THE SCATTER

published by Southern California Aero Team (3) June 1961
President-Bill Hartill; Secretary-Milt Harker; Editor-Ken Sykora, 6717 Wilkinson, Apt. 205, North Hollywood, California

THE SICK LION (a fable)

Once upon a time a young man working in the circus was asked to replace the lion tamer, who was siddenly taken ill.

"But, I'm afraid of the lion!", said the young man.

"Don't worry," said the boss, "the lion is also sick today."

So he took the job, and after the first performance ran out of the cage a tattered and bleeding mess. He ran to the boss and shouted, "I thought you said the lion was sick!"

"Ah, yes," said the boss, "but he is still a lion!"

Every week our mailbox fills with letters from U.S. and overseas FAIers. Almost without exception they decry the lack of enthusiasm (locally) for FAI modeling, and in the next paragraph congratulate the SCATTER, jot down interesting drawings, enclose a dollar, and rattle on happily for a page or two on future models, rules, and countless other topics.

Now here's the point: Mr. AVERAGE MODELER is just not one of us. He is either 1,) a Sunday Flyer not interested in competition, or, 2.) a Contest Nut who's personal modeling success depends on the square root of the length of shelving it takes to hold his trophies. (We've nothing against either group and have modeling friends in both; it's just that they don't think like we do.)

So we FAIers will just have to plug along; waiting for Mr. Average Hobby Shop Owner, Mr. Average Contest Director, Mr. Average Manufacturer, and the other great "leveling-to-mediocrity" elements to kill us off. Yeah,...just like they have Flying Scale and Indoor.

You see, in every hobby-sport there is a very small top level...an area of endeavor and performance that the average practitioner can't reach, and seldom understands or appreciates. Successful participation in this class means you are among the tops in your chosen sport. This area is always tough and never crowded.

MORAL: so just remember, if your FAI "group" consists of just yourself, don't despair...just make sure you always have that old pistol, chair, and whip whenever you step in the cage...'cause we got us a mighty sick lion on our hands.

NEWS FROM THE READERS

As we've said before, the names are just coming in too fast to keep up... so, we've just had to prorate. If you've paid, don't worry, yours is in the "stack" and will float to the top soon!

JOHN NOGY, Santa Maria, Cal.
ED MILLER, Pomona, Cal.
BILL G. HENRY, Exeter, Cal.
ROSS STECKEL, Van Nuys, Cal.
FRED HOVER, JR., Visalia, Cal.
E. O. SCHNAKENBURG, Manhattan Beach, Cal.
AL VAIL, Aurora, Colo.
JACK FISCHER, Paramus, New Jer.
FRANK NEWQUIST, Santa Monica, Cal.
R. G. SMITH, Suitland, Maryland
RICHARD GILDERSLEEVE, Burbank, Cal.
EDWARD H. AIKMAN, Marion, Ill.

JOHN NOGY was a welcome sight at the last club meet...as a charter member of the "unwashed ten" who formed SCAT, we've missed you, John. Glad to hear you're trying to make it back to this neck of the woods.

ED MILLER certainly needs to introduction, as he was our West Coast Power team member at the last international bash...good luck for making it two in a row, Ed.

DICK GILDERSLEEVE, our "wandering boy of the east" has at last returned to God's modeling country...made a darn good showing in A/2 at the Elimins, too...keep it up Dick!

FRANK NEWQUIST is a welcome addition to the list. He's a top west coast Wakefielder (see "cayuse", Feb-Mar. FLYING MODELS, '61). How about some 3-views, Frank?

R. G. SMITH is another of those welcome readers who contributed something for publication right off the bat. He's turned in an interesting article on thermals, which will give us some food for thought. Th anks, R.G., keep this sort of thing coming!

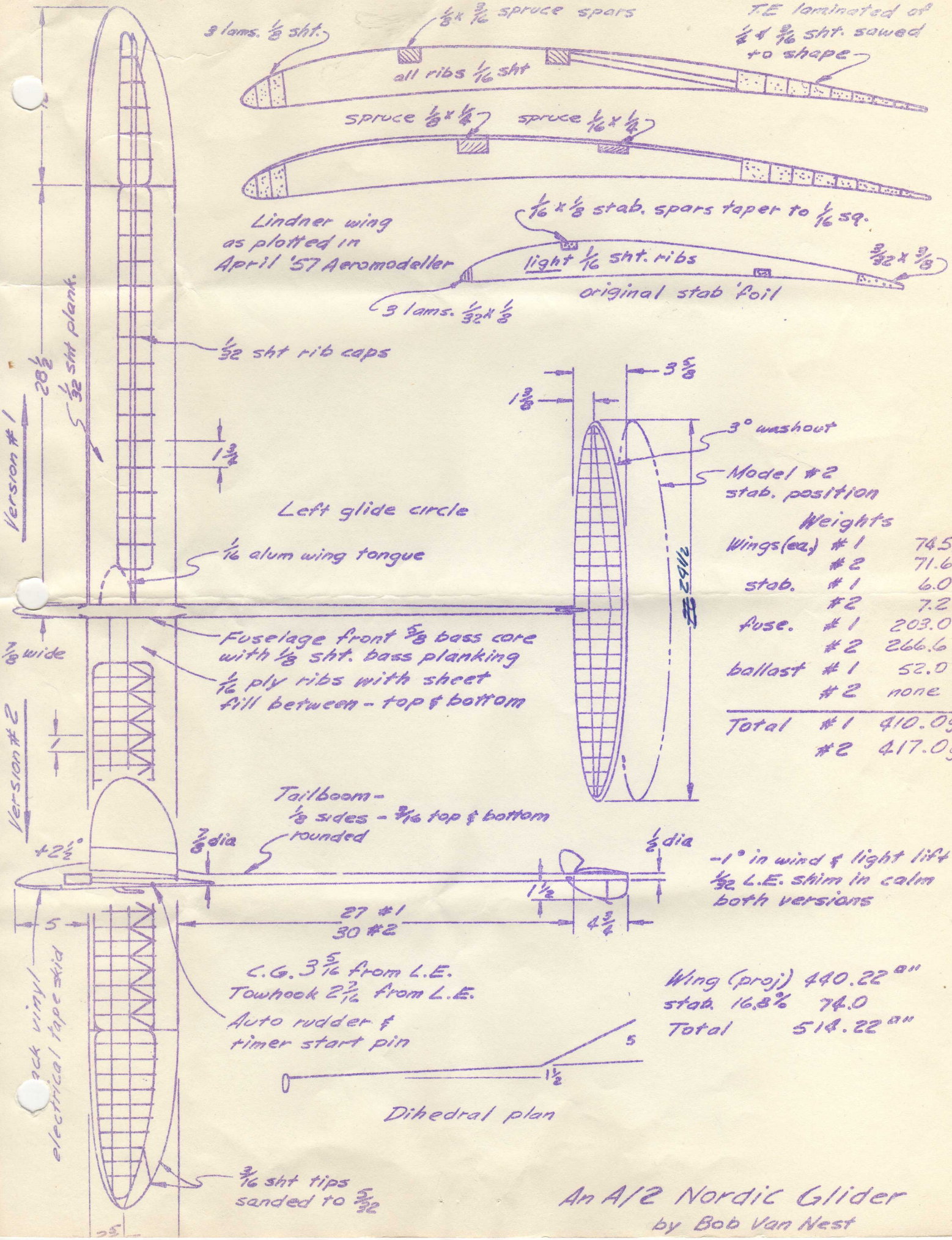
<u>N A/2 NORDIC GLIDER by Craig Cusick and Bob Van Nest</u>

(Ed. note: This is by no means a "finished" design. Bob and Craig have been doing intensive work on it for some time, and although it performs well in the present state, they continue to modify and try new ideas to improve the basic concept. Their technique in this effort is simple and straight forward...all new parts (wings, stabs, fuses.) are made interchangeable with their forerunners...thus building time is cut way down, and the many combinations possibly have been very fruitful in pitting "on paper" theories against true field performance in all weather conditions.)

<u>Design and Flight Notes by Van Nest & Cusick:</u> This glider is not the last word in still air efficiency, nor is it the best windy weather flyer. We were interested in an airplane that would give better than average performance in weather in this part of California, since this is where it would be flown most often. It is actually a composite of the features we found desirable in a number of Nordic designs we have seen fly, and some published in magazines.

We agreed at the outset of the project to use elliptical surfaces and round off generally where possible. It seemed pointless to design a glider from scratch and not make it as attractive as we could. #1 version was built by Cusick and #2 by Van Nest. The two ships differ in wing construction and fuselage length. We felt much would be gained by switching parts of the two models to see which combination of wing and fuselage showed the most promise for an all weather model.

The wing airfoil on both versions is from the Lindner '55 winner. This was chosen because we were familiar with its characteristics, Van Nest having built a '55 "Spinne" and flown it for about a year in all weather conditions.


3 lams. 1/8 sht.
1/8 x 3/16 spruce spars
T.E. laminated of 1/2 x 3/16 sht. sawed to shape
all ribs 1/16 sht
spruce 1/8 x 1/4
spruce 1/16 x 1/4
Lindner wing as plotted in April '57 Aeromodeller
1/16 x 1/8 stab. spars taper to 1/16 sq.
light 1/16 sht. ribs
3/32 x 3/8
original stab 'foil
3 lams. 1/32 x 1/8
1/32 sht rib caps
28 1/2
1/32 sht plank.
Version #1
1 3/4
Left glide circle
1/16 alum wing tongue
3/8 wide
Fuselage front 5/8 bass core with 1/8 sht. bass planking
1/16 ply ribs with sheet fill between - top & bottom
Version #2
1
3 5/8
1 3/8
3° washout
Model #2 stab. position
24 1/2
Weights
Wings(ea.) #1 745gm.
#2 71.6
stab. #1 6.0
#2 7.2
fuse. #1 203.0
#2 266.6
ballast #1 52.0
#2 none
Total #1 410.0gm.
#2 417.0gm.
Tailboom - 1/8 sides - 3/16 top & bottom rounded
3/8 dia
1/2 dia
+2 1/2°
-1° in wind & light lift
1/32 L.E. shim in calm
both versions
1 1/2
4 3/4
27 #1
30 #2
5
C.G. 3 5/16 from L.E.
Towhook 2 3/4 from L.E.
Auto rudder & timer start pin
Wing (proj) 440.22 sq in
stab. 16.8% 74.0
Total 514.22 sq in
5
1 1/2
Dihedral plan
3/16 sht tips sanded to 5/32
ack vinyl electrical tape stiff
An A/2 Nordic Glider
by Bob Van Nest

To date we have found no undesirable qualities in this section and will doubtless stay with it in the all weather craft. #2 wing closely resembles the Lindner wing. The construction is more than strong enough and reasonably light. The #1 wing is a two top spar design with sheeted leading edge. Leading and trailing edges were made of laminations of 3" sheet balsa, cut to shape across the glue joints. We stayed on the conservative side and made the tip panels larger than is current practice. In tests so far, a trimmed model has shown a curious rolling tendency in the glide. It resembles a very light "dutch" roll, which may be the result of the tip panel length.

The stabilizer airfoil first chosen was also Lindner, but the section proved so powerful in this design, that trimmed for flight the stab was at such a negative angle as to cause flight time to suffer from the drag. A stabilizer with the airfoil shown in the 3-views seems to be the answer. A further improvement would be both spars on top, or three spars, as the first stabs showed a tendency to bow with the spar placement shown, although remaining warp free. The fin shown is smaller than used at the beginning of the tests. The models both showed a resistance to thermal, but since the fin has been reduced, both ships thermal fairly easily.

These models have had little actual contest flying, but it seems that they should do quite well with further and finer trimming.

(Ed note; Cusick's name and two wing dimensions were cut off the drawing. The dimensions are: 6" total chord and 2-5/8" from LE to ellipse max. point.)

HUNGARIANS POSSIBLY UNDERPOWERED

When a new FAI rule becomes law, rumors of first field results start buzzing fast. Take the new 10-second engine run in Power; as expected, first "official" word has been "allowed" to filter through a crack in the steel drape, in the form of a Hungarian announcement reprinted in MODEL AVIATION: quote: "Those interested in FAI Power might like to know that the Hungarians are doing 3:30:0 on a ten second engine run. ("What they need that extra 30 seconds for is beyond us...man, it's like you max or you don't; Mister In-between don't count!")

But before anybody stuffs that new FAI down the disposal, or uses that new Cox or K&B for a doorstop, we would like to release some Southern California figures. Some top power men out here have been 7:30:0 on a 9.8 second run, with a 200 yard drift from take off to touch down. (Which just proves you better stir that goulash one more time before you try swapping performance figures with a former Texan!)

This poor showing by our Hungarian friends could be due to any of several reasons: Maybe they're underpowered, or short-fusing, or, as a last resort, they could try one or two drops of 3-in-1 on the ole sliderule (a sure-fire answer to improved performance figures...under any rules!)

So come on now fellows, you'll just have to move this shell game to another corner...they may be gullible back at AMA H.Q. but when you start trying to put us down here in Consville L.A. you're out of your league.

Hey! just figured out what that extra 30 seconds is for. That's so if there is a sixth round flyoff they won't have to bother with longer fuses. Course, if some smart alec runs it into a seventh, well, there'll be nothing

for it but to hop the train back to ole Budapest and slide rule out some better thermals for next years "averages."

FROM THE NOTEPAD

***Bill Poesch is flying a real interesting new Wakefield at the Basin. The motor section and wing center panel are covered with thin sheet aluminum, supported with some clever internal structure. Asked him for 3-views and info. and we hope to publish soon. (This ship placed second in our local Elimins.)

***FAIers who want to order engines or other supplies from England can try a mail order firm which we've found reliable and speedy: called ARTHUR MULLETT, LTD., and is advertised in AERO MODELLER and MODEL AIRCRAFT.

***Discovered an excellent source for back issue model and full size airplane books and magazines. Has many copies of stuff like Flying Aces, Model Airplane News, Air Trails, Aero Modeller, Popular Aviation, Flight, etc., as well as purely technical hardback aero books and mags. Man to write is: JOHN CALER, Dept. S, V.C. Box 9494, North Hollywood, California.

***Chatting with George Honda at the Elimins. He's using some real clever and neat-looking ideas for fast and pretty Wake. fuselages. How about some sketches for the SCATTER, George?

***Current MODEL AVIATION has a photo of a Wankel-type engine which Floyd Neal of St. Louis has built and tested (radio ship). Have been watching this new engine theory developing through the sportscar mags...it is undergoing development for autos both here and in Germany...keep your eye on this fresh approach...we're convinced it holds a new way to screaming FAI power with a minimum of moving parts and a maximum of simplicity.

***Have the names of two FAI Indoor Team Members: JOE BILGRI, San Jose, (32:41) and CARL REDLIN (24:28:4). Good Luck men!...and remember, walk softly and carry a big hot plate!

***Our colorful new front page banner was designed by John Wordin, with additions by Craig Cusick, and that flashy red print job was provided by Mr. Tex Hamilton, whose North Hollywood Printing Co., in Burbank, is one of the best of its kind in L.A. Thanks, gentlemen, for a first rate job!

***If you want to relax after a tough Elimins and Semi-Final, (and live in Southern Cal.) here's a real treat: The Inglewood Flightmasters will hold their 12th annual Flying Scale meet (for FF & RC) the end of Aug. (Judging: Aug. 26th, Inglewood Rec. Center, 621 No. La Brea, and Flying: at the Basin, Sunday, Aug. 27th). This is one of the best collections of beautiful flying scales you'll ever see at one meet, and usually has more entries than the Nats! The man for detailed info. is NORMAN DEITCHMAN, 912 Sheldon St., El Segundo, Cal. EAstgate 2-1360.

***From the SKY SCRAPERS, Brooklyn, N.Y., we've received a petition they are sending to FAI groups to get a better setup for dates for the team selection meets. We think it's a good idea, and every FAI group of modellers should back this sound thinking. For info., write BOB HATSCHEK, 316 Grosvenor St., Douglaston 63, New York.

***Congratulations are in order for SCAT member John Wordin and wife Mary on their brand new daughter, Laura Mae. John is currently on a duty tour for Lockheed in Georgia, but hopes to be back in the fall. In the meantime, John, how about sending us some drawings and info from the land of fried chicken and hominy grits!

SOMETHING ON MODERN A/2 DESIGN

Recently a SCATTER reader, Bill Roseberry, Glendale, Arizone, sent the following:

"....have you watched the currently designed Nordics in their ability or inability to pick up a ground thermal? (I make reference to the fact that Nordics of the early 1950's could glide to within 5 or 6 feet of the ground and all at once pick up a thermal from ground action and regain all their altitude and make a max flight). In the current trend I fail to see this ability demonstrated. For myself, in 1954, I went to the thin airfoil sections and tried to squeeze 180 seconds from 164 feet; so far no luck. I threaten to go back to an airfoil used on the "Viking", but I wonder perhaps I am wrong. One hates to go backward to go forward." (Ed. note: VIKING plans published in AIR TRAILS, Sept. '53, airfoil was Odenman, Swedish-type).

We passed this request on to the SCAT membership and came up with the following comments: (If any readers would like to write Bill personally on this matter, his address is: 1707 East A Street, Glendale, Arizona.)

BILL HARTILL: Roseberry brings up a rather challenging subject. My first reaction was, is it really so? Roseberry seemed to feel that it might be due to the airfoil, but my experience has not lead to this conclusion. I have been using the Gottingen 342 for the past 7 years. By most standards, this is a "modern" thin Nordic section. Performance with high aspect ratio (20:1) approaches 180 seconds. With lower aspect ratio (12:1) 150 seconds. Performance near the ground is quite good and ships using this section fight for every last second.

I think the airfoil section is important, but not as much as a good reserve of longitudinal stability. Many "modern" Nordics feature long tail moments and small stabs. Under steady conditions this is usually adequate; near the ground, though, this set-up may not have enough control. The longer the tail moment, the less the down wash effect. This reduces both effective decalage and stability because the CG has to move back. I think the answer is to stay away from too long a tail moment and too small a stab. Keep the CG forward (55% or there abouts) and keep the back end light. Many so-called "modern" Nordics are notorious for too heavy a rear fuselage and stab. A 20% stab can be built for 1/4 ounce. Think twice before using spruce longerons. do you really need all that stab platform?. etc. Another trick is to keep the rudder and fin area down. This allows the ship to do Immleman turns, pivoting around quickly in a gust rather than plunging on down on a set trajectory.

Roseberry's example of a good ground effect Nordic, the "Viking", had an "Oderman" (Swedish) 9.3% airfoil, lumpy in front with undercamber at the rear. Tail moment was 5X wing cord (center to center), stab 18% and CG 60%. This sort of refutes my theory except for the fact that still air duration for this model was only 4 minutes from 328 ft. line. The lower the overall performance of a model is, the less critical it will become in gusts, mainly due to the longitudinal stability problem. This example, with the thicker wing and box fuselage, flew slower than the new Nordics. If it stalled in a gust, it recovered flying seed faster because its flying speed was less. On the other hand, with an extra reserve of longitudinal stability, you can fight the stall longer.

CRAIG CUSICK: I hadn't noticed any great ability of early '50's Nordic designs to hold and max from a ground riser start. I think in general CG positions were farther forward then and ships flew slower and maybe circled slightly tighter. I wouldn't abondon thin airfoils, but for all weather work it may be better to stay away from airfoils with excessive T.E. droop or flap. A thought might be a fin or thin "snoot" nose...known to be of some help in holding a circle in a thermal, and maybe swept wing tips (L.E. only is really necessary). At best an all-weather ship is a series of compromises.

I intend to try my hand at designing a 3:00 calm air model, just as a side program. I haven't witnessed a consistant ship in this category.

To sum up, here's some designing thoughts to keep in mind, which Bob Van Nest and myself have found useful in our current A/2 "program": 1) stick with thin airfoils, but not droop TE type, 2) might use 3 or 4 cord tail moment with small nose fin or "snoot" shape, 3) don't use too large a rudder, 4) try CG at 55 to 58% for all weather flying, 5) keep extremities light.

MOZAGOTL, FAI Power Model, by Werner Petri

When we first saw Mozagotl, we thought it was the goofyist approach to an FAI design we'd seen in a long time. After we'd seen it fly, and heard the design's history, we knew it should be published. So, go ahead and check that airfoil, those proportions, and all the other unusual features...then have your laugh...and then, listen to this: This ship has been consistantly successful out here in the toughest Southern California-type competition for several years. It was nosed out of a tie fly-off in FAI at the '59 Nats. In '60 it gave a very good accounting of itself at the Semi-Finals at Fresno, and a 1/2 A version literally mopped up the field thoughout the '60 season here at the Basin (and in Southern California, in case you don't know, a "season" is two or three contests per month for twelve months!)

We're sorry more construction details aren't available right now, but if any readers want more information they can write the Editor and we'll pass it on to Werner. Overall construction is quite simple, however, and most interesting details have been called out on the drawing.

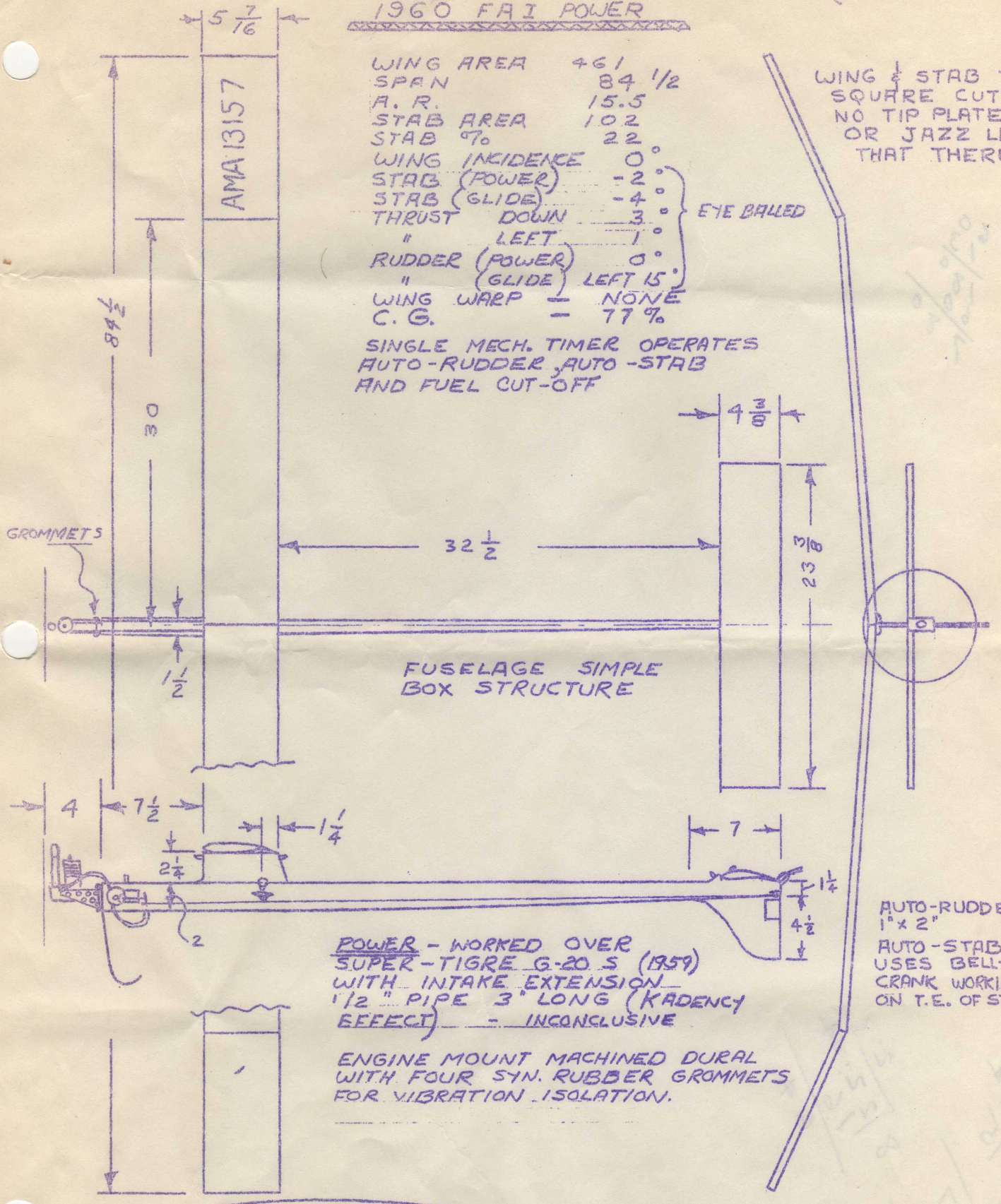
SCAT ANNUAL DINNER

The first annual SCAT dinner, held April 9th blasted off with many steins of light and dark at the Old Heidelberg in Van Nuys, closely followed by a massive German meal. Full decorum was maintained with only a few rowdy exceptions: such as Craig Cusick's continual insistance that his companian was so his wife!..and John and Mary Wordin learning the words to "Dixie" (for their Georgia migration) to the accompaniment of empty steins gently slammed together.

After this mild havoc, the merry makers adjourned to the soothing gloom of the Tahitian Bar and tried to create a mild shortage of rum in the LA metropolitan area...during the third round Bill Krecek loudly proclaimed himself direct decendant of King Kamehameha, and demanded the sacrifice of a maiden...meanwhile, out in the parking lot, Bob Wiehle won the parking attendent's admiration by power sliding his Studebaker (currently operating without a reverse gear) into a tiny area just vacated by a Morris Minor. He explained he'd mastered this trick while perfecting his famous A/2 towing technique, the "Wiehle Wander", Southern California's answer to the "Ritz Turn"...Bob Van Nest and Jim Patterson were seen deeply engrossed with the bartender attempting to mix a new Oliver Tiger formula based on the right ratio of ether, castor

MOZAGOTL
WERNER PETRI'S
1960 FAI POWER

(LOS ANGELES CALIF.)



WING AREA	461	
SPAN	84 1/2	
A. R.	15.5	
STAB AREA	102	
STAB %	22	
WING INCIDENCE	0°	
STAB (POWER)	-2°	EYE BALLED
STAB (GLIDE)	-4°	EYE BALLED
THRUST DOWN	3°	EYE BALLED
" LEFT	1°	EYE BALLED
RUDDER (POWER)	0°	EYE BALLED
" (GLIDE)	LEFT 15°	EYE BALLED
WING WARP	— NONE	
C. G.	— 77 %	

WING & STAB TIPS SQUARE CUT — NO TIP PLATES OR JAZZ LIKE THAT THERE

SINGLE MECH. TIMER OPERATES AUTO-RUDDER, AUTO-STAB AND FUEL CUT-OFF

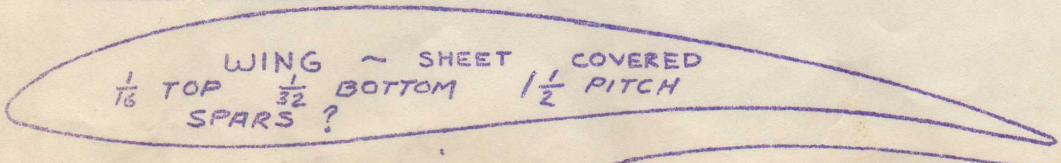
FUSELAGE SIMPLE BOX STRUCTURE

AUTO-RUDDER 1" x 2"

AUTO-STAB USES BELL-CRANK WORKING ON T.E. OF STAB

POWER - WORKED OVER SUPER-TIGRE G-20 S (1959) WITH INTAKE EXTENSION 1/2" PIPE 3" LONG (KADENCY EFFECT) - INCONCLUSIVE

ENGINE MOUNT MACHINED DURAL WITH FOUR SYN. RUBBER GROMMETS FOR VIBRATION ISOLATION.



EIFFEL 400
TRACED FROM TIPS



and Jamaica light and dark. Results are not yet available, but as soon as Bob and Jim DT we'll ask them. As we pulled away around two AM, Bill Hartill was ordering yet another serving of stewed chicken hors doeuvres (he insisted it matched the mood of the evening).

A tip to other clubs: Try this type of outing...more fun for the wives, girlfriends, etc. (?) than contests or flying sessions...works wonders for their moral...try it and see!

L.A. ELIMINS RESULTS

Wakefield	Total Sec.	Power	Total Sec.	Nordic	Total Sec.
H. Shields	853	B. Miller	861	J. Scarborough	763
B. Poesch	824	C. Cusick (SCAT)	825	J. Salatnay	690
F. Newquist	818	G. McCasin	784	M. Harker (SCAT)	687
A. Faykun	803	J. Trego (SCAT)	769	V. Cunningham, Jr.	686
B. Wiehle (SCAT)	770	V. Cunningham, Jr.	726		
M. Harker (SCAT)	769				
J. Patterson (SCAT)	755				

WESTERN SEMI-FINALS by Don Hutchinson

The Western Semi-Finals were held the 17th and 18th of June near Fresno, California. The weather was hot, 100° plus, winds light to medium, combined with the usual Fresno thermals and downdrafts to produce some of the closest competition ever seen for the three European trips.

Wakefield was topped by SCAT member Jim Patterson of Van Nuys, California, who on his last two flights held the fully wound model as much as a full minute waiting for a thermal. (The Fresno thermals are easily discerned as they resemble a small scale tornado when passing through.)

Nordic was a real thriller as L. Lortz from Tacoma, Washington nosed out Bob Wiehle of SCAT by two seconds in the last round to win.

Power was won by C. Sheldon of San Jose, California, flying the only non-pressurized model in the meet. Close behind were S. Belcher and Vic Cunningham, Jr. who set a new senior record in FAI power.

Wakefield		Nordic		Power	
J. Patterson (SCAT)	22:44	L. Lortz	20:03	C. Sheldon	22:29
M. Andrade	22:05	B. Wiehle(SCAT)	20:01	S. Belcher	21:51
B. Wiehle (SCAT)	21:52	J. Scarborough	19:08	V. Cunnyngham,Jr.	21:48
J. Lenderman	21:52	H. Steinmetz	18:52	E. Miller	18:26
R. Dexter	21:25	P. Kaitukoff	18:12	A. Vela	17;20
H. Shields	18:39	W. Langenberg	17:05	C. Coltran	17:08
M. Harker (SCAT)	17:40	M. Harker (SCAT)	16:56	C. Cusick(SCAT)	16:48
J. Bilgri	17:12	B. Romak	15:53	F. Hover	16:08

COMING NEXT MONTH

Next month we've gathered up some more goodies for you. Among them: Bob Hatschek ('59 second in Wakefield fly-off) will show us a neat layout method for props from standard size blanks; Bob Wiehle ('59 Nordic Team) will show us his A/2; Dick Colonna will show us an interesting new TE technique for Nordics; and other assorted stuff.