INTERIOR FINISHING

UPHOLSTERY AND INTERIOR COSMETICS

A nice interior should run you around $1000.00 if you have the seats upholstered by a professional, and do the carpet, headliner, and side panels yourself.

HEADLINER MATERIAL: This is late model headliner material, which is a velour cloth fabric with a piece of 1/4" foam bonded to the back. It comes in many colors and is glued to the interior of the fuselage and door from the windows up with contact cement. You will need approximately 4 yards at a cost of around $10-12 per yard.

CARPET: We use automotive type with the black rubberized backing. It comes in a lot of colors, and you will need approximately 12 linear yards at a cost of around $10-$12 per yard.

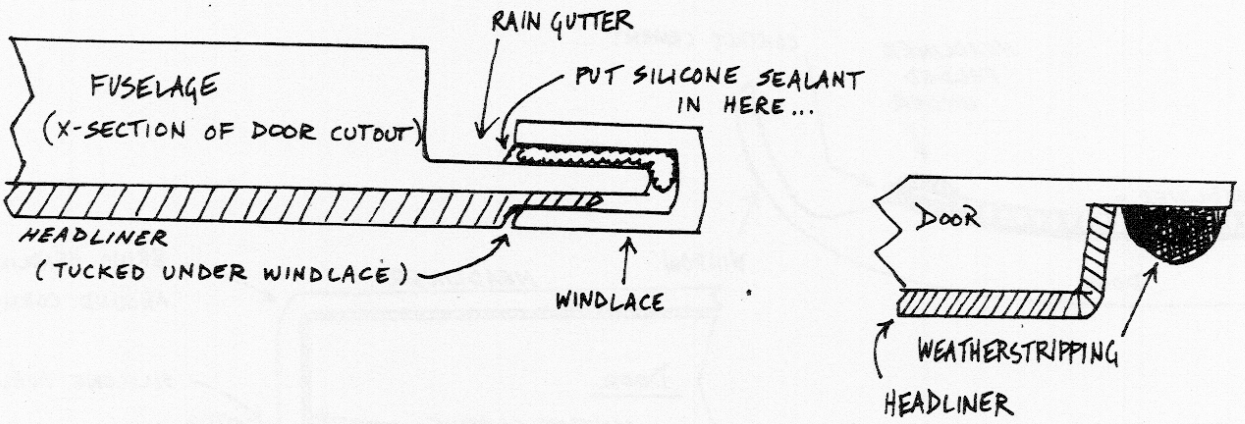
UPHOLSTERY MATERIAL: This is up to you. Cost may vary as much as $6-$20 per yard. you will need approximately 3 yards for side panels, and it is up to your seat cover man as to how much you will need for the seats themselves.

SEAT FOAM: usually costs $50-$60.

GLUE FOR INSTALLATION: We use 3M Super Trim Adhesive (part # 08090). You will need 4 or 5 of these spray cans. The stuff works great, and will get you higher than a kite if you don't have adequate ventilation. Super Trim adhesive is available in auto body supply stores.

TRIM & WEATHER STRIPPING: Velocity now supplies a trim & weather stripping system made by Trimlock. There is about 13-1/2 feet supplied, as Part #VFTDS-13 (TRIMLOCK DOOR SEAL). If you wish to have a color other than black, it is advisable to order some from the JC Whitney catalog. Their telephone # is 312-431-6102. The trim that you will need is called "automotive windlace", and costs approximately $1.50 per yard. It fits right over the door lip, just as the Trimlock does. Whatever you decide to use, install it to the lip with Silicone Sealant, as the trim also functions as a rain gutter. If you use trim other than the Trimlock, you will need to get some weatherstripping from the hardware store. We have found that the 1/4" thick, 3/8"-1/2" wide seems to work the best. The stripping is glued to the Door lip with contact cement, as the self-adhesive ones seem to detach after prolonged exposure to the sun.

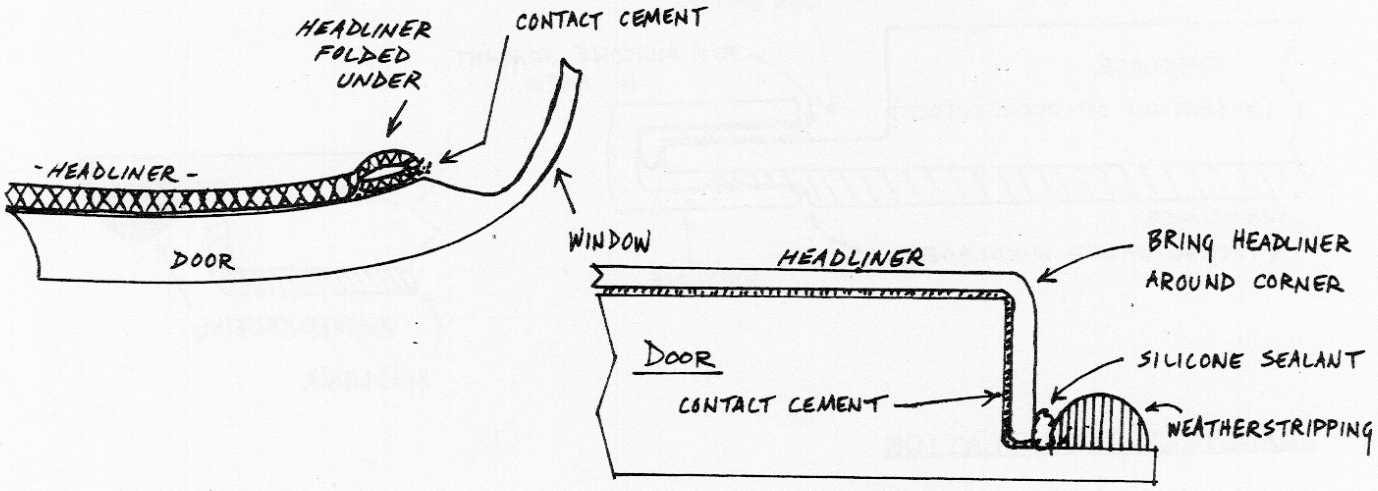
TRIM & WEATHER STRIPPING



HEADLINER INSTALLATION

Begin with your door. Remove the door and paint the lip on the inside with matching interior color. This is difficult to do once the headliner and weatherstripping are in place. At this time, paint the mating lip on the fuselage with matching exterior paint (sand first). If you have not yet done so, finish out around the windows on the inside, either with paint or upholstery material. You should finish all the posts between the windows and above and below the windows for approximately 1-1/2", so that you can bring your headliner and side panels up to approximately 3/4" from the window glass. We have trimmed around our windows with leather glued on with contact cement. This saves the sanding and painting, but it is still quite time consuming. You can use vinyl or upholstery fabric as well. Finishing out with micro and painting is still the neatest way to go. Once all this is done, you can install your fabrics. Putting the headliner on the door is an easy process. Remove the door dampener bracket, sand any lumps or bumps, and spray the door interior with adhesive. Cut a piece of headliner material approximately 2" larger than the door area and spray adhesive on it. Put the headliner in place. The area along the window gets folded under so the foam edge doesn't show, and the other edges get brought around the corner to the outside skin and glued into place. Using contact cement applied with a paint brush (thinning contact cement with xylene makes it easier to work with and cleans up well). The edge around the door will be covered by clear silicone sealant after the weather stripping is installed. (SEE SKETCH NEXT PAGE)

HEADLINER



INSTALLING HEADLINER IN FUSELAGE

Install the headliner the same way that you did with the door. DO NOT CUT IT TO SIZE or cut the door out first. Do this after the liner is glued into place. The trick is to first establish a centerline on both the fuselage and the foam side of the headliner, and then work from the center out.

NOTE IF YOU ARE GOING TO INSTALL A LORAN ANTENNA ON THE ROOF, MAKE SURE THAT IT IS IN PLACE AND THAT THE GROUND PLANE IS IN PRIOR TO INSTALLING THE HEADLINER>

Once the headliner is in place, trim flush around the door cutout lip and glue the liner securely in place with some extra contact cement. Trim around the window areas approx. 3/4" long and fold under as you did on the door window. Bring the headliner down slightly below the aft end of the rear window so your side panels will cover the edge.

We use the remaining headliner material to upholster the tops of the baggage strakes and a small cardboard or door-skin (1/8" plywood) panel that goes about 1" forward of the firewall from the center section spar to the ceiling.

In the door hinge area, seal around the hinges with silicone sealant to prevent water from getting back around the hinge. Fabricate a couple of thin aluminum covers to cover the recesses in the ceiling. Install these covers with silicone sealant and pop rivets. Trim around the gas spring mount and seal it with silicone sealant.

Next, install the carpets. This is done with contact cement or 3M spray adhesive applied directly to the inner skin of the lower half of the fuselage. You will be carpeting the following:

* Bottom and sides of the baggage strakes
* Front and rear of the seat bulkhead (use construction templates)
* Floor (front and rear)
* Front side of rear lower seat support
* Lower half of the cabin side of the canard bulkhead
* Lower sides of the cabin up to the side panels
* Center console

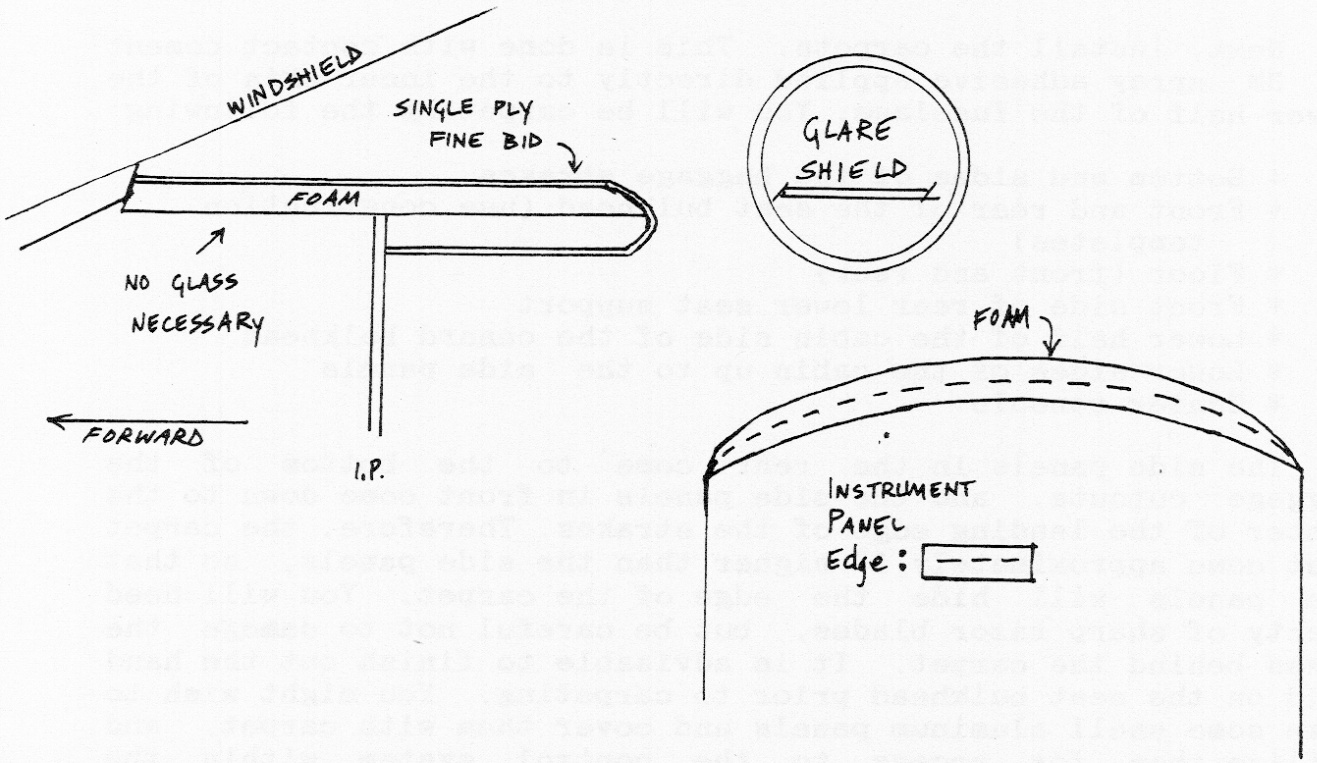
The side panels in the rear come to the bottom of the baggage cutouts, and the side panels in front come down to the center of the leading edge of the strakes. Therefore, the carpet must come approximately 1" higher than the side panels, so that the panels will hide the edge of the carpet. You will need plenty of sharp razor blades, but be careful not to damage the glass behind the carpet. It is advisable to finish out the hand hold on the seat bulkhead prior to carpeting. You might wish to make some small aluminum panels and cover them with carpet, and utilize them for access to the control system within the console.

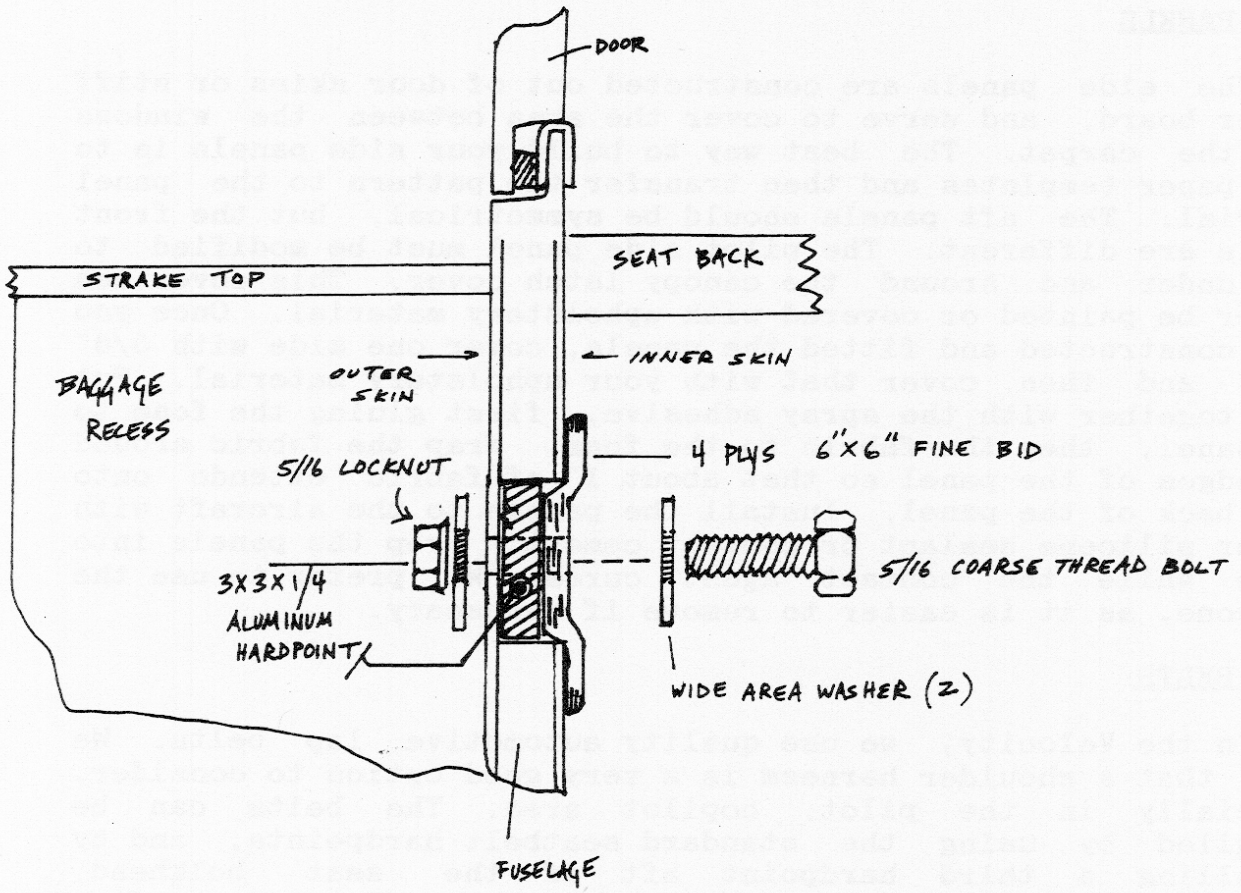
SIDE PANELS

The side panels are constructed out of door skins or stiff poster board, and serve to cover the area between the windows and the carpet. The best way to build your side panels is to make paper templates and then transfer the pattern to the panel material. The aft panels should be symmetrical, but the front panels are different. The pilot side panel must be modified to fit under and around the canopy latch cover. This cover can either be painted or covered with upholstery material. Once you have constructed and fitted the panels, cover one side with 3/8" foam, and then cover that with your upholstery material. Put them together with the spray adhesive, first gluing the foam to the panel, then the fabric to the foam. Wrap the fabric around the edges of the panel so that about 1" of fabric extends onto the back of the panel. Install the panels to the aircraft with either silicone sealant or contact cement. Prop the panels into place while the contact agent cures. We prefer to use the silicone, as it is easier to remove if necessary.

SEAT BELTS

In the Velocity, we use quality automotive lap belts. We feel that a shoulder harness is a very good option to consider, especially in the pilot, copilot area. The belts can be installed by using the standard seatbelt hardpoints, and by installing a third hardpoint aft of the seat bulkhead, approximately 6" aft of the seat bulkhead and 4" below the door





SHOULDER HARNESS HARDPOINTS (TYP)

cut-out. Begin by removing a 3" X 3" section of the inner skin and foam down to the outer skin. Sand the outer skin and a 6" X 6" area of the inner skin. Install a 3" X 3" piece of 1/4" aluminum into the recess with Genemid microglass, then cover with 4 plies of 4" X 4" fine bid. In order to install the seatbelt, drill through this hardpoint into the baggage area, and use a 5/16 grade 8 bolt, large area washer, and 5/16 locknut to attach.<<CAUTION: MAKE SURE THAT THIS HOLE IS LOW ENOUGH TO CLEAR THE UPPER STRAKE SKIN BY AT LEAST 3/4".>> To install lap belts, you will probably have to shorten the belts. Pay careful attention to the way that the metal ends are installed. Remove them and cut off the excess material. Reinstall the ends using quality nylon thread, and try your best to duplicate the integrity of the original joint. These belts are installed to the hardpoints previously installed in the fuselage with 5/16 coarse thread nuts and wide area washers (provided with kit). You must now drill and tap these hardpoints. When doing so, be careful not to drill or force the tap through the outer skin. Use a 17/64 drill and a 5/16-18 tap, and try to put the holes in the center of the hardpoints.

GLARE SHIELD/INSTRUMENT PANEL COVER

We construct our glare shields out of 2 layers of 1/2" Clark Foam. The first layer is cut to fit from approximately 3-1/2" aft of the instrument panel, resting on top of the panel, and fitting up against the fuselage below the windshield. The second layer is 3-1/2" long by 36" wide, and fits under the first layer up against the instrument panel face and extending back 3-1/2" towards the pilot. This takes a bit of time to fit, but once accomplished, the end results are quite rewarding. Once you are satisfied with the fit, you must clamp it into place and laminate the 2 layers of foam together with micro. After cure, round the aft edge nicely and sand it to fit properly around the instrument panel and fuselage. Cover with 1 layer fine bid. Following cure, sand, then paint or upholster, and install permanently with a small amount of silicone sealant.

(SEE SKETCH OPPOSITE PAGE)