33/34 "L" Bracket Fabrication

NOTE... THE INSTRUCTIONS BELOW ARE MY APPROACH AND ARE USED AS AN EXAMPLE... DO IT ANYWAY YOU WISH.

All Templates are from OEM Part A

The L bracket was made with 13 gauge metal...the only gauge I could find was 12. So my part is fabed with about 0.110 mil inch thick material versus about 0.095 mil inch thick for OEM.

Due to the thickness of the metal making a rib by die pressing is hard. The reinforcing rib I fabed was from 1 inch diameter 12 gauge tubing and is welded to the flat metal. Thus it appears correct from inside the car and supports the reinforcement function. The other side that is against the cowl wood and never seen.

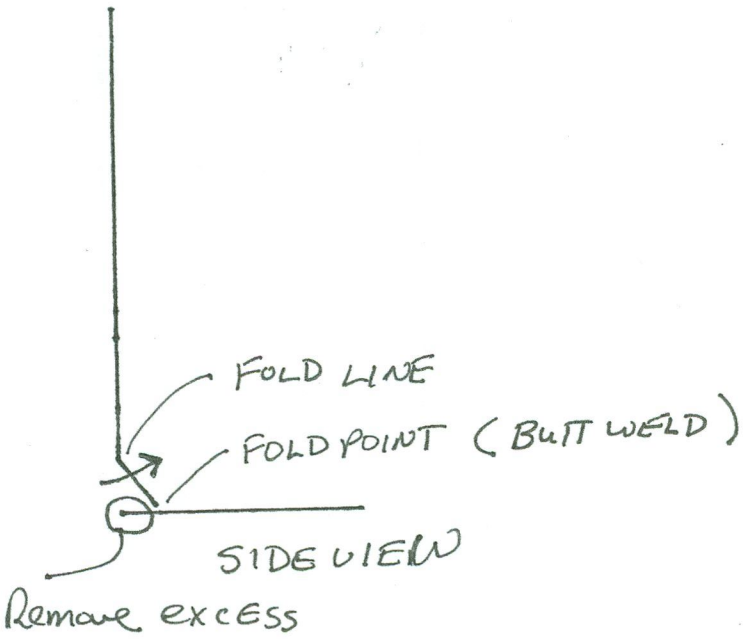
All of the templates are referenced to the "inside of the bracket"...that is .... the side facing toward the middle of the car.

Take template "A" and place on the flat material to provide the cutting outline. You can drill the three holes for the screws to the cowl wood. The holes size the 5/16 inch diameter. Once drilled I used a couple of flat washers with a 5/8 inch inner hole and the upper portion of a flat top slotted 5/16-24 screw in a vice to create a countersunk pattern. Note the outside of the bracket has a raised crown due to this procedure. The flat head is smooth to the top of the L bracket. I had to use an 82 degree countersunk drill to do the final contouring. The finish size of the hole is 3/8 inch diameter. The 5/8 inch diameter hole for mounting the Foot to the frame will be done later. PLEASE SEE NOTE AT THE END ABOUT THE CURVE OF THE FOOT.

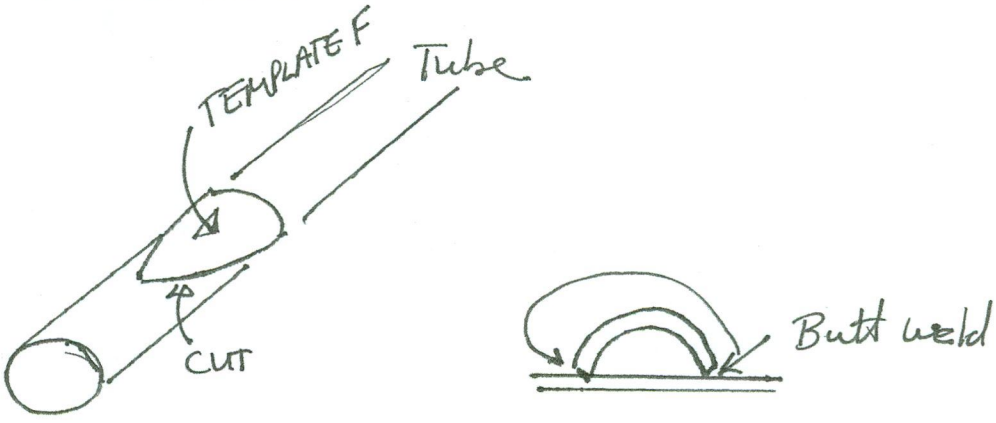
On Template "A" are two lines that must be carefully marked on the metal. The "Bend"/ 'Cut" line and the "Fold" line. (I use Bend and Fold to distinguish the two locations) Both are marked on the inside of the bracket. Cut the "Cut" line to the point where the "Bend" begins. Bend the flat metal on the remaining "Bend" line portion to the angle of template "B". Then cut a wedge out along the "Cut" and the portion just above it toward the "Fold" lines.

Next bend/contour the bottom foot that follows the subrail. I bent in a stepping fashion on the Foot to get a smooth curve from the forward edge of the bracket to the rear that matches Template "C". PLEASE SEE NOTE AT THE END ABOUT THE CURVE OF THE FOOT.

The next step is to "Fold" the portion above the cut wedge inward until the tow "Fold Points" approximately touches. The Fold angle should align to Template "D". Once the "Fold" is done there is excess material of the "Foot" stinking out behind the bracket. Cut off the excess and butt weld the edge from the Fold Point to the end of the "Bend".



The final step is the reinforcing rib. Template "E" is placed on the bracket and provides the outline for the rib. It is directly taken from and OEM piece so the Fold edge follows the OEM edge which was a die stamping. Template "F" is placed on an 1 inch diameter tube. Cutting along the edge and some grinding gets a flat surface to mate to the bracket....grind and bondo as needed to make a die stamping curve effect.



NOTE ABOUT THE CURVE FEET

The curve defined by Template "C" is slightly more than the profile of the subrail. The thought is once the Foot is bolted to the subrail/frame I will shim the front of the triangular pieces to allow adjustment of the vertical portion of the cowl. The slightly sharper curve permits me to do this shimming because it rocking at the bolt. You may want to do this or not... your call

The final exact position for the hole in the Foot should be correct per the templates, but you may want to adjust the exact hole position as you fine tune the cowl position.