LITTLE CIRRUS

BY KEVIN FLYNN

FULL SIZE PLANS BY JACK HEADLEY

DESIGNED FOR SINGLE CHANNEL SLOPE OR THERMAL FLYING, THIS 60" CIRRUS WITH AN ACE COMMANDER PULSE SYSTEM WILL OUTPERFORM MANY OF THE LARGER SAILPLANES.

On a recent trip in the California desert, I stopped and watched the full scale gliders being towed up at the nearby dry lake. The Cirrus immediately caught my eye since it looked so streamlined glistening in the hot sun. Being an avid sailplane enthusiast I just knew that I had to build a model of it. The next week I looked at a kit and it was just what I wanted but since I had just purchased a new Kraft four channel, I could not convince my wife of the necessity of parting with another $50.00! After all, I had to have something to put that new radio in, I said, but she just couldn't see the logic behind it. So, it was back to the drawing board.

I quickly realized that to build a big Cirrus would be almost impossible without a long small diameter fuselage, it just wouldn't be strong enough when fabricated from conventional materials. So I made the decision to build a small all-sheet single channel model at about 11 ounces with radio. I use the Testors single channel proportional set which is very reliable after four years of extremely hard use. The Ace Commander System with the larger Adams actuator would also work extremely well.

CONSTRUCTION

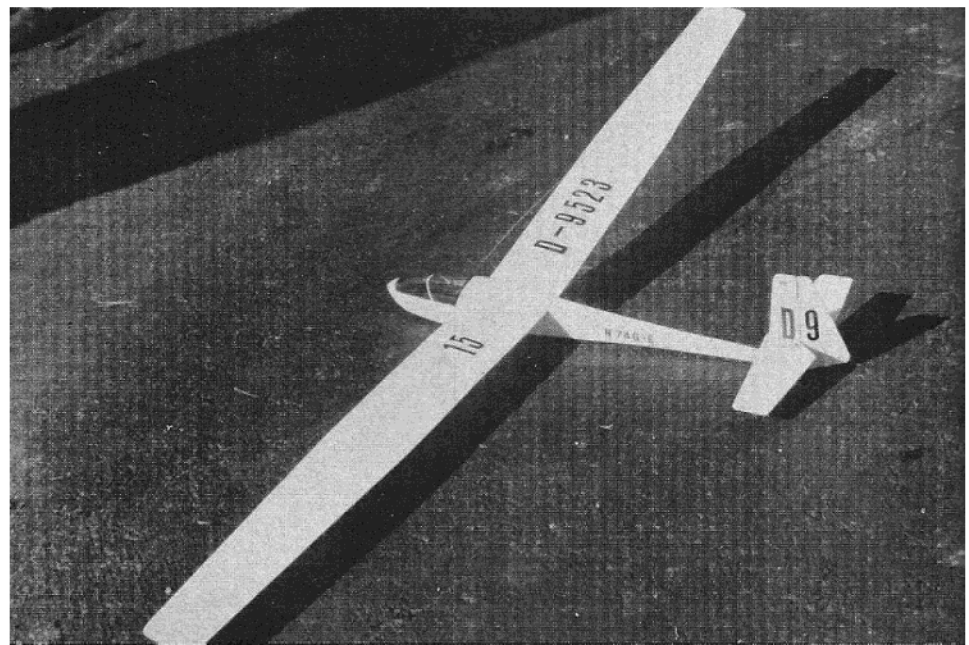
Begin construction of the fuselage by tracing off two fuselage sides with 1/16" sheet balsa. Pin these on the board and add the top 1/8" x 1/4" and the bottom 3/16" square hard balsa longerons. Then, add all uprights and allow to dry.

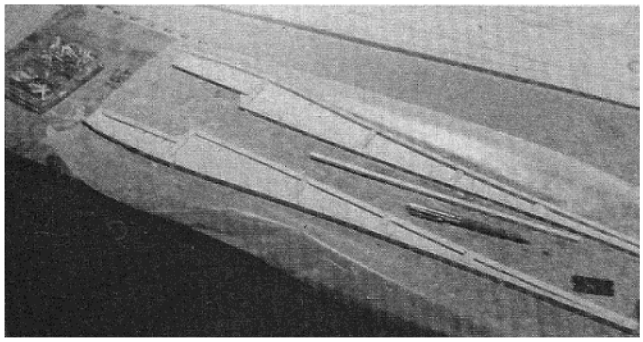
While this drying process takes place, cut out 12 wing ribs from medium 3/32" balsa sheet and two from 1/4" balsa. Trace the wing plan onto the 1/4" sheet leading edge piece and the 3/32" trailing edge piece. Be sure to use one quarter grain sheet for the wing if it is available. Mark off the rib positions and pin on to the leading edge sheet making sure that you have one left and one right wing panel. Also note that the panels are built upside down.

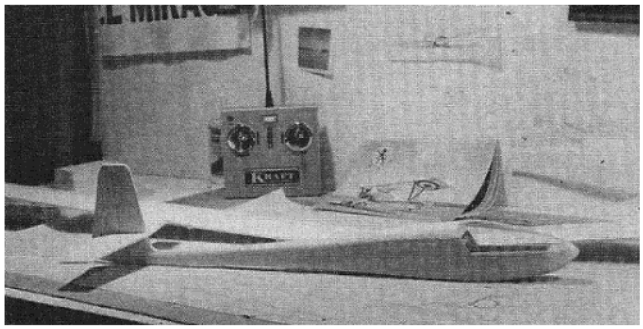
When the ribs are dry, add the trailing edge sheet. The tip ribs are trimmed off after the wing is finished.

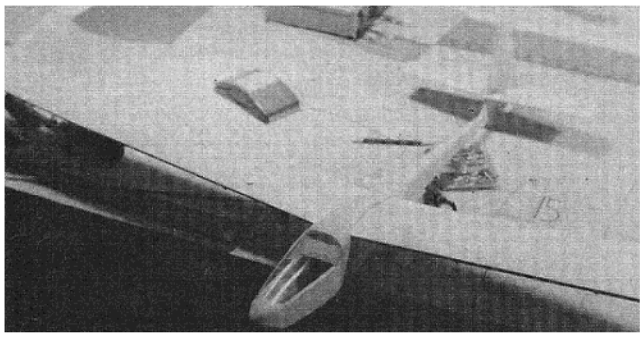
Instructions for Joining FULL SIZE PLANS

Join top of page 21 to bottom of page 23. Join top of page 23 to bottom of page 25. Match up fuselage components exactly and tape pages together. This will give you a complete fuselage and tail assembly on one side of the three sheets and a complete wing plan on the other side. Pages may be photo copied if you so desire to avoid mutilating the magazine.









While the wing panels are drying, remove the fuselage sides from the board and add the cross braces and front fuselage former F1.

Now, cover the bottom with 1/16" sheet and add the nose block. If your wing panels are dry by this time, turn them over and trim the outboard ribs and sand the sheets to airfoil shape. Lay one panel flat on the board and block the other up 6" to give the proper dihedral. Glue with TiteBond and make sure you have a good strong joint at this point.

Cut out the stabilizer, fin and rudder, and notch the fin and stab. Glue these together and set aside to dry.

Now, back to the fuselage. Sand it lightly all over and cut out the top 3/8" sheet and add the 1/4" sheet piece at the wing position. Make a saw cut at the wing trailing edge location. (Note that the wing fairing block is shaped on the fuselage and cut out to fit the wings.) Glue the rear 3/8" sheet permanently on the fuselage and just tack glue on the front wing fairing. Lock trace the side view outline from the plan onto the fuselage side cut to outline. At this point, glue on the fin and stabilizer assembly.

When everything is dry, sand the entire fuselage to an oval section as per the plans. Now remove the wing fairing block and add the wing dowels. Place the wing on the fuselage and cut the wing fairing block to contour smoothly on the wing (See photos). Glue the wing fairing block to the wing with TiteBond glue.

Build a removable canopy hatch from 1/16" plywood and paint the inside black or grey. Add a pilot if you wish. Next, glue on a Sig 13" or 14" canopy cut to fit as shown on the plan.

Sand the entire model and cover as you wish. Be sure to keep the model very light and do not cover the underside of the wing, but simply give it a couple of coats of dope. When the model is finished, add the 1/16" plywood skid, hinges, and rudder. Be sure your hinges are completely free if you are using a single channel proportional system and make sure the pushrod is kept as straight as possible.

When flying the Little Cirrus, with the installation as shown on the plans, the C.G. worked out just right. So keep it light and it should fly without any trim adjustments. Add weight for penetration, or move the battery forward for slope soaring. In many hours of flying the Little Cirrus we found that it would keep up with and sometimes surpass the high performance light air thermal machines. Just don't try to launch this model from a powerful Hi-Start since the wings won't take it. If you intend to use a Hi-Start, use a single loop 50-75 feet long of Pirelli rubber with about 250-300 feet of Taylor 20 lb. monofilament line.

Good flying. □