THE

SCATTER

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NEWS FROM THE FANS: Mike Woodhouse - Norfolk, England

Poor Mike has an address that is apparently incompatable with the Anglo-American postal service. As I look over the mail Wordin passes along, the drama unfolds and you can see the frustration building up. First an envelope for a "SCATTER" returned marked "Unknown in Norwich". Then a letter from Mike as follows: "What the hell is going on! As yet I've received NO copies of "SCATTER". A friend of mine has received Jan, Feb, and March...." Then a note from John saying we have sent all the back issues. Well, Mike, I hope we finally got things straightened out. There just has to be a way to get these things to you. Let's hope we are not faced with the problems of some people in Los Angeles, who, because of the freeway complexity, can't get here from there.

C. BURGER AMSTELVEEN, HOLLAND

Burger describes himself as follows:

> "Married, 3 children, 39 years old, works as a quality inspector at the Fokker aircraft factory (building the Friendship)".

Burger flies mainly Wakefields with considerable effect, and flies ships such as the XL-58 (Radoslav Cizek) and his own designs.

Team selection trials were held 15 and 16 June. Weather was good with light winds and small thermals. Burger tried the thermal waiting technique and apparently likes the results. Ten flights were made over the two days and Burger made the team with 1124 secs, with the other two team members, Homer and Ouden making 1620 secs and 1514 secs. Burger used a "Super Thunderbird" (SCATTER Oct. 61) and would like to know of the Editor's experience with this ship.

Well the main ideas I have gotten from this ship is that, first, the original prop is no good. Unfortunately I have not built a new prop for it yet. Have used 14 rather than 12 strands which works better, although a higher pitched prop of say about 26" pitch would be the next step. My convictions are such that I intend to stick to this design for 64!. Another

Keep up the good work with the "SCATTER" - it's appreciated."

It looks like Al is going to get some building done but not much test flying.

FRANK PARMENTER, Friendswood, Texas

Frank has moved from Hampton, Virginia, and reports in as follows:

"There were about 6 or 8 active modellers who came here with NASA from Langley including Fred Pearce, Dick Colonna, Don Andrews, Warren Gillespie, Frank Littleton, and myself. There wasn't a whole lot of F.F. activity when we got here but there were 3 or 4 local fellows who got things started and now have formed the Houston D-T Free Flite Club. It looks like we might have a pretty good gang. In general flying conditions are lousy as it's usually windy and hot in this area. Test flying is usually done at 5 AM till wind gets unmerciful usually around 9 AM. Accasionally we get a calm day all day long but it's unusual - and hot!"

Say Frank, the way NASA is infiltrated with model builders I would think you could have set up that Space Center somewhere with better weather. Who goofed? Well come on you guys, shape up. Urge Pearce to send us some of that long hair stuff of his, and I know the rest of you have ideas the rest of us could use also.

FRANK HEEB - Xenia, Ohio

Frank passes along some tips on rubber motors:

"Enclosed are some rubber motor data that I have used for several years. This is old (April 1954 by Ron Warring in Model Aircraft) and is presented around the old Wakefield rules, 2-5/8 oz. motor, plus a little extrapolation for unlimited motors. The "max turns per inch" chart has proved reliable to me and is a place to start if you have nothing better. And I have seen no later data in any publications since:

BRAND	CROSS SECTION	SECTION AREA	OZ./IN.^{3}	LENGTH 1/2 5/8 OZ	
DUNLOP	1/4 x 1/24	.0104	.56	37' 8"	
"	3/16 x 1/24	.0079	"	49' 6"	
PIRELLI	1/4 x 1/24	.0109	"	35' 9"	
"	3/16 x 1/24	.0074	"	54' 0"	

improvement slated is the use of a "Montreal Prop Stop". One peculiarity noticed with the trim was a sensitivity to side thrust adjustments. I find it difficult to kill a power stall by adding right thrust. Flat turns with no climb appear with only a tiny change in thrust angle.

ED HOPPER - A-2 USA '63 TEAM, Baltimore, Maryland

Ed wrote way back on July 15, sent a picture and news of a letter from V'acliv Horcicka of Wien, Austria. The letter described the team selection trials in Austria.

Quote: "Mid June we had our eliminators. Every modeler had to have 3 models and was allowed to enter only one event. Two flights had to be made on each model. A total of 15 flights had to be made in one day. Rounds were 30 minutes which in connection with strong wind made elims very exhausting. I took part in power, came in second but will not be taking part in World Championships as I will not get an FAI license. So I ll be a spectator this time. Wagner, who is my club mate, made the team in rubber. Mensburger, another club-mate, missed A-2 team by a few seconds only. Another friend, Koller, made A2 team. His best ship flew away last Sunday so he is busy glueing together another one!" Unquote.

Ed Hopper says: "How do you like them apples?--Man they go hard at it. I don't think I'd like being restricted to only one event tho--do you?" No, Ed, not us either.

Ed goes on to quote V'aclav that they use white or yellow on top of their flying surfaces in an attempt to reduce heat absorption and subsequent warping in the sun.

Out here in the west no matter what color we start out with it usually ends up a bleached white because of the intense sunlight.

A.F. STANLEY - Marblemount, Washington

A.F. wants to know what happened to the sketch of a one-man rubber winding rig he sent us. Well, I figured that was a fair question so I looked through the "SCATTER" archives and now there are a couple of us who don't know what happened to it. Please forgive us for losing track of it. Hope you can see fit to sketch it up again because now you have all our readers interested. I know that most Wakefield fliers sooner or later end up with some sort of winding rig so it would seem like a good idea to take a look at how this kind of contraption should be engineered.

ENSIGN AL LIDBERG - USS Klondike, c/o Fleet Post Office S.F.

"Here's $2.00 for the "SCATTER" but I don't know about sending material. We (the ship) leave the States on 17 July for 6 months or so, so I don't know if I'll get to do any flying or not. I am taking along the models I have plus a large load of materials so perhaps I can get something done.

"I always break in motors slowly by winding to 40%, then increasing by 10% increments to 90%, then 95%, then 100%. I wait one day between windings. At a contest I shoot for 90% and never try to exceed this unless the motor "feels right" or if I really need this extra power with the increased risk of breakage. Usually 1 or 2 strands will break first which is warning enough. I tried Hatshek's stretch method and ruined 4 motors, but it may have been my fault since I didn't measure and time exactly as he recommended."

Well Frank, thanks for the dope. This should be of use for converting to 50 gram motors although current Pirelli strip may vary in cross section from that listed in the table. Naturally Frank doesn't guarantee results but as he says, this is a good starting point.

We in the SCAT club disagree with Frank about the stretch method of breaking in. We think it works great. Although the technique described by Hatschek should be followed rather closely for best results. We have been using our cars for stretching out the motors. One benefit is that there is less tendency to "chicken out". Just make sure your brakes are in good order.

Frank also points out that once in awhile we leave out important dimensions and angles on our 3 views. For example Craig Cusicks MK III Saturn in the Dec. '62 "SCATTER". Craig tells me that through an oversight the following was left off the plans.

Saturn MK III

C.G. = 73%

Stab = +2°

Wing = + 5°

No down thrust

No side thrust

It looks like your feeble editor is getting sloppy. Craig does almost all the drawings and must rely on the editor for proof reading. In the future we will take more pains to eliminate these bugs. We feel a bit sad when an issue gets out with a boo-boo in it because we know how frustrating it is to the reader to be lacking a key piece of design data.

JOHN EASTON, Toronto, Canada

John has thrown us into a state of panic. Seems that the famed Dallimer film and tape have disappeared. It now appears that SCAT is responsible. We enjoyed them immensely and viewed them several times. Jim Trego had the tape and film copied and had the originals sent on to Canada. However, in checking, he can not be certain that his orders were carried out. Jim is now trying to track down the missing items. Jim and SCAT apologize for goofing on this and hope that we can get the show on the road again and make some future restitution to those who have been deprived.

No of Strands	8	10	12	14	16	18	20	22	24	26
MAKE UP LENGTH FOR 2 3/4 OZ. WITH LUBE										
1/4 Du.			37 1/2	32	28 1/4					
3/16 Du.					37 1/2	33	30	27	24 1/2	
1/4 Pi			36	31	27					
3/16 Pi					40 1/2	36	32	29 1/2	27	
RUN-IN MOTOR LENGTH										
1/4 Du.			42	36 1/2	32					
3/16 Du.					42	37	33 1/2	30 1/2	27 1/2	
1/4 Pi.			39	34 1/2	30					
3/16 Pi.					45	40	35 1/2	32 1/2	30	
MAX TURNS PER INCH										
1/4 Du.	31	26	25	22 1/2	20	17 1/2				
3/16 Du.	36	32	31	30	26	23	21	20	18	
1/4 Pi.	31	28	27	24	21	18 1/2				
3/16 Pi.	36	32	31	30	28	26	25	22	20	19
MAX. TURNS PER 2 5/8 OZ. MOTOR										
1/4 Du.			940	720	565					
3/16 Du.					970	760	630	540	440	
1/4 Pi.			970	740	565					
3/16 Pi.					1250	1000	800	650	540	

"OLD"

STILL VALID

"OLD"

	1/8 x 1/30	3/16 x 1/30	3/16 x 1/24	1/4 x 1/30	1/4 x 1/24
OZ. / INCH	.0023	.0035	.0039	.0046	.0058
OZ. / FOOT	.0278	.0459	.0520	.0556	.0695
FEET / POUND	576	384	306	288	230

Du. = DUNLOP

Pi. = PIRELLI

CAUTION! SCATTER NOT HELD RESPONSIBLE FOR ACCURACY OF THIS DATA. BE CAREFUL HOW YOU USE IT.

Birger's comments refer to the fact that we have already published plans of one of his FAI power ships, so he has fulfilled one of the subscription requirements. Right you are, but the readers liked that one so much you must send us more. ("Django" 1961 Norwegian team January 1962 issue.)

JOHN WOODS, Mountain View, California

John is one of Canada's top Wakefield men, recently moved to Calif. for post-graduate work. Glad to have you with us and hope you can get the hang of our outlandish thermals.

VICTOR MACIAS, University Park, New Mexico

> "In case I am paid up, have a beer or two on me, and if I'm not, have a beer anyway. I went to the Nats and enjoyed myself as a tourist. Flew in combat only and got as far as the third round. Some place that L.A. area! Of most interest was the fascinating number of women out that way (ratio up here is about 9 males to one gal, real bad scene!)"

Thanks Vic, I guess John got the money and the beer. And as for the women, you college kids are supposed to be studying.

RON FIRTH, Sheffield, England

Ron sent us the complete results from Wiener Neustadt on the back of a post card! Many thanks, Ron, we got several reports from other informants also for which we are grateful. Ron is the versatile chairman of the Northern Area Committee of the SMAE which publishes the Anglicized version of the SCATTER in England. One dollar sent to Ron Firth at 30 Struan Road, Sheffield 7, England, will get you the "Northern Area News" which gives you such brilliant break-throughs in the almost extinct art of cognomination as Brian Manners', "The Tree Pig".

Oh yes, Ron, where the hell is my August issue?

PAT CURTIS, Cape Town, South Africa

I think we have finally gotten through to Pat and he has gotten a few issues of this epic work. Pat is up to here in Wakefields right now and says the following:

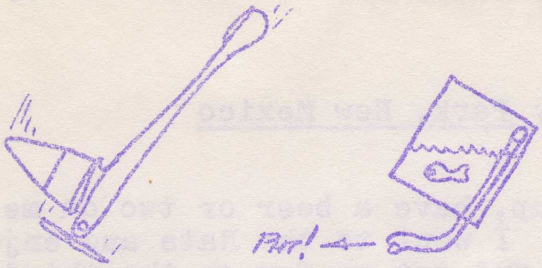
> "I am still working on that Wakefield I wrote to you about and as soon as I am satisfied with it's performance I will send the plans. I still have a few bugs to work out. Times it has done up to date are as follows:

Western Province Champs	3 rd place	769 sec.
Postal contest with Chile	3rd place	938 sec.
Open rubber using Wakefield	3rd place	736 sec.

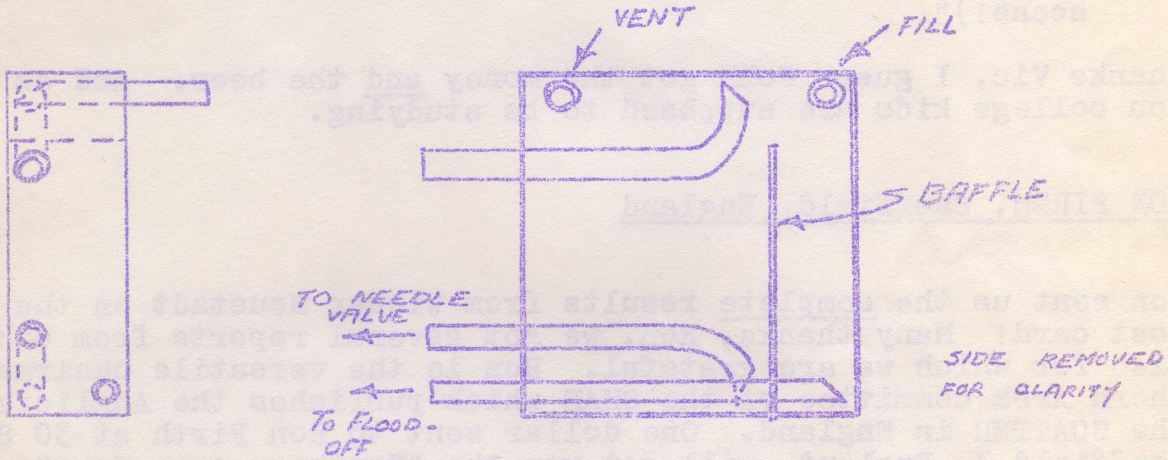
ED SCHNAKENBURG, Manhatten Beach, Calif.

Ed sent some remarks and sketch of an idea that some of you FAI power types might be interested in.

Ed says: "Have you ever seen a power ship at 100 ft. headed straight down--the engine ready to cut; and that's the time the flood-off didn't work! (Ed. yes) Maybe that's not coincidence. In a dive, as soon as the speed stabilizes the fuel is in the front of the tank like this:



And when the flood-off is actuated all you do is squirt air. This can be avoided by using a baffle in the tank like so.



This tank is being used for an .09 and provides adequate volume. (1/4 x 3/8 x 1) "

Thanks Ed, glad I don't need anything like this! One suggestion when using a tank like this one. Make sure its full before each flight.

BIRGER BALUKIN, Oslo, Norway

" "I hereby declare myself guilt free, and I also hope to receive SCATTER in the future. Have started to wonder about a laminar flow type airfoil (very moderate) with sheeted top, question is if the glide will become too fast and how about stall characteristics? Would like to know if anyone has done any experimenting in this direction on FAI power models? (ED: Not that we know of.)

Our power team at Wiener Neustadt was quite potent this year but Dame Fortune wasn't too kind, the worst being 15 year old Rune Bekkelunds 4th round when the fuse rubber band broke in the launch: 4 max--720 secs."

Here are excerpts from the newsletter:

"It is difficult to decide where to begin a concise narative of the three days flying but a description of the airfield itself would probably be in order. Situated on one edge of the town, it was surrounded on two sides by forested hills, and the ground was very stony, supporting a half inch growth of grass and fifty grasshoppers to the square yard. Its size was such that even in average British contest weather, most people would be content to fly from the middle! The only concrete road was along one edge, but the surface of the field was such as to allow any vehicle to drive about at random (a point too ably demonstrated by the Austrian Army who were involved in the administration).

The competitors were accomodated in the impressive buildings of the military academy. The town was a mixture of old and new buildings, its fringes showing the ravages of British bombing (the 20th anniversary of which was celebrated by the inhabitants during our visit) and Russian demolition.

The weather for the first two days was warm with light winds but the sky was frequently filled with clouds. For the last day however it became cooler and less bright with a moderate wind, which rose almost to gale force for a two hour spell in the afternoon.

The A2 event did not impress greatly, there being nothing spectacular in the way of models (though there were some very neat designs), only the winning West German achieved a perfect score with an all sheet model, the Canadian Avery was second some 14 secs behind.

Power was as usual a more absorbing event for the spectator. Standards were high, scores passing the 800 second mark to nearly half way down t the list. By the fourth round British hopes were pinned on George French, however, despite a tense waiting for the right air he dropped a few seconds in the last round, though his model and those of the other team members appeared to outclimb the majority of the opposition. Hungary and Italy shared the team prize with Britain a mere 20 secs behind.

The Wakefield event brought fourth some staggering "power type" climbs with runs in the region of 20 secs from some quarters, with long paddling climbs from others. Most impressive models both for performance and construction were those of the Italians, followed by the Hungarians and the Russians. The strong afternoon winds spoiled many competitors hopes, however when a shower had suppressed the wind to almost calm conditions there were four to go into the fly-off in very poor light. This fly-off went to three rounds and was eventually won by an East German followed by a Swede, an Italian, and an Austrian."

Thanks very much to Barry and to S. Bowles who wrote the report. We hope our East Anglian friends don't mind our reprint.

CARL HERMES, 1963 USA Wakefield Team

Carl wrote up an excellent report on his observations at the finals and even had Nora type it up on ditto masters for us. That is real service. Carl comments as follows:

During the postal contest with Chile I changed rubber from Pirelli to Dunlop on my 2nd flight and the difference was phenomenol, and this was on old Dunlop, 12 strands wound to 500 turns. I am now sending for another batch of Dunlop and will let you know what happens."

Anybody else willing to make any comments on Dunlop?

BOB NORTON, Tempe, Arizona

"I have been moved to action by seeing my name appear in SCATTER (however dubious the circumstances) so I am writing about a couple of things.

First a jig for help in building wing panels. I use a piece of 3/4 plywood 20 X 38. Down the center, I glue and nail a strip of 3/16 X 3/8 spruce over a piece of 1/16 X 3/16 spruce forming a channel to receive the trailing edge stock. In most cases it obviates the use of pins to hold the trailing edge in place.



Now, I would like to ask a question. On the surface, I suppose it sounds pretty simple minded, but anyway---what criterion are used to select a stabilizer section to go with a particular wing section? I know some of the "formula" answers (in the case of Nordics)-- 8% flat bottom or same section only thinned. This works fairly well in practice, but it doesn't explain why. I notice, for instance, that Wiehle uses a Go 495 with a B-6557-b and also a Lindner section. These sections are not really that similar so you kinda wonder what logic is involved. I hope that I've explained what it is that I really want to know. Anyway, I would appreciate any comments that anyone might have in clearing this up for me."

Thanks, Bob, that TE jig looks simple and convenient. As for stab airfoils, John Wordin has written you a nice long reply on his analytical technique. We hope to go over this in a future issue and drag out everyone's thoughts on this.

BARRY HALFORD, Norfolk, England

Barry is the PRO and Editor of the East Anglian Area of the SMAE Newsletter. He attended the finals in Austria and reports as follows:

"It was very difficult to tell who the actual winners were (except for the well known names of course) as everything was announced in German only. On the last day a protest was made by the British team manager and we did in fact get everything in German and English but still no French. I enclose a copy of our latest newsletter which contains a report of the champs which I trust will be of some interest."

The glider team put a lot of effort into their work but unfortunately they could not always find the lift when they needed it. Norm Ingersoll's glider was considered by most of the experts on the field to be one of the finest in the competition. Unfortunately a bad launch on the second round resulted in his line dropping off the model, and on his second attempt a loose auto rudder pin dropped out, ruining his tow. As I recall, Norm and the winner were the only two to make a maximum flight in the last round. The air during this round was extremely still and almost dead, in the true sense of the word. Norm waited a good ten minutes before starting his tow and then sensing something, released into the barest of lift. The ship used every bit of it and managed to do 3:10.

Wakefield Day started out like all the others - clear with small cumulus clouds and a mild breeze. Hermes and Kneeland each started off with a maximum but unfortunately Sal Canizzo had something catastrophic happen on his first launching which I am sure he has seen many times since during the wee hours of the morning. We never did figure out what happened, but the model dove into the left in about half a turn and broke up rather badly. He used his second model for the other attempt but was just not destined to make it on the first round. On the second round, Hermes hit a classic down draft for a classic minute and a half flight. Dave Kneeland continued to outclimb everyone else on the field for another maximum, and Sal got his stuff going to make the 3 minutes. After lunch, an extremely strong wind about 20-25 miles an hour came up. Sal flew first but went out of sight in less than 3 minutes. Kneeland and Hermes moved as far up wind of the timer as they could get away with and managed to stay in sight for the maximums. I remember we were flying in an old churchyard with the church itself affording protection from the wind close to the ground. On the fourth round, Hermes power stalled toward the end of the run and came down rather abruptly. Kneeland's rear plug came unstuck about half-way through the run and he lost quite a few turns. Both flights were made in very bad air, and it is highly unlikely that either one would have been a maximum even without these difficulties. The final round was flown in a light rain and provided a rather dismal end to the whole proceedings.

I haven't figured out yet just what we did wrong, except we all came away with the feeling that if we could have had another crack at it the next day, we could have won the contest hands down.

HIGHLIGHTS

The timing situation was excellent. Two timers were assigned to each country at the beginning of the meet and stayed with them for the duration of the contest. We were very fortunate in having Laszlo Szucs, the prominent Hungarian glider flier, as our chief timer. He and his assistant called the shots as they saw them and none of the team members had any of the usual complaints about poor timing. At the end of the contest we outfitted Laszlo with one of the cherished American AMA caps, Tatone timers, American cement, and as many decals as we had left. We noted that none of the European timers can match the quality of Tatone's product and as a result, these were in great demand. Also, good Japanese tissue is very scarce so we gave away all we had left over. Suave Paolo was particularly appreciative.

REPORT OF THE 1963 WORLD CHAMPIONSHIPS

The Championships were held at Wiener-Neustadt, which is a little town of 40,000 people located 30 miles south of Vienna. The climate in this part of Austria during August is very similar to that of Central California with the exception that the humidity is 10-20% higher. There is little rainfall during this time of the year with the result that the terrain, although essentially green, has a parched, dried look. While the temperature is fairly high, the sun appeared to be of lesser intensity than that to which we are accustomed in the west. This resulted in less violent thermal activity although the characteristics appeared to be somewhat similar to those found at Fresno. In general, however, we found the Austrian air to contain the usual ups and downs but because of the milder, vertical velocities, it was not as easy to sense what was going on at any particular moment. Certain things happened that we did not understand, such as in the period of dead calm just prior to the air movement, there seemed to be a large bubble of rising air similar to the California "dew" thermal. In some cases the first gust marked the appearance of the down draft rather than the lift.

The field itself was perhaps the finest free flight field in the world, being over two miles on a side and absolutely flat with close-cut grass. The facilities provided by the Austrian Aero Club were excellent, and it was obvious that months of planning had gone into preparing for this meet.

The Power event turned out to be a battle between those who had the most powerful engines. Doug Galbreath checked the RPM of every engine on the field that sounded good. While there were quite a few that were equal to his Super Tigres, there were none that were doing much better. This was quite evident as Doug's climb equaled anything on the field. Jim Warnock and Frank Spearman did a very commendable job of flying. Spearman's high aspect ratio had the best glide of any one on the field but unfortunately he could not get high enough to catch the stronger lift. The team was forced to mix some fuel made up of ingredients borrowed from the German team and purchased in the Wiener-Neustadt drug store. The fuel was shipped from America weeks before the contest and has never been heard of since. The fly-off was made in very still evening air and it was apparent that Galbreath and Frigyes were quite evenly matched. Their ships were making about the same times during the first two fly-off rounds. On the deciding flight, Doug decided to change his propellor because of a nicked blade. The replacement prop apparently was slightly out of balance causing his timer to run for slightly over 3 seconds. This, plus a slight stall in the glide probably due to the evening dampness, whipped him. Doug was very crushed by his "defeat" but took it very gracefully. It should be said that his personal charm and utter sincerity made him one of the best ambassadors that the United States could possibly have. By the end of the contest, everyone on the field knew him or had heard of him. The day he arrived he announced quite frankly that he was going to win the Power event and from the ovation he received at the closing banquet, one would think that he had.

ZOMBIE A-2 NORDIC, by John Wordin

"Two versions of a high aspect ratio nordic were designed, one for still air and one for thermal weather, Zombie I and Zombie II respectively. The modifications between the two are shown in the drawings with the principle difference being moment arm length. The reasons for building such a high aspect ratio wing on Zombie-I was to check the type of stressed skin box beam wing structure used on the Pendent II on a longer span. The second reason was to perform some experiments in the early morning to check the still air performance of a high aspect ratio model. Flights of 2:30 were not hard to achieve. The rare flight of 2:45 was usually a long fast run (no wind around to help), a release and then a jump out of the way to avoid getting tangled in the tow line as it snarled up under the released point.

An experiment that was tried on the early morning version was a Hacklinger type turbulator in front of the wing. This replaced the usual turbulator on the surface just aft of the leading edge. The turbulator in front of the wing did not noticably improve the glide or performance and made the model nearly impossible to tow. It seemed that one wing would lift more than the other resulting in a divergent tow path.

Zombie II

The Zombie II, a glider designed for thermal conditions, was not a good performing machine because of the extremely small stabilizer with a short moment arm. The small stab with sweep and short moment arm provided little damping to stop dynamic oscillations. Once the model was upset it would continue to oscillate without regaining smooth level flight. It was however an interesting experiment well worth the effort and has pointed the way to the design of the next glider.

Wing

The main wing structure is a stressed skin box beam, the box consisting of the 2 spars, a sheet upper surface and the bottom surface covered with a layer of silk and a layer of jap tissue, with the tissue applied last.

By careful selection of wood, the weight per wing panel came out less than the Pendent.

Zombie I	65 gm	weight/panel
Pendent II	78 gm	" "

There was no evidence of flutter nor was there any wing breakage while the model was on tow in a stiff wind. The wing proved quite rugged in general.

As for construction, root and tip rib templets are made, oversize balsa strips stacked between and carved to shape as illustrated in Model Glider Design. Four root ribs are plywood because they receive the wing tongue. Ply ribs are made by First, cutting oversize strips, second, plotting the rib shape on one strip, third, spot glue the strips together and fourth, cutting all ribs

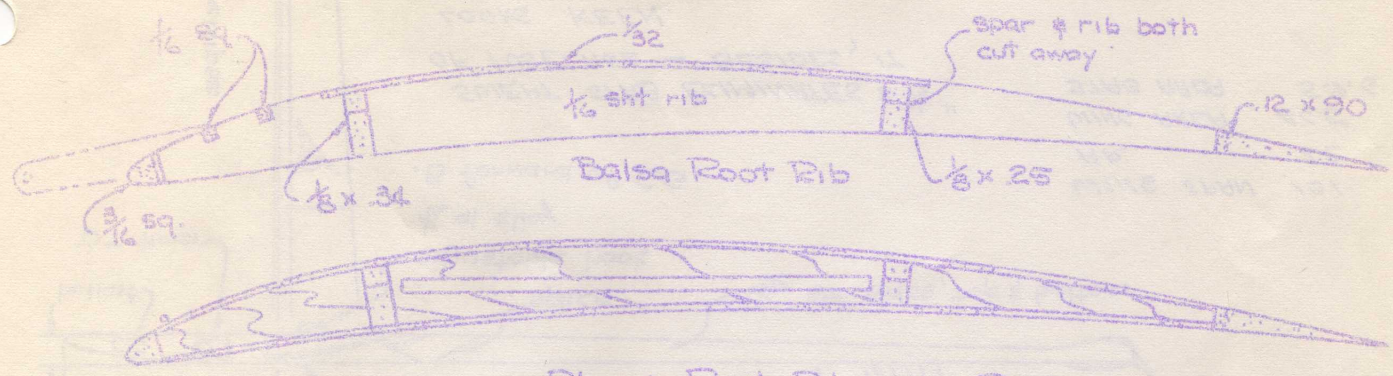
Dave Kneeland's Thermal Detector generated quite a bit of interest. Unfortunately we never did get the operation organized to the point where it could be used to advantage. The device is essentially a differential temperature sensor that is carried aloft by a hydrogen filled weather balloon. Changes in temperature are transmitted down the wire to a recorder. All of this is located several hundred yards upwind and information is then transmitted by walkie-talkie to the launch site. During the afternoons, the wind was blowing the balloon down, so Dave stayed up all one night to build a box kite. Art Frost was deposited along with all the equipment at the upwind site on Wakefield Day, but the communication link was never properly established. To make it worse, the American team ran off and left Art stranded until somebody remembered that he was out there.

Transportation was plentiful. Jerry Ritz rented a Volkswagen bus that was used to carry most of the team around, and also the hydrogen bottle. In addition, we had a Taurus station wagon and a small Volkswagen. Shirley Ingersoll, Diane Wentzel, Joan Galbreath and Norma Reames met their husbands at the contest. In addition to providing moral support, they also obtained the only photographic record of the event.

There was nothing outstandingly different in model design. The difference in performance between most of the models was fairly small and it was the finer points of trimming and over-all consistency that really paid off. High thrust power models were in the minority. Most used a relatively low pylon and with quite a bit of down thrust. Wakefields were of the moderately long fuselage variety (about 45 inches) and used a 40-45 second power run. Quite a few balsa gliders were noticed using the Jedelsky type wing.

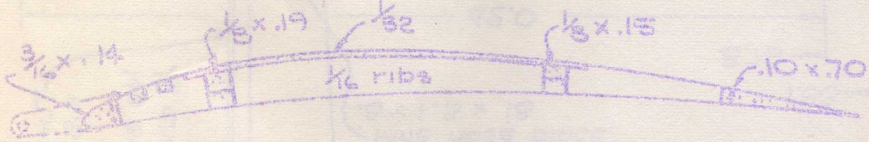


WING AIRFOIL NACA 6406

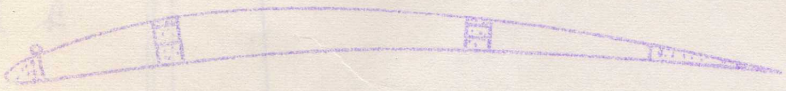


Plywd. Root Rib

Root chord 6.60



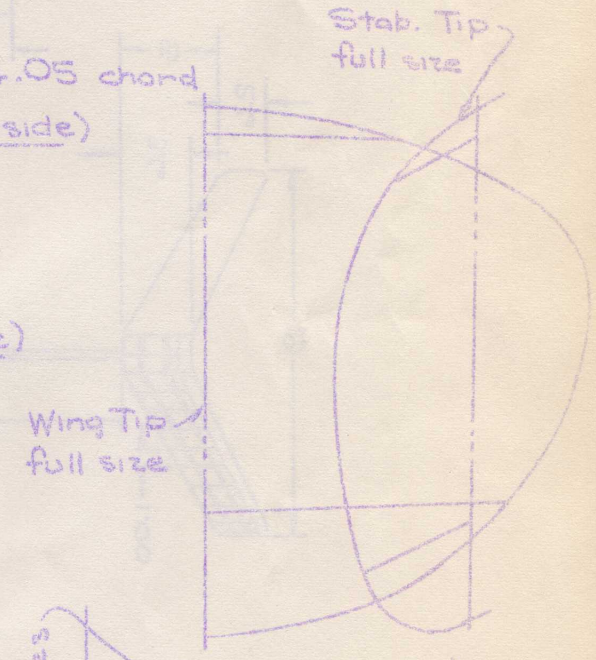
Dihedral Rib (Inboard side)



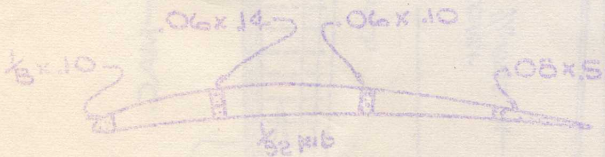
Dihedral Rib (Tip side)

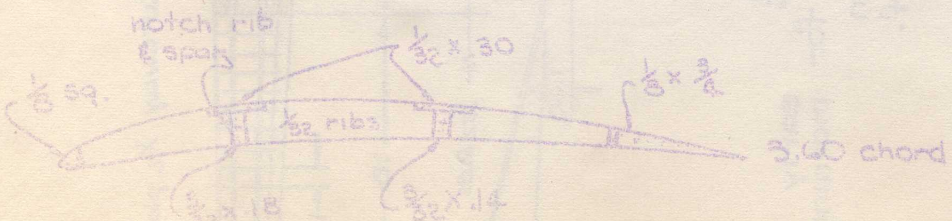


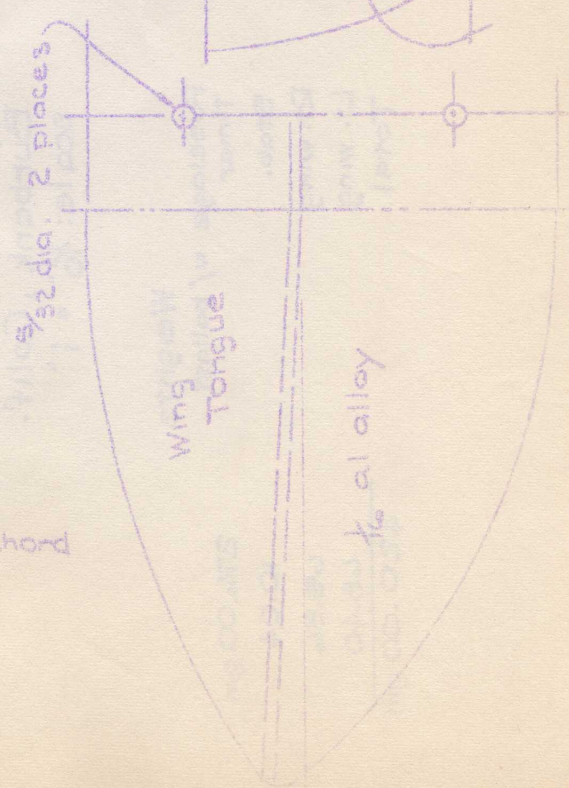
Tip Rib

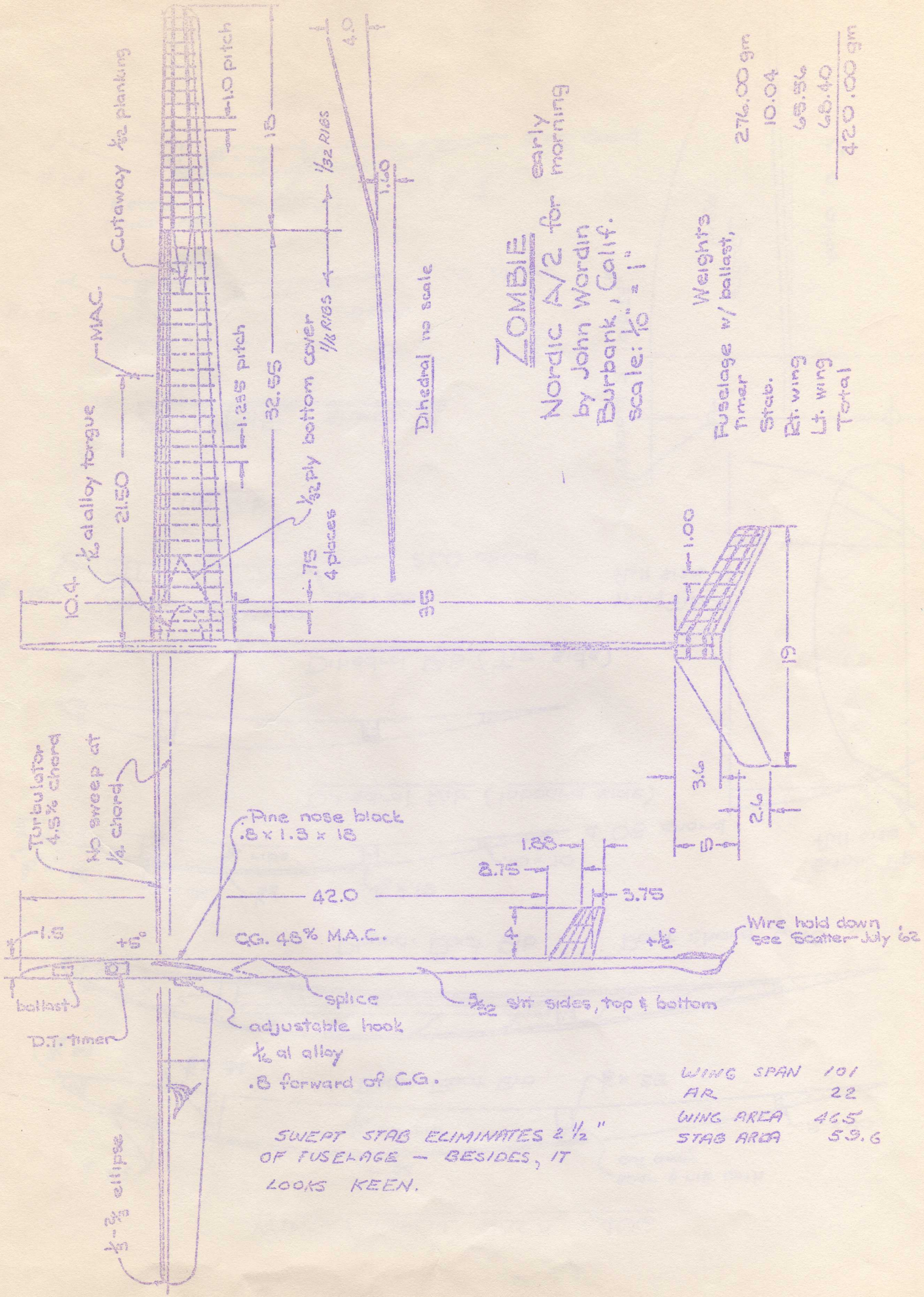


ZOMBIE sheet 2



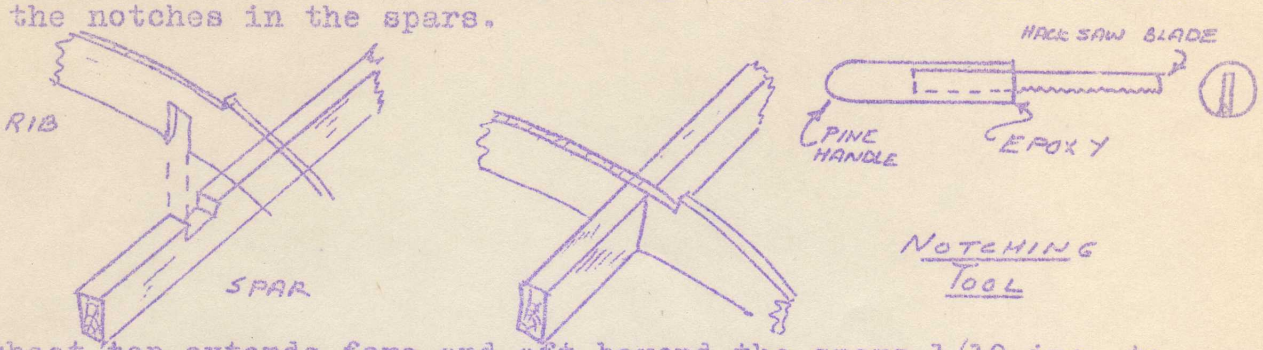





ZOMBIE
Nordic A/2 for early morning
by John Wardin
Burbank, Calif.
scale: ½" = 1"
Dihedral no scale
Weights
Fuselage w/ ballast, nose
Tail
Stab.
Rt. wing
Lt. wing
Total
276.0 gm
10.04
38.5
40.40
420.0 gm
Cutaway ½e planking
MAC.
½ al alloy torque
21.50
10.4
4.0 pitch
1.25 pitch
32.55
18
4.0
1/32 Ribs
1/16 Ribs
1.00
½ ply bottom cover
.75
4 places
35
1.00
19
3.6
2.4
5
Turbulator
45% chord
½e sweep at
¼ chord
Pine nose block
.8 x 1.3 x 18
1.88
8.75
3.75
42.0
4
1.5
+5°
CG. 46% M.A.C.
+½°
Wire hold down
see Scatter-July '62
ballast
D.T. timer
splice
adjustable hook
½ al alloy
.8 forward of CG.
3/32 stt sides, top & bottom
½-⅔ ellipse
WING SPAN 101
AR 22
WING AREA 465
STAB AREA 59.6
SWEPT STAB ELIMINATES 2½"
OF FUSELAGE — BESIDES, IT
LOOKS KEEN.

at once on a jigsaw.

The spars are notched allowing the ribs and spars to go the full wing thickness. A tool made from an old hacksaw blade is used to made the notches in the spars.



The sheet top extends fore and aft beyond the spars 1/10 inc. to help gusset the ribs in place. At the root, over the tongue, 1/32 in. ply was used as sheet top. On the undersurface in the area of the tongue, 1/32 in. ply was used but gradually tapers to a point about 6 in. from the root. By tapering it avoids a sudden change in crossection at this critical highly loaded area. Similarly the sheet on the top surface tapers in reverse near the dihedral break for the same reason. On Pendent II one difficulty that was encountered was spar cracking at the notches in the outer wing panels (where there was no sheet top). To improve on this, a flange the width of the spar is added to bridge over the notch on the Zombie.

What's in a name!

The name of this model was almost "you too?" but finally was named after what I felt like on those pre-dawn flying sessions."

NEXT MONTH

The U.S.A. 1963 F.A.I. Nationals winning Nordic
by Bob Petro.
Contest results from all over
Southern California, andnumerous other twice-told
tales.