Roof Panel Installation Procedure using LORD Fusor® Adhesives

Materials Needed:

- LORD Fusor 108B/109B Metal Bonding Adhesive (Medium) or LORD Fusor 112B/113B Metal Bonding Adhesive (Slow)
- LORD Fusor 122EZ/125EZ Self-Leveling Seam Sealer (Fast)
- LORD Fusor 800EZ/801EZ/803EZ Factory Match Urethane Sealer/Adhesive
- LORD Fusor 300 or 301 Manual Dispensing Gun, or LORD Fusor 304 or 304X Pneumatic Dispensing Gun

Do not use this procedure with vehicles that have encapsulated glass. If you have a vehicle with encapsulated glass, use a full roof replacement process and bond with LORD Fusor metal bonding adhesives.

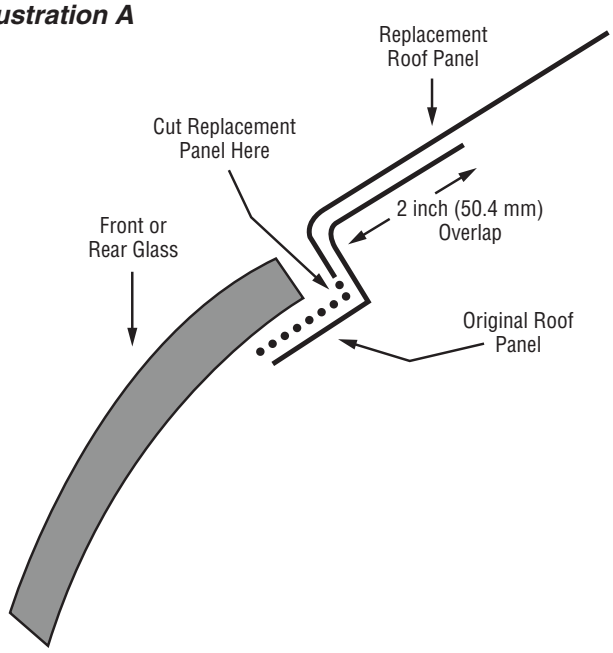
If the front or rear glass has been removed, use a full roof replacement procedure.

Both LORD Fusor® 108B/109B and 112B/113B metal bonding adhesives are recommended for roof panel replacement, depending on temperature and work time needed. For this repair procedure, LORD Fusor 108B/109B metal bonding adhesive will be used.

Surface Preparation

1. Remove moldings and trim from windshield, rear window and gutter sides, if necessary.
2. It may be helpful to use 2 inch (50.8 mm) wide masking tape on the front and rear of the roof as a guide for cutting. With a metal saw, remove the majority of the damaged roof panel, leaving about 2 inches (50.8 mm) of the original panel at the front and rear edge of the old roof. On the sides, cut 3/4 inch (19.1 mm) up in addition to the pinch welds. **Caution: Do not cut any support structures.** The actual damage and design configuration of each vehicle will determine how the sides will be cut. Use a heat gun to free the old roof from the insulation on the reinforcing bows.
3. Grind the outer edges where LORD Fusor metal bonding adhesive (Stock #108B/109B) will be applied, making sure to remove all paint and primer. If a galvanized coating is present, grind to the bare steel. If the metal has a pewter appearance, then all of the galvanized coating has not been removed. The metal should be shiny in appearance. Be careful not to damage the corners or thin the metal. Remove the excess urethane adhesive between the front and rear glass and the original roof.
4. The new panel will need to be carefully prepared by removing the pinch weld area from the front and rear window opening. Cut midway between the pinch weld flange and the upper surface of the roof, with a 1/4 inch (6.35 mm) minimum drop from the top surface of the new roof panel **(see Illustration A)**. With a hammer and a dolly, relieve the drop area to fit behind the front and rear edges of the glass and over the prepared edges of the old roof.

Illustration A



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5. On the new roof, grind the mating edges where the LORD Fusor metal bonding adhesive (Stock #108B/109B) will be applied, making sure to remove all paint and primer. If a galvanized coating is present, remove to the bare steel.
6. Pre-bevel to <10 degrees any edge of the new panel where a finished section joint is needed.
7. Remove the sound-deadening panels from the old roof panel and install them into the new roof panel. Make sure to place them exactly as they were on the old panel so they will not interfere with the reinforcing bows.
8. Pre-fit the new panel and adjust as needed for a tight, even fit to the vehicle. Apply tape to the upper edge of the windshield to protect from damage.
9. Clean bond surfaces of dust and debris. Blow debris from headliner and support structure.
10. Protect the headliner from adhesive drips and squeeze-out by placing masking tape over holes in the support structure.
11. Apply LORD Fusor factory match urethane sealer/adhesive (Stock #800EZ/801EZ/803EZ) over the foam adhesive on the original roof bows.

Adhesive Preparation

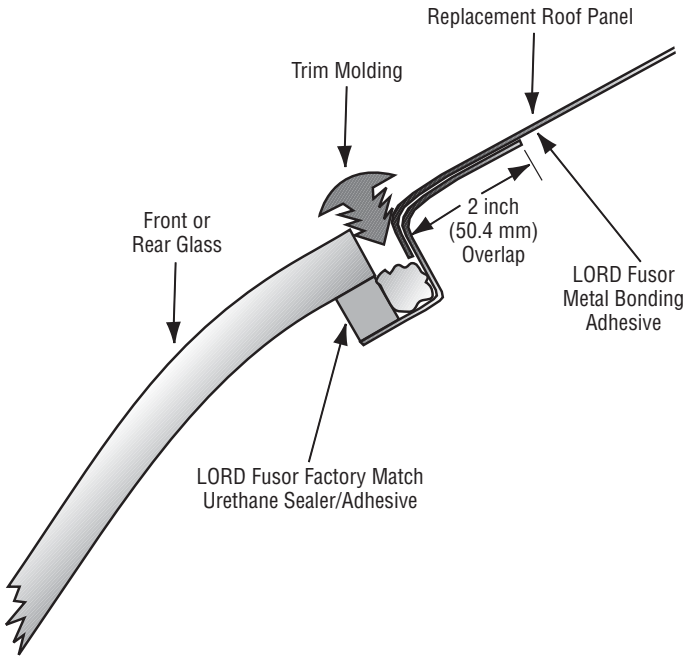
1. Insert the LORD Fusor metal bonding adhesive cartridge (Stock #108B/109B) into the appropriate dispensing gun. Squeeze a small amount of product from each side of the cartridge to level the plungers.
2. Attach a mixing tip and dispense a small amount of adhesive, which is about the length and width of the mixer. Dispense until the product is evenly mixed and the color is consistent.

Note: From this point you will have about 40-50 minutes at 70°F (21°C) to apply the adhesive and assemble the components.

Panel Installation

1. Apply a 3/8 to 1/2 inch (9.5 to 12.7 mm) bead of LORD Fusor metal bonding adhesive to the bare metal mating surfaces.
2. Properly position the new panel with moderate and even pressure. Once the panel has been positioned, do not pull it away from the vehicle. If repositioning is necessary, slide the panel. This maintains proper contact between the two panels.
3. Clamp tightly and evenly. The glass beads in the adhesive will prevent you from over clamping the bondline. Apply screws in hard-to-clamp areas. Use sand bags or other weights on horizontal surfaces to weight the roof in place.
4. With the roof in final position, use a flat blade screwdriver to set the 1/4 inch (6.35 mm) drop area behind the glass **(see Illustration B)**. Set the drop area until all the excess adhesive is out of the seam. Remove excess adhesive from the windshield and rear window molding areas before the adhesive cures to ensure proper molding reinstallation.
5. Recess screw holes with a punch and hammer. Finish with fiber-filled body filler.

Illustration B



6. For any sectioned areas, use a grinder and bevel the metal edges to a <10 degree angle on any overlapped area. Taper the beveled edge so there is a smooth transition.

Note: To prevent "readthrough" for sail panel finishing, refer to Fusor Repair Procedure - *Procedure for Bonding Sectioning Joints with Overlap Technique using LORD Fusor Adhesives*, or Fusor Repair Procedure - *Procedure for Sectioning Joints with Backer Plate using LORD Fusor Adhesives*.

7. Finish section seam with fiber-filled body filler, then complete the repair with conventional body filler. Prime and paint per manufacturer's recommendations.
8. For roofs that require seam sealing in the roof ditch area, use LORD Fusor self-leveling seam sealer (Stock #122EZ/125EZ) wherever a cosmetic seam sealer is required.

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