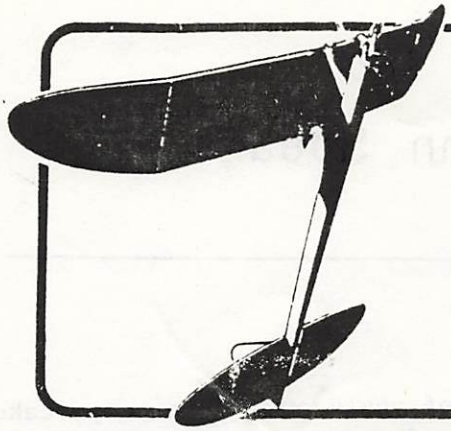


MINNEAPOLIS MODELER

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Secretary.....	**Don Berggren**	**459-6140**
Treasurer.....	**Gary Fessler**	**422-0593**
Editor.....	**Dave Braun**	**457-2264**

Number 240 **September - October 1994**

• FUTURE CONTESTS •

Site: Hentges Sod Farm

Northeast quadrant of 109th and Hwy 65 - Blaine, Mn.

SEP. 11, 1994 FALL MEET -AA- DALE MENDENHALL, C.D. 535-2976

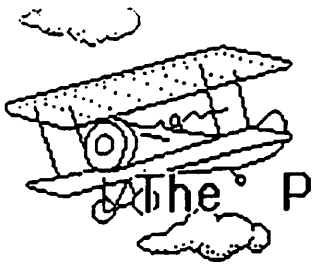
½ A Gas	Mulvihill	Hand-Launch Glider
A Gas	Coupe d'Hiver	Catapult Glider
BCD Gas	P-30	Junior Event
Pee Wee 30	Embryo Endurance	
CO_2 - Mini 6	A/2 Nordic	

OCT. 9, 1994 OKTOBERFLUG -AA- DAVE BRAUN, C.D. 457-2264

½ A Gas	Mulvihill	Catapult Glider
A Gas	P-30	Hand-Launch Glider
BCD Gas	Embryo Endurance	Junior Event
Nostalgia Gas (9 Sec.)	Old Timer Rubber (<'46)	
.020 Replica (12 Sec.)	A/1 - A/2 Nordic	

OCT. 30, 1994 TURKEY SHOOT --- AARON PETERSEN, C.D. 224-6136

Starting at Noon		



The Prez Says or Spehn Speaketh:



The prez is smiling and no longer upset. His lost plane was found. It was found in the big woods by none other than Al Muller who was searching for his own plane along with Gary Oakins. Al's plane was found by Oakins. As the prez found four models in the woods which were all returned to their owners, it has come round robin I think. The prez suggests we all acquire chain saws and attack the dirty rotten model-eating woods.

Since that fiasco Al Muller has lost at least four other models and had every one of them returned via finders calling him. Just call him Lucky Al. He must have to carry a pocketful of reward money. Al says his models fly so well and get so high he can no longer see them. The prez told him to take up control line - - that way the model will only be 60 to 70 feet away.

Where were you guys August 5th? Most were not at the club meeting or did you change the date and not tell the prez. I didn't think I was doing that bad a job. Maybe it is the summer doldrums or dog day afternoons getting to you. Plan on being there next month. We should start planning the indoor season and the raffle will return with those great prizes.

At the last meeting, which most of you missed, we had some discussions about problems at our field by free lance flyers, not affiliated with any club, mostly radio enthusiasts. The main problems observed were driving or parking on the sod and flying gas engine powered models early in the morning. We can't police everyone and other than us following the rules of our club we can only ask or suggest that others also abide in an effort to keep from losing a very good site. At our last contest I was speaking with Dick Bloomquist who recently competed at Bong and said the site is just awful, nearly unflyable. Remember this is the site for the Chicago area modelers and is a good sixty or seventy miles away for them. Dick states most are now going to Muncie which is like two hundred miles from Chicago. Now maybe you can get a picture of how lucky we are. I write this only in the hope that anyone who might read this and use our field help to keep it by using good sense and being a good neighbor.

Now some of you know I like to partake of garage sales, fleas markets, swap meets, and discount joints. The latest find was some toy dinosaurs at an out of the way discount store. They were of the walking variety so I bought a couple fairly cheap. After having some fun with them at our local watering hole, I took them apart. Lo and behold, found inside was a heavy duty Tomy type windup mechanism which should make a good pinch off timer. I just learned there are two different sizes of these mechanisms, the larger can be used for pinch off timers and the smaller version can be utilized for d.t. models. Call me dumb, but after all the published articles and much previous fooling around, I am just starting to get it and realize the potential of these windups. Now if I can only put it back together and make it work.

At an antique shop I found two beautiful framed art prints of World War I. fighters in action. These now adorn a wall in my basement museum of memorabilia. Admission is free as is a limited amount of glider fuel if you happen to catch me in the snake pit.

It may be hard to believe, but I'm running out of things to talk about. If you have a great idea (well maybe it doesn't even have to be great) or just want to sound off, I'm open to suggestions or better yet submit something to me or editor Dave (no shoes) Braun and see it in print.

Don Spehn

President M.M.A.C.



Remember boys, if you see a weatherman, let 'im have it!

Meeting Minutes July 8, 1994

Place: Donaldson Co.

Time: 8:05 p.m.

Present: 18 members

Treasure's Report: Report indicates need for more entries at contest.

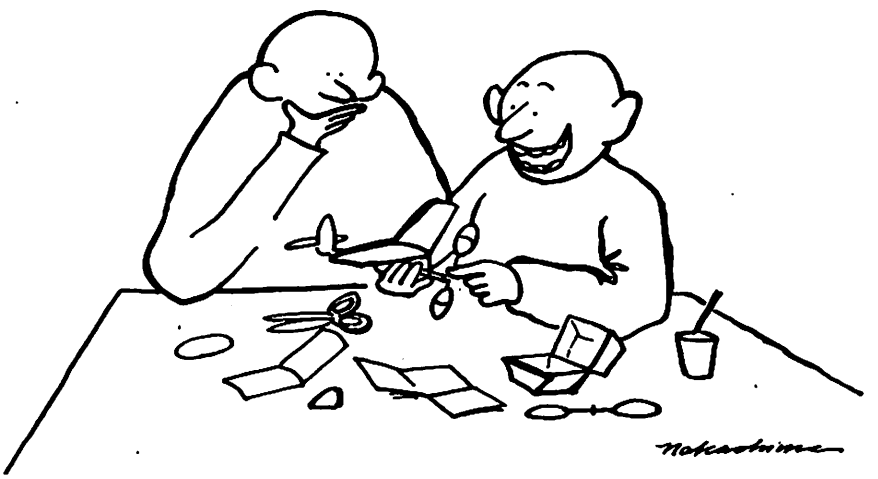
Correspondence: EAA calendar and cost. Received a thank you card from Dell Marchant and family.

Old Business: Denny Sussman thanked Hank for the plaques given out at the mini-FAI. Gary Oakins received a phone call from Barry Taylor as to who would be comming to the Canadian Nats. Don Spehn wanted to remind everyone of the youth fun fly July 24th and a show of hand as to who would be there.

New Business Denny Sussman mentioned receiving Japanese tissue from Champion for a prize. Don Spehn his experiences in the woods, and recommends using a compass.
meeting adjourned at 8:40.

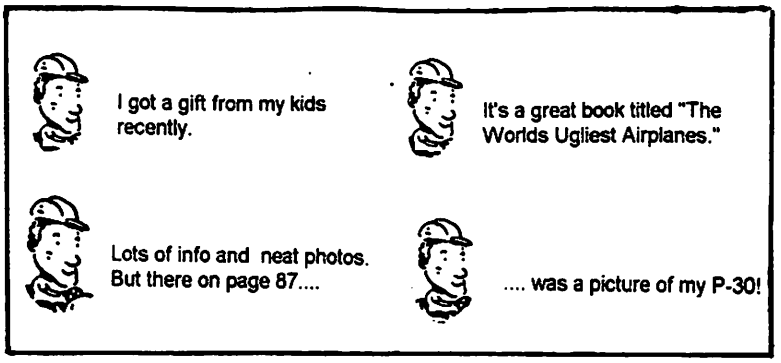
Show and Tell Don Spehn showed how going to a garage sale, you end up with a sonic cleaner. Mike Spiess showed off his Tern hand launch glider. And Gary Oakins brought his 3rd Brooklyn Dodger.
Drawing went to Joe Huttel probably the VA engine since he wasn't here to claim his prize. Consolation prize went to Pete Owen.

***Tom Grant** and **Jim Ladwig** share breakfast and building techniques*



"I used to get my materials from Sig, but now I get them from McDonalds."

Don's Present



Meeting Minutes: August 5, 1994

Place: Donaldson Co.

Time: 8:00 p.m.

Sec. Report: None

Treasurers Report: None

Correspondence: It was learned that Barry Taylor of Winnipeg placed in 14 of 15 events entered at the Canadian Nats!

Old Business: We are running low on MMAC Caps and T-shirts. Denny Sussman to check out prices and quantities.

New Business: Discussion was held on obtaining a new club flag. Denny Sussman to check it out when checking on T-shirts and Caps. We also had a discussion on Coupe rules: 5 flights vs 3 flights. We've always flown 3 so it was decided to post rules variations at the CD's table or in the newsletter. Meeting was adjourned when the few members present had to be wakened and told to go home.



...Tan I, Tan II, Tan I, Tan II, Tan I,
Tan II, Tan I, Tan II, Tan I, Tan II,
Tan I, Tan II, Tan I, Tan II, Tan I, Tan II,
Tan I, Tan II, Tan I, ...

Erskine confronts demons and contemplates his next move

MMAC Summer Meet - July 17, 1994

1/2 A Gas (11)

1. Gary Oakins	79	120	107	306
2. Dennis Sussman	120	80	50	250
3. Gary Fessler	40	38	33	111
4. Bill Thomas	22	50		72

A Gas (10)

1. Al Muller	102	75	120	297
2. Jorge Triana	116	90		206
3. Gary Fessler	44	79	68	191
4. Don Spehn	120			120
5. Gary Oakins	80			80
6. Clyde White	61			61

BCD Gas (7)

1. Gary Oakins	106	109	120	335
2. Don Spehn	50	108	76	234
3. Clyde White	82	30		112

Pee Wee 30 (8)

1. Al Muller	55	61	46	1078
2. Don Spehn	40			266
3. Terry Taylor	39			162

CO_2 - Electric (6)

1. Jim Ladwig	120	120		240
2. Aaron Petersen	117	120		237
3. Bill Thomas	43	53	44	140
4. Pete Owen	4	120		124
5. Jim Anderson	43			43

Hand Launch Gl. (7)

1. Dick Diers	120	28	38	186
2. Mike Spiess	49	47	61	157
3. Gary Crawford	30	40	21	91
4. Aaron Petersen	32	14	20	69
5. Pete Owens	4	9	3	16

Nordic (2)

1. Hank Liljequist	91	120	211

P-30 (15)

1. Herman Fessler	120	94	120	334
2. Aaron Petersen	120	120	73	313
3. Joe Huettl	57	92	113	262
4. Mike Spiess	96	75	63	231
5. Gary Oakins	68	63	67	198
6. Jim Jorgenson	55	40	66	161
7. Pete Owens	68	92		160
8. Don Spehn	83			83
9. Don Berggren	46			46
10. Terry Taylor	45			45

Coupe D'Hivre (7)

1. Aaron Petersen	120	120	240
2. Joe Huettl	100	120	220

Mulvihill (6)

1. Herman Fessler	120	120	120	+ 176	536
2. Aaron Petersen	120	120	120		360
3. Joe Huettl	63	76	120		259
4. Pete Owens	120				120
5. Dick Diers	68				68

Pre 1946 Rubber (7)

1. Aaron Petersen	76	93	93	262
2. Pete Owens	120			120
3. Jim Anderson	50			50

Embryo Endurance (8)

1. Aaron Petersen	88	120	104	+5	31
2. Mike Spiess	80	110	79	+9	27
3. Herman Fessler	56	66	55	+9	18
4. Jim Anderson	43	69		+8	12
5. Hank Liljequist	27			+9	3
6. Terry Taylor	20			+8	2

Almost - Silent Summer Meet Aug. 7, 1994

Open Power (11)

1. Dick Bloomquist	90	90	90	+90	360
2. Gary Oakins	90	90	90		270
3. Dennis Sussman	86	90	59		235
4. Don Spehn	84	50	90		224
5. Al Muller	90	90			180
6. Gary Fessler	90	71	12		173
7. Clyde White	51				51

Nostalgia Gas (7)

1. Al Muller	90	90	90	+90	360
2. Hank Liljequist	81				81
3. Ted Wlazlo	64				64

.020 Replica (6)

1. Bill Roush	90	90	180

Jetex 50 (1)

1. Don Spehn	52	52

Mulvihill (6)

1. Herman Fessler	90	90	90	270
2. John O'Leary	90	90	90	270
3. Aaron Peterson	90	90	90	270
4. Hank Liljequist	64	84	80	228
5. Don Spehn	90	56	65	211
6. Joe Huettl	22	8		30

Coupe D'Hivre (4)

1. Aaron Pertersen	89	73	90	252
2. Hank Liljequist	90	90	50	230
3. Joe Huettl	68	90	68	226

Junior Event (3)

1. Erik Sears	52	39	42	133
2. Cody Spiess	57	28	29	114
3. Jason Fessler	23	14	22	59

P-30 (9)

1. Mike Spiess	85	79	85	249
2. Bill Roush	90	90	63	243
3. Aaron Peterson	66	82	85	233
4. Terry Taylor	47	90	90	227
5. Joe Huettl	65	52	77	194
6. Herman Fessler	48	56	90	194
Gary Oakins	68	48	78	194
8. Don Spehn	56	45	90	191
9. Ted Wlazlo	23	31		54

Embryo Endurance (5)

1. Aaron Peterson	5	65	90	90	250
2. Mike Spiess	9	75	60	90	234
3. Herman Fessler	9	90	56	41	196
4. Hank Liljequist	9	28			37

Hand Launch Glider (3) !

1. Aaron Peterson	15	17	23	55
2. Don Spehn	16	14	17	47
3. Hank Liljequist	6	19		25

Catapult Glider (5)

1. Herman Fessler	90	65	45	200
2. Ted Wlazlo	18	20	27	65
3. Aaron Peterson	11	13	21	45
4. Hank Liljequist	21	2	4	27

A/1 - A/2 (2)

1. Herman Fessler	90	52	58	200
2. Hank Liljequist	40	19	70	129

MMAC Scale (2)

1. Aaron Peterson	90	90
2. Mike Spiess	2	2

Outdoor Points Totals Through August 1994

Aaron Peterson	159
Herman Fessler	128
Al Muller	66
Hank Liljequist	63
Don Spehn	62
Jorge Triana	61
Gary Oakins	60
Joe Huettl	56
Mike Spiess	52
Dave Braun	47
Bill Rogers	37
Dick Diers	36
Denny Sussman	31
Dell Marchant	30
Bill Roush	22
Gary Fessler	21
Terry Taylor	21
Dick Zabelka	18
Clyde White	17
Gary Crawford	17
Jim Jorgenson	14
Pete Wilczek	13
John O'Leary	13
Don Berggren	11
Pete Owen	10
Jim Ladwig	9
Ted Wlazlo	6
Jim Anderson	5
Bill Thomas	4
Harry Atkinson	3
Fred Switzer	2

Juniors

Erik Sears	4
- Spiess	4
Jason Fessler	3
Cody Spiess	1
Herb Fischer	1

Hints & Techniques

If you have ever built a plane from a plan, you know how hard it is to get an accurate transfer of parts to be cut on to the wood. I have come across a technique that works great.

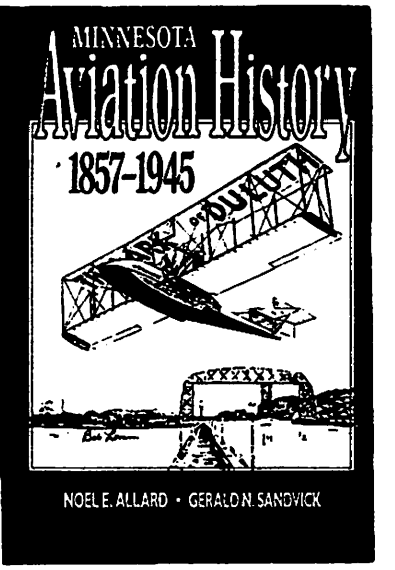
First make a copy of the parts on a Cannon or Minolta copy machine. The toner these copiers use works the best. Then use Zylene (sold as Zylol in hardware and lumber stores) to paint the back of the copy, wetting the complete part to be transferred. Do this with the copy in the air, as when the toner softens it will smear if it touches anything. Now wait until the Zylene starts to dry. Put the copy, toner side down, on the wood. Without moving it, rub you finger over the entire copy. Presto!!! It works great!

A few things to remember. The copier has to have a good amount of toner. If it's getting low the transfer won't be very dark or won't transfer. Also, most copiers reduce the copies a slight amount. What I do is copy the whole plan and parts at the same time and build the plane on the copy. Then if the copier does reduce, the plans I copy and the parts will be the same size.

The part will be backwards, but for cutting it really doesn't matter. If you want to transfer logos or lettering, just copy on clear overhead transparencies made for copiers, flip it over and copy it on paper. Now the transfer will be right.

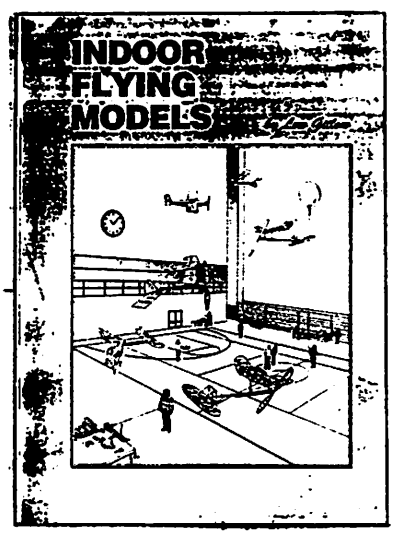
Courtesy of Mike Spiess - MMAC

BOOK REVIEWS by Aaron Petersen



Minnesota Aviation History 1857-1945
by Allard and Sandvick, 288 pp., 8½ X 11
1993, MAHB Publishing, P.O. Box 284, Chaska, MN 55318
$30 paperback, $40 hard cover.

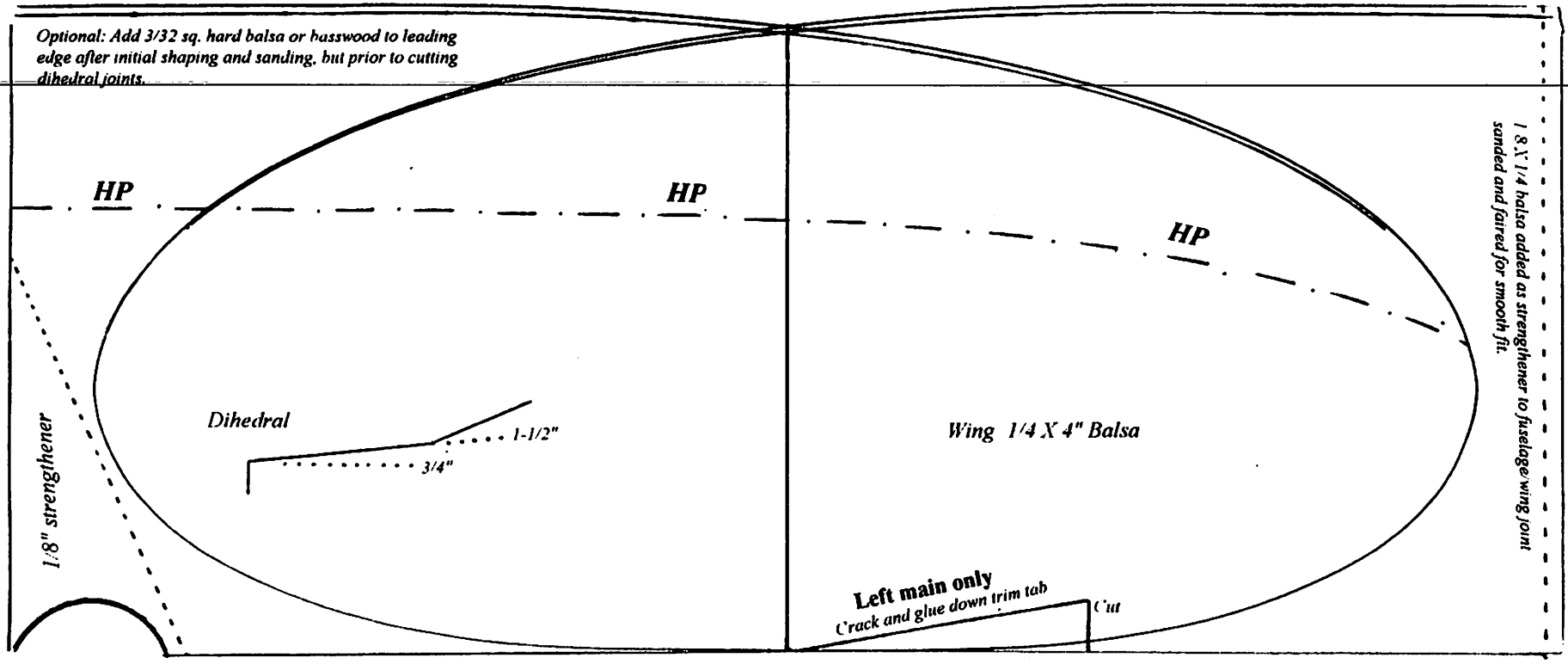
This is an outstanding book, well worth the money. It is jam-packed with material both fascinating and entertaining. (It also has lots of pictures!) Eight years in the making, it covers our state's rich aviation history with accuracy and skill. Not much of import has been left out, I'm sure. The writing quality is very high -- a real plus in a book of this kind. The early chapters about pioneers, barnstormers, etc. are especially fine. Imagine being at the State Fair in 1910, seeing a Wright Flyer and a Curtiss Pusher in the air at the same time. "Over Machinery Hill (the Wright Flyer) hung nearly motionless in the air for almost five minutes and landed after a flight of 16 minutes." The authors make many such moments come vividly to life, always relying on eye-witness reports and contemporary sources. This book belongs in any good aviation library. One lapse, though -- at the back of the book there's a Who's Who of MN aviation, but I can't find Hank Liljequist's name listed anywhere. Oh, well. The book is on sale at the Gift of Wings store in the Mall of America, where you can find STARBIRDs and FREEBIRDs now as well...



Indoor Flying Models by Lew Gitlow
1993, Indoor Model Supply, Box 5311, Salem, OR 97304
184 pp., 8½ X 11, paperback. $25 postpaid.

If you are truly interested in flying indoor models (especially the flimsier types) you really ought to get this book. It is absolutely loaded with hard, detailed information that will enlighten you and most likely make you a better flier. In form and content, Gitlow's book is similar to Ron Williams's outstanding Building and Flying Indoor Model Airplanes (1984, now out of print). They cover much the same ground, but Gitlow draws on his vast experience as a designer, flier, manufacturer, and supplier to present a lot of new material. He is a primary source; he gives it to you straight from the horse's mouth, so to speak, and in detail. Most of the book is devoted to the ultralight flimsy stuff, with much emphasis on microfilm models. But you will learn a lot even if you don't fly these types very much. Techniques and information carry over to other classes of models. Two of our MMAC members -- Les Garber and Bob Oppegard -- receive prominent mention in the contents. I wish there were more books like this one, especially on sport and scale free flight...in fact, I'm writing one now...

P.S. Gitlow's book has 51 plans, most of them reduced, of course. Another superb book for indoor fans is Winning Indoor Designs, published by the National Free Flight Society. 62 plans in that one, all of them proven winners, from EZB's to Bostonians to No-Cals to Rubber Speed. (1990)

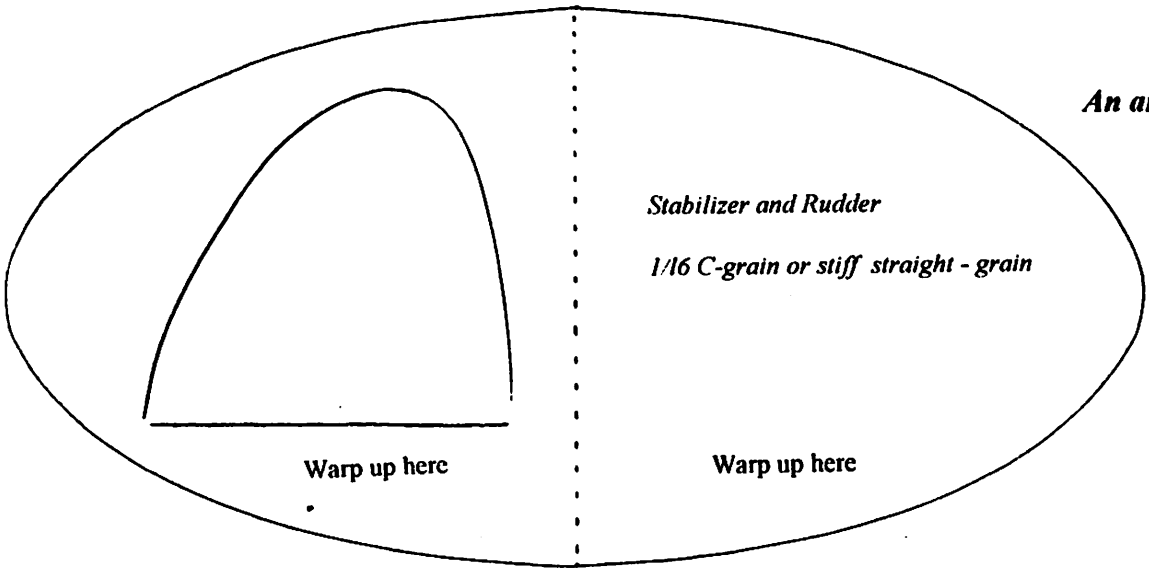


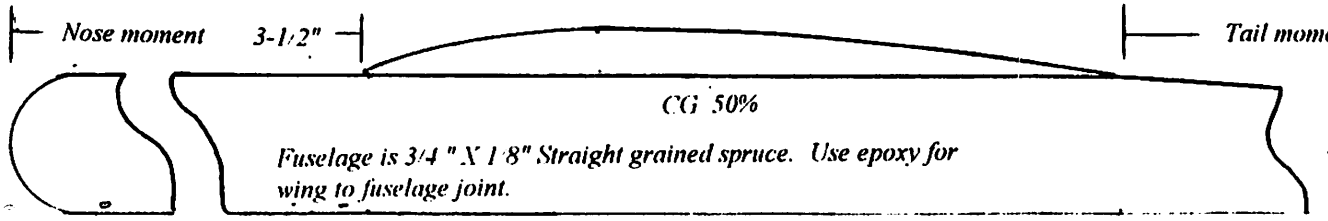
BOLO

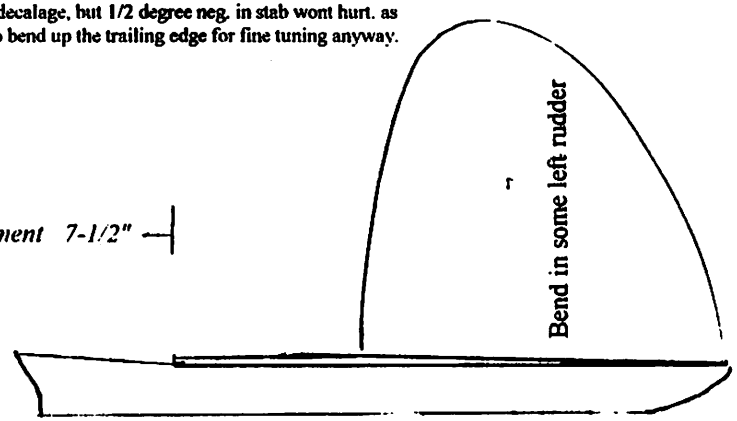
An amazingly adequate and economical Outdoor HLG

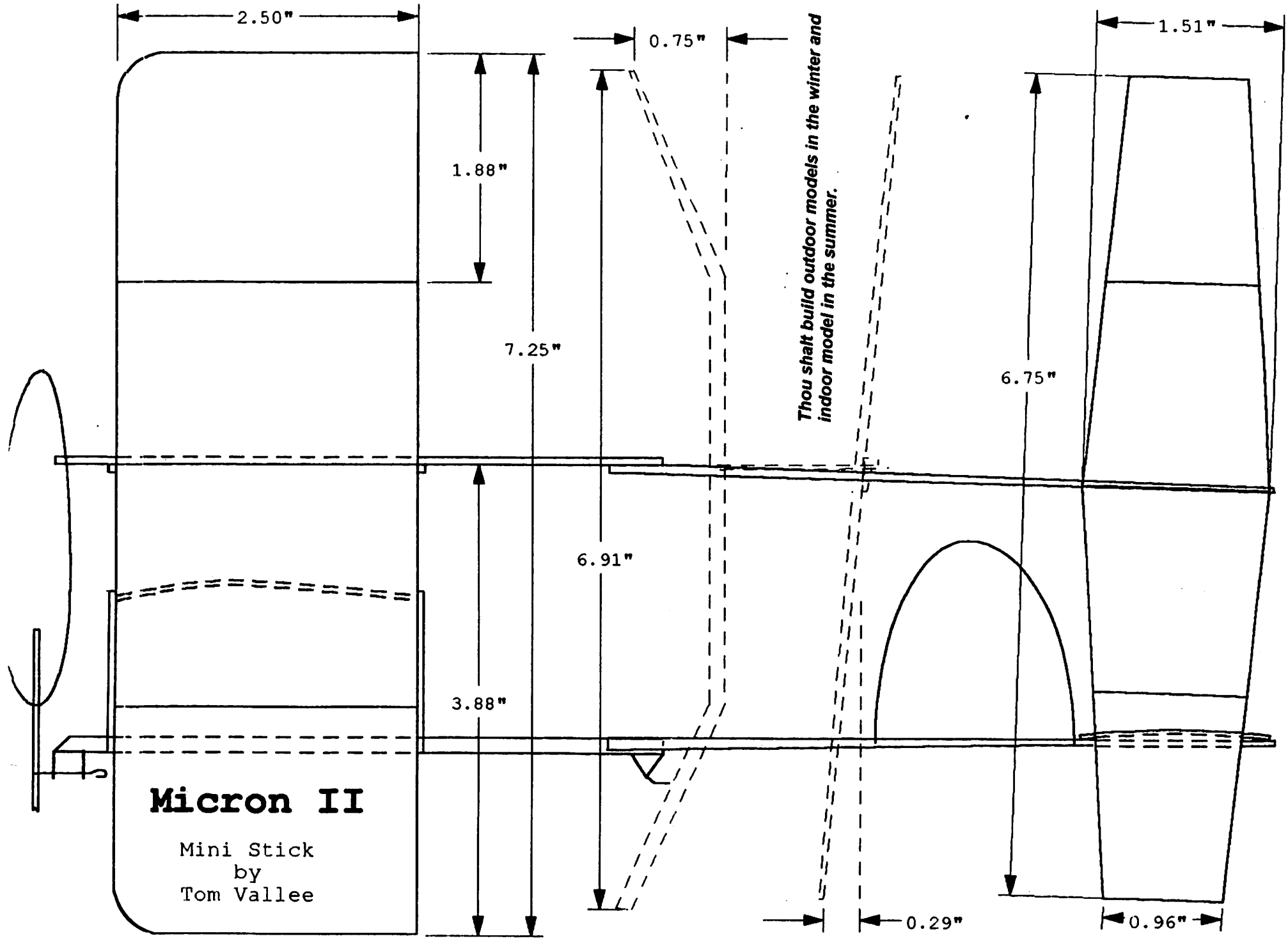
I've been flying this design, along with others, for several years now, and it has always been a good performer. It actually out-performs my old Pollys and Zweibacks in calm air at the local athletic field. Its 18" span and length means you can get two birds from 36" stock. No need to make them ultra light; mine fly best at around 35 - 40 grams. Trim is R/L. Use all your old launch techniques and trimming secrets you've used over the years.

Aim for 0-0 decalage, but 1/2 degree neg. in stab wont hurt. as you'll need to bend up the trailing edge for fine tuning anyway.








2.50"
1.88"
7.25"
0.75"
6.91"
3.88"
Thou shalt build outdoor models in the winter and indoor model in the summer.
1.51"
6.75"
0.29"
0.96"
Micron II
Mini Stick
by
Tom Vallee

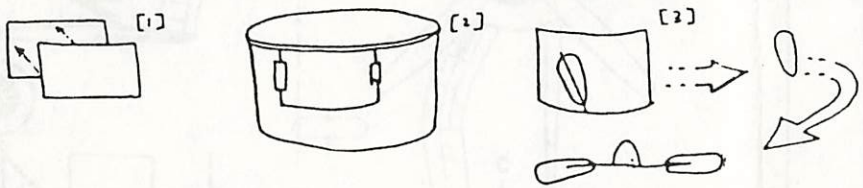
INDEX CARD PROP BLADES by Mark Fineman

Several skysters have asked me about the big index card prop blades used on my jumbo P-40 and my indoor XP-47H. They are really quite simple, just another variation on the cottage cheese container blades described in several magazines. I use them because they are relatively easy to make, and, more importantly, can be made into large diameter propellers.

Some of you know that I experimented very successfully with blades cut from plastic drinking cups for my peanut Russian IS-4. These blades worked well for that model but had too much undercamber when tried for some other ships. As a consequence, I experimented with ways to make a slightly undercambered blade that could be cut easily from a curved sheet of material.

The solution I found was to use two large, yellow index cards (the reason for the yellow color will be seen later on). Apply an even layer of Elmer's white glue to one card and then carefully glue the second card to it so as to make a laminate (fig.1). I then tape the laminated cards onto a 12" diameter stock pot; a small amount of masking tape around the edges is all that's needed. The cards on their stock pot form are then allowed to dry overnight (fig.2).

When the cards are removed, they have a nice, curved surface. Draw a reference line 12 to 15 degrees tilted from the vertical on the laminated cards, align a blade pattern on this line, trace the pattern, and cut out the blade (fig.3). Do this for as many blades as you may need. I give the blades one or two coats of thinned lacquer for moisture protection, The blades are then glued on a spar, usually 1/8" diameter dowel, using a simple alignment jig. See Ron Williams's excellent book on indoor modeling for details of this operation. I afix the blades to the spar with Ambroid. For the 12" diameter P-40 prop, three spars were epoxied to the inside surface of a circular plate made of 1/16" plywood that fit into the spinner.



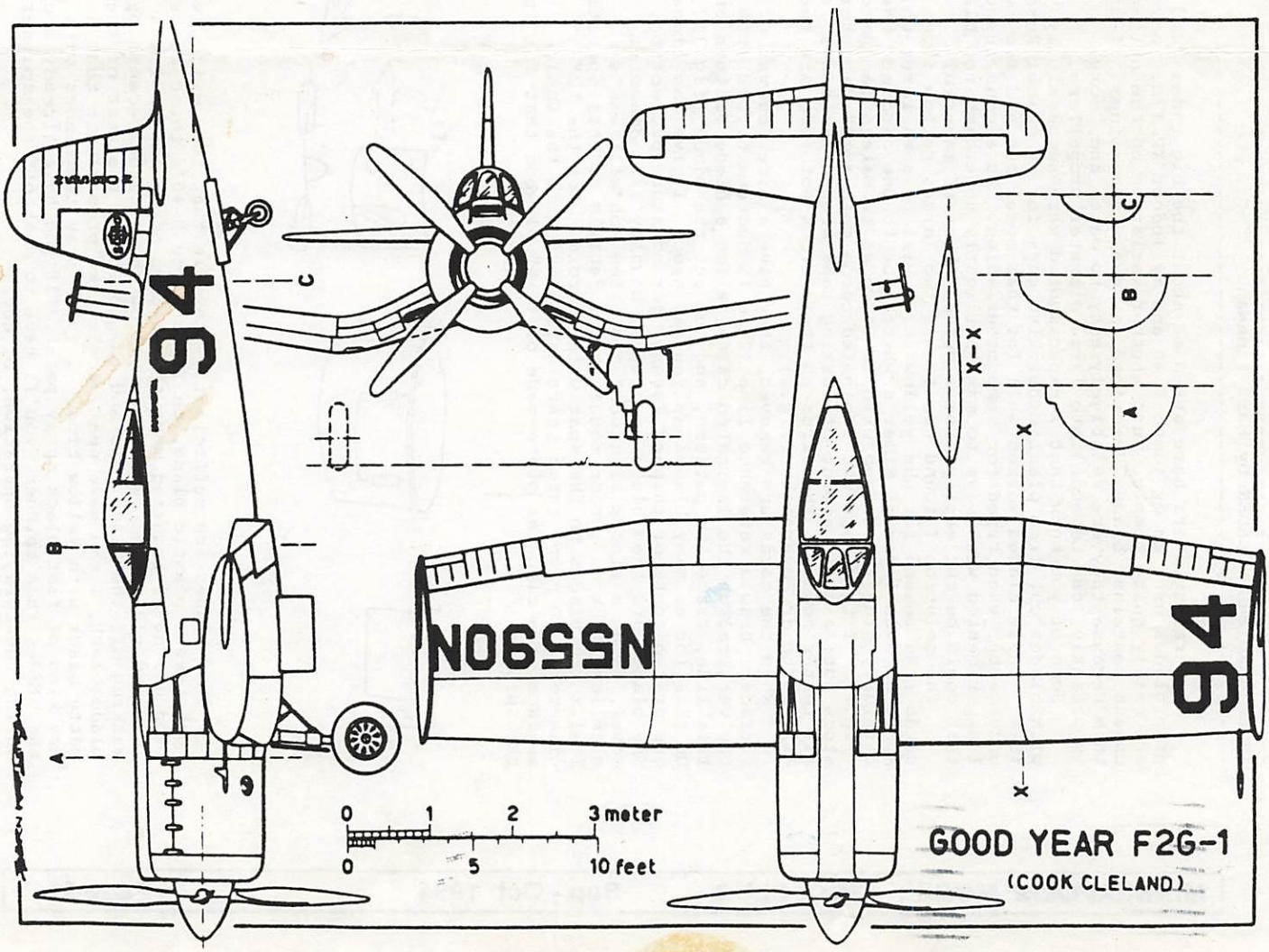
The blades are sufficiently flexible that they will give, much like a plastic blade, on impact. My P-40's three-bladed prop has never required more than a drop of cement to fix a loosened blade. Oh yes, I use yellow index cards because by masking off the blade tips and then painting the rest of the blade black, I can have neat, scale-like prop blades that are matte black with yellow tips. I just spray the blades with any kind of flat black spray paint. If you have already mounted the blades in a spinner, you'll have to mask off the spinner during the spraying operation, of course.

This article was originally published in Airflow, newsletter of the Glastonbury Modelers of Connecticut.

When beginning modelers ask me about a rubber winder, I now recommend (among others) this FISKARS hand drill, available at Menard's (and elsewhere) for $6. Mount a wire hook solidly in the chuck, and you have a good cheap sturdy fun 3.5:1 winder for small models. The gear ratio is not all that fast, but it's a lot faster than the clockwise forefinger. Also, you can use the thing to drill holes -- an added bonus!

---A.P.




94
N6559N
94
0 1 2 3 meter
0 5 10 feet
GOOD YEAR F2G-1
(COOK CLELAND)