

# Tech Help

## Do it yourself!

Good rust-free sheet metal for 1955 thru 1957 Chevrolet passenger cars is becoming very tough to find. Much of the good solid sheet metal has already been used to restore other Classics. Individuals are more reluctant to part out a vehicle for sheet metal parts due to the increasing rarity of our great Classics! Many of the fenders, doors, hoods and deck lids that we see for sale either have some significant rust problems and damage, or are very high priced!

Classic restorers are faced with repairing what they already have or purchasing another rusty part and repairing it. Doors for all body styles, particularly 2-door hardtops and convertibles, are extremely difficult to find. If a door is not repaired properly, rust will again show through in just a few months and ruin all those hours of body and paint work. This month's Tech Help article will show you how to properly repair or re-skin a Classic hardtop door. The procedures used to repair doors for all other body styles will be the same. Get out in the shop and do it yourself!

Following is a list of parts that you may need:

| Part # | Description                                    |
|--------|------------------------------------------------|
| 31-29  | 55 and 57 left full door skin hdt/cvt          |
| 31-30  | 55 and 57 right full door skin hdt/cvt         |
| 31-191 | 56 left full door skin 2-door hdt/cvt          |
| 31-192 | 56 right full door skin 2-door hdt/cvt         |
| 31-27  | 5-6-7 left 3/4 door skin for all 2-doors       |
| 31-28  | 5-6-7 right 3/4 door skin for all 2-doors      |
| 31-131 | 5-6-7 bottom inner door left 2-door hdt/cvt    |
| 31-132 | 5-6-7 bottom inner door right 2-door hdt/cvt   |
| 31-99  | 5-6-7 bottom inner door left 2-door hdt/nomad  |
| 31-100 | 5-6-7 bottom inner door right 2-door hdt/nomad |
| 49-51  | POR-15 metal ready 20 oz. spray                |
| 30-52  | POR-15 rust preventative paint                 |
| 49-27  | Metal Conditioner                              |
| 49-28  | All Metal body filler, quart                   |
| 14-27  | The Insulator body insulation 4' x 6' sheet    |
| 49-22  | Spray adhesive                                 |

### Repairing lower door rust

1. When repairing a door, it should always be removed from the car and laid flat on the work surface. Our '57 hardtop door was fairly straight and solid overall, yet it did have some small rust holes at the bottom front and rear corners. (See Photo #1.) Remove all of the paint and surface rust from the bottom 4 inches of the door with a DA sander. Grind the rust spots with a coarse grinding disc as shown in Photo #2. Any small areas along the lower 1 1/2 inches of the outer door that look like tiny surface rust spots should be poked at with an awl or other pointed tool to see if these areas are

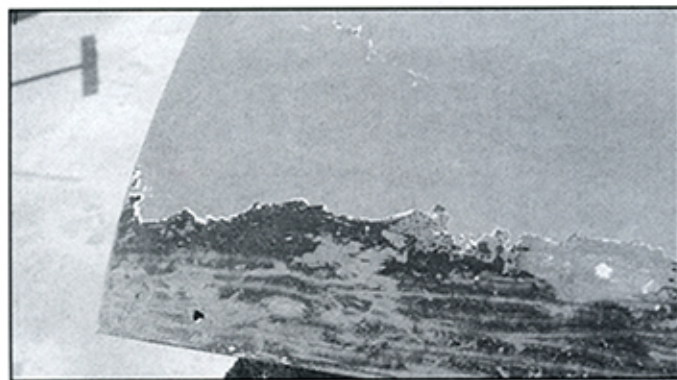


Photo #1

### Door Repair and Re-skinning



Photo #2

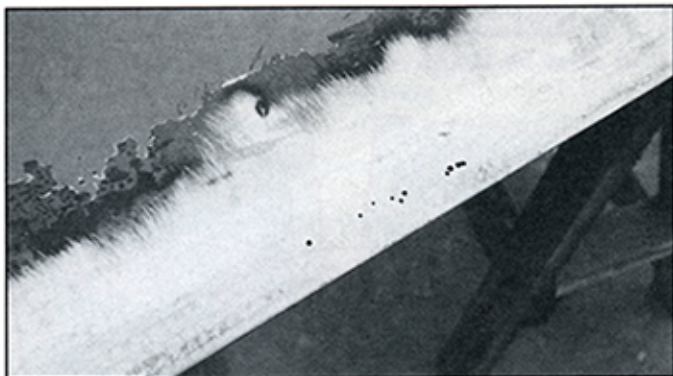


Photo #3

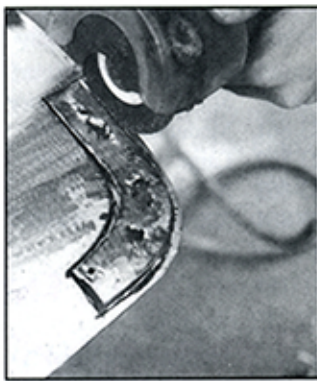


Photo #4



Photo #5

small pinholes in the door skin. If they are holes, push the tool into the rusted area until you have enlarged the hole to 1/8-inch or so. You will probably find lots more rust in these areas just like we did! (See Photo #3.) Closely inspect the entire lower skin of the door to be certain you have located all of the rusted through or nearly rusted through areas.

2. Areas with significant rust should be cut out and replaced. The lower rear edge of our door was very rotten, so the rusted area was removed with an air cut-off tool. (See Photo #4.) Be very careful not to disturb the actual edge of the door, if possible. Refitting the door and achieving proper gaps will be far easier if the edges are not disturbed. Cut out the area and remove the bad metal. (See Photo #5.) It is always easier to cut any rusted areas out using straight line cuts; however, we could not in this area because the rust was so close to the edge of the door.

3. Using the rusty piece that was removed from the door, cut a repair panel the same shape out of original gauge steel (we like to use a junk hood to remove steel patches from) and trim it to a size that is just slightly smaller than the area to be repaired. Carefully position the patch in the door and tack weld it into place using a MIG welder on low power. (See Photo #6.) Solid weld the piece into place a stitch at a time, being careful not to over-heat the door metal. Keep in mind that the larger the area to be cut out is, the more likely it is that the door metal will distort when welding. Be very, very careful to weld a little at a time and allow the door metal to fully cool to avoid distortion! Once the piece is solid welded, grind the welds smooth and hammer and dolly out any distortion. (See Photo #7.)

4. The lower front edge of our door also had some significant rust. A section of it was cut out using our cut-off wheel. (See Photo #8.) We made straight cuts here since we were not next to the very edge of the door. Remove the piece and cut out a patch the same shape to replace it. (See Photo #9.) Trim the piece just a little smaller than the cut out area and fit it in the door. (See Photo #10.) Tack weld the patch in place using your MIG welder. (See Photo #11.) Solid weld the piece in place, being sure to keep the heat to a minimum to avoid distortion. Grind and straighten the area that has been repaired. (See Photo #12.)

5. Any areas that have only small pinholes should be welded up and ground down so that the entire door bottom has been repaired. Once the door has been fully repaired, it should appear as ours does in Photo #13. After all welding and grinding is complete, apply a thin coat of All-Metal body filler, Part# 49-28 to the repaired areas and sand smooth. (See Photo #14.) Check the fit of the door on the car to be certain you have not disturbed the edges of the door. The inside of the entire door should be treated with Part #49-51 POR-15 metal ready spray and Part #30-52 POR-15 rust preventative paint to prevent any future rust. Finish the bodywork, prime and paint the door.

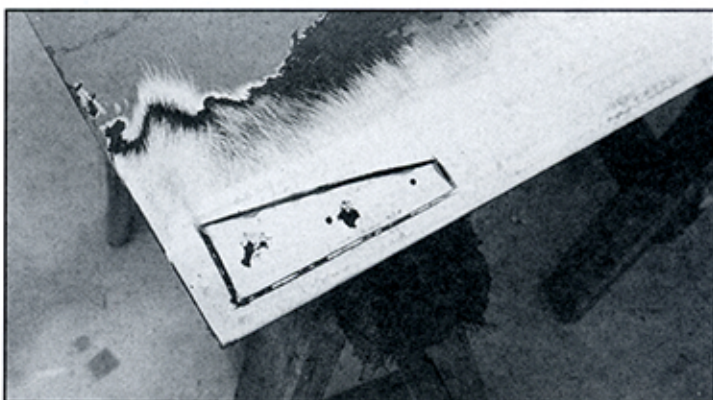


Photo #8

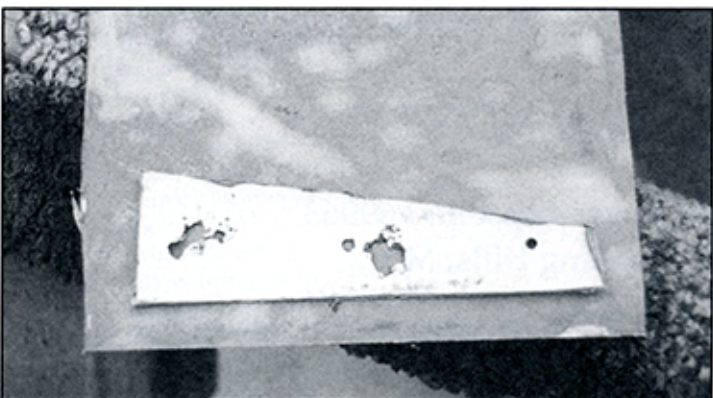


Photo #9

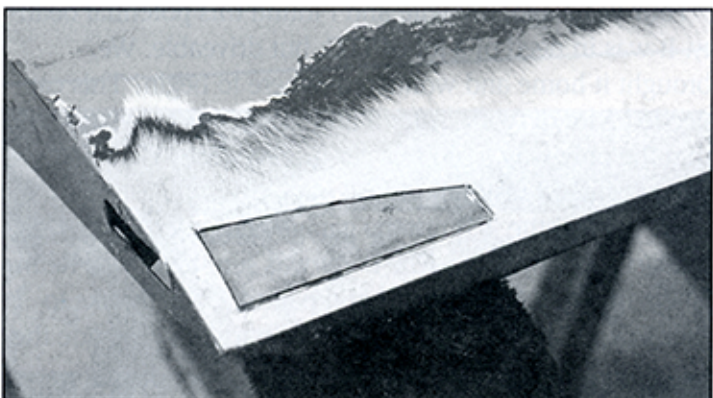


Photo #10



Photo #6



Photo #7

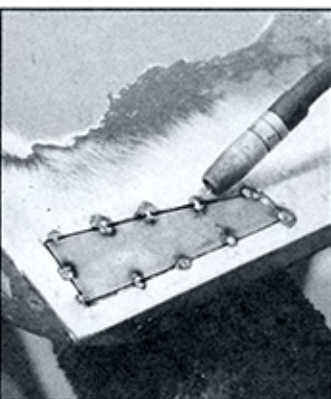


Photo #11

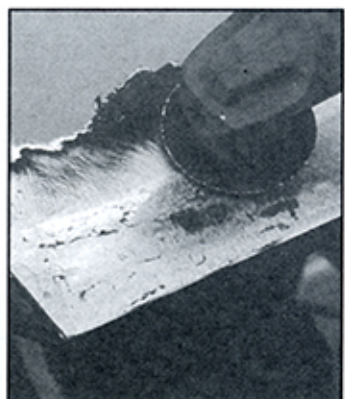


Photo #12

### Re-skinning the Door

6. Some doors are too heavily rotted to be patch repaired as we did our driver side hardtop door. [Photos #15 and #16](#) show the bottom of our passenger side hardtop door that was very heavily rusted. The inner door bottom was very badly rusted, as well as the lower outer skin. There was no way to properly repair this door without replacing all of the rusty sheet metal. Our door will receive an inner door bottom, [Part #31-132](#) and a full door skin, [Part #31-30](#).

7. No cutting or removal of the original sheet metal should be done until the new panels have been obtained and compared to the areas to be repaired. This will prevent you from removing too much metal and having to start over with another door or fill in any gaps that may be left! Once you have obtained the new repair panels, remove the original skin from the door. If you are installing a full door skin, remember that the top inner beltline stainless lip is not included on the replacement panel. We chose to cut the door about 3 inches down from the top edge. (See [Photo #17](#).) Once the old skin is removed, your door will look like ours does in [Photo #18](#).

8. Remove the remainder of the skin from the front, rear and bottom edges of the door using your cut-off wheel and a pair of pliers. (See [Photo #19](#).) Make certain not to damage the inner door frame edges, yet be sure to remove all of the original door skin that wraps around the inside edges of the door. Leave the top 3-inches of the door skin intact. In preparation for removing the door bottom, place three (rear, center and front) tape marks 12-inches above the bottom inner edge of the door bottom. (See [Photo #20](#).) These marks will give you a reference point for installing the new door bottom after the old one is cut off. Place the new inner door bottom inside of the original door and mark the original door along a line in the exact location that it needs to be cut. (See [Photo #21](#).) The replacement inner door bottom is made with a lap weld flange at the top, so mark your original inner door at the bottom of the overlap of this lip. Exterior panels should never be lap welded, yet this inner panel will never show and is easier to install by lap welding! (See [Diagram #1](#).)

9. Cut the original door bottom off along the line you marked in the previous step using your cut-off wheel. (See [Photo #22](#).) Your door will now look like ours does in [Photo #23](#). Install the replacement inner door

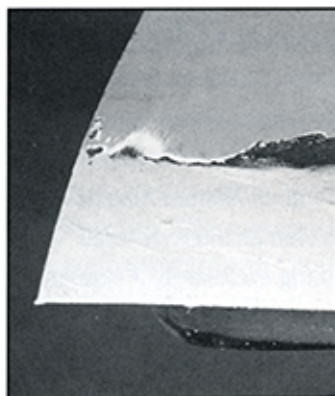


Photo #14



Photo #15

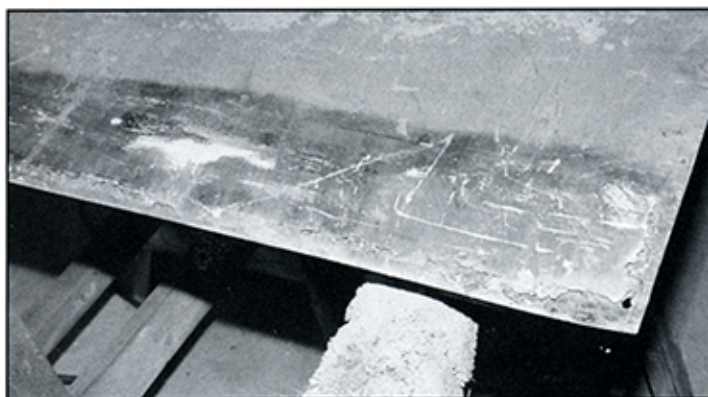


Photo #16

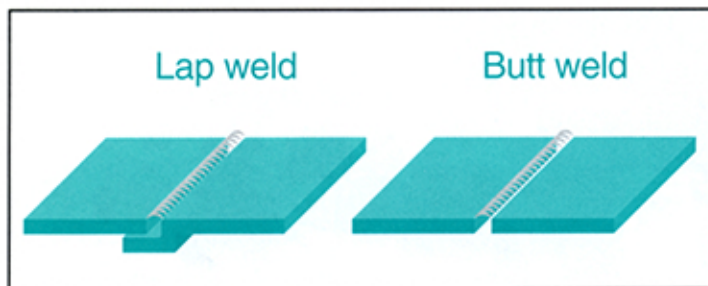


Diagram #1



Photo #17



Photo #13

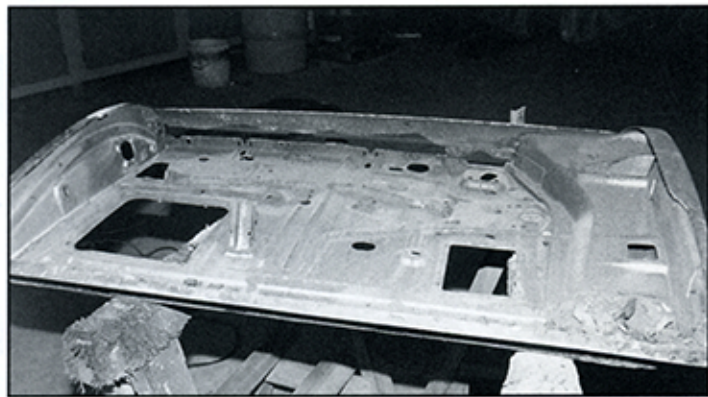


Photo #18

bottom by lapping it inside the original door frame. Position it so that the measurements to the new inner door bottom from your tape marks are exactly 12-inches. Tack weld the inner bottom to the original door frame in several places along the edge and at each end. Install the door frame assembly on the car at this time and adjust it to fit. (See Photo #24.) Make certain the door edges—and especially the new bottom—give you a wide, uniform gap all the way around. If the new bottom does not fit properly, cut the necessary spot welds now and correct the fit. Pay particular attention to the way that the face of the frame fits the forward quarter panel edge, lower front fender edge and the rocker. If it sticks out or is pushed in too far, make corrections at this time. We found that we actually had to file the lower rear edge of our door edge to make it fit the quarter edge properly. Don't be afraid to file, hammer and grind it to get a perfect fit!

10. Remove the door frame assembly from the car for permanent welding. At the rear edge of the door, the new panel overlaps the original frame on the outside. This small area should be cut out so the edge can be butt welded. (See Photo #25.) This will allow the new skin to fit the edge of the door frame properly. At the front edge of the new door bottom, there will actually be a small gap at the edge seam between the new piece and the original door frame hinge area support. (See Photo #26.) Clamp the edge to achieve proper fit and stitch weld the entire new door bottom in place. Install the door assembly on the car again and check the edges for proper fit. (See Photo #27.)

*continued on page 14*

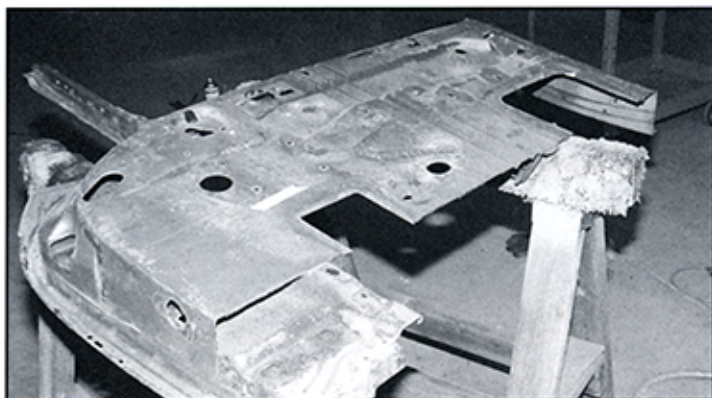


Photo #23

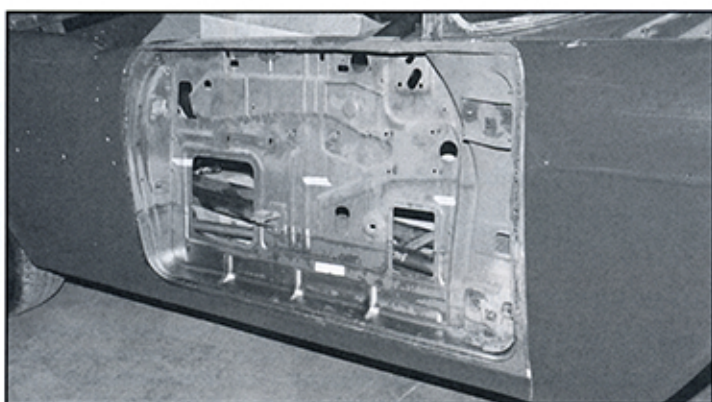


Photo #24



Photo #19



Photo #20



Photo #25



Photo #26



Photo #21

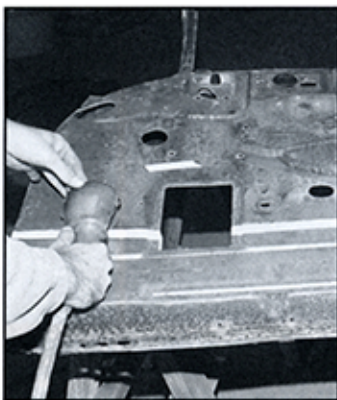


Photo #22

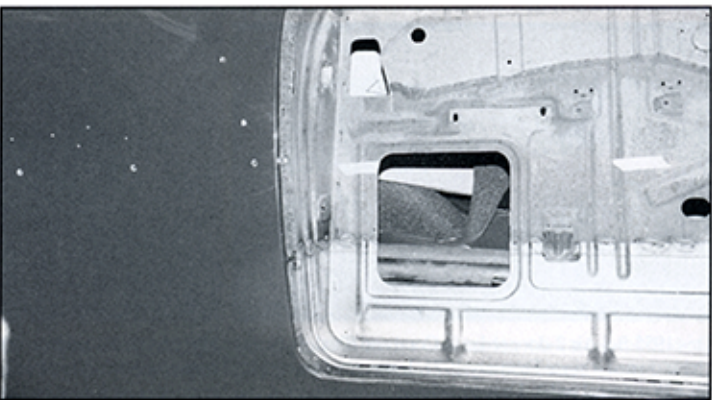


Photo #27

11. Reinstall the door frame on the car and adjust. With the door frame assembly in the open position, clamp the replacement door skin in place. (See Photo #28.) It will be necessary to notch the top of the skin to fit around the vent window post. Mark this area with a pencil (See Photo #29) and remove with a cut-off tool. With the new skin clamped in place, mark a line along the top with masking tape about 2-inches down from the top edge of the replacement skin. (See Photo #30.) Cut along this line through the replacement skin and through the original skin, creating a butt seam. (See Photos #31 and #32.) Do not weld the skin to the door at this time.

12. Remove the door frame and skin assembly from the car and place on your work surface with the skin facing down. (See Photo #33.) Starting at the front, gradually begin hammering the skin edge over using your hammer and dolly. (See Photo #34.) Hold the dolly on the outer skin next to the edge in the areas that you are hammering to prevent distortion. As the skin is hammered in place around the corners of the door, it will be necessary to split and notch the edges with the cut-off wheel so it will hammer into place without folding. (See Photos #35 and #36.) Once the skin is fully hammered in place, hang the door back on the car and



Photo #28

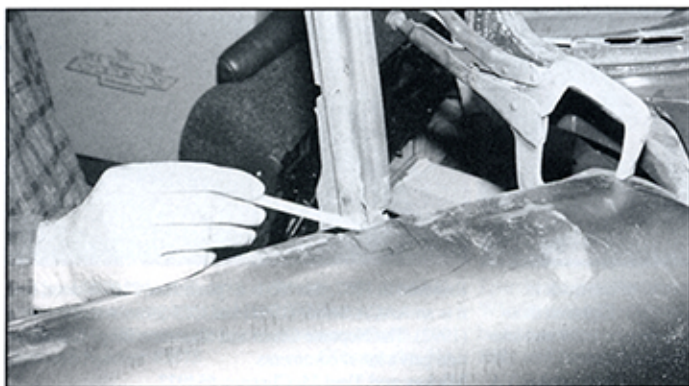


Photo #29



Photo #30

adjust. (See Photo #37.) Don't be alarmed if the door fits very poorly at this point. With a little hammering, grinding and filing, the edges of the skin can be made to fit properly. We found that the bottom edge of our door was bent way out away from the rocker and needed to be bent back in place. We did so with an adjustable wrench. (See Photo #38.) Continue working on the edges of the new skin until you achieve a nice, uniform gap. Remove the door to correct the forward gap if necessary. Reinstall the door on the car.

13. Once the door is fitting properly, tack weld the skin to the frame in several places around the inner edges to prevent the door frame and skin assembly from twisting out of shape as you continue to work. (See Photo #39.) Tack the top edge of the door skin to the top edge of the original door skin in five or six places. Continue tacking until you have tacked it every inch or so. (See Photo #40.) Being careful not to overheat the door, solid weld, grind and finish the top of the skin. Finish spot welding the inner edges of the skin every three inches and finish all bodywork. Remove the door handle inner reinforcement plate from the old door skin (See Photo #41) and spot weld it to the inside of the new door skin. Also remove the lower door panel retainer strip from the original door bottom (See Photo #42) and spot weld it to the new inner door bottom. In order to locate the stainless holes in the new door skin, make a template from the original skin (See Photo #42), and transfer onto the new skin. Drill and file the new holes in the proper locations.

13. Once all of your bodywork is complete, metal prep the inside and outside of the door using Part# 49-27 Metal Conditioner. Prime the inside and outside of the door completely with some type of metal etch primer such as DuPont's Variprime®. This will help prevent the return of future rust. Also soundproof the inside of the door with The Insulator, Part #14-27. For installation instructions refer to your updated Tech Book, Part #17-150 or April 1995 CCW. Your brand new, rust-free door should now be complete, ready to paint and install! Good Luck! ☺



Photo #31



Photo #32

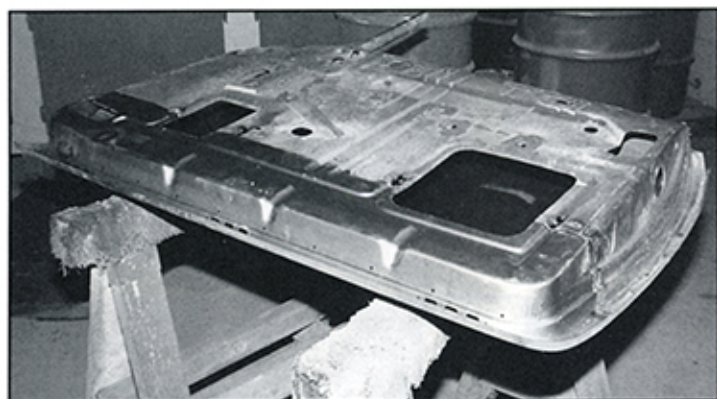


Photo #33



Photo #38

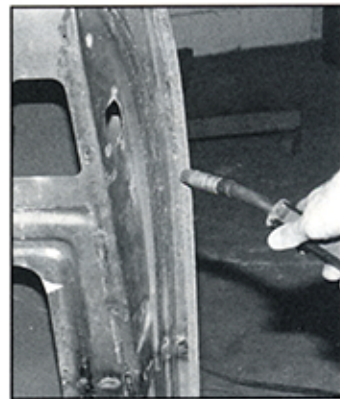


Photo #39



Photo #34



Photo #35



Photo #40

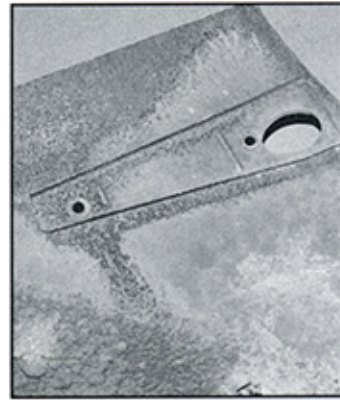


Photo #41



Photo #36

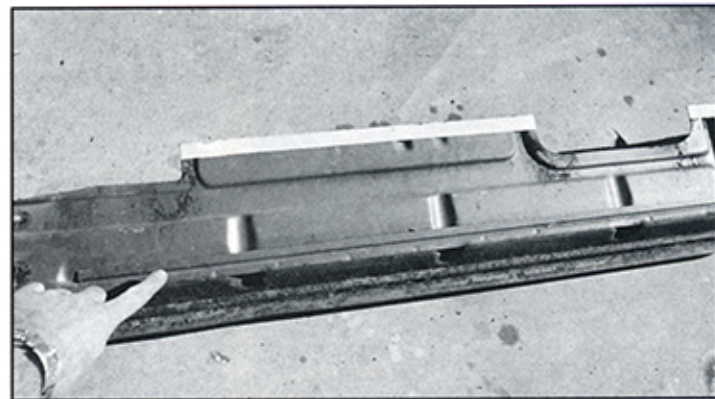


Photo #42

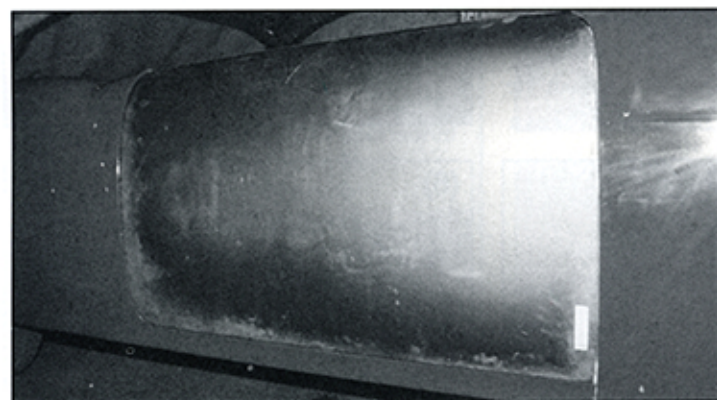


Photo #37



Diagram #43