



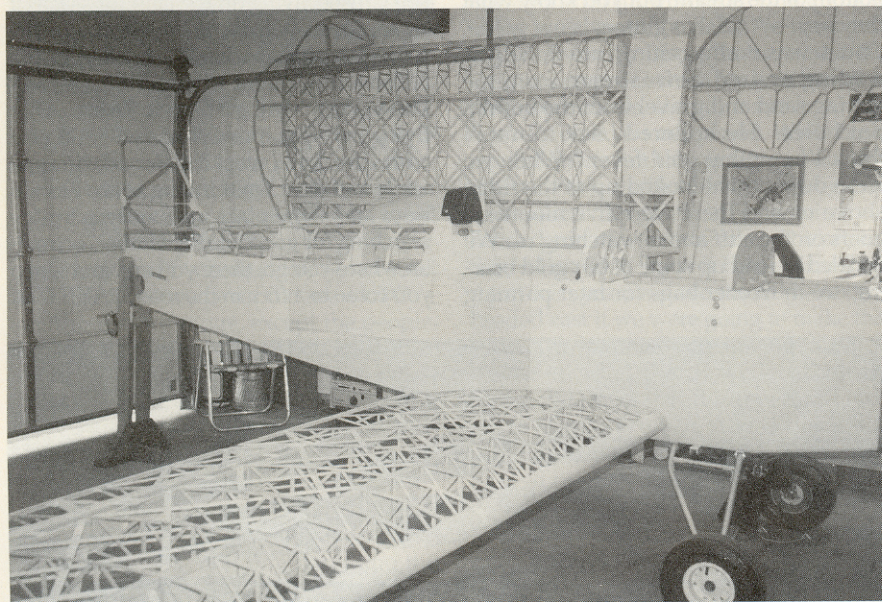
The author's finished FP-404 on which Mike Fisher's paint process was first used.

Finishing a **CELEBRITY**

by Chuck Shapler
(EAA 326750)

Several years ago, Mike Fisher (Fisher Aero Corporation, 7118 State Route 335, Portsmouth, OH 45662) devised a simple and economical process for sealing and providing ultraviolet protection for Ceconite (Dacron) poly-fabric covered airplanes. I've built two of Mike's wood frame fabric-covered biplanes — an FP-404 and his Celebrity. I used the Fisher paint process on both of these airplanes with very satisfactory results. While the finish will probably not compare with that obtained from other, more involved finishing processes, it will provide a most acceptable appearance. Another advantage, besides its ease and low cost, is that it will probably be lighter than conventional finishing systems.

On wood frame airplanes the process



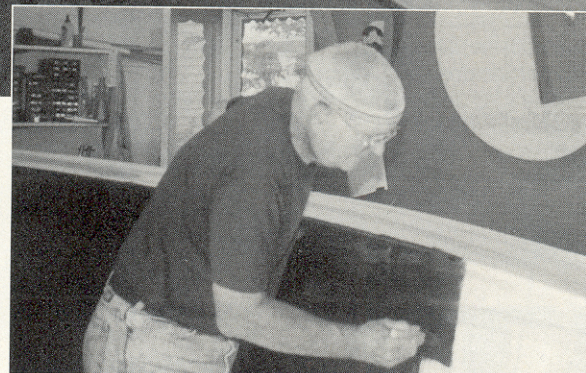
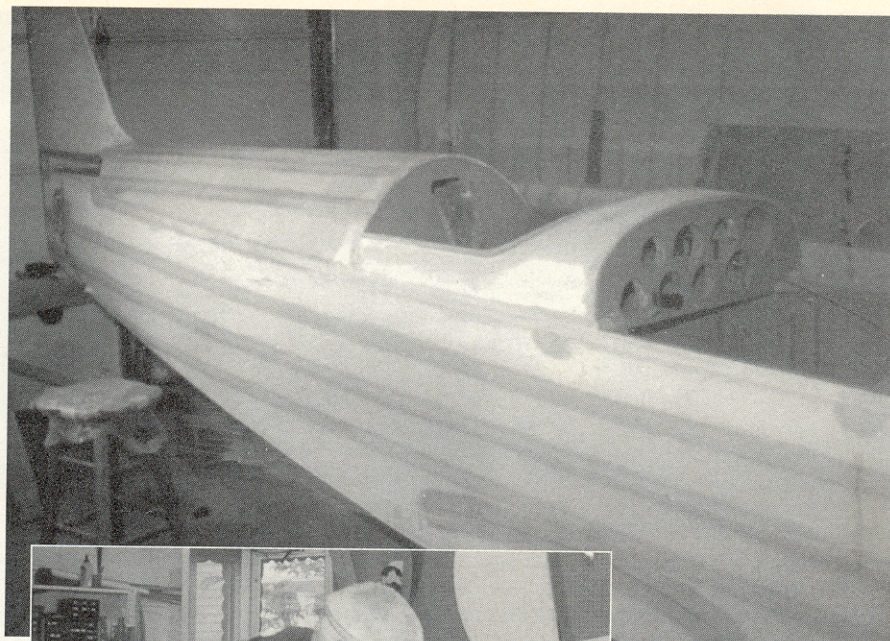
Above - A portion of the Celebrity wood framework before covering. It looks so good, it's hard to cover it up!

Right - Chuck Shapler works on the final shrinking of fabric on the Celebrity fuselage.



begins with preparing the structure for sealing. All metal fittings should first be removed. At this time I found that by installing 1/16 -inch ply back-up plates around openings for items such as push rods and strut fittings the covering process will be greatly simplified. The fabric can then be cemented to these ply surfaces before the final shrinking process. Once these plates are installed, a final thorough exterior sanding should be given the framework to be sealed. This is a good opportunity to ensure that you have provided a continuous outline that will act as the foundation or gluing surface for the fabric. A little extra time spent now will prove to be a real time-saver during the covering operation. Remember, the results of your covering job will only be as good as the structure with which you begin.

After the final sanding of the structure, and removal of the sawdust with a good tack cloth, it is ready for the application of the sealer. There are any number of good polyurethane sealers available. I used clear satin DEFTHANE, which is readily available at most hardware or paint stores. This worked well for me as DEFTHANE has enough color to show where you have and have not applied it. This can either be brushed or sprayed. I found that by brushing I gave the structure a final close inspection to assure that there were no missed glue joints or overlooked damaged areas. I brushed on one coat with a 1-1/2 inch bristle brush. All gluing should have



Above - The covered Celebrity fuselage showing the tapes over the stringers.

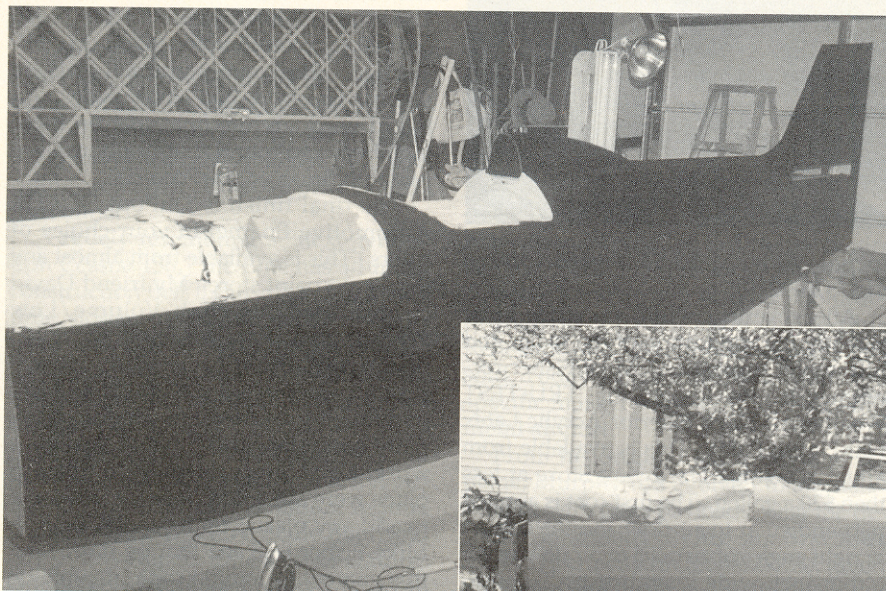
Left - Applying the first coat of latex sealer to the Celebrity fuselage bottom with a four-inch foam brush.

been completed before sealing as epoxy (T88) cannot penetrate the polyurethane. A good modern polyurethane sealer,

correctly applied, will insure that a wooden structure will remain rot free for many years.

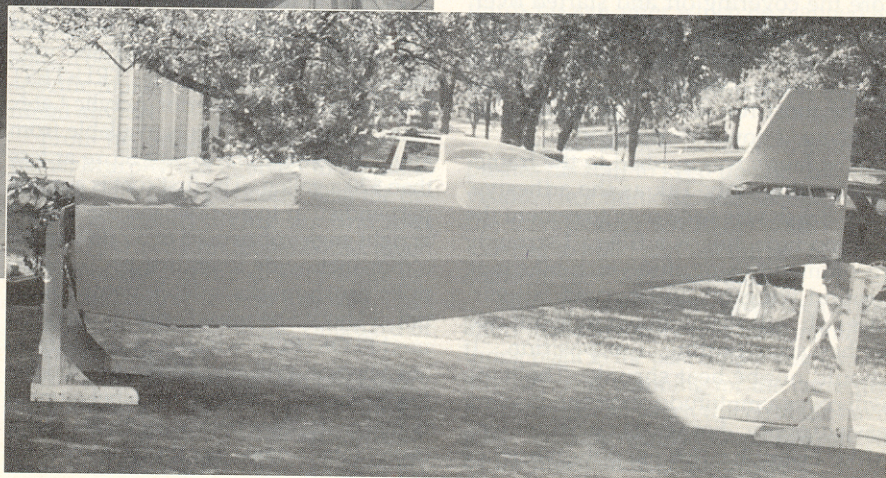
Although my experience has been with wood-framed airplanes, this process can also be used on any fabric-covered metal airplane. A friend of mine is using it on an all-aluminum RANS S-9.

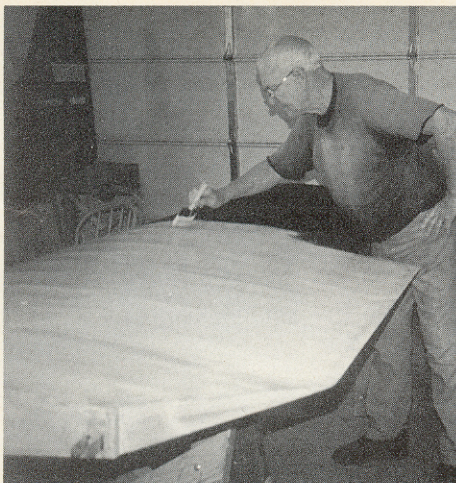
When I built my first airplane I was scared to death that my covering job would put to waste all that beautiful wood structure that I had agonized over for so many hours. In fact, I actually let the project sit for eight months while I got up my nerve. I spent an entire Sat-



Above - The Celebrity fuselage with both black latex paint coats, ready for the final enamel finish.

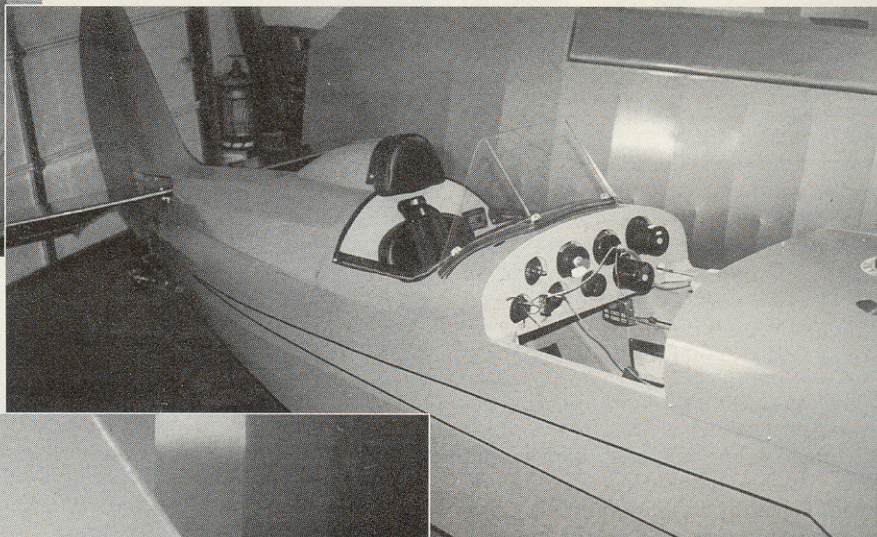
Right - The Celebrity fuselage drying after the application of the blue enamel finish coats.





Right - Applying a thin coat of white latex paint over the two black sealer coats on the Celebrity upper right wing panel reduces the number of final coats of lighter color that'll be needed.

Below - Front portion of the Celebrity fuselage after applying final blue enamel and silver/black vinyl trim. Finished silver wing panel can be seen in background.



Below - View of the Celebrity blue fin and rudder with silver stabilizer and elevator.



urday covering the horizontal stabilizer. It looked pitiful, but I learned a lot. I tore the covering off and started over. With each piece I covered, I gained a little more confidence and skill. As many of you know, covering is probably one of the most fun aspects of building an airplane. I now love doing it!

The fabric was applied to the framework using Poly-Tak as the adhesive. Poly-Brush was used only to cement the Dacron tape, not as a filler. I strongly recommend using three-inch bias tape around wingtips and curved tail surfaces. It will shrink down to about two inches after pulling into position. It should not be heat shrunk. This tape will cover a multitude of sins and is very easy to apply. For you scratch builders, Mike Fisher has 1.6 oz. poly-fabric, 64

inches wide, at \$3.50 a yard (phone 614/820-2219).

After covering and shrinking, the fabric is ready for application of the sealer and ultraviolet protection. Mike Fisher recommends two coats of TRU-TEST WeatherAll black Exterior Acrylic Latex Flat House Paint. This is available from any True-Value Hardware Store at less than \$20 a gallon. The first coat is applied perpendicular to air flow and the second at right angles or parallel to air flow using a four-inch-wide foam brush. To minimize brush marks, a latex paint conditioner should be mixed with the paint. I used FLOETROL, which is available from any Sherwin-Williams distributor, and followed the directions on the label. It really makes the latex paint easy to use. After each latex coat is thoroughly dry

(overnight), I gave the entire surface a very light sanding with 600 WetOrDri sandpaper. Be very careful with this step — it doesn't take much to go through the fabric. Carefully clean off all sanding dust with a good tack cloth between coats.

If the final finish color is to be very light, such as white or yellow, you may wish to apply a very thin coat of white latex over the normal two coats of black. The white is much easier for the finish enamel to cover than the black. My FP-404 had yellow wings and tail feathers and my Celebrity had silver wings and tail. I used a white final coat on these members and found that I only needed two thin finish enamel coats.

The final finish is DuPont DULUX Automotive Enamel in your choice of colors. This is available from almost any local auto paint store. My friend David Grimm used his High Volume/Low Pressure spray system on both of my airplanes with beautiful results. Dave is now a corporate pilot and CFI, but has had much experience as an auto body paint specialist, and he does very nice work. Two thin coats on the entire airplane were adequate. It is not necessary to add any plasticizer to the DULUX — Mike Fisher told me that he has found this enamel to remain quite flexible on his fabric airplanes for years.

If anyone wishes more information, or would like to inspect the finish in person if you happen to be in the neighborhood, please don't hesitate to call me at 419/474-8706 or write me at 1959 Chalice Way, Toledo, OH 43613-2230. ▲