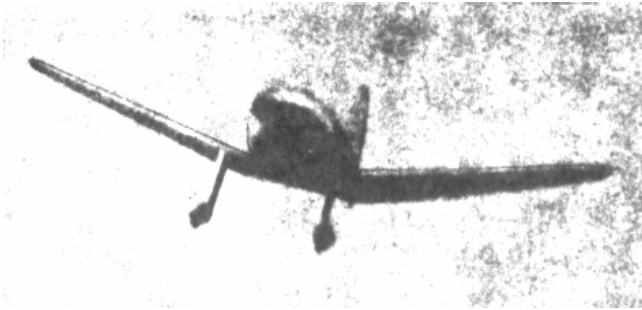
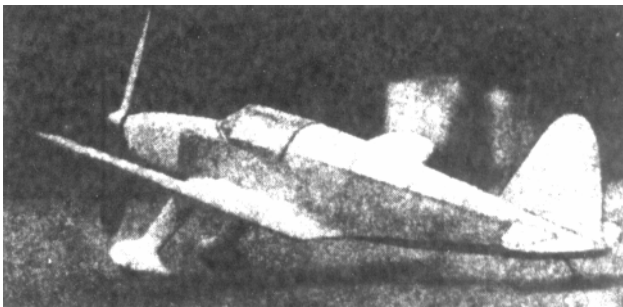


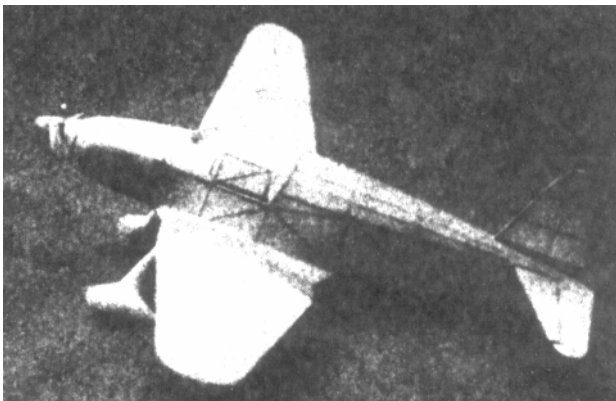
THE AERONEER TAKES FLIGHT



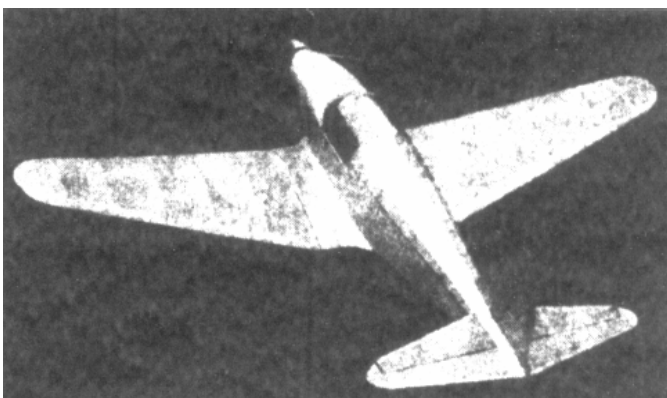
The model Aeroneer in full flight, fast and stable



Its large propeller provides long flights



Streamlined and graceful yet of simplest construction



A large wing facilitates ground take-offs

Complete Your Fleet of Flying Scales by Building This Realistic Simple High Performance Sportplane

BY HERBERT SPATZ

A LOW-WING all-metal, sportplane of exceptionally clean design is the Aeroneer. The 125 hp. Menasco C-4 engine pulls it at a 150 m.p.h. clip. Besides being moderately priced the ship carries many accessories, including an electric starter, hydraulic brakes and wing flaps, which bring the landing speed down to 41 m.p.h.

Our model is accurate in all respects, except those usual changes necessary to produce a good flying scale model. In action it makes a beautiful sight, leaping into the air and making long fast flights. Indeed the Aeroneer makes a worthy addition to any model builder's fleet. Well, let's start; what're we waiting for?

Fuselage

First join plates 1 and 3 at K-K, building the sides in the usual manner. The entire base frame is 1/16" square hard balsa. Don't use too much glue; just enough to hold the joints together. To obtain the top and bottom cross members, double the sizes in the plan. Notice the bottom cross member at station 1 tapers inward.

Next cut the formers from 1/16" sheet balsa (plate 5) and cement in their respective places. Put in the stringers (1/16" square balsa). Block S is shaped from a 9/16" x 1-1/2" x 2-1/2" balsa block. The cabin top, between formers 2 and 3, is cut to shape from 1/16" sheet balsa and cemented in place. Windshield former P is cut from 1/8" sheet balsa and cemented to former 2. The rear block is carved as shown on plate 3. The block is, 1" x 1" x 2-3/4" balsa. First carve the block to fit the body then hollow it out to make the walls about 1/8" thick.

The rear mount is fitted from 1/8" sheet balsa. Before cementing this in, fasten the hook to the mount, using plenty of glue, then attach the entire unit to the rear block. The tail wheel is attached to the block. Which is now cemented in place and smoothly finished with ten-nought sandpaper.

The front cowling block is carved from a 2-1/4" x 2-1/2" x 3-1/8" balsa block. The block is cut in half as straight as possible then lightly glued together. The outside shape is worked in by carefully following the plans (plate 1 and 3) along the outlines of the body's first section. After carving to rough shape with a knife, use sandpaper to attain final shape. Next cut the block apart and carefully hollow out to a wall thickness of approximately 1/8" or thinner. Finish the nose by making the bearing block fit the front of the cowl. Glue two strips of 3/32" square balsa to the rear of the bearing block to prevent turning; also insert a length of aluminum tubing for the bearing. The wing mounts A are cut from 1/16" sheet balsa and are securely glued in place.

Tail

The stabilizer is shown on plate 4, the rudder on plate 2. Both are built as shown. Smooth all tips with sandpaper.

Wing and Center Section

As the center section is the base of wing, we'll tackle that first. It is shown on plate 1. The ribs (R-1) are out from 3/32" sheet balsa, although 1/16" ribs may be used instead. Ribs are shown on plate 5. The center section has three spars while the wing has only one. The wing fillets, are carved from 5/8" x 1" x 6" soft balsa blocks. Adjust the fillet to fit the body and center section rib, consulting the plans frequently.

Cut slots to take the center section spars, which spars pass through the wing mount. Make sure that the center section's angle of incidence is zero. Be sure to use two full-length, single center spars in this section. Streamline the leading and trailing edges to conform with the airfoil; this is true on wing and center section. Finish the fillets so they appear to merge into the center section, then smooth with fine sandpaper.

The wing panel shown on plate 4 is the right wing. To obtain the left panel take a sheet of carbon and a sheet of white paper. Place the carbon black side up, the white on top, then the plan on both, and trace. The wing spars' leading and trailing edges are tapered before gluing the ribs on (dimensions are given on plate 4). Rib R-1, on the wing, is offset 1/8" toward the wing tip, to form the dihedral, which is 2-1/4" at the tips. If this doesn't give the desired amount of dihedral, simply increase the offset. Wing tips are cut from 1/8" sheet balsa and glued in place, then rounded with sandpaper. Glue ribs R-1 to R-6 in place. After this is dry remove the wing frame and put it aside.

Landing Gear

The landing gear is shown on plate 2. The main strut and pant-cut-out is cut from 5/16" sheet balsa, the pant cover is 1/8" sheet balsa. Be sure to make one left and one right. The pant-cut-out is cemented to the main strut and the pant cover is in turn cemented to pant-cut-out. A small fillet (3/16" square) is placed over the pant-cut-out, the whole unit streamlined as neatly as possible. The slot in the main landing strut is to accommodate the first 1/4" x 1/8" spar in the center section. The landing strut is glued to this spar, the rib and leading edge. Use plenty of glue and make sure alignment is accurate. Set aside to dry.

Motor

The propeller is carved from balsa block 3/4" x 1-1/8" x 8-1/2". The other dimensions may be obtained by

doubling those on plate 5. Finish smoothly. The propeller spinner is turned from a 3/4" square x 7/8" block. A slot is cut out of the spinner to accommodate the hub. Don't glue on the spinner until the shaft is attached. The motive power is obtained from six to eight strands of 1/8" flat brown rubber.

Covering and Assembling

Covering is one of the things that has to be done neatly in order to obtain a sleek-looking model. So take your time and you will be well repaid by praise always accompanying a well-covered job. Covering can best be done in many sections. The builder may use his own discretion as to the color scheme of his model; the original model was light blue and yellow. After the whole ship is covered, spray lightly with water; first pinning down the surfaces to prevent warping. When the paper is dry give two coats of clear dope, again pinning down the surfaces. The cabin is covered with three pieces of thin celluloid, using glue as adhesive.

For purposes don't use colored-pigment dope on the wood parts, a few coats of clear dope sanded between coats will suffice. The rudder and stabilizer are glued to the body, paper being slit over the rear block to take the stabilizer. The propeller shaft is bent from .034 music wire and is mounted by pushing it through the bearing block (slipping on a few washers), through the propeller, bent back and pushed back into the propeller and glued (plate 1). The spinner may now be attached. The rubber motor is put into the body and looped around the shaft. one-inch-diameter celluloid or wood wheels are slipped into the pants. The axles are .034 steel wire cut to size and glued in place. The wheels must spin freely. The wing panels are glued securely to the center section. Check the dihedral.

The plane is now ready for a test flight.

Flying

The model should balance at the tip of the spar: if it doesn't, add weight to the tail or nose. Test the glide in a grassy field: it should be flat and fast. Adjust by warping the stabilizer up or down as the occasion demands. Now wind about 75 times and launch. The model should get away to a long low climb, circling to the left a bit. After the power is exhausted it should "come in" in a fast, flat glide. If this doesn't happen adjust the ship 'till is dose. After the correct adjustments have been found, wind about 50 to 60 turns with a 4 to 1 winder. Put 'er down, and let 'er go!

If the builder has any trouble with adjustments, write the author in care of this magazine, enclosing a self-addressed, envelope. We will try to aid you with your problem. Good luck !!

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