

The unique suspended pod and boom structure proved itself time and time again during rough landings. The 6" gap between booms permits unrestricted flipping of the prop.



VICKERS VAMPIRE

by Paul J. Palenek

HERE'S A RUGGED FLYING SCALE CONTROL-LINE MODEL OF A WORLD WAR I OLDIE WHICH WAS ESPECIALLY DESIGNED FOR TRENCH STRAFING

● The "Vampire" is rather a rare, odd type of aircraft which emerged from World War I. Designed especially for trench strafing, this ship carried three machine guns in the nose. Its maximum speed was close to 125 m.p.h. A 200 hp. Hispano Suiza engine drove a four-bladed pusher prop. During the latter part of the war, many of these ships were used in pursuit missions.

We decided to build a scale model of the "Vamp" to prove to a fellow modeler that it could fly, and fly well, with no messy results — and it worked out entirely satisfactory.

The oddity of the model is the pod fuselage, suspended with struts between the two planes. When we started, we had the feel-

ing that the booms would soon bite the dust, but to date there's been no such damage, even on rough landings.

The plans are printed half size, so you'll have to scale them up to full size before beginning construction. Once this has been done, and the necessary material gathered together, you can start building.

WINGS: Start with the wings. Both panels are similar in shape and construction, the major difference being the bellcrank in the lower left-hand panel. The leading edge is $\frac{1}{2}$ " square balsa. Crack where shown, and build in the required dihedral. Fasten the leading edge to the workbench, along with the $\frac{1}{4}$ " x $\frac{3}{4}$ " balsa trailing edge. Build the left half,

then the center section, then the right half.

All ribs are cut from $\frac{1}{16}$ " sheet, except the strut ribs, which are made from $\frac{1}{8}$ " sheet balsa. The side view on the plans shows the rib numbers pertaining to each panel. Cement the required ribs in place. The tips are made of $\frac{1}{2}$ " balsa. The center section is cut from $\frac{1}{4}$ " x $\frac{3}{8}$ " balsa. The tip of each wing carries a $\frac{1}{2}$ " dihedral.

Both wing panels are built in a similar manner. When one has been completed and dried, remove from the plans and assemble the second wing. When both panels have been completed, sand the leading and trailing edges, and the tip, to the required shape. All sur- (Turn to Page 37)

faces are given a coat of clear dope, to close all the pores in the wood and produce a good finish.

The lower left-hand panel carries a 2" Veco bellcrank, completely sealed from view. Cement a piece of $\frac{1}{8}$ " x 1" hard balsa platform, as shown, between No. 6 and No. 7 ribs. When dry, bolt the bellcrank in position. Next, solder the $\frac{1}{16}$ " steel push-rod in position, allowing a sufficient amount to fasten to the horn. The lead-ins are made of .032" wire, forced through the tip and each rib until they reach the bellcrank. Solder the lead-ins to the bellcrank. Loop the ends of the leads to receive the flying wire, and solder securely. Cover the exposed bellcrank between ribs No. 6 and No. 7, both top and bottom, with $\frac{1}{16}$ " sheet.

The wings are covered with medium grade Silk-Span. Spray with water and, when dry, apply two coats of clear dope. Both wings then are given two coats of yellow dope—we used orange yellow.

The wing struts are shaped from $\frac{1}{8}$ " x $\frac{3}{8}$ " hard balsa, and sanded to a streamline section, then forced into the lower wing in the position shown. The upper panel is then forced over the top of the exposed struts. When aligned properly, cement all strut joints, and apply two coats of yellow dope to each strut.

Tail: The entire tail assembly is made of $\frac{1}{8}$ " sheet balsa. Cut out the rudder as shown and make a $\frac{1}{8}$ " wide slot from the rudder hinge forward, into which the stabilizer fits. Crack and cement the rudder for $\frac{1}{2}$ " right offset.

The stabilizer is cut from $\frac{1}{8}$ " sheet, with a $\frac{1}{8}$ " square hardwood spar for a hinge line. Cement the two halves of the elevator to the hardwood spar. Now, the commercial horn is trimmed and cemented into place. Cloth hinges are used to fasten the elevator to the stabilizer. Then, force the stabilizer into the rudder slot and cement securely. Apply two coats of clear dope, following with two coats of yellow.

The booms are $\frac{1}{8}$ " dowel, pressed into the wings' rear spar as shown. The tail end of the boom is then fastened to the tail assembly. Cement all these joints well, applying at least two coats of cement. The loose end of the push-rod is then fastened.

Fuselage: The fuselage is very simple in construction. The sides are made of $\frac{1}{8}$ " sheet balsa, as well as the formers A, B,

and C. The firewall (D) is $\frac{1}{8}$ " plywood. Cement formers D, C, and B in place. When dry, pull the nose together and cement in former A. Cover the bottom of the fuselage with $\frac{1}{8}$ " sheet balsa. The deck is planked with $\frac{1}{8}$ " strips.

Now, add the soft balsa nose blocks, and sand to the contours shown in both the side and top views. The engine compartment is covered over with $\frac{1}{16}$ " sheet balsa. When completely sanded, add the balsa headrest, and cut out the opening for the cockpit. A standard Cub tank was added next in our model, fitted directly behind the firewall. The pod was then given two coats of clear dope, followed with two coats of Testors olive drab.

The fuselage is suspended between the wings with $\frac{1}{8}$ " square hard balsa cabine struts, and $\frac{1}{8}$ " x $\frac{3}{16}$ " lower struts. Give all these struts at least two coats of cement at the joints.

The landing gear wires are now shaped and fitted to both the wing and fuselage. The gear wire is soldered at the axle. The gear struts are made from $\frac{1}{8}$ " x $\frac{1}{4}$ " balsa, grooved and cemented to the gear wires. The landing gear, cabine, and lower struts receive a coat of olive drab.

The engine can now be mounted securely in place to the firewall, with wood screws. Then, the 2" diameter wheels are soldered in place. The tail skid and all bracing wires are added next using spool thread for all rigging. The windshield is made of heavy celluloid, cemented to the fuselage in the position shown. The guns are made from $\frac{1}{4}$ " diameter balsa, and painted black.

Trim-Film was used for the bulls-eye insignia, which is colored red, white, and blue. The aileron push-rods are $\frac{1}{16}$ " dowel.

Use black Trim-Film for the aileron outlines.

A Cub .074 engine was used on the original model, spinning a four-bladed prop, made from two 6" diameter commercial props. Both props are notched at the hub, half way through, and fastened to the engine. The Cub is run in a clockwise direction, and the prop is mounted backwards. With this set-up, proper pusher effect will result. Before attempting to run the engine, apply two coats of good fuel proofer. To further increase the scale effect of the Vamp, add two dummy radiators and exhausts.

FLYING: The Vampire should balance where indicated on the drawing. If it doesn't, add weight where required.

Be sure ample right rudder is built in to keep the lines taut. The booms' spacing affords ample room for spinning the prop. Be careful and you'll enjoy many a good flight!

BILL OF MATERIALS (Balsa unless otherwise noted)

1-1/8" x 2" x 36"
(medium).....Ribs, rudder, stab, elevator, fuselage
1-1/16" x 2" x 36"
(medium) Ribs, fuselage deck, bellcrank covering
1-1" x 2-1/2" x 6" (soft).....Nose, bottom of fuselage
2-1/2" x 1/2" x 36"
(medium).....Wing leading edge, and tips
2-1/4" x 3/4" x 36" (medium).....Wing trailing edge
1-1/8" x 3/8" x 36"
(medium).....Wing center-section spars
4-1/8" x 3/16" x 36" (medium).....Fuselage planking
1-1/8" x 1/8" x 36" (hard).....Cabine struts
1-1/8" x 3/16" x 36" (hard).....Lower struts
1-1/8" x 1/4" x 36" (medium).....Landing gear struts
1-1/8" x 3/8" x 36" (hard).....Wing struts
Silk-Span covering; dope; 1 piece 1/8" hardwood dowel for booms; cement; 1/16" wire; 1/32" wire; wood screws; spool thread; Trim-Film; Cub tank; plastic tubing for vent and filler; 2" diameter wheels; two 6" diameter props; celluloid; fuel proofer; Cub .074 engine or equivalent.