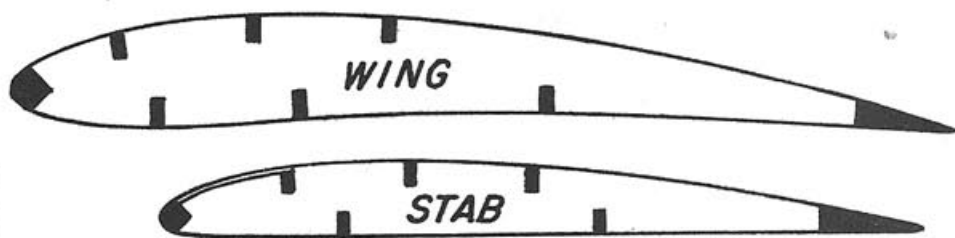


Wakefield building will be easier in 1954, says JB



Full-size wing and stabilizer ribs for Bilgri's new 1954 models.

field experience; it's nearly two ounces heavier than the models of the past few years.

With only three different types of rubber motor (T-56, Dunlop, & Pirelli) which are available to everyone and a limit (2.8 ounces) of how much you can use, Wakefield flying is now on a more equal basis than gas models, for some engines are always more powerful than others. With weights and power equal, consistency and having a model to fit the weather conditions of the day will be more important than ever. On calm days when the thermals are few and far between it's hard to beat the long type, for its flat slow glide is difficult to equal with anything

else, and on a windy day a short model with its tighter circles is usually better.

Modification experiments were first tried on models left over from the 1953 eliminations, and while some tests looked fairly good it showed that more would have to be done than taking out the gears and substituting a single motor or just shortening the motor length of the real long type if a person wanted the best possible model. A combination model was built using the same wing, stab and prop assembly on two different fuselages to see which would be the best, but the first tests with both combinations proved far better than was expected, so additional parts were made in order to have two complete models. The geared fuselage was tried, because a check on the winning geared models for the past five years (1949-53) showed that they did not have as high a power-to-weight ratio as some of the single-motored models that they beat; it could be that there is not as much loss of power through the gears as some think

A lower aspect ratio than in the past was used, since both types of fuselages are shorter than in past years, and with all flying to be done under thermal conditions rather than in the early morning and late evenings, it must be remembered thermals have no preference when it comes to aspect ratios. The supposedly better gliding high aspect models always seem to take more power to climb as high as the lower aspect models, and the higher you get the stronger the thermals are.

For those that have built a long type Wakefield there is very little to say that is different from the long models of 1952 and 1953, but the shorter length due to the limited amount of rubber allowed makes the *Bye Dot* lots easier to fly and adjust, and the heavier construction makes handling easy. As long as the rules permit two models, I would suggest building both fuselages to see which you like best and which works best under the conditions of your locality. If you don't have gears and are unable to obtain them locally, write to me in care of Air Trails and I will send you the addresses of a couple of model builders who machine a few gears in their spare time.

Both fuselages are built from medium balsa and the difference in weight due to their length is made up by the gears in the shorter fuselage. No top view is shown on the plans for the short fuselage; it is square and the dimensions are the same as the side view. For those that have never built a Warren Truss type fuselage, one side is built as shown on the plans and for the other side the crossbraces run diagonally opposite, so that when the two sides are placed on top of each other X's are formed.

The cabin is constructed separately from the rest of the fuselage and is not

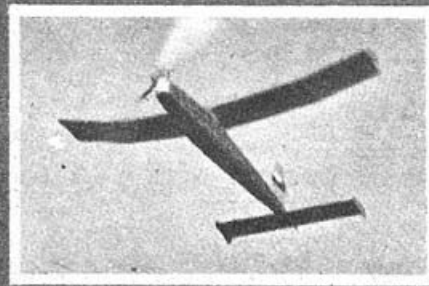
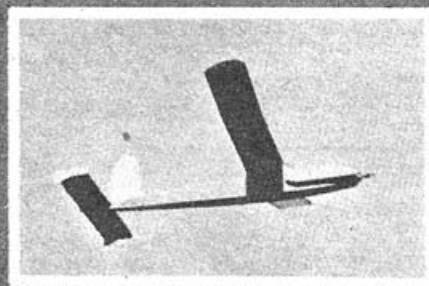
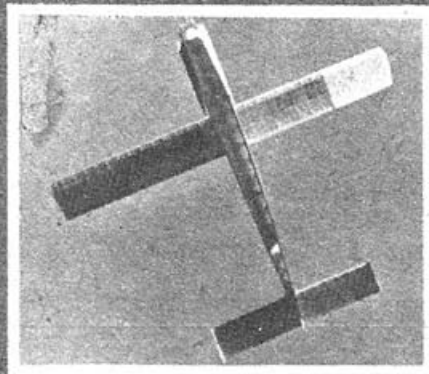
cemented to it until all parts have been built and covered, so that the exact balance point can be obtained; if medium balsa has been used throughout the cabin location shown on the plans will be very close. The celluloid window is the last part of the model to be cemented in place. The landing gear strut is cut from $\frac{1}{8}$ " sheet, sanded to a streamlined shape and covered with tissue. It is 12" long.

The wing and stab ribs are cut from $\frac{1}{32}$ " medium or light $\frac{1}{16}$ " sheet balsa and should be pinned together, sanded and notched to have the spars in a straight line. The dihedral breaks should be reinforced with short pieces of $\frac{1}{16}$ " x $\frac{1}{8}$ " balsa running across the breaks. The rudder can either be built up as shown on the plans or cut from real light $\frac{1}{8}$ " sheet balsa. Both types were built and the weight is about the same.

The prop should be carved with very little camber and the blades thick enough so as not to flex, make it possible to maintain a fairly high rpm. A flexing prop takes a lot more power and extra strands of rubber cannot be added as in the past.

Motors of Pirelli or Dunlop are 12 strands approximately 39 inches long, or if T-56 is used—a thinner rubber—16 strands will be needed. Different batches of rubber will not always weigh the same, so that the motors may have to be made a little shorter or longer for the 2.8 ounce maximum. For the geared model the lengths of motors are only half as long, or a little over 19 inches each. The motors should be prewound and will stretch about 10 percent, making the length of the motors and the distance between hooks practically the same.

Both models are flown to the right under power and the glide can be to the right or left just as long as the circles are fairly tight, for tight circles are best in thermals and wind. The complete weight of both models should be about 5 ounces, and the balance of the weight is made up by placing clay inside the cabin under the wing close to the balance point; as the model picks up weight with age the clay is removed.



Climb and glide shots of Hi Dot; author Bilgri is famous world over as designer.