

# Peterbilt 377 Hood Repair Procedure using LORD Fusor<sup>®</sup> Plastic Repair Systems

## Materials Needed:

- LORD Fusor 703 Plastic & Rubber Cleaner
- LORD Fusor 702 Fiberglass Cloth
- LORD Fusor 100EZ/101EZ Plastic Panel Repair Adhesive (Heat Set)
- LORD Fusor 704 Saturation Roller
- LORD Fusor T11 Plastic Repair Adhesive or LORD Fusor 114 Plastic Finishing Adhesive (Fast)
- LORD Fusor 300 or 301 Manual Dispensing Gun, or LORD Fusor 304 Pneumatic Dispensing Gun

This repair involves two separate procedures. The first procedure will repair the stress cracks at the fender/grille juncture. The second procedure installs a reinforcing patch on the underside of the hood to prevent further stress cracking. The reinforcing patch is not directly behind the first repair. Once both repairs are completed, the final heat cure will be performed as outlined in the Final Cure and Sanding section.

## Surface Preparation

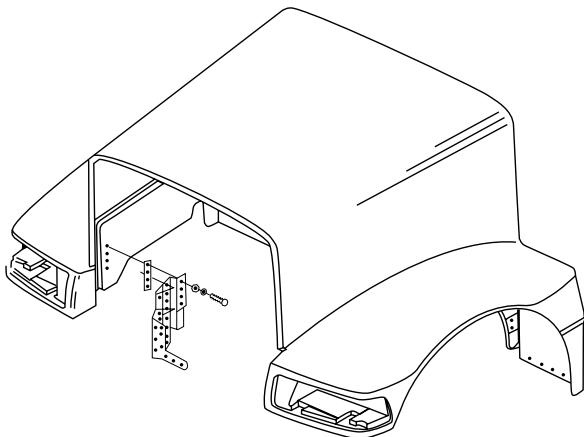
1. The hood to be repaired should be brought into the body shop in advance so that it is dry and at room temperature, 65-75°F (18-24°C), before any work begins.

2. Remove the grille sides and metal bracket #4 to access the repair area (**see Illustration A**).
3. Both sides of the hood must be thoroughly cleaned before sanding or grinding the repair area.
4. Cover the stress cracked areas in the SMC panel with masking tape. This protects the damaged area from absorbing the plastic & rubber cleaner and eliminates wicking of the cleaner through the fibers into the SMC. Wicking can cause poor adhesion. Do the same for the area where the reinforcing patch will be applied (**see Illustration E**).
5. Use plastic & rubber cleaner to remove all waxes, silicones, dirt and road oils from the area surrounding both sides of the damaged area.

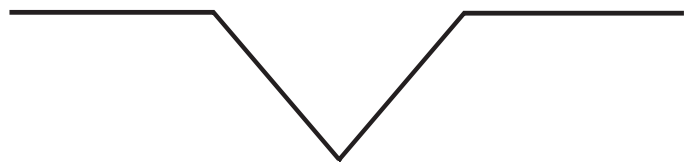
## Repairing the Cosmetic (Outer) Side of the Damaged Hood

1. Remove the masking tape from the outer side of the damaged hood and grind away all stress-cracked SMC in the fender/grille area. Use an angle grinder with a 36- or 40-grit wheel. Make a gradual taper in the repair area rather than a V-groove (**see Illustrations B and C**). This will prevent “bull’s-eyes” or “readthrough” in the finished repair. Extend the tapered area about 1 inch (25.4 mm) beyond the

**Illustration A**



**Illustration B:** V-groove – DO NOT USE!



**Illustration C:** Taper/cove – USE!



stress cracks. If the cracks extend all the way to the edge where the grille side mounts, then grind to the edge.

**Note: When grinding the damaged SMC, you may need to grind all the way through the hood.**

2. Sand the prepared area with a DA sander or by hand using 80-grit sandpaper.
3. Blow the dust away with a moisture and oil-free air supply. Wipe with a clean, dry rag.
4. Build a “pyramid patch” using LORD Fusor® fiberglass cloth (Stock #702) and LORD Fusor plastic panel repair Adhesive (Stock #100EZ/101EZ) (**see Illustration D**). This will be prepared on a portion of the plastic film backing.

**Note: The use of the fiberglass cloth is critical to control the expansion and contraction in hot and cold weather. This will control visible “bull’s-eyes” and “readthrough” in the finished repair and provide a high-quality repair with maximum strength characteristics.**

5. Start by removing the LORD Fusor fiberglass cloth from the plastic film backing. Cut a piece of plastic film backing at least 1 inch (25.4 mm) larger than the repair area. Cut a first layer of fiberglass cloth slightly smaller than the perimeter of the tapered area. Cut three to six additional layers of fiberglass cloth, each being slightly smaller than the previous one.

**Note: It is important to work as much fiberglass cloth into the repair as possible while attaining a thickness similar to the original panel. This can be roughly measured by placing the cut fiberglass into the repair area to determine the thickness.**

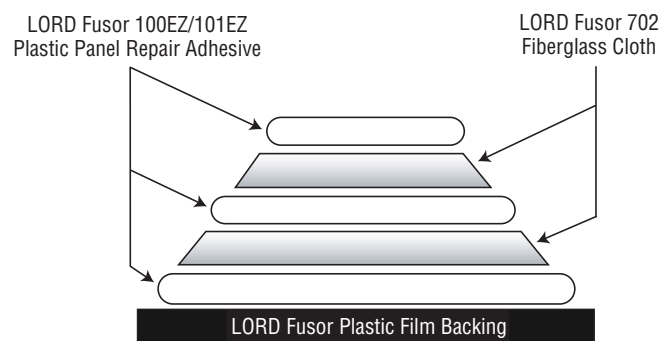
6. Insert the LORD Fusor plastic panel repair adhesive cartridge (Stock #100EZ/101EZ) into the appropriate dispensing gun. Squeeze a small amount of product from each side of the cartridge to level the plungers. Attach a mixing tip and dispense a small amount of adhesive, which is about the length and width of the mixer. Dispense until the product is evenly mixed and the color is consistent.
7. Lay the plastic film backing on a smooth, clean and flat surface. Apply the adhesive to the plastic film backing and smooth using a plastic spreader. Spread the adhesive evenly from the center toward the sides of the plastic film backing. The adhesive should have a thickness of approximately 1/16 inch (1.59 mm). Place the largest piece of fiberglass

cloth onto the adhesive-coated film backing. Apply a coat of the LORD Fusor plastic panel repair adhesive to this layer of fiberglass cloth. Smooth with a plastic spreader. Continue to apply at least three subsequent layers of cloth and adhesive (1/16 inch [1.59 mm] thick). Center each on the piece below, with each layer being slightly smaller than the previous one.

8. This multi-layer patch should now form a pyramid shape (**see Illustration D**). Place the pyramid patch into the prepared repair area. Work the adhesive into the repair by rolling with the LORD Fusor saturation roller (Stock #704). Initially, roll from the center toward the sides to eliminate air pockets and pin holes, and improve overall adhesion.
9. Heat the pyramid patch repair with a heat gun or heat lamp for 5-10 minutes at 180°F (82°C) or until the material sets.
10. After the repair cools, remove the plastic film backing and rough-grind to remove all excess adhesive. Sand the repair with 80-grit sandpaper, making sure to cut slightly below the SMC finished surface. This will allow for application of a thin, smooth coat of adhesive.
11. Apply the finish coat of LORD Fusor plastic panel repair adhesive (Stock #100EZ/101EZ). Rough-spread the adhesive. Then, to help force trapped air bubbles to the surface, slightly warm this final coat of adhesive with a heat gun. The heat allows for even pull with limited drag on the plastic spreader.

**Note: Be careful not to overheat or heat too long as this will cure the adhesive before final smoothing.**

**Illustration D: Pyramid Patch**



NOTE: Not drawn to scale.

## Applying a Reinforcing Patch Inside the Hood

This reinforcement patch can be made and applied at the same time you are making and applying the pyramid patch as described in the previous section.

1. Make sure the inner side of the damaged hood is clean, as directed in Steps #3 and #5 of the previous section.
2. Remove the masking tape from the inner side of the damaged hood and lightly grind the surface area where the reinforcing patch will be applied (**see Illustration E**). Use an angle grinder or a DA sander with 80-grit sandpaper. Blow away all dust with an air hose. Be sure that the air does not have any oil or water in it.
3. Separate the cloth from its plastic film backing and cut two sections large enough to cover the repair plus 1 inch (25.4 mm) around the repair. This will likely be a patch about 4x10 inches (102x254 mm).
4. Cut a section of the plastic film backing about 1 inch (25.4 mm) larger than the cloth. Lay the plastic film backing on a smooth, clean and flat surface where it will be used in Step #6.
5. Insert the LORD Fusor plastic panel repair adhesive cartridge (Stock #100EZ/101EZ) into the appropriate dispensing gun. Squeeze a small amount of product from each side of the cartridge to level the plungers. 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.
6. Apply enough adhesive to the plastic film backing so that after smoothing with a plastic spreader, it is about 1/16 inch (1.59 mm) thick. Spread the adhesive evenly from the center toward the sides of the film backing. The area covered with the adhesive should be about the same size as the fiberglass cloth.
7. Place the pre-cut fiberglass cloth on the adhesive-coated film backing. Cover the cloth with a coat of adhesive, spreading evenly and completely with a plastic spreader to a thickness of approximately 1/16 inch (1.59 mm).
8. Do not separate the prepared patch from the film backing. Apply the prepared patch to the backside of the repair and compress it using the LORD Fusor saturation roller (Stock #704).

9. Heat set this reinforcement patch using a heat gun or heat lamp for about 5-10 minutes at 180°F (82°C) or until the adhesive sets. Remove the plastic film backing after the repair cools. Sand, if appropriate, to remove roughness.

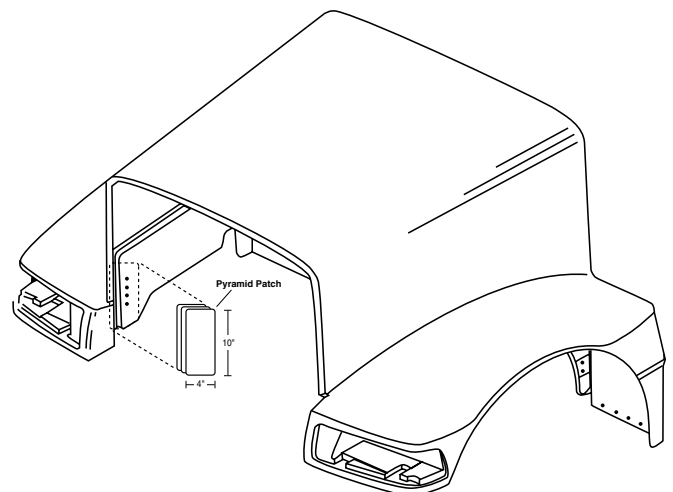
## Final Cure and Sanding

1. To ensure a high-quality repair, heat cure the entire repair for one hour at 180°F (82°C) using a heat lamp.

**Note: This final heat cure will bring the plastic and adhesive up to the maximum temperature generally experienced in a bake oven or under unusual weather conditions. This step ensures total shrinkage with no “bull’s-eyes.”**

2. Cool the repair to room temperature. Feather- and contour-sand the repair with 80-grit sandpaper. Finish-sand using 180-grit sandpaper. In the event that pin holes exist, apply more adhesive. Work it into the pin holes with a plastic spreader and heat until cured. As an alternative, use LORD Fusor plastic repair adhesive (Stock #T11) or LORD Fusor plastic finishing adhesive (Stock #114) to fill in the pin holes. This type of product does not require heat. Allow the adhesive to cure at room temperature. Finish-sand again.
3. Any mounting holes for the grille sides or bracket #4 that were covered up by the reinforcement patch will need to be re-drilled before reinstallation can occur.
4. Prime and paint per manufacturer's recommendations.

**Illustration E**



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