

Simple Construction Of Fiberglas Wing Tips

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WHEN I GOT around to making the wings for my Stits Skycoupe, I decided that I wanted something different in the way of wing tip design. Ray had designed the tips to use a single $\frac{1}{2}$ in. tube bow supported by the outermost rib and the two spar ends. The fabric stretches tight from the last rib to the bow a la Airnocker. I wanted something more fancy.

I figured the best way to start was to place some small riblets between the regular wing rib and the bow. These were cut from $\frac{1}{8}$ in. plywood to the contour I wanted. These are shown in Fig. 1.



FIG. 1

To get a rounded effect at the bow I next cemented pieces of polystyrene foam between the riblets and at the leading edge of the wing. These are also shown in Fig. 1.

My plan was to next cover each side of the tip with one layer of fiberglas — after sanding the polystyrene to the right shape. This was a good idea up until I put the resin on the glass cloth and tried to stretch it over the riblets. If the cloth was on the top of the wing, I got nothing but hills and valleys! When I turned the wing on edge or upside-down to get rid of the saw-tooth effect, the cloth would fall on the floor! Obviously, a supporting media was needed.

In looking around for something to use, I spotted the $\frac{1}{8}$ in. corrugated cardboard that Mr. Reynolds had shipped my sheet aluminum in. Just the thing — cut strips and glue these between the riblets. The result is shown in Fig. 2.

But I wasn't out of the woods yet! The top surface for the first half of the chord was composed of too many flat segments with breaks in the curvature at the riblet

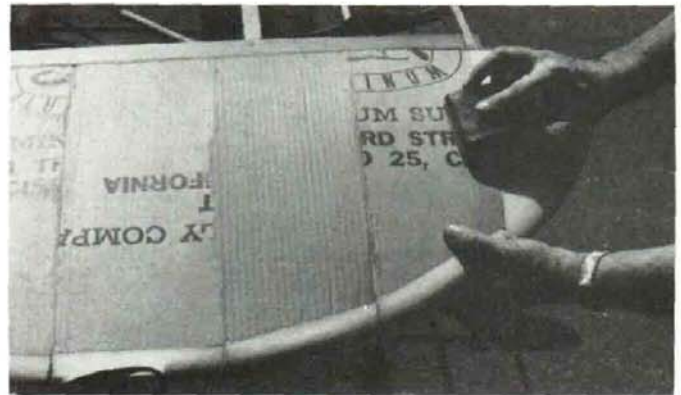


FIG. 2

locations. Solution was to glue more styrofoam to the flat spots and then sand to a smooth shape. This was then covered with one layer of 7 oz. glass cloth, using the usual polyester boat resin. You can see the finished product in Fig. 3.



FIG. 3

I had originally thought to remove the cardboard after the fiberglas had set up. However, it adds so much rigidity to the tip with so little additional weight that I'm going to leave it in the wing.

One word of caution is in order. There are two types of styrofoam. One type dissolves when contacted with Ambroid glue, lacquer thinner, polyester resin, etc. It will, however, stand polyvinylacetate glues (Elmer's, Wilhold, etc.). The second type, which I obtained from the local airplane hobby shop, was not affected by the organic materials. *

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new D model Baby Ace. Completed almost entirely during the last winter, the ship is an exceptionally neat example of an ageless, well-proven design.

Two beautiful biplane restorations have joined the chapter's vintage

fleet during the past year — Dr. Roland Fowler's graceful orange Waco UPF7; and Russ Swanson's Great Lakes 2T-1E. The 165 hp Warner installation in the Great Lakes has created a real performer!

In addition to a great amount of plain pleasure-flying, the usual fly-in or air show contests were conducted. *



Wayne Cassidy rebuilt this Boeing PT-17 completely.