Thinking that I would like to see a little "How-To:" type tutorials to get us in-the-mood, I thought I would kick it off with one or two myself with the hopes that others will do the same.

Now don't take this as "**the only way**" but rather "another way"!! Your mileage will vary with your abilities and equipment but this can be taken as a thought provoking exercise.





Someone recently mentioned about brazing a fender to do some repairs. In this picture you will see a fender that someone had restored many years ago using brass and lead. The bottom side of the fender was "battle scarred" and very detectable. The best way (IMO) to repair this was to start from scratch and make a whole new patch panel to take its place.

This picture shows where a piece of sheet metal was marked using the bottom of the fender curve as the pattern. Then 3/8ths of an inch was turned down on the edge while retaining the “arc” of the fender. The reason I used 3/8ths” was because the wire rod in the fender will be 1/8th”.



Next you will see where a Vise-grip pliers are used to “trap it” on one end and a hammer



and dolly are used to slowly bend the sheet metal around the wire. Multiple taps are the key to making a nicely formed wire-edge.

Once the wire has been trapped in the patch panel, we use a special bead rolling die that I had made as shown in however a hammer and dolly can be used to totally close the metal around the wire.





Here you can see a close-up of how the die actually collapses the metal.

Here you will notice the wire is totally enclosed and has a “tail” stuck out on each end. This will be used to splice into the existing wire but further away from the break. This creates much more structural integrity and helps eliminate the possibility of a stress crack at the splice.

This shows another view of the wire edge.







Next the flat panel is inserted into another beading die to form the detailed edge.

After the first pass is made rolling it through, the patch panel will look like this in .



After the panel is finished in the bead roller, it is shaped by hand to match the fender. Here is a view as it is test fit.





Then in it is massaged in an English wheel to shape it in compound curves.

Once it is close, we stop and concentrate on the fender before going back to the patch panel.



As you can see here, a rough outline of the damaged portion of the fender to be removed is laid out.





Another view can be seen here.

A cut-off tool is used to remove the damaged area. As you can see in

Here you will see how the piece is cut out and tack welded into place. It is super critical that the fender have a

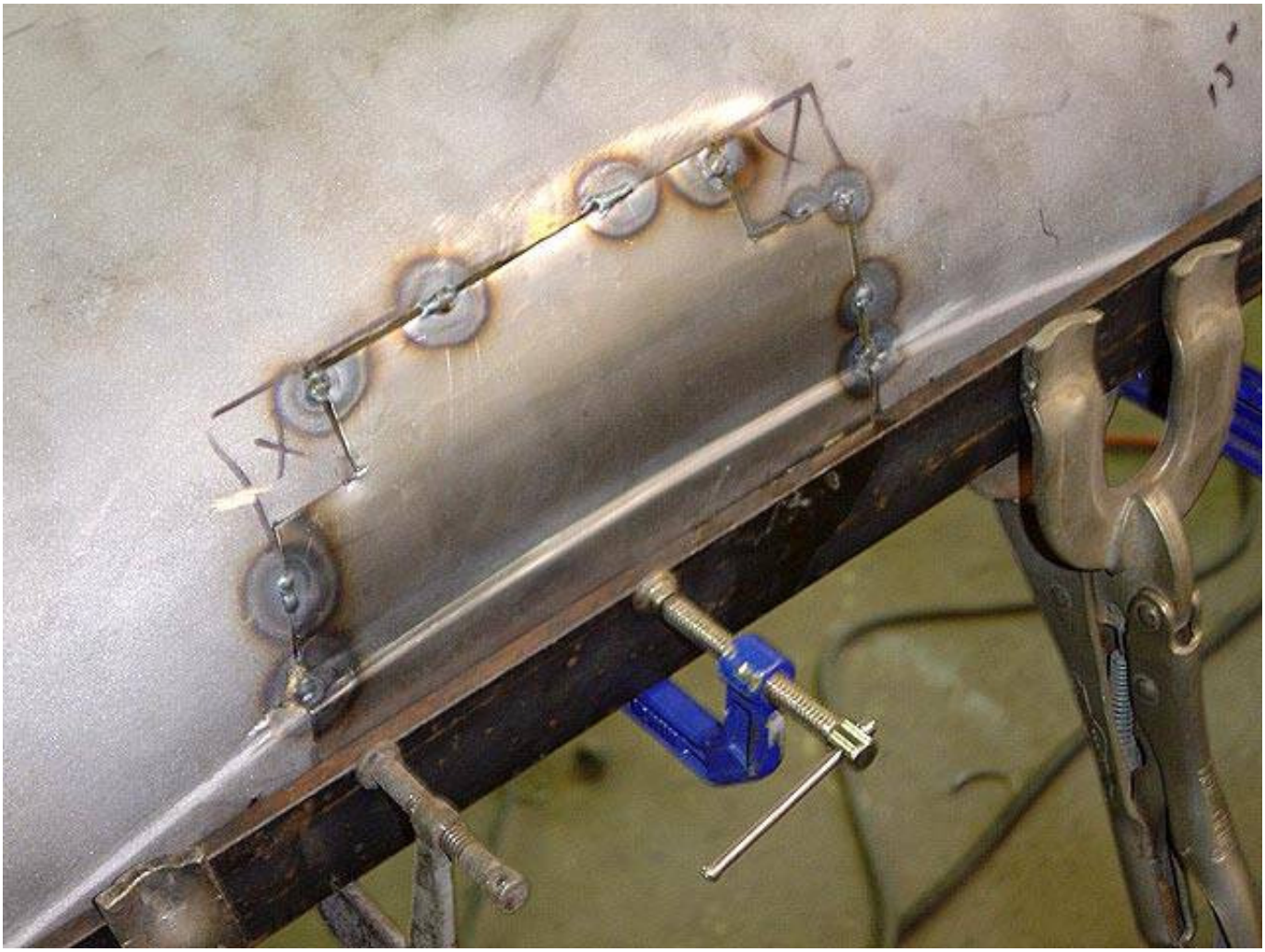


straight edge placed to keep the bead running straight PLUS to keep the proper alignment. Failing to do this can cause the fender to “fall flat” and lose the proper contour. By alternating the stitch welding between the outside and inside, --and then hammer the welds helps keep the proper shape.



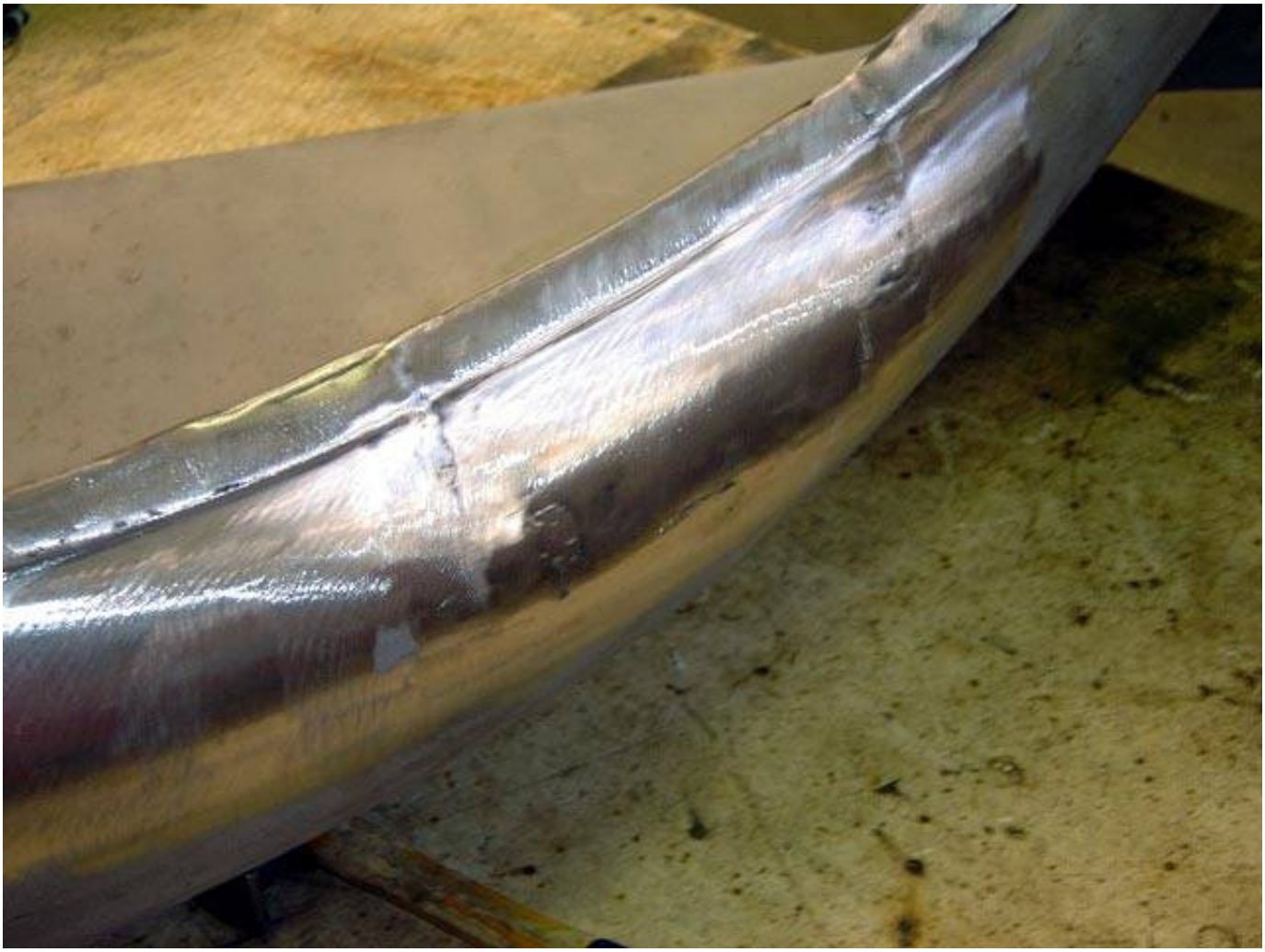


shows how we
weld the inside too.



shows a close-up of the welds.

Slowly but surely the patch is welded in making each weld about 1 inch long.



shows how there will be a slight bit of distortion. This is OK because the main focus will be to get all the welds flat. Using a 2" grinder with a 36-grit pad helps detail the areas as shown in

. Then we use the English wheel to stretch any curve needed --or a shrinking disc to remove any excess crown in the metal. Finally we use a thread file on the bottom side to mimic the serrated edge and then it is ready to go to the body shop.

I hope this all has made sense.