THE

SCATTER

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President-Jim Trego; Secretary-John Wordin; Editor-Ken Sykora***PLEASE NOTE NEW MAILING ADDRESS: John Wordin, 2915-F, W. Victory Blvd., Burbank, Calif.
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ONE FOR THE "LONERS"

This holiday season we reflect on the rarest reward of producing this little paper...the many long-distance friendships it has helped foster.

However, as the Yule log crackles merrily atop the air conditioner and a fresh grey blanket of smog banks against our windowsill, we keep recalling a very special part of this group. These are all the "Loners" among our readership.

Frequently the incoming mail brings letters from readers who live great distances from their nearest fellow modeller...let alone fellow F..ler. And the postman's whistle is the closest they may ever get to a real hobby shop. Yet, they press on; designing, building, flying, and often contributing to the "mainstream" of modeling from which they are so physically removed.

Perhaps we are fondest of this group because they've overcome the modeler's greatest enemy...letharcy. And they defeat it without the "crutches" of likeminded companionship, the adrenalin of club "sessions", the stimulation of populous flying sites, or the constant challenge of numerous contests.

Therefore it is with special pleasure that we've crossed paths with each of these buildors, and welcomed them into our ragged little band. And, perhaps our motive is a little selfish because such determined personal drive spills over on our own "pampered" situations...and renews our own efforts toward the fulfillment of personal accomplishments.

These "Loners" then contribute. By their sheer determination they bring the gift of example; at this season of giving. And, if we can bring them a few things in this publication in return, the exchange is still less than equalled.

MERRY CHRISTMAS!....all you Loners!

NEWS FROM THE READERS

This month's new subscribers include:

JOHN RAK, Chicago, Ill. DON ANDREWS, Houston, Texas

HUGH LANGEVIN, of Minneapolis, Minn., sends along some comments on our

choice of material, and we will repeat a part of his letter to see if there is any reaction from other readers: "So far, I have felt that SCATTER was a very worthwhile effort and well done. One exception, however, you could well dispense with all that chatter on Rule Changes and Personal Arbitrary Opinions about this and that. Don't get me wrong --- progress needs a questioning - searching mind but a little bit goes a long way. The people interested in F.A.I. are mainly interested in designs, techniques, and technical studies of one form or another relative to models and flying of same. SCATTER should not primarily be a soap box for airing opinions and that is what it has been to too large an extent."

BOB DUNHAM, of Tulsa, sends along a copy of a letter which he sent to AMA Technical Director, Frank Ehling. Subject of this letter was the recent request by Ehling for an opinion (by Wakefield flyers) on the U. S. proposed idea of suggesting at the FAI Rules meeting that the Wake. max limit be raised from 180 to 210 seconds. Bob commended Ehling on this action but was disappointed in the method to be used to "count" this grass roots "vote". Ehling stated that any unanswered ballots would automatically count as a "yes" vote. Bob says he thinks only returned ballots should be counted. He believes it is unfair to count unanswered votes as either a "yes" or a "no", because many ballots were not answered because of short time allowed, disinterest, voters out of town, etc.

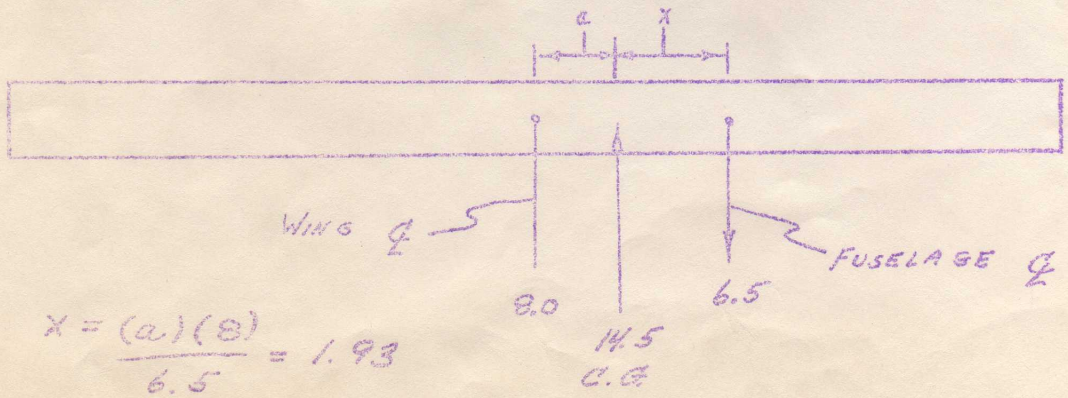
"GERONIMO" A/2 by Bill Hartill (SCAT)

Geronimo is my No. 11 Nordic. I have not attempted to develop one design through 11 steps. Life is too short and there are too many different ideas to savor. But on the other hand some ideas have been carried along because I haven't found better ones. For example, the wing airfoil is the Gott 342 and has been in 10 of the 11. I kinda like it. In pushing aspect ratio up a clue appeared. Wakefields and Nordics both have about the same wing loading. My last Wakefield wing has a root chord of 4½ inches. Jim Patterson's is 4 3/16. Both glide quite well without turbulators. It was reasoned that a Nordic could get away with it too. Result: an aspect ratio of 1:25. Span is 106 inches. Wing is asymmetric to promote un-yawed circular flight. The CG is shifted laterally 1.57 inches in accordance with Thomann's equation:

$$a = \frac{b^2}{12R}$$

where: a = lateral shift of CG for ℄ of wing
b = wing span
R = circle radius (50 ft. for this design)

To shift the CG this much without using a ballast in the wing the fuselage was offset. The location was figured out after estimating the wing weight as 8 ounces (not unusual for an aspect ratio of 25).



Thus the fuselage is offset 1.57 plus 1.93 - 3.50 inches from the wing center line. Confused? We're not through yet. The towhook is mounted in the wing at the lateral CG station. The fixed wing root is heavy so is kept to minimum span. All these considerations lead to an asymmetric wing root and removable left and right panels are different lengths! The tail moment was kept to a reasonable level and is based on cut and try experiments with earlier models (most Nordics are too long).

The wing is mounted at 5° so that the fuselage glides at low drag 0°. The "T" tail puts the stab up out of the way. The stab is about 5 inches above a datum line drawn through the wing root. This height is about the same as Hank Cole gets without a T tail but with an upswept fuselage that glides at --5°.

The wing structure presented no particular problems although a slight upswept bow developed in both panels without actually twisting. I think the structure would be better with a shallower TE, deeper LE and full sheet on the bottom. Filler pieces between the ribs are really necessary and are worth the effort. The wings do not flutter. This type of wing structure has worked well on quite a few airplanes for me. Silk boxes, "open" boxes, "I" beams, multi-spar, "ladder" (Ritz) truss, solid sheet, etc. just don't seem to give the torsional rigidity needed for high aspect ratio.

Towing turned out to be no problem. With auto rudder set for right turn, towed straight ahead with no yaw. Found that some left rudder was needed to urge it into left turn consistently.

Mrs. Chester A. Clay

Ship flew well but I lost it in it's first official contest flight so never had it checked out thoroughly. In my haste to get the ship ready for the semi-finals I didn't finish the stab platform details. On DT the stab pivoted around causing a tight flat spin, so it's off to the happy hunting ground.

COMMENT FROM THE FF FAI COMMITTEE CHAIRMAN

(Ed. Note: Perhaps you've noticed that there has been some discussion in the last few issues on the running of the FAI team selection program. Gerry Ritz, Chairman of the FF Committee, has sent us a copy of a memo he's published on the subject. This memo was too long to publish without a great amount of cutting; which we thought would be unfair. However, we've just received a short letter from Gerry on the same subject, and this we are able to print in full, as follows:)

"The quotes attributed to me by Lynch-Botiuk are just not so. If you had bothered to check with Central Area IOC Sid Jepson or Pete Sotich, you would have found that the Chicago area 1st trials were held and completed on June 10th as scheduled, and not put off three times as they claim.

Also they seem to be attempting to malign Pete Sotich. Anyone that knows Pete knows that he is 100% fair and impartial and will bend for no one.

As for rules or procedures being changed, this is a big farce. There were no rule changes, and answers given out to questions were basically to follow the same procedures regarding weather, etc. that we have been following for over a decade."

GERONIMO

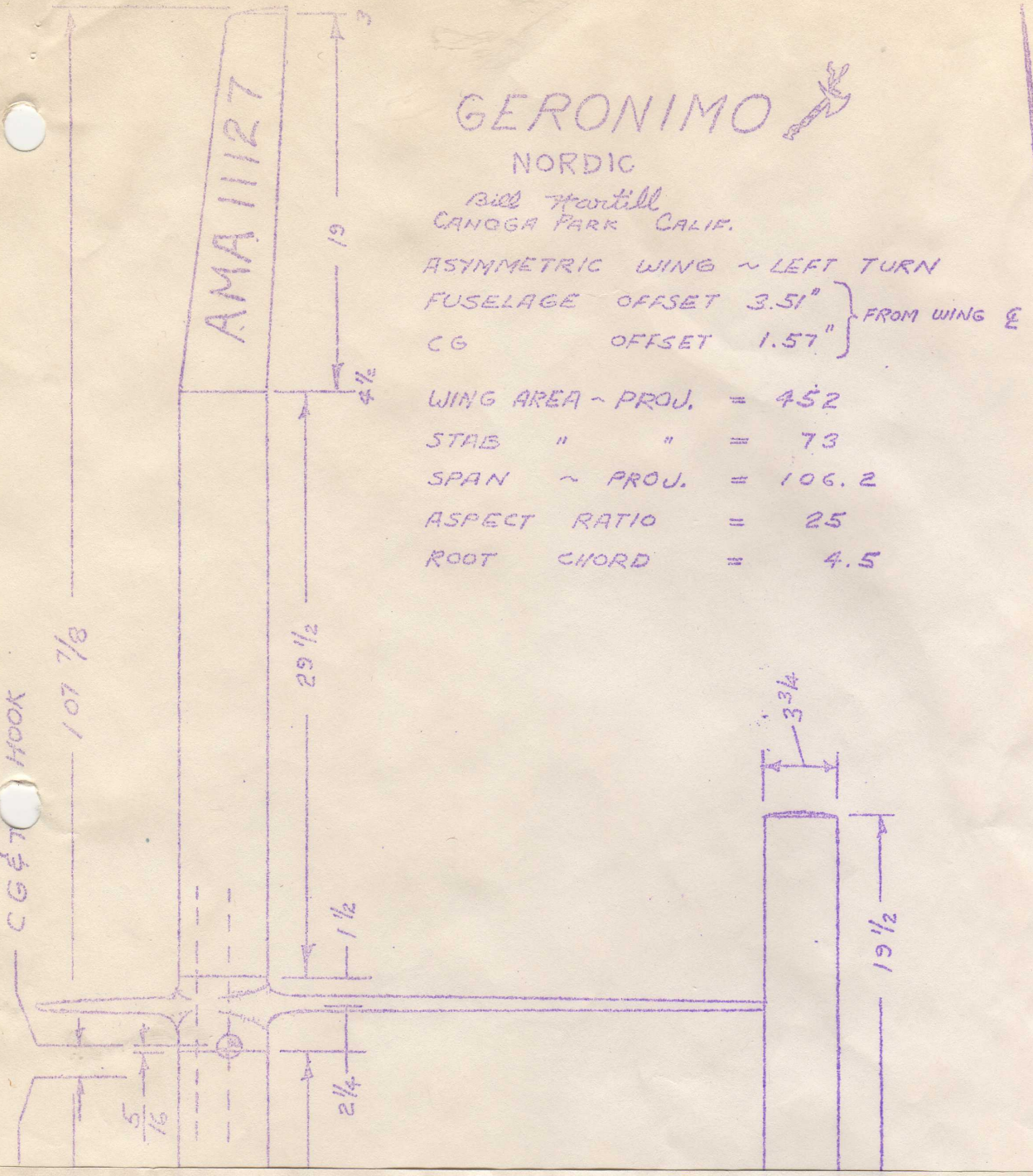
NORDIC

Bill Hartill
CANOGA PARK CALIF.

AMA 11127

ASYMMETRIC WING ~ LEFT TURN
FUSELAGE OFFSET 3.51" } FROM WING ℄
CG OFFSET 1.57" }

WING AREA ~ PROJ.	=	452
STAB " "	=	73
SPAN ~ PROJ.	=	106.2
ASPECT RATIO	=	25
ROOT CHORD	=	4.5



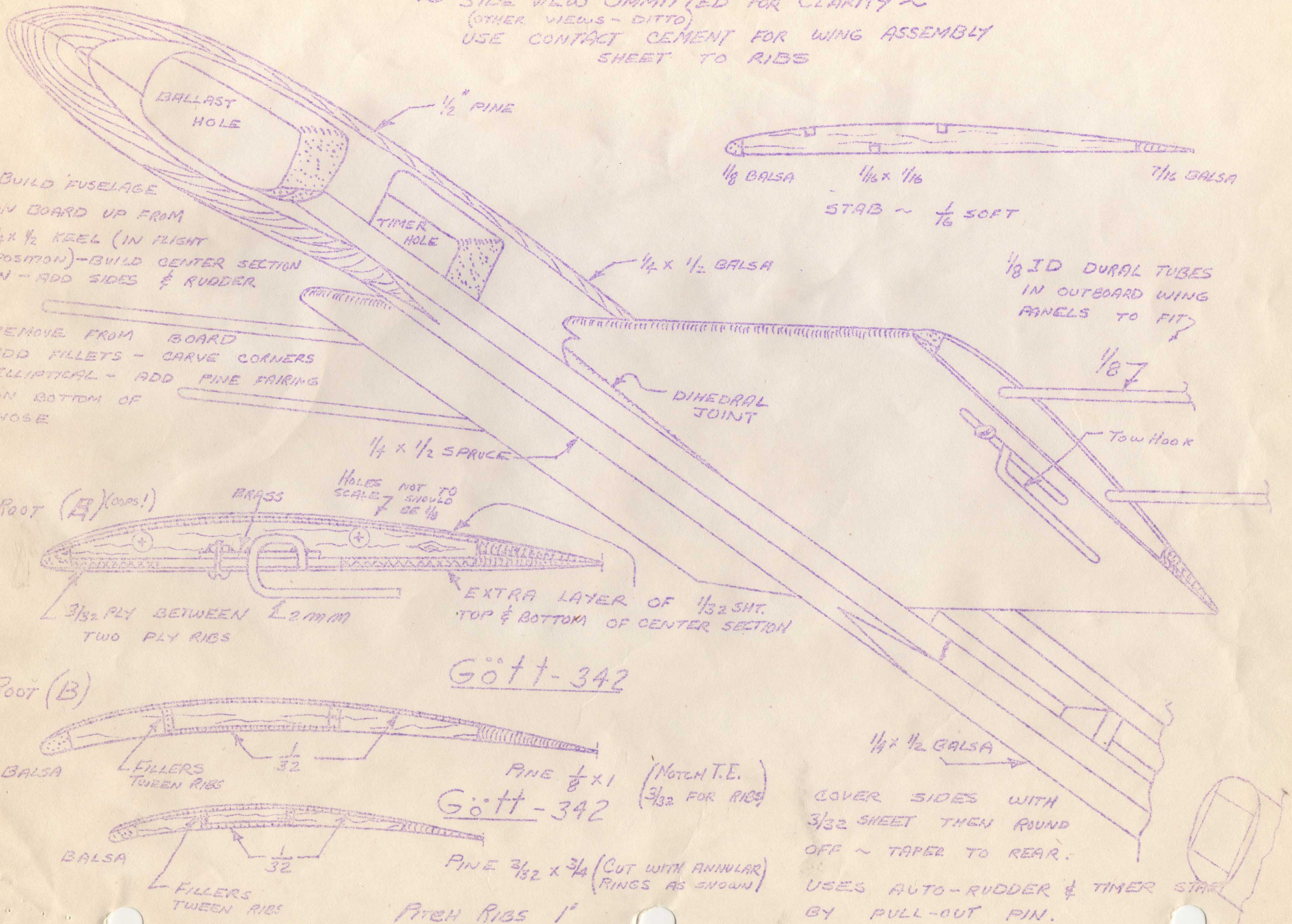
AIRFOIL SECTION MODIFIED LINEARLY FROM G 342 TO SAME WITH FLAT BOTTOM AT ROOT IN THIS AREA

GERONIMO ~ GOODIES ~

W.W.

~ SIDE VIEW OMMITTED FOR CLARITY ~
(OTHER VIEWS - DITTO)

USE CONTACT CEMENT FOR WING ASSEMBLY
SHEET TO RIBS



I sure wish I could get Craig to draw this! Ugh!

A "FRESH" LINE, by Bill Bogart (Westerville, Ohio)

Back in 1955 I conceived a design slightly different. I had learned that downwash from wings was destabilizing to an airplane. As you know, downwash results from wing lift which causes the air to pass the tail at angles smaller than that at the wing. As the wing generates more lift it deflects more air downward increasing the downwash angle at the tail, providing the tail is attached to the body or somewhere about the plane of symmetry. Thus the tail angle of attack increases at a slower rate than the wing.

Now, let us look at the wing tips. Since the wing doesn't affect the air much beyond the tips, there must be an outer boundary on this deflected air caused by wing lift. It is none other than the wing tip vortices.

As the vortices trail out behind the wing, they are drawn together slightly reaching a position of 80% span several chord lengths behind the wing.

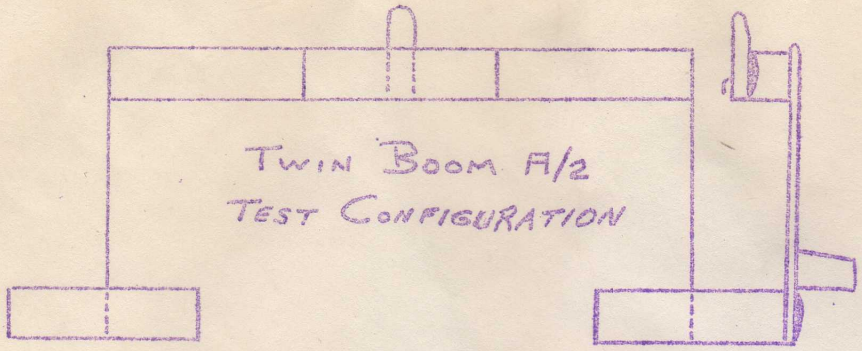
Outboard of the vortex center, the motion of the air is up with respect to the relative wind and is in fact upwash. It was from this 80% point outboard that I planned to place the horizontal tails. There would have to be 2 of them of course. The advantages were that I could put more area into the wing on a limited event thus providing better gliding performance with no effect on climb speed. I hope someday to determine whether tails should be big or small, but for now, must assume that small horizontals are better. I can't help thinking that the gamesmanship effect of shaking up the competition also might be worth a higher placing.

There are a number of disadvantages that must be considered. One is of tilt alignment and incidence alignment. Since the booms will be rubber banded to the wing tips, the wings must be torsionally rigid. No sweat if a torque box construction is used. Means must be sought for insuring equal incidence angles, or at least the desired setting on each tail every time. Dethermalizing is another item. Hold down lines could run along the booms and wing trailing edge to a Tickoff DT on the small body. Pitch damping will be reduced due to upwash at the tail.

There is one other advantage that comes to mind, especially for A/2 gliders. A common problem for A/2's is wing snapping due to high loads. Straight wings are unstable torsionally since the load acts in front of the elastic axis which tends to increase the wing incidence which in turn increases the load and away she goes. We've all seen it although the wing twisting isn't readily observable. However, with this twin boom design, the effect on the wing due to wing loads is unchanged, except for an added twist due to a higher load on the tail which tends to decrease the wing tip incidence which in turn unloads the tip moving the spanwise wing load inboard. This is a stable input structurally.

I attempted to have a flight article at the '62 Nats, but the press of time and high wind precluded any satisfactory results. I have had a hand launch glider in flight test and the reduced pitch damping has provided some rather unusual flights---wild climbs and docile glides. Turn is made by tail tilt. Rudder for turn hasn't been effective. Wings can stand less dihedral.

I offer this design in response to your call for the "fresh" line.



1962 NORWEGIAN NATIONAL FREE FLIGHT CHAMPIONSHIPS reported by Normann Stovland

Sandefjord M.F.K. were organizers of the annual national which took place on September 2nd at "Torp" airfield 100 miles south of Oslo. It was a rainy day with low clouds and little lift. The retrieving was sometimes 1½ miles, and sometimes the models dropped right in front of you. Results were:

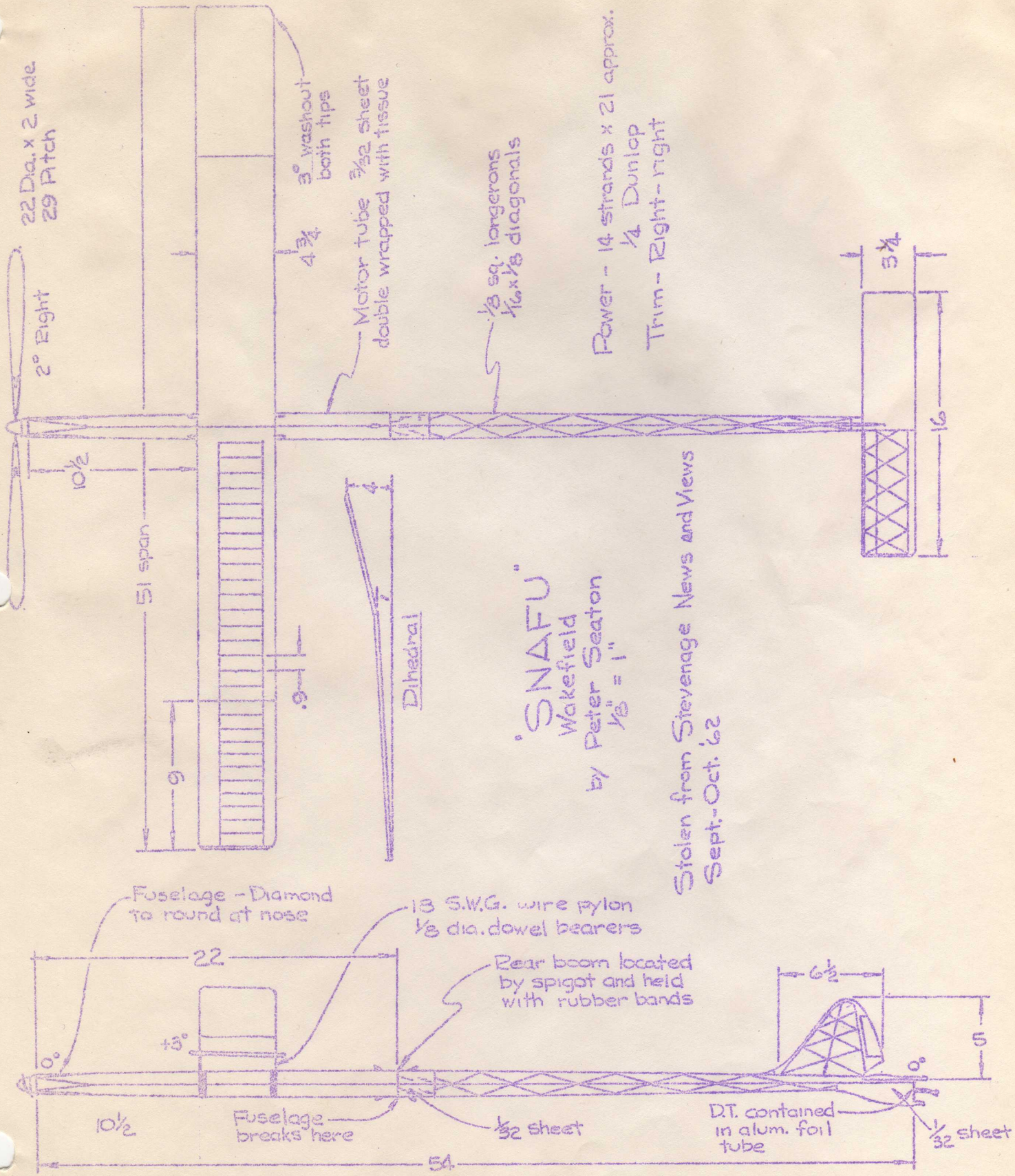
	Winners	Club	Total Time	
A/2				
	1. Kjell Nyscether	N.R.F.	717 sec.	
	2. Normann Stovland	"	606 "	(12 competitors)
	3. Rony Hasszod	"	580 "	
Wakefield				
	1. Arne Simonsen	S.F.K.	861 "	(7 competitors)
	2. Normann Stovland	N.R.F.	710 "	
Power				
	1. T. Johanesen	S.F.K.	787 "	(6 competitors)
	2. Ingvard Sverdup	B.M.K.	785 "	

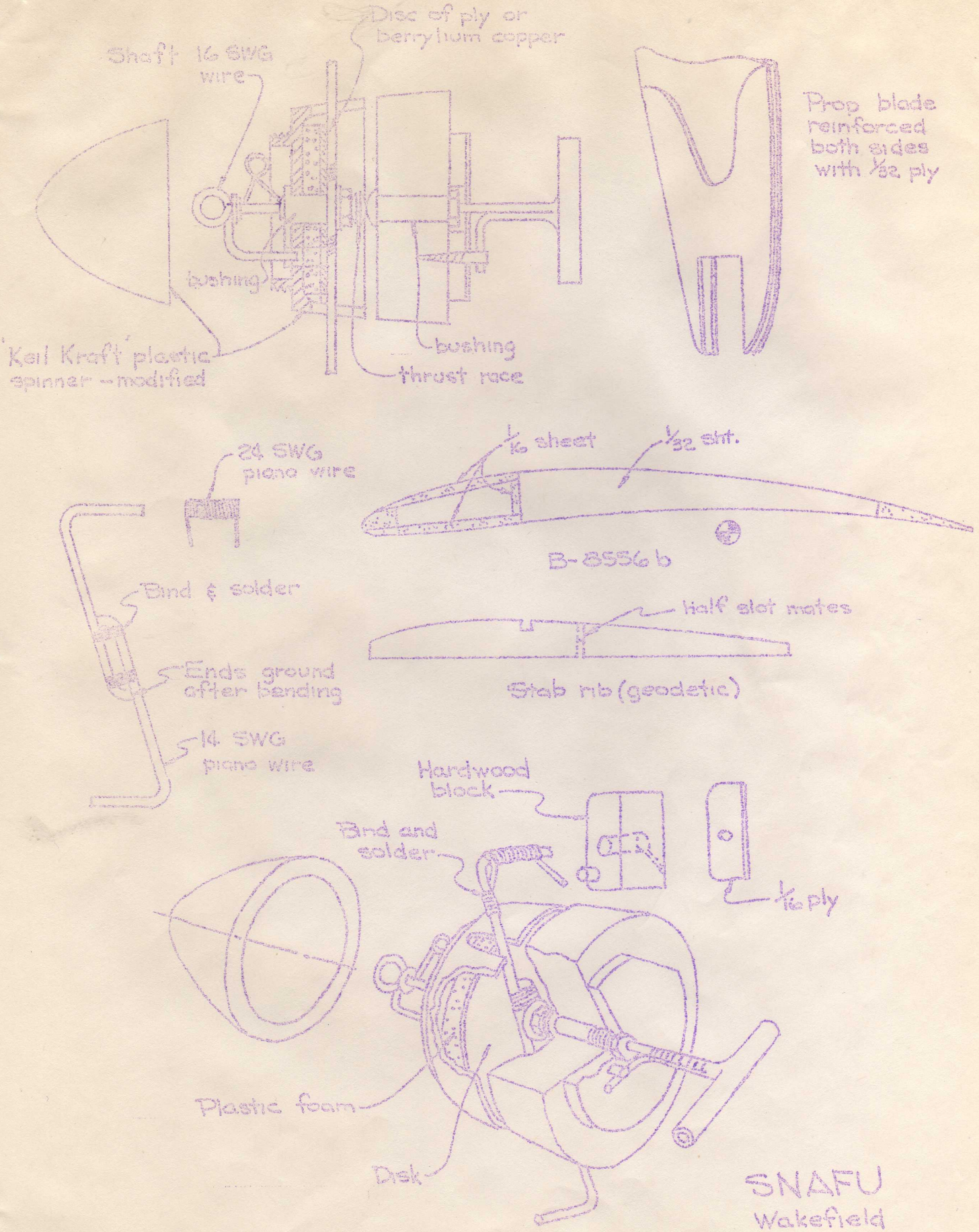
"SNAFU" WAKEFIELD. by Peter Seaton (England)

(Ed. Note: Since many of our readers are avid Wakefielders, we felt no qualms about "borrowing" this unusual and interesting ship from Geoff Dallimer's "News and Views" news letter from the Stevenage group. The words are Geoff's. A 3-view of Zurad's model which is mentioned appears in Feb.'60 Aeromodeller.)

This model looks very well in flight, and some good workmanship in the construction. Pete seems to be able to make the most of other people's ideas and then to add a few of his own. The model itself is freely adapted for a layout of Zurad's, with the influence of models by Seagrave and Matveez, the shaft protecting spinner scheme was an idea of your editor's that somehow never got started!

As yet the model has not flown in a contest, but it looks quite promising on half turns, which is all that has been reached during trimming as yet. Contact with a fence caused a little damage to the wing which delayed things for a while. Regarding the wing, Pete points out that the box main spar arrange-


22 Dia. x 2 wide
29 Pitch
2° Right
3° washout both tips
4¾
Motor tube 3/32 sheet double wrapped with tissue
⅛ sq. longerons
1/16 x ⅛ diagonals
Power - 14 strands x 21 approx.
¼ Dunlop
Trim - Right - right
¾
1
6
10½
51 span
9
9
Dihedral
4
'SNAFU'
Wakefield
by Peter Seaton
⅛" = 1"
Stolen from Stevenage News and Views
Sept.-Oct. '62
Fuselage - Diamond to round at nose
18 S.W.G. wire pylon
⅛ dia. dowel bearers
22
Rear boom located by spigot and held with rubber bands
6½
+3°
0°
0°
5
10½
Fuselage breaks here
1/32 sheet
D.T. contained in alum. foil tube
1/32 sheet
54



SNAFU
Wakefield

ment carries all flight and ground loads, and gives considerable torsional stiffness. The trailing edge supports only the covering, each rib effectively becoming a cantilever linking the trailing edge to the main box spar. As I said -- when it hit a fence the wing broke -- you just can't win!

On the glide this model looks just like a Nordic, though at the moment appears a little fast, future versions are likely to feature a slightly shorter moment arm. We can recommend the concealed blade folding spring idea as it not only avoids those rubber bands and pins, but works too! Anyone who could build this propeller assembly won't need any building instructions so we don't intend giving any except perhaps to draw your attention to the importance of winding the small springs the right way, and of getting them on constant diameter.

SCAT 1st ANNUAL NORDIC TEAM CHALLENGE CUP CONTEST

On October 7th the SCAT club held the first challenge event for its new A/2 Team Challenge Cup. It is hoped that this cup (a big beauty!) will take its place beside the SCAT Power Team Challenge Cup which is now in its third year of competition. Like the Power Cup, this trophy is offered in an event which is designed not only to stimulate FAI flying in this area, but equally important (we think!) to encourage FAIers to practice flying in three-man teams. To this end the rules require that to compete for the cup. clubs must be represented by a team of up to three members. The winning team members each get individual cups to keep, and the club they represent is allowed to hold the Challenge Cup for one year. Names of the winning club and each team member is engraved on the large cup each year. To encourage participation by those who aren't on a team there is also a special cup for the individual high time of the challenge contest. The winner of this cup doesn't have to fly on a team.

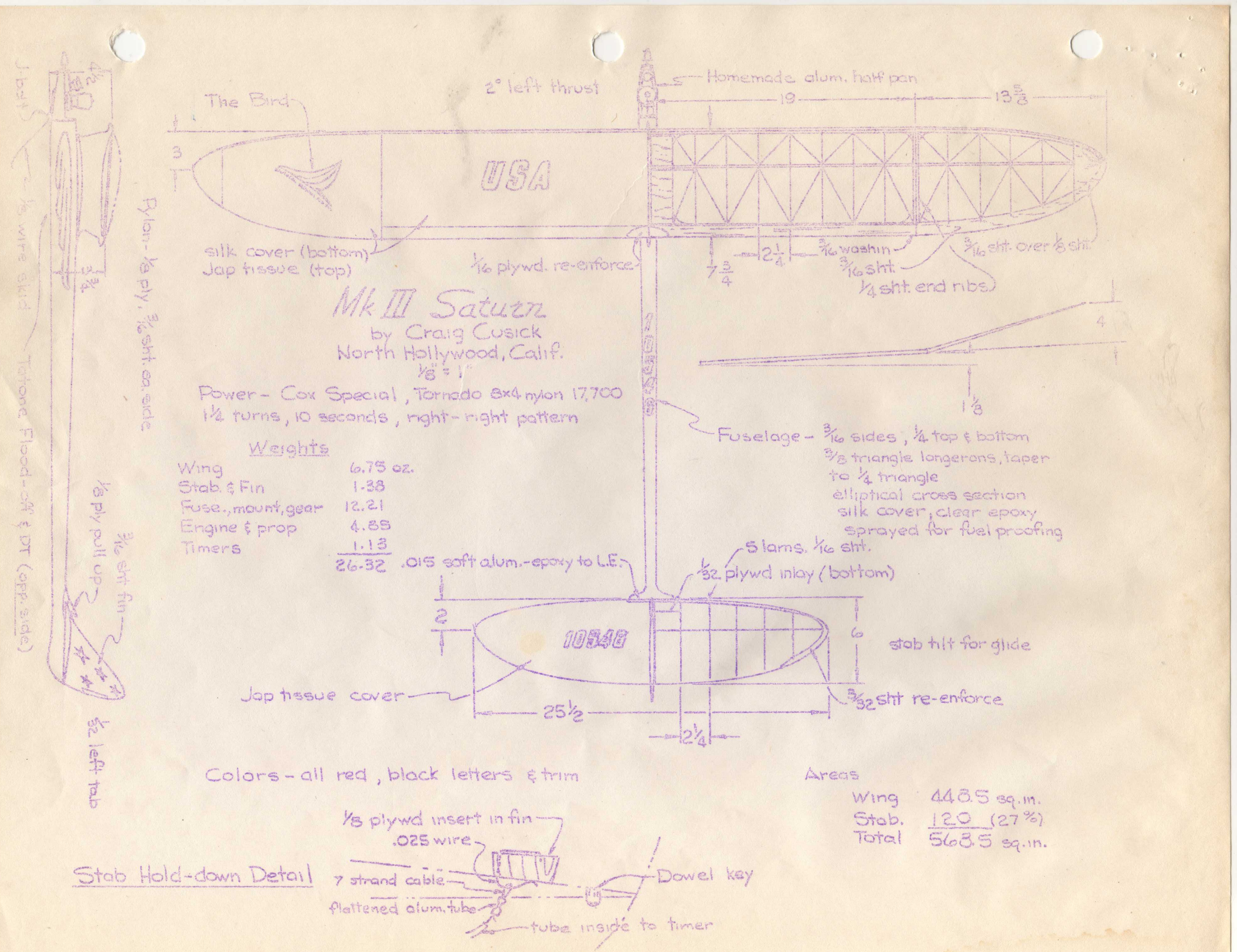
If this first running of the A/2 cup is any indication, this should be a very popular annual event. A total entry of 17 flyers showed up, representing 6 teams (one team fought a good fight with only two men). Top team was SCAT #2 made up of Milt Harker, Bill Hartill and Jim Trego, who put up a respectable five round total of 2163 seconds. Hartill pulled a neat double by also walking off with the high time individual trophy with a total of 845.

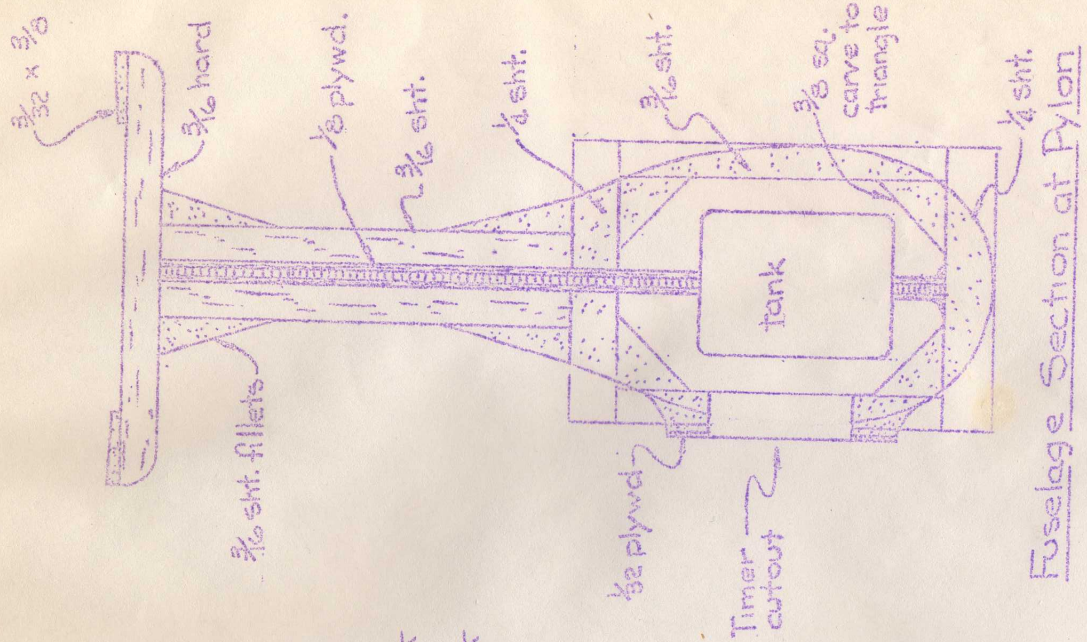
Mark III SATURN, by Craig Cusick (SCAT)

This model is little more than a stretched out Mk. II. I upped the wing aspect ratio in hopes of getting a little better glide. I suppose I could have gone a little further toward a glider wing ratio, but I prefer the one step at a time approach. The fuselage length was increased in proportion to the wing span and the stab is identical in surface outline used on the MK. II.

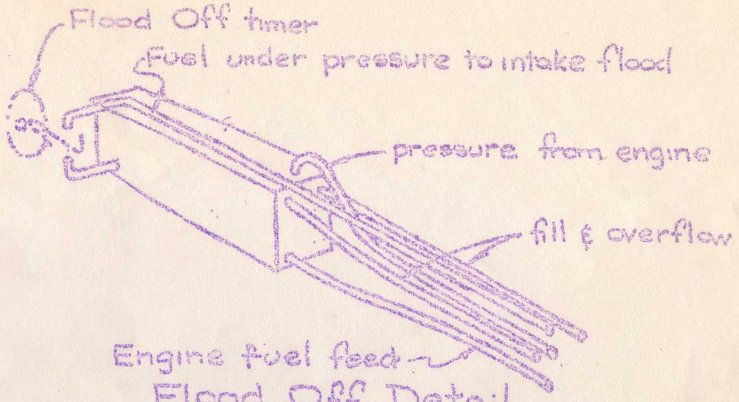
The wing airfoil thickness has been reduced to 9½% at 35% as an experiment to determine if an increase in climb speed would result, and also what effect this change and the change in aspect ratio would have in the glide. Turbulators were used again at points shown on Conover's airfoil drawings. I was attempting to learn the result of leaving the turbulators off this airfoil, with my Mk. II, but blew up the model trying to trim for the difference in power between the Torp I had been using and the Cox Special I installed later.

As far as the all sheet construction goes, it builds fast and it stays the way you build it. It can also be built closely for weight, to open construction, if the wood is chosen carefully, but...once you crack something


The Bird
2° left thrust
Homemade alum. half pan
19
13 5/8
USA
silk cover (bottom)
Jap tissue (top)
1/16 plywd. re-enforce
7 3/4
2 1/4
3/16 washin
3/16 sht.
1/4 sht. end ribs
3/16 sht. over 1/8 sht.
Mk III Saturn
by Craig Cusick
North Hollywood, Calif.
1/8" = 1"
Power - Cox Special, Tornado 8x4 nylon 17,700
1½ turns, 10 seconds, right-right pattern
Weights
Wing 6.75 oz.
Stab. & Fin 1.38
Fuse., mount, gear 12.21
Engine & prop 4.85
Timers 1.13
26.32
Fuselage - 3/16 sides, 1/4 top & bottom
3/8 triangle longerons, taper to 1/4 triangle
elliptical cross section
silk cover, clear epoxy sprayed for fuel proofing
.015 soft alum.-epoxy to L.E.
5 lams. 1/16 sht.
1/32 plywd inlay (bottom)
2
6
stab tilt for glide
Jap tissue cover
25½
3/32 sht re-enforce
2 1/4
Colors - all red, black letters & trim
Areas
Wing 448.5 sq. in.
Stab. 120 (27%)
Total 568.5 sq. in.
Stab Hold-down Detail
1/8 plywd insert in fin
.025 wire
7 strand cable
flattened alum. tube
Dowel key
tube inside to timer
Jap tissue
Tighten flood-off & DT (opp. side)
Rubber wire stab
Rubber, 1/16 sht. each side
1/16 ply pull up
1/16 left fin
1/32 left tab



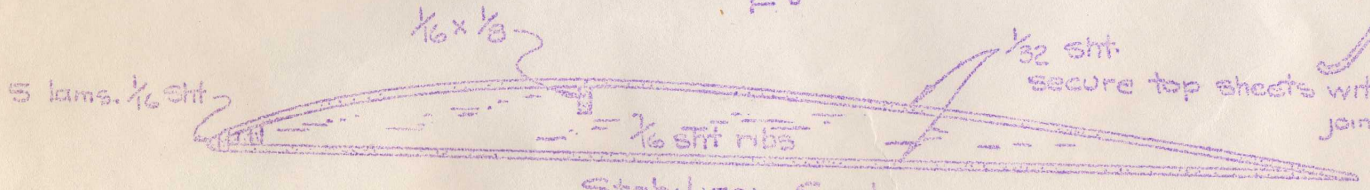
Fuselage Section at Pylon



Flood Off Detail

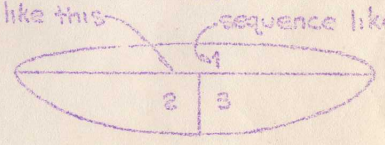


Landing Skid Detail



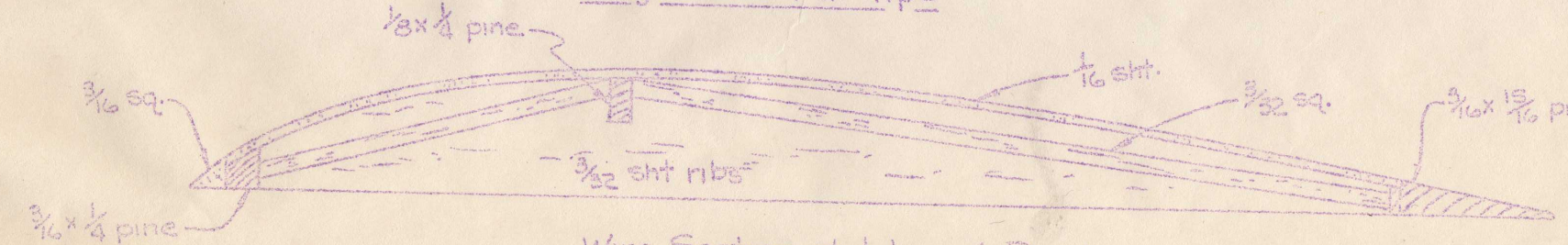
Stabilizer Section

joints like this — sequence like this





Wing Section at Tips



Wing Section at Inboard Panels

Saturn III



1



2



3



4



5



6



7



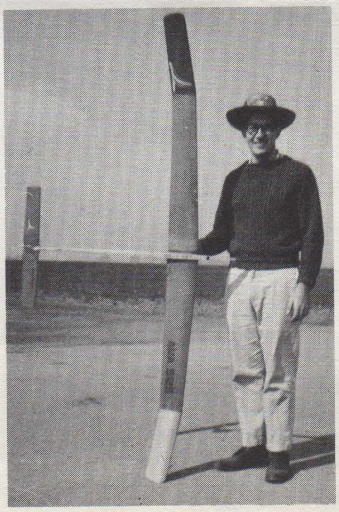
8



9



10



11



12

under the skin, or break an all sheet surface, there isn't a damn thing to glue to or secure bracing pieces to. You might just as well build a new part. This is the stab of this model I've been talking about. I still like the sheet top-silk bottom wing, but only on inboard panels. The outboard panels on the next one will be built up, some sheet maybe, but not the whole top surface. My tip panels both warped as the wing seasoned, and I've been trying to trim around these since Fresno.

The engine installation is upright this time, in a homemade aluminum pan that Van Nest talked me into and I'm not a bit sorry now. I rounded the fuselage corners to get the looks up to par with the elliptical surfaces. The overall effect is pleasing enough.

Last September at Fresno, I was rather forced to fly the model before I felt sure of the trim, having destroyed the one remaining Mk. I determal-izing downwind onto one of the now famous grass re-enforced hummocks that spot the Fresno flying site. I think the Mk. III showed enough potential to warrant more building and flying with this layout. Climb speed, in a well trimmed pattern with Cox Special up front, is very fast. During a climb checking session with a tripod setup, we read about 370 feet at the end of a premature 7 second flat flood-off.

Flying an out of trim model in a semi-finals is no excuse at all. I guess I must start earlier, building and trimming for the elims. Oh well... there's always the year after next.

KEY TO PHOTO PAGE

You can't tell the players without a progran...so here it is:

1. John Peterson (SCAT club) with his "Kamikaze!" from Aug. '61 SCATTER. Yes, it's really that small...and it is fast!

2. Current holders of the SCAT Power Team Challenge Cup, (L to R) Bob Van Nest, Dick Gildersleeve and Bill Hartill. Challenge Cup and individual team-men trophies are in the foreground. Bob's ship is well known Mk. II Saturn (Sept. '61 SCATTER), Dick's is one published in Apr. '62 issue.

3. SCAT Pres. Jim Trego, and guess who! (from May '61 issue). Ship is finished in eye-poping black and yellow...and has been known to detour motorists miles out of their way when DT'ing onto nearby street!

4. Ross Ferris of New Zealand shows a lot of individual style in putting up an A/2 at Upper Hutt bash. Thick covered hill in background could be So. California!

5. Andy Faykun, of LA Thermal Thumbers, packs 'em in as two critics discuss his technique. This ship holds current AMA Wakefield record, and was presented in July '62 issue. Anchor man is SCAT member Ross Steckel.

6. SCAT man Dick Gildersleeve talks to the Firelli. Winder is adapted from Sears Roebuck hand drill. Holder, Merrill Doscher, demonstrates "close-check" technique and carries handy DT lighter in his mouth.

7. "Oh, a bunch of the boys were whooping it up..." Top row, L to R; Trego, Jordin, Nichle...bottom row: Harker, Hartill, Krecek. All readers who are now shoveling snow will be green to know this picture was shot last year in mid-January!

10. Bill Cook, from Quest days, and holding Quest Ch... has helped push plans for this ship as far as England...which just goes to prove the "Sun Never Sets On The Saturn!"

11. SCAT member John Jordin and one of his many hordies. This is one of his older models with a somewhat shorter wing span than his latest effort. (We know it looks long, but you must remember that John only stands four feet three and a half inches tall.)

12. Big Jim here demonstrates how the phrase, "Patterson Push", got to be a by-word with Wakefield flyers throughout the world. He must build 'em for this type of starting, too; because we only remember one having its wing "thrown" in two with this technique.

COMING NEXT MONTH

We honestly and truly don't have any idea! You see, next month with wild cheers of hysterical glee we welcome a new Editor to his Happy Hot Seat. Starting in January, MILT HARKER will be putting you on. Good luck, Milt!

*** SPECIAL NOTE ***

In the future all correspondence (subscriptions, questions, news, plans, articles, angry tirades, etc.) should be sent to our new Corresponding Secretary, JOHN JORDIN, 2915-F. West Victory Blvd., Burbank, California.

5. The Qualifying Trials Contest Directors list will be added to each month as new sites for trials are set. Contact the nearest C.D. for contest site. If there are no sites near you, get your local C.D. to arrange trials.

6. Service men overseas, also flyers in the states of Alaska and Hawaii who would like to compete in the Trials, and have an AMA contest director available, are asked to write to ICC Chairman Ritz, and he will arrange a trials location for them. Qualifiers would have their planes proxy flown in the semi-finals.

Free flighters will be pleased to know that AMA Technical Director Ehling has set up a separate fund for the FAI free flight group, so you can be sure that your entry fees are used to support free flight only!

(Ed note: Ritz has sent no word on the Semi-finals procedure yet. As soon as we have this information we will print it.)

SYKORA
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U.S.A.