

Jeep.

Jeep.

Jeep Wrangler



Diagnosis & Repair Manual

Water Leaks

Jeep.

Rev. A

Jeep.

General Notes

1. This manual applies to all Jeep models: 2/4 door & Hard/Soft Top
2. Before testing the vehicle, perform a review of the top system. Make sure all the latches are engaged, none of the top seals are puckered or distorted, the door seals are installed correctly, the tops are not out of alignment, etc.
3. Each leak area can have multiple root causes, as noted in the diagnosis tree. It is important to water test each repair before starting the next.
4. If a leak cannot be reproduced, it is due to the period of time the vehicle is under wet conditions. Some leaks may take hours before leaking.
5. If a leak cannot be reproduced, apply all the repairs to the applicable areas as noted in the diagnosis road map.
6. When the door is open, there is water run off from the roof that can soak the carpet. Be sure to explain to the customer that this cannot be fixed. This is an unfortunate condition with this type of vehicle, similar to convertibles.
7. It is important to understand where the leak ENDS up when diagnosing the vehicle. Where the leak ends up, does not always explain where the leak originates. Refer to the diagnosis tree when determining which repairs to perform.
8. This repair procedure does NOT cover every possible water leak on the Jeep Wrangler. The issues identified in this document are the major leaks that show up in the field.
9. Generally, a car wash is the preferred method to diagnose a vehicle.
10. If a hose is required, place on the top of the vehicle facing forward making sure water is getting to all areas. Do NOT directly spray in the area of question. This can create a “false” leak that cannot be fixed.
11. This manual is not intended to be a service manual. The content identifies the major areas of water leaks, the critical characteristics of each area and how to repair them.

READ FIRST



READ FIRST

Diagnosis Road Map

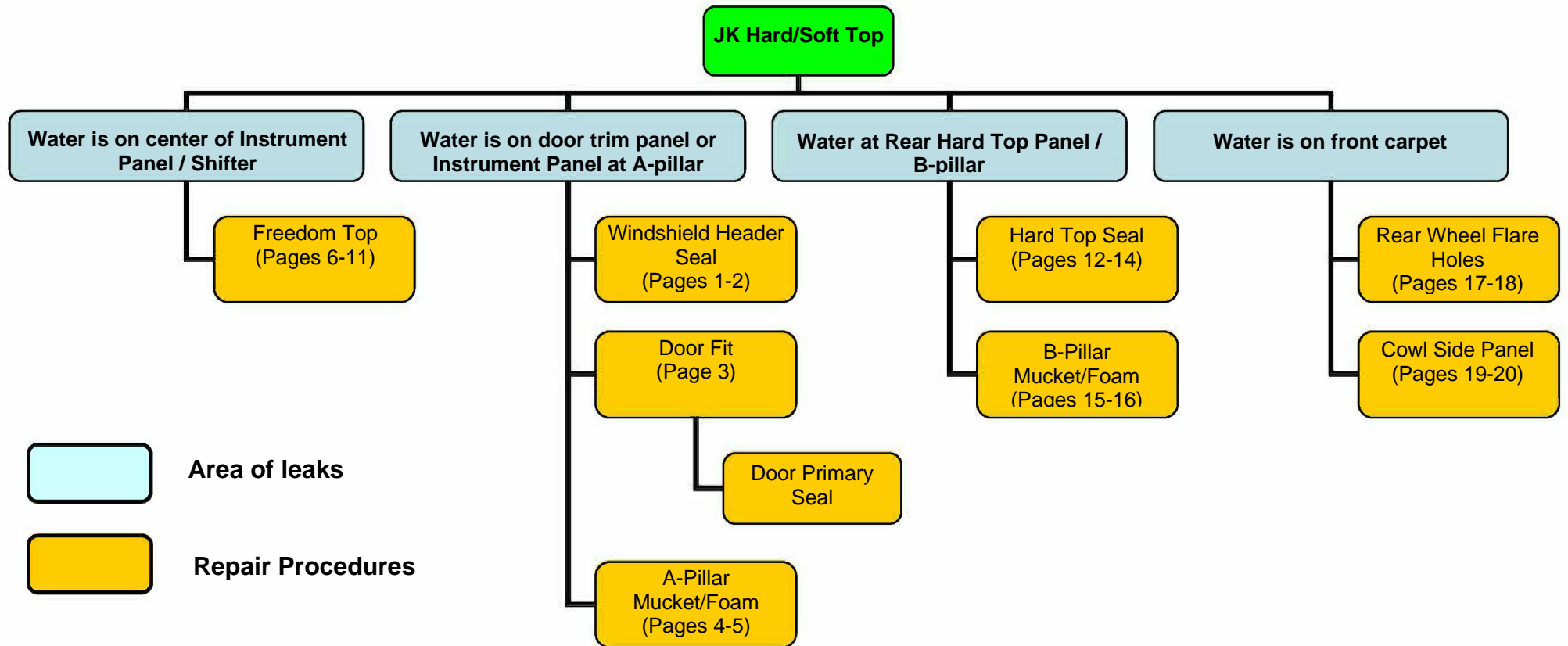


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Windshield Header Seal Repair Procedure

AREA OF LEAK:

- This repair procedure is applicable when water is evident on the:
 - Door trim panel
 - or
 - Instrument panel (a-pillar)



STEP 1: Remove Header Seal

- Figure 1



Figure 1

STEP 2: Remove/Clean Surface

- Remove all butyl and tape residue
- A rubber wheel bit can be used
- Clean surface with 3M adhesive cleaner
- Alcohol wipe entire surface and allow to dry



Figure 2

Windshield Header Seal Repair Procedure

STEP 3: Install Butyl

- **NOTE:** This operation is only applicable for vehicles built before 6/1/2008. Vehicles built after this date, should already have sealer present in this area.
- Install 4mm butyl (68027813AA) as shown (Figure 4)
- Make sure to fill in all holes, wrinkles and step offs to allow for a smooth surface to bond the tape/butyl from the new seal
- **NOTE:** Excessive amount of butyl can cause transition voids/leaks. Make sure to smooth out butyl.



Figure 3

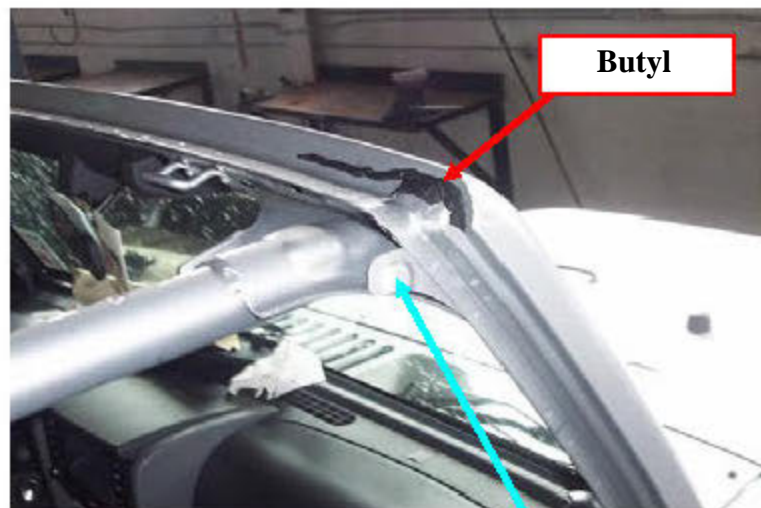


Figure 4

STEP 4: Install Seal

- Locate and install new seal, Pt #: 55397454AE
- Remove release tape and pressurize seal firmly in contact with header sheet metal to smooth out adhesive tape and butyl, starting at the ends and working toward the center. A small roller or firm finger pressure should be used to insure the tape is adhered completely from side to side, **THIS STEP IS CRITICAL**

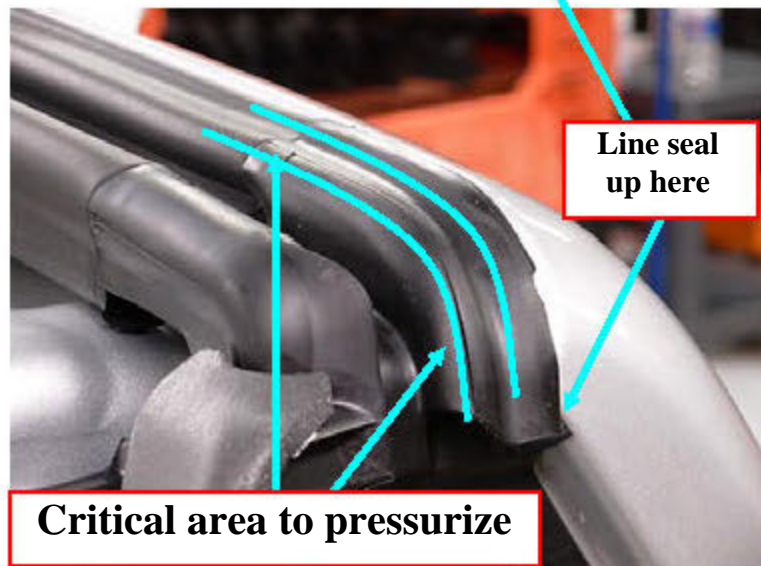


Figure 5

Door Fit Repair Procedure

AREA OF LEAK:

- This repair procedure is applicable when water is evident on the:
 - Door trim panel
 - or
 - Instrument panel (a-pillar)

STEP 1: Door Gap Checks

- Measure door gaps
- The specifications are as follows:
- The gap spec. is 5.0 +/- 2.0 mm
- The flush spec. is 0.0 +/- 2.0 mm
- If the door fit is not to spec, proceed to Step 2

STEP 2: Adjust Doors

- Adjust the door gap and flushness as described in DealerConnect> TechCONNECT under: Service info> 23 – Body> Body Structure> Gap and Flush> Specifications Service Manual

STEP 3: Replace Door Primary Seal

- If the doors are adjusted, the door seal must be replaced
- Part #: 55395274/5AN

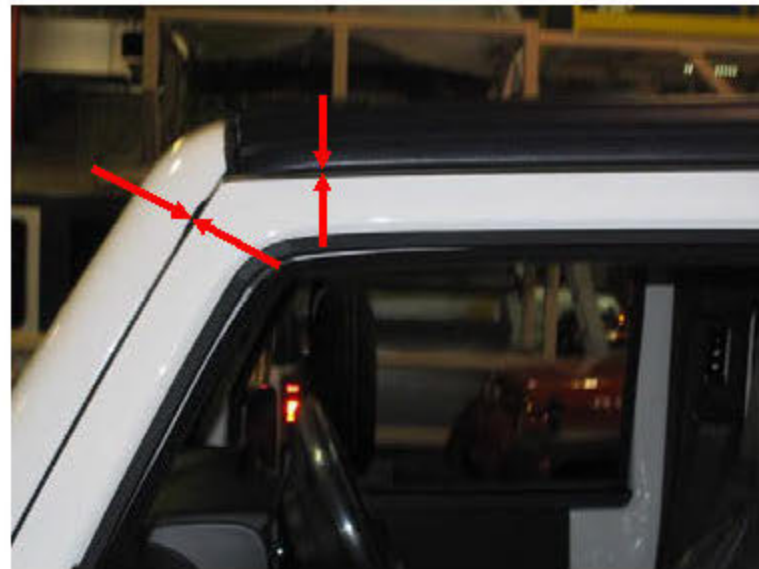


Figure 6



Figure 7

A-Pillar Foam/Mocket Repair Procedure

AREA OF LEAK:

- This repair procedure is applicable when water is evident on the:
 - Door Trim Panel



STEP 1: Header Mocket

- **NOTE:** This issue/repair applies to both hard and soft top vehicles
- Inspect the header seal mocket for the seal rolled under the freedom panel or side rail. (Figure 8)
- If the seal is folded under, remove the freedom panel or side rail and re-install making sure not to distort the mocket (Figure 9)



Figure 8



Figure 9

A-Pillar Foam/Mocket Repair Procedure

STEP 2: A-Pillar Foam

- NOTE: This issue/repair applies to both hard and soft top vehicles
- Inspect the freedom panel or side rail for damaged/missing foam (Figure 10)
- If the foam is damaged or missing, replace the foam using the foam kit (68026937AB)



Figure 10



Figure 11

STEP 2: Foam Installation

- Install the foam to the freedom panel as shown in Figure 12
- The foam installation is similar for the soft top rail

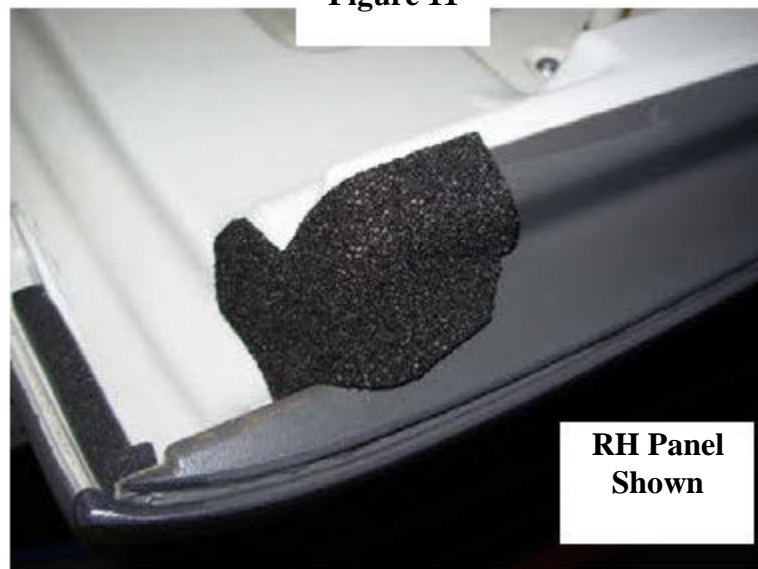


Figure 12

B-Pillar Mocket/Foam Seal Repair

AREA OF LEAK:

- This repair procedure is applicable when water is evident on the:
 - Instrument panel (Center)
or
 - Console / Shifter

RIGHT HAND FREEDOM PANEL



STEP 1: Seal Removal

- Remove seal on Right panel



Figure 13

STEP 2: Tape and Butyl Removal

- Remove tape and butyl residue from panel
- A rubber wheel bit can be used
- Clean Seal Surface with: 3M General Purpose Adhesive Cleaner or Kent Products Acrysol, (if available) and allow to dry completely
- Wipe seal surface with alcohol and allow to dry completely.



Figure 14

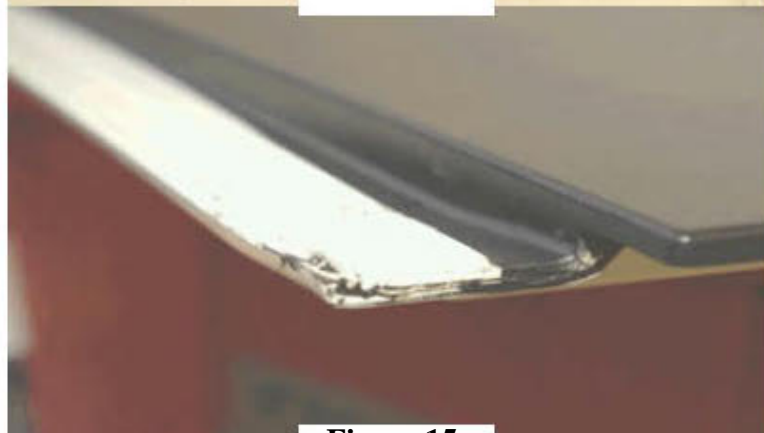


Figure 15

B-Pillar Mocket/Foam Seal Repair

STEP 3: Butyl Installation

- Place right hand freedom panel upside down on a covered surface to prevent scratching

- Apply 4 mm diameter Butyl, Pt # 68027813AA, to Rear Notch (Figure 17)
- Note: Follow groove between panels and push butyl firmly in place

- Apply 4 mm diameter Butyl, Pt # 68027813AA, to Front Notch (Figure 18)
- Note: Follow groove between panels and push butyl firmly in place

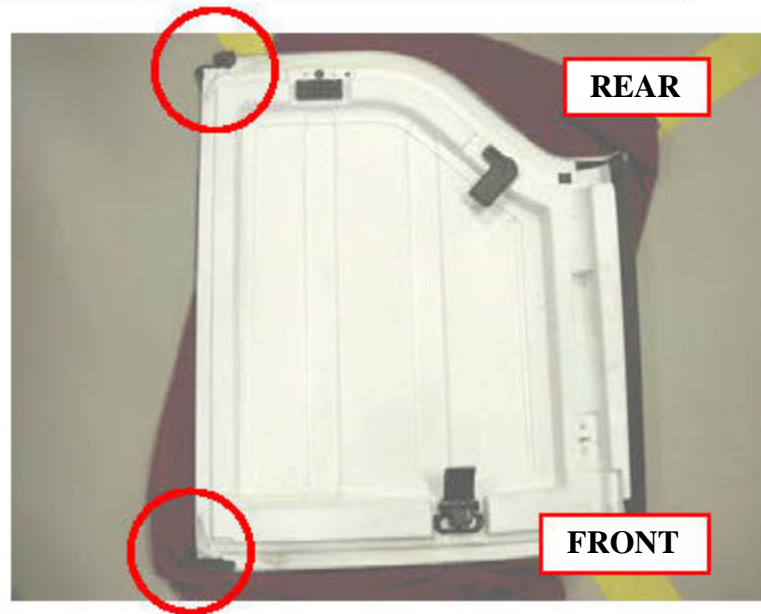


Figure 16

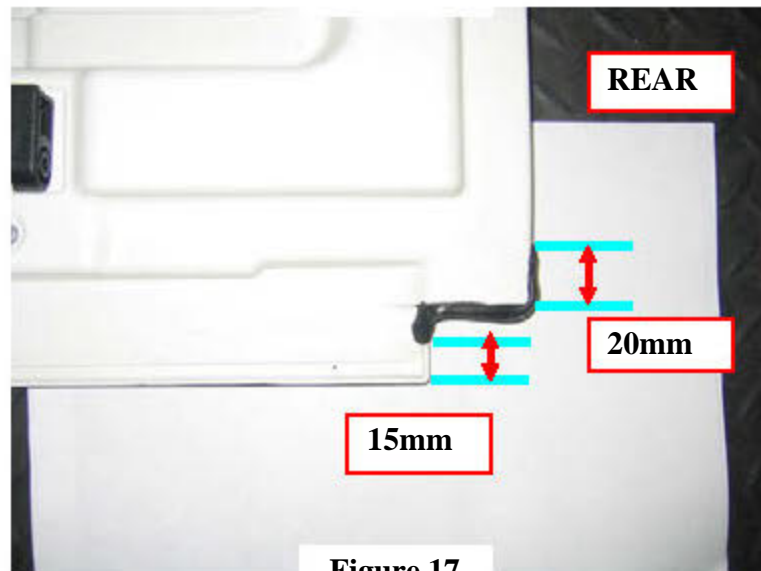


Figure 17

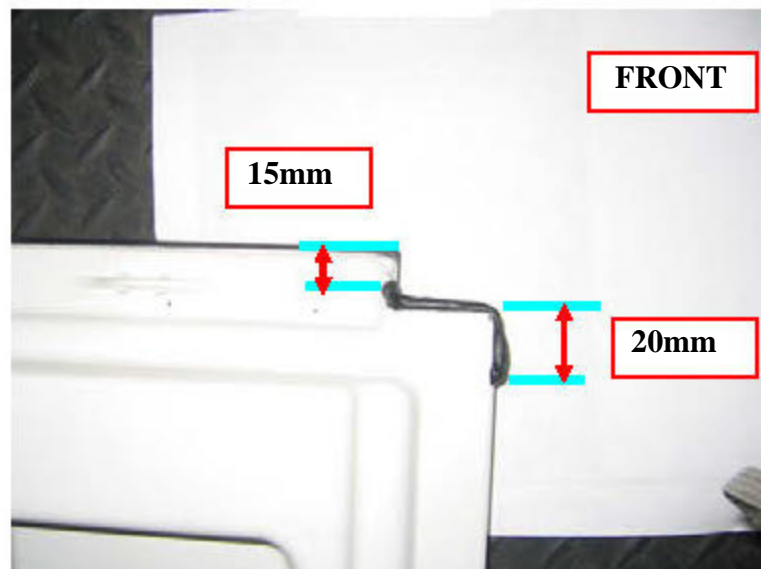


Figure 18

B-Pillar Mocket/Foam Seal Repair

STEP 4: Seal Installation

- Keep freedom panel upside down for the initial installation of the seal
- Remove tape liner from seal

NOTE: Secure the end molds first, then finish with the middle of the seal

Rear Seal Mold

- Align REAR edge of NEW seal, Pt # 55397095AG to Right Freedom Panel Notch.
- Compress butyl by installing seal in direction of arrows (Figure 20)
- Note: No gap between installed seal and outer edge of freedom panels. (Figure 20)

Front Seal Mold

- Align FRONT edge of NEW seal, Pt # 55397095AG to Right Freedom Panel Notch
- Compress butyl by installing seal in direction of arrows (Figure 21)
- Note: No gap between installed seal and outer edge of freedom panels. (Figure 21)



Figure 19

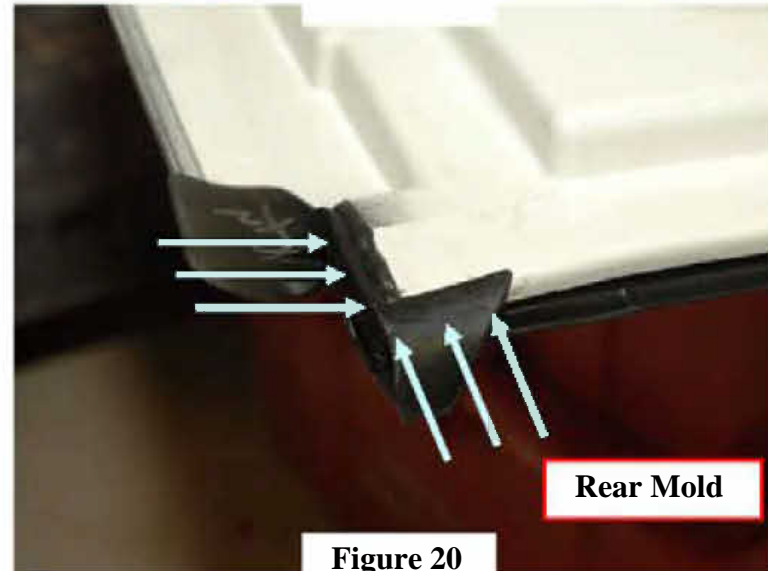


Figure 20

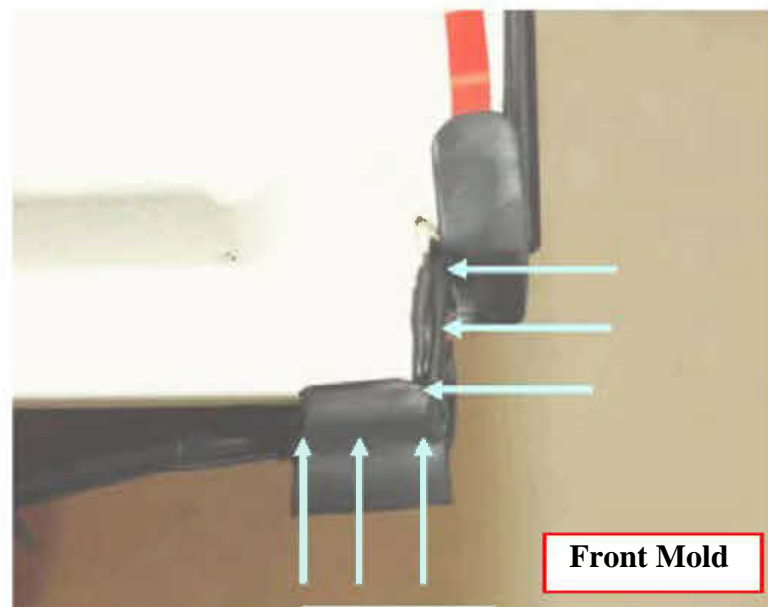


Figure 21

B-Pillar Mocket/Foam Seal Repair

STEP 5: Pressurize Seal

- Flip panel back over to complete the seal installation
- Locate seal cross car against the middle rib in the freedom panel and pressurize starting at the ends and working toward the center
- A small roller or firm finger pressure should be used to insure the seal tape is adhered from front to rear, THIS STEP IS CRITICAL

This photo is for reference only. Panel was cut to show rib.



Figure 22



Figure 23

STEP 6: Install foam at Front

- Install GREY 30 X 75 mm Foam from kit (68026937AB) along trim lines of flame tip (Figure 24)
- NOTE: Make sure foam covers butyl completely

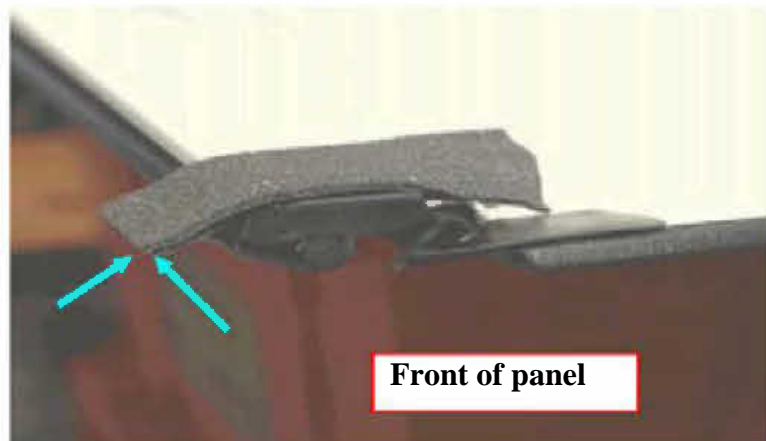


Figure 24