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Rubber Bumper Repair Basics

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This tech paper will discuss basic repairs to the rubber & plastic bumper facias typically used by GM and other automakers. These rubberized components have been around since the GTO "Endura" bumpers of 1968. The parts often erode, tear, or get gouged, but can be easily repaired to like-new condition if the correct processes and materials are used. Different auto body professionals have different preferences as to how to do things, and I may get some disagreement on the specifics of this article. This article will provide you with a group of products and materials, and my personal technique, for accomplishing first-class results.

General Info

The rubber bumper facias used on Corvette front and rear bumpers actually hold up pretty good. The most common problem is rapid deterioration of the factory-applied clearcoat on these components. Usually, the parts only need to be wet-sanded, properly prepped, and repainted with the correct materials. In cases where the parts are torn or damaged, the repairs are very simple, and produce excellent results. The most difficult and time-consuming part of the job will be removal of the parts from the car: it is very difficult to get excellent results without removing the bumpers and disassembling them down to their component part level, since the tail light lenses on a C4 cannot be removed from the outside of the vehicle (very easily). Masking the parts off without removing them does not produce acceptable results.

Supplies, Fillers, Primer & Paint

In addition to some of the basic tools and supplies outlined in my "Corvette Body & Paint Repair Basics" article, you will need the following "stuff:"

1 qt Transtar Hydroflex Waterborne Acrylic Primer, P/N 1234
1 kit SEM Rigid Sem-Weld II, P/N 39508
1 qt DBU Basecoat in the correct color
1 qt DRR1170 basecoat activated reducer
1 qt Concept 2021 clearcoat
1 pt DCX61 hardener
1 qt DT870 reducer
1 pt DX369 Flex Additive
Econo-grade lacquer thinner for cleanup

150 grit sandpaper
400 grit wet-or-dry sandpaper
600 grit wet-or-dry sandpaper
Masking tape
Paint strainer

Rubber sanding block

Paint gun & compressor

Technique

Gouged, torn & damaged areas:

NOTE: Before doing any work on any parts, be sure to degrease them well with a good wax & grease remover. If silicone products have been used on the car (like Armour-All on the tires), use a good silicone remover and wipe the parts down well. If you don't do this, you will grind silicone and contaminants into the rubber parts during the sanding process, and your paint will "fisheye" like crazy.

1. Tears and cracks in the facia should first be "stop drilled:" at the very end of the tear or crack, drill an 1/8"-or-so diameter hole all they way through the part.. This will relieve the stress at the end of the crack and prevent it from propagating any further.

2. Using a grinding wheel, cutoff wheel, Dremel Tool, or other suitable equipment, prepare the crack, tear or gouge by 'V-Grooving" the damaged area and removing all loose material. If the material is thick enough, V-groove both the front and the back side. If not, at least V-groove the front (top) side. It's important that the filler material you'll be applying has a good, fresh groove to be squeezed into in order to promote good bonding adhesion.

3. Fabricate a backup strip. If the tear or crack is in a particularly flimsy area, cut a thin piece of metal or plastic to bond onto the back side of the repair to stiffen it up.

4. Mix up a little bit of the Sem-Weld II. Apply it to the damaged area, and bond your back-up strip to the back of the repair using the SEM (if needed). Squeeze the SEM really good into the damaged area.

5. Once cured, sand and shape the filled area with your 150 grit. Apply a second coat of SEM if needed, and re-sand.

Part is repaired and ready for refinishing!

General Refinishing

Most of the rubber facias are not damaged, and are only oxidized and/or slightly crazed (like their owners). Here are the steps to refinish these parts, as well as to finish off the parts that have been repaired following the repair procedure above:

1. Wet sand the entire part with 400 grit and a sanding block to remove all oxidized and loose paint. Sand all crazing smooth and blend out any chips in the paint with the surrounding areas. Sand the repaired areas described above with the 400. Dry the parts well.

2. Shoot 2 coats of the Transtar Hydroflex Waterborne Acrylic Primer onto the parts. This thick, black, rubbery primer does not need to be reduced, and will clean up with water.

3. Let the parts cure overnight. If you attempt to sand the parts any sooner (in spite of what it says on the can), the primer will ball up and peel off the parts.

4. Wet sand the parts with 400 grit wet on your rubber sanding block until smooth. If all of the defects are completely gone, switch to 600 grit, and sand it again. If there are still a few little imperfections, dry the parts off well and lay another coat of the Hydroflex onto the parts. Wait a day and finish the parts off with the 600 grit wet.

5. The parts can now be topcoated with your basecoat color, mixed 1:1.5 with the activator.

6. After 30 minutes, mix your 2021 clearcoat, but mix it 4 parts 2021 to 1 part DT reducer to 1 parts DCX hardener to 1 part DX369 flex additive. This will keep your parts from cracking and crazing. Give the parts a dry tack-coat, and then follow with a couple of nice, wet coats.

7. If desired, the parts can be "color-sanded" after a day with 1500 grit and buffed out as I described in my Paint Basics article. If you leave them in their as-painted condition, they will look very much like the new, factory finish.

Other Notes

The only problem I have run into during this process has been when shooting some of the more translucent basecoat colors: metallic red, for some reason, is fairly translucent. The underlaying black Hydroflex primer will make the translucent colors look darker than they should, unless you put a LOT of coats of basecoat on the parts. Generally, heavy basecoat buildup will degrade the longevity of your paint job, so this is not desirable. To avoid this when working with the more translucent colors, I have been giving the primed rubber parts a light coat of white basecoat before applying the actual basecoat color. You can also shoot a light coat of your grey or white DP epoxy primer onto the parts to achieve the same effect. This will assure you of a proper color match with no bleed-through of the dark base surface.

Questions, Comments & Technical Assistance

If you have questions or comments regarding this article, or if you notice any errors that need to be corrected (which is quite possible since I'm writing this from memory…), please feel free to drop me an e-mail. Also, if you need any technical assistance or advice regarding this process, or other maintenance issues, feel free to contact me:

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