

OLD TIMER Model of the Month

Bunch CADET MINOR

Plan and Text by
FLORENT BAECKE

• Prior to World War II there was a Duncan Field and a Kelly Field. All that separated them was a road called the Frio City road. The fields each had a north and south runway. They met at Frio City road. Only the road and two shallow drainage areas separated them. There was no fence around either field. When an airplane at Kelly Field needed depot maintenance it was either towed or taxied from one field to the other across the public road. The bombing of Pearl Harbor ended all of this openness. The two bases were combined shortly after that and renamed Kelly Field.

Before Pearl Harbor, model builders were permitted to park at the end of the Kelly Field runway and fly their models off of the runway. I remember a major contest being held there. If an airplane was scheduled to depart or arrive on a Sunday, a member of the military would come and direct us to clear the runway until the airplane had landed or taken off. Then it was back to flying model airplanes. It was at one of these get togethers that I saw Tex Rickard's flying wing make its first flights. It was a fast and somewhat erratic model.

It was also there that I saw my first Bunch Cadet Minor fly. A young man (teenager) would arrive riding a bicycle and carrying his model and a winder. His model would

out fly any rubber powered model there and even some of the gas powered models. It had been modified by the removal of one landing gear leg and wheel. The remaining one was centered.

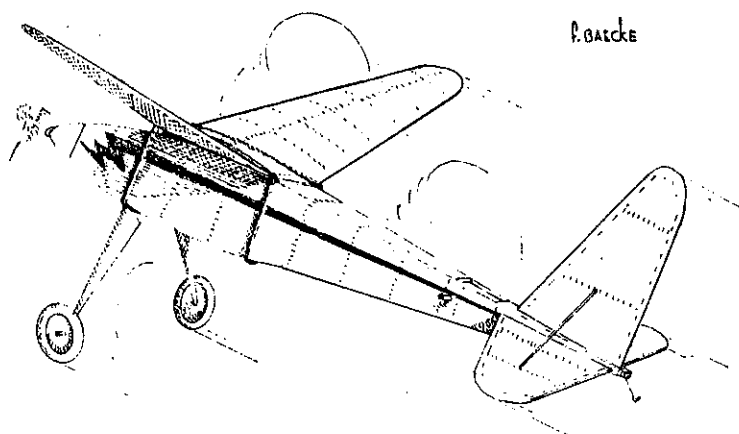
I was so impressed that I ordered one. It cost me \$0.50. I couldn't afford the Major. It cost a dollar. A gas model cost under three dollars. A kit for Dick Korda's first Wakefield winner cost \$0.29.

Well, so much for the reminiscing. My latest model is pretty much like the original except for some modern innovations.

All of the ribs are not shown on the original plan. Parts of the instructions simply rotted away (John Pond lists copies as available for both the Minor and the Major). Using the one rib shown on the plan, and the top and front view of the wing, I plotted the missing ribs. Note that the tip rib is only 1/16 sq. stock. This leads me to believe the designer was not too critical when plotting the ribs. Note also, that the wing is rather thin. This makes the model fly faster under power and during the glide.

Some of the changes I made are as follows:

- a. Add 45-degree braces in the rudder ... without them the tissue will wrinkle.
- b. Use a dowel instead of a rear hook



... this also helps prevent the rubber from bunching up in the back.

c. A bottle-formed propeller.

d. A nose plug which does not need a pin to keep it from falling out after the motor is unwound. (The pin can do damage to the front end during a bad landing.)

e. Don't even think about shrinking the tissue on the tail surfaces. Rather, make a frame from scrap 1/4-inch balsa or whatever wood you have available that is a half-inch larger than the tail surface. Glue the tissue to it and water shrink. If it has wrinkled, redo it. Coat one side of the tail component with diluted white glue and place it on the preshrunk tissue while it is still attached to the jig. When the glue is dry, cut out the tail component. You need to do this twice for each component. The advantages are no wrinkles and no warped tail surfaces.

f. Remember, you do not build two sides. Rather, follow the instructions and drawings on the plan. Build a top and bottom and install the uprights as per the drawings on the plan. Cyanoacrylate glue makes this easy.

For power use 48 inches of 1/8-flat rubber made into four strands (two loops) well lubricated.

The plan does not indicate a balance point or C.G., rather it says to trim the airplane so it makes a rapid climbing left hand turn under full power but does not stall. Slide wing back and forth until correct position is found. As experience is gained, trim incidence block very slightly and get wing forward to its most favorable position. The airplane is sensitive and can be turned easily by warping the rudder or by warping the wing to increase the lift on the correct side. The plans are done so you can build either the original version or mine. Why not build both just to see if it's possible to improve this old timer?

Left: The Cadet Minor is one snappily looking little airplane. Note how the fuselage cross-section changes to triangular aft of the wing. The most noticeable change the author made was to use a modern "formed" prop rather than a carved one, however both are detailed on the plan.

