Airless Fusion Welding - Tear to an Edge of a Bumper Cover

Standard Operating Procedure

Tools Required:

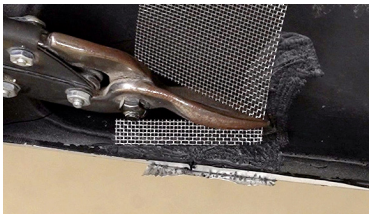
- PPE
  - » Medium-duty gloves
  - » Safety glasses
  - » Respirator
- Plastic cleaner
- Aluminum tape
- Stainless steel wire mesh
- Metal tool (like a flathead screwdriver)
- Die grinder or Dremel® tool with round or pointed tip
- Airless plastic welder with tube tip
- Plastic filler rod
- Sander or sanding block
- Sandpaper (80 grit)

ALWAYS USE PROPER PPE WHILE WORKING WITH TOOLS AND CHEMICALS!

1. Clean the bumper cover with soap and water. Rinse and allow to dry. Spray 1001-4 EcoPrep or 1000 Super Prep Plastic Cleaner and wipe dry with a clean, lint-free towel. Make sure the surface is completely dry before continuing.

2. Align the tear. If there are any dents or deformations in the area, remove them now. Once the tear is properly aligned, apply 6482 aluminum tape over the tear on the cosmetic side. Aluminum tape will secure the tear and prevent melted welding rod from pushing through.

3. On the backside, use a die grinder or Dremel® tool to expose the raw plastic around the tear, about half an inch on all sides. Stainless steel wire mesh applied at the edge of the bumper cover will give extra strength to the repair. To prep for the stainless steel mesh, expose the raw plastic at the edge of the bumper cover, about an inch on both sides of the tear. Only apply stainless steel on the backside of the bumper cover.



4. Cut a piece of stainless steel wire mesh to fit the exposed area at the edge of the bumper cover. Set the piece aside to use later.

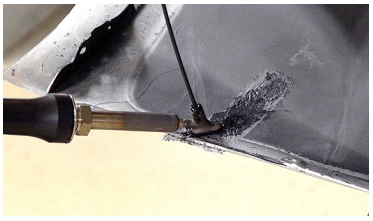
5. Select the welding rod that matches your bumper cover plastic. (Use R02 welding rod for polypropylene bumper covers).

6. Use the sharp edge of the welder tip to melt a 1-to-2-inch groove in the plastic along the tear, and then push the displaced plastic back into the groove.

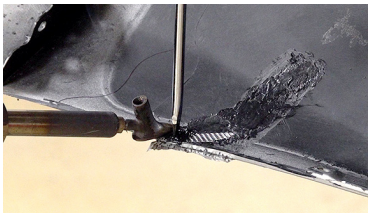
   Note: The key to this type of repair is to only work in small 1-to-2 inch sections at a time. Don't try to prepare and weld too large of an area at one time, because you won't be able to maintain heat to the substrate.

Feed the welding rod through the tube in the tip and onto the melted plastic.

Once enough filler rod has been applied, use the welder tip to mix the rod and base material together and smooth the weld.



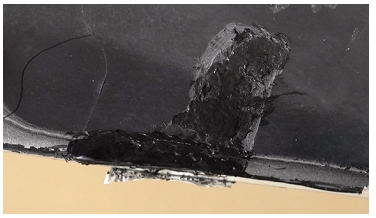
Repeat the grooving and welding process all the way down the tear.



7. Place the mesh down onto the plastic at the edge of the bumper cover. Lay the welder tip on top of the mesh to melt the plastic underneath. Once the plastic is melted, use a metal tool to push the mesh into the melted plastic.

   Do this a little at a time until the mesh is fully embedded in the plastic.

8. Use the welder's tip to re-melt the plastic. Apply filler rod on top of the melted plastic. Mix the filler rod and the base material together and smooth the weld.

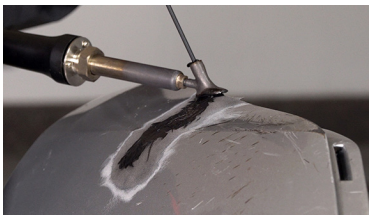


9. The backside weld is complete. Allow the weld to cool completely before continuing.

10. Remove the aluminum tape from the cosmetic side and apply it over the weld on the backside.

11. Clean the cosmetic side with plastic cleaner to remove any adhesive residue.

12. Sand the repair area with 80 grit sandpaper to expose the raw plastic.



13. Weld the cosmetic side along the tear. Melt an indentation into the plastic along the tear, push the melted plastic back into in the indentation, feed the welding rod through the welder tip, and push the filler rod onto the melted plastic. Once enough filler rod is applied, mix the welding rod and base material together and smooth the weld.

    Work in 1-to-2-inch sections at a time until the tear has been welded completely.

14. Allow the weld to cool completely and then remove the tape from the backside.

15. Sand the weld with 80 grit sandpaper.

16. The welding is complete. At this point, you can begin the refinishing process.

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