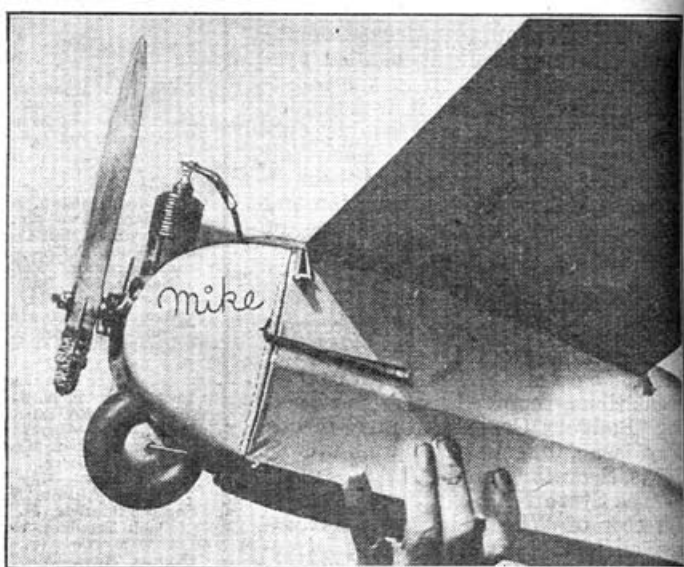


This Job's Got Everything!

Our second contest craft of the month! Yes, power fans, here's a sleek sky scooter for you that's a natural tourney taker. If you live in the city and need a ship that'll give those other guys a run for their money—then here's your meat. And if you hang your hat in the country you'll want to build this baby to cash in on her top-notch flights. Anyhow, you'll be missing a good bet if you don't listen closely while Ace-designer Gil Shurman gives you the dope on his latest petrol pretty!



"Mike" Gas Model

By Gilbert Shurman
Author of "Rambler" Gasliner

models are difficult to keep in good working condition, the one that's incorporated into "Mike" is fool-proof. And the single wheel retracts so cleanly that parasitic resistance is cut down a great deal, thus making possible flatter and longer glides.

The general appearance of "Mike" is one of clean lines without the loss of simplicity. This one-wheeler is no more difficult to build than a "box-like" gas job, yet is streamlined enough even for the most critical builder.

Okay, boys, that's just about enough gab for now, so let's turn to the instructions and see what's what. All set? Then hold tight—because it's coming fast!

JUST WHAT is an "ideal" model? We'd say that in order to come under that head a ship would have to be comparatively small—about five foot span—and weigh about two pounds. Also, it must necessarily have the ability to stay up for long, flat-glide flights.

Well, builders, this month's gas job has *all* of those features! Its small size allows for easy transportation, and packing is facilitated by the removable motor unit, as well as the detachable wing and tail. And its light weight automatically assures a fast climb.

Yes, we're talking about "Mike." This little job has everything that comes under the head of "desirability"—including a retractable undercarriage!

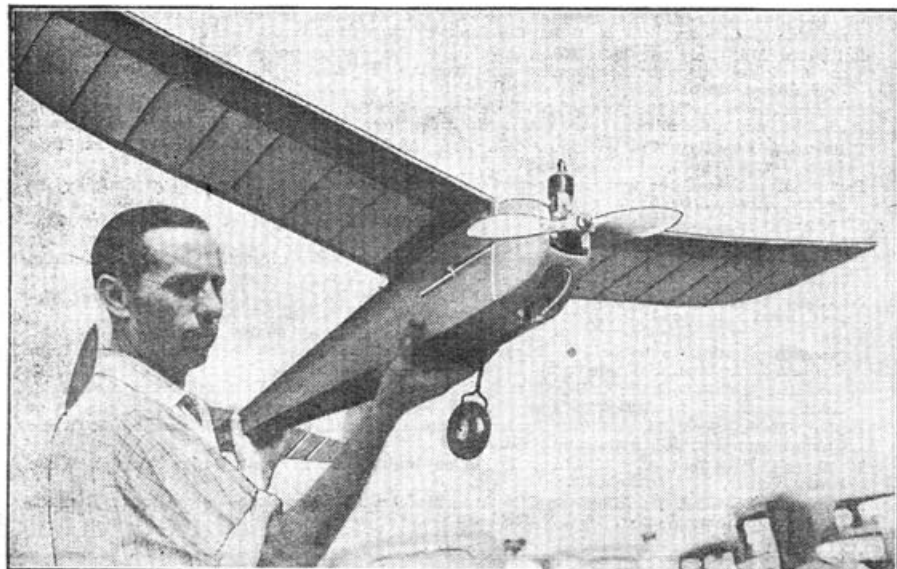
Whereas some retraction gears for

FUSELAGE AND LANDING GEAR
NOTE THAT the side view of the fuselage is symmetrical. The height of the basic rectangle at the first upright is $4\frac{1}{2}$ "; the second upright, $4\frac{3}{4}$ "; the fourth upright, 4". The widths of the basic rectangles are $3\frac{1}{2}$ ", $3\frac{1}{2}$ " and 3" respectively. From the fourth upright back, the fuselage is straight. A full size drawing, using these measurements, should be made to insure a good basic structure.

The rectangular framework of $\frac{1}{4}$ " square balsa is built directly on the plans. When finished, the $\frac{1}{8}$ " by 1" stringers are added to the top and bottom of the framework, and the $\frac{3}{16}$ " stringers to the sides. The addition of the $\frac{1}{8}$ " sheet stabilizer mount and $\frac{1}{4}$ " sheet wing mount completes the fuselage.

The landing gear should be bent accurately from $\frac{3}{32}$ " steel wire. All the soldered joints are bound first with copper wire. Tie the aluminum tubing sockets to a piece of hard $\frac{1}{4}$ " square balsa, glue this unit at its proper station, and then add the various cross braces as shown on Plate 3. Note that the bottom stringer becomes two pieces from the landing gear forward and forms a slot in which the landing leg slides.

Slight adjustments may be necessary to get the retracting system to work correctly. The weight of the



Left: "Mike" may be fitted with a two-bladed prop for contest flying, and here we see our model as snapped at a recent Long Island tourney. Under ordinary conditions that undercarriage would retract when not in contact with the ground, but the tension was removed for this photo. The "truck" is actually not a landing gear on this job, for it is used in the extended form solely for take-off.

Bill of Materials

(Complete plans on the following pages)

Ten strips $\frac{1}{4}$ " sq. by 5' for longerons, wing spars, and wing leading edge;
Eight sheets $\frac{1}{16}$ " by 2" by 36" for wing and stabilizer ribs;
Five sheets $\frac{1}{32}$ " by 3" by 36" for wing leading edge and center section covering;
Four sheets $\frac{1}{8}$ " by 2" by 36" for fuselage stringers and stabilizer mount;
Four feet $\frac{1}{8}$ " diam. aluminum wire for wing tips;
Two feet $\frac{3}{32}$ " diam. steel wire for landing gear;
Three strips $\frac{1}{16}$ " by $\frac{1}{4}$ " bamboo for battery box and wing pegs;
Two strips $\frac{3}{16}$ " sq. by 5' for stringers;
One sheet $\frac{1}{8}$ " by 3" by 36" for rudders;

One strip $\frac{1}{8}$ " by $\frac{1}{2}$ " by 36" for stabilizer trailing edge;
One strip $\frac{3}{16}$ " by $\frac{3}{4}$ " by 5' for wing trailing edge;
One strip $\frac{1}{8}$ " by $\frac{1}{4}$ " by 36" for stabilizer leading edge;
One strip $\frac{5}{16}$ " by $\frac{1}{8}$ " by 36" for stabilizer spar;
One strip $\frac{1}{2}$ " by 12" by $\frac{3}{8}$ " pine for motor mounts;
One sheet 6" by 6" by $\frac{1}{20}$ " plywood for motor mounts;
One sheet $\frac{1}{8}$ " by 5" by 7" plywood for motor bulkhead;
One sheet $\frac{1}{4}$ " by 2" by 36" for wing mounts and back of bulkhead;
One 6" length aluminum tubing, one $\frac{1}{8}$ " diam. landing gear bearing, one pint dope, half pint cement, eight sheets tissue, yard and a half silk, 3' hook-up wire, sheet brass scraps for battery contacts, soft balsa blocks for cowling, .010 sheet aluminum tabs, one $3\frac{1}{2}$ " air wheel, bolts, nails, pins, sandpaper, etc.

model should hold the wheel out without having the job tip forward. And when the plane is lifted, the wheel should swing up under the cowling. By adjusting the tension of the rubber band and the angle of the landing gear leg, the correct balance of forces may be obtained.

MOTOR MOUNT AND HOOK-UP

PLATE 1 carries detailed views of the motor mount. The runners are made from $\frac{1}{2}$ " by $\frac{3}{8}$ " pine, and $\frac{1}{20}$ " plywood gussets are glued and nailed to these for strength. The mounts are bolted to the $\frac{1}{8}$ " plywood bulkhead with $\frac{3}{4}$ " brass bolts. The spacings shown on the plans are for a Brown engine, but any $\frac{1}{5}$ " h.p. motor may be used by simply changing the position of the bolt holes to conform with those on your power plant. The coil and condenser are mounted to the rear of the fire wall with aluminum straps and wood screws.

The battery box shown on Plate 2 is made of $\frac{1}{8}$ " hard sheet balsa. The box is made to accommodate two intermediate batteries which should prove sufficient for running your engine. Glue two brass contacts at one end of the inside of the box and cement the wire spring to the other end.

The ignition diagram is detailed on Plate 1. By using "alligator" clips in connecting the wires to the coil and condenser, the motor may be completely removed from the rest of the plane.

TAIL AND WING

THE TAIL construction used is simple, light, and strong. Start by pinning the $\frac{1}{4}$ " by $\frac{1}{2}$ " trailing edge to your full-size plans. After

the bottom ribs are in place glue the $\frac{15}{16}$ " by $\frac{1}{8}$ " spar in position and finish the stabilizer by adding the top ribs, which bend from the leading edge over the spar to the trailing edge.

Note that the center ribs, both top and bottom, are $\frac{1}{16}$ " by 2" wood to strengthen the stabilizer against the tension of the rubber bands. The $\frac{1}{8}$ " thick balsa rudders are sanded to a streamlined cross section and glued to the stabilizer after it has been covered.

Twenty wing ribs, for which a full size template is given on Plate 2, should now be cut from $\frac{1}{16}$ " sheet balsa — "C" grain. These ribs are spaced 3" apart on the $\frac{1}{4}$ " sq. hard balsa spars.

The wing tips are made from $\frac{1}{8}$ " aluminum wire. This type wing tip

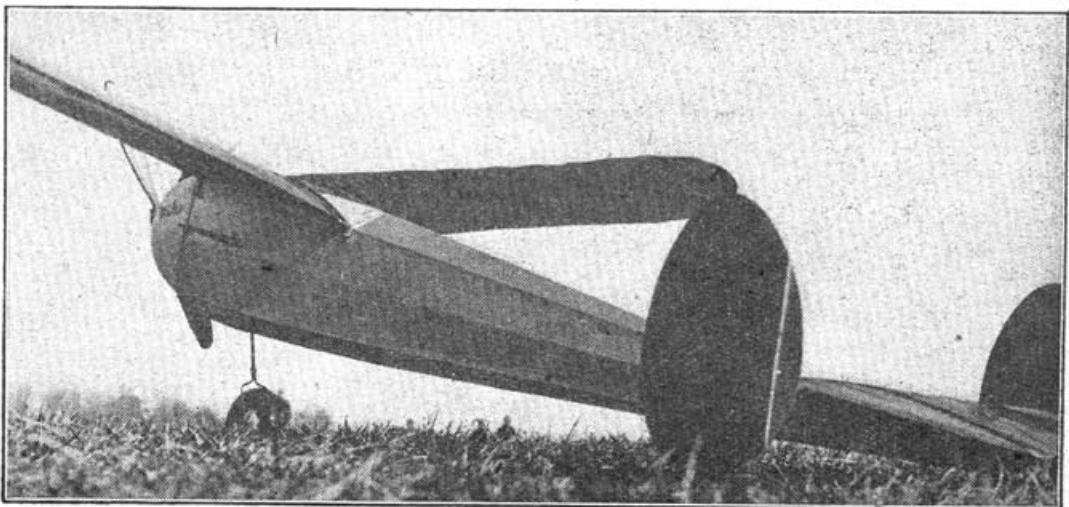
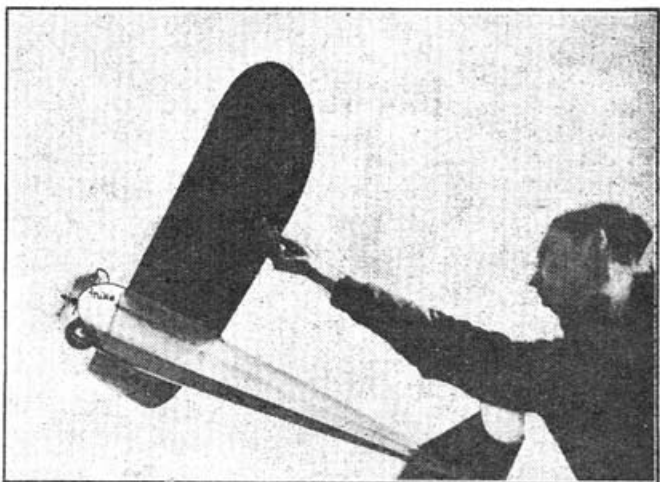
is easy to make and is also light and strong. The leading edge of the wing, both top and bottom, and the center section is covered with $\frac{1}{32}$ " sheet balsa.

COVERING AND FINISHING

ON THE original "Mike," the wing and tail were each given two coats of red tissue. If you'd like to use the same color scheme, cover the entire structure with a first coat and spray with water. When this is dry, apply the second coat, sticking

(Continued on page 80)

Right: She's off! Under the expert supervision of one of the author's fellow modelers, "Mike" takes to the air for a roaring hop. See, her wheels' up already. Below: This three-quarter rear shot shows how stable our model is with her three set-down points on the ground.



"Mike" Gas Model

(Continued from page 45)

the paper only to the edges, spray again, and apply two or three coats of dope. The fuselage is covered with silk, and this, as well as the exposed wood parts, is painted silver.

FLYING THE MODEL

IN ALL test flights with "Mike," a one bladed prop should be used. By clamping the prop to the crankshaft in the right position, it will be possible to get the weighted end pointing down when the engine stops. This prevents any damage to the engine in landings. A two bladed prop, however, may be used in contest flying.

To fly "Mike" have an assistant hold the plane while you start the en-

gine. When the plant starts, pull out the wheel and set the model on the ground with the engine still running. Set the timer for the desired motor run, and let the model take off, guiding it by the wing tip.

In landing, the protruding wheel takes the shock. Occasionally, in a more severe landing, the motor unit may pull out. This is okay, though, for it can be slipped into place again. The idea of holding the nose of the ship in with rubber bands reduces the chances of injury occurring to the engine, as well as allowing the separation of the motor from the rest of plane.

Tha's all. She's now yours, boys!
