



# Plastic Pointers

The Newsletter on Repairing & Refinishing Automotive Plastics

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## Repairing Composite Headlight Buckets

The composite headlights in use on cars today are attractive and aerodynamic, but they're also expensive! Many of the late model headlights can cost upwards of \$250 each. Fortunately, lots of these plastic headlights can be repaired easily and quickly with Urethane Supply Company's products.

Most of the headlamp support structures, or "buckets", are made of gray TPO. There are a few with polycarbonate buckets.

The **5500HT Mini-Weld Model 5** airless plastic welder has all of your headlight repair needs covered, as it comes with both gray TPO and polycarbonate welding rods. The



Many headlights can be fixed with the techniques described in this issue.

5003R8 Uni-Weld Ribbon can also be used to repair headlight buckets.

Another useful product for repairing headlights is the **2045W Stainless Steel Reinforcing Wire Mesh**. It's great for strengthening broken tabs and creating tabs from scratch. In this issue, we'll show you a couple of tricks you can use with the mesh.

In this issue we'll also introduce a new product that's great for creating tabs, pins, and bosses--our new **2055 Epoxy Paste**. Just form it into what you want to make and it quickly cures rock hard. You can even form it around a bolt to make a threaded mounting boss.

### Strategies for Broken Tabs (Part 1):

Broken tabs are one of the bigger challenges in plastic repair. You don't have a lot of area to spread the load out on and you usually have to work in a constricted space. Here are a couple of strategies for dealing with broken tabs:

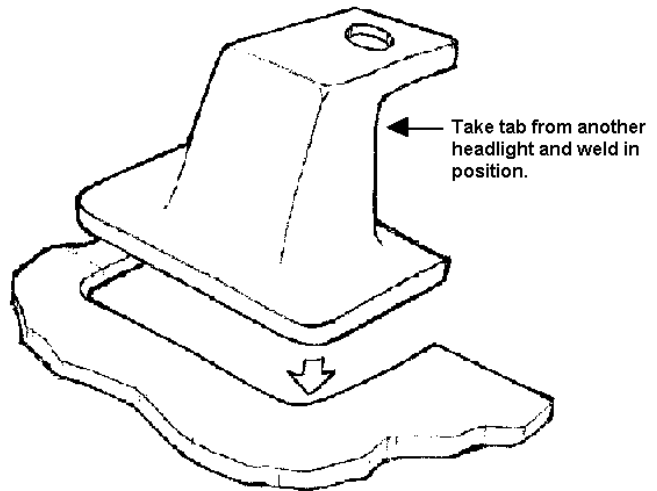
#### The Best Way

If you have another headlight of the same type with damage in another area, the best way to fix a tab is to cut it out of the other headlight and splice it into the broken area.

This is an ideal repair because it takes the stress away from the weak point (the tab) and transfers it to a larger area. Use **6481 Aluminum Tape** to hold the piece in position while you do your weld. When welding with the **5003R5 TPO gray rod**, you'll have to keep the heat on the welded area to get the rod and base material to blend together.

The TPO gray rod doesn't appear to want to stick at first, but go back over your weld and use the stitch-tamp

method to blend the rod and base together. Use the edge of your welder tip to dig into the plastic, then smooth it out. As you add more heat, you'll see the rod start to blend with the base.



## Strategies for Broken Tabs (Part 2):

### *If You've Still Got the Tab*

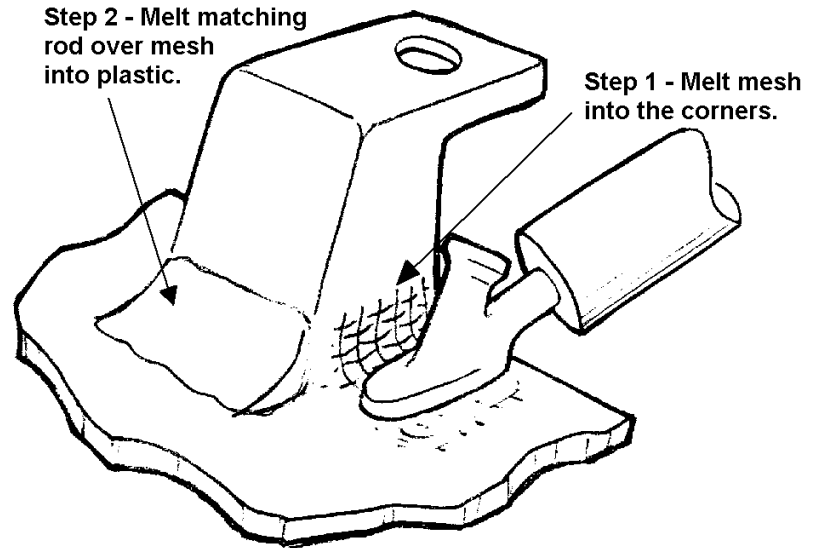
Of course, you usually don't have the same headlight laying around (and if you did, it's probably broken in the same place anyway!). So if you don't have a spare headlight and you've still got the tab, here's what to do.

The key is to melt in some **2045W Stainless Steel Mesh** to tie the tab back into the headlight. Cut a small piece and bend it into the corner between the headlight and the tab. Take your **6027HT Tube Welding Tip** and use it to mash the mesh into the plastic. Allow one leg of your mesh angle to cool before you press the other leg in.

Put as much mesh in as possible around the tab. Then, select either the **5003R5 TPO rod** or the **5003R7 Polycarbonate rod** (headlight buckets are usually clearly identified) and melt it over the mesh. You want to keep the heat on the plastic to make sure the rod melts

thoroughly with the base material. Keep adding more rod to make a bigger fillet and increase strength.

You can also use the **5003R8 Uni-Weld Ribbon** rod, but it will have to be painted if you want to restore the original gray color.

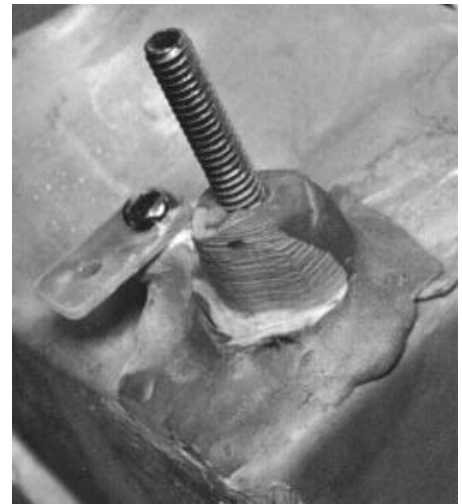
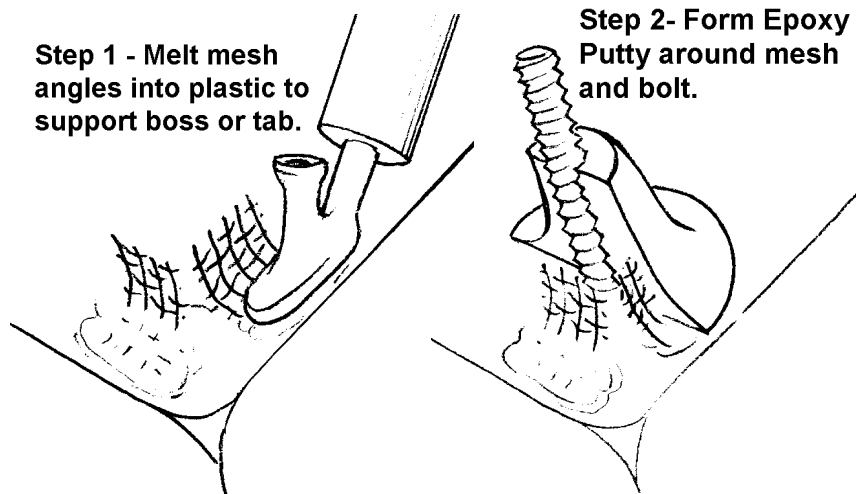


## Fabricating Missing Tabs or Bosses

On late model or high dollar cars, if the tab is missing, you'll probably need to replace the headlight. It's tough to make a new tab or boss from scratch and have it look original too.

However, if you're working with an older vehicle or if the owner doesn't mind if the repair doesn't look perfect, this will give you a way to save a headlight with a missing tab.

The key again is to use the **2045W Stainless Steel Wire Mesh** to tie your newly made tab into the body of the headlight bucket. Because most headlight buckets are TPO, the **2055 Epoxy Paste** will not stick very well in the long run. But the mesh acts like rebar in concrete to make sure the tab stays put even if the adhesion lets go.



## Clay + TPO = Breakthrough in Plastics Technology

The January 1999 issue of *Plastics Technology* magazine described a new, developing technology that will allow TPO alloys to be used in door skins and fenders in the near future.

The technology is called "nanocomposites," which are a new class of material that use tiny clay platelets to reinforce the plastic matrix. When mixed with TPOs, the nanocomposites promise reduced weight, improved dimensional stability, and other properties, such as stiffness and low-temperature impact strength. "It's like finding the holy grail," says William Windscheif, director of sales and marketing for Montell North America.

GM has already produced prototype door panels and quarter panels using this technology. Elio Eusebi, polymers department head at GM R&D says that the materials will "allow greater freedom to use plastics in the car."

It should be just a couple of years before we see TPO-based side body panels. As plastics technology changes, look to Urethane Supply to keep you up to date with the latest information.

## New Catalog & Price Lists Available

Our 1999 price lists, which will be effective on March 1, are now available. Although we've received some materials cost increases, we've held the line on most prices, especially on our most popular products. Call if you'd like a copy of the latest price list.

Our new, 12 page full color catalog is at the printers now and should be available in early March. The new catalog will give us a lot more room to showcase the variety of problem-solving product available from Urethane Supply Company. Call and order your free copy today!

## Epoxy Paste Now Available!

Another excellent problem-solving product is now available from Urethane Supply Company--our new **2055 Epoxy Paste**. Epoxy Paste is excellent for fabricating tabs or filling holes in rigid plastics.

Epoxy Paste comes in an 8 inch long log. You simply cut off the length that you need, then knead the putty with your fingers until the colors are blended. Form the putty into the shape that you want then, in a few minutes, it's cured hard as a rock. You can easily sand and shape the epoxy to the desired profile.

As we described on the last page about fixing headlights, one of the biggest advantages of the epoxy putty is that it can be used with the **2045W Stainless Steel Wire Mesh** to create a permanent structure that is tied directly into the plastic, not just stuck onto it.

Our 2055 Epoxy Paste is now available at a suggested user price of \$11.95 each. You'll get 4 ounces

of epoxy, enough to do many different repairs.

## Spot Putty Improved!

We recently modified the formulation on our **1040-T Flexible Spot Putty** to improve the smoothness and sandability. Our pink putty is a solvent-based one-part that dries quickly and sands very easily. The new formulation is available now at the suggested user price of only \$7.95 per tube. Try a tube out today!



## Jeanna's Corner!

Hey Y'all!

It's Jeanna here. I'm the chick that usually answers the phone here at Urethane Supply. I think Plastic Pointers gets a little too technical sometimes, so I convinced the guys to let me do a little something different. So I'm going to start a column to give you something other than plastic repair!

This time I wanted to share a yummy breakfast dish with you! It comes straight from my Granny's kitchen here on beautiful Sand Mountain! One of my favorite memories growing up was to go to Granny's and have grits soufflé with scrambled eggs and sausage. It goes great with hot buttered biscuits! Yumbo! If you try it, let me know what you think!

### Grits Soufflé

- |                        |                                   |
|------------------------|-----------------------------------|
| 1 1/2 cups quick grits | 1 cup grated sharp cheddar cheese |
| 1 cup milk             | 3 eggs, separated                 |
| 1 cup water            | 1 stick butter                    |
| Seasoned salt          | 1 tsp. baking powder              |
| Pepper                 | Dash of Worcestershire            |

Cook grits with milk and water in top of double boiler, adding salt and pepper to water. Blend in butter and cheese. Add Worcestershire to taste. Remove from hot water. Beat egg yolks and stir into mixture. Add baking powder, then fold in stiffly beaten egg whites (still moist). Pour into buttered casserole and bake at 325 degrees for about 15 minutes or until fluffy and browned.