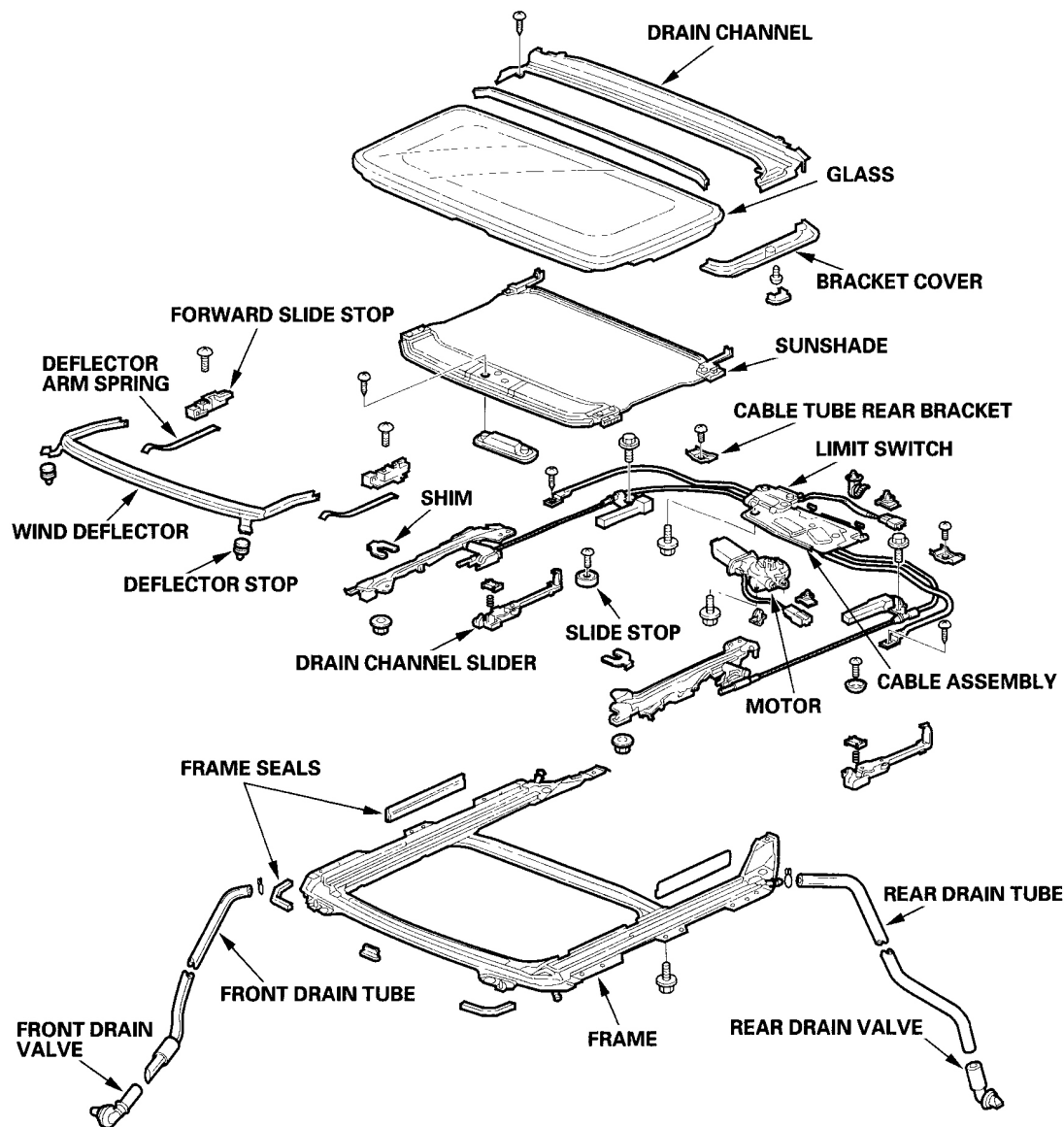


2003-06 ACCESSORIES & EQUIPMENT

Moonroof - MDX

COMPONENT LOCATION INDEX



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

SYMPTOM TROUBLESHOOTING INDEX

2006 Acura MDX

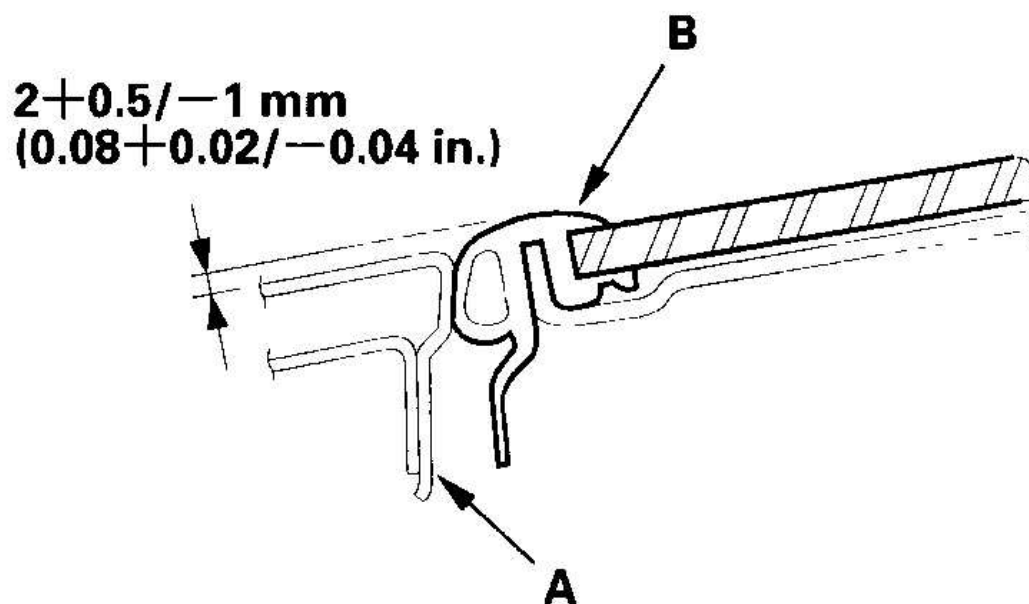
2003-06 ACCESSORIES & EQUIPMENT Moonroof - MDX

SYMPTOM TROUBLESHOOTING INDEX

Symptom	Diagnostic procedure
Water leaks from moonroof	<ol style="list-style-type: none">1. Check for a clogged drain tube.2. Check for a gap between the glass weatherstrip and the roof panel.3. Check for a defective or an improperly installed glass weatherstrip.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.
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.
Glass does not move and motor does not turn (glass can be moved with moonroof wrench)	<ol style="list-style-type: none">1. Check for a blown fuse.2. Check for a faulty moonroof switch.3. Check the limit switch.4. Check for a run down battery.5. Check for a defective motor.6. Check for a faulty relay.

GLASS HEIGHT ADJUSTMENT

The roof panel (A) should be even with the glass weatherstrip (B), to within $2+0.5/-1$ mm ($0.08+0.02/-0.04$ in.) all the way around. If not, make the following adjustment:



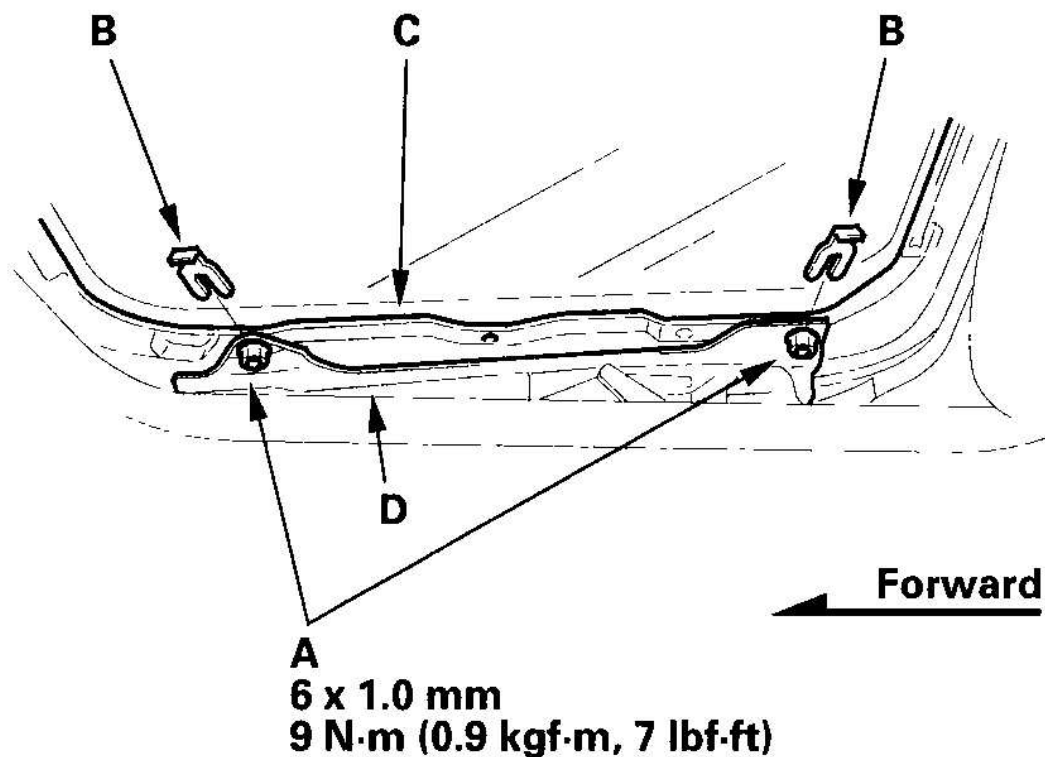
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Fig. 2: Adjusting Glass Height

Courtesy of AMERICAN HONDA MOTOR CO., INC.

1. Tilt the glass all the way up, and remove the bracket cover.
2. Loosen the nuts (A), then install or remove shims (B) between the glass frame (C) and glass bracket (D) on each side as needed.

Shim thickness: Front and rear max. 2 mm (0.08 in.)



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Fig. 3: Installing Or Removing Shims Between Glass Frame And Glass Bracket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Repeat on opposite side if necessary.

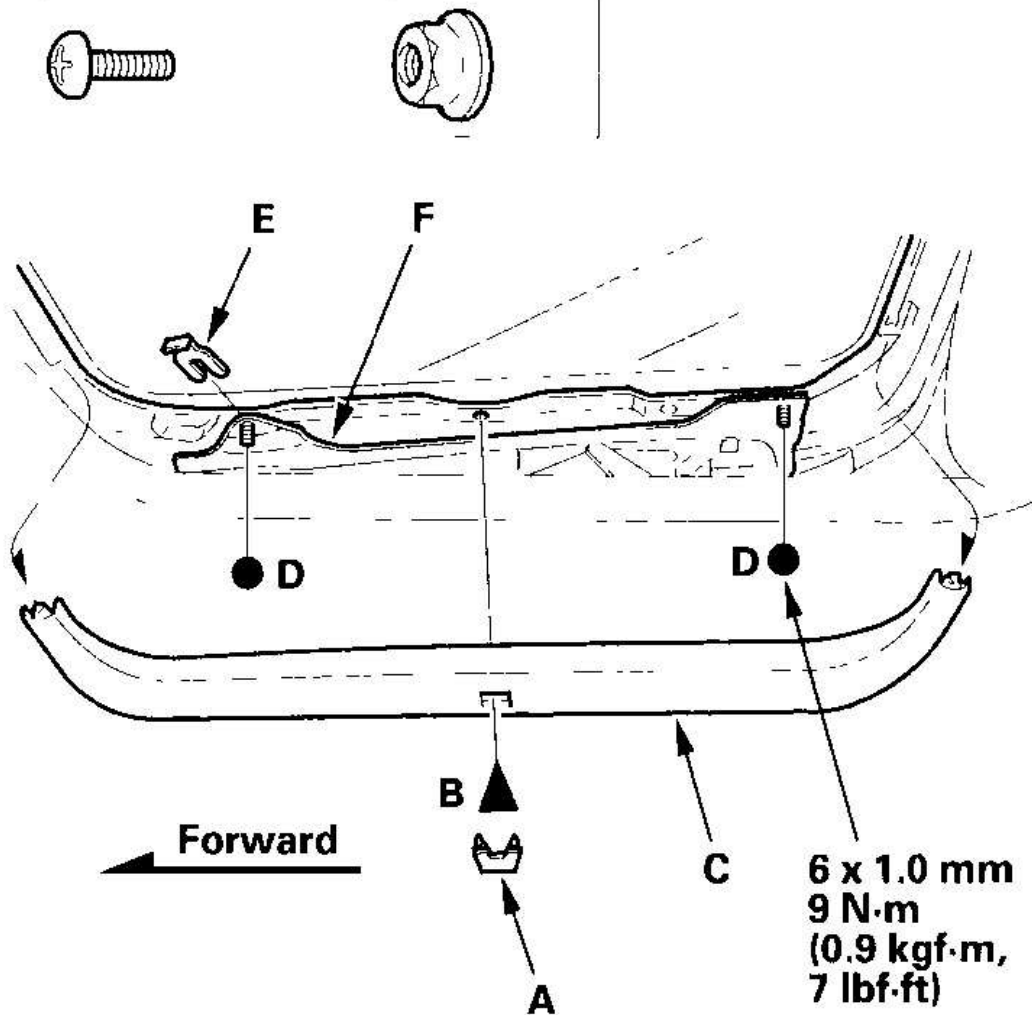
GLASS REPLACEMENT

Special Tools Required

KTC trim tool set SOJATP2014

NOTE: Use the appropriate tool from the KTC trim tool set to avoid damage when prying components.

1. Tilt the glass all the way up.
2. Slide the sunshade all the way back.
3. Remove the caps (A) and screws (B), then remove both bracket covers (C). Remove the nuts (D) and shims (E) from both glass brackets (F).

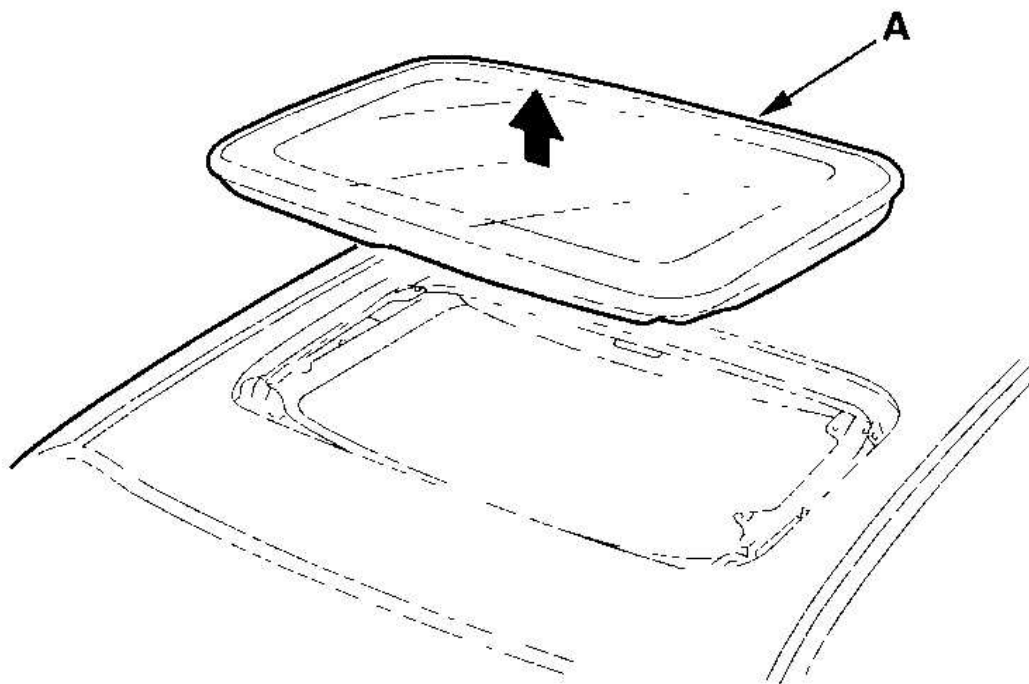
Fastener Locations**B ▶ : Screw, 2 D ● : Nut, 4**

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Fig. 4: Removing Both Bracket Covers

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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



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Fig. 5: Removing Moonroof Glass

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the glass in the reverse order of removal, and adjust the glass height.
6. Check for water leaks. Use free-flowing water flow from a hose without a nozzle. Do not use high-pressure water.

WIND DEFLECTOR REPLACEMENT

1. Remove the screws, then remove the wind deflector (A) and the deflector arm spring (B) in the sequence shown in **Fig. 6** . Take care not to scratch the roof panel.

Fastener Locations

► : Screw, 2

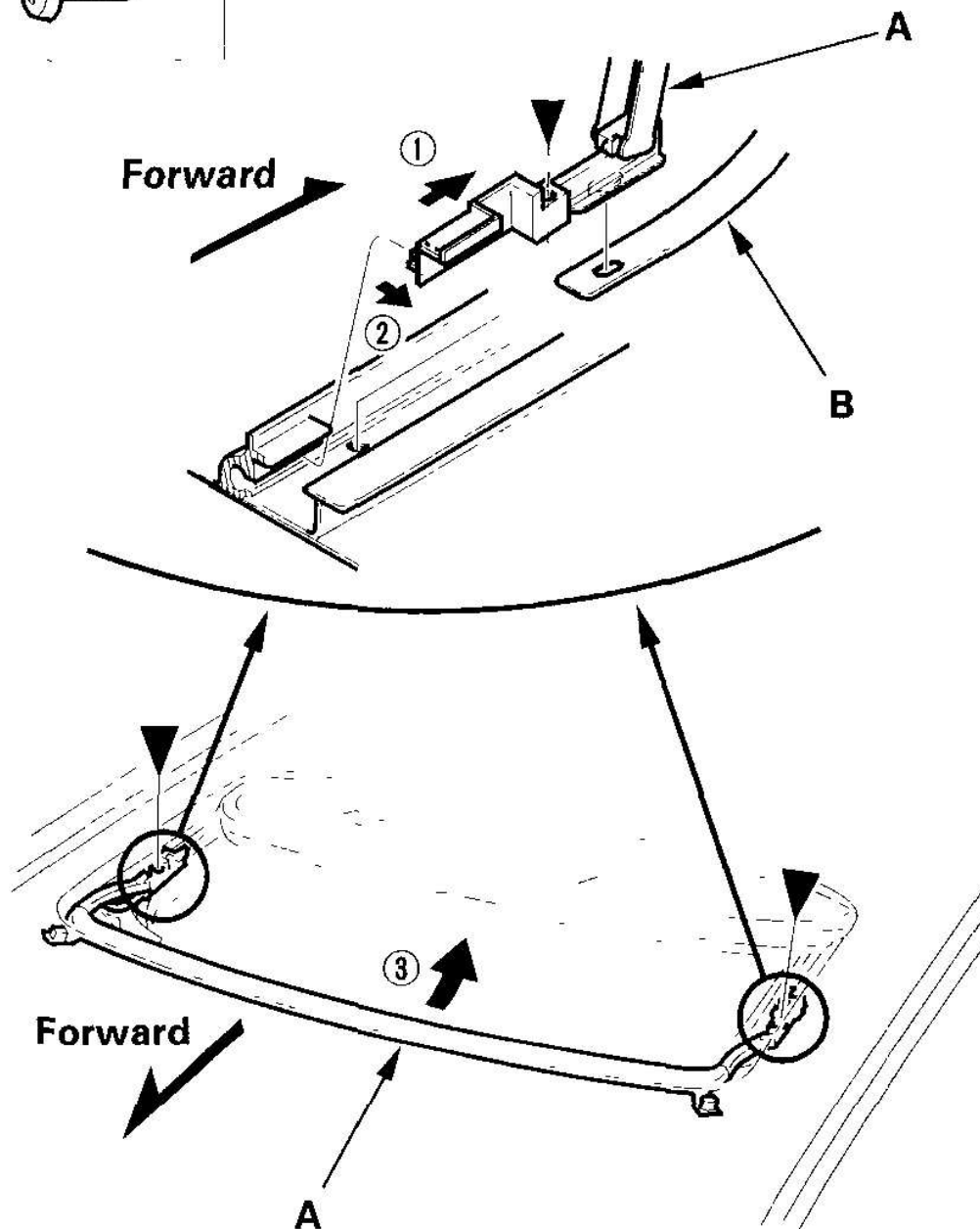
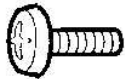


Fig. 6: Removing Wind Deflector And Deflector Arm Spring In Sequence
Courtesy of AMERICAN HONDA MOTOR CO., INC.

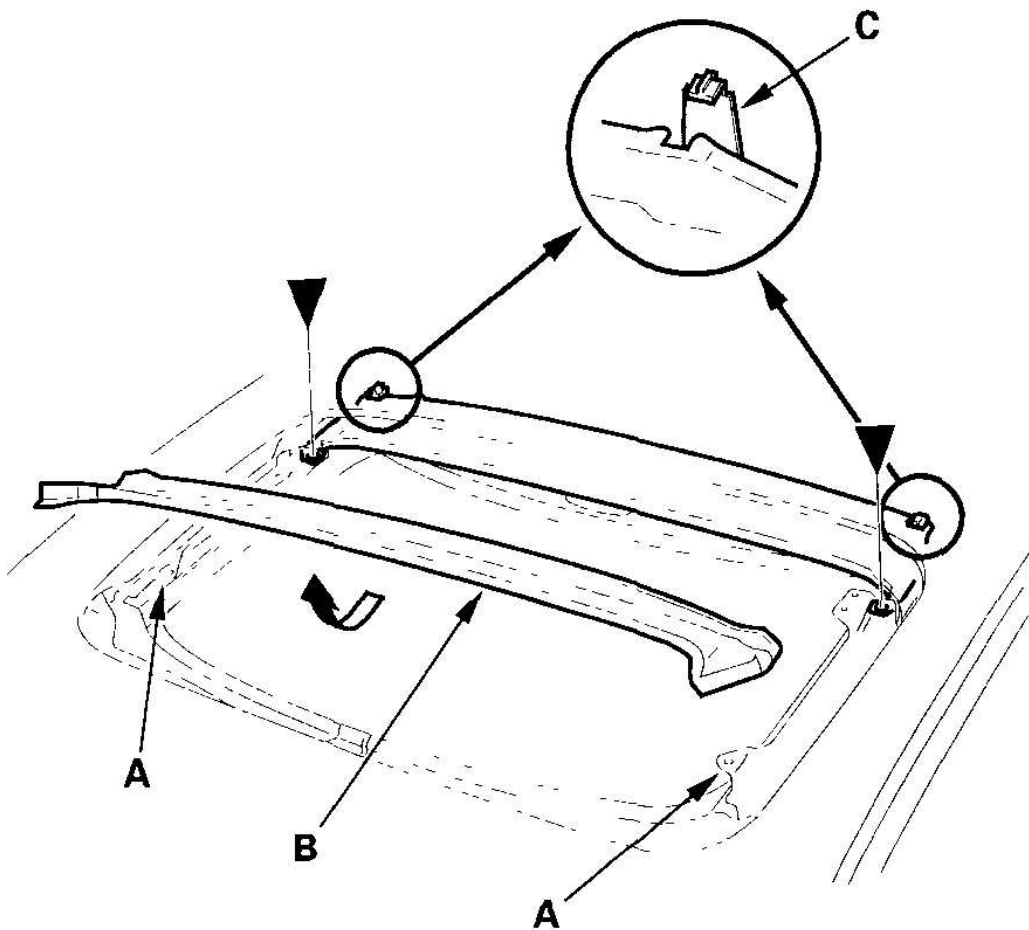
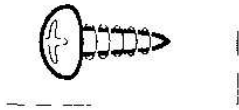
2. Install the deflector in the reverse order of removal.

DRAIN CHANNEL REPLACEMENT

1. Remove the moonroof glass (see **GLASS REPLACEMENT**).
2. With the moonroof wrench, move both glass brackets (A) to the position where the moonroof normally pivots down, and remove the screws securing the drain channel (B).

Fastener Locations

► : Screw, 2



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Fig. 7: Moving Glass Brackets To Position Where Moonroof Normally Pivots Down
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Release the drain channel from both hooks (C) of the drain channel slider by pulling the drain channel forward.
4. Remove the drain channel.

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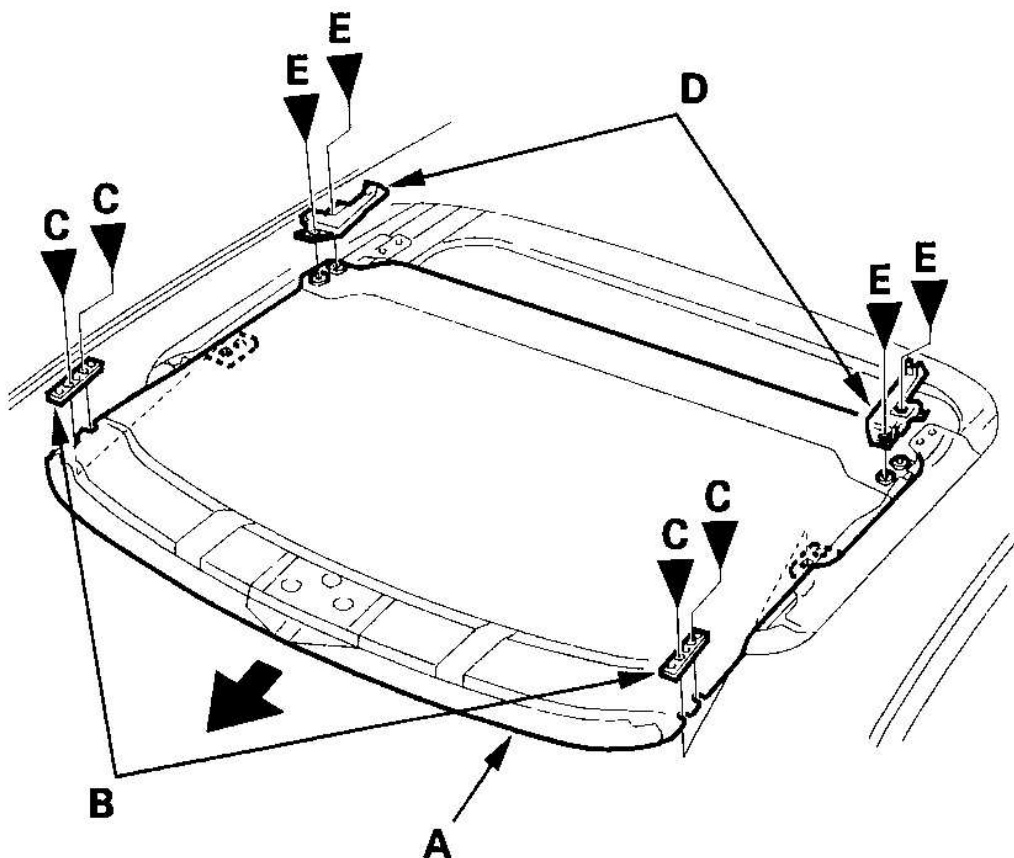
5. Install the drain channel in the reverse order of removal, and note these items:
 - Push the drain channel onto the hooks until a faint click is heard.
 - Check the glass height adjustment.
6. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure 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).

Fastener Locations

C, E ► : Screw, 8



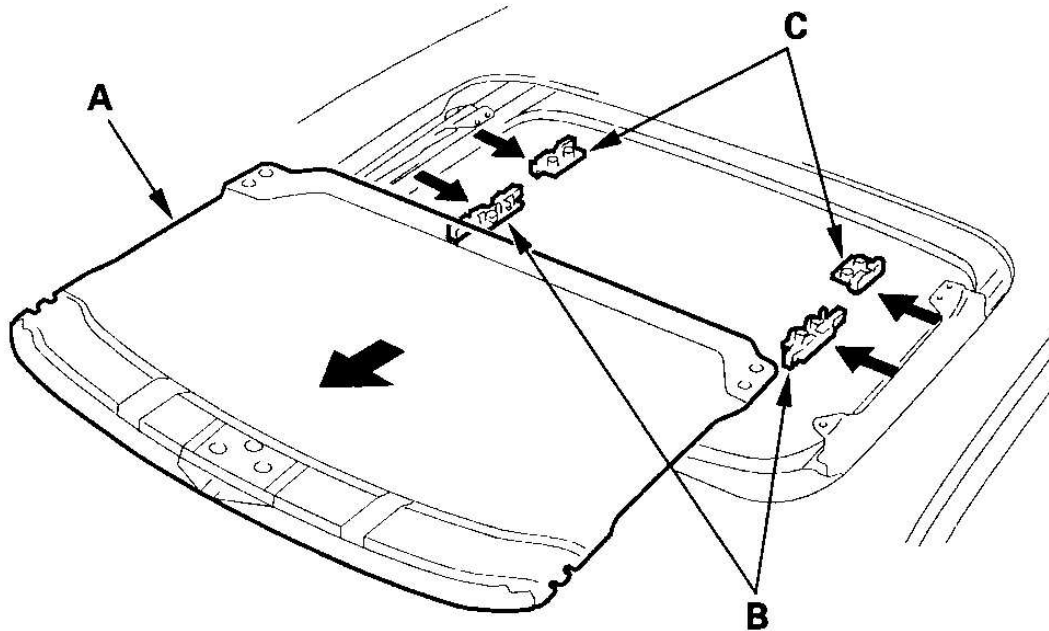
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Fig. 8: Identifying Sunshade Slider Spacers

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

6. Remove the sunshade (A).



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Fig. 9: Removing Sunshade

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove both front sunshade base sliders (B) and both rear sunshade base sliders (C).
8. Install the sunshade in the reverse order of removal, and check the glass height adjustment (see **GLASS HEIGHT ADJUSTMENT**).
9. Check for water leaks. Let the water flow 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 and detach the connector (A), and remove the bolts, then remove the motor (B).

Fastener Locations

► : Bolt, 2

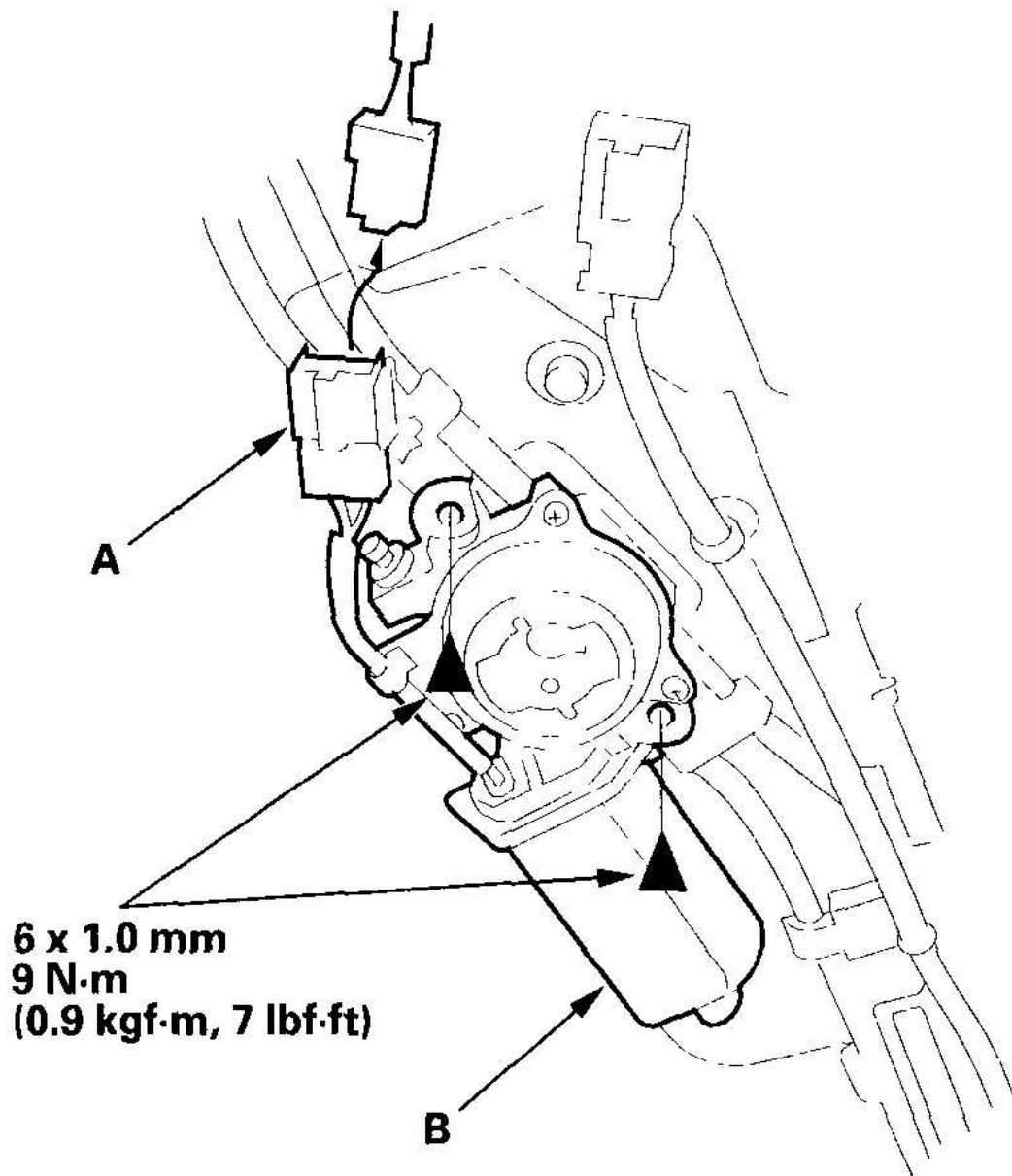
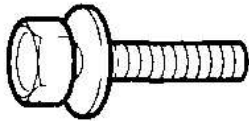


Fig. 10: Disconnecting And Detaching Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

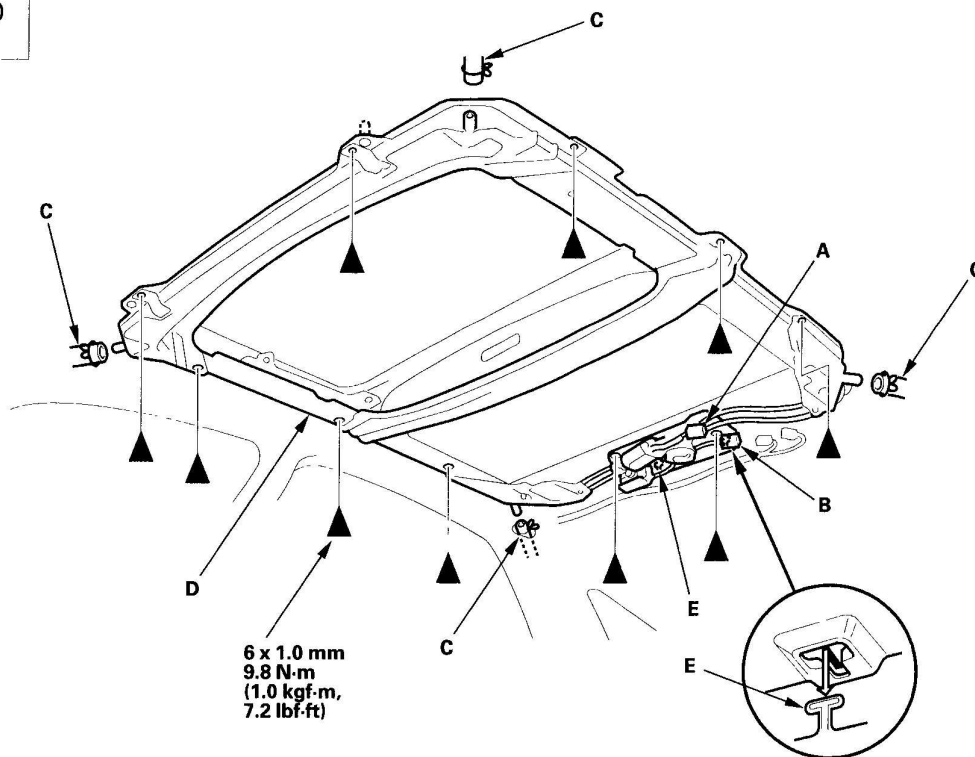
3. Install the motor in the reverse order of removal, and note these items:
 - Make sure the connector is plugged in properly.
 - Check the motor operation.

FRAME AND DRAIN TUBE REPLACEMENT

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), open/close-tilt/close switch connector (B), and the drain tubes (C).

Fastener Locations

► : Bolt, 10



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Fig. 11: Disconnecting Motor Connector
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

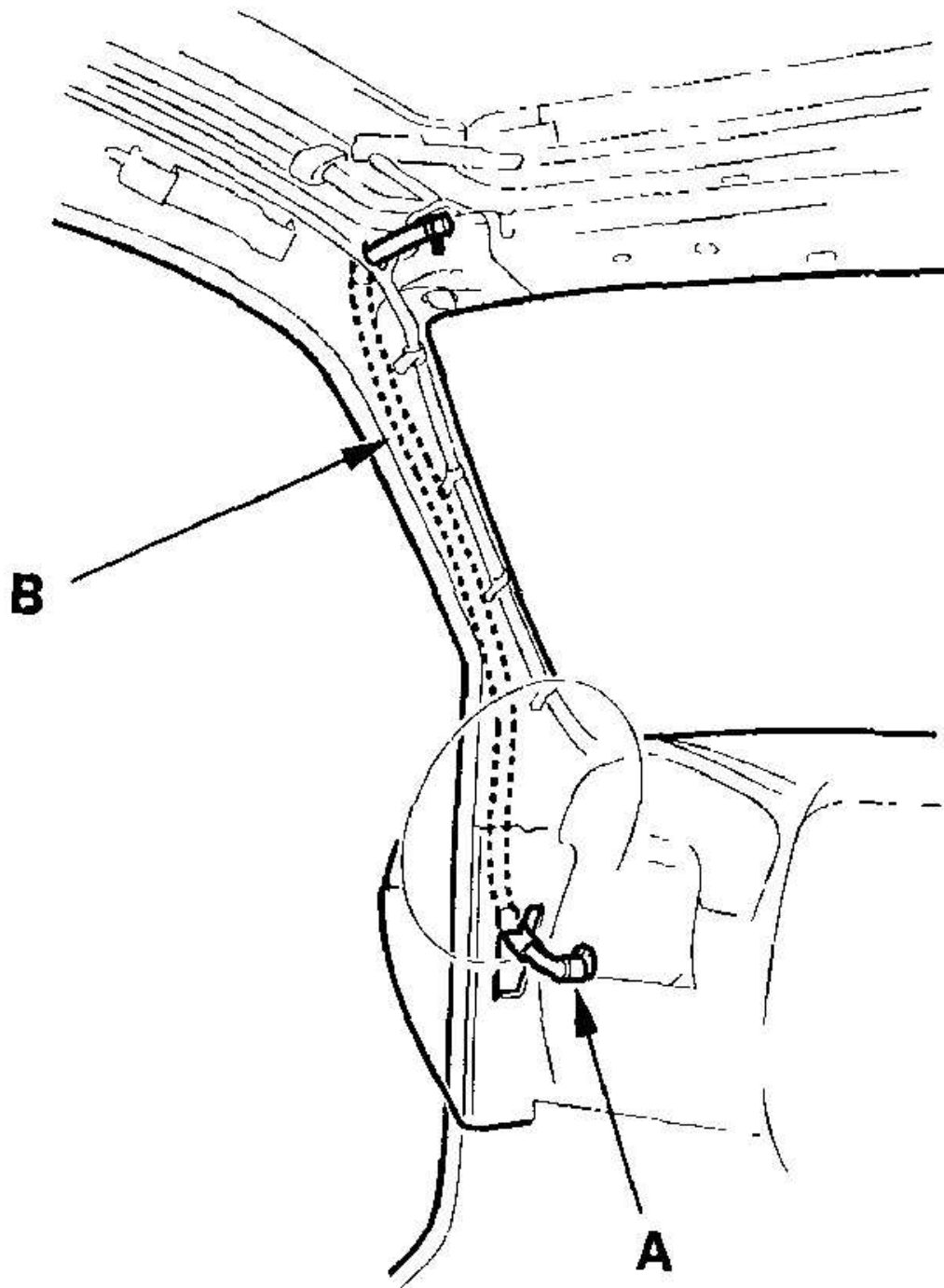
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3. With an assistant holding the frame (D), remove the bolts, and release the rear hooks (E) by moving the frame forward, then remove the frame. Remove the front bolts last.
4. With the help of an assistant, carefully remove the frame through the door opening. Take care not to scratch the interior trim and body, or tear the seat covers.
5. To remove a front drain valve (A) from the body remove the kick panel, left or right (see step 2 in **TRIM REMOVAL/INSTALLATION - DOOR AREAS**). Tie a string to the top of the front drain tube (B), then pull the drain tube down out of the front pillar leaving the string in the pillar.

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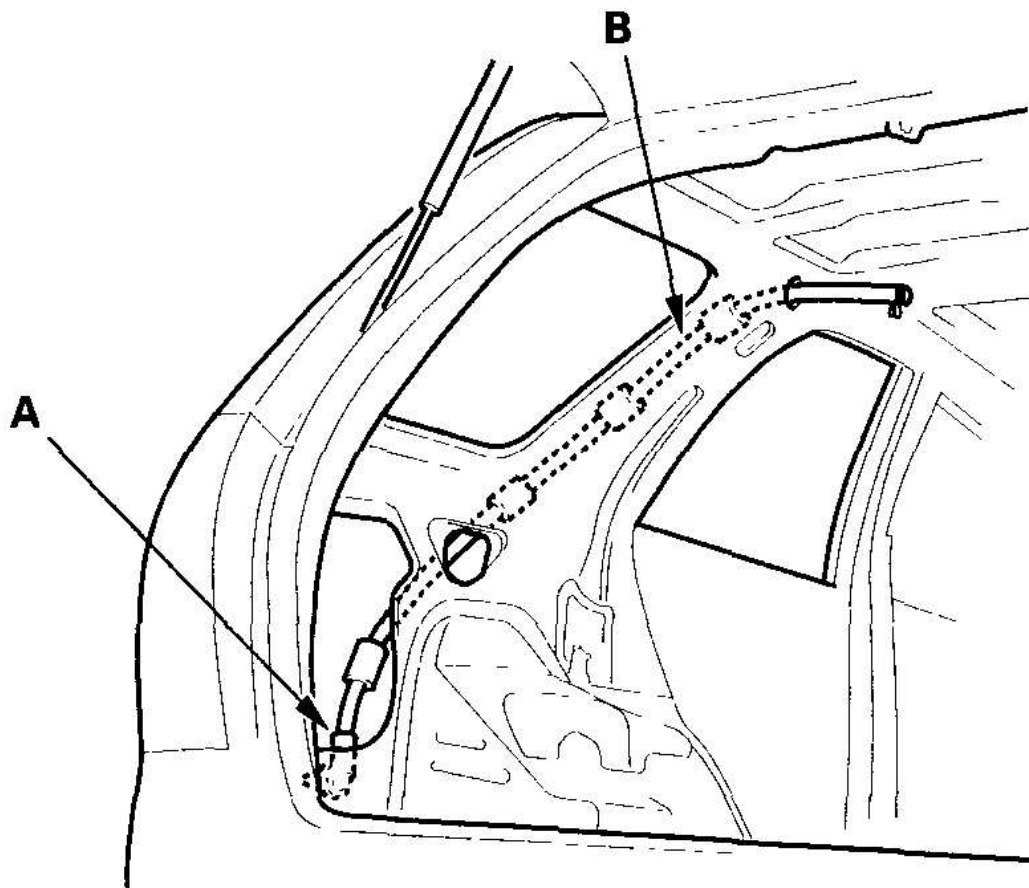


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Fig. 12: Tying String To Top Of Front Drain Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. To remove a rear drain valve (A) from the body, remove these parts:
- Rear side trim panel, left side (see **TRIM REMOVAL/INSTALLATION - REAR SIDE LOWER AREA**)
 - Rear speaker grille, right side (see **TRIM REMOVAL/INSTALLATION - REAR SIDE LOWER AREA**)

Tie a string to the top of the rear drain tube (B), then pull back the trunk side trim panel and pull the drain tube down out of the pillar leaving the string in the pillar.



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Fig. 13: Tying String To Top Of Rear Drain Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. 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.
 - 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.

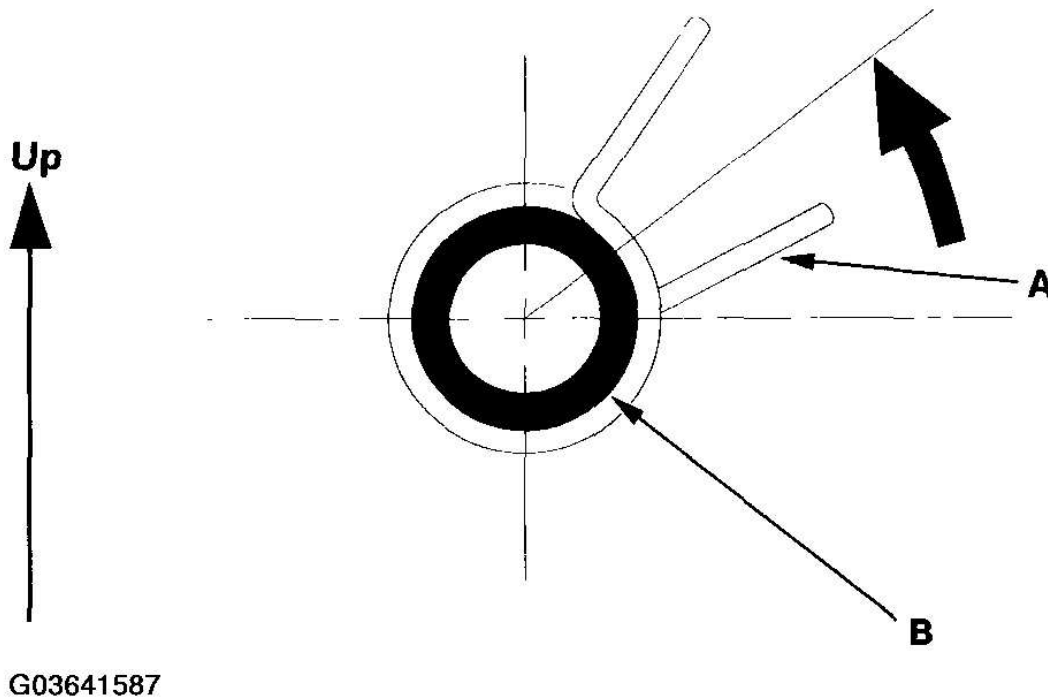


Fig. 14: Installing Frame And Drain Tube
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Check for water leaks. Let the water run freely from a hose without a nozzle. Do not use a high-pressure spray.

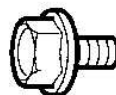
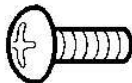
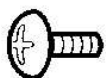
DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT

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

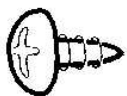
- Sunshade (see **SUNSHADE REPLACEMENT**)
 - Moonroof motor (see **MOTOR REPLACEMENT**)
3. Put on gloves to protect your hands. Remove the screws (A, B), then remove the slide stops (C) and cable tube rear brackets (D) from both sides of the frame (E). Remove the cable tube side bracket mounting bolts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

Fastener Locations

A ► : Screw, 2 B ► : Screw, 2 F ► : Bolt, 2



G ► : Screw, 2



**6 x 1.0 mm
9.8 N·m
(1.0 kgf·m, 7.2 lbf·ft)**

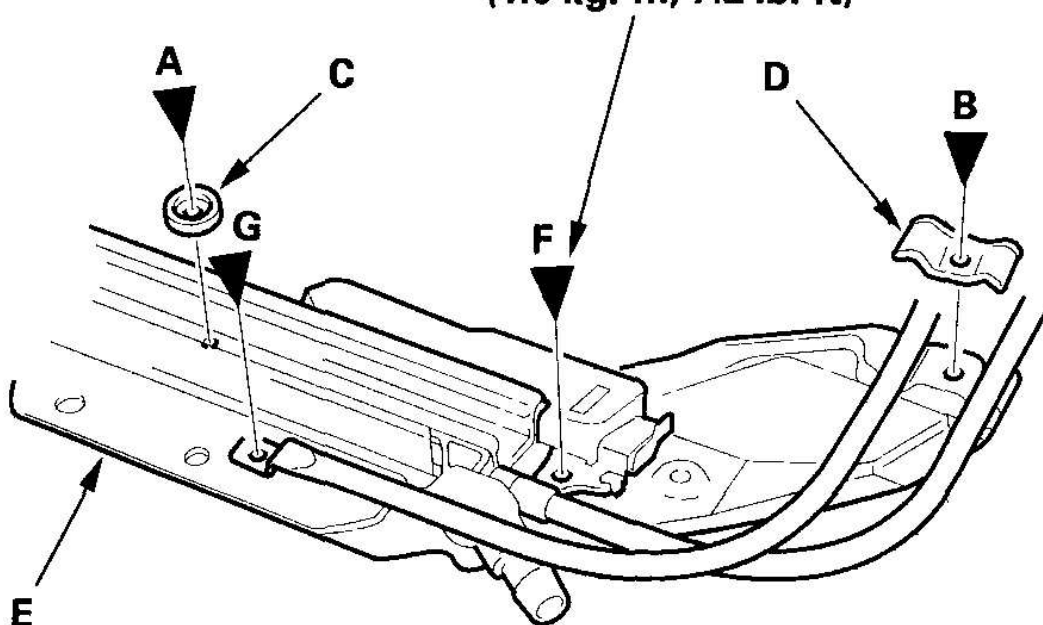
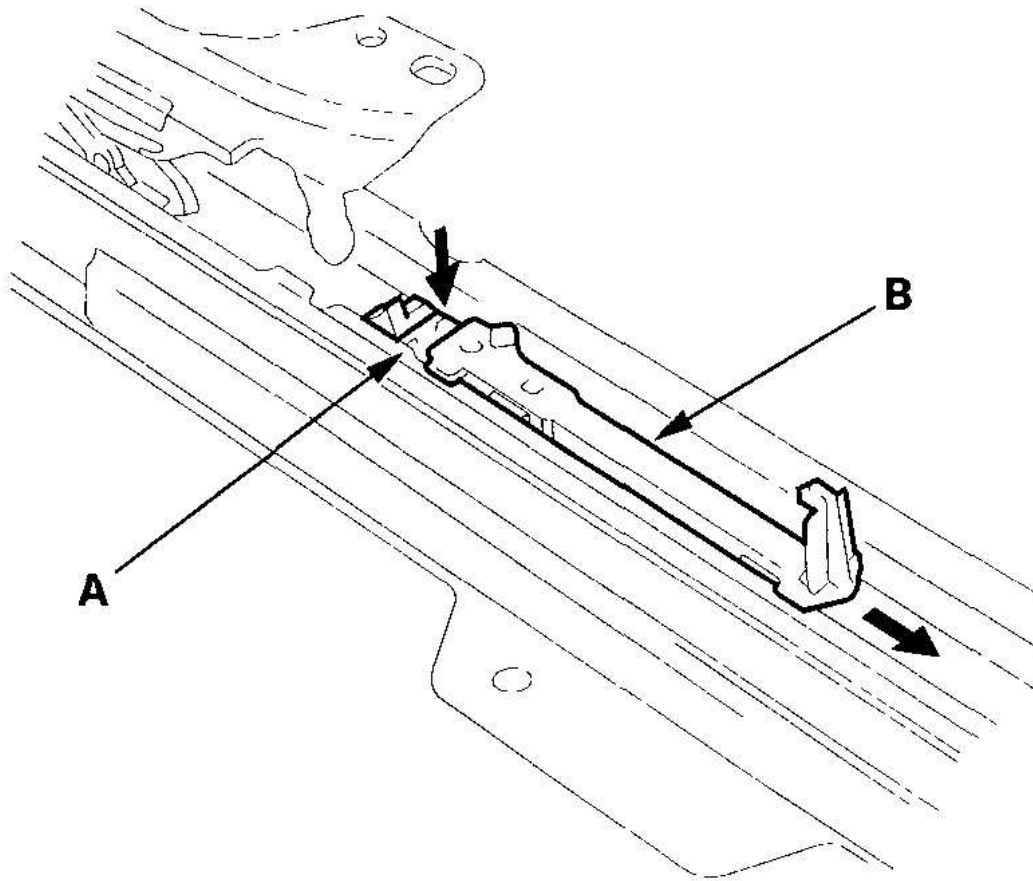


Fig. 15: Removing Slide Stops And Cable Tube Rear Brackets
Courtesy of AMERICAN HONDA MOTOR CO., INC.

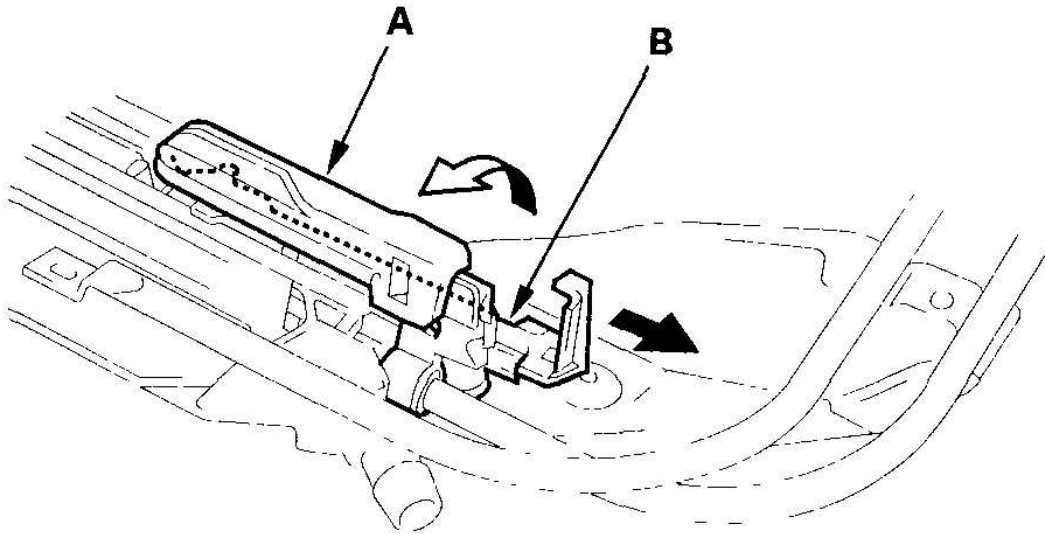
4. While pushing down on the hook (A), slide the drain channel sliders (B) back on both sides.



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Fig. 16: Sliding Drain Channel Sliders
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Turn both cable tube side brackets (A) up, and remove the drain channel sliders (B).

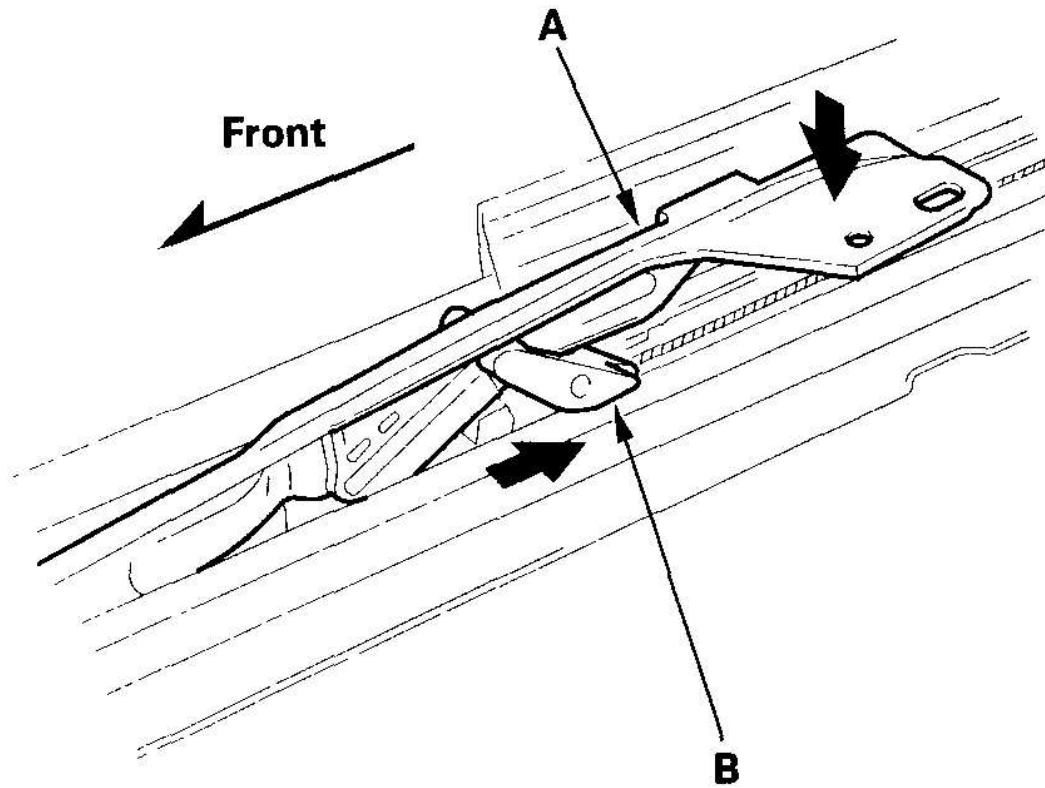


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Fig. 17: Removing Drain Channel Sliders

Courtesy of AMERICAN HONDA MOTOR CO., INC.

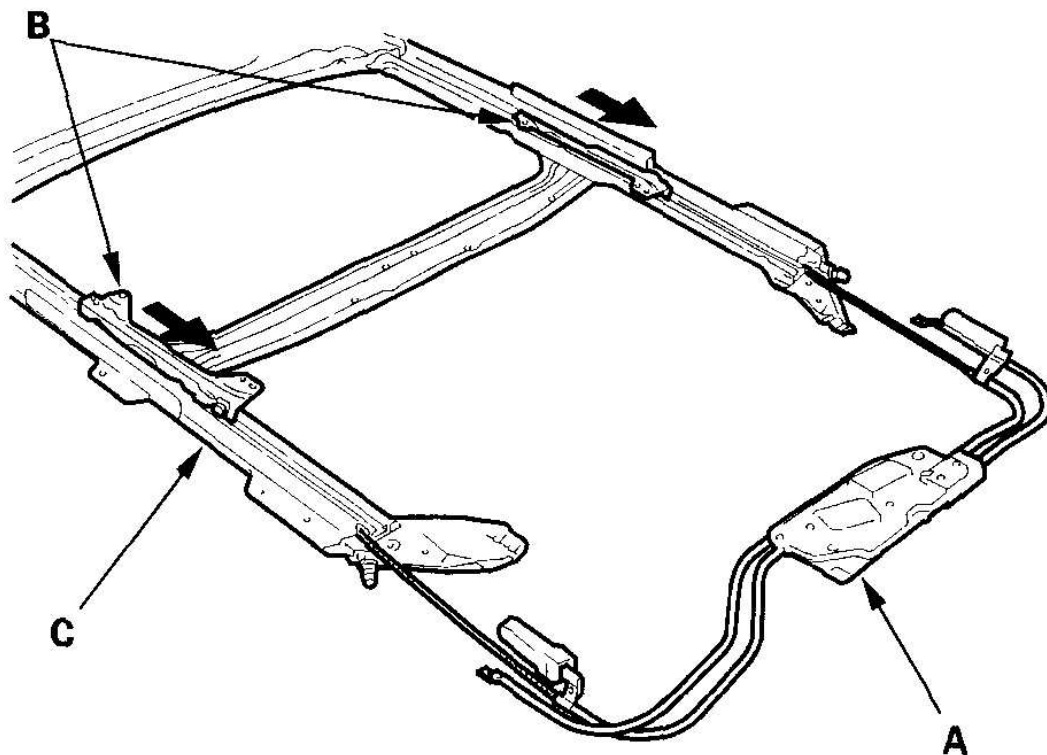
6. Pivot the glass bracket (A) down by sliding the link lifter (B) back, then slide both glass brackets back with the link lifter.



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Fig. 18: Pivoting Glass Bracket Down By Sliding Link Lifter Back
Courtesy of AMERICAN HONDA MOTOR CO., INC.

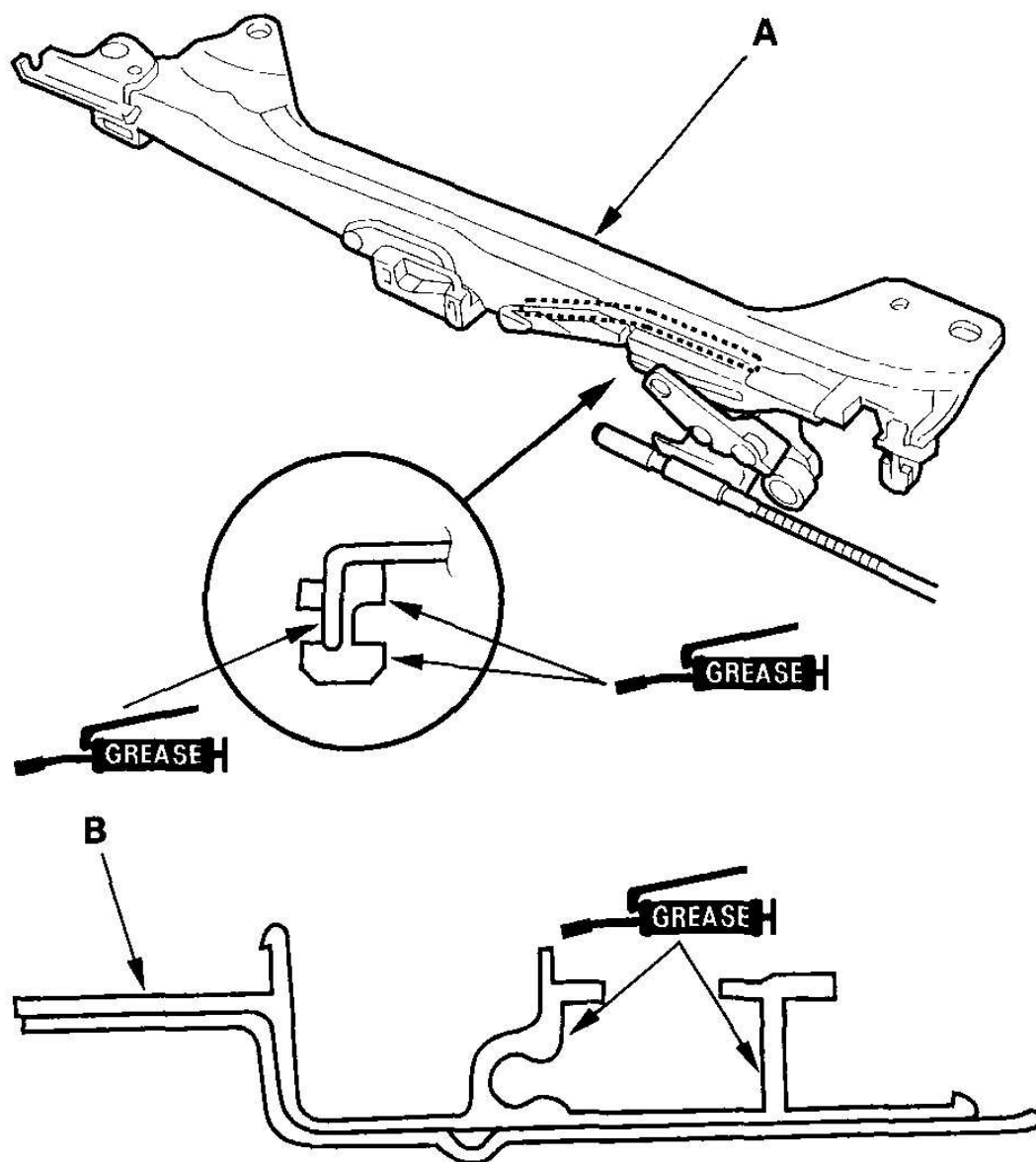
7. Slide the cable assembly (A) and both glass brackets (B) back, then remove them from the frame (C).



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Fig. 19: Sliding Cable Assembly And Both Glass Brackets Back
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Install the sliders and cables in the reverse order of removal, and note these items:
 - Damaged parts should be replaced.
 - Apply multipurpose grease to the glass bracket (A) and guide rail portion of the frame (B) indicated by the arrows.
 - Before reinstalling the moonroof motor, make sure both link lifters are parallel, and in the fully closed position.
 - Before reinstalling the moonroof motor, install the frame and glass, then check the opening drag (see **CLOSING FORCE AND OPENING DRAG CHECK**).



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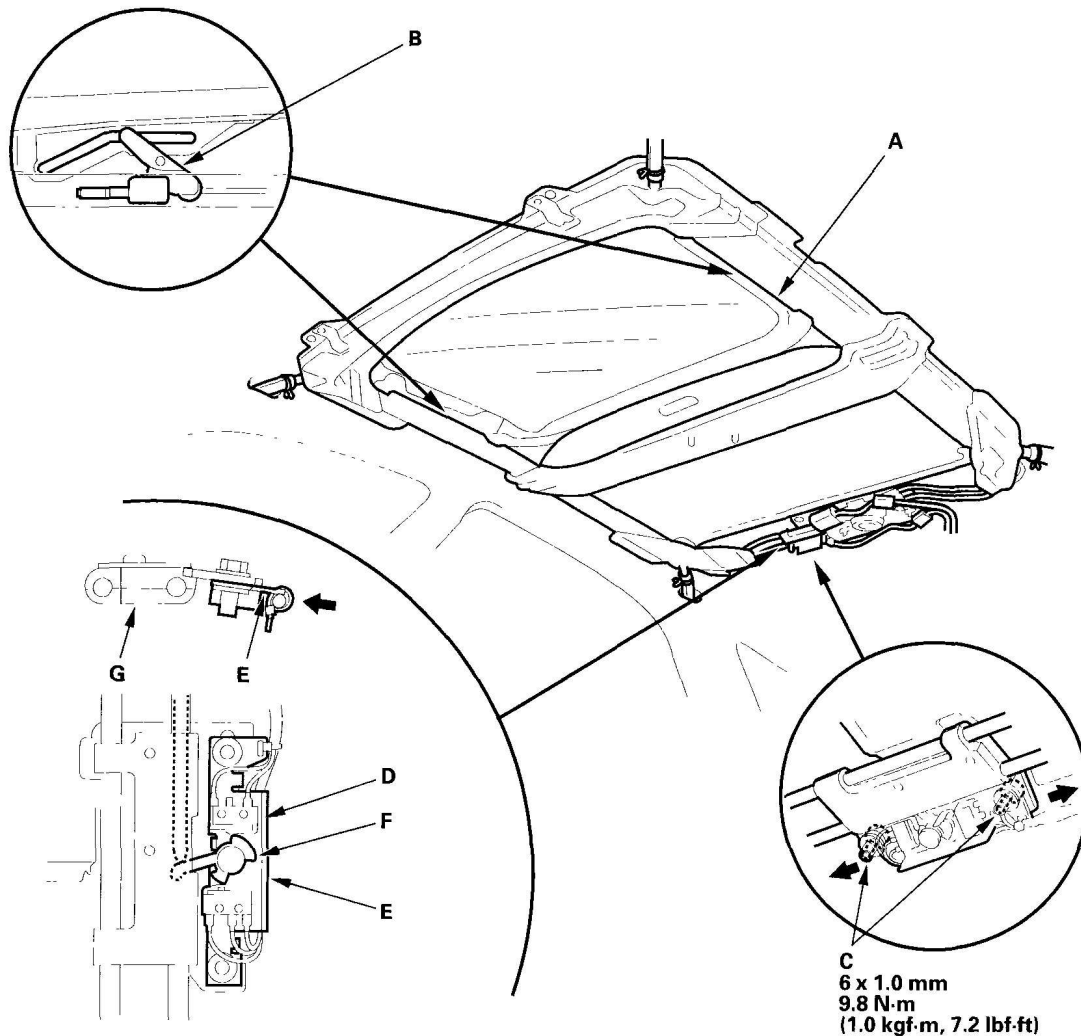
Fig. 20: Installing Sliders And Cables

Courtesy of AMERICAN HONDA MOTOR CO., INC.

LIMIT SWITCH ADJUSTMENT

1. Remove the headliner (see **HEADLINER REMOVAL/INSTALLATION**).
2. With the moonroof wrench, close the glass (A) fully:

- Make sure both link lifters (B) are parallel, and in the position shown in **Fig. 21** .
- Check the glass fit to the roof panel and the glass height (see **GLASS HEIGHT ADJUSTMENT**).



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Fig. 21: Closing Glass Fully
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

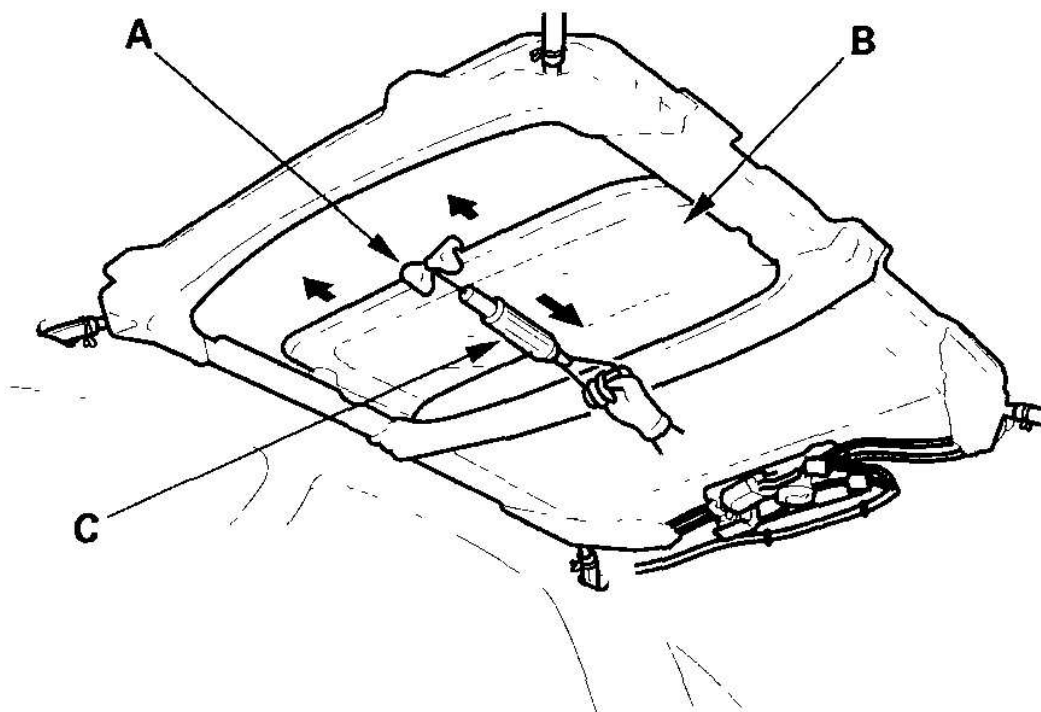
3. With an open-end wrench, loosen the limit switch mounting bolts (C).
4. Adjust the limit switch (D):
 - Move the switch plate (E) a little at a time, then secure it at the position where you hear a faint click when the switch cam (F) pushes the limit switch (open/close).
 - Check that the switch plate contacts the switch bracket (G).
5. Check the operation of the glass (from the tilt-up position to fully closed position, and from the fully open

position to the fully closed position) by operating the moonroof switch.

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 in **Fig. 22** .
 - 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)

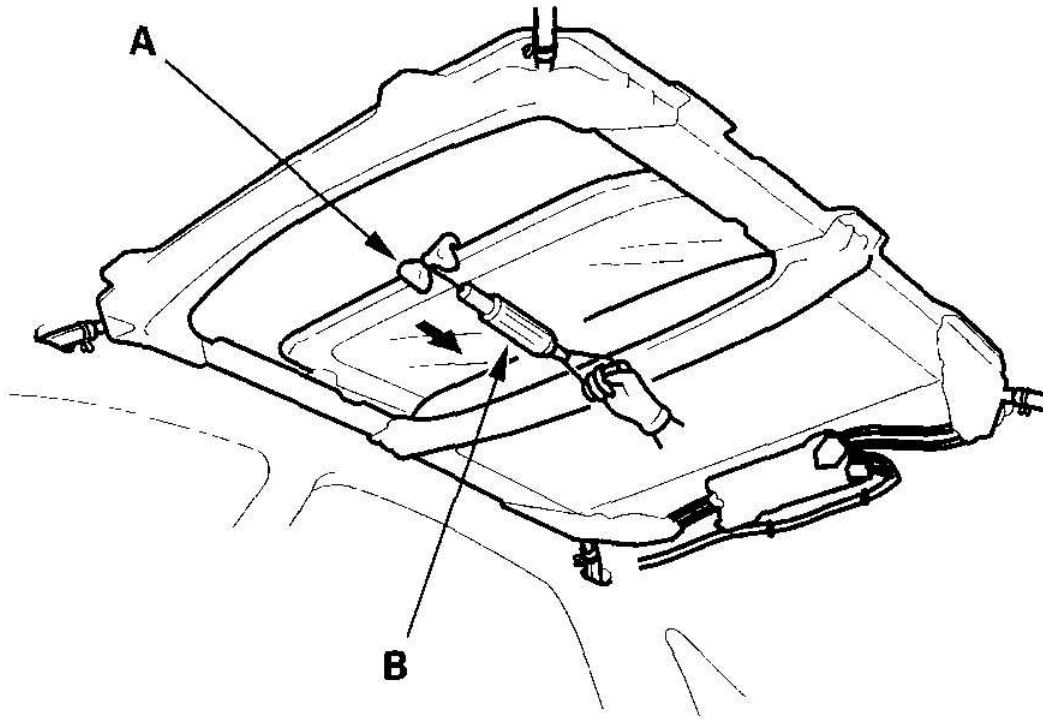


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Fig. 22: Checking Closing Force And Opening Drag
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. If the force is not within specification, remove the moonroof motor (see **MOTOR REPLACEMENT**), then check:

- The gear portion and the inner cable for breakage and damage. If the gear portion is broken, replace the motor. If the inner cable is damaged, remove the frame (see **FRAME AND DRAIN TUBE REPLACEMENT**), and replace the cable assembly (see **DRAIN CHANNEL SLIDER AND CABLE ASSEMBLY REPLACEMENT**).
 - The moonroof motor (see **SWITCH 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 in **Fig. 23** .



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Fig. 23: Measuring Glass Using Spring Scale
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 height adjustment (see **GLASS HEIGHT ADJUSTMENT**).
 - If any sliding parts are damaged or broken, replace them.