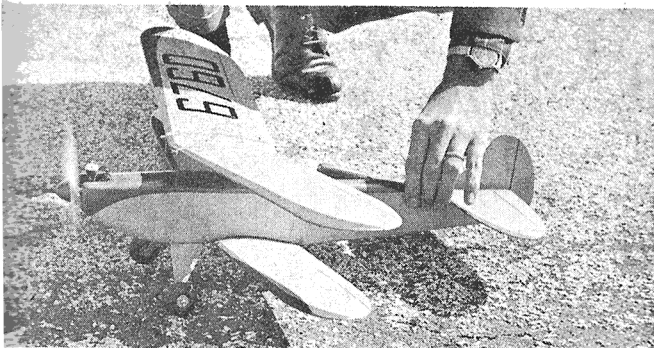


DAY FLYERS

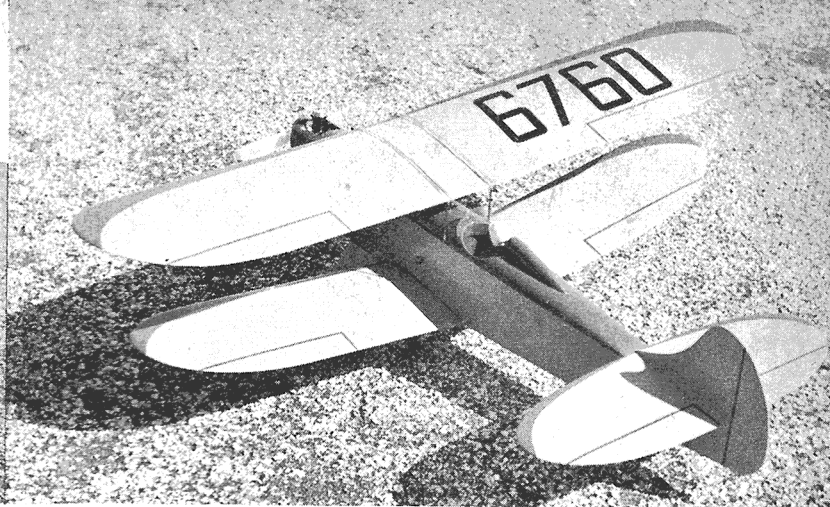


How can you resist this sleek little flyer with its power mill running up a storm—release that fuselage and it will jump right into the air.

CORKY



View from down below shows what can be done with some imagination.



Scale details add considerably to the charm and good looks of the biplane.

BY VAN HEREFORD

WONDERFUL COMBINATION SPORT FLYER & BIPLANE — TO US THIS IS IRRESISTIBLE AND MUST BE TO EVERY FREE FLIGHTER

► A biplane has a certain, indefinable quality which most modelers find irresistible. In designing Corky the basic idea was to produce a model with the classic lines of the modern home-built biplane, and one which would still be a practical, easy-to-build, sport flyer. All-balsa construction results in a rugged, long-lasting model and makes those beautiful ellipses possible with a minimum of building time.

I regret to say that the original recently took off cross country and is now resting deep (Continued on page 52)

Corky

(Continued from page 25)

in some very thick woods. So be sure you know how much fuel is left in the tank!

Begin construction with the wings. The upper and lower are alike in wood size and construction, and differ only in area and dihedral. If you are not lucky enough to find a sheet of 3/32" balsa of the required width for the upper wing, you must splice two sheets of obtain the 5" cord. Leave each wing in one piece until you are ready to add the dihedral. Cement the spruce leading edge to each wing blank. This leading edge should not be omitted as it adds greatly to the durability of the model. Using a ball point pen, mark the tip outlines and rib locations and cut wings to shape. Carve and sand to an airfoil cross section but don't try for feather-thin trailing edges. The eight ribs of each wing are cut from hard 1/8" sheet. Turn the wings upside down on your worktable and cement only the trailing edge of each rib in place. All of them should now be standing up off the wing at the same angle. When dry, apply cement to the remainder of each rib, turn the wings right side up, and pin the sheeting down to top of rib. Leave the wings pinned from eight to ten hours. Now trim off the trailing edge of the tip ribs and sand the bottom to form a straight line, joining the leading and trailing edges. Cut the wings apart, taking care to get the correct amount of sweep-back on the upper wing. Bevel the cut edges until you obtain the correct dihedral angle. Place one panel flat on the worktable and block the other to twice the required dihedral, or 3". This is the same for both wings but since the lower wing is shorter, it will have greater dihedral. To complete the wings, glue 1/32" plywood tabs beneath the trailing edge of each wing.

The rudder and stabilizer require no instruction; simply cut to outline and sand to an airfoil shape.

Cut two identical fuselage side patterns from 3/32" sheet and mark off locations of the formers. Make sure that the cut-out for the lower wing fits the top wing contour perfectly. Cut the firewall and formers and glue formers A, B, C, and D to one fuselage side, checking to be sure that they are at right angles. Now add the other side, and when dry install the firewall, cement rear of sides together, and add formers E and F. When installing the firewall, check the fuselage top view to get the correct amount of right thrust.

Bend the 1/16" wire wing supports to the shape shown on the plan. Both the front and rear wing supports are identical except that the rear one is 5/16" shorter to give the correct incidence. Bind them to the 1/16" plywood plates with copper wire, and solder (thread and glue may be sub-

stituted). After installing the wing supports in the fuselage, glue the 1/2" soft balsa fuselage top in place and carve to shape. Now add the 1/16" sheet fuselage bottom behind the lower wing. Cut a 3/32" plywood plate, which is the landing gear support, to fit flush between formers A and B. Glue a 3/32" sheet of hard balsa to this plate as shown on the plans and cut the grooves for the landing gear. Now add block 1/2" thick in front of the landing gear and next the 1/8" hard-balsa cowling front. The cowling front is purposely left square on the plans so that it may be carved to shape after it has been glued in place.

Cut lengths of 1/16" wire to join the front and rear wing supports, wrap with copper wire, and solder. Make the cutout for the cockpit, add the head rest and tail skid, and the fuselage is complete. The stabilizer and rudder are now glued in place.

The landing gear arrangement is borrowed from the radio boys and works very well. In case of a hard landing, it will knock off with no damage to it or to the fuselage (usually).

Don't be afraid to put a good finish on Corky as weight is not an important factor. After all, this is a sport model, and the last thing we want is a floater. The original had three coats of sanding sealer, three coats of color, plus trim, and weighed 7.7 ounces ready to fly. Judging from the way that little .020 hauls it around, it could weigh a few ounces more without seriously affecting performance.

The original Corky was cream, trimmed with orange, which was a slightly unusual, but very attractive color scheme. One word of caution about doping the wings—dope the underside first on each coat, or they will tend to flatten out and lose their airfoil shape. One-sixteenth-inch wide black tissue strips were used for the control surface outlines. Add a few final touches, such as the windshield and the pilot, and you are ready to make a trip to the flying field.

My Corky proved very easy to adjust, and if you have been fairly careful in building your version, you should have no trouble. Test until a fast, flat glide is obtained. If ballast is necessary, use clay, which can be substituted for lead and placed out of sight after you have completed your flight test. Bend the rudder trailing edge to get a slight left turn. Now you are ready for power. A 6" diameter 3" pitch, Top Flite prop is recommended. This may sound a little large for an .020, but this little engine can handle it easily, and it is just right for this model. With the prop on backward and about ten seconds worth of fuel left in the tank, launch the model directly into, or slightly to the left, of the wind. Corky should go into a gentle left climb, and when the motor cuts, continue in the same turn with no sign of a stall. On my first test flight the little bear climbed in a tight left corkscrew at an angle that would put some contest ships to shame. Oh yes, I had forgotten to put the prop on backward! The addition of a little more down thrust and a little more right thrust produced a flight pattern much more realistic and more to my liking.