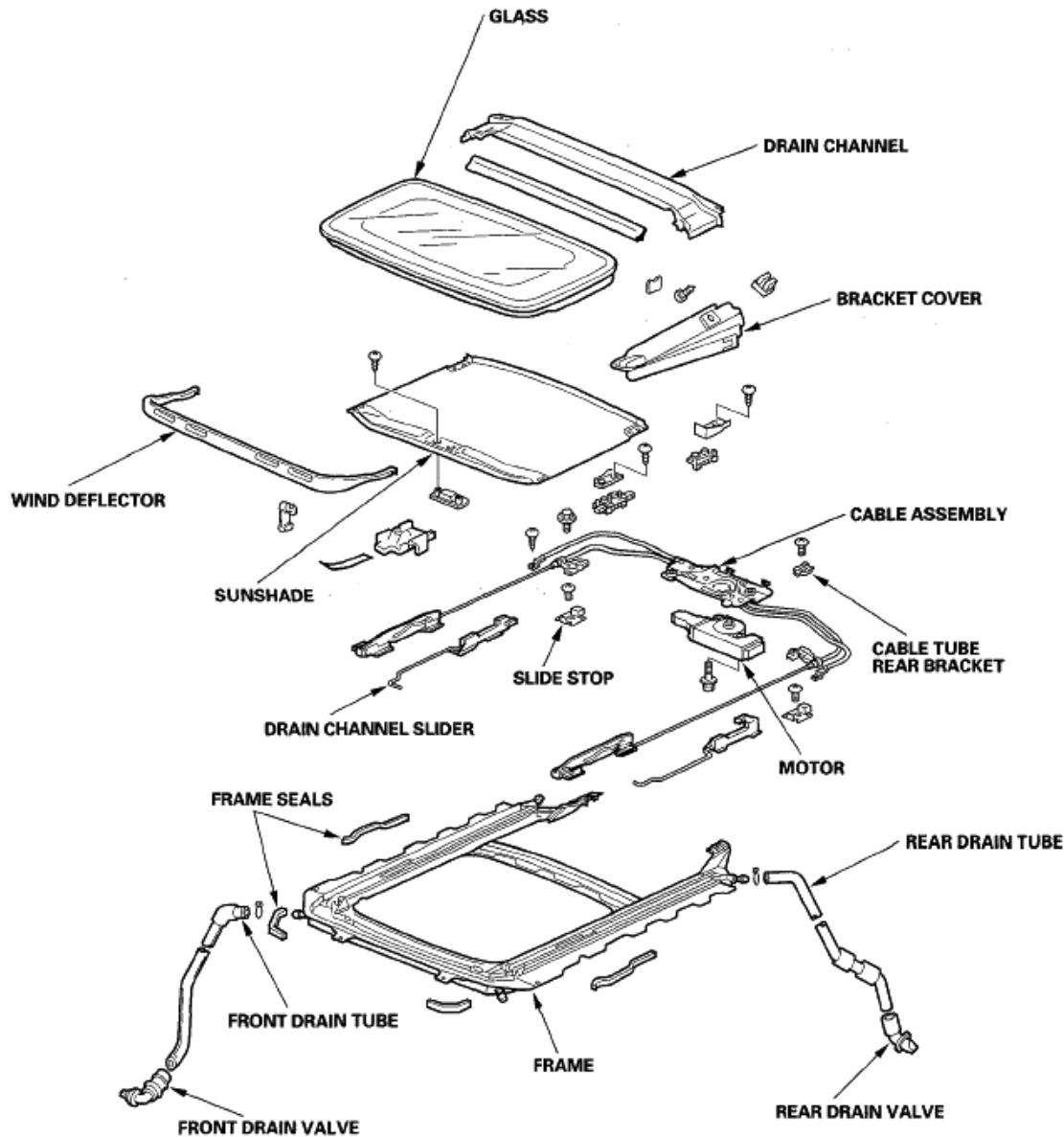


Fig. 1: Identifying Moonroof Component Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SYMPTOM TROUBLESHOOTING INDEX

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Symptom	Diagnostic procedure
	<ol style="list-style-type: none">1. Check for a clogged drain tube.2. Check for a gap between the glass weatherstrip and

2007 Acura RL

2005-08 ACCESSORIES AND EQUIPMENT Moonroof (Body) - RL

Water leaks from moonroof	<p>the roof panel.</p> <ol style="list-style-type: none">3. Check for a defective or an improperly installed glass weatherstrip or drain channel.4. Check for a gap between the drain seal and the roof panel.
Wind noise from moonroof	Check for excessive clearance between the glass weatherstrip and the roof panel.
Motor noise from moonroof	<ol style="list-style-type: none">1. Check for a loose motor.2. Check for a worn gear or bearing.3. Check for a deformed cable assembly.
Moonroof glass does not move, but motor turns	<ol style="list-style-type: none">1. Check for a defective gear or inner cable.2. Check for foreign matter stuck between the guide rail and the slider.3. Check for a loose inner cable.4. Make sure the cable assembly is attached properly.
Moonroof glass does not move and motor does not turn (glass can be moved with 5 mm hexagonal wrench)	<ol style="list-style-type: none">1. Check for a blown fuse.2. Check for a faulty moonroof switch.3. Check for a run down battery.4. Check for a defective motor control unit.
Moonroof glass does not stop at proper flush closed position	<ol style="list-style-type: none">1. Perform moonroof calibration (see <u>RESETTING THE MOONROOF CONTROL UNIT</u>).2. Check glass position adjustment (see <u>GLASS POSITION ADJUSTMENT</u>).
Moonroof glass moves in a jerking motion (moves 40 mm (1.57 in.), stops for 0.4 seconds, and repeats)	Do the moonroof calibration (see <u>RESETTING THE MOONROOF CONTROL UNIT</u>).
During auto close operation, moonroof glass reverses when no object is trapped	Check for dirt and debris in the track. Do the moonroof calibration (see <u>RESETTING THE MOONROOF CONTROL UNIT</u>).
Moonroof glass moves, but there is no AUTO function	Do the moonroof calibration (see <u>RESETTING THE MOONROOF CONTROL UNIT</u>).

GLASS POSITION ADJUSTMENT

The roof panel (A) should be even with the glass weatherstrip (B), to within 0+1/-1 mm (0+0.04/-0.04 in.) all the way around, and to within 13.5+1/-1 mm (0.53+0.04/-0.04 in.) between the roof panel and the front edge of the glass (C). If not, make the following adjustment:

NOTE: Do the moonroof motor calibration procedure (see **RESETTING THE MOONROOF CONTROL UNIT**). If glass position is still incorrect go to step 1.

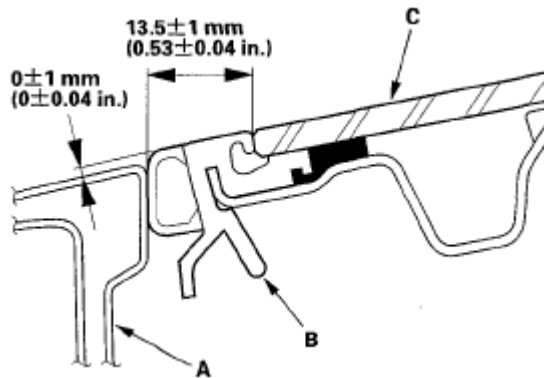


Fig. 2: Identifying Glass Positioning

Courtesy of AMERICAN HONDA MOTOR CO., INC.

1. Remove the bracket cover.
2. Using a TORX T25 bit, loosen the bolts on each side, and adjust the glass (A).

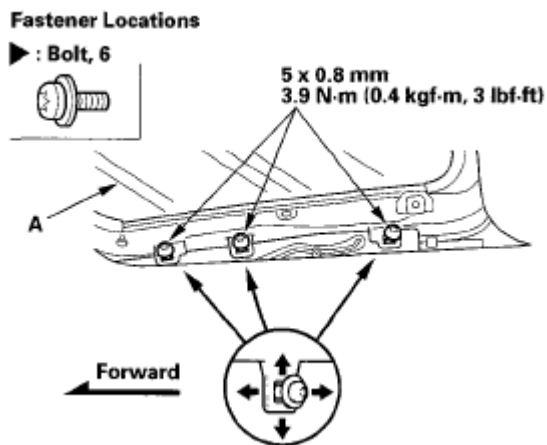


Fig. 3: Identifying Bracket Cover Bolts With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. If necessary, repeat on the opposite side.

NOTE: After glass position is mechanically adjusted. Do the moonroof calibration (see RESETTING THE MOONROOF CONTROL UNIT).

GLASS REPLACEMENT

1. Close the glass fully.
2. Slide the sunshade all the way back.
3. Pry out the lid (A), remove the screws (B), and release the pins (C), then remove both bracket covers (D). Using a TORX T25 bit, remove the bolts (E) from both glass brackets (F).

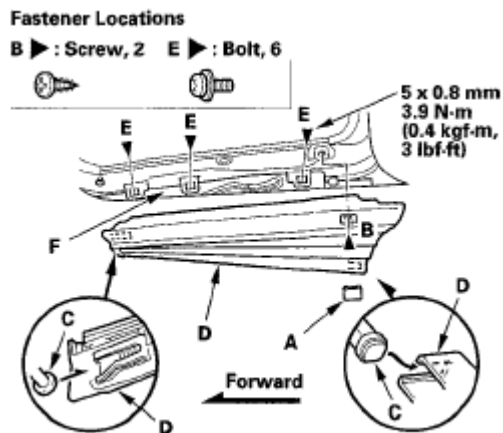


Fig. 4: Identifying Bracket Covers, Lid, Pins And Screws With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the glass (A) by lifting it up. Do not damage the roof panel.

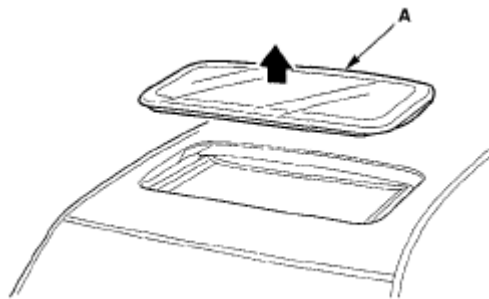


Fig. 5: Removing Glass
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the glass in the reverse order of removal, and note these items:
 - Apply liquid thread lock to the glass mounting bolts before reinstallation.
 - Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).
 - Adjust the glass position alignment.
6. Check for water leaks. Use free-flowing water from a hose without a nozzle. Do not use high-pressure water.

NOTE: It is normal for some water to seep past the moonroof into the moonroof frame, and exit through the drains.

WIND DEFLECTOR REPLACEMENT

1. Open the glass fully.
2. Remove the links (A) from both sides.

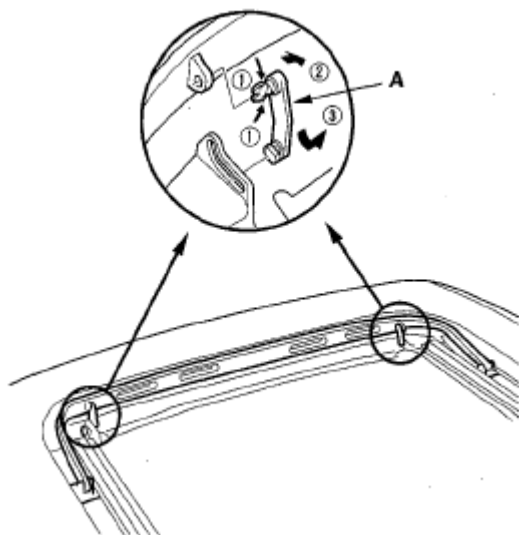


Fig. 6: Identifying Wind Deflector Links

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the wind deflector (A). A

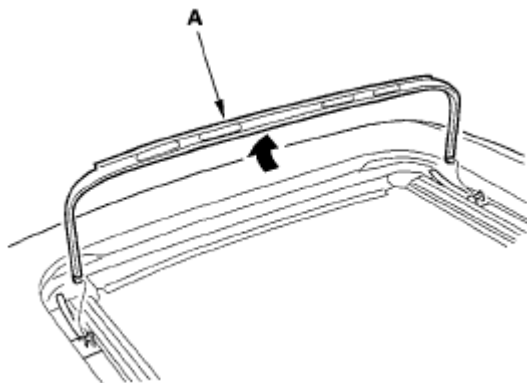


Fig. 7: Identifying Wind Deflector

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Pry up on the deflector bases (A) and release the hooks (B), then remove the bases with springs (C) from both sides.

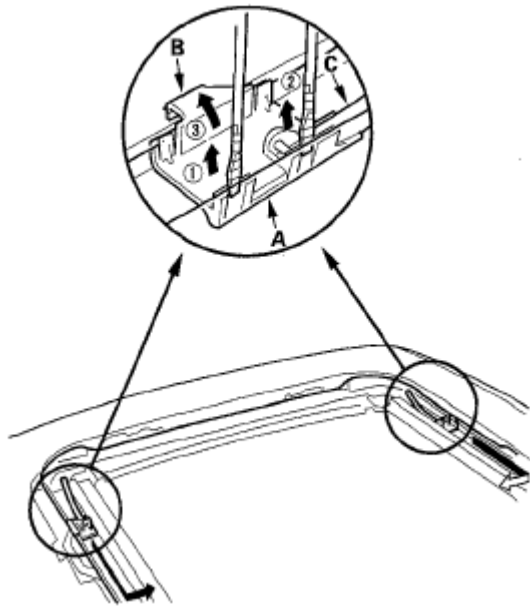


Fig. 8: Identifying Deflector Bases, Hooks And Springs
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the deflector in the reverse order of removal.
6. Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).

DRAIN CHANNEL REPLACEMENT

1. Remove the glass (see **GLASS REPLACEMENT**).
2. With the moonroof wrench, move both glass brackets (A) to the position where the moonroof normally tilts up and disconnect the drain channel rods (B) from the joint bushings (C) on both sides.

NOTE: Check the bushing for damage, and replace if necessary.

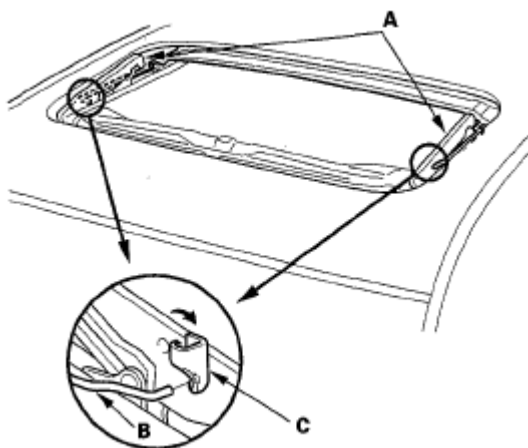


Fig. 9: Identifying Glass Brackets And Drain Channel Rods
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Slide the drain channel (A) forward.

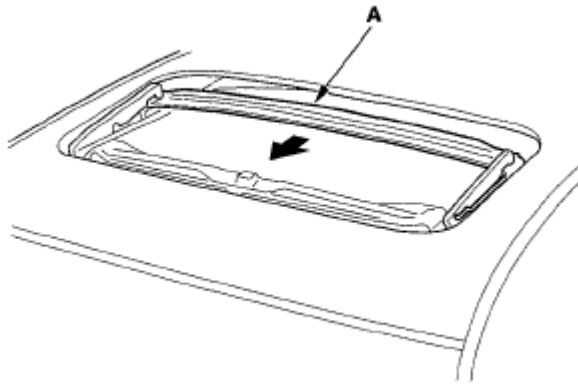


Fig. 10: Sliding Drain Channel Forward

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Pull the rear edge of the drain channel (A) up while pushing both clips (B), and release the channel from both hooks (C) of the drain channel slider by pulling it rearward.

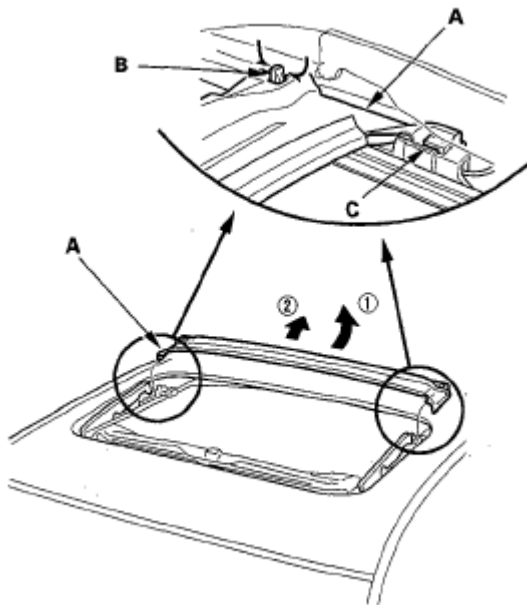


Fig. 11: Removing Drain Channel

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the drain channel.
6. Install the channel in the reverse order of removal, and note these items:
 - Push the clips into place securely.
 - Check the glass position adjustment (see **GLASS POSITION ADJUSTMENT**).
7. Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).
8. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

SUNSHADE REPLACEMENT

1. Remove the drain channel (see **DRAIN CHANNEL REPLACEMENT**).
2. Slide the sunshade (A) until you can see both sunshade slider spacers (B).

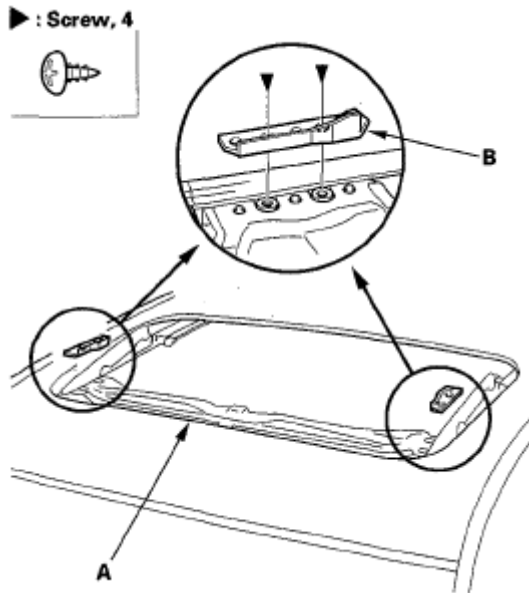


Fig. 12: Identifying Sunshade And Sunshade Slider Spacers
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Remove the screws, then remove both spacers.
4. While lifting the front portion of the sunshade (A), move the sunshade forward until you can see both sunshade rear hooks (B). Do not damage the sunshade and hooks.

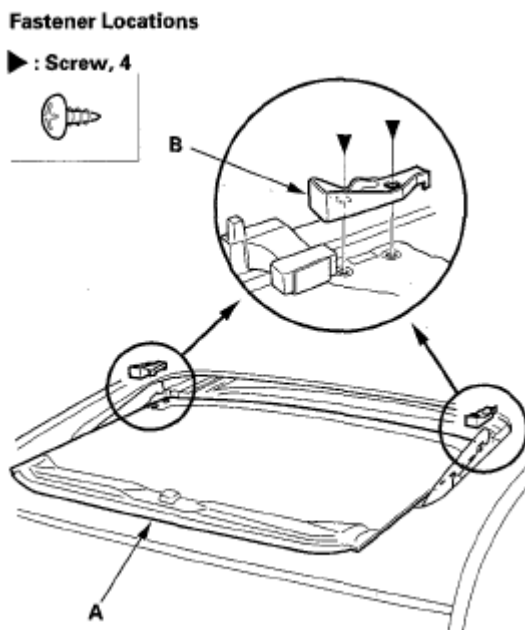


Fig. 13: Identifying Sunshade And Sunshade Rear Hooks
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Remove the screws, then remove both hooks.

6. Remove the sunshade (A).

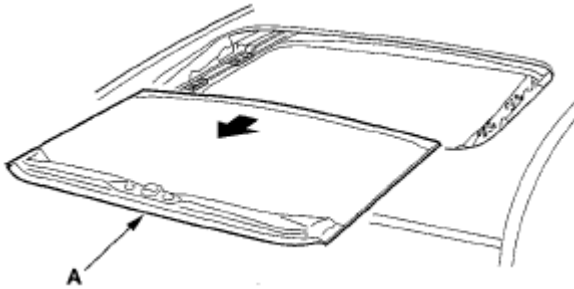


Fig. 14: Identifying Sunshade

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove both front sunshade base sliders (A) and both rear sunshade base sliders (B).

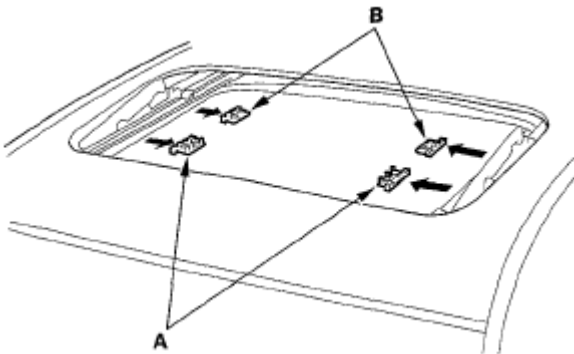


Fig. 15: Identifying Front Sunshade Base Sliders And Both Rear Sunshade Base Sliders

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the sunshade in the reverse order of removal, and check the glass position adjustment (see **GLASS POSITION ADJUSTMENT**).
9. Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).
10. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

MOTOR REPLACEMENT

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION**).
2. Put on gloves to protect your hands. Disconnect the connector (A), and remove the bolts, then remove the motor (B).

Fastener Locations

► : Bolt, 2

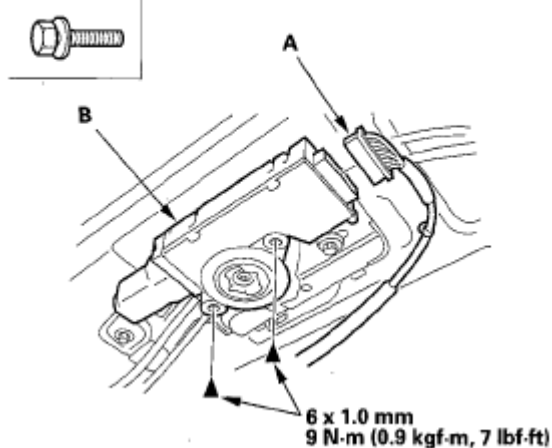


Fig. 16: Identifying Connector, Motor And Bolts With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the motor in the reverse order of removal, and note these items:
 - Make sure the connector is plugged in properly.
 - Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).
 - Check the motor operation.

FRAME AND DRAIN TUBE REPLACEMENT

SRS components are located in this area. Review the SRS component locations (see **COMPONENT LOCATION INDEX**) and the precautions and procedures (see **PRECAUTIONS AND PROCEDURES**) before doing repairs or service.

1. Remove these items:
 - Headliner (see **HEADLINER REMOVAL/INSTALLATION**)
 - Moonroof glass (see **GLASS REPLACEMENT**)
2. Put on gloves to protect your hands. Disconnect the motor connector (A).

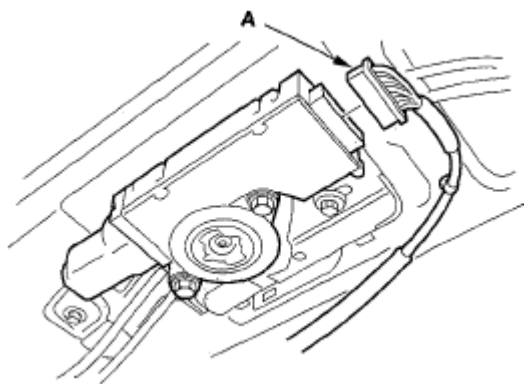


Fig. 17: Identifying Motor Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Disconnect the drain tubes (A).

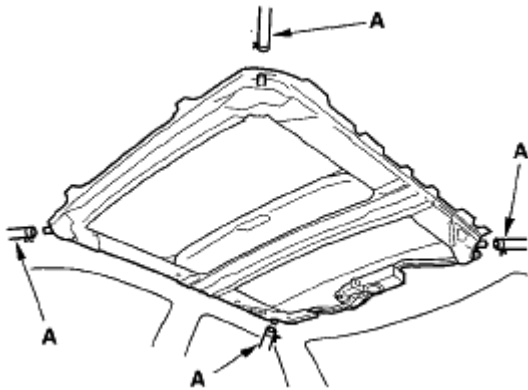


Fig. 18: Identifying Drain Tubes

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. With an assistant holding the frame (A), remove the bolts, starting at the rear, and release the rear hooks (B) by moving the frame forward.

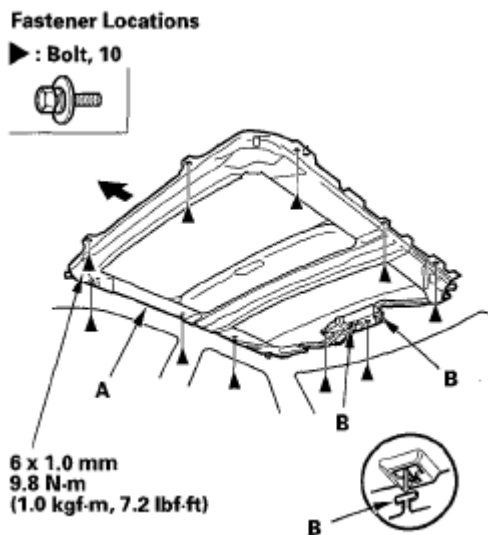


Fig. 19: Identifying Frame Fasteners With Torque Specifications

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Front Drain Tube

5. Remove these items:
 - Front door sill trim (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS**)
 - Kick panel (see **TRIM REMOVAL/INSTALLATION - DOOR AREAS**)
 - Driver's dashboard undercover (see **DRIVER'S DASHBOARD UNDERCOVER REMOVAL/INSTALLATION**)
6. Driver's side: Remove the bolt, and release the hook (A), then move the fuse box (B) as needed.

Fastener Location

► : Bolt, 1

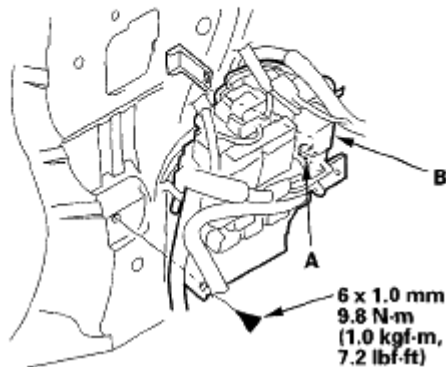


Fig. 20: Identifying Fuse Box With Torque Specifications
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. To remove a front drain valve (A) from the body, tie a string to the top end of the drain tube, then pull the front drain tube (B) down out of the A-pillar. Leave the string in the pillar to use when reinstalling the drain tube.

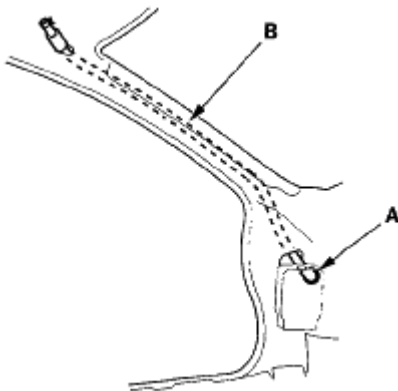
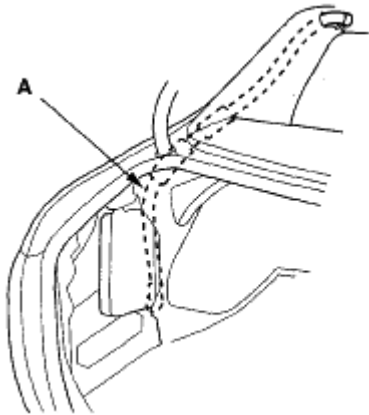


Fig. 21: Identifying Front Drain Tube And Valve
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

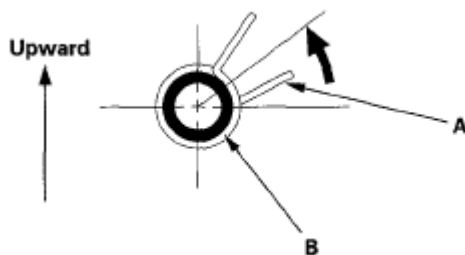
Rear Drain Tube

8. Remove these items:
 - Spare tire lid (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA**)
 - Trunk front trim panel (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA**)
 - Trunk rear trim panel (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA**)
 - Trunk side trim panel (see **TRIM REMOVAL/INSTALLATION - TRUNK AREA**)
9. Tie a string to the top end of the rear drain tube (A), then pull the drain tube down out of the pillar. Leave the string in the pillar to use when reinstalling the drain tube.

**Fig. 22: Identifying Rear Drain Tube**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the frame and drain tube in the reverse order of removal, and note these items:
 - Before installing the frame, clear the drain tubes and drain valves using compressed air.
 - When, installing, tie the string that was left in the pillar to the top end of the new drain tube and pull it up into the roof.
 - Check the frame seal.
 - Clean the surface of the frame.
 - When installing the frame, first attach the rear hooks into the body holes.
 - Make sure the connectors are plugged in properly.
 - When connecting the drain tube, slide it over the frame nozzle at least 10 mm (0.39 in.).
 - Install the tube clip (A) on the drain tube (B) as shown.

**Fig. 23: Installing Tube Clip Onto Drain Tube**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

- After all parts are installed, including the headliner, do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).
 - Adjust the glass position alignment (see **GLASS POSITION ADJUSTMENT**).
11. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT

1. Remove the frame (see **FRAME AND DRAIN TUBE REPLACEMENT**).
2. Remove these parts from the frame:

- Sunshade (see **SUNSHADE REPLACEMENT**)
 - Moonroof motor (see **MOTOR REPLACEMENT**)
3. Put on gloves to protect your hands. Remove the screws (A, B) securing the slide stops (C), and cable tube rear brackets (D), cable tube side bracket mounting bolts (E) and the cable tube mounting screws (F) from both sides of the frame (G).

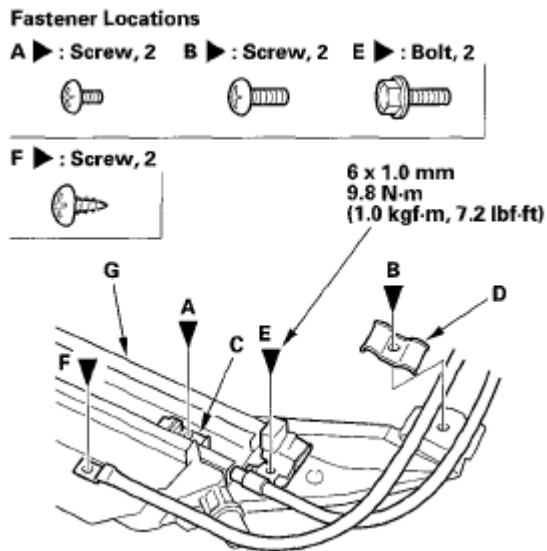


Fig. 24: Identifying Drain Channel Slider And Cable Assembly With Torque Specifications
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Turn both cable tube side brackets (A) up to release the hooks (B) from the holes in both sides of the frame.

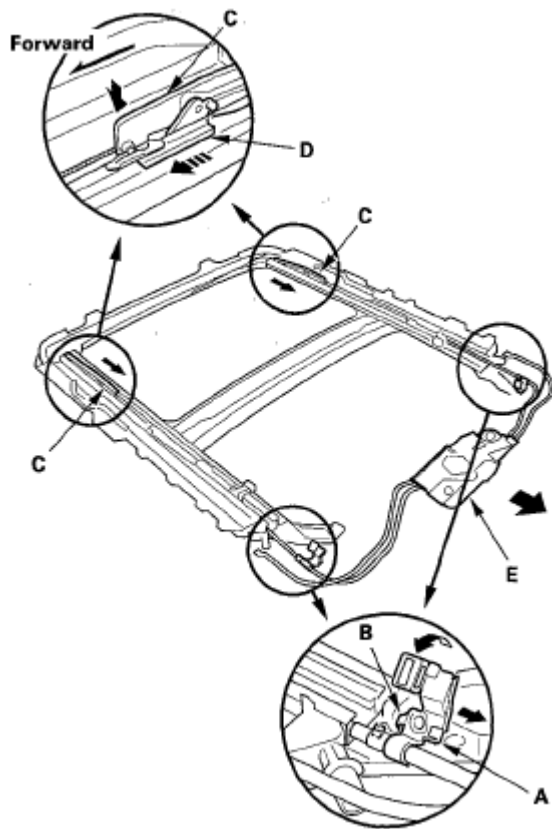


Fig. 25: Identifying Tube Side Brackets And Hooks
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Pivot the glass brackets (C) down by sliding the link lifters (D) back, then slide both glass brackets back with the link lifters.
6. Slide the cable assembly (E) half-way.
7. Remove the slide stops (A) and the drain channel sliders (B) from both sides.

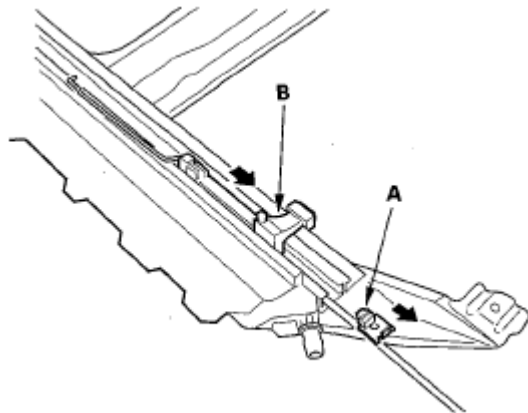


Fig. 26: Identifying Slide Stops And Drain Channel Sliders
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Slide the cable assembly (A) and both glass brackets (B) back, remove the deflector sliders (C) from both glass brackets, then remove them from the frame (D).

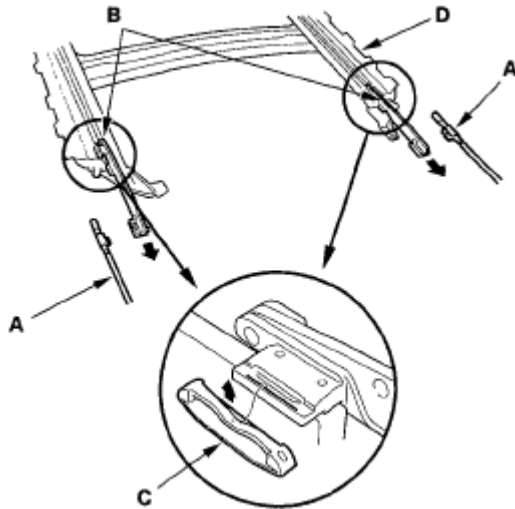


Fig. 27: Identifying Cable Assembly And Glass Brackets
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Install the slider and cable assembly in the reverse order of removal, and note these items:
 - Damaged parts should be replaced.
 - Apply molybdenum grease to the glass bracket (A) and guide rail portion of the frame (B) indicated by the arrows.

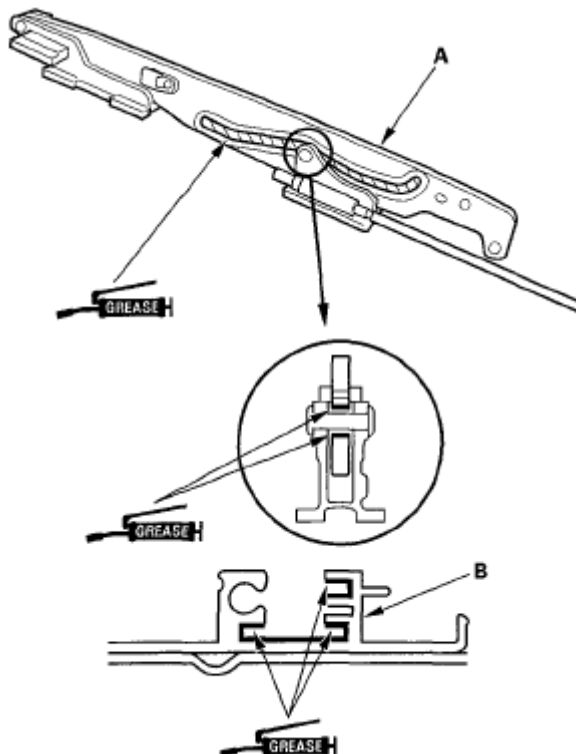


Fig. 28: Identifying Glass Bracket And Frame
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

- Before reinstalling the motor, make sure both link lifters are parallel, and in the fully closed position.

- Before reinstalling the motor, slide both drain channel sliders (C) rearward fully until the slider portions of the inner cable contact the slide stops (D) on the guide rail to slide both drain channel sliders.

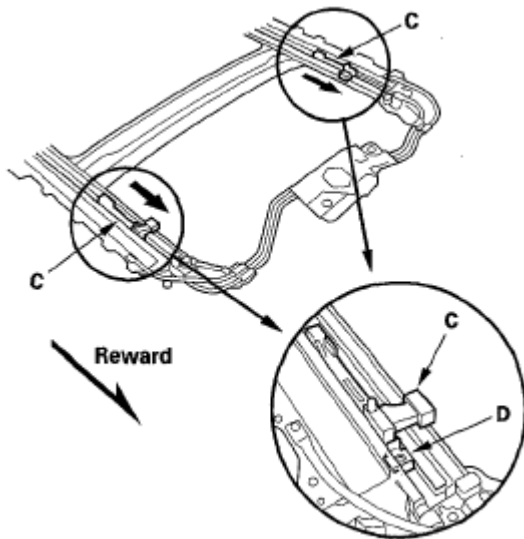


Fig. 29: Identifying Drain Channel Sliders And Slide Stops
Courtesy of AMERICAN HONDA MOTOR CO., INC.

- Before reinstalling the motor, install the frame and glass, then check the opening drag (see **CLOSING FORCE AND OPENING DRAG CHECK**).
- After reinstalling the motor, do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**).

CLOSING FORCE AND OPENING DRAG CHECK

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION**).
2. Closing force check:
 - With a shop towel (A) on the leading edge of the glass (B), attach a spring scale (C) as shown.
 - Have an assistant hold the switch to close the glass while you measure the force required to stop it.
 - Read the force as soon as the glass stops moving, then immediately release the switch and spring scale.

Closing force: 200-290 N (20-30 kgf, 44-66 lbf)

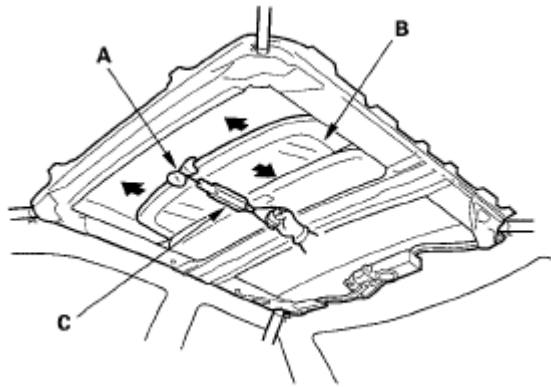


Fig. 30: Checking Moonroof Closing Force
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. If the force is not within specification, remove the moonroof motor (see **MOTOR REPLACEMENT**), then check:
 - The gear teeth and the inner cable for breakage and damage. If the gear teeth are broken, replace the motor. If the inner cable is damaged, remove the frame (see **FRAME AND DRAIN TUBE REPLACEMENT**), and replace the cable (see **DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT**).
 - The moonroof motor (see **MOONROOF CONTROL UNIT INPUT TEST**). If the motor fails to run or doesn't turn smoothly, replace it.
 - The opening drag. Go to step 4.
4. Opening drag check: Protect the leading edge of the glass with a shop towel (A). Measure the effort required to open the glass using a spring scale (B) as shown.

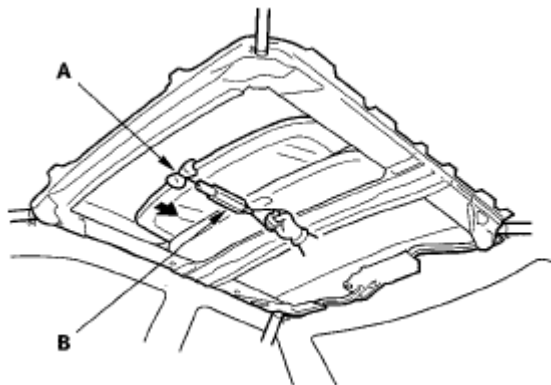


Fig. 31: Checking Moonroof Opening Drag
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. If the load is over 40 N (4 kgf, 9 lbf), check:
 - The side clearance and glass position adjustment (see **GLASS POSITION ADJUSTMENT**).
 - For broken or damaged sliding parts. If any sliding parts are damaged, replace them.
6. Do the moonroof calibration (see **RESETTING THE MOONROOF CONTROL UNIT**) after reinstalling the moonroof motor.