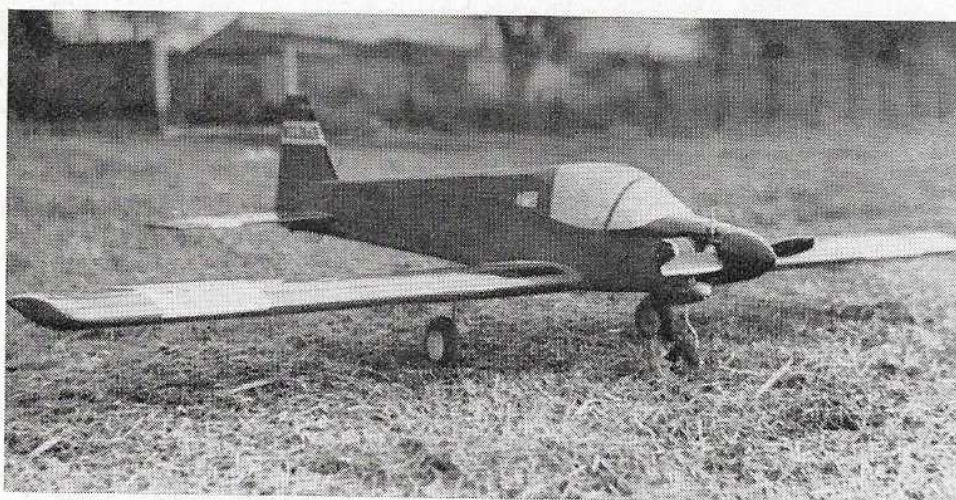


by _____ **DAVE DAY**



THE MILLIBAR

An attractive 'smaller size' aerobatic model with a sparkling performance for .29-.40 size motors

LIKE Mike Birch I like to read of the development of other people's models. However (I cannot tell a lie) this model was developed for me. Look closely and you will see that it is none other than Phil Kraft's 'Bar-Fli' in disguise.

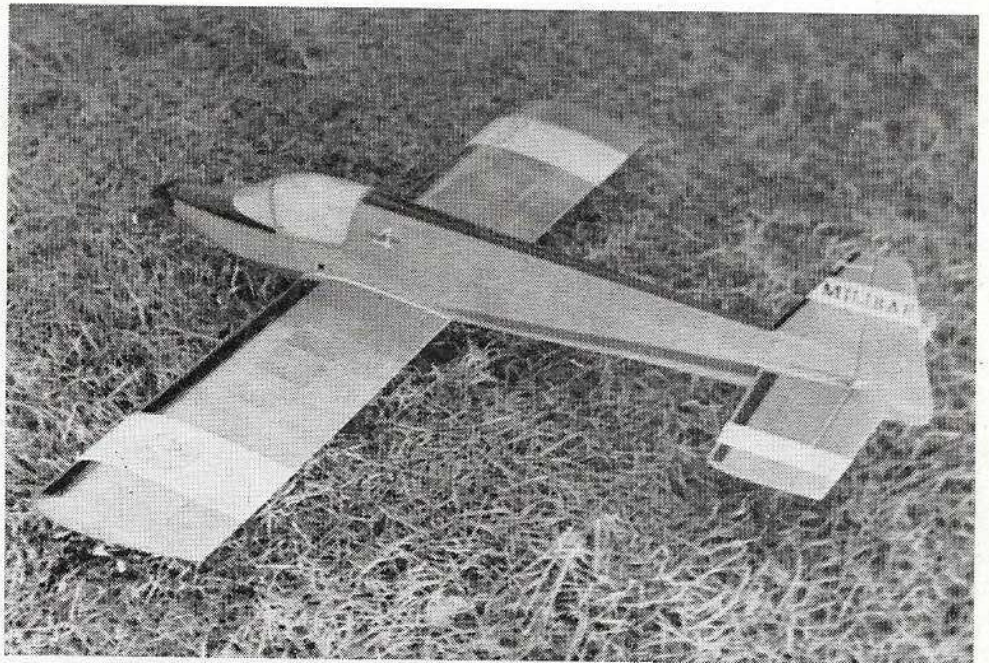
After building two Bar-Flis I decided I liked the layout generally but did not like the 'built-in drag' approach since it limited the performance in certain manoeuvres. About this time, I decided that I wanted a model to practice pylon course flying. This model was, preferably, to be the same size and weight as a Goodyear (Formula 1) racer.

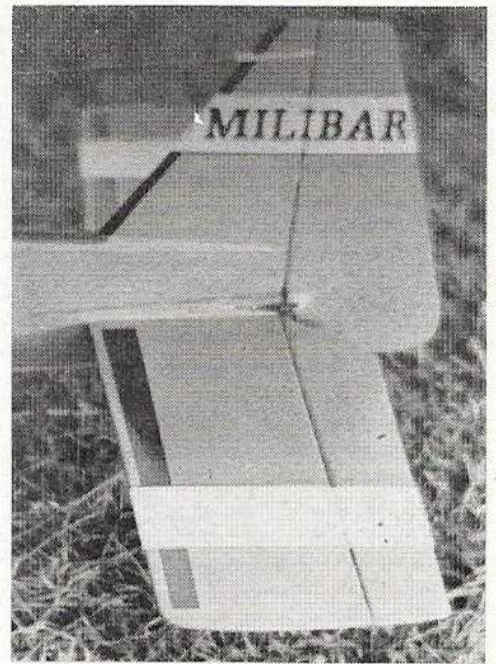
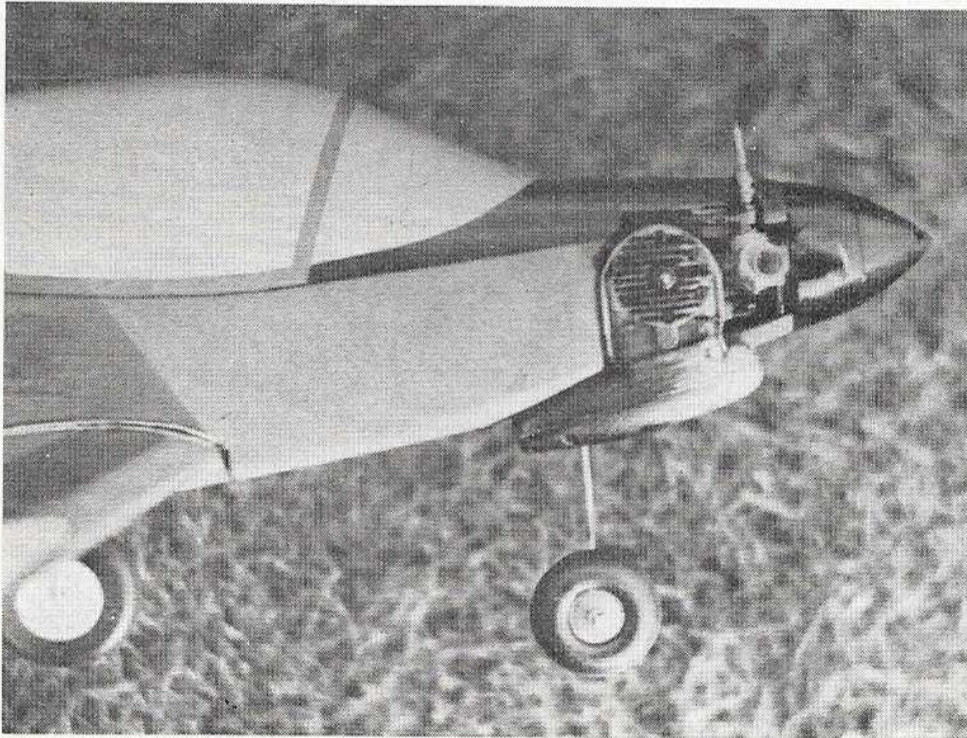
It was then discovered that scaling the Bar-Fli down to nine-tenths full-size gave a wing area of 470 sq. in.; the stage was thus

set for the 'Millibar' (only one 'L' on the prototype Mr. Editor - the fin isn't big enough for two!).

It was decided to mount the motor on its side and clean up the front end. The cockpit was moved forward to give the fashionable 'Fish' look. There was a very sound aerodynamic reason for doing this - I needed somewhere to stow the DEACs on my bulky *Digitrio - 4!*

The resulting model turned out to be a much better aerobatic model than I ever expected. Its competition results have been limited more by my flying ability than its own failings, although things have not been helped by a motor in pylon racing trim rather than a proper aerobatic motor. Incidentally, anyone who has seen my pylon course flying will





Left: Business end of the prototype Millibar. Motor is neatly side mounted, fuselage contoured to take silencer. Above: The tail cone. Note the dropped 'L' in the name.

probably feel that the model hasn't justified its original purpose!

Construction

Anyone who has built a 'Bar-Fli' (you mean you haven't) will get that 'I've-been-here-before' feeling. Anyone who hasn't built a 'Bar-Fli' or equivalent should not be building this brick anyway! Seriously, though, if you have not built too many multi models then I would strongly advise that you at least attach the wings with bands rather than the system shown. Otherwise a very poor landing will result in a cracked fuselage (I'm fed up with repairing mine!).

No aileron linkage has been shown since this does depend on the servo used. I used a normal bellcrank system but I feel that on a model of this size, flexible tubing (i.e. Nyrods) is probably better.

The tank may appear slightly unusual but with the tank used it is possible to install the vents, etc. anywhere and the system shown does keep the bulk of the fuel closer to the motor.

If using older type gear, it is possible to stack the servos vertically with a little ingenuity. (Another use for side area).

The original came out a 4 lb. 6 oz. with 20 oz. radio gear and O.S. Max-H 40 (ringed), for pylon racing, the carb on this motor can be opened up to 9/32 in. dia. if the air bleed is opened up to 1/8 in. dia. then it will still throttle reasonably but goes very rich in the mid ranges.

Flying

The best prop for general flying seems to be a 9 x 7 in. tornado nylon although if you prefer a little more time to think a 9 x 6 in. 3-blade ditto works very well.

Characteristics are very much

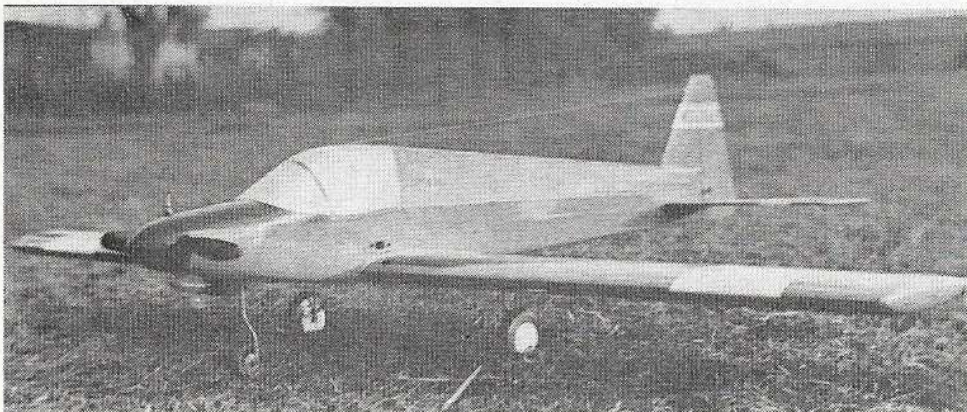
like any other multi model but faster. The small size also makes it seem faster than a normal-sized model.

The speed and large side area lead to a very interesting result in that the model will fly on its side for an appreciable distance without top rudder. This makes slow and four-point rolls very easy. If top rudder is used then it really will climb in knife-edge (it does stall easily though) for a continued knife-edge if necessary to hold a small amount of aileron on in the same direction as the rudder, otherwise it will roll inverted.

By this time you will be asking what the disadvantages are; well, if you try a four point roll downwind on a windy day it will disappear over the horizon on about the third point! It also seems to be more easily upset by gusts on the landing approach.

With C.G. and control movements as shown the model will just spin if entered very carefully. The original now weighs 4 lb. 13 oz. in its old age and spins much more readily. Moral: Build 'em heavy (Model shop motto!).

Finally, feel free to alter anything, just don't call it a Millibar.



Millibar is a pleasant-looking little beast with a zippy performance. Good knife edge flight characteristics are a product of generous fuselage side area.