

I have a particular affection for this design. In my youth I tried to get an Ajax and Eaglet to fly, with little success. Then the Sept. 1950 "Aeromodeller" appeared with the following advert :

Later ads. were to claim that the model had a contest performance.

The experts in my club, St. George's Heights M.A.C., reckoned

it was good. So along to

Ed. Roger's shop at

Weybridge I went, and he

let me have the kit for

five bob! He was a great

character and helped many

of us in our early days.

He was ably assisted by

another enthusiast in the

shop, Roy Donovan.

Building the model didn't prove difficult, the saw-cut prop. easing a beginner's task, and a group assembled at the local field to witness the first flights. It proved far better than expected

and disappeared O.O.S. over the village after 3 min. 22 secs.

It was subsequently tracked down to an apple tree and the lady

said we could retrieve it provided no apples were knocked down!

After more such flights it was considered a good design by the

older club experts. So I was pressured into entering it at the

forthcoming Northern Heights Gala at Langley.

The day arrived and it was really hot. I decided, with Roy Norman

and Roger Hurd, to bike to the meeting, whereas the better-off

went by hired coach. Having entered the event, I wound up, only

to have the motor break .. and that was that. Roger's power job

hit the side of a hangar, pushing the prop shaft through the back

plate. A disaster for all.

Our old flying field? - the M3 goes through the middle. Roger and

Roy? - not heard from for 25 years. (If anyone knows of them, I

would like to hear from you).

Enough nostalgia, what about the Senator, in 1987? Still available

the kit now has a 12 in. plastic prop. and the features that made

it unusual at the time - single-leg U.C., multi-spar wing, tip

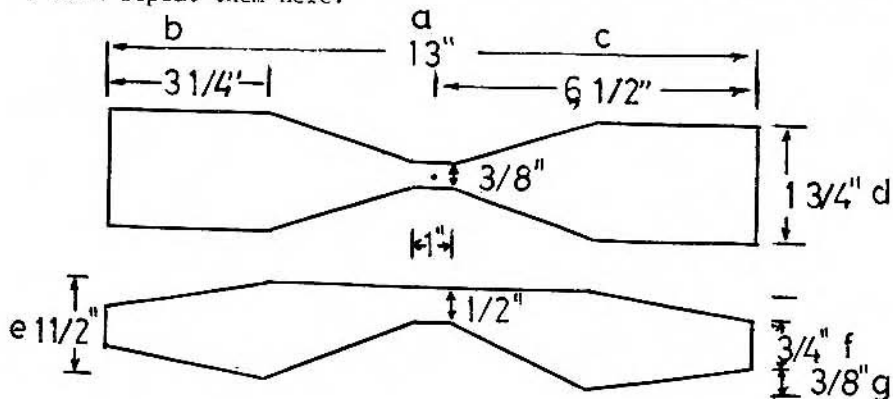
dihedral, T.P. area 40% of wing - also provide good performance.

Compared to other K.K. designs it is far superior, particularly

on the glide. Most of the better Senators have 13 in. props and

prop blank details were printed in Feb. 1987 "Aeromodeller", but

I will repeat them here.



SENATOR PROP BLANK



SENATOR 32" SPAN

Although rather unusual in appearance, there is nothing out of the ordinary in the construction of this plane. The Senator is essentially a beginner's model. An exceptionally stable flyer that will encourage the novice by its fine performance.

Certainly, the Senator in the hands of Ian Davitt, Dave Hipperson, and Martin Kemp did very well in 1986 and proved a match for the single-blade folder lightweights. So, to recapture my youth, I built one myself this winter. I hope the following notes will be of interest.

The secret of success is to build light, lighter in fact than the 3.7 ozs. given on the plan. With a 1 oz. motor (6 strands $\frac{1}{4}$, 8 strands $\frac{3}{16}$ x 27-30 ins. long) the total weight should not be more than 3 ozs. Construction is easy, with full instructions on the plan. Recommended weights are:-

- Wing
- a) 16 ribs plus $\frac{1}{8}$ in. sheet tips = 3 gms.
 - b) 36 in. long $\frac{1}{8}$ sq. medium L.E. + $\frac{1}{8}$ x $\frac{3}{8}$ medium T.E. + $6 \times \frac{1}{16}$ sq. hard spars = 8 or 9 gms.
(Firm balsa is needed for the spars, breaks are hard to repair)
 - c) With Jap tissue & 2 coats thinned dope, completed wing should weigh between 16 - 17 gms.

Tailplane

- a) 8 ribs, $\frac{1}{16}$ in. light stock + $\frac{1}{8}$ in. tips = 1.5 gms.
- b) $\frac{1}{8}$ sq. light L.E. + $\frac{1}{8}$ x $\frac{3}{8}$ light T.E. + 4 x $\frac{1}{16}$ sq. hard spars = 2.25 gms.
- c) With Jap tissue, 2 coats dope, complete weight = 6 gms.
(Lightweight tailplane is essential for good flights)

Fin

Light $\frac{1}{8}$ in. sheet, Jap tissue, 2 coats = 1.5 gms

Fuselage

Senator uses $\frac{1}{8}$ sq. where other models of this size have $\frac{3}{32}$ sq., so no hard wood here

- a) 4 medium $\frac{1}{8}$ sq. spars, 36 ins. long = 7 gms.
- b) Uncovered weight = 3 gms.
- c) Covered in Jap silk, w. dope coats, assets, motor peg = 20 gms.

Undercart

With a balsa/ply wheel replacing the kit plastic = 3.5 gms

Prop & nose assembly

Made from 8 lbs. cu. ft. wood, with 3 thinned dope coats = 8 gms.
Total with a noseblock of 2 - 3 gms. = 14 gms.

All this comes to 61 gms., just over 2 ozs., giving the 3 oz. total.

Assembling a model with these component weights gives a rather rearward C.G. of 75%. To get a 60% c.g. I put sanding sealer on the prop and noseblock and painted them silver. The latter now weigh around 19 gms. but the C.G. is where I want it!
The model is easy to trim, and hand glides usually show the need for $\frac{1}{16}$ to $\frac{3}{32}$ packing on top of the T.E. Provided there is $\frac{1}{8}$ washout on the port wing tip, and the model is trimmed right power/right glide, it will take a lot of sidethrust without spiralling in - a nice feature. Thus, none of the 3 Senators in the Kemp stable have any downthrust, sidethrust overcoming power stalls. With 30 in. motors of $8 \times \frac{3}{16}$ F.A.I. turns have been 750-800. What of the duration potential? In good conditions at Odiham last September the same (shared) Senator made 6 consecutive flights (one motor change) of 3.00, 2.00, 3.00, 3.00, 3.00, 2.50 mins. - almost a 3 min. model. Most people would find it easier and cheaper to make than a vintage Wake, with probably a better duration. The only snag with the design is a tendency for the rubber to jam near the motor peg. Bearing in mind the need to save weight in this area, the solution is obvious!

Comments from others are as follows.

(Dave Hiperson) "...on 780 turns it did 3.20 which is just about a minute better than I had expected. Very fast climb ... right to the end of the run ... best gliding freewheel model I have had etc." His model weighed 55 gms. with 30 gms. for rubber (8 x 3/16 x 32 in.) and the C.G. at 75%. Dave flew his lightest "Bazooka" on the same day as the Senator was trimmed. The former "was not making 3 mins. ... it may not have been gliding as well as the Senator, despite the folding prop." Dave expected the Bazooka to be superior in winds around the 30 m.p.h. mark!

(Ian Davitt) "... just one of those models that you build once in a decade that flew straight off the board." Ian won at Odiham with 4 flights each over 3 mins. Details of his model:- weight 58 gms., motor 6 x 1/4 Pirelli, 30 gms.; 1/32 down, 1/16 side thrust (built in); 1/8 in. washout, outboard tip; incidences as per plan; C.G. at 73%.

Ian says "wouldn't it be nice to beat those Yankee IVs, Lanzos and Challengers in a fly-off, with Senators. We live in hope." We do indeed, Ian! (My thanks to Dave and Ian for their comments) All credit for such a great performer goes to the designer, Albert Hatfull. He was reputed to have put some reminiscences on tape a few years ago. Was there any mention of the Senator, arguably his best design?

Senator prop block

Dave Hipperson Feb87 Aeromodeller

One of the items causing the most correspondence over the past year was the mere publication in this column of a picture of my Senator. Many have since asked for the prop block dimensions. On the original plan the side view of the blades is shown and of course the diameter, thirteen inches is known from this. No other information is given. My assumption was that 20in. pitch would be about right and the block I used was as per

the illustration. This arrangement fades the pitch slightly to the tip and the centre as per both modern day thinking and, incidentally, old fashioned practice! While on the subject, all potential builders should be reminded that if they make a very light prop assembly they will require an incredibly light tail and rear fuselage. If you are ever going to go a little bit overweight on the prop on any model then this is the one - with a nice forward CG the models flies much better.

