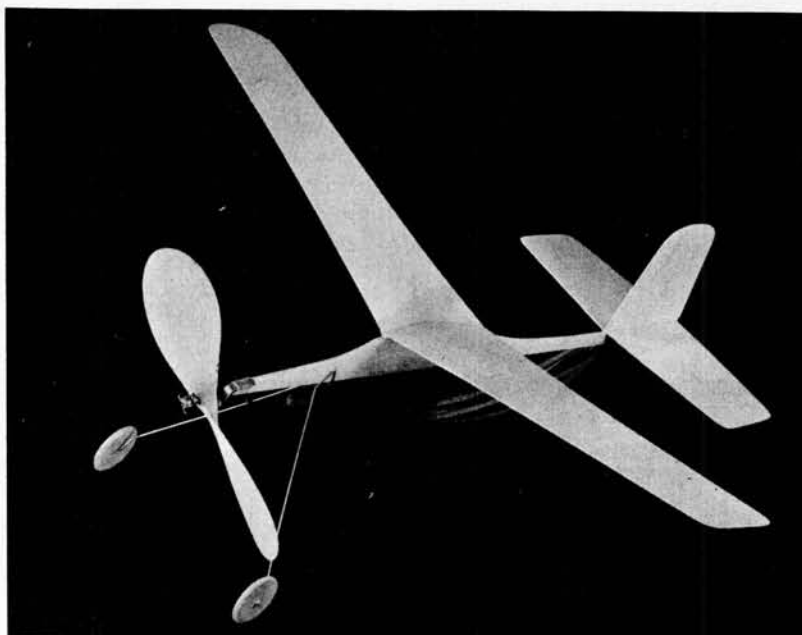


# miss simplicity

For fun galore with little work, nothing beats a good all-balsa R.O.G.

by **Henry Gordon**



The cambered "high-lift" wing is shaped by applying light, clear dope to the under surface. Beginners should have little trouble building this plane.

● Most modelers consider the basic R.O.G. kid stuff. But, if every old timer were to tell the truth, they would admit to many happy, pleasurable hours derived from this type of plane.

Only a fundamental understanding of sheet balsa and the adjustment of models is required to build and fly this particular plane. Sheet balsa of uniform texture is needed, so select your wood with this in mind. Avoid wing wood with hard or soft spots through the grain. The correct wood will assure clean under-camber throughout

the wing length and prevent flat or bowed sections after the wing is shaped upon the wing former.

To facilitate the shaping of the wing, apply light, clear dope to the undersection of the wing. To shape the wing, hold it to its proper form while the dope is drying. To prevent warpage, don't apply dope to the stabilizer or rudder.

At the very least, three coats of dope should be put on the fuselage. This will both protect it and keep it clean.

The wire parts are easily shaped

with a pair of round nosed pliers. Note the form of the propeller hook. Bend it very carefully so that the free-wheeling unit will work smoothly.

The assembly of this hook to the prop is done next. Bend the nose, or free-wheeling lock, first. Now slip a small, light washer (made from .005 brass shim stock) over the shaft and solder to the flat section at the lock. This washer will prevent the tension spring from riding over the lock.

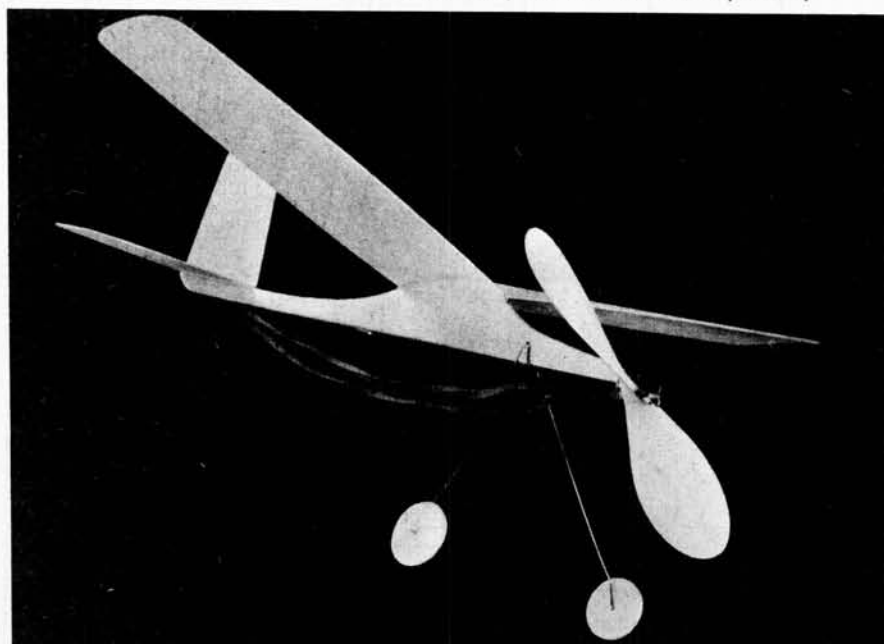
The small tension spring may be obtained from your Model Dealer or it can be made from .010 or .012 control-line wire by winding it at home yourself. Slip the spring in place and insert the prop shaft. Remember at this point to place another small washer between the spring and the hub. After putting the hook into the prop, you can then bend the motor hook end and the prop shaft is finished.

Propeller carving shouldn't prove difficult at all. Use a very sharp pen knife to whittle out the approximate form and finish shaping with sandpaper. Mark the prop outlines to the dimensions shown on the plan. Start your carving on the lower surfaces first. Take long slicing strokes for the outline. Diagonal strokes are necessary for correct shaping of the under-camber in the prop.

Drilling for the shaft should be done after the prop is finished. A prop shaft bearing made of .040 inside diameter

(Turn to Page 63)

The free-wheeling propeller improves the glide. And, most important of all, this easy-to-build rubber-powered plane is virtually indestructible and simple to fly.



# Miss Simplicity

Plate One

WING FORMER  
1/16" SHEET - 2 REQ.

WING  
1/16" SHEET

STABILIZER  
1/16" SHEET

RUDDER  
1/16" SHEET

LANDING GEAR  
.040 WIRE

1/32" STEEL THRUST BEARING  
WRAP WITH THREAD

GLUE SKIN

.010 WIRE COMPRESSION  
SPRING

1" WHEEL

FUSELAGE  
1/8" SHEET

GLUE SKIN

.034 WIRE

ALL PARTS FULL SIZE

Ribs R2 and R3 are fitted as before. Note the extra inner lamination (1/32" bass) on root rib R1, cemented in place after the box is finished.

Use only hard straight-grained balsa for the spar, as well as the leading and trailing edge. Note the taper on the outer panel spar. Wing ribs R5 to R10 are 1/16" balsa. The heights of wing members above the work bench are indicated on the plans.

The trailing edge should be finished before assembly, being left about 1/8" thick at the wing center for added strength. It will probably be easier to finish the leading edge after assembly, the details being shown in the cross section on the plans. In assembling the wing panels on the bench, all ribs, etc. should be properly slotted and trimmed so they do not have to be forced into position while drying. This will eliminate one cause of warped wings.

Note that the lower sheet balsa covering will require sanding to a slight bevel where it is cemented to the spar. When the sheet covering is dry, the leading edge should be trimmed and sanded to its finished shape. The end lamination can now be cemented to the root rib, R1, and the 1/32" bass sheet added to the center section as shown.

The two small blocks shown at the wing trailing edge are to bear against the corresponding block at the rear of the wing platform. The piano wire (0.035) hook in each block engages the wing rubber, keeping the wing properly centered.

The last detail before applying the tissue covering is the addition of the soft balsa wing tip blocks, which may be rough shaped and then cemented in place before finishing.

The original wing was covered with jap tissue. In the covering process start with the underside, covering one panel at a time between leading and trailing edges. First secure the covering at the point of maximum camber of each rib of the panel in

question, gradually working toward the leading and trailing edges.

In covering the upper surface, no adhesive (dope) need be placed on the intermediate ribs. When water spraying and doping, operate on one panel at a time, and pin securely to a flat surface to prevent warping. The finished wing should weigh about 4 1/2 ounces with three coats of dope.

The stabilizer is of straightforward construction. It is suggested that the central portion of the trailing edge be left 1/8" thick as in the case of the wing. To provide a point of bearing for the stabilizer elastic it may be necessary to mount a small block on the center section at the leading edge. The removable cockpit cover is fully detailed on the plans.

Before test gliding, balance the model at a point two inches from the leading edge. Balancing weights may be added by temporarily removing a section of the fuselage shell between formers No. 1 and 2. The weight may be in the form of lead shot or lengths of soldering wire secured inside by cementing. Part of the weight may also be in the form of a heavy brass skid to prevent wear upon landing (on concrete runways, for example).

Longitudinal trim should be obtained by adjustments of the stabilizer angle of incidence. A fairly tight circle was obtained with the original model by using the amount of right rudder shown on the plans (fin and rudder details).

As long as there are no warps in the wings, the model will give no trouble in the tow. In this regard it is important to stick to the shape shown for the tow hook. To insure comfortable towing, the wind should be at least five m.p.h. (unless you are a track champ!). In closing, it is hoped Swallow II will provide many pleasant flying hours . . . happy landings!

## Miss Simplicity.

(Continued from Page 31)

aluminum tubing will keep the prop from being torn to shreds. Another such bearing will add life to the prop if used as a free-wheeling lock.

Four strands of 1/8" flat brown rubber will supply enough power for this model. To balance Miss Simplicity, the landing gear is moved until the plane is hanging straight and level while being suspended from the wing tips.

Test-glide the model by throwing it easily from shoulder height. Have the nose pointing at a slight downward angle when gliding. There should be no tendency to stall and the glide should be fair. The plane shouldn't dive.

If Miss Simplicity stalls, you can correct this by warping the trailing edge of the stabilizer slightly downward. Do this by breathing lightly on the surface and shaping the stab with your fingers.

If your model is nose-heavy, warp up the trailing edge of the stabilizer. When correct hand glide is obtained, power flying is in order.

Wind your rubber motor just tightly enough so that a single, smooth row of

knots presents itself along its entire length. Launch your model in a level position, directly into the wind.

Final flight adjustments are made in the same way as for the glide tests. The rudder is warped for turning in flight and Miss Simplicity should turn to the left while under power because of the motor torque, and glide to the left after power is gone. The rudder may be warped in the same fashion as the stabilizer. Ordinary care in construction and adjustment will pay off in good flying.

## PHOTO CREDITS

Page 12—Top left: H. A. Thomas, Jr.; Bottom left, right: Bernard B. Schoenfeld.

Page 13—Right top and center: H. A. Thomas, Jr.; Bottom left: Bill Dean; Bottom right: Bernard B. Schoenfeld.

Pages 14, 15, 24, 30—Alan Orthof.

Pages 37, 42, 43—J. H. McGovern.

## Coming Next Issue!

The August number, on sale July 1st, will include "The Revolver," a speed U-control plane by Maurice Schoenburn. Don't miss it!

## The Scale Model Supreme!

Be Sure to Build It



### DOUGLAS DC-3 "Workhorse of the Air"

Span 70 3/4" Super-detailed. Almost like building the big plane itself. MFM Kit..... \$14.50  
36" Model "IT" Dry Kit, \$1.00



28" Republic  
SEA-BEE  
MFM Kit.....

\$3.00



32" LANCER  
For CO-2 motors  
Dry Kit.....

\$1.00



Northrup P-61 BLACK  
WIDOW 49 1/4" MFM Kit.....

\$14.50

36" T Kit..... 1.50

### For the Really Serious Model Builders

48" Douglas  
HAYOC A-20  
MFM Kit \$8.50

48 1/2" B-26  
MARAUDER  
MFM Kit \$9.50

55" B-25  
MITCHELL  
MFM Kit \$9.50

82 1/2" STINSON RELIANT  
America's most popular  
radio control Model. Dry  
Kit GP-5017 (no hdwe.)

\$17.50

THE FAMOUS PLAYBOYS  
70" Playboy Sr. Gas  
Model. Class C.  
Kit GP-5017 (no hdwe.)

\$6.00

54" Playboy Jr. Gas  
Model.  
"B" Kit  
GP-5006 (no hdwe.)

\$3.25



THERMALIER  
36". Great  
for contests.  
Dry Kit..

\$1.00



### Tether TOPPERS

Topper I (CO-2) \$1.00  
Topper II (A & B) 2.25  
Topper III (B & C) 3.00



### 32" Baby FLEETSTER

Designed especially for  
CO-2, but may  
be flown rubber. \$1.25



43" LUSCOMBE  
SILVAIRE Gas.....

\$3.00



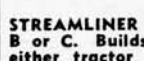
30" PIPER CUB  
Big favorite among all  
model builders.  
Dry Kit.....

\$1.00



6 Ft. CONDOR Super Soarer.....

\$1.00



STREAMLINER  
B or C. Builds  
either tractor  
or pusher.....

\$4.00



De Luxe SHARPIE  
Greatly im-  
proved Kit.....

\$2.00

Send for  
FREE  
Jumbo  
Folder

See your dealer first. If he is unable to supply you, accept no substitute, but order direct, enclosing 25c for packing and postage.

## Cleveland Model & Supply Co.

World's Largest Manufacturers of Quality Model Aircraft Lines—Since 1919

4514 FM 6 Lorain Ave., Cleveland 2, Ohio, U.S.A.