

# Profile Scale VOLKSPLANE

By JOHN OLDENKAMP . . . If John hadn't written a word, his excellent photos could tell you the whole story. Appealing to beginners and experts, profile models are an interesting approach to flying scale.

• I've never really built a scale airplane that didn't fly. Way back in the Forties, we had a barn, and anything pitched out the hay door did at least five seconds; my Zeroes zeroed, my P-47's peed, or whatever, and my lightweights, the Cubs and Taylorcrafts, disintegrated in a marvelous display for all the flyers-to-be!

Then, like a lot of people, I took a long break from modeling, to become an "adult," and, upon returning, was astonished at the levels of flying, materials, workmanship, and intense competition. If you can't do sixty seconds these days in a meet, better try flower arranging. I still most like the fun aspects of modeling and contest flying, however, so was quite happy when my club, the San Diego Orbiters, decided to run an event for profile scale, adapted from the Cleveland Free Flight Society (a Flying Aces Escadrille) event.

Rules are simple: Airplane must be all-sheet, of recognizable scale, scored three-best of unlimited flights attempted, and submit to informal Mooney-style judging afterwards. Rubber is the motive power. Five seconds added to any ROG efforts.

The Volksplane shown here is one of about eight I built last Thanksgiving time in an unparalleled frenzy . . . a couple of Porters, a big Volks, a P-63, racing variant, and some others. This one is my favorite. It is fine looking in the air, quite stable, thermals on occasion, and is capable of consistent (honest) sixty second flights. It averaged eighty seconds in a recent Orbiters scale Annual, only to be beaten by Hal Cover's immaculate

Fieseler Storch, which clearly had better scale values. Fun it was, though!

Here's how to get this little semi-Coupe in the air: Cut out all the hunks, just like the picture. The nose block should be roughed-out, a hole hogged out of the center, sanded on a stick to the motor tube diameter, then split in half with a Zona saw or similar. Check fit. Butt glue the spruce leading-edge reinforcement to the wing blank. Bend a landing gear. Block-sand everything you see with No. 150 paper. Give the underside of the wing blank one coat of 50-50 Nitrate dope (Lucky Moody's CPM Products Flo-Cote is the best of its kind . . . shopping list will be at the end of this piece).

Assemble with Wilhold white glue. Your most important tool for this operation, to insure a neat, strong job, is a good pointed brush, about a No. 2 or 3. Mark everything where it should fit, then run a very fine bead of thinned glue over each line. Let dry. Add another fine bead, join parts "in the air," hold a few seconds, and the job is done.

Wing: Glue the ribs to the front approximate fourth of the chord. When dry, paint a little glue on the remainder of the rib sticking up, then pull each rib down and towards you, pinning through the rib at about 3/4's chord. Do this smoothly, and it will work every time. Afterwards, cut at center, butt-sand like a hand-launched glider, test fit, block up each tip about an inch and a half, and glue center. My model had a trifle more dihedral than the plan shows, so use whatever seems right. But don't use less!

Fuselage: Double-glue top profile parts to spruce backbone. Note grain of piece at tail. Glue it to backbone. Add bottom piece to this, etc. Add roughed-out nose block hunks. Cut motor tube to length, and test fit it. Epoxy the landing gear in place. Easy does it. Now fix the motor tube in place, eyeballing proper placement. (Hot Stuff or Zap works great here, if you have a good fit.) Referring to the photographs, contour the noseblock. Recognizable scale, remember?

Other bits: Make a noseplug. Epoxy or Hot Stuff the two parts together, then drill for the aluminum thrust bearing tube . . . you might want to add about two degrees right and down thrust right now. Leave the bearing tube about an eighth of an inch long to the rear, then put a drop of Hot Stuff along side it, and all will be well. Add the stiffener to the fin. Cut and install the doubler on the lower fuselage profile . . . not really necessary, but will improve looks considerably. Drill or hog out a hole on the back face of the noseblock for a ballast compartment . . . it should be 3/16ths or so.

Give the pieces a coat of 50/50 dope. Sand out with No. 400 paper, rounding edges of the tailplane parts, fuselage top, etc. Don't overdo it. And, do NOT dope the wing bottom. You were already to have done that earlier. Put a nice hole in the rocket tube for the rubber peg. Pre-glue all the joining areas, except the wing, which will be epoxied.

Hook it all together. First the tail. Eyeball into place. Add a small triangular

scrap of balsa under the stabilizer to brace. Five-minute epoxy sets the wing. Pin in place while drying, but be careful not to split the profile. Sparing use of any adhesive is always best, in any event. Your efforts by now should have yielded somewhere around a nine-tenths facsimile airplane.

Don't forget the pilot. Use your own picture, or my layout: This is one low-winger that needs the additional side-area. Ditto, tail skid. It may also be fixed in place with a drop of Hot Stuff or Zap. (No commercial intended, but it works!) Bend a simple prop shaft. Note the front end is a plain 90-degree turn. Wheels, your choice. (The *MB* book, *Flying Scale Models of WW II*, has several excellent illustrations for making simple and functional sandwich-type wheels. I used this method on the prototype.) The windscreen can be a simple folded piece of acetate, or can be built over a frame. I frosted mine to call attention to the very great inherent stability of this model.

There are many excellent three-views and photographs of the Volksplane extant (including the December 1971 *Model Builder*), so decorate your masterpiece to whatever level you dare. An earlier version of this one was modeled after John Roth's world-winner R/C scale plane, but was destroyed by a crosswind. Castell Pens and Pelikan T ink work very well for outlining control surfaces, panel separations, etc. Color your pilot with Magic-Marker. Dope the tires black, the struts silver. (You will need the struts . . . epoxy them in place.)

Will it fly? You bet. Power is four

strands of Sig 3/16 rubber. Should be about 19 to 20 inches long, made-up. Hand-wind a little bit, let buzz, then check center of gravity. I had to put five grams on the nose . . . Use whatever amount you need, but duit! If you attempt to fly this turkey in a tail-heavy state, things won't go so pretty swell.

Pre-flight: **DO NOT HAND GLIDE!!!** I have wrecked far too many scale models by trying to make Nordics out of them. If you are satisfied that the CG is in the correct place, do the following: wash-in the *left* wing panel about half-span distance. Wash-out both tips. All bends about 1/16th. Carefully. Push the surfaces towards center of bend, whilst bending down or up, depending. That way, the wood won't crack. Put about 3/32 *left* warp in the fin. For safety, and temporarily, add a small tab, cut from an aluminum beer can . . . approximately 1/2 by 2 inches . . . to the right wing, curve up, to follow the natural shape of the material. Lay on about two hundred turns with a winder.

ROG, repeat, ROG model for first flight, directly into wind, if any. If your wash-outs and ins are adequate, the flight should be shallow left, a bit up, followed by a sort of non-committal glide, i.e., the model goes neither right nor left. Second flight, same, but go to 500 turns, ROG. If the pattern looks safe, bend the right wing tab down a little for the fourth, etc. If all looks well, remove the tab, thus establishing a definite left glide. If you installed a bit of down and right in making up the nose plug, no thrust adjustments should be required.

#### TAKING THE FIFTH:

This airplane should have required no more than about ten hours to construct, so time to let her rip! Crank in maximum turns . . . the motor will take anywhere from a thousand to twelve hundred, and go ROG again. Eventually, you might want to blow in a little "up" stabilizer on the right rear side, for a spectacular climbout under power. The prototype has over a hundred flights on it, and is still turning heads.

#### SUPPLIES:

Rubber Lube: Roger Taylor's, from Peck/Polymers, see ad, this issue. Excellent. Real snake oil. Will not wreck your rubber.

Plastic Props (9-1/2"): Ditto, Peck/Polymers.

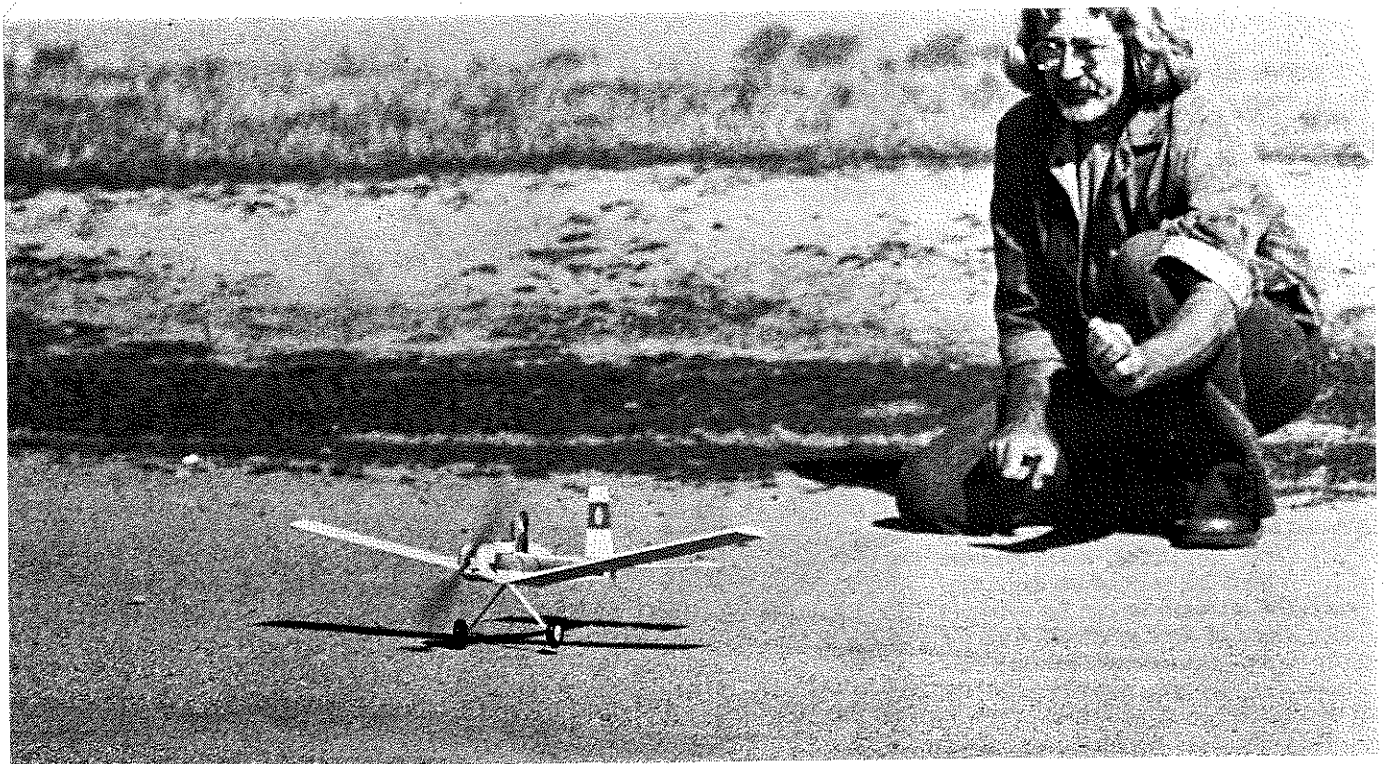
Winding Hook: Jim Crocket Replicas. Although not mentioned in the text, the use of a Crocket Hook allows winding with prop off, plus, the unit is shaped so that the rubber strands will not fall off during free-wheeling.

Rubber: Sig Manufacturing Co. See ad. Medium torque. Long stroke. Sel-dom breaks. Easy on the mind.

Dope: Flo-Cote with Duo-Plast Plasticiser and Thinners. CPM Products, 11054 Leolang Avenue, Sunland CA. 91040. Like the old days. Real dope. And won't turn your airplane into a pretzel.

Hot Stuff or Zap: Cyanoacrylate adhesive . . . may also be ordered from CPM.

Motor Tube: Estes Models Rocket Tube No. BG-30. Strong, accepts dope finish, does not require any reinforcement. About 35¢ at hobby stores. ●



Author releases the Volksplane for its first, R.O.G. flight. Action photo like this really makes you grab for materials. Taken by Diane Rocha.