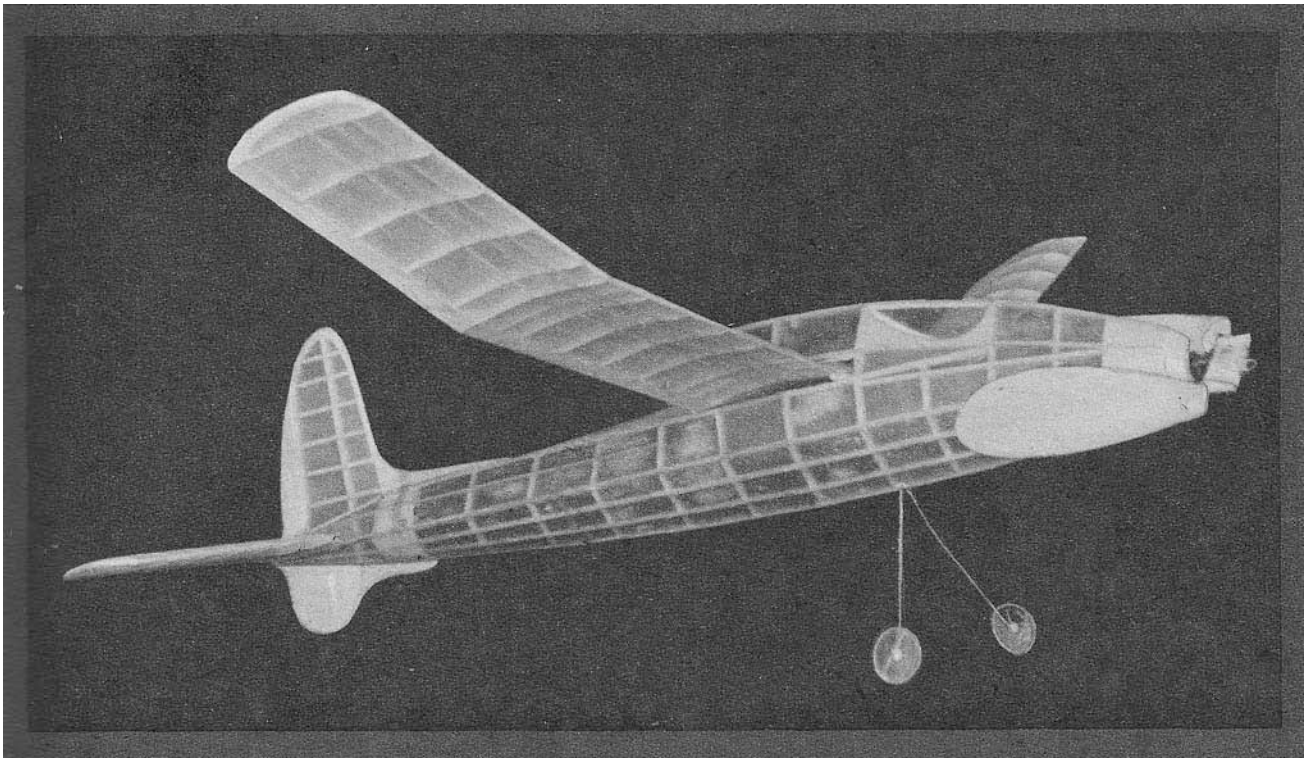


Catamount

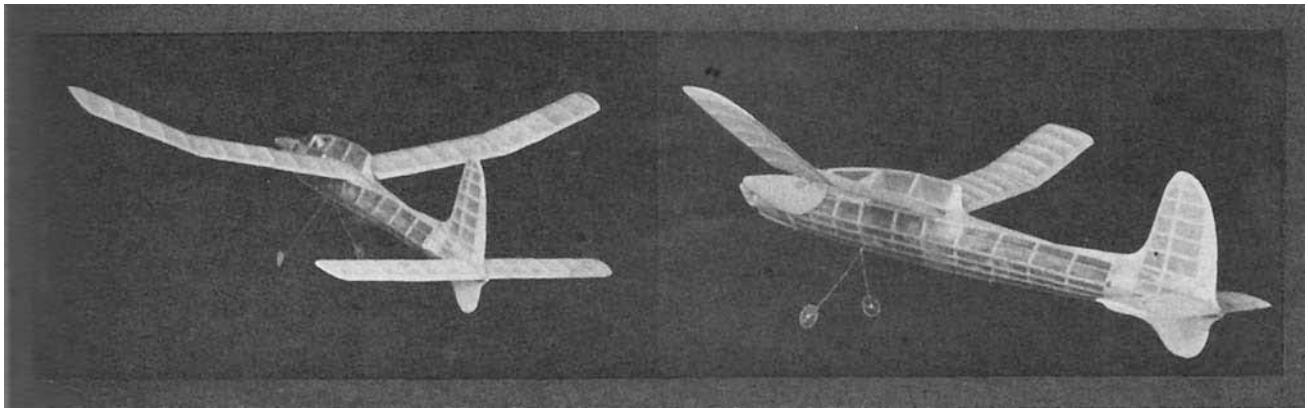
By DICK EVERETT

Here's a new and novel Wakefield model by one of America's best-known contest flyers

WHEN it was announced that a Wakefield event was to be held last year, renewed interest throughout the world was evidenced. Inasmuch as the rules for this event are entirely different from our American regulations, it is necessary to design a model expressly for this meet. Wakefield models must have 200 square inches of wing area, plus or minus five percent, which gives a leeway of ten square inches on either side. In other words the model .must have from 190 to 210 square inches of wing area as viewed from above.

Models are checked so closely in the finals that one year Dick Korda had to out *a* 1/16" strip from the chord of his winning model's horizontal tail before he was allowed to fly it. Roy Wriston had to cement some pennies to his '36 entry to bring it up to weight. Gordon-Light had to remove the covering from the center section of his '35 winner to meet the '36 rules. When the rules were printed, the "plus 5 percent" was deleted through an error, and inasmuch as the rules were distributed, they had to be followed. To win the Wakefield event, *(Continued on page* 75)

• See the full-size working drawings on center plan section (pages 54-55-56-57-58-59) of this issue for the Catamount Wakefield.



Catamount

(Continued *from page* 49)

besides having a good model, you must meet the rules.

The first test flights of the Catamount were very pleasing, but as power was added it was found that it was necessary to add down-thrust and right thrust. Since the model had a natural tendency to glide to the left, no attempts were made to fight it, as we do not think it advisable to fight forces which are naturally built into the model, even though they might be entirely accidental.

It was deemed necessary, nevertheless, to fly the model to the right under power. The reason for this is that no matter how you try, you cannot get as smooth a power flight to the left with torque, as you can to the right, against torque. The first few flights were not very long, since the model was flown at 3/4 power. But the required smooth right turn under power and the very tight lift glide were easily adjusted into the model. The three models which were built flew very much the same and have turned in times that were comparable. Frank Parmenter's averaged a very fine 5:26.4, while Charley Folks averaged 3:19.

The Catamount was carefully designed to meet all Wakefleld requirements. To squeeze hi a few square inches of wing area the wing was run through the fuselage. The power flight is a combination of the fast climb of ships of this country and a long motor run such as the fellows in England use. Since the take-off is watched very closely, a two-wheel fixed landing gear was used with but one innovation, that of plastic wheels for a modern touch.

For construction purposes, the drawings which appear on pages 54, 65, 56, 57, 58 and 59 should be covered with wax paper to prevent the cement from sticking to it.

Build two basic sides of the diamond, cutting four each of the various uprights, so that you will have enough to join the two sides when they are dry. It is best to build the two sides on top of one another so they will match. When the two sides are dry, separate them with a razor blade and join, them, using the extra pieces which have been cut for this purpose. They can easily be held together and in line with small rubber bands while the cement is drying.

The 1/8" sheet wing platform should be cut to shape and carefully cemented in place. Take care when doing this, for the future alignment of the model depends entirely on this platform. Line it up carefully with the two side longerons. The top of the platform should be parallel with them.

The rest of the fuselage, in the form of top longeron, fairing strip, stringers, sheet fill-in for nose and cabin, and plastic for windshield, are applied at your leisure. The nose block should be laminated from 1/4" sheet and faired into the fuselage. Two large face bushings are used for the shaft bearing in the nose block. The landing gear is in two pieces bent as shown, cemented and wrapped with thread, and cemented again to provide the strength necessary to stand up under the strains of landing and taking off. When all these parts have been added and the cement is dry, the entire fuselage should be sanded.

To construct the wing, first cut 29 ribs to shape from 1/16" sheet balsa, medium hard. Notch them for spars and leading edge and sand them smooth. Trailing edges are from regular 5/8" Jasco trailing edge stock, but for those who do not have it; it can be cut from 1/8" sheet and tapered before cementing into position. The entire wing, with the exception of spars and gussets, is built flat. When the outline is dry, dihedral is put in, cementing the gussets in place at this time to reinforce the joints. The spars are added and overlapped 1/2" to provide a simple, strong, neat joint. The wing when dry is sanded smooth.

The horizontal tail is constructed in much the same manner as the wing, with the following exceptions. The spars are 1/16" square, and two special ribs are used at the center section for the covering. The vertical tail construction is the familiar cap strip type for a light, streamlined shape. The outline, including the rudder, is first cemented together and the spar put in place. Then l/16"x1/8" stripe are cut TO size and cemented into place. When

this first side is dry, ribs for the other side are cut and added. When dry, the leading edge, trailing edge and rudder are laired and sanded to shape.

The tail surfaces are joined to the fuselage before covering so that the fairing can be made easily. The original model was covered with colored Jap tissue. The fuselage was covered red and the wing and tail yellow. For those who use Silkspan, it is advisable to dye the white tissue* before covering. This is done with a small packet of dye purchased from the neighborhood dry goods store. It is advisable to cover the model with the Silkspan wet, to eliminate wrinkles. Particular care should be given to the color used, for the model must be easily seen when high in the air as well as among trees and grass. Use a color which is in contrast to the blue sky and green foliage. Covering should be applied with dope, allowed to dry, and three coats of thin dope carefully brushed on. If Silkspan is used, four drops of castor oil should be added to each ounce of dope used, so that covering does not become brittle with age.

The propeller is carved from a tough block of balsa 1-7/5"x2-1/4"xl6". The block outline is cut on a small jig saw to shape. The carving is done with a very sharp knife. The underside (concave aide) is carved first, cupping the blades 1/8" at the deepest part. This should be sanded smooth before the other side is cut. The finished blade thickness should be a little on the thin side—a maximum thickness of 3/32" about halfway out to the tip is ideal. The hinge can be any of those available commercially or can be made from sheet brass. The original hinge was from 1/8" Dural with a .042" hole drilled through it at the proper angle. Both the butt of the hinge and the wire should be securely wrapped with thread to provide a very strong folder. The prop is sanded-smooth with fine sandpaper and covered with silk for strength, then doped with several coats of thin dope for a slick finish. The prop shaft is bent from 1/16" music wire and a Jasco bobbin is used for the rubber attachment. A stop is necessary so that the prop will stop in the same place each flight, so a small flat-headed wood screw is inserted into the nose block until it misses the end of the prop shaft by approximately 1/16".

The 18 to 20 strands of T-56 1/4″ flat rubber have about ten inches of slack. Before the lubricant is applied, the motor should be well washed with water to remove the fine powder which is usually on the rubber.

Since the stab is cemented to the fuse at zero degrees to the reference line, it is necessary to insert a 1/4″ square block of balsa under the leading edge of the wing for the proper incidence for a good climb and glide. When first gliding the model, take particular care to notice any tendency for the model to circle with the rudder set straight. If the model shows the slightest tendency to circle, adjust by moving the rudder in this direction until a smooth, tight, flat circle is obtained.