

Pretty sporty looking, ain't she? The full-size aircraft won the Outstanding Design Award at the 1961 EAA Convention, and in 1962 it won an award for the best folding wing design. Model is simple to build and very stable, a good choice for those who want to take a crack at a low-winger.

# "Ophelia Bumps" TURNER T-40

• N115ET is a single place, low wing, wood structured, homebuilt airplane which makes up into a very nice model. Wing dihedral and horizontal tail size have been increased from the scale dimensions and of course, the propeller diameter is larger than exact scale to improve the model's flying capabilities. The name "Ophelia Bumps" was on the original airplane in September 1965.

The structure of the model in the photos was constructed by my son, Douglas Martin Mooney. He kept procrastinating with respect to the covering of the model until **R/C Model Builder's** illustrious editor called and asked when another Peanut was to be forthcoming. As a consequence, the design and the covering job is the responsibility of the author.

The center of gravity came out exactly as shown on the plan, and with approximately 3/32 inch of washout in each wing that occurred upon shrinking and doping the model (which I would have adjusted into the model if it had not occurred automatically), the model flew right off without requiring any other adjustments.

The model's structure is relatively conventional. The fuselage is built by laying down two fuselage side frames directly over the plans, then adding the top and bottom crosspieces at each upright to create a fuselage box. This model has a simple rectangular section box except at the forward end, where the cowl shapes are provided by balsa blocks cemented to the structure and carved to the appropriate contours. The cabin structure is made separately. Cut a bottom panel to the large streamlined shape shown in the top view from 1/16 sheet. Cut the top panel to the small streamlined shape from 1/4-in. sheet. The cabin former is cut from 1/32 sheet. Assemble these parts and the forward windshield and window uprights, and

then add the 1/32 sheet aft panels. Carve the top to the cabin cross-section. A windshield pattern is given which is exactly the shape of the one on the model. It should provide a good starting place, but try an oversize paper one to make sure of the exact fit on your individual model.

The nose block is made to plug into the front of the fuselage box. It includes the forward end of the carburetor air inlet which will tend to be subject to easy breakage unless reinforced by a couple of pins, indicated by two vertical dotted lines in the nose block front view.

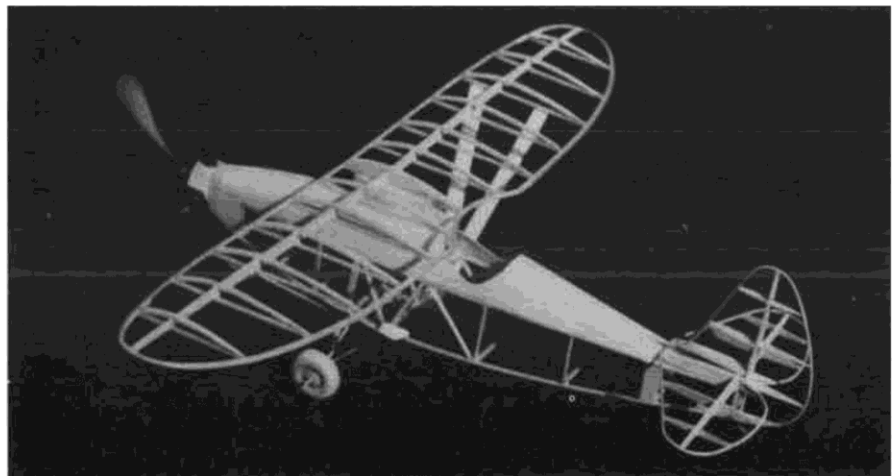
The wing is built using the sliced rib method. Pin down the trailing edge over the plans; do likewise with the leading edge. Using 1/16 square balsa, cement the bottom caps of the ribs in place. Cut a one-piece spar out of 1/16 sheet, using the wing tip and spar center section details as a guide. Don't forget the tip gussets. Cement the left end of the spar in place on the bottom rib caps. When dry, cut the left-hand dihedral breaks in

the leading and trailing edges and lift the left wing until the spar can be cemented to the right root rib, then lift the center section until the spar can be cemented to the right wing rib caps. Now slice the upper rib caps and cement them to the three spanwise structural members. Finally, add the wing tips. They can be made from 1/16 sheet, but note that they must be twisted from the spar to the trailing edge, as indicated in the tip detail.

The horizontal tail is a symmetrical surface that uses a thin top and bottom spar. Cut the spars from very hard 1/32 sheet or use model railroad basswood. The tips are carved from soft scrap balsa.

The vertical tail is similar except that it uses a single internal spar and has a sheeted leading edge and a carved balsa dorsal fairing. The trailing edge pieces are cut from 1/16 sheet; note the grain direction. Three of the bottom part are required to match the tail airfoil, and the

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Walt's next Peanut is a Finnish homebuilt called the "Viri," very similar in outline to the Comper Swift ultralight of the early 1930's.

**Peanut . . . . .Continued from page 51**

spar should be filled on each side with balsa from the bottom of the tail to the first rib to match the thickness at the end of the fuselage.

Wheel pants are conventional three-piece balsa laminations, using 1/4 balsa for the center part and 1/16 for the sides. These are carved and sanded to the streamlined shapes shown.

The landing gear wire is really two wires bent to specific shapes and soldered together. The small part is "U" shaped and is shown in the wing plan view. The larger part is shown in the pattern just above the title block of the drawing. Bend the two wires to shape and solder them together as indicated, then thread the wire assembly through the wing root ribs and add the wing subspars, one forward and the other directly over the wing spar proper.

A good covering job is essential if the model is to look presentable. This requires lots of work with sandpaper to eliminate all rough spots and unwanted bumps and snags. Use 320A and then 400A until you are completely satisfied.

Use conventional covering techniques and lightweight tissue for this model. The wings, horizontal tail, numbers, name, and trim lines are red. The inside of the cabin, the anti-glare panel on the top of the cowl, the cooling and carburetor air inlets, and the wheels are flat black. The rest of the model is white tissue or bare balsa. The plastic propeller was silver to begin with and was left that way. Control outlines are indicated by thin black ink lines. The wing walks are black tissue.

The landing gear fairings simulate the real metal landing gear legs. These were made from thin, soft vinyl plastic cut from a pocket protector. They were cemented to the wire using Super Jet instant glue and will flex along with the wire.

Have fun with your Turner T-40. ●