THE

SCATER

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(23)

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February 1963

MODEL OF THE BUILDER RULE

The silly season is upon us a little early this year. Not one, but two brilliant essays appeared in the February "Model Aviation". It seems that some of the RC boys don't like this messy bit of sticking balsa and glue together. They feel that asking them to build their own model is ruining the hobby. The arguments used go something like this:

(1) The rule is outdated.
(2) It doesn't matter who built the model.
(3) You can't tell who built the model.
(4) Abiding by the rules is poor sportsmanship.
(5) Protest of cheating not well received in Europe.

This progression of thought, so overpowering in its logic, should now get the archaic AMA moving ahead again.

I have devised a new event for the RC flyers. No building is required. In fact, you don't even have to buy anything. This will get those poor RC equipment manufacturers out of their sweat shops and onto the flying field. Here it is:

AMA dues will go up to $1,000 to pay for the models. The modelers will arrive at the field and they will be assigned a unit. These will be pinball machines all lined up on the runways. These machines will make it possible for the champion modeler to properly demonstrate his superior skill in punching buttons.

What was that about sportsmanship? Why, of course; we short out the "tilt" signal.

What's going through the minds of these guys anyway? First of all, why is it that rules always have to be changed in the name of progress? The old rule is still a good rule - now!

Secondly, so it doesn't make any difference? This is pure hogwash. Ask some of the guys that still do some serious designing and building.

Third, its the easiest thing in the world to find out if the flyer built the model. Ask him and let him put it in writing. This simple solution is forever being overlooked, but it will work. Liars soon build up a reputation.

Fourth, just where did this warped sense of good sportsmanship ever come from? What rock did it crawl out from under? Who are the good guys and who are the bad guys?

Some guy is now accused of poor sportsmanship because he protested when he saw a rule being broken. He is accused of trying to make a name for himself. What about the guy that was breaking the rule? Wasn't he trying to make a name, too?

Fifth, with all due respect to "foreign countries" what does that have to do with it?

I suggest, in fact I insist, that if these "gentlemen" fliers want to compete according to the rules that have been voted on, that they advise the AMA of any instance of violation that they are aware of. Compliance with the agreed upon rules is the first essence of sportsmanship. This is the least that we adults can do as an example for the beginners.

The concept of sportsmanship has been kicked around too much. When are we going to stop thinking of it in terms of how much equipment a guy loans and how little he protests a phony deal.

"SCARLET PIMPERNEL" .09 FAI Power Model, by Andy Crisp, Oxford, England

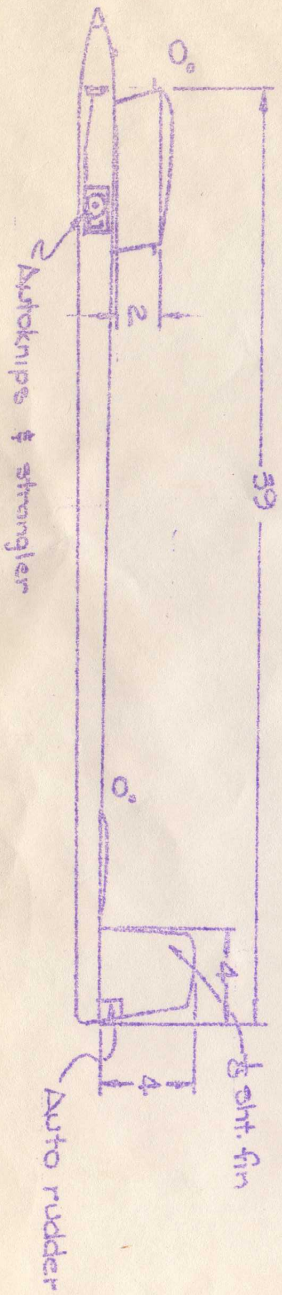
At present, this model is yet unflown (we are in the grips of one of the worst English winters!). (Ed. Note: Letter was written January 11th) but I feel it has possibilities.

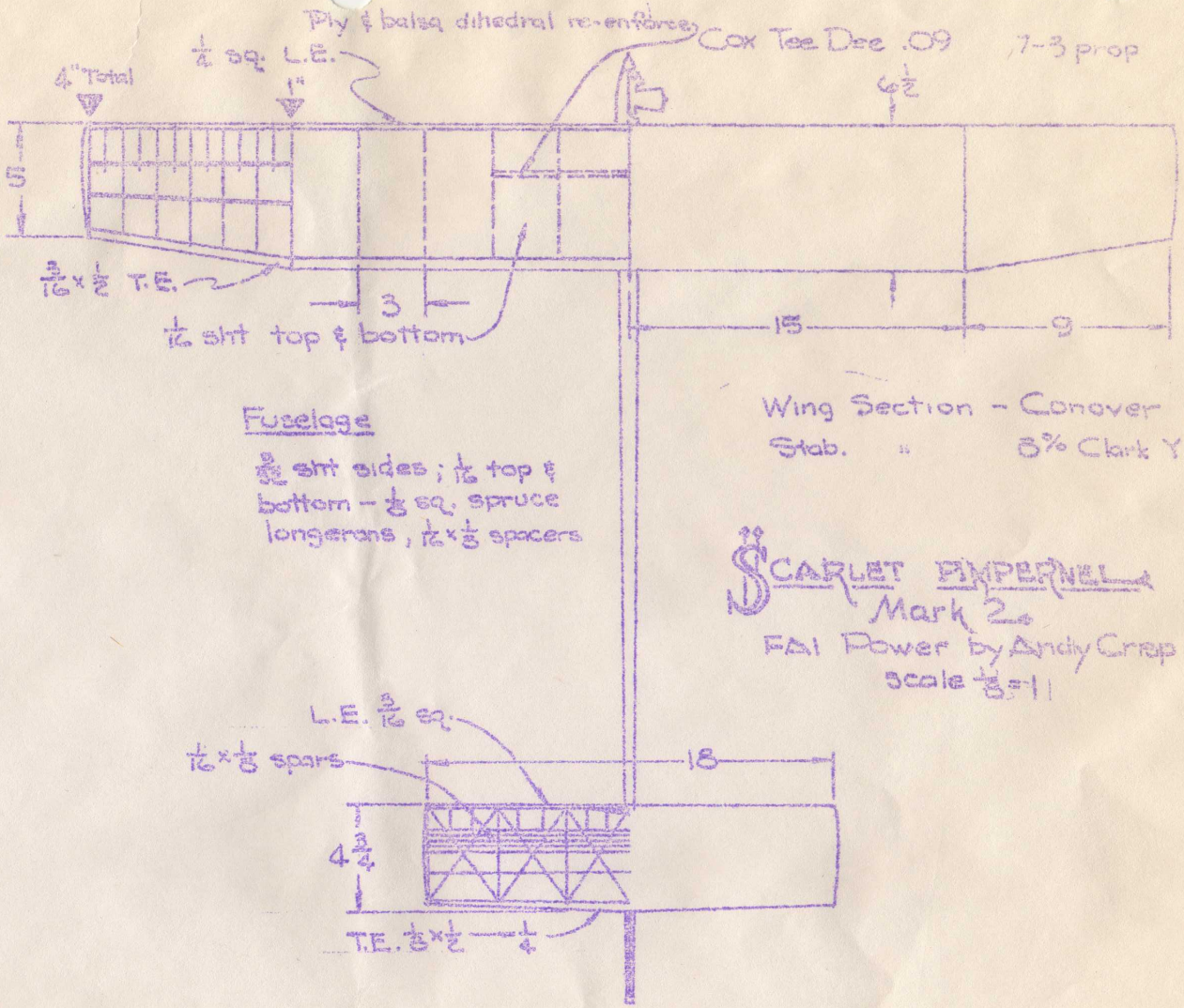
When the new .09 Cox came out, I thought here was the ideal motor for a small FAI job. I like this size as it's quicker to build and fits in my 48" long model box! (Editor: Next Month - Plans for a 72" model box.)

The design is the 20th of a series started in 1956. I have often built exotic layouts, e.g. extremes of aspect ratio, high thrust, shoulder wing, etc., but like your correspondent, Don Assel, I always return to the conventional layout in the end. Still it's great fun to try to be different!

The design shown here is based largely on Brian Eggleston's ideas, who is well known for his "Creep" and "Vertigo" designs and theoretical writings. 0^{o}, 0^{o} setting is used with a long moment arm, this giving an "on rails" like power flight and a good glide. An auto rudder is a must for a good transition into the glide (right), as a stall off the top would probably result in a 'negadive' all the way in!

Wing construction is a compromise for a strong center section and light tips, without any misplaced turbulence caused by spars. It is funny that Conover claims spars are necessary for the proper working of his airfoil. Most other people using it successfully use a smooth top, e.g. Niemi's "Pulteri" design and many other Finns; Amazoom, etc.





Fuselage

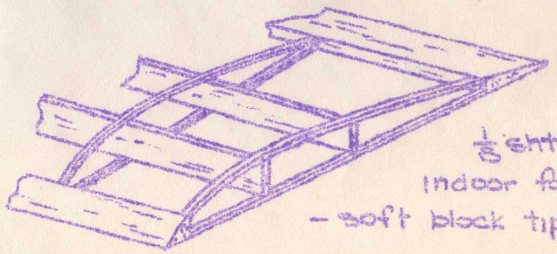
3/32 sht sides; 1/16 top & bottom – 1/8 sq. spruce longerons, 1/16 x 1/8 spacers

Wing Section – Conover
Stab. " 8% Clark Y

SCARLET PIMPERNEL
Mark 2
FAI Power by Andy Crisp
scale 1/8=1'



Inboard Panel Construction



Tip Panel Constr. ala Ramrod

Trim is right/right, as indeed are 99% of all English gas jobs, with 1/8th washin on the right hand inner panel and stab tilt. The wingtips are washed out slightly, as I feel this stops a climb from becoming too loopy.

All the really successful "Dixielanders" I've seen employ a fair degree of washout on the tips and I've seen some flying well on '35's although it only has 350 sq. in. of wing area! More usual is a T.D. 15 although this wing area is way below accepted American figures.

NEWS FROM THE READERS

We've gotten a little behind with listing the new readers, but will try to catch up with this listing. If you've recently subscribed, and you're not on this list, don't worry. Sykora will surely explain everything in his next postal card from the Alps.

DUANE RENKEN, Ann Arbor, Michigan
JIM EBERTS, Canton, Ohio
DAVID CHRISTY, Hubbard, Ohio
GOSTA NILSSON, Ostersund, Sweden
ROLF SUNDIN, Sundsvall, Sweden
OVE PETTERSSON, Goteborg, Sweden
DICK WIKLUND, Linkoping, Sweden
OLE-CHRISTIAN OLSEN, Oslo, Norway
TORBJORN JOHANNESEN, Sandefjord, Norway
MIKE WOODHOUSE, Norfolk, England
B. HALFORD, Norfolk, England
M. J. SMITH, Norfolk, England
W. L. van der PUTTEN, Haarlem, Holland
CARL FRIES, Crestwood, Missouri

WALTER H. RADY, a reader from Sunnyvale, California writes to send along a neat power model DT set-up for our next sketch page, and he also adds something else he'd like to get off his chest: To wit,

"I have one other thing that I would like to say in this letter that is not quite as pleasant. That is, the abuse that has been heaped upon the Fresno Club in connection with the Semi-Finals this year. Unfortunately, I was unable to go because of a lack of qualifying, but I have talked to all the fellows that did go and they are all of the same opinion that the criticism is generally unfounded and shows very bad taste on the part of critics. The latest blast in SCATTER by Bill Hartill is particularly objectionable and it is the considered feeling up here that Mr. Hartill should publish an apology to the Fresno bunch and modelers, in general.

"I'm sure that we will be able to find a field for the next Semi's flat as a billard table with grass cut to perfection, perfect weather (just like Mr. Hartill likes it) with the winners picked in advance so that Mr. Hartill will be sure to win. This due to the fact that the Fresno field has been eliminated.

"Please print this in your next issue to get the opinions of more modelers that are involved." (Editor: Please send me the particulars of what it is you object to.)

ANDY CRISP, Oxford, England, who's 'red pumpernickle' appears elsewhere in this issure included a thought in his recent letter which may give you some cause to ponder. We quote: "You've been publishing some attractive (and practical) Nordic designs lately. I think the real experts have been going overboard with the fancy wing constructions, etc., which don't

bear out the trouble taken with them in actual contest results. When you consider it, although average contest times have risen, individual flight performance hasn't changed much since '55-'56; Bob Amor's "Lucifer" design and Hannay's "Topscore" are still as much a threat in English contests as the latest Finnish creations. In fact, Geoff Dalimer's Nats winner last year sported a 60 x 7 wing and won the fly-off in calm evening air! Makes you think, doesn't it?!!

TAIL VOLUME vs. CG IN FAI COMPETITION MODEL DESIGNS, By Bill Bogart, Westerville, Ohio

Some years ago I collected a large amount of geometric data on fairly successful airplanes to find some relation of the size of the stab and its length to the wing with the airplane CG. This is normally done on full scale aircraft for balance and aerodynamic control purposes. However, due to the lack of reliable aero data at model Reynolds numbers, I resorted to the empirical method. Just as my long-time friend Dave Bevan pointed out in the Aug. '62 issure of SCATTER, I plotted tail volume against CG and drew my conclusions on the basis of the data. An article describing this appeared in Model Airplane News, Jan. '59.

Just a word about tail volume - it is the tail area to wing area ratio times the tail length to wing mean aerodynamic chord ratio, or:

$$\frac{S_t}{S_w} \quad \frac{L_{to}}{c}$$

Now, L_{to} or tail length is measured from the leading edge of the wing mean aerodynamic chord to the quarter chord point of the tao MAC. The MAC is for the entire wing. In many cases, the wing inner panel is straight and the outer panel tapered or elliptical. In order to find the wing MAC, I multiply the inner panel chord by its area and the outer panel average chord (small error) by its area, sum both products and divide by the inner and outer panel area. This then gives a useful MAC. For elliptical outer panels, the MAC is .91 of the root chord and generally does not reduce very much the root chord to the MAC. In equation form:

$$MAC = \frac{(\text{Inner Area})(\text{Inner MAC}) \quad (\text{Outer Area})(\text{Outer MAC})}{(\text{Inner} + \text{Outer Area})}$$

This type of MAC calculation was not done for the MAN article due to the prevalent non-technical nature of the readers. This resulted in a slightly different aft design limit line.

I have made a more recent study of the 3 International competition model designs appearing in SCATTER since August 1961 and have concluded that my original line is still satisfactory. The results are shown in the accompanying Table and Figure.

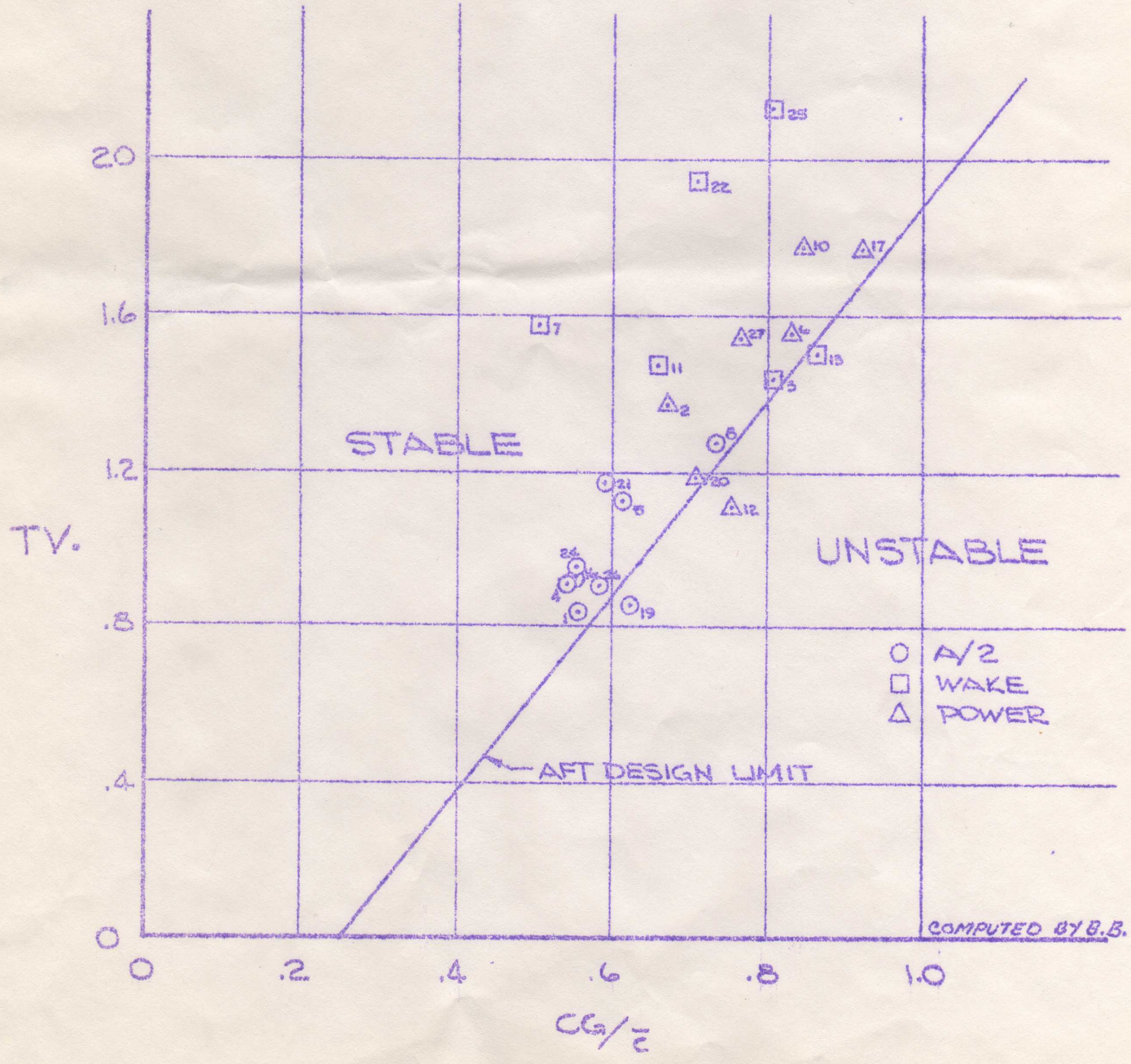
The A/2 designs are shown as circles and are grouped rather near the aft design limit line. The Wakefields are shown as squares and are in two distinct groups - those with minimum stability (near the line) and those with

FAI Competition Model Designs

Tail Volume vs. C.G.

REF: SCATTER AUG '61 TO JULY '62

□14 → ? WOW!



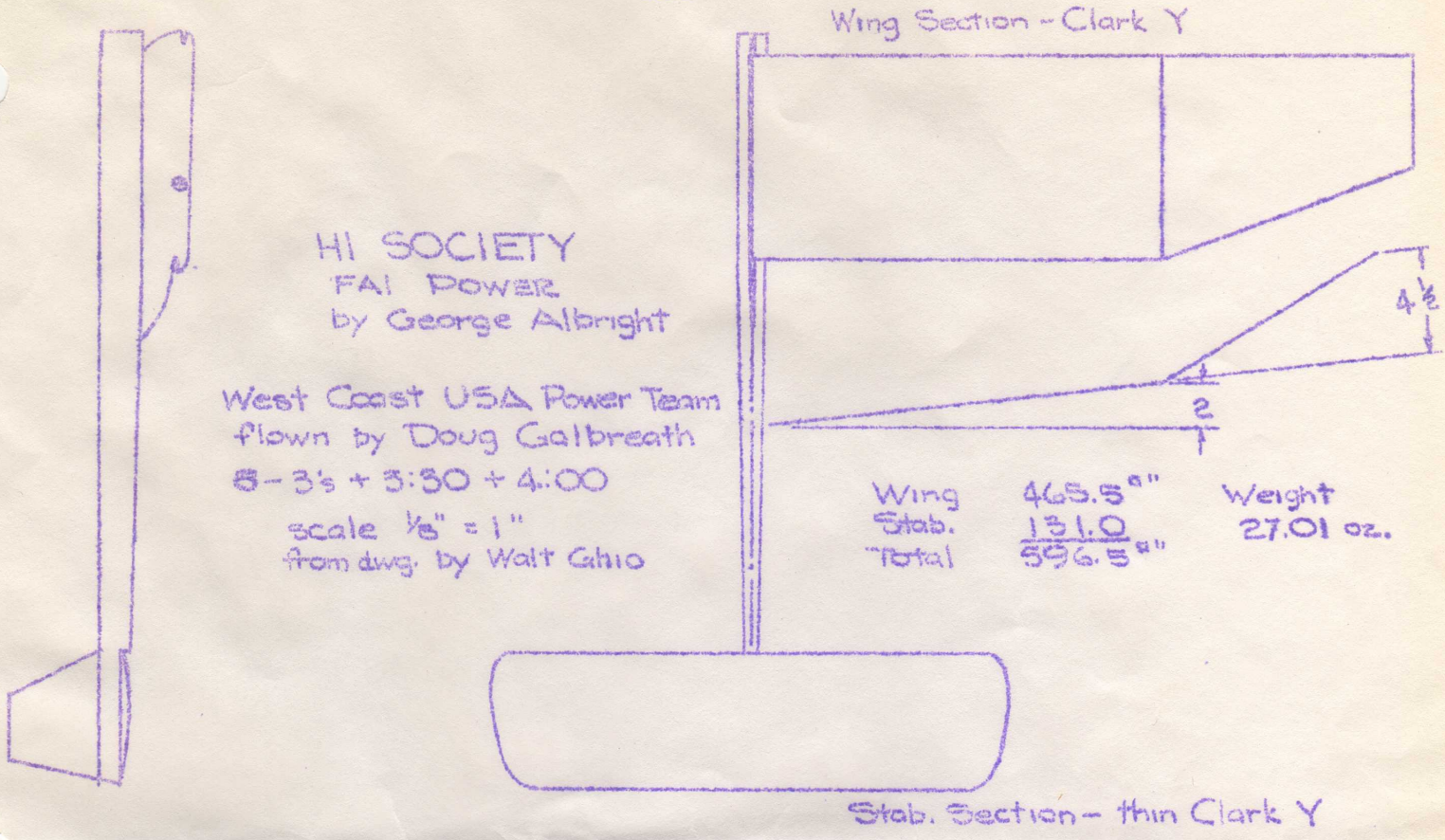
large margins of stability (No.'s 7, 14, 22, 25). These latter ones are no doubt the gusty weather variety and would glide poorly in continental European weather. Power ships, due to their much increased power, climb much faster nowadays and cannot enjoy much margin for fear of pulling tight loops and touching wing tips. It is my guess that the MK II Saturn (No. 12) being slightly to the right of the line, is quite a nervous airplane to fly. It probably climbs extremely fast and any change of wing or tail warp or incidence would have notable flight effects. (Editor: The secrets out!)

The purpose for which I generated this aft design limit line was to insure proper CG placement during design and construction of models. Only through flight testing can the final CG be found. As no doubt many of your readers have found, it is easier to move the CG aft than forward. I therefore design the CG to be 10% to the stable side (forward) of this aft limit line for the initial flight test.

I hope this dope will be of some aid to your readers.

TABLE OF SUBJECTS STUDIED

Model	Type	SCATTER Plans	TV_o	AFT C.G. / C	C.G. / C
1. H. Cole	A/2	April '62	.83	.58	.55
2. Gildersleeve	Power	" "	1.35	.79	.67
3. "Oizorar"	Wake.	" "	1.41	.81	.80
4. Wiehle	A/2	May '62	.91	.61	.54
5. "Simba 6"	A/2	June '62	1.11	.69	.61
6. "Salko"	Power	" "	1.55	.87	.82
7. Faykun	Wake.	July '62	1.56	.87	.50
8. "Pendent II"	A/2	" "	1.26	.75	.73
9. "Apple Honey 14"	Power	" "	1.48	.84	--
10. "Hotfoot"	Power	October '61	1.75	.95	.84
11. "Super Thunderbird"	Wake.	" "	1.45	.83	.66
12. "MK II Saturn	Power	September '61	1.1	.69	.75
13. Cook	Wake.	" "	1.5	.85	.86
14. "Sunburst"	Wake.	August '61	3.0	1.45	1.0
15. "Starched Vulture"	A/2	" "	.7	.53	.76
16. "AH 29"	A/2	December '61	.96	.63	.55
17. Winn	Power	" "	1.75	.95	.92
18. "Freccia"	Wake	November '61	1.53	.86	--
19. Gildersleeve	A/2	" "	.85	.59	.62
20. "Django"	Power	January '62	1.18	.72	.71
21. "Buckeye"	A/2	" "	1.16	.71	.59
22. Malkin	Wake.	" "	1.93	1.02	.7
23. Modeer	A/2	February '62	.94	.62	--
24. Andersson	A/2	" "	.93	.62	.55
25. "Drafty Dip"	Wake.	" "	2.1	1.09	.8
26. "Mixmax III"	A/2	March '62	.91	.61	.58
27. Colonna	Power	" "	1.54	.87	.76



WEST COAST 1963 FAI POWER TEAM MEMBER

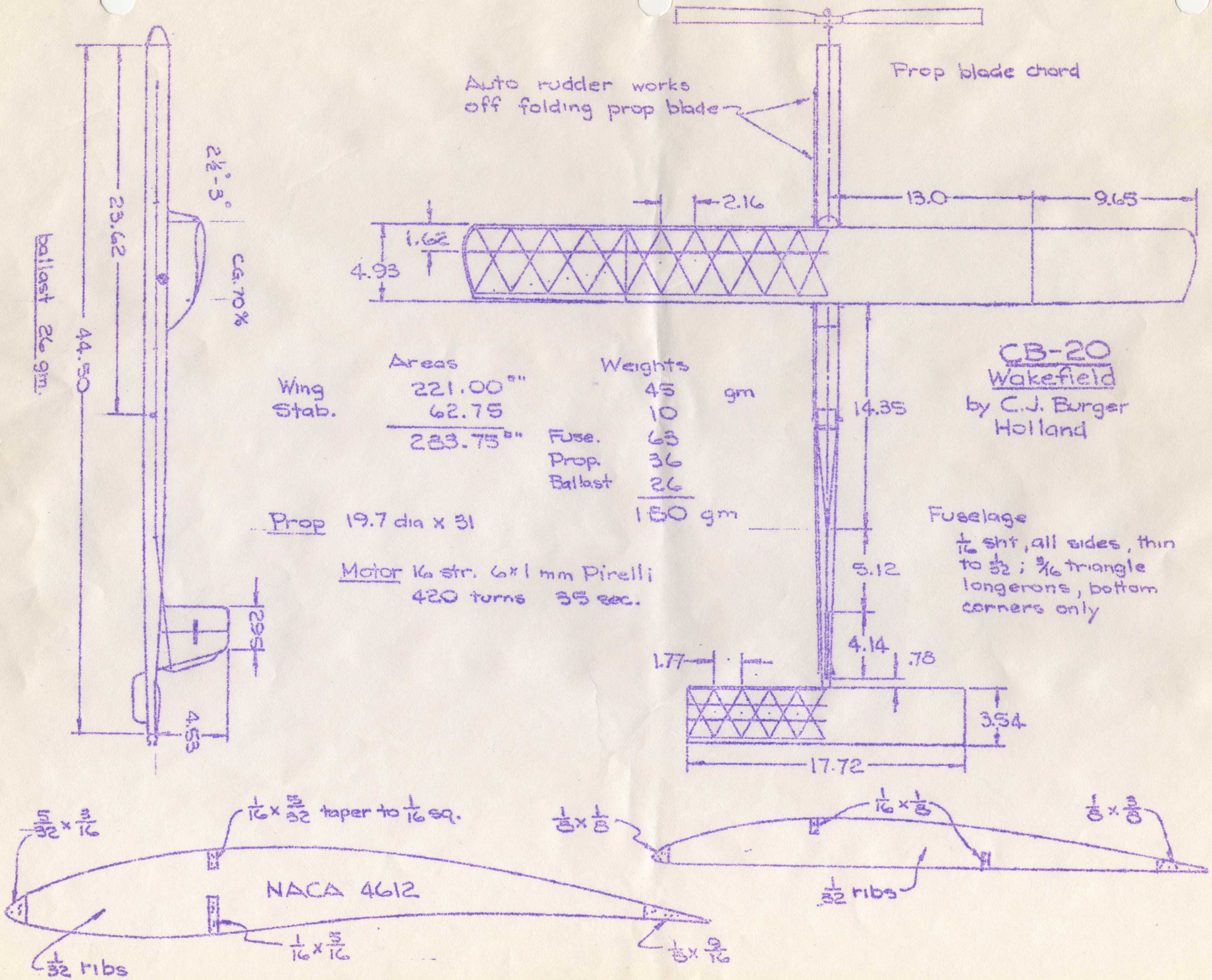
Last year I had the pleasure of directing the FAI power event at the 1st All Western AAA Meet. One of the competitors I met that day ambled up with a "simple" looking model clutched in hand a grin on his face, cowboy boots on his feet and a drawled greeting: "I'm Doug Galbraith, I'm planning on winning this contest of yours". And he did. Doug also told us he was going to make the team at the selection trials that year. Well now, I guess we had a few chuckles about that, but now, sonny, Doug is on the team, and if you would like to top that, Doug came down to Los Angeles this year and won FAI power again at the 2nd All Western AAA Meet.

We think Doug is going to do an excellent job. The airplane he used last year was designed by George Albright. Walt Ghio sent us the 3-view which we have included. Unfortunately, not much detail available, but if you are interested we will forward the letters.

This year, Doug has made a few modifications, stretching out here and there. If you wonder why you can't find any 15's to buy, blame Doug; he's got them all. That's one way to find a good one.

"CB-20" WAKEFIELD, by C. J. Burger, Amstelveen, Holland

Ed. Note: Mr. Burger didn't send along any information on this model so we'll just make some observations concerning details that caught our eye after looking over the plans. At first sight, the ship seems quite simple, and so it is in layout. However, there are some points worth study-



CB-20
Wakefield
by C.J. Burger
Holland

	Areas	Weights	
Wing	221.00 sq in	45	gm
Stab.	62.75	10	
	283.75 sq in	Fuse. 63	
		Prop. 36	
		Ballast 26	
		180 gm	

Prop 19.7 dia x 31

Motor 16 str. 6x1 mm Pirelli
420 turns 35 sec.

Fuselage
1/16 sht, all sides, thin to 1/32; 3/16 triangle longerons, bottom corners only

ing by the potential Wakefield designer. The wing construction, for instance. It would seem a good compromise between simplicity and warp resistance. Also should be strong and light, if wood is carefully selected. The simple, yet efficient method of tapering the tail boom, from the basic fuse box, is also worth filing away for future reference. A really novel idea in the ship is the auto rudder which is activated by the folding action of one of the prop blades. (Haven't we seen this idea on one of Jim Horton's ships out of Baltimore?)

In a previous letter, Mr. Burger mentioned that weather over in his neck of the woods tends to be a bit rough much of the time for model flying. Based on this we'd be inclined to think this ship would be a good windy weather bet . . something else for readers (who aren't lucky enough to live in Southern California) to keep in mind.)

COMING ATTRACTIONS

A great big crazy, mixed-up, Nordic A-2 by Soarcerer, Don Thompson. And, I do believe Val Ure has turned full circle for we will show you his conventional FAI power job! This should keep you off our backs.

* * * EXTRA SPECIAL NOTICE * * *

In order to confuse our readers no end, we have conjured up two mailing addresses. Take your pick. John takes the money and writes nice letters in reply. I, on the other hand, sit in my lonely room writing snide comments on the edges of the contributed material. All the work is handled by the other club members.