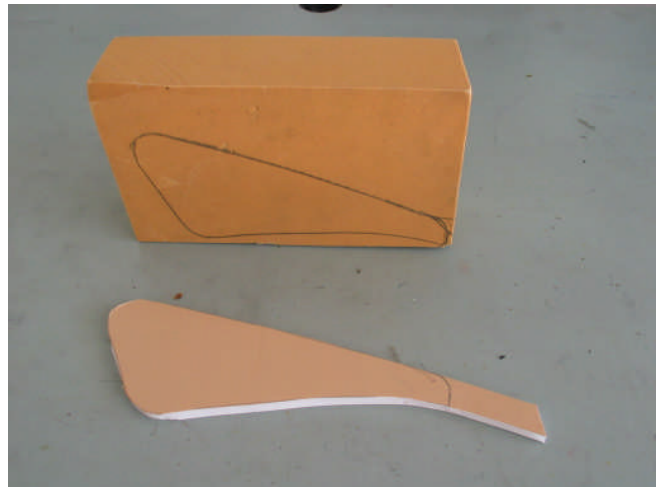


## Fabricating a working Rear Brake Scoop!

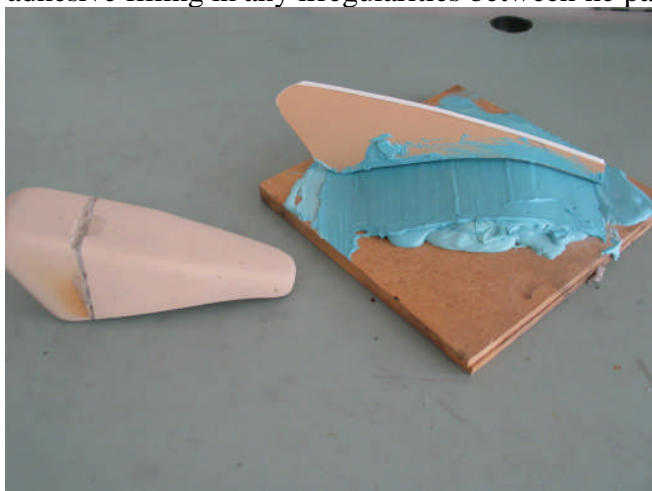
Daytona Coupes were designed with large fresh air inlets in the rear quarter windows on both sides of the car, ducting fresh air down to the rear brakes when at speed. The originals were basically a gap between body panels capped off by a Plexiglas scoop protruding from the body up top and ending in an outlet feeding the brake rotors. All of today's Coupe kits include the Plexiglas scoops to complete the look but most owner/builders never make them functional – primarily due to the fabrication and hassle involved. My Upstate Coupe was not designed for a functional scoop as the roll bar brace runs directly under the location where a scoop inlet would be placed. Regardless if I made the opening high or low (as shown in the picture) I would have to fight the roll bar and the roll bar stays! After placing the Plexiglas scoop in place and marking it's location I drew a center line for reference on the body and marked out the actual opening. Using two different size hole saws I drilled the two holes – smaller hole on top to taper the opening to the body curve – and cut between with a Dremel Tool.



Using a piece of Foam Core, I created a template of the space available between the body and the roll bar. With the roll bar in the way and the seat being on the inside, I would have to duct the air outward toward the body shell and then return it to the inner wall for final ducting to the brakes. Ah, did I forget to mention that I've maintained the original center mount Jaguar brakes? Well that makes it slightly more difficult as the air must now be ducted to the center of the floor to get to the brake rotors for cooling. Taking the template I drew it out on a block of high density foam (found it on E-Bay for \$6) and shaped a "plug" to what I expected to be the inside of the finished scoop. I tried to create the plug so it could easily be removed from the fibreglass part later to be re-used for the other side. The foam is easily cut with a hack saw – to get the basic shape – and shaped with 150 grit foam sanding blocks for final contouring. I also tapered the plug to match the body lines and inlet opening.



In preparation for creating the part I also had to make a base replicating the inside curve of the body so the finished part would mount flush when complete. This was done by mixing some Bondo and using the template to form the correct shape. I didn't have to worry about the smoothness of the surface as there will be adhesive filling in any irregularities between the part and the body when I assemble it.



To create the air outlet from the duct I used a PVC reducing fitting – 2.5" to 2" - which I shortened by 1" and held to the plug with a bit of double stick tape. The plug was wrapped in plastic wrap so the fiberglass resin would not bond to it and then, using the same double stick tape attached it to a wax paper overlay on my base. Using pre-cut fiberglass cloth strips and mixed lay-up resin, I covered the plug one strip at a time being careful to wrap it as tight as possible, making sure no air bubbles are trapped in the layers. I flared the fiberglass cloth out on the base to create a flange on the finished part. The flange would then give me a nice stable mounting surface to the inside body for holding the duct in place.



After letting the fiberglass cure during week I tried to pull the plug out of the part and failed miserably. Seemed I rounded the top edge which allowed fiberglass to flow in and effectively trapped my plug in place (Note to self: make sure the next plug is wider at the outlet of the part than the inlet so it will fall out). Just as the foam was easy to shape it was equally easy to grind out with a Dremel tool with a rotary bit. Of course this means I'll have to make another plug for the passenger side but no problem. After a little clean-up, I attempted to dry fit the part into the opening – too big! Second note to self: when making the template, and later the plug, remember to take into account the thickness of the fiberglass! Ok, minor retooling. After making a nice flange for mounting to the body, I had to cut it off to get the part to fit properly. Not a big issue as it's being assembled to the body with epoxy so the part will stay in place and be water tight when complete. Water? Yes, I thought about what happens when you're driving along in the rain and water is being driven into the brake scoop with the air. You could just wait until it filled up? Or maybe water will cool the brakes faster than air – or maybe not. As you can see below I also added a 1/4"

hose barb to the bottom of the scoop so that I could provide a drain for the water that I'm sure will be present occasionally. It's also held in place with epoxy so it won't vibrate loose and creates a tight seal.



After making sure the part fit in as required I also attaching a 90 degree fitting to the air port to direct the air around the roll bar. I'll later be able to attach a 2 inch brake duct hose to it and direct the air as needed. Note the drain hose barb location... I can attach a drain hose later and take it down the roll bar for draining out of the bottom of the car. The duct was installed using Plexus MA310 adhesive run around the edges and forming a fillet bead between the duct and the body for an air (and water) tight seal.



**Voila! Here's the working side of the duct installed (before and after.) After the car is painted I'll carefully paint the inside in flat black.**

