THE SCATTER

published by Southern California Aero Team

December 1961

(9)

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A 25,000 MILE WORKBENCH

The beginning of this new year is a good time to sit back and reflect on what (if indeed, anything!) the SCATTER has accomplished during the year just passing.

First, and most important, it has built a far-reaching bridge of friendly contacts with other FAI-FFers throughout the world. This has been, for us in the SCAT club, a rich and rewarding experience...and we've tried to pass along these rewards, as much as possible, to our readers in the form of letters, comments, and technical contributions from this international group of skilled modelers.

Second, the SCATTER's unrestricted editorial policy, total lack of "influencing" advertisers, and stress on interesting "plain-talk" technical FAI topics, has allowed us to stay reasonably close to our original concept... i.e. to provide a gap-filler publication medium for this type of information exchange for the international free flighter. This was necessary, of course, because no commercial model magazine (especially in the US) has seen fit to provide a constant source for it.

In reflecting on this success and growth we've enjoyed, stemming from these two factors, we were struck with this thought...see if you agree...

What we've built together here is a 25,000 mile workbench...it's a comfortable informal place to gather with our modeling friends...a convenient spot that melts the thousands of miles between us... a common environment, if you will, where the small groups and the isolated rugged individuals of our dedicated international clan can meet each month to exchange ideas, designs, techniques, opinions....and on and on.

And even as we savor the pleasure of this happy arrangement we of the SCAT club are constantly reminded that it was YOU who read these words who made it possible. Nine months ago we gave you only the bare framework for this long, long workbench...it was built of some words and drawings on a few sheets of paper; held together with nothing but postage stamps and a driving desire to do something <u>better</u> for the serious FAIer. YOU, through your contributions and encouragements have filled it with the things which make it interesting and useful. It is a strong bench now...and we'll forgive you a little smugness if you take some little personal pride in the fact that you have helped make it the best of its kind...for the SCATTER takes a back seat to no "commercial" magazine. We, the publishing club, and all of you, the contributors, have taken on the salaried staffs and the professional equipment of the modeling magazines...and beaten them at their own game!

And so, all we can say is a very humble, "Thank you, one and all." And, if you have had half the pleasure in getting SCATTER, that we have had in typing it up and licking the stamps...it's only more than fair. For, as

they say at this time of year...it is those who give who truly rece...

HERE'S WISHING YOU ALL A HAPPY NEW YEAR....
WITH GOOD LIFT, AND SHORT CHASES!!!!!

1961 TEAM WAKEFIELD by Murari Bruno (Italy)

(Ed. note: No written information of this Wakefield was enclosed with the drawing sent to us by Paolo Soave so we'll just pass along a few comments of our own. The Italians, seemingly more than any other group of model designers, have a way with details. We never cease to wonder at the amount of effort, both in thinking out a design, and in its actual construction, that they are willing to lavish on a model airplane.

This Wakefield from the 1961 Italian Team is a good case in point. At first glance it seems a little "boxy" and rather on the conventional side as regards its overall outline. But when you begin to examine the details, both in design and construction, you'll soon see what we mean. It is like a beautifully thought out jigsaw puzzle...the overall picture is pleasing, but it is in the countless detailed infividual components, and the way they assemble to make the finished model, that the true fascination lies.

Just to mention a few: Look at those "angle iron" longerons, and the "switch-grain" technique of the outer fuselage sides...and how about that neat and simple locking device to secure the inner motor tube (which allows "outside" winding)...and the delicate but positive rudder trim arrangement... and the beautiful wing rib arrangement, with each rib crossing three others. We could go on, but if you will look carefully at the drawing it will tell you much more than we could.

Of course there's only one thing wrong with this approach...there isn't a "conjours cup" at the Finals. And to our way of thinking, that's a shame. There ought to be more official recognition for design and workmanship of this caliber.

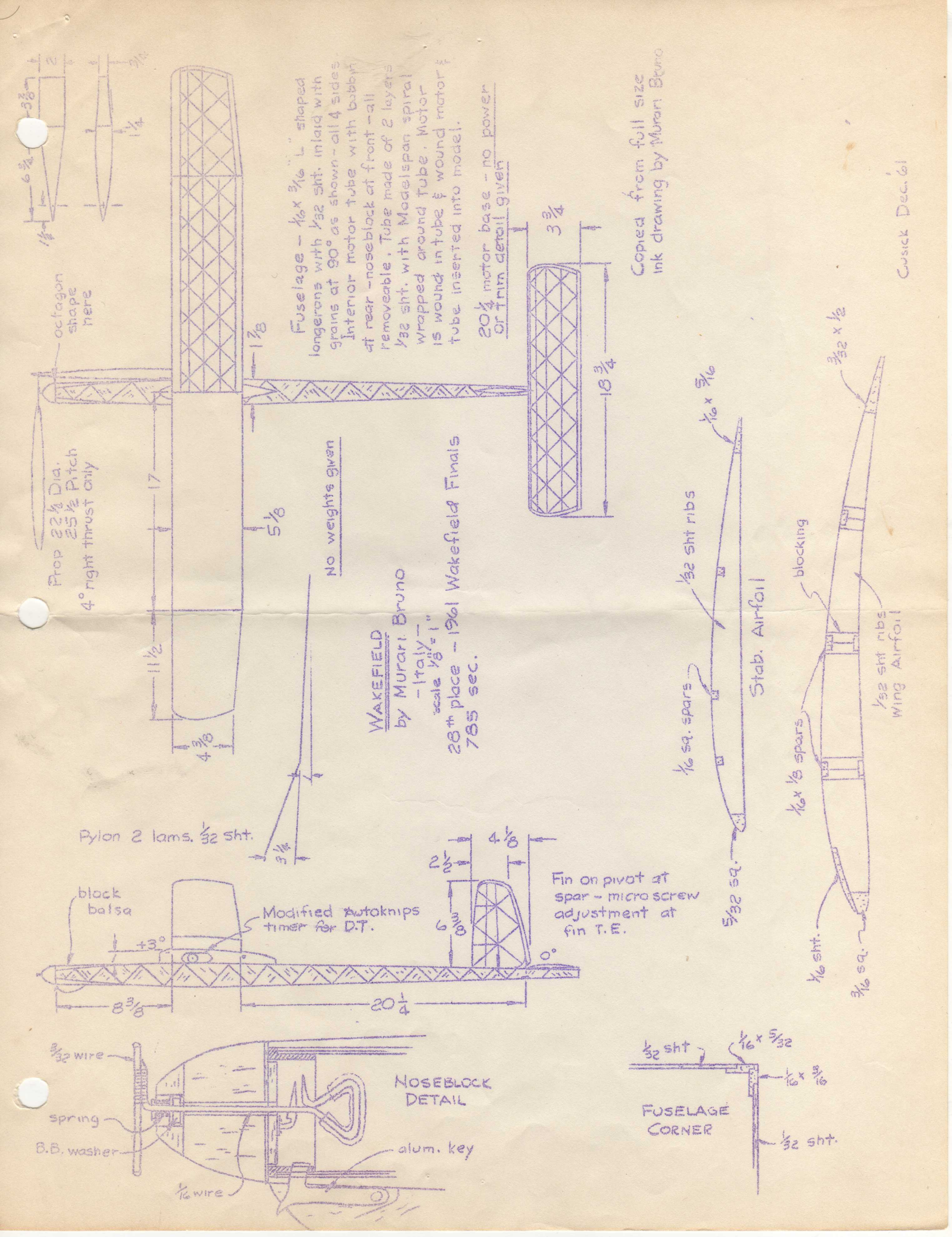
NEWS FROM THE READERS

The following are as far as we got in the "paid-up" stack this month.

TONY YOUNG, London, England
ALAN WRIGLEY, London, England
BRIAN EGGLESTON, Yorks., England
J. DONE, Cheshire, England
TOM CHAMBERS, Co. Durham, England
S. R. SMEED, Chessington, England
G. M. HUTTON, Wallasey, England
BILL PARK, Gremen, Germany
K. PETER BROCKS, Tubingen/Neckar, Ger.
NIKO MENDLER, VLM/Do, Germany
RUSS HANSEN, Joplin, Missouri
PETE VISSER, Cape Town, So. Africa
PAT CURTIS, Cape Town, So. Africa
R.G. HOWE, Wellington, New Zealand
CHARLES E. SLADE III, Orlando, Fla.
LARRY CONOVER, Cedar Rapids, Iowa
DICK MATHIS, Irving, Texas
BILL HAUGHT, Baltimore, Md.
EDDIE CAPOGRECO, Herrin, Ill.
M. R. LIPSEY, Beaumont, Tex.

DICK MATHIS is an old flying buddy from the Dallas days. He reports that FAI-FF interest is on the upswing there, and they are planning a regular series of these events for the '62 contest season. Proceeds will go to support a travel fund for winners. Good plan, Dick! It sure worked well out here. Now, how about sending those A/2 plans?

PETE VISSER needs no introduction to those who have a Zaic collection on their shelf. He writes that the trip to the recent Finals in Germany


Copied from full size
Ink drawing by Muran Bruno
Cusick Dec. '61
Fuselage – 1/16 x 3/16 "L" shaped longerons with 1/32 sht. inlaid with grains at 90° as shown – all 4 sides. Interior motor tube with babbit at rear – noseblock at front – all removeable. Tube made of 2 layers 1/32 sht. with Madelspan spiral wrapped around tube. Motor is wound in tube & wound motor tube inserted into model.
20¼ motor base – no power or trim detail given
octagon shape here
Prop 22½ Dia. 23½ Pitch
4° right thrust only
No weights given
WAKEFIELD
by Murari Bruno
– Italy –
scale ⅛" = 1"
28th place – 1961 Wakefield Finals
785 sec.
Pylon 2 lams. 1/32 sht.
Stab. Airfoil
1/32 sht ribs
1/16 sq. spars
5/32 sq.
1/16 x 5/16
blocking
1/32 x 1/2
1/16 x 1/8 spars
1/32 sht ribs
Wing Airfoil
1/16 sht.
3/16 sq.
block balsa
Modified Autoknips timer for D.T.
+3°
0°
Fin on pivot at spar – micro screw adjustment at fin T.E.
NOSEBLOCK DETAIL
3/32 wire
spring
B.B. washer
1/16 wire
alum. key
1/32 sht
1/16 x 5/32
1/16 x 3/16
1/32 sht.
FUSELAGE CORNER

was an experience he'll never forget...meeting new friends, seeing new models, etc. We'll just bet, Pete...that's just what everyone who's been says. Now how about getting hot on that drawing board and sending along some of those "new ideas" that resulted!

*****The long list of English FAIers this month is mostly due to contacts Jim Patterson made for the SCATTER while at the Finals last summer. Glad to have you chaps aboard!...now, how about a little input for publication? We're sure AEROMODELLER and MODEL AIRCRAFT won't begrudge the tiny tap we can make on your combined talents and experience!!!

M.R. LIPSEY is another modeler we flew with back in Texas. He gets plumb poetic about receiving this rag each month...but then he's a Texan so what ya' gonna do? O.K., M.R., while we give with the blush of modesty why don't you get your big frame up off the dime, and send in that auto rudder gimmick...huh???

WAKEFIELD PROP HUB by Jim Patterson

When we published Jim's '61 Team Wakefield a while back we commented on the fact that he had gone a little "Polish" on his prop boss (i.e. machined stuff, with nuts and bolts, adjustable pitch, assorted bearings, etc.) This has aroused some interest among the readers so we thought we'd do it justice with a nice half page sketch. Craig Cusick's nicely detailed drawing ought to give the interested all the dope they need.

BILL KRECEK'S NORDIC TIMER START SYSTEM

SCAT member Bill Krecek is affectionately known, among the other members of our little "unwashed" clan as "Mother". He's gained this title through his bulldog trait of literally "worrying" a modeling problem to a new and better solution. His timer starter system shown in Cusick's drawing is a good case in point.

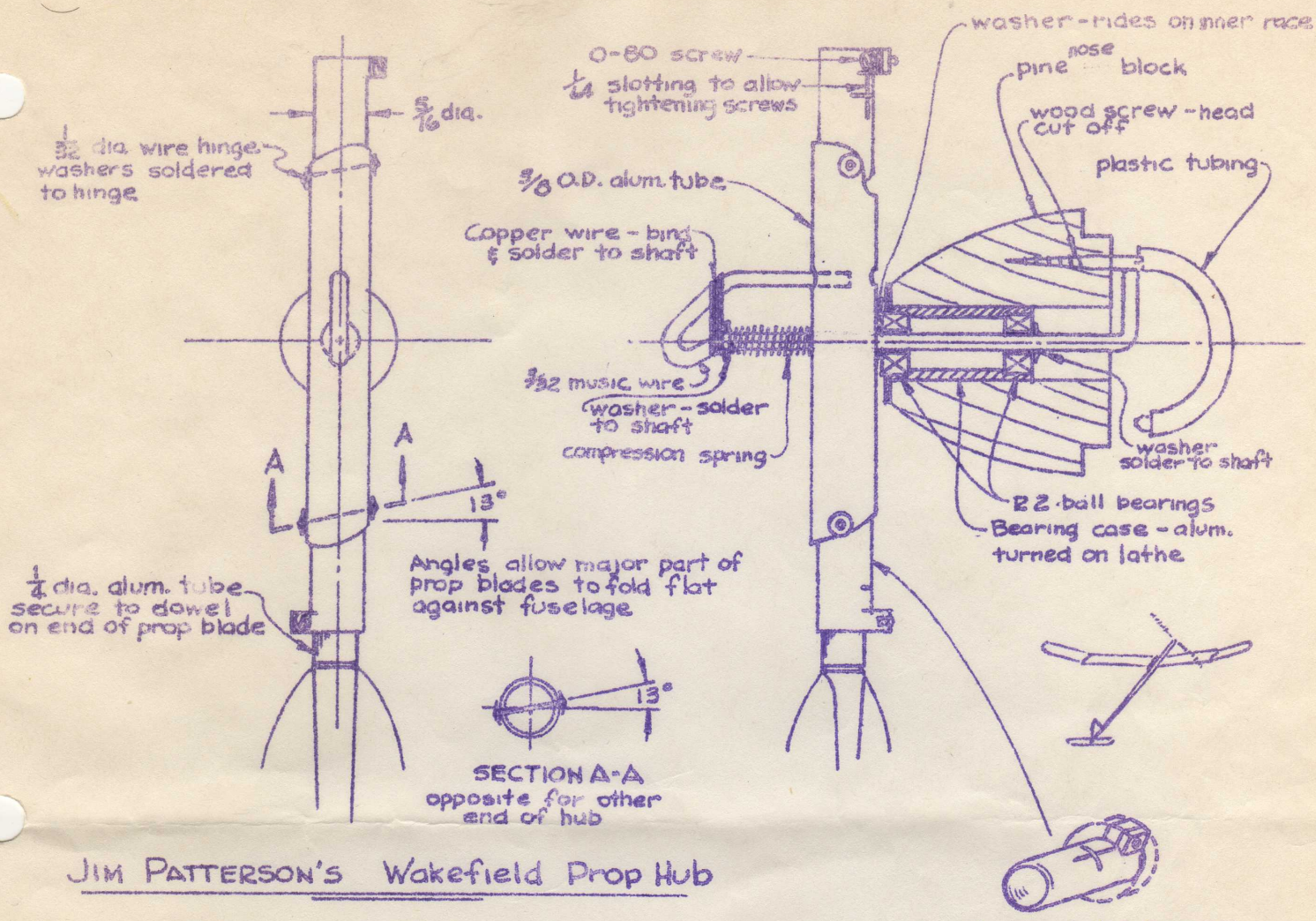
After several of our Nordic flyers had experienced "miss-fires" with some of their various spring-and rubberband-loaded systems, Krecek decided this foolishness had gone on long enough. So he spent several days, hundreds of sheets of scratch pads, and half a dozen working models...and came up with the idea shown in the drawing.

Take our word for it...it works...and chances are, maybe better and "safer" that what you're using now.

AN ANSWER FROM FINLAND by Reino Hyvarinen

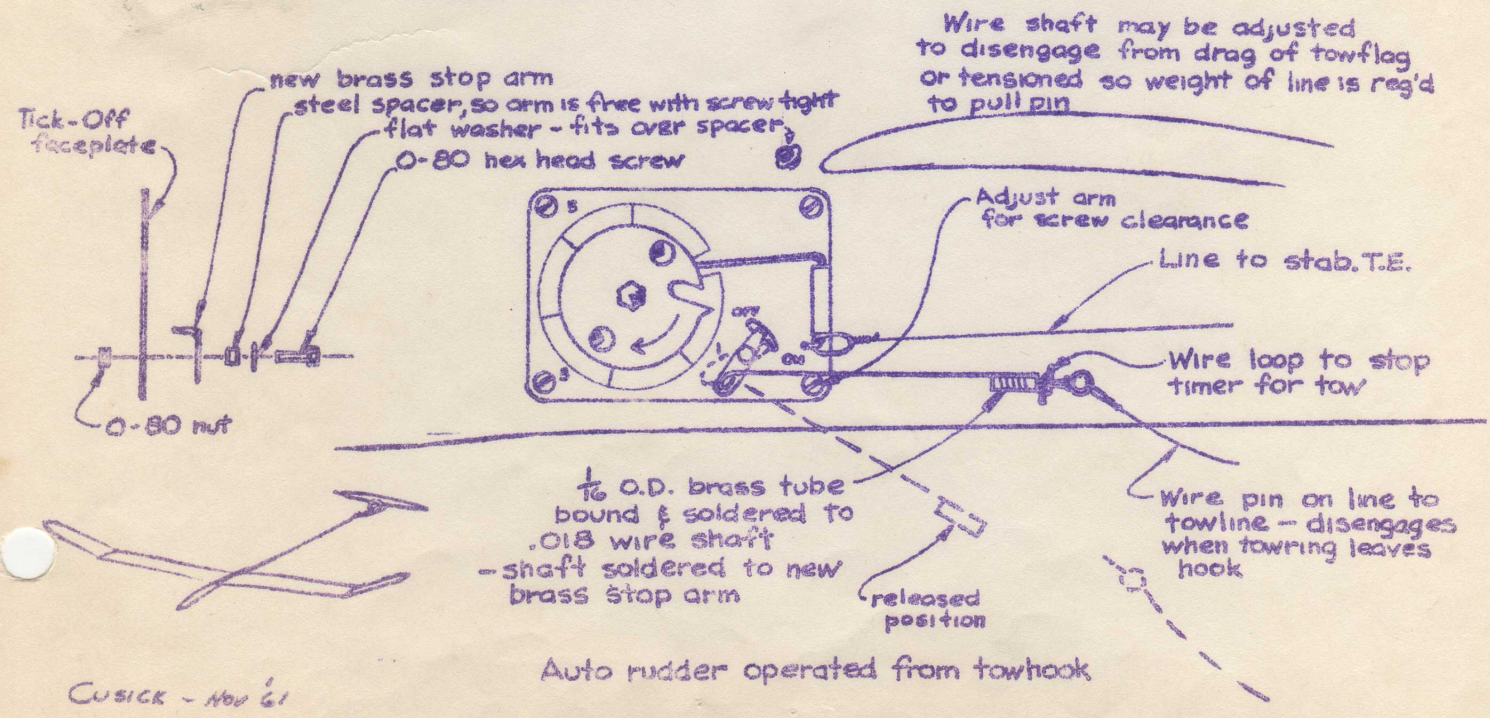
(Ed note: In the May editorial we voiced strong objections to some new FAI-FF rules proposals coming from Finland. In the same piece we asked for some contact with an active Finnish FAIer, so that we might get a personal response on their point of view. Through the help of Mr. P. Delfield, of the Belgium magazine, "Model Avia", and Bob Hatschek (second for US in the 7-way tie in Wakefield in '59) we were able to reach Finnish FAIer, Reino Hyvarinen. This was a double stroke of luck, as, in addition to having a good background for such comments (Reino is a top Wakefield, A/2, and Indoor FAI competitor), he also writes a lucid and effective letter in English. We think you'll enjoy hearing what he has to say.)

"You know that in consultation technique, especially when the opposite sides have different points of view, you must be able to compromise, I mean



JIM PATTERSON'S Wakefield Prop Hub

BILL KRECEK'S Nordic Timer Start System



Auto rudder operated from towhook

CUSICK - Nov '61

to make concessions. Due to the extraordinary position of our country between East and West we've heard the opinions of the eastern countries which usually have strong representation in FAI commissions. Thus, before making our own proposals, we already knew something of their plans, which could finnish aeromodeling in many countries, at least FAI modeling, in case their proposals went through.

Knowing their absurd proposals and their designed co-operation in carrying their proposals through the FAI boards, we decided to make proposals naintaining the prevailing rules but with a reserve for making slight concessions. This was one of the main reasons behind our proposal. I found that your first impression was that our proposal was in fact the new rules for FAI models.

To give you an idea of what can be waited from some eastern countries, one year ago their proposals were:

A/2--changed to A/1 with 50-meter towline.
Wakefield--changed to French Coupe d'Hiver class (i.e. maximum rubber weight 10 grammes!, maximum total model weight 80 grammes, minimum fuselage cross section 3.1 sq. inches, all other dimensions free).
Power Model--Maximum total area 310 sq. inches, maximum engine capacity 1 cc. (0.061 cub. ins.) total model weight 400 grammes, or engine loading of 300 grammes/cc., engine run 10, 12 or 15 seconds.

Maximum flight time for all three classes -- 2 minutes.

I don't know what you think of this, but our opinion is that if grown-up people have to play with toys again, it is better to give up aeromodelling.

Their main idea is to use smaller aerodromes, hence the two minute maximum. But their way to obtain that is not very good. Here in Finland we have flown A/1 gliders in contests together with A/2 gliders, and we found that this smaller glider is so sensitive to turbulence etc. that you cannot get consistancy with it. Luck has very much to do with A/1 gliders, and flying in international contests must not be a lottery but give the real performance af the flyer and the model. This is the main reason to our resistance against proposals like these.

Fortunately it seems those eastern countries have taken a closer look at their own proposals, as their latest proposals seem to follow the modern lines but still retain the 2 minute maximums. Thus they now propose:

A/2--Line length ruduced to 30 meters
Wakefield--Rubber reduced to 30 grammes
Power--Engine run reduced to 8 seconds

I don't know if you have to fly behind woods or other obstacles, but in summer we have to. The turbulence gets almost to the height of 30 meters. Adding to this the ground turbulence you can see that flying A/2 with 30 meters line is the same degree of lottery as A/1 with 50 meters line.

Now for our own proposals: We do not want 2 minute maximums due to the above reasons. In fact we like the prevailing rules very much, expecially as to A/2. But if you have to make rules for at least five years, you have to take into account progress and development, and assume that after five years the models in common fly better. This leads you to take into account the possibilities of future development.

In A/2 when you get a contest with ideal conditions, many models are very near the 3 minute limit. The slightest lift may give you a fly-off with several models. If the main idea behind the maximum time is that a really good model can get very near to it, but not exceed the limit under real still air conditions, we have to decrease slightly the A/2 performance. I think that here in Scandinavian countries we have the best possibilities for still air flying. Flying in winter over frozen lakes, with no wind and temperature around the freezing point, gives the best possible conditions for still air conditions. Flying like you in still air under those hot California conditions does not prove that you have real still air conditions. One evidence of the lifts is your 8 minutes performance out of 10 seconds with the FAI power models using K&B 15 or Cox Tee Dee engines. We have the same engines here, but fitted to the best possible models of experts like Hagel, Pjmenoff and many others, the models fly more than 3 minutes, but not more than 5 minutes.

Here I remember what you wrote about those poor Hungarians capable of only 3:30. You ought to have been at Leutkirch to see them outclimb every American entry. Their team result was the best on the field, once again they won the team with their poor 3:30 models. USA was at the end of the list of more than 20 nations. Maybe given the same conditions in California the Hungarians could fly 10 minutes still air times with the same models! I think that in America they have also some saying like, Don't speak of things you do not know, or, Think first, speak then.

But getting back to my main idea, I think that using higher aspect ratios, better airfoils, etc., the A/2's may get to the 3:30 class in some years. That is why we thought of decreasing the performance slightly, and we think that adding more weight is one way to do that. Another approach would be decreasing the line length to 45 meters, 40 meters is perhaps too much. This leads the models nearer to the ground turbulence and makes thermal hunting and holding harder. We like A/2 in it prevailing form, but we think that some slight modifications have to be done to take into account the development.

As to Wakefield I want to say that this class needs something to keep the number of fly-offs down. Here in our country the best Wakes do some 4:00-4:20 under the same conditions as the best A/2's do 2:50-3 minutes simultaneously. We think that a near 5 minute Wakefield is possible under these rules. In fact we ought to have models just capable of 3 minutes under non-lift conditions. This is done best by slightly reducing the rubber weight and adding slightly to total flying weight. This has lead us to our proposal of 40 grammes rubber and 300 grammes minimum total weight. In fact we like the modern rules as it is so easy to make a maximum, but if we want rules with some respect for the 3 minute maximum, we have to limit the flying performance. Decreasing the rubber weight makes trimming easier, thus giving all the same possibilities. This is a question of two different points of view. Some say that given the same possibilities to every flyer helps luck to pick the winner, and reduces the chances of the real expert, who has done a lot of work to build his model better than the models of the other competitors. Some are of the opinion that given the same possibilities to every competitor is best. Personally I think I am in favour of the first group, but for example in FAI Power I think that something ought to be done to give equally good engines to every competitor, as all of them cannot afford buying every expensive specially hotted-up racing engines and racing fuels.

Hoping that this letter has helped you understand our points of view I finish the rule debate.

AH29 A/2 GLIDER by Arne Hansen (Denmark)

(Ed. note: This Nordic drawing was sent to us by our very helpful Danish correspondant, Børge Hansen (no relation to Arne). Børge didn't include any information from the designer, but in his letter he mentions that much of the flying in his country must be done in rough weather; usually strong and turbulent wind. (Wow! sounds like Texas!) And, as a result, many Danish A/2 designs tend to be more rugged in construction, favor the lower aspect ratios, etc. As Børge wisely puts it, a more exotic and fragile design might give a slightly better sinking speed, but if it is shattered on the first high wind, cartwheeling landing...it certainly can't win the meet for you!

So, if you're interested in a design with pleasing outlines, and proven ruggedness, this ship is well worth studying. One special feature we'd like to point out is the neat system used for fine trim on the nose ballast. It's clearly detailed in the drawing, and might be worth adopting on your next glider.)

FROM THE NOTEPAD

*****Have located a good source of model supplies in Japan, and if you're interested in any of the items from there this is worth checking into. (Oh, one thing, however....as far as we know, this source can't deliver you a carload of new OS Max III's...so save your stamps for that item!) The address is: Mr. Yasuo Oishi, Oishi & Company, Takatsuki-Cho, Shiga., Japan.

*****A rumor about SCATTER has started which we must stop before any more readers waste any more postage. We do not supply full size plans for any models published! (Sometines it's just beyond us how much some people expect for $1.00 per year!)

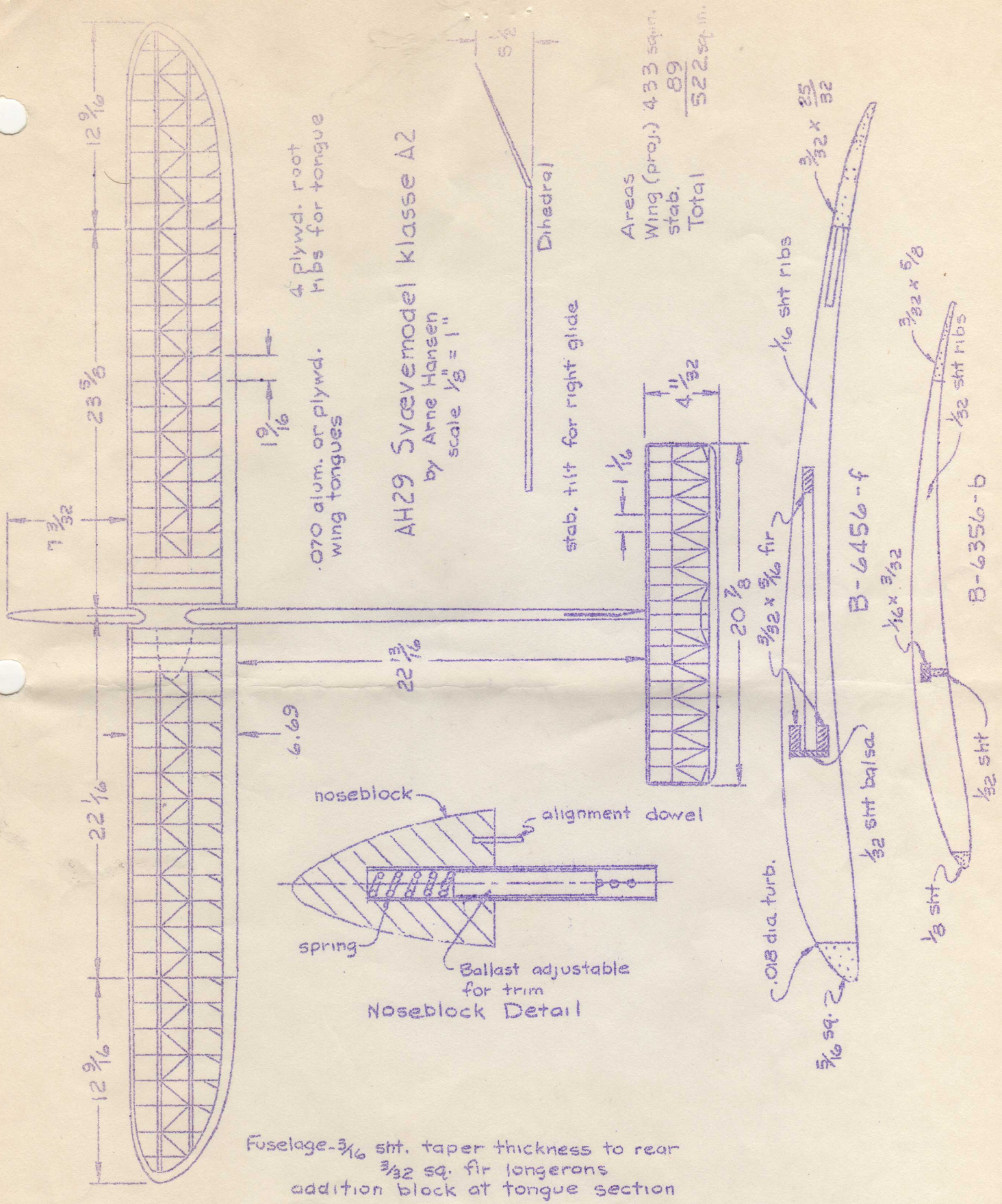
*****In case you haven't seen the ads, there is a source of fiberglass tubing, both tapered, for Nordic and power tail booms, and straight, for Wakefield fuselages. The tapered (3/4" to 1/2" dia., 48" long, .020 wall thickness) is $2.95 each. The straight (1-1/4" dia., 48" long, .020 thickness) is $3.95 each. The source is: Competitor Hobbies, 1 Lake Street, Trumansburg, New York.

A SMALL CHRISTMAS CARD FOR A HARD-WORKING CREW

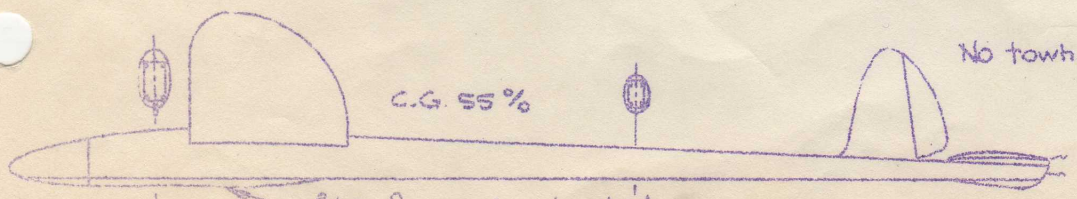
Before the SCATTER can tumble into your mailbox each month, a lot of work by a lot of willing and capable hands must be done. This "staff" of ours includes two groups; first, the large group of contributors among our readers, who have offered their material for publication; and, second the SCAT club members and their wives who actually produce and mail this paper each month. To the first group, who's list of names is much too long to publish, we can only say a hearty, "Thanks,!" and hope that this and the inclusion of their bylines on their material, will partially repay their efforts.

Our own production staff, however, has worked much too long in the background, with no recognition for their steady efforts...which makes your monthly SCATTER possible. So here they are:

DON & FLORA HUTCHINSON - Typing and Proofing
CRAIG CUSICK - Drawings
JOHN WORDIN, BILL HARTILL - Drawings and Articles



Fuselage-3/16 sht. taper thickness to rear
3/32 sq. fir longerons
addition block at tongue section



Cusick-Dec.'61

DICK & ELSIE GILDERSLEEVE
GINNY SYKORA, JOHN & MARY WORDIN - Production and Mailing
JIM TREGO - Photography
JOHN PETERSON - Overseas News

FAI POWER MODEL by John Winn (New Zealand)

(Ed note: This power ship was sent to us by our Upper Hutt buddy, Bill Cook. Bill didn't have much information on this particular model, but from the drawings it would seem like a good solid design...of the current trend of design, but with no frills or fuss. Might well be just the ticket for those who haven't tried their hand at FAI power, and are looking for a sound machine to start off with. And, it would seem, Winn knows his designing from the statics which Bill sent on him. He was a member of the '60 and '61 NZ Power teams (reached that wild 13-man fly-off in '60) and has been NZ National champ for the past three years!)

A WORD FROM THE PRES. by Bill Hartill

The SCAT club has been in existance for two years. As outgoing president for 1961 I would like to sum up some of our goals, accomplishments and secrets of success.

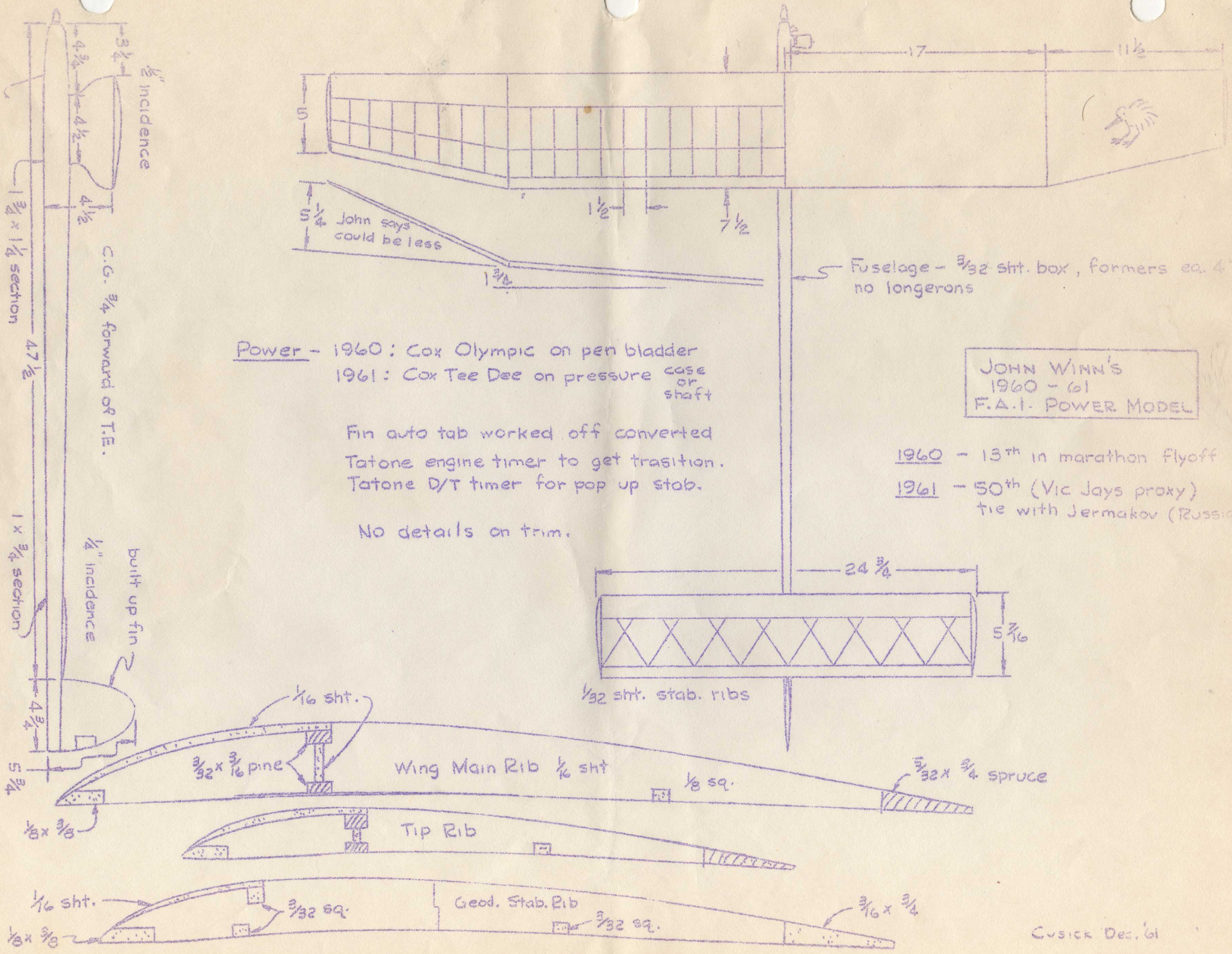
First of all what have we done? In '61 we held 4 contests; two for Wakefield and Nordic and two for FAI Power. All these were run strictly to FAI rules, including processing, round-flying, weight checking, towline pull testing, etc. One power meet was a team challenge, just likethe Finals. Our own perpetual team trophy (that we designed and build) was captured at this meet by a hot team from the MAX MEN club.

These contests attracted a respectable number of entrants while other local clubs were canceling FAI events for alleged lack of interest. We held these contests because we felt that these events are interesting and worth while. We conducted them in the spirit that the rules were made to be followed. The result was: more interest, more challenge, and more activity.

The SCAT club with the help of the THERMAL THUMBERS club ran the LA Team Qualifications. Of a total of 17 qualifiers, 7 were from the SCAT club. At the Fresno Semi-finals, our boys did a good job with Jim Patterson making the Wakefield team while Bob Wiehle was 3rd and Milt Harker was 7th. In Nordic Wiehle almost made the glider team for the second time in a row; being nosed out by 2 seconds, after 8 rounds, by Len Lortz! Milt Harker was again 7th. In Power our club entries were Jim Trego and Craig Cusick. After a very strong start Jim's average was ruined by an unaccountable spin. Craig couldn't find enough lift and had to settle for yet another 7th.

We've had many reports of Jim's effective job at the Finals. His models were among the best in design and construction. His flying technique was top notch. A combination of blown motor, end of round, and crushing downdraft ganged up to give one klinker in a string of maxes. Jim's experience and spirit also helped get the full US power team into the air. His encouragement and help contributed to Sheldon's gallant effort to produce and fly a "last minute" power model when his prepared ships were lost in shipment.

It is this team spirit that we think makes the SCAT boys just that much more effective. Practically the entire club was on hand at the Fresno Semi-finals to back-stop those who had qualified. Retrieving was organized with 2-way radio and cars. Everybody looked for thermals, launched Nordics, held Wakefields, calmed gangled nerves and helped out in all ways possible.



Power - 1960: Cox Olympic on pen bladder
1961: Cox Tee Dee on pressure case or shaft

Fin auto tab worked off converted Tatone engine timer to get trasition.
Tatone D/T timer for pop up stab.

No details on trim.

JOHN WINN'S
1960 - 61
F.A.I. POWER MODEL

1960 - 13th in marathon flyoff

1961 - 50th (Vic Jays proxy)
tie with Jermakov (Russia)

CUSICK Dec. '61

This "spere de corps" coming out of our common interest in FAI-FF has also been at work in "off-the-field" activities. The SCAT club has taken an active aggressive role in the study and publicizing of USA team selection plans and also International rules making. John Wordin's and Bob Van Nest's work with Nordic pull tests published initially in our club paper, SCATTER, brought world attention to bear on the unreasonableness of the 5 kg pull test rule. And not content with just proving the fallacy of this rule they further researched available sources of towlines until they discovered a "pull-testable" substitute...for use until this baseless ruling could be amended by official FAI action. Laughing at the idea that they might be considered "experts" with some dark "secret" to hide, they were happy to share their discoveries and to spend a great deal of their limited spare time to making these lines available at reasonable cost to all readers of SCATTER. These lines are now in use throughout the modeling world.

Our members have dug into the mechinazations of the AMA, ICC, and FAI organizations and published in SCATTER what we think is a clearer picture for our readers of what is going on. We have not been clever enough to always do this without ruffling some of the "leaders" but we like to think that our efforts in some small way were partly responsible for the rare moderation shown by FAI rules makers in November.

With a new season of US free flight qualifying trails coming we have been passing team selection ideas back and forth between the ICC committee members and the FAI crowd. We hope our efforts have assisted the committee in their tough job and have helped make the average US FAIer better informed than He's ever been before.

Our club's publication, the SCATTER, has come on the scene like Gang Busters. This FAI-FF technical (and political?) newsletter shows a lot of "commercial" model magazines how it's done. For example: in the past nine months SCATTER has had plans for 7 FAI Power models, 3 Nordics and 8 Wakefields...compared to the US's oldest model mag. which in 12 months has published 1 Nordic, 2 Wakes, and 1 FAI Power model. And, of course, these SCATTER plans have not been run of the mill sketches either but good models in accurate detailed 3-views with CG locations, weights, and dimensions, and where possible, full size sections and other parts.

This group-effort publication by our members has been a boost "magnum" for the club and has brought words of encouragement from all over the world. One of the bright spots of our club meetings is the passing around of the mail received from Italy, Iowa, Finland, New York, New Zealand, Colorado, South Africa, Texas, England, Washington, Denmark, and on and on.

There are other accomplishments of the club; such as our creation of an FAI-FF Travel fund for West Coast team members; and our personal coverage and rapid, complete results of the FF-Finals in Germany. But those described above will serve as a general idea.

And now, to summarize all this activity by a handful of individualistic guys here in Southern California, I'll try to answer all those who've wondered what makes us tick.

Our goals involve the pursuit of and the occupation in the sport of FAI free flight model flying. We think of this as a sport in the same sense as yacht racing, soaring, skiing, etc. To us this sport is not a frivolous dissipative thing like flying so-called "sport" models. We do not believe that concessions must be continually made to "attract" a "popular" mass of followers. We do believe that challenge, esthetic qualities, thrill of performance and the search for model airplane knowledge are the values that will contin-

ually attract a limited but dedicated group of people to this sport. It is free-flight for free-flight's sake...that is the spur...for us, and for our FAI friends throughout the world.

And thus it is recognition of these principles that we feel is our secret of success. We know why we formed a club.

COMING NEXT MONTH

Next month we've got all sorts of goodies lined up for you. We'll start of '62 with a beautiful Power job from Norway, another Wakefield from those prolific bounders in New Zealand, and a couple of winners from Sweden.

U.S.A.
NO. HOLLYWOOD, CALIF.
502 Vol.
[illegible] WILKINSON
SAKORA

Dec. 7, 1961

HERE ARE THE NEW FAI-FREE FLIGHT RULES

The only changes in Free Flight Rules are as follows:

1. Model Processing
   Models for World Championships shall be processed by each countries' National Aero Club (i.e. AMA) prior to leaving for the competition (i.e. Finals).

2. A/2 Glider Towline
   The towline pull test is now set at 2 kg (4.4 lbs.) instead of 5 kg (11 lbs).

3. Indoor Flights
   The USA proposal for 6 flights, no attempts, best two flights count, was adopted.

4. Indoor - Use of Balloon
   During an indoor flight a balloon may be used only twice to alter direction of flight. The line of the balloon must be in contact with the model for more than five seconds and the propeller must not stop rotating for more than five seconds.

5. USA Indoor Site Proposal
   The AMA proposal to hold the 1962 Indoor World Championship in Weymouth. Mass., ejected because of transportation problem from Europe to U.S.A.

GENERAL NOTE

There will be no changes in any Free Flight model specifications until 1964. The 3-minute maximum will be retained until 1964.

Free Flight FAI World Championship Calendar

1962 -- Indoor -- England
1963 -- FF -- Wiener-Neustadt, Austria (Aug. or Sept.) (3 events)
1964 -- Indoor -- (no site set)
1965 -- FF -- (no site set) (3 events)
1966 -- Indoor -- (no site set)

The above information was provided by Frank V. Ehling, Technical Director, Academy of Model Aeronautics; and was sent to you by,

The Southern California Aero Team