

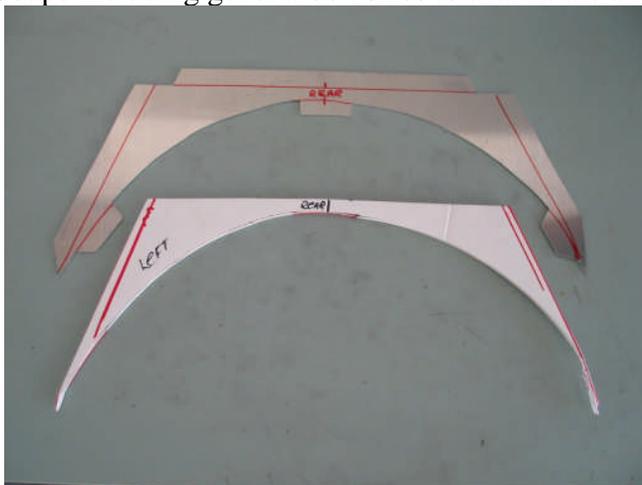
Fabricate Structure for you Car!

I have to keep reminding myself that this is after all, a kit car, so some fabrication is required. My project of the month is the transmission tunnel on my Daytona. As delivered from Upstate it is basically like any modern car in that the transmission tunnel is round. If I was going to go easy I'd just carpet it but I just can't... The originals were boxed in aluminum so they had a very "squared" off look. Now if I would have bought the aluminum internal panel option for a few thousand dollars more with the kit, I'm sure it would have been easy. Also if I had bought a Factory Five where they conveniently place structural square tubing in all the right places to pop rivet pieces to, I'd also be ok. Alas, this is not my fate. Out comes the paper, pencils and foam core board.

Ok, first thing is to determine the basic design which is harder than it seems. I compared a lot of pictures of other Coupes to try and understand how wide I wanted the top piece to be and the angle of the sides. Some coupes have a very narrow top – gives more room for seats – and others are wider giving more room for coffee mugs, maps and such. I've decided with a narrow rear flaring to the front.



First thing is how to support the sides and the top piece which I know will get a lot of stress from me leaning on it as I get in and out of the car. The easy way would be to just fasten the top to the sides and the sides to the transmission tunnel bottom – too flimsy. I decided to create three internal braces, like bulkheads, to support the structure. First, I determined the brace locations on the floor of the Coupe with black marker. I then made up three foam core sections and taped them in place and using a straight rule, I made sure that the top and sides would be flat across all three pieces. You'd hate the middle brace to be half an inch shorter or taller and give the top plate a wave. Foam core is very simple to use, with a very sharp Xacto blade, and I'm finding it very useful for "mocking up" a lot of items for the Coupe including general box sizes to trial fit the air conditioning in various places to get the right place.



I then transferred the outlines over to .063 thick T-6061 Aluminum. Since I knew I wanted flanges on all sides for mounting purposes I drew in .75" folds. You can also see that the transmission tunnel edge has three tabs for mounting. As with all tool guys, this was an opportunity to purchase a 30" sheet metal break and a 2" hand break from Harbor Freight. Even though I thought this through (I thought), I ended up performing the bends in reverse order on the first two braces so I had to play a little with the design. I should have done the long bends – sides and top first with the 30" break and then I could have used the 2" break to bend the tabs over "in the opposite direction." Why was this important you ask? Well... if you plan to fasten the tabs to the transmission tunnel with a pop rivet you have to have room to insert the pop rivet gun to the tab, and if they are bent the same way as the side flanges are then you're toast! Unfortunately, I did this twice before I caught on. So, the front and back braces are modified with cutouts in the outer flanges to get a pop rivet gun through while the middle one is done correct. Experience is the best teacher! I used the E-brake mount to support the middle brace so it's solidly in place. While it was still on the table, I cut two 1.25" holes and installed rubber grommets so I could later run wires along the inside of the tunnel. In preparation for the final install, I positioned the brace – making sure to level it relative to the car - and drilled the pop rivet holes. Out came the 2 part epoxy to give me a nice solid connection to the fiberglass – remember to rough up the fiberglass and the aluminum with some 80 grit paper - and I installed the brace with the pop rivets as shown below. Installation of the front and back brace went the same way with the addition of clamping 2 braces across them to make sure they set perfectly in alignment for the eventual top cover.



After letting the epoxy set up overnight I applied Dynamat Xtreme to the entire tunnel. The end result, less the dress panels, looks pretty good. Test fitting the seat shows I've got plenty of room along the tunnel for seat placement and it maintains a good top geometry, not too thin, not too wide.



More when I fit the covers...