

BY ERNEST COPELAND

The Mosquito Sportster

Yes, Ol' Sol has at last thawed out the ponds, and soon there'll be squadrons of hypo-carrying winged hellions on your trail—mosquitos! But if you want to beat Mom Nature's buzzing buzzards to the punch, just turn out THIS "Mosquito." You'll be able to run any 'skeet into the ground after the track practice Ernie's hot-shot flyer will give you. And we don't mean Citronella!

By Ernest Copeland

Author of "Try This Galloping Gull," etc.

IT'S A pretty tough job to find a ship that can be flown out of a small lot and still be dependable. A craft of that sort must be small, light, and strong—which is an unusual combination on any model tarmac. The "Mosquito Sportster," though, can meet these specifications and still have plenty to spare. Sure, that backyard type of flying is really tough on a model, but the "Mosquito" has survived over six months of it!

This month's stick job has sampled just about every obstacle you can think of—roof-tops, parked cars, trees, and iron fences included. That all-balsa tubular fuselage has had five rubber motors break inside it without any sign of strain. But in spite of its strength, a high standard of lightness is maintained. The long flights of the "Mosquito" can be traced to this and the careful design of the ship.

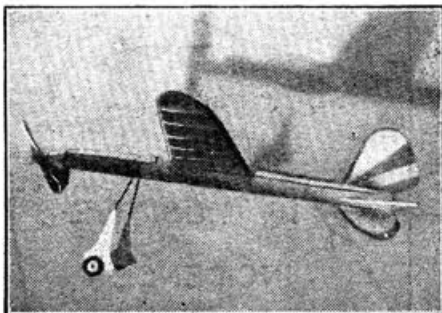
And now that you're all steamed up about the "Mosquito Sportster," get out your supplies, grab your trusty razor blade, and hop to work!

FUSELAGE CONSTRUCTION

ALL-BALSA fuselages are usually good things for the beginner to pass up, since they generally have to be either planked or hollowed or shaped from intricate slabs of balsa. The "Mosquito" fuselage, however, is a departure from the above methods since it is formed almost entirely

from one sheet of balsa. This sheet should be of soft, clear balsa measuring 1/20" by 2" by 13".

The sheet is sanded smooth on both sides and submerged in hot water until it is soft and pliable. It is then bent around a 1/2" diameter dowel, wrapped with gauze, and set aside to dry. After the wood is dry, remove it from the dowel and cement the seam.



Here's a photo of the "Mosquito Sportster" showing the model in normal flight attitude.

The bulkheads are now firmly cemented in the ends of the tube.

A strip of soft balsa, 1/8" by 9/16" by 13", is shaped according to the side view and sanded smooth. This strip is rounded on top and made slightly concave on the bottom so that it will fit the tube snugly. When cementing this piece over the seam of the tube, it is important that a good job be done since all the important parts will be attached to it.

The next parts formed are the nose and tail plugs, which are also soft balsa. Note that a length of 1/16" outside diameter aluminum tubing is forced through the nose plug as a prop shaft bearing.

The entire unit is now given two coats of thin dope with sandings between coats. Your model shop probably has the six and ten nought sandpapers which are just right for this operation.

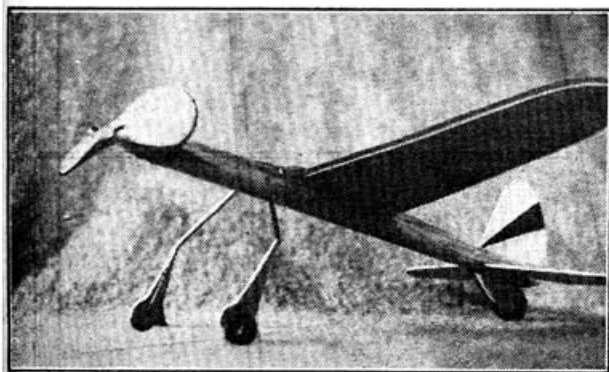
The landing gear and other wire parts are bent from .030 music wire. Those landing gear pants are cut from 1/20" sheet balsa and cemented firmly to the legs of the landing gear. Be sure the grain runs as shown in the plan, otherwise your fairings will crack off.

WING, TAIL, AND PROP

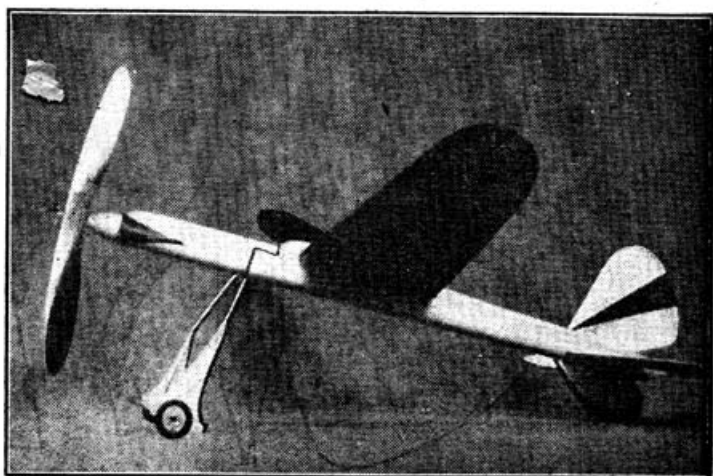
MAKE all wing parts from medium balsa. In assembling the wing, the trailing edge is laid down first. Then the ribs are cemented in position and the spar and leading edge are anchored in their respective notches. The structure is then removed from the plan so that the up-turned tips may be mounted. Finish the wing by sanding smooth and covering with colored tissue.

The tail surfaces of the "Mosquito" are a balsa butcher's idea of heaven. Why, we even used a sharp pair of scissors to ~~cut~~ out the originals! The outlines can be traced directly from the plans since they are full size. When laying out the tail skid be sure that the grain runs vertically. The tail surfaces are sanded smooth but not doped.

The prop is carved from a block of hard balsa to the preliminary shape shown on the plans. Each blade should have an under-camber of about 3/32". A length of aluminum (Continued on page 71)



Above: With her "legs" spread wide, our "Mosquito" in this view looks strikingly like her insect namesake. Right: Smashed props are few and far between with this job, for her landing gear extends well forward, thus making for perfect set-downs every time. Now turn to the plans, boys, and get to work!



is forced through the prop as a bearing.

Several coats of clear dope will strengthen the prop and give it a smooth, glossy finish. Since a "dead" airscrew creates a great deal of resistance during glides a free wheeling device should be added to the hub

of your rarin'-to-go "Mosquito."

When installing the free wheeling, be sure that the prop remains in balance. Exact equilibrium can be obtained by adding small amounts of dope to the lighter blade. This assures a smooth-running, vibrationless prop.

ASSEMBLY AND FLYING

THE RUDDER is cemented into a slot in the indicated position. The tail skid is glued in a vertical position directly under the rudder. A coat of cement along the bottom edge will strengthen the skid for landings.

The wings should be given a thin

coat of dope and the butt ribs whittled until the dihedral angle is set at $1\frac{1}{2}$ " for each tip.

Cement the elevators lightly to the fuselage at the angle shown on the plan. When completed, the model is glided indoors to check this angle. Since every craft is slightly different due to variations in balsa the angle might have to be changed.

Don't permit the tail surfaces to droop while the cement is drying. Add the landing gear, 4 strands of $\frac{1}{8}$ " lubricated rubber, and the nose and tail plugs. Before going outdoors, glide the ship again to be sure that the free-wheeling device is "percolating".

A calm day is best for test flights. Launch by hand, and gradually increase the number of turns to maximum. About eight hundred turns with a winder is tops. The climb should be smooth and steep and in a right turn. Practically no adjustments should be necessary. If, under full power, the model flies in tight right circles without climbing, warp the right trailing edge down so that the circle will be widened and the ship can climb.

And now you're set for some really sensational sport flying. The original "Mosquito Sportster" averaged more than a minute without risers—and your ship can do it, too!