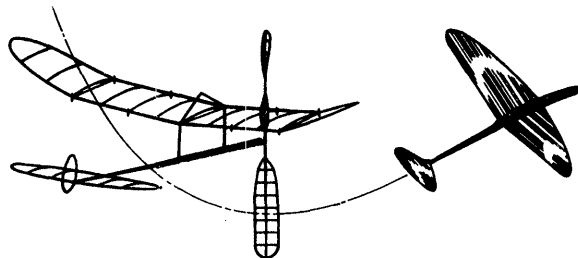


INDOOR**NEWS and VIEWS**

Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080



13

THIS ISSUE

Indoor News and Views is off the ground again. Melody and Richard Doig have volunteered to publish this newsletter until such time that Bud Tenny can resume this function. In the interim the Doigs will edit, type, collate, and mail the newsletter so please send ALL contest announcements, contest results, photographs, model plans, modeling suggestions and questions, etc. to:

Indoor News and Views
c/o The Doigs
6 Canary Hill Dr.
Pontiac, MI 48055

For those of you who don't know us an introduction is in order. Richard has been building indoor models since 1971 including microfilm (FID, AMA Stick), ROG Cabin, Paper Stick, E Z B, Pennyplane, and HLG. He participates in the FAI Indoor Team selection program finishing 7th this past year. He is the District 7 representative on the Indoor Contest Board, the FAI Team selection committee, and an active Contest Director. Melody on the other hand has never built an indoor model but is an ardent supporter of Indoor Modeling and very knowledgeable of the rules and other aspects. She has attended most of the contests Richard has flown in over the years, helped out at FAI Team finals, the 1980 World Championships and recently has run several contests including the Michigan Indoor Championships.

We do not have Bud Tenny's long history in Indoor Modeling but we have good intentions and will try to do a good job. We want to see Indoor Modeling have a long and prosperous future and regular issues of INAV is essential to link the various clubs and geographically diverse groups of Indoor Modelers together.

Regular issues of INAV may not be on a monthly basis, every six to eight weeks seems more realistic. However this depends somewhat on the Indoor Modeling community, the more input we get, the more information per issue and the more issues that will be published.

A NOTE TO NIMAS MEMBERS

I'm deeply indebted to Rick and Melody Doig for their offer to publish some issues of INDOOR NEWS AND VIEWS. I am also indebted to others who have made similar offers. The major problem with turning over the newsletter to anyone for a temporary period is that much of the existing material is scattered in numerous locations in the chaos which passes for my office. Rick and Melody have a significant amount of material on hand, so they don't require my in-depth searches to support newsletter issues which should have been sent before they got started! A local person, able to visit my stacks as often as necessary could have pulled together material without my direct intervention, but I haven't had time for greater involvement since shortly after the November '83 issue.

CONTEST CALENDER

- June 9&10 CANTIAGE PARK, LONG ISLAND, CAT. II Microfilm stick, E Z B, Pennyplane, HLG Bostonian, Peanut Scale. Sponsor-LIAMAC John Carbone CD, 394 Oakwood, Huntington, Long Island, NY 11746, (516)271-5548
- June 17 YANKEE INDOOR CHAMPIONSHIPS, WESTOVER AFB CAT. III Scale, Peanut Scale, NoCal, WWI and WW II Mass Launch, AMA Stick, E Z B, Pennyplane, Manhattan, Bostonian Sponsor-MIT Tech Model Aircrafters & Glastonbury Aeromodellers, Ray Harlan CD 15 Happy Hollow, Wayland, MA 01778 (617)358-4013
- June 18-20 UNITED STATES INDOOR CHAMPIONSHIPS DETROIT, MICHIGAN CAT. III Sponsor-NFFS and NIMAS Details in this issue
- June 21 PEANUT GRAND PRIX, DETROIT, MICHIGAN CAT. III Sponsor-MIAMA Details in this issue
- mid July FAI LOCAL & RECORD TRIALS, GOODYEAR AEROSPACE AIRDOCK, AKRON, OH, CAT. IV, FID Due to Airdock security clearances you must contact the CD in advance. Bill Hulbert 174 Castle Blvd, Akron, OH 44313 (216)864-8030
- AUGUST 5-7 AMA NATIONALS, RENO COLISEUM, RENO, NV CAT. II, AMA scale, Peanut Scale, Pennyplane, EZB, Manhattan, HLG (all wood & high tech), AMA Stick, Paper Stick, FID, & ROG Cabin. Entry form in Model Aviation July 1984 issue
- SEPT. 29&30 11th ANNUAL MIDWESTERN STATES INDOOR CHAMPIONSHIPS, CHANUTE AFB, RANTOUL, IL CAT. II ?, Sponsor- Chicago Aeronuts These are tentative plans per Don Lindley details will be in an upcoming issue.
- OCTOBER 28 MICHIGAN INDOOR CHAMPIONSHIPS, STATE FAIR COLISEUM, DETROIT, MI, CAT. III, FID, Paper Stick, EZB, Pennyplane, Manhattan, HLG, AMA Scale, Peanut Scale, Blatter 40. Sponsor- Detroit Balsa Bugs & Exchange Clubs Council, Richard Doig CD 6 Canary Hill Dr, Pontiac, MI 48055 (313)373-5374

LAKEHURST FLYING CANCELLED

The seven tentative flying dates for 1984 in Lakehurst Hanger #1 sponsored by the East Coast Indoor Modelers have been cancelled due to repairs to the hanger doors. Club President Dan Domina warns indoor modelers trying to gain access to the hanger these actions could jeopardize future indoor flying as well as being arrested by the military police. When construction is finished new flying sessions will be scheduled and will be announced here in INAV or by contacting Dan Domina 6 Meadow Lane E. Windsor, NJ 08520

INDOOR CONTEST BOARD

The interpretations concerning Easy B bracing and steering are effective immediately and are to be enforced by Contest Directors. The following text will be included in contestant packets at the AMA Nationals and to all contestants at the United States Indoor Championships.

INDOOR CONTEST BOARD ACTION

Two Rules Interpretations

The Indoor Contest Board has been called on for two interpretations this year. The first request was generated as a response to experimental carbon fiber bracing on an Easy B. The second request questioned the manner of steering used on two Novice Pennyplane flights which exceeded the existing records.

EASY B BRACING

A requested interpretation of Easy B bracing methods developed this Indoor Contest Board ruling:

The use of any material other than wood for bracing on Easy B will not be acceptable. The intent of the Easy B rules is that all structures shall be constructed entirely from wood, using adhesives solely to assemble the structure.

STEERING INTERPRETATION

Two recent record applications were denied by Indoor Contest Board action after a request for review of the steering methods used in setting the records. The record applications were denied on the basis of the following interpretation, which is a composite of CB member comments:

Steering is intended to alter the direction of flight and the general location of a model which is approaching the structure of the building. The intent of the rule is to avoid influencing either the altitude of the model or its rate of climb or descent during the period of steering.

1984-85 AMA RULEBOOK OMISSIONS

Unfortunately they/we have done it again, these sections were omitted from the last rulebook as well as the current one.

1. AMA section 19. FF Indoor Rubber
Add to paragraph 15.1 on page 15
... can be inscribed, "below the primary structure of the building."
2. To AMA rulebook FAI Indoor Models (F1D) on page 94 add section 3.4.5 from the FAI Sporting Code. Insert between Definition of an Official Flight and Collision Rule.
"Number of Models: There is no limit to the number of models that a competitor may use at an indoor contest."

FAI LOCAL CONTEST AT AKRON

May 19 and 20 was the first FAI Local Contest and Record Trials of the 1984/1985 program in the Akron Airdock. Even though eight fliers attended only five official flights were recorded as much of Saturday was devoted to testing of new models before the rain started at 6:30 pm interrupting flying. Once it rains outside it drips inside for up to 24 hours after the rain stops. With additional rain on Sunday flying was risky between the drips. In spite of these conditions two new CAT. IV records were set on Saturday; Walt Van Gorder 9:08 Manhattan Cabin
Al Rohrbaugh 7:51 Ornithopter

Sorry there are no pictures of Akron flying as cameras are not allowed on the grounds because of a high security project in the Airdock.

1984/1985 FAI TEAM PROGRAM CHANGES

Earlier this Spring a questionnaire was mailed to FAI Team Selection Program participants concerning possible changes to the program. Several items received enough interest to warrant a ballot to the FAI Team Selection Committee and as a result of that voting the following changes are effective immediately.

The United States Indoor Championships sponsored by NFFS and NIMAS and the AMA Nationals are now at-large regional contests. This is in addition to the one regional contest per year in each of the seven regions of the country. The regional contest entry fee of \$10.00 is in addition to the regular contest entry fee. Certificates of performance will be awarded to participants at the Finals in 1985. Any Junior or Senior wishing to participate (and has a current FAI stamp) will have free entry into local and regional contests but not the Finals which has a \$15.00 entry fee.

INDOOR MODELING SAFETY

The "Safety Comes First" column in the July 1984 Model Aviation has some excellent safety hints and first aid treatments regarding cyanoacrylate glue (Hot Stuff) and we suggest you read the column.

Extreme care should also be used when using Boron filament which is the newest trend in indoor models. Remember Boron is toxic and because it is so small it easily penetrates the skin. Several modelers have gotten Boron into their hands while building and one got some Boron into his foot while barefoot in the living room. Take care to keep Boron contained in your model workshop so other members of your family especially children and pets cannot be injured.

Also if you use Boron on your models don't get mad and crumble them into a ball to throw them into the trash or you will have to pick the Boron out of your hands first as one modeler had to.

NATIONAL FREE FLIGHT SOCIETY 1984 MODELS OF THE YEAR

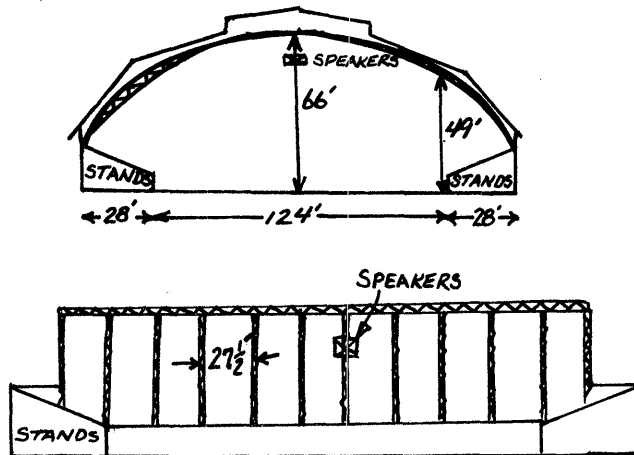
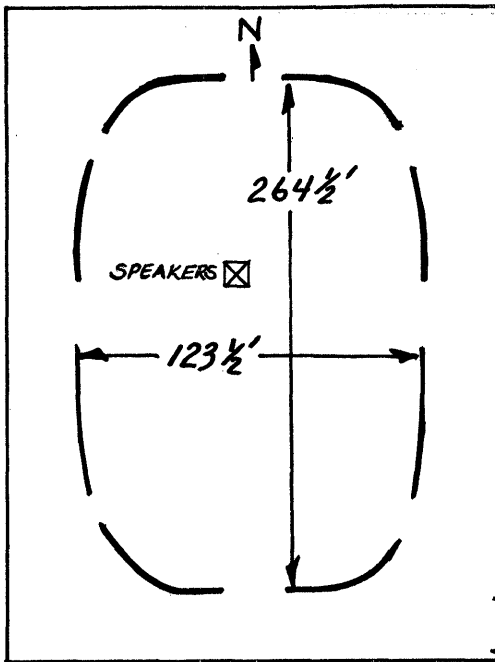
F1A (Nordic): Walt Ghio, Bandit
F1B (Wakefield): Anselmo Zeri, Rara Avis
F1C (Power): Silvano Lustrati, I-520-A
AMA Power: Small- Ron St.Jean, Structureless
foam composite (SFC) concept
Large- Sal Taibi, Starduster 900
Hand Launched Glider: Martyn Cowley, Goldrush
Indoor: Bernard Hunt, Tandem Two EZB
Unlimited Rubber: Mik Mikkelson, Unlimiter
Scale: Bill Noonan, Armstrong-Whitworth Ape
Special: George Kenakis & Lothar Döring
recording thermal-detectors

FREE FLIGHT HALL OF FAME

Ed Lidgard : creator-flier championship quality models
Paul Plecan: prolific designer of flying models with attention to scale details
Ken Willard: model designs of significance and author of creative articles

INDOOR WEEK SITE

STATE FAIR COLISEUM, DETROIT, MI.



SPEAKERS HANG DOWN 10 FEET
ENTRANCE LIGHTS ARE IN GIRDER STRUCTURE

INDOOR WEEK PART II

The Rest of the Story as Stolen from The Hanger Pilot

Here's the scoop on the rest of Indoor Week. Thursday, June 21 is MIAMA Scale Day (8:30 am- 7:30 pm). Scale activities will start on Wednesday, June 20 at 1:30 pm as shown on the revised NFFS schedule, and continue through Thursday at 7:30 pm. We will have the 5th World Peanut Grand Prix, but it will NOT be proxy, nor 24 hours (only 17 hours to get in your flights). Flown to the same rules as in the past... the MIAMA/Hadland rules which are similar to the Miller/AMA rules but give extra static points for weighty details. We will also have the Second GNATS for Pistachio (and smaller) models. Pistachio 8" max. span or 6" max. overall length. These will be flown to the new AMA "Miller" rules with 2 exceptions...double covering NOT NECESSARY and NO ROG. We will have CO2 Scale with AMA indoor scale rules, and Calumet Modelers will have their Kit/Plan event.
TURN IN ALL THIS STUFF TUESDAY BY 9:00 am.

SORRY; GANG, BUT NINART, 9th record trials will NOT be held this year for obvious reasons...The chance of setting a CAT. III record in a 66' high building is nil. We had intended to present the awards to last year's winners at the meet, but they will just have to be mailed out.. a little more patience, please.

Here's what we need from you. Keep your eyes open for an EXCELLENT CAT I site (26'3") or CAT.II (49'2 1/2").. you know the type.. no drift, no ceiling crud, preferably absolutely smooth, etc. etc. Also we need a place where all can stay, eat, and socialize like a college or a giant motel, or youth camp, or something like.. sort of like West Baden, y'know? Then we can have our NARTS again with a good chance to tear up the record books like we used to do in CAT.III Look around, pilots, and let us know, or there will be no NART next year, either. It's not too early to make plans.

Oh, yes one more feature of Scale Day are 2 FLYING ACES style mass launch peanut events. One for GOLDEN AGE MONOPLANES, and one for WORLD WAR ONE BIPLANES, at 1:00 pm and 7:00 pm.

MIAMA SCALE DAY ENTRY

Name _____ Class JR SR OP

Address _____

City _____ State _____ Zip _____

Circle Events:

- | | |
|--|---|
| FEEs: Open/Senior \$10.00
for entry to Scale Day
(Includes 1 event)
\$3.00 each additional event
and \$1.00 for each additional
entry per event (or re-entry) | 1. Monoplane
2. Biplane
3. Unorthodox-Heli,
auto, seaplane, boat
4. Ultralite
5. Lacey/Fike
6. CO2 Scale
7. Kit/Plan
8. 2nd GNATS (Pistachio) |
| Juniors \$5.00 entry plus
\$2.00 each extra | 9. Flying Aces Mass
Launch |

Send Fees payable to:

John B. Martin
2180 Tigertail Av.
Coconut Grove, FL 33133

SEND IN BY JUNE 4. TURN IN ALL ENTRIES TUES. 9:00am



THIRD

UNITED STATES INDOOR CHAMPIONSHIPS

JUNE 18, 19, 20, 1984 AT MICHIGAN STATE FAIR COLISEUM

DETROIT, MICHIGAN



Sponsored By:



National Free Flight Society

National Indoor Model Airplane Society

* SUNDAY, JUNE 17

TEST FLYING

NOON - 6:00 PM * SANCTIONED AAAA BY AMA CATEGORY III (CEILING IS 66')

A.M.	MONDAY JUNE 18	TUESDAY JUNE 19	WEDNESDAY JUN 20
8:30	↑	↑	↑
9:30	HLG	PENNYPLANE NOVICE PP	EZB
10:30	↓	MANHATTAN BOSTONIAN	PAPER STICK
11:30	↑	↓	↓
12:30	① F1D	↓	↓
1:30	↓	↑	↓
:30	②	④ F1D	↓
3:30	AMA STICK	↓	↓
4:30	③	⑤ ROG CABIN	SCALE
5:30	↓	↓	PEANUT SCALE KIT/PLAN
6:30	↑ ORNITHOPTER SPEED	⑥	↓
7:30	↓	↓	↓
PM		BANQUET AT 8:00 PM	

DOORS OPEN AT 8:00 AM

DOORS CLOSE AT 8:00 PM

THE USA VOICE IN FREE FLIGHT MATTERS IS NFFS & NIMAS!

SLIGHTLY REVISED SCHEDULE MAY 21, 1984

Contest Directors - H. Brodersen, A. Italiano
D. Lindley, C. Sotich
G. Wisniewski

All Senior and Open Flyers will be required to time flights and assist as called upon (be happy and volunteer!)

NO DISPUTES ALLOWED - CD's HAVE THE LAST WORD FOR FAIRNESS.

Entries must be postmarked by June 4, 1984 - late fee \$5.00 payable on site.

NOTE: FOR DETAILS OF THE MIAMA PEANUT GRAND PRIX AND RECORD TRIALS, SEND A LARGE SASE TO Dr. J. Martin, 2180 Tigertail Ave., Miami, FL 33133 - (June 20, 21, 22, 1984)

BRING YOUR OWN CHAIRS AND TABLES-----AND BALLOONS (HELIUM WILL BE PROVIDED)
BANQUET - TUESDAY, JUNE 19, 1984 8:00 PM - \$11.00/PERSON

Detroit area contact: Richard Doig (313)373-5374

AWARDS to 3RD PLACE

	JR	SR	OP
HLG	X	X	X
PAPER STICK	JR. & SR. (COMBINED)		X
ROG CABIN			X
F1D			X
EASY B	JR. & SR. (COMBINED)		X
PENNY PLANE	X	X	X
NOVICE PP	X	X	X
MANHAT.			X
BOSTONIAN			X
INDOOR STICK	JR. & SR. (COMBINED)		X
PEANUT SCALE	JR. & SR. (COMBINED)		X
AMA SCALE			X
PEANUT SPEED			X
UNLIMITED SPEED			X
ORNITHOPTER			X

CASH PRIZES ONLY

Peanut Scale Rules per 51.A - 1982/83 AMA rule book
NOTE: All AMA rules apply except as described (over)

NOTE: All models for scale judging are to be submitted by 9:00 a.m. June 19 or earlier (along with documentation and name of contestant).

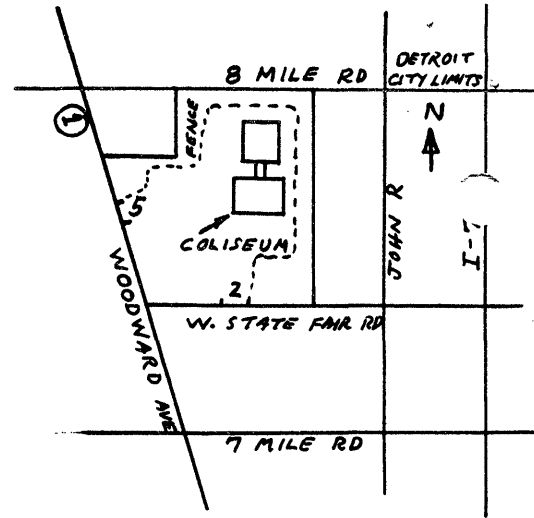
KIT - PLAN SCALE RULES

1. Scale, rubber powered models built from kits and/or published plans.
2. The prop and/or rubber mat be changed to allow a better prop-power combination.
3. The nose block and thrust button may be altered to facilitate winding of motor, but the nose block must retain the shape, size, etc. of the original.
4. The tissue and color may be changed, but all pertinent markings must be on the plans, (ie., door lines, hinge lines, cowl bumps, etc.). The color and trim should be appropriate for the era of the aircraft being modeled. No condenser paper or film coverings will be allowed. All flying surfaces must be double covered.
5. Static judging documentation will be based on published plans only. Structure, craftsmanship, and fidelity of construction to the plan are the basis for the model's score. Photographs and 3 views are not needed or required.
6. The final score will be the total of the static and flight scores, and are as follows:
 - A. **Static score:** 60 points max. for fidelity of construction to the plan, 40 points max. for craftsmanship.
 - B. **Flight points:** the time of the flight in seconds, the max. time cannot exceed the total of the static score for that model, total flight score will be the best 2 out of 5 officials, an official will be any flight of 15 seconds or longer in the air, model launching will be ROG (or at the discretion of the CD).

AWARDS TO 3rd IN OPEN, BEST JUNIOR AND BEST SENIOR.

Register at the Calumet Aircraft Modelers table on the day of the event. For further details, contact- Martin Varney

7992 White Oak Ln., Hammond, IN 46324



UNLIMITED RUBBER SPEED

1. Models must be rubber powered and propellor driven.
2. Models must start from an unassisted ROG launch from a 3 point sitting position.
3. Model to be timed for two complete laps around two pylons set 20 feet apart.
4. Flights will be disqualified if the model touches the pylon or ground after crossing the starting line.
5. The timer will stand in line with the two pylons. Timing starts when the model crosses the line determined by the two pylons and ends when it crosses the line after completing two laps.
6. Shortest time for two complete laps determines the winner.
7. There will be no limit to the number of models or launches.

PEANUT SPEED

The Unlimited Rubber Speed rules apply except for the following changes:

1. The models are limited to Peanut Scale models.
2. The models' scores will be the time in seconds for the model to fly 2 laps.
3. The lowest time will determine the winner.

		Includes One Event	Each Addl. Ev.
OP	NFFS AND NIMAS MEMBER	\$18.00	\$3.00
	NON NFFS AND NIMAS MEMBER	\$30.00	\$5.00
JR SR		\$ 7.00	\$2.00

All entries must be AMA Member or of their countries governing body

Send your entry payable to:

A. J. Italiano
1655 Revere Dr.
Brookfield, WI 53005
(414) 782-6256 (After 7 PM CDST)

(Send large SASE for extra entry blanks)

June 4, 1984 is deadline!

MANHATTAN CABIN RULES

1. Airframe weight, less rubber...Minimum four (4) grams.
2. Overall length.....20" max from prop bearing aft.
3. Fuselage...(a) Must support and enclose a single rubber motor. No motor sticks. (b) Must include or exceed a "box" 2½ x 4 x 2 inches. No diamond shapes. (c) Must have a windshield of 2 sq inches min area, and a window on each side of one square inch min area covered with cellophane or similar transparent material.
4. Prop... Solid wood, direct drive, fixed pitch.
5. Wing... Unbraced monoplane with 4" max chord and 20" max projected span.
6. Stab... Projected span 12" max. Chord 3½" max.
7. Landing gear... Rigid and fixed with at least two wheels of 1" minimum diameter.
8. Flying...All flights ROG, unlimited attempts to record 5 flights. Flights of less than 20 seconds are attempts. Best single flight wins.
9. Covering...Except for windshield and windows, paper or wood. No films.

BOSTONIAN RULES:

1. Maximum projected wingspan(s) 16"
2. " wing chord(s) 3"
3. " propeller diameter 6"
4. " overall length w/o prop is 14"
5. Minimum weight w/o motor(s) 7 grams (biplanes - 14 g)
6. Fuselage contains a "box" 1-1/2 x 2-1/2 x 3" or larger
7. Longerons must support the motor(s) & form "box"
8. Fixed landing gear, two or more rotating 3/4" dia. min. wheels
9. Must have a windshield and a window on each side with min. of 1 sq. in.
10. ROG
11. Charisma factor: Judge rates model on appeal to him, construction neatness, scale like details, uniqueness, etc. A 1.0 to 1.2 rating is used.
12. Seven official flights over 20 seconds, total in full seconds of the best two flights multiplied by the charisma factor determines winner basis

NO FAULT INSURANCE: Check your model before you come to contest---disqualified if your out of dimension model is due to lack of self discipline.

THIRD UNITED STATES INDOOR CHAMPIONSHIPS

June 18, 19, 20, 1984

MICHIGAN STATE FAIR COLISEUM



Please Print

Name _____ AMA NO. _____
 Last First Initial

Street _____

City _____ State _____ Zip _____

I hereby certify that I understand all of the rules under which I will compete and will diligently follow the official AMA safety code as well as any that may be established on site as well as apply the use of good accepted common sense in all my flying and affairs at the contest site.

Signature _____

Circle Events Entered

		Includes One Event	Each Additional Event
Open	NFFS or NIMAS Member	\$18.00	\$3.00
	Non NFFS and NIMAS Members	\$30.00	\$5.00
Junior Senior		\$ 7.00	\$2.00

1. Hand Launched Glider
2. Paper Stick
3. ROG Cabin
4. FID
5. Easy B
6. Pennyplane
7. Novice Pennyplane
8. Manhattan
9. Bostonian
10. Indoor Stick
11. Peanut Scale
12. AMA Scale
13. Peanut Speed
14. Unlimited Speed
15. Ornithopter

Junior [] Senior [] Open []

NOTE: You can join NFFS or NIMAS and AMA on premises.

Banquet - \$11.00 per person

In case of emergency please contact:

NAME _____ PHONE _____

STREET _____ CITY _____ STATE _____ ZIP _____

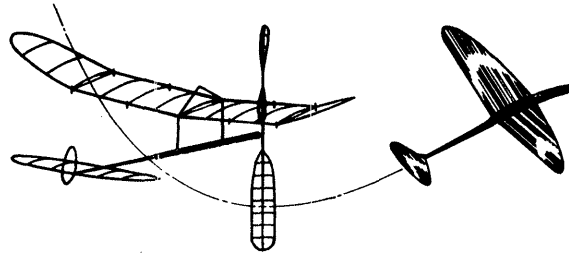
Send fees payable to:
 J. Italiano
 55 Revere Dr.
 Brookfield, WI 53005

Contest Sponsors:
 National Fee Flight Society
 National Indoor Model Airplane Society

Must be postmarked by June 4, 1984
 Late entry fee of \$5.00 payable on site

INDOOR**NEWS and VIEWS**

Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080



#14

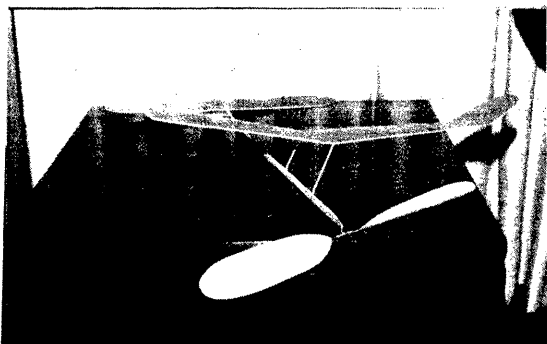
THIS ISSUE

This issue of INAV took longer to get out than I had hoped it would. The week before the United States Indoor Championships, Carl Wheeley of Model Aviation asked us if we would write an article on the U.S.I.C. for the magazine. Writing that article, gathering and captioning the accompanying photographs took more effort and time than we originally thought. That's done and it will appear in the October issue. Complete results of the U.S.I.C. will be in the next issue of INAV.

Now for this issue. Many thanks to Ed Whitten for the contest results and photo from Cantiague Park and also the Yankee Indoor Champs results. Also thanks to Stan Chilton for sending plans of his FAI Indoor model "Dragonfly". This is the model he flew at last year's FAI Finals and is among the trend to longer (36.6 inches) models.

MISSING SUBSCRIBERS

Two copies of issue #13 were returned as undeliverable by the Post Office, which considering the gap between #12 and #13 is remarkable. Do you know where these people are? Walter Lounsbury of Wichita, Kansas has moved, where? And Sgt. Charles Cohlt, APO, New York has probably been stationed somewhere else if he is still in the Service. If you know their whereabouts please let us know.



Is this your Easy B? This model - the rudder hangs below the stab - was left hanging in the girders on Wednesday morning of the U.S.I.C. The model is in good condition and we would like to return it to its builder. Please call Richard Doig at (313)373-5374 to claim.

WORLD INDOOR CHAMPIONSHIPS

The 1984 World Indoor Championships will be held during October in Nagoya, Japan. The word via Ed Whitten is the People's Republic of China will be sending a team.

CONTEST CALENDER

- AUGUST 11 FAI LOCAL, LONGWOOD RECREATION CENTER, OLNEY, MD, CAT I, F1D, Flying from 6 pm - 1 am. CD - Dan Belieff (301) 933-5445
- AUGUST 12 RECORD TRIALS, NORTHWOOD HIGH SCHOOL, WHEATON, MD, CAT I, This site is only 2½ miles from Olney and both are north of Washington DC, CD - Tom Vallee (301)498-0790
- SEPT 1-3 FAI REGIONAL, SANTA ANA HANGER #1, TUSTIN CA, CAT IV, Sponsor-MCAS, CD - Curt Stevens 24692 Nympha, Mission Viejo, CA 92691 (714) 586-5779
- SEPT 1-3 FAI REGIONAL, GOODYEAR AEROSPACE AIRDOCK, AKRON, OH, CAT IV, Contact CD in advance Bill Hulbert 174 Castle Blvd, Akron, OH 44313 (216)864-8030
- SEPT 29&30 11th ANNUAL MIDWESTERN STATES INDOOR CHAMPIONSHIPS, CHANUTE AFB, RANTOUL, IL CAT II, Sponsor-Chicago Areonuts These plans are still tentative and details will be in an upcoming issue
- OCTOBER 28 MICHIGAN INDOOR CHAMPIONSHIPS, STATE FAIR COLISEUM, DETROIT, MI, CAT III, F1D, Paper Stick, EZB, Novice Pennyplane, Manhattan Cabin, Bostonian, HLC, AMA Scale Peanut Scale, Blatter 40. Sponsor-Detroit Balsa Bugs & Exchange Clubs Council CD - Richard Doig 6Canary Hill, Pontiac, MI 48055 (313)373-5374

The listing in the Competition Calender of Model Aviation for the Midwestern States Indoor Championships in the Jones Armory is a mistake. The correct site is Chanute AFB, Jones Armory will only be used as a backup site should Chanute fall through.

LOW LIBRARY FLYING

Flying sessions in the Low Library Rotunda of Columbia University will resume in September, contact Ron Williams at (212) 722-5262 for specific dates.

RON WILLIAMS' BOOK

Yes, indoor modelers, the book Building and Flying Indoor Model Airplanes by Ron Williams is being published again. This edition is softcover, costs \$14.95 and has an updated Appendix. It should be available by September 1 in most hobby shops and bookstores, if you don't see this book ask for it. Or you can order it directly from the publisher:

Peregrine Smith Books, Inc.
P.O. Box 667
Layton, UT 84041 USA

- Add \$1.50 shipping for the first book ordered and 75¢ for each additional book.
- Overseas orders add \$2.00 shipping for first book ordered and \$1.00 for each additional book, U.S. funds only please.

COMPETITION RULES AND PROCEDURES

On May 5 & 6, 1984 there was a joint meeting of the Executive Council and all Contest Board Chairmen. The following results of that meeting were excerpted from the August 1984 issue of Model Aviation.

The main problem addressed was getting the AMA Rulebook into member's possession before the first of the year in which the rulebook takes effect. The solution which was unanimously accepted by the Executive Council and Contest Boards goes into effect immediately. The September 1, 1984 deadline for presenting Proposals remains. The major difference is that a separate Cross-proposals cycle and the Interim vote on them have been eliminated. Revisions and refinements can be made to a Proposal but are subject to approval of the Proposal's author. These need no special form and can be submitted through January 1, 1985 to the appropriate Contest Board Chairman. Comments can be made on any Proposal through the Final vote on May 1, 1985. If you feel a proposal needs major changes then that is a new proposal requiring the proper form with its deadline of September 1, 1984.

Other changes made at this meeting include "changing from simple majority to 2/3 majority of responding members for passage on the Initial vote where one (or more) Contest Board (s) are involved." Also "the rule book will be split up into a General section, which includes rules acted on only by the Executive Council or the combined Contest Boards and individual sections containing all the rules acted on by each of the individual boards. These individual sections will contain all the rules associated with the actual field operation of a contest except for those concerned with site, facilities, officials, protests, and other administrative and organizational rules." This will be done for the next (1986-1987) rulebook.

Also some interest has been shown for a rule book for Contest Directors that is a large-print 8 1/2 x 11 loose-leaf format. If you are interested let your Contest Board representative know.

Elsewhere in this issue are photocopies of all the Indoor Proposals received to date. Read them over and if you feel minor changes are needed submit a revision or if major changes are needed then submit a new proposal. Or if something has not been addressed that you think should, then you submit the proposal. The last page of this issue - U.S. copies only - is a blank Rules Proposal form. USE IT! All forms must be postmarked no later than September 1, 1984! Don't delay as time is running short.

INDOOR TROPHIES

Unique indoor trophies are hard to come by, but in recent issues of Model Aviation are some good examples. The August Letters to the Editor has a photo from Bob Clemens of a three dimensional Indoor Scale trophy. Bud Tenny's Indoor column in the July issue has a photo etched trophy plate courtesy of Don Chancey. After seeing these examples we had to pass along this idea.

This is the Detroit Balsa Bug's FAI Indoor trophy, given every other year to the highest placed Michigan resident in the FAI Indoor Team Selection program. The trophy was rebuilt in 1981 by Richard Doig, current holder of the trophy, so the wire art style indoor model even has all the appropriate twists. The model has a 6 1/2" wingspan and an overall length of 9". It was made using .045 and .050 music wire soldered together and then spray painted with gold Rust-Oleum.

ONE MORE TIME IN WEST BADEN

Arrangements were made on very short notice, for the weekend of June 30 and July 1 to have a Record Trials in the West Baden Atrium. Eight modelers attended and a majority of them had come to set records.

West Baden without the meals and accommodations at the site is not the same atmosphere. Also the usual site preparations were not the same. The plastic shrouds around the bandstand at the roof remained intact and we were able to have all the windows overlooking the Atrium shut, but we were unable to cover the fireplace or close all the outer doors. Also there were tours which came in every 45 minutes and walked across the floor making for some interesting moments as they almost collided with a descending model.

Dick Ganslen was testing new microfilm models and Carl Fries brought along his Easy B. Ornithopter fliers Walt Erbach and Roy White came to try for records. Walt Van Gorder brought his Manhattan Cabin to try and increase his CAT III record of 9:00 set June 10 in Cincinnati. Richard Doig had rebuilt his AMA Stick monster from the U.S.I.C. hoping to do better time. He also brought his R.O.G. Cabin along but could do no better than 24:47, just short of the record. Jim Richmond brought his new FAI design to test in a 98' ceiling and try to beat Cezar Bark's record of 39:04 but could do no better than 38:30.

Al Rohrbaugh was the only flier who was able to set a new record - 8:17 with his unique Ornithopter. Al hopes to have an article showing his new design published in one of the modeling magazines soon.

The lack of record setting was due to the unusually cool weather, it only got to 75°F and the turbulence caused by the open doors and tourists trooping through.

FUTURE FLYING IN WEST BADEN ?

As to the future possibility of flying in the Atrium it looks very bleak. Northwoods Institute closed its college campus there last September and has leased the property with an option to purchase to Eugene MacDonald, a local hotel owner. He intends to restore the building and grounds to a luxury hotel resort, its original use. It is his intention that when restoration is complete he cannot give a group exclusive use of the Strium unless they rent out all the hotel rooms - all 432 rooms.

It is the concensus of the modelers who attended this last Record Trials that as long as MacDonald has control of the building no flying will happen. It is also the group's opinion that the restoration plans will never get beyond the planning stage as there was no evidence in June of work starting or about to start. Rumors in West Baden say there is some sort of deadline in September. If this is true the situation may change later this year. We will keep you posted as events there unfold.



CANTIAGUE PARK (50'), HICKSVILLE, LI, NY * CD JOHN CARBONE * Sponsored by L.I.A.M.A.C. with awards by GRUMMAN AEROSPACE CORP. * June 9 - 10, 1984

PENNYPLANE

- 1) Steve West 8:45
- 2) Joe Nuszer 8:19
- 3) Bob Bender 8:18
- 4) Frank Haynes 8:06
- 5) Randy Boston 7:59
- Manny Radoff 7:59
- 7) Richard Whitten 7:26
- 8) Ted D'Alessandra 7:14
- 9) Mark Trubowitsch 7:04
- 10) John Triolo 6:49
- 11) Ed Beshar 6:22
- 12) Heidi Spigelmyer 4:25

EASY "B"

- 1) Joe Nuszer 9:21
- 2) Frank Haynes 8:34
- 3) Ted D'Alessandra 7:48
- 4) Bob Bender 7:06
- 5) Steve West 5:56
- 6) Ed Beshar 5:44
- 7) Heidi Spigelmyer 4:22
- Mark Trubowitsch x
- Randy Boston x

MICROFILM (ONLY) STICK

- 1) Manny Radoff 19:07
- 2) Richard Whitten 16:28
- 3) Joe Nuszer 13:18

H. L. GLIDER (ALL Balsa)

- 1) Joe Nuszer 38.3 + 38.0 = 76.3
- 2) Mark Trubowitsch 36.7 + 33.1 = 69.8
- 3) Bob Bender 32.0 + 31.0 = 63.0
- 4) Bill Passarelli 30.2 + 32.0 = 62.2
- 5) Scott Pulver (JR) 28.0 + 20.2 = 48.2

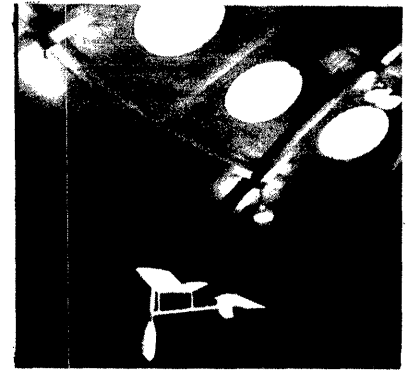
BOSTONIAN (7 gr. - Best Single Flight times 20% Charisma - HL)

- 1) Mark Trubowitsch 158 x 1.15 = 181.7
- 2) Bill Passarelli 135 x 1.20 = 159.6
- 3) Bob Bender 132 x 1.15 = 151.8
- 4) Randy Boston 136 x 1.10 = 149.6
- 5) Frank Haynes 134 x 1.10 = 147.4
- 6) Joe Nuszer 85 x 1.10 = 97.5

PEANUT SCALE (1983 AMA Rules - HL - all rec'd 1.0 Factor)

- 1) Bill Passarelli 135 + 79 pts = 215
- 2) Joe Nuszer 138 + 73 " = 211
- 3) Randy Boston 140 + 69 " = 209
- 4) Frank Haynes 114 + 71 " = 185
- 5) Bob Bender x 84 " x

Scott Pulver received a prize for best time in HLG for a Junior, and Heidi Spigelmyer received a trophy for being the "outstanding beginner". Winners received trophies through third place in all events.



Ed Beshar's PennyPlane descends in Cantiague Park skating arena... Blue sky-lights are the trade-mark of this site. Ed Beshar is a legend... and one of my heroes from way back. In Carl Claudy's book (1931) he has 3 plans, an OHLG, a 9 Min. Indoor Tractor and a Twin Pusher.

Ed started building in 1927 at age 11, and admits to not winning a contest until 1929 at the old age of 13.

Conditions during this contest were somewhat unusual. This site is an ice skating arena and the ice had recently been removed. On Saturday hot temperatures outside and cool temperatures inside caused it to rain inside the building prior to flying leaving large puddles on the floor making R.O.G. impossible. Sunday had fog rising from the floor!

1984 YANKEE INDOOR CHAMPIONSHIPS

June 17 Westover AFB, Chicopee, Mass.
(site of the 1983 Nationals)

FAC SCALE (12 Entries)

- 1) George Meyers
- 2) Jerry Wagner
- 3) Henry Frautschy
- 4) Art Maiden
- 5) Waldo Cargill

PEANUT SCALE (12 Entries)

- 1) Jerry Wagner
- 2) Henry Frautschy
- 3) Jim Fiorello
- 4) George Meyers
- 5) Bob Clemens

WWI MASS LAUNCH (6 Ent.)

- 1) George Meyers
- 2) Ed Heyn
- 3) Pat Ciambrello
- 4) Ted Langley
- 5) Art Farranda

WWII MASS LAUNCH

- 1) Jerry Wagner
- 2) Waldo Cargill
- 3) George Meyers
- 4) Art Maiden
- 5) Ed Heyn

NO-CAL (2 Entries)

- 1) Jerry Wagner
- 2) Bob Clemens

AMA STICK (6 Entries)

- 1) Jerry Wagner 17:23
- 2) Pete Andrews 17:05
- 3) Jon Harlan (JR) 16:59
- 4) Jim Fiorello 11:41
- 5) Pat Ciambrello 6:54

EASY "B" (9 Entries)

- 1) Ray Harlan 15:51
- 2) Pete Andrews 13:09
- 3) Jerry Wagner 11:55
- 4) Jon Harlan (JR) 9:31
- 5) Walt Henry 9:19

MANHATTAN (3 Entries)

- 1) Pete Andrews 7:27
- 2) John Triolo 6:58
- 3) Frank Haynes 5:48

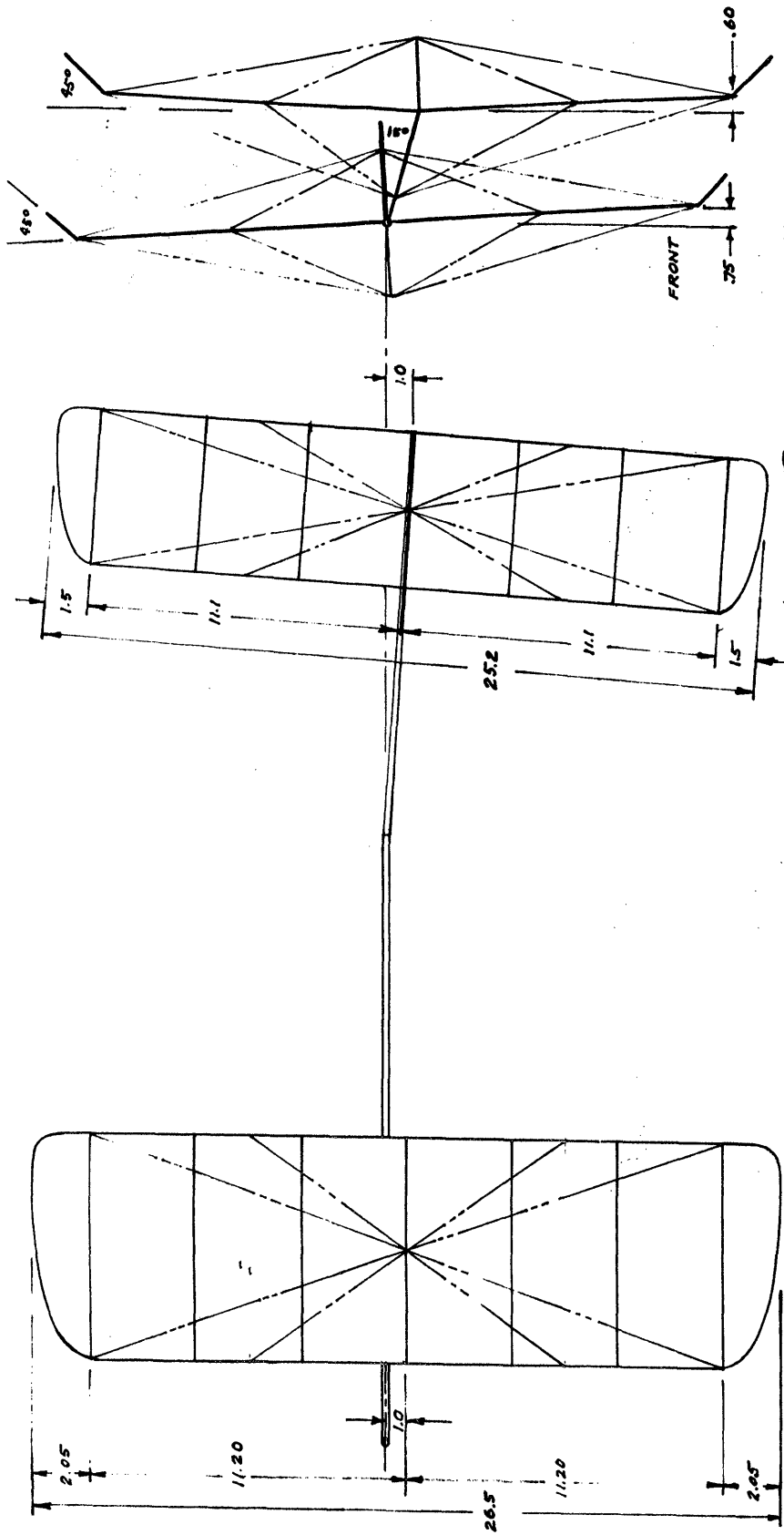
BOSTONIAN (6 Entries) - 7 Gr., 2 Best Flights X 20% Charisma, ROG, Singled Covered Surfaces OK

- 1) Chet Bukowski 326.9 Pts.
- 2) Bob Clemens 231.9 "
- 3) Ted Langley 208.2 "
- 4) John Triolo 202.8 "
- 5) Frank Haynes 105.1 "

PENNY PLANE (13 Entries)

- 1) Pete Andrews 11:45
- 2) Steve West 10:43
- 3) Manny Radoff 9:29
- 4) Frank Haynes 9:20
- 5) Jon Harlan (JR) 8:17

In addition, Jon Harlan set a new Junior AMA National Helicopter Record of 6:18.



"DRAGONFLY" FID
 BY STAN CHILTON - 1983

POWER : 072 x .040 x 2.51 PIRELLI
 2.27 GR. 2700 MAX TURNS

PROP : 19.5/31

WTS : WING .011 .02.
 BODY .026
 PROP .0067
 TOTAL .0437 .02.

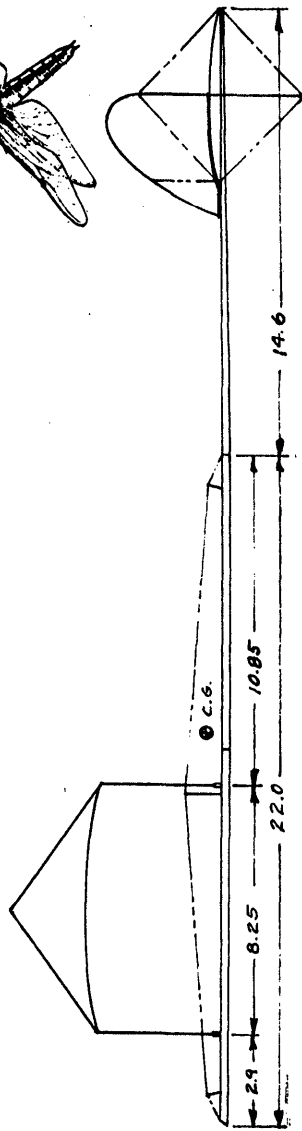
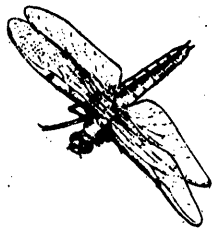


EXHIBIT A

PROPOSAL NO. IND-86-1
(to be inserted by HQ)

POSTMARK DATE: 5/11/84
(to be inserted by HQ) Rec'd 6/27/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics CONTROL LINE GENERAL

Type of Proposal: (Circle one) Basic Proposal¹ Cross-Proposal² (Identification No. of relevant Basic Proposal: _____)

1. Brief summary of the proposed change: TO REMOVE THE INDOOR CATEGORY FROM THE RULES AND TO REMOVE THE RUBBER BANDS FROM THE RUBBER BANDS WHICH SUBMITTERS USE TO HOLD THE MODEL TOGETHER.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable; Example: Change "(quote present rule book wording)" to: "(exact wording desired)". 19.3 Classes- Change Paper covered to Intermediate to "Intermediate" in two places.

3. Logic behind proposal change, including alleged shortcomings of present rules: THIS PROPOSER WOULD REMOVE THE RUBBER BANDS FROM THE RULES BECAUSE THEY ARE NOT USED IN THE INDOOR CATEGORY AND THEY ARE NOT USED IN THE OUTDOOR CATEGORY EITHER. THE RUBBER BANDS ARE ONLY USED IN THE INDOOR CATEGORY AND THEY ARE NOT USED IN THE OUTDOOR CATEGORY EITHER.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).
Proposer: Anthony J. Williams AMA Member No. 6232 Date of Signature 4/24/84
Street Address: 198 TWINS FORD RD State: PA Zip: 17954
City: RICHMOND State: PA Zip: 17954
Endorsement: Pat Beach AMA Member No. 2287 Date of Signature 4-28-84
Endorsement: Robert Johnson AMA Member No. 2082 Date of Signature 4-28-84

OR TO CHANGE THAT SENTENCED TO READ:
OUTDOOR RUBBER BANDS MAY BE USED TO SUBMITTER'S ATTACH THE SUBMITTERS TO RUBBER BANDS.

EXHIBIT A

PROPOSAL NO. IND-86-2
(to be inserted by HQ)

POSTMARK DATE: Ap 12, '84
(to be inserted by HQ) Rec'd 6/27/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics CONTROL LINE GENERAL

Type of Proposal: (Circle one) Basic Proposal¹ Cross-Proposal² (Identification No. of relevant Basic Proposal: _____)

1. Brief summary of the proposed change: To allow the use of any covering material other than microfilm. The commonly used condenser paper is no longer being produced. The time to change is now before condenser paper becomes like gold to the contest flyer. The intent of the paper covered rule was to eliminate microfilm and at that time paper was the only alternative.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable; Example: Change "(quote present rule book wording)" to: "(exact wording desired)". 19.3 Classes- Change Paper covered to Intermediate to "Intermediate" in two places.

3. Logic behind proposal change, including alleged shortcomings of present rules: Modern day capacitors are produced from metalized plastic films rather than thin paper and aluminum foil due to the size and cost savings. Condenser paper is going the way of the buggy whip. Plastic films are easier to work with and cost a lot less than any of the light paper materials. Plastic cost under .25¢ sq.ft.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).
Proposer: Curt Stevens AMA Member No. 4719 Date of Signature 4/5/84
Street Address: 2492 Nympha State: Cal Zip: 92691
City: Mission Viejo State: Cal Zip: 92691
Endorsement: Walter J. Williams AMA Member No. 3530 Date of Signature 4-7-84
Endorsement: Clarence J. Mather AMA Member No. 8133 Date of Signature 4-7-84

A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.
A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

EASY D
EXHIBIT A

PROPOSAL NO. IND-86-3
(to be inserted by HQ)

POSTMARK DATE: Ap 12, '84
(to be inserted by HQ)

Rec'd 6/27/84

RULES CHANGE PROPOSAL FORM

APR 17 1984

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter GENERAL

Type of Proposal: (Circle one) Soaring RACING Aerobatics Cross-Proposal? (Identification No. of relevant Basic Proposal:)

- Brief summary of the proposed change: To allow the use of any covering material other than microfilm. The commonly used condenser paper is no longer being produced. The time to change is now before condenser paper becomes like gold to the contest flyer. The intent of the paper covered rule was to eliminate microfilm and at that time paper was the only alternative.
- Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quotes present rule book wording)" to: "(exact wording desired)"):
19.8.2a Change "The easy B model shall be a paper covered monoplane" to read "The easy B model can be covered with any commercially available solid material such as paper or plastic film. Microfilm is not allowed."

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

- Logic behind proposal change, including alleged shortcomings of present rules: Modern day capacitors are produced from metalized plastic films rather than thin paper and aluminum foil because of the cost and size savings. condenser paper is going the way of the buggy whip. Plastic films are easier to work with and cost less than any of the light paper materials. Cost under 0.25¢ sq. ft.

Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Curt Stevens AMA No. 219 Member Cat. 4/5/84

Street Address: 24692 Nympha State: Cal Zip: 92691
City: Mission Viejo

(2) Endorsement: Maryj Willing Member Card No. 7-74 Date of Signature: 4-17-84

(3) Endorsement: Clarence J. Mather Member Card No. 8133 Cat. 4-1-84 Date of Signature: 4-1-84

A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been "tentatively accepted" by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

Penny plane
EXHIBIT A

PROPOSAL NO. IND-86-4
(to be inserted by HQ)

POSTMARK DATE: Ap 12, '84
(to be inserted by HQ)

Rec'd 6/27/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter GENERAL

Type of Proposal: (Circle one) Soaring RACING Aerobatics Cross-Proposal? (Identification No. of relevant Basic Proposal:)

- Brief summary of the proposed change: This class should be dropped because it serves no purpose and just adds to the rule book confusion. Novice pennyplane is a good beginners event and should be retained. The old paper stick class with plastic film covering will make an excellent intermediate class without all the crazy pipes and fat props.
- Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quotes present rule book wording)" to: "(exact wording desired)"):
20.3 Eliminate the pennyplane class completely.
20.3 and 20.4 could be combined into a new 20.3 containing all the rules for the novice pennyplane event.

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

- Logic behind proposal change, including alleged shortcomings of present rules: The Pennyplane class was a good idea that went wild and now serves no purpose at all.

Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Curt Stevens AMA No. 219 Member Cat. 4/5/84

Street Address: 24692 Nympha State: Cal Zip: 92691
City: Mission Viejo

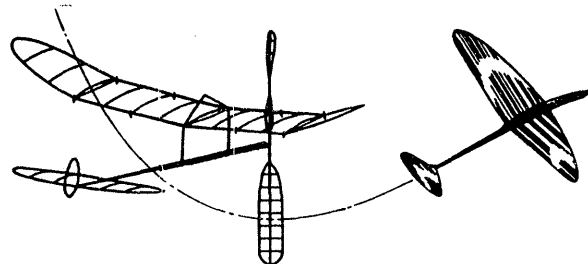
(2) Endorsement: Maryj Willing Member Card No. 7-74 Date of Signature: 4-17-84

(3) Endorsement: Clarence J. Mather Member Card No. 8133 Cat. 4-1-84 Date of Signature: 4-1-84

A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been "tentatively accepted" by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

INDOOR



#15

NEWS and VIEWS Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080 This Issue: Melody & Richard Doig - 6 Canary Hill Dr., Pontiac, MI 48055

THIS ISSUE

We would like to thank everyone for their constructive criticism and compliments on issues #13 and #14. We also invite you to submit technical information to share with the world or technical questions you would like answered.

The 2½ months since issue #14 have been very busy with 2 contests out of town - Akron and Chanute AFB - and running 2 contests here - Michigan Outdoor Champs Free Flight events and Michigan Indoor Champs. So to answer Herb Robbins INAV won't hurt the flying but contests will postpone INAV.

CONTEST CALENDER

CALIFORNIA - TUSTIN

FAI Team Selection Local in Hanger #1 on Tustin M.C.A.F. the first weekend of each month. Nov. 3&4, Dec. 1 & 2, etc. To gain admittance to base contact Curt Stevens (714) 586-5779 or 24692 Nympha, Mission Viejo, CA 92691

CALIFORNIA - SAN DIEGO

Indoor flying and contest the 4th Friday of each month, starting time 7:30 pm at the Colina Del Sol Community Center, 5319 Orange Av. Contact San Diego Orbiters program chairman Chuck Dugan (619)448-1373

FLORIDA - MIAMI

MIAMI indoor meets #1 Oct. 14, #3 Dec. 9, #5 Feb10 and World Proxy Inter-Gnats April 13 & 14. Miami Dade South College 11011 S.W. 104th Street CAT II 27 feet Events: Scale, Peanut, Pistachio, Kit/Plan, "A" R.O.G., FAC mass launch, Easy B, Pennyplane, Novice Pennyplane, Manhattan/Bostonian. Contact Mike Arak (305) 666-6620 or "Doc" Martin (305)858-6363 or 2180 Tigertail Av. Miami, FL 33133

FLORIDA - TAMPA

MIAMI indoor meets #2 Nov.10 & 11, #4 Jan.12 & 13, #6 March 9 & 10, #7 May 11 & 12 at MacDill A.F.B. CAT III 61 feet To gain admittance onto base you must contact Dick Obarski (813) 693-1996 or 2349 Barcelona Av. Fort Myers, FL 33905 Events: EZB, Peanut Scale, Manhattan/Bostonian, "A" R.O.G., HLG, Pennyplane, Novice Pennyplane, Kit/Plan

MASSACHUSETTS - BOSTON AREA

Flying sessions start Saturday, Nov. 10, 6-10 pm and then the first Saturday of each following month. M.I.T. Dupont gym, Cambridge, MA CAT II Events flown based on participants' interest. Contact Ray Harlan (617) 358-4013 or 15 Happy Hollow, Wayland MA 01778

MISSOURI - KANSAS CITY

Fun flying and contests at Westport Community Center, 3601 Roanoke Rd., Kansas City (downtown) Saturday Nov.17, 2 pm organizational meeting, 3-5 pm fun fly, Saturday Dec.15, 3-5 pm fun fly, Saturday Jan.19, 3-5 pm contest for Peanut and profile scale, Saturday Feb.16, 3-5 pm contest for AMA and Peanut scale, Saturday March ?, 3-5 pm contest for Easy B, Pennyplane, OT R.O.G. Contact Roger Schroeder (913) 648-4265 or 4111 W. 98th Street, Overland Park, KS 66207

NEBRASKA - LINCOLN

Nebraska Free Flighters Fall Indoor Contest Sunday, Nov.18 at Beatrice City Hall, 30 miles south of Lincoln. Events: Easy B, HLG, Peanut, one design Easy B, Bostonian. Contact L. Blinde (402) 467-4765 or 3833 N. 56th Street, Lincoln, NE 68504

NEW JERSEY - GLASSBORO

Contests at Glassboro Community College (October 27 cancelled) CAT I 23½ feet - sponsored by Philadelphia Sky Pirates. Contact Frank Donnelly (215) 637-1167 or 3613 N. Hereford Lane, Philadelphia, PA 19114

NEW JERSEY - LAKEHURST

FAI Team selection contests and flying sessions in Hanger #1 at New Jersey Naval Air Station, CAT IV. Dates will be set after remodelling project finishes. Contact C.V.Russo (201) 382-0871 or 143 Willoway, Clark, NJ 07066

NEW YORK - WESTCHESTER COUNTY

Possible flying sessions and contests in Horace Greeley High School in Chappaqua-35 miles north of New York City. Contact Bob Langelius (914)949-6083.

OKLAHOMA - OKLAHOMA CITY

Fun flying and contests at National Guard Armory, 23rd Street, Oklahoma City. Sunday Nov.11 fun fly, Sunday Feb.17 fun fly or contest, Sunday March 17 contest. Contact Bill Baker (405) 329-1018 or 1902 Peter Pan, Norman, OK 73069

TEXAS - DALLAS AREA

Monthly flying sessions and contest at Bedford Boys Ranch in Bedford. Contact Jess Shepherd (817) 282-3770 or 2713 Summit View, Bedford, TX 76021

When writing for more information on a flying session or contest we suggest you include a self addressed, stamped business size envelope. This will help speed the information back to you and save the contact person some money and effort.

The above listings for contests and/or flying sessions are all the ones we know about. Most cover multiple sessions throughout the upcoming winter. Hopefully more groups around the country have plans for flying activities this winter, if so please send us your flyer, or write us, or give us a call. (313) 373-5374 Plans need not be complete but you must include the telephone number (address optional) of someone to contact for more information.

COLUMBIA UNIVERSITY

NO flying sessions have been scheduled in the Low Library Rotunda. New efforts are being made and it looks promising. The problems occurred because Ron Williams is no longer a professor at Columbia and last year's sponsor - the Office of Student Affairs - was the victim of budget cuts. Please do not rock the boat by contacting Columbia University directly, as this could jeopardize the negotiations. If you want to help or want information contact Ron Williams directly, at (212) 722-5262. Or contact Ed Whitten at home (212) 724-0282 or office (800) 521-3384.

FROM AROUND THE WORLD

HUANG Yongliang of the Peoples Republic of China writes (to Ed Whitten) that their Indoor Team was picked last November at the National contest in Shanghai. The ceiling height is about 46 feet. All members are from Shanghai which is the center of indoor activity in China.

1. LOW Sau-Lum	23:48 + 23:06	46:54
2. CHEN Kwok-Hun	20:30 + 20:22	40:52
3. ZHU Sai-Ping	13:49 + 14:27	28:16

Note: Ed Whitten did the translation and says these spellings may not be exactly correct as the Chinese have recently simplified many of their characters and consequently an entirely new system of Romanization is now used.

Jorgen Korsgaard, a Dane living in West Germany, writes that he will be making the trip to Nagoya, Japan as the first team from Denmark. He attended the FID International in Wroclaw, Poland on June 28 to July 1, 1984 for practice. Jorgen placed 18th of 41 contestants with flights of 28:00 + 27:10 for a 55:10 total. Aurel Popa of Rumania placed first with 34:36 + 32:32 for a 67:08 total. I believe this site is just below CAT III maximum of 15 meters or 98 feet 5 inches.

1986 FAI INDOOR TEAM SELECTION

U.S. INDOOR CHAMPIONSHIPS REGIONAL - DETROIT, MICHIGAN

JUNE 18 & 19, 1984

	best 2 flights		total	points
1. Larry Cailliau	30:14	29:55	60:09	100.00
2. Bill Hulbert	25:39	25:42	51:21	85.34
3. Paul Tryon	23:42	23:45	47:27	78.89
4. Jim Richmond	21:31	25:00	46:31	77.34
5. Walt Van Gorder	23:48	19:05	42:53	71.29
6. Larry Loucka	20:31	20:30	41:01	68.20
7. Richard Doig	21:25	19:10	40:35	67.46
8. Dick Obarski	18:43	20:50	39:33	65.75
9. Dan Belieff	13:36	12:04	25:40	42.68
10. Larry Mzik	13:24	12:01	24:25	42.26
11. Ron Ganser	3:48	-	3:48	6.32

GOODYEAR AIRDOCK REGIONAL - AKRON, OHIO SEPT.1-3,1984

	best 2 flights		total	points
1. Jim Richmond	39:11	38:56	78:07	100.00
2. Ron Ganser	35:58	37:26	73:24	93.96
3. Richard Doig	35:41	35:59	71:40	91.74
4. Bill Hulbert	35:14	34:12	69:26	88.88
5. Paul Tryon	33:47	31:00	64:47	82.93
6. Dick Obarski	31:57	29:58	61:55	79.26
7. Larry Loucka	29:14	32:35	61:49	79.13
8. Walt Van Gorder	30:39	30:53	61:32	78.77
9. Jon Harlan	30:32	30:06	60:38	77.62
10. Bob Gibbs	11:14	35:25	46:39	59.72
11. Ray Harlan	38:08	8:02	46:10	59.10
12. Larry Mzik	24:23	18:04	42:27	54.34

INDOOR '84 NAGOYA

Individual Competition			Nations Competition		
1. J.Richmond	USA	1.17:27	1. U.S.A.		
2. C.Banks	USA	1.14:43	2. Poland		
3. R.Randolph	USA	1.12:04	3. Switzerland		

The next issue of Indoor News and Views (#16) will contain complete coverage of the recent World Championships held in Nagoya, Japan. Issue #16 will arrive about one week after you receive this issue.

1984 UNITED STATES INDOOR CHAMPIONSHIPS POST SCRIPT

The third U.S.I.C. is history--held on June 18 to 20, 1984 at the Detroit State Fair Coliseum. The Coliseum was a pleasure to fly in, ie, clean, well kept and generally no drift. It was also well lighted and maintained an acceptable temperature thru-out the day. Ceiling height was 66 feet with truss work above that. The central loudspeakers were shrouded in plastic sheeting and did not present a problem. The cooperation of all flyers was excellent and a general air of comradery existed.

There were two problems- (1) Rental charge for the Coliseum at approx. \$500 per day- (2) Insufficient attendance.

The 57 entrants did not provide enough income to pay for the total expenses. The basic entry fee was set at \$18 based upon a break even point of 85 entrants and at least 3 events per flyer. To increase the fee to a higher value would be detrimental to attendance. We will be incurring a loss and holding a U.S.I.C. in Detroit again would be detrimental to the good health of N.F.F.S.

Total event entries equaled 177 or a 3.1 average events per entry. We had 3 junior and 1 senior entries.

The EZB event is still the largest attraction with 23 active flyers. The 13 entries in FID is still an excellent number. The Canadian attendance was down but those that did attend were of very high calibre. Mike Colling of Great Britain attended. He was visiting the U.S. as a guest of Doug Barber.

Attendance broke down as follows:

Michigan----18	Maryland----1	Pennsylvania-1
Wisconsin----5	California---1	Florida-----5
Indiana-----3	Nebraska----2	Missouri-----2
Illinois-----4	Ohio-----10	New Jersey---1
Canada-----2	England-----1	

Thanks of a high order are extended to Rich & Melody Doig for the detailed arrangements of the facility, shrouding of the speakers, helium and the handling of all of the minor but important details. Many thanks to the unsung "heroes" of scale competition, ie., Messers Walter Hartung and Jim Jones, the scale judges. N.F.F.S. thanks the following individuals for their extra generous donations towards dumping the U.S.I.C. deficit:

G. Wisniewski, W. Ganslen, H. Brodersen, W. Erbach, R. White, J. Voorhees, R. Doig, L. Leifer, J.& W. Beton, J. Hervat, L. Garber, N. Taggart, Doc Martin, A. Italiano

The Banquet was held on Tuesday night (6-19-84) at the Gazebo Inn--food and facilities were excellent. The guest speaker was Robert Dial, ex Flying Tiger pilot and General Motors Corporate Pilot. Bob held the assembled on the edge of their seats with his experiences and inside thinking of a fighter pilot under combat stress.

The next great challenge we have is to find a suitable site for the 1985 U.S.I.C. We are still looking for a ceiling height of close to 100 feet, central U.S. location preferred, free access or a fee of less than \$300 per day and close to housing. Please send any information you have on such a site to: A. Italiano, 1655 Revere Dr., Brookfield, WI 53005.

The attendance at the M.I.A.M.A. Grand Prix was much reduced. Doc Martin ran his program concurrent with the U.S.I.C. scale events. The dollar excuse is not valid as the M.I.A.M.A. fee was approx. half of the U.S.I.C. and you could also fly outside of normal working daytime hours.

Remember - "united we stand, divided we fall" - so indoor flyers it is incumbent upon each individual to effect a united stand and get all of the indoor flyers to actively participate.

A. J. Italiano
President N.F.F.S.

1984 UNITED STATES INDOOR CHAMPIONSHIPS

JUNE 18-20, 1984

SPONSORED BY N.F.F.S. & N.I.M.A.S.

HAND LAUNCHED GLIDER - JR		ORNITHOPTER - OP		PENNYPLANE - JR		PAPER STICK - OPEN	
1. P.Loucka	78.6	1. W. Erbach	3:48	1. P. Loucka	8:08	1. R. Ganser	18:09
2. M.Pivitt	48.2	2. R. White	3:33	2. R. Skrjanc	8:07	2. L. Loucka	17:24
3. J.Pivitt	27.8	3. F. Kieser	2:51	3. T. LaClave	7:39	3. R. Doig	17:06
HAND LAUNCHED GLIDER - SR		4. W. Franklin	3:2	PENNYPLANE - OP		4. D. Belieff	15:40
1. B.Fulmer	96.4	NOVICE PENNYPLANE - JR		1. G. Wisniewski	12:01	5. R. Obarski	15:15
HAND LAUNCHED GLIDER - OP		1. P. Loucka	6:41	2. W. Van Gorder	11:01	6. G. Skrjanc	12:33
1. B.Boehm	114.8*	2. T. LaClave	6:39	3. W. Simmers	8:47	7. G. Wisniewski	8:36
2. P.Shailor	113.6	NOVICE PENNYPLANE - OP		4. G. Skrjanc	8:41	8. J. Annis	8:17
3. W.Simmers	80.4	1. W. Simmers	9:20	5. R. Pivitt	8:26	9. C. Sotich	3:32
4. R.Pivitt	79.0	2. J. Nolin	9:15	6. A. Italiano	7:52	EASY B - JR/SR	
5. D.Belieff	75.8	3. D. Barber	9:09	7. J. Nolin	7:46	1. P. Loucka	10:34
6. P.Crowley	70.8	4. B. Boehm	9:03	8. J. Voorhees	7:16	2. R. Skrjanc	8:49
7. R.Doig	68.0	5. J. Jones	7:22	9. E. Konkel	7:09	EASY B - OPEN	
8. G.Honda	65.4	6. M. Colling	6:52	10. W. Franklin	6:52	1. W. Van Gorder	14:43
A.M.A INDOOR STICK - JR/SR		7. C. Sotich	7:16	11. W. Everson	5:49	2. R. Doig	13:18
1. P. Loucka	15:55	8. M. Colling	6:52	R.O.G. CABIN - OP		3. R. Obarski	12:59
2. R. Skrjanc	15:28	9. J. Voorhees	6:49	1. R. Doig	19:38	4. K. Groves	12:18
A.M.A. INDOOR STICK - OP		10. G. Wisniewski	6:31	2. R. Ganser	19:17	5. G. Wisniewski	11:53
1. J. Richmond	30:02	11. W. Van Gorder	5:55	3. D. Belieff	18:53	6. W. Simmers	11:49
2. R. Doig	22:33	12. J. Lemon	5:36	4. L. Loucka	16:29	7. J. Nolin	11:23
3. P. Tryon	22:12	13. A. Italiano	5:28	PAPER STICK - JR/SR		8. D. Barber	11:03
4. D. Belieff	20:36	14. W. Franklin	1:07	1. R. Skrjanc	15:10	9. E. Vargo	9:41
5. W. Van Gorder	20:02	15. E. Vargo	1:06	2. P. Loucka	11:39	10. J. Jones	9:12
6. J. Annis	17:11	MANHATTAN CABIN - OP		EASY B - OPEN			
7. R. Obarski	15:17	1. R. Ganser	8:03	11. R. Pivitt	8:49	12. W. Everson	8:45
8. L. Mzik	13:00	2. W. Van Gorder	8:00	12. J. Voorhees	8:45	14. M. Wells	8:05
9. W. Hulbert	10:40	3. H. Brodersen	6:38	15. B. Boehm	7:57	16. M. Colling	7:06
10. W. Franklin	5:41	4. L. Loucka	6:11	17. G. Skrjanc	7:04	18. A. Italiano	6:54
UNLIMITED RUBBER SPEED		5. W. Everson	5:26	19. J. Lemon	6:26	20. W. Franklin	6:18
1. J. Voorhees	17.34	6. K. Groves	4:10	21. G. Honda	1:07		
2. F. Kieser	att	7. M. Colling	3:19				

FID - FAI INDOOR	Best 2 flights	Total
1. L. Cailliau	30:14	29:55
2. W. Hulbert	25:39	25:42
3. P. Tryon	23:42	23:45
4. J. Richmond	21:31	25:00
5. W. Van Gorder	23:48	19:05
6. L. Loucka	20:31	20:30
7. R. Doig	21:25	19:10
8. R. Obarski	18:43	20:50
9. J. Annis	17:01	20:05
10. D. Belieff	13:36	12:04
11. L. Mzik	13:24	12:01
12. P. Loucka (JR)	7:27	12:47
13. W. Shailor	5:48	-
14. R. Ganser	3:48	-

BOSTONIAN - OPEN	Best 2 flights	Charisma Factor	Points
1. J. McGillivray	6:05	1.2	438.0
2. J. Kubina	6:34	1.1	433.4
3. W. Shailor	6:31	1.1	430.1
4. K. Groves	5:51	1.1	386.1
5. P. Shailor	5:46	1.1	380.6
6. R. Ganser	3:45	1.2	270.0
7. F. Kieser	3:04	1.2	220.8
8. J. Martin	3:03	1.2	219.6
9. M. Wells	2:33	1.2	183.6
10. R. Bienenstein	2:07	1.1	139.7
11. A. Fauquet	1:13	1.1	80.3

A.M.A. SCALE - OPEN	Model	Ave.2 Best	Scale	Total Points
1. K. Groves	Fike E	90	96	186
2. J. McGillivray	SE 5	90	95	185
3. J. Martin	Cessna AW	84.5	85	169.5
4. W. Franklin	Taylorcraft	60	67	127
5. M. Colling	BristolBrownie	20	83	103

PEANUT SCALE - OPEN	Model	Best Flight	Hcp.	Scale	Total Pts.
1. J. McGillivray	Lacey	169	1.0	69	238
2. K. Groves	Fike E	147	1.0	84	231
3. R. Bienenstein	Fike E	108	1.0	69	177
4. M. Wells	Eastbourne	116	.9	66	170.4
5. J. Miller	Itoh	102	1.0	67	169
6. J. Miller	Piper Vagab.	91	1.0	66	157
7. W. Everson	Found	69	1.0	67	136
8. D. Barber	Fred	42	1.0	79	121
9. M. Wells	Mr. Mulligan	62	.8	59	118.6
10. J. Martin	Cessna AW	42	1.0	58	100
11. M. Colling	Fred	20	1.0	67	87

The indoor events were flown in a convention hall measuring perhaps, 150 feet by 200 feet, with about thirty five feet of usable altitude.

There were six or eight feet additional ceiling space but it was a thick-et of rods, chains, wires, girders, venting ducts, lights, and speaker boxes. Models climbing up into the maze almost always hung. The air was quite stable and comfortable and the large floor area made it a good site for indoor flying scale-few scale models need more altitude than thirty five feet. But it was a frustration for the duration events. Many modelers test and sport fly in small gyms but it seems that they are not willing to travel long distances to fly in one. So the entry list was about as low as the ceiling! Surely a National Championship deserves a higher site!

The site was next door to ~~Bill~~ Headquarters so many people were able to walk in and see indoor flying. That was a good feature of the location. Quite a number saw microfilm models for the first time.

A number of Junior fliers did some good flying and at least two were Junior losses- Rosemary Primbs and Melinda Anderson. Very few Senior age contestants were at Reno and not a whole lot of Open age Class. There were a few "Old Pros" who haven't been at an indoor Nationals for along time though- Joe Bilgzi, Hank Cole, Joe Foster, and Frank Cummings, to name several!

Joe Bilgzi recovered a seventeen year old cabin model and flew it at Reno-it was the only open class cabin entry! He had an ARR Stick model that appeared to be a ninety centimeter FAG Stick of some years ago. Both models flew great though Joe had trouble keeping them down to thirty five feet!

Cezar Banks won both ARR Stick and FAG Stick with his models being groomed for the World Indoor Championships coming up in Japan. Cezar's models outflew all others by a comfortable margin. On his best flight the model climbed up at thirty-six rpm, touched the lowest part of the ceiling ornaments just once and did 24:48!

Four Manhattan Cabin models flew versus the one in ARR Cabin. Chuck Markos of Chicago won with 4:55. It has been proposed to drop ARR Cabin and keep the Manhattan event. Considering the few entries in ARR Cabin and the type of model being called a "cabin" the proposal deserves very

serious consideration.

Bill was the most popular of the powered events. The ceiling maze seemed to snag these models faster than the larger ones and so there was little banging around on top by the winning flights that I saw. Few Billows winning model had a slow cruise at low prop speed. It was of moderate proportions-none of the very long English type were seen.

Hank Cole won Pennyplane with a biplane that had shallow dihedral with the spines between the wing tips boxed in. It flew very well and Hank expects low flights in larger sites. Cezar Banks' Lovice Pennyplane placed second against the larger models thus continuing its excellent contest record.

Paper stick had a good competition going with Stan Chilton, Wichita, Kansas, making the winning flight near the close of the flying time.

The very light condenser tissue is no longer being manufactured and so a rule proposal to allow solid materials, commercially available, such as MicroLite, has been made. I feel that EZBs and Pennyplanes fill the need that the Paper Stick class was originally to do. Thus I think that we have enough events without a plastic covered paper stick one.

The two types of hand launch glider saw the Stoy brothers up among the leaders as always. Their Coot designs are hard to beat in low ceiling-especially when flown by them! However, Barrie Taylor came all the way from Winnipeg, Canada, with some beautifully crafted Coots and edged Stan Stoy in the High Tech Division. His winner weighed just five grams and glided very slowly. In the all-wood class Stan and Mike placed first and third with Charlie Primbs, Redford, Washington, taking second. Charlie flew a very large conventional type glider and handled it well. The gliders could be thrown a few feet above the lowest ceiling garbage and dodge them to the floor-sometimes!

There is talk of having several permanent national sites and rotating from one to the other year by year. Reno had some good features for the lots in general. I hope that a higher indoor site can be used if we come back!

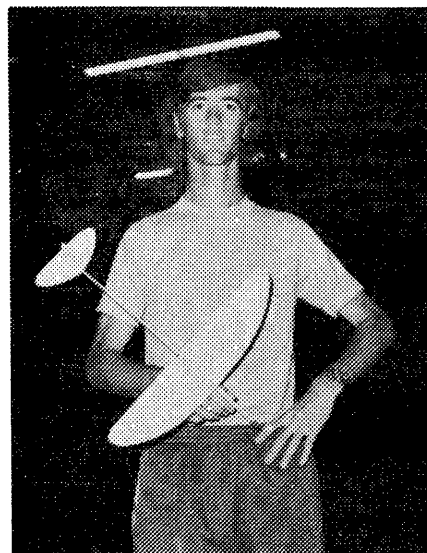
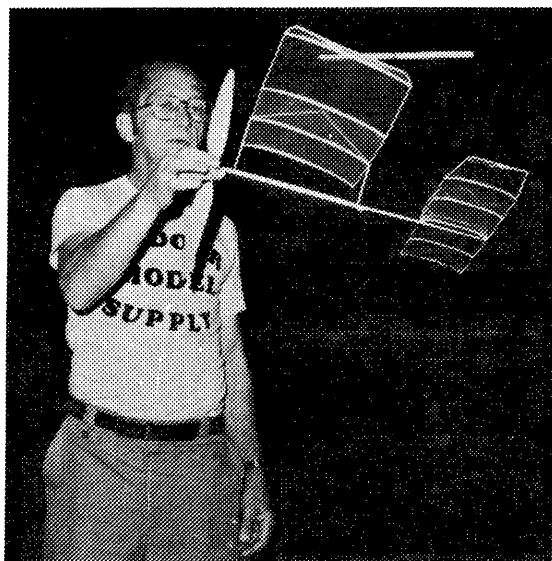
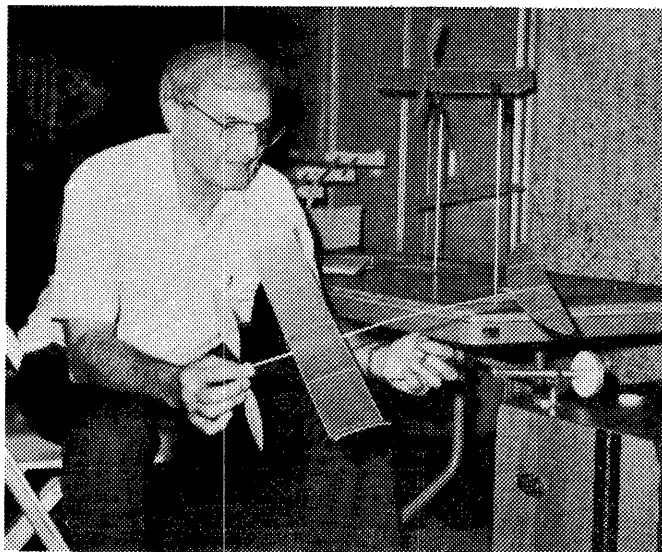
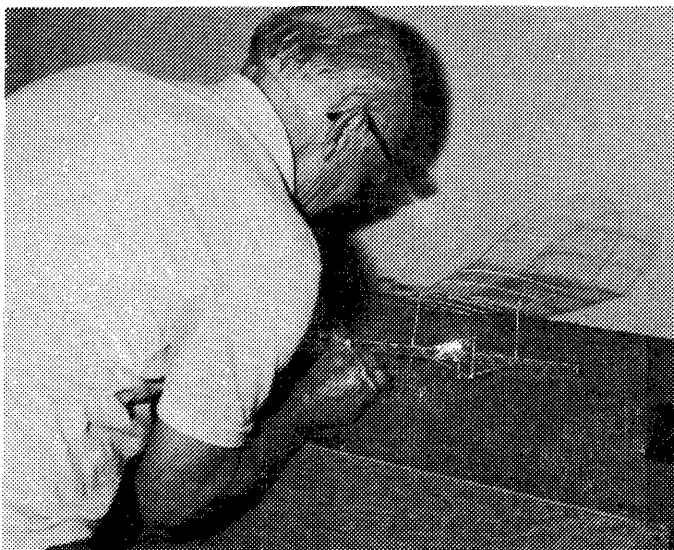
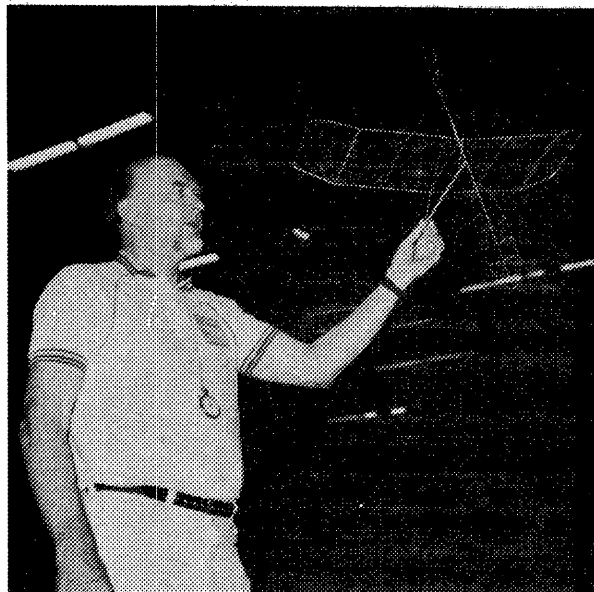
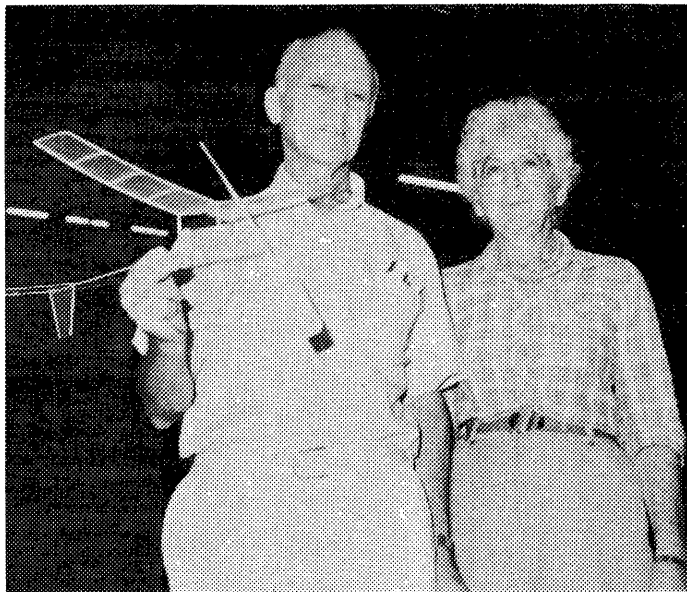
LATE WORD FROM A.M.A. EXECUTIVE COUNCIL :

At the October meeting in response to this year's Nationals - poor attendance, bad indoor site, third rate contest, etc. - steps were taken to completely restructure NATS planning and operations. The NATS planning committee as it has been known is no more. Details of what will replace it are not known, but if you have constructive ideas towards improving the NATS contact your AMA District Vice-President.

1984 A.M.A. NATIONALS

Text & results by Clarence Mather

Photographs by John Oldenkamp



Top left: Mr. & Mrs. Carl Goldberg (Northridge, CA) Carl is holding an EZB model. A top flier of the 1930's he is still active.

Top right: Cezar Banks' F1D. (San Diego, CA) Cezar won both microfilm events by large margins. This model climbed at 36 RPM.

Middle left: Joe Bilgri (Orville, CA) works on the body of his classic Cabin model. He was the only entry in Open Cabin.

Middle right: Stan Chilton with EZB. (Wichita, KS) Stan's model was one of the longest at the NATS.

Bottom left: Lew Gitlow (Garberville, CA) & Pennyplane. Lew flew a very wide chord monoplane against the more common biplanes.

Bottom right: Jim Leuken (Escondido, CA) with Hand Launch Glider an event in which he is very proficient.



11th ANNUAL MIDWESTERN STATES INDOOR
FREE FLIGHT CHAMPIONSHIPS - RESULTS

<u>AMA Stick</u>	
<u>Junior</u>	
<hr/>	
Senior	
B Fulmer	2:34
<u>Open</u>	
C Banks	21:18
C Mather	18:18
J Bilgri	17:24
S Chilton	16:24
J Foster	10:12
<u>FAI Stick</u>	
<u>Junior</u>	
<hr/>	
Senior	
<hr/>	
<u>Open</u>	
C Banks	47:06
C Mather	42:30
L Gittlow	40:00
J Foster	36:18
J Bilgri	36:00
<u>Paper Stick</u>	
<u>Junior</u>	
A Markos	4:14
<u>Senior</u>	
B Fulmer	4:11
<u>Open</u>	
S Chilton	12:18
L Gittlow	11:24
G Wisniewski	10:24
J Foster	10:12
C Sotich	8:30
<u>AMA Cabin</u>	
<u>Junior</u>	
<hr/>	
Senior	
B Fulmer	3:07
R Mehmen	2:05
<u>Open</u>	
J Bilgri	8:30
<u>AMA Scale</u>	
<u>Junior</u>	
A Markos	98.4
<u>Senior</u>	
J Godel	109.5
B Fulmer	60.3
<u>Open</u>	
R Baxter	148.2
C Godel	117.1
S Gillespie	115.3
H Warner	113.7
<u>Peanut Scale</u>	
<u>Junior</u>	
A Markos	137.4
M Anderson	86.8
Ty Slade	43.1
<u>Senior</u>	
B Fulmer	134.5
F Godel	110.1
B Relitz	104.5
J Godel	82.0
<u>Open</u>	
C Mather	179.8
X Fulmer	165.4
C Conover	149.1
R Baxter	136.2
D Stevens	129

<u>EZB</u>	
<u>Junior</u>	
S Robbins	6:48
A Markos	6:44
J Primbs	3:54
B Douglas	3:46
<u>Senior</u>	
D Primbs	6:18
B Fulmer	6:06
<u>Open</u>	
L Gittlow	10:23
C Banks	10:16
S Chilton	10:03
C Markos	8:20
<u>Pennyplane</u>	
<u>Junior</u>	
A Markos	6:18
M Anderson	5:18
S Robbins	4:59
B Douglas	3:31
<u>Senior</u>	
B Fulmer	3:41
<u>Open</u>	
H Cole	8:18
C Banks	7:49
D Stevens	7:30
T Koprieva	7:24
G Wisniewski	7:13
<u>Manhattan Cabin</u>	
<u>Junior</u>	
<hr/>	
Senior	
<hr/>	
<u>Open</u>	
C Markos	4:55
M Lavoe	4:18
M Wittemore	3:56
C Sotich	3:20
<u>HCG High Tech</u>	
<u>Junior</u>	
<hr/>	
Senior	
B Fulmer	67.6
<u>Open</u>	
B Taylor	82.2
S Stoy	81.0
M Stoy	71.8
M Wittemore	69.6
J Slader	43.4
<u>HCG All Wood</u>	
<u>Junior</u>	
A Markos	50.6
J Primbs	47.4
R Primbs	38.4
<u>Senior</u>	
B Fulmer	60.2
D Hooke	51.7
R Mehmen	50.2
<u>Open</u>	
S Stoy	79.0
C Primbs	75.6
M Stoy	73.8
J Foster	70.8
M McKeever	70.4

Indoor Stick (JSO)

1. Jim Richmond	34:07**
2. Paul Tryon	19:16
3. Del Ogren	14:28
4. Rich Doig	7:18
5. Bill Franklin	6:23

Indoor Cabin (JSO)

1. Rich Doig	16:10
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Paper Stick (Junior)

1. Aaron Markos	9:12
2. Mark Richmond	0:11

Paper Stick (Open)

1. Jim Richmond	16:20
2. Rich Doig	14:40
3. G. Wisniewski	12:54
4. Walt Van Gorder	11:56
5. Del Ogren	11:06
6. Terry Mrakava	8:56
7. Bernie Boehm	8:28

FAI Indoor (JSO)

1. Paul Tryon	39:42
2. Rich Doig	34:20
3. Walt Van Gorder	29:49
Jim Richmond	

NOVICE PENNYPLANE (JUNIOR)

1. Aaron Markos	8:18
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NOVICE PENNYPLANE (SR/OP)

1. Bernie Boehm	8:08
2. Del Ogren	7:14
3. A.J. Italiano	6:54
4. Don Lockwood	6:17
5. Bill Schlarb	6:15
6. Jack Tisinai	5:34
7. Bryan Fulmer (Sr)	4:24
Chuck Markos	

PENNYPLANE (JSO)

1. Walt Van Gorder	11:40
2. G. Wisniewski	10:31
3. Charlie Sotich	8:56
4. Bill Franklin	6:29
5. Roger Lane	6:19
6. Lucy Franklin	2:15

PEANUT SCALE (JSO)

1. Keith Fulmer	Lacey M-10	189
2. Jim Miller	Piper Vagbnd	161.5
3. Jim Miller	Piper J-3	141.5
4. Bob Clemens	Found Centen.	138.5
5. Bob Clemens	Farmn Mosquito	135.2
6. Eric Anderson	Nesmith Coug	112
7. Don Lockwood	Fike E	103.5
8. Paul Helman	Nieuport mono	89
9. Roger Lane	Stinson 125	56
10. Roger Lane	"	54

5 models did not fly

Chanute AFB Hanger #1 - a fire engine storage garage - 44' 2" high has a smooth ceiling with lights hanging down 1-2' in a 20' grid pattern. The flying here was superb eventhough the weather was unseasonably cold, with the only drift being at the ceiling & it was minimal. In warm weather this site could be fantastic. In spite of the weather 13 National & 1 World record were set in 2 days. Base Commander Merle Wilson made us feel welcome and the airmen assigned to us were most helpful. The few spectators we had - mostly base personnel and Rantoul residents - really seemed to enjoy our flying.

Indoor HLG (Open)

1. Chuck Markos	90.4
2. Bernie Boehm	86.8
3. Bill Schlarb	75.0
4. Jim Richmond	68.2
5. Bob Clemens	60.0
6. Rich Doig	53.0
7. A. J. Italiano	48.0
8. R. C. Wicklund	45.2
9. Eric Anderson	44.2

Indoor HLG (Senior)

1. Bryan Fulmer	81.2
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Indoor HLG (Junior)

1. Aaron Markos	76.0
2. Mark Richmond	11.2

Indoor Catapult Glider

1. Eric Anderson	32.1
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Easy-B (JSO)

1. Walt Van Gorder	13:19
2. John Schlagetter	7:04
3. G. Wisniewski	5:02
4. Bernie Boehm	3:40
5. Bill Franklin	2:49
Aaron Markos, Chuck Markos, Roger Lane, Terry Mrakava.	

MANHATTAN CABIN (JSO)

1. Walt van Gorder	7:52
2. Chuck Markos	5:59
3. Bob Clemens	4:09
4. Del Ogren	3:23
Charlie Sotich	

KIT-PLAN SCALE (JSO)

1. Bob Clemens	Pilatus Porter (MX)	274
2. Paul Helman	Corbin Sup Ace (mgw)	184
3. Jim Miller	Stinson Voyager (MX)	168
4. Eric Anderson	Fike (12/76 MB)	165
5. Paul Helman	Bristol Brownie (WCH)	159
6. Jack Tisinai	Mr Mulligan (Sig)	134
Roger Wathen (Jr)	Aerona (Comet)	
Eric Anderson	Avro-G (Auster)	

WE CONTINUE TO PRINT THE 1986 INDOOR RULE PROPOSALS - CONTEST BOARD INITIAL VOTE IS DECEMBER 1, 1984.

LET YOUR CONTEST BOARD REPRESENTATIVE KNOW HOW YOU FEEL ABOUT THESE PROPOSALS !

EXHIBIT A

PROPOSAL NO. IND-86-5 POSTMARK DATE: 8/9/84
(to be inserted by HQ) Red 8-22-84

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR OUTDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics
USE BLACK INK

1. Brief summary of the proposed change: Delete the present requirement for paper covering and revert to the old rules which allowed any covering including mica film. Institute a 1 gram minimum weight to make the use of premium wood less critical. Also limit overall length to 25 inches to restrict long moment arms developed which would again give premium wood an advantage.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable. Example: Change "quote present rule book wording" to: "(exact wording desired)").
Delete from 19.3: Precision hand-launched stick model
Substitute in 19.3: Class B Hand-launched stick model
Delete from 19.6: this entire article
Substitute in 19.6: see over SEE BELOW

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: We need an event to allow transition from beginner's events to micro-tim, without the need for premium materials or complex construction. The existing event at good condenser paper has made paper stick very difficult to create is such that best the models are very sensitive to climatic conditions.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).
(1) Proposer: R. J. Sandley AMA No. 260 Member Cat. C (C.D.) Date of Signature 8/5/84

Street Address 420 Tupelo City Naperville State IL Zip 60540

6. Class B Hand-Launched Stick Model. In order to be entered in the event, models must comply with all the general requirements applied to indoor rubber-powered models and the following additional requirements:

- 6.1 The weight of the model, without rubber motor, shall not be less than 1 gram.
- 6.2 The overall length of the model, less propeller, shall not exceed 25 in.

EXHIBIT A

PROPOSAL NO. IND-86-6 POSTMARK DATE: 8/9/84
(to be inserted by HQ) Red 8-22-84

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR OUTDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics
USE BLACK INK

1. Brief summary of the proposed change: Add a 1 gram minimum weight requirement to Class B rules to make premium materials less of a factor in competition.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable. Example: Change "quote present rule book wording" to: "(exact wording desired)").
Delete 19.8.2.f as presently stated and substitute "f. The weight of the model, without rubber motor, shall be not less than 1 gram"

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: With the present rule continuing, shortage of very light condenser paper, the people who possess it hold a significant advantage in competition. Also, the models have become very flimsy and inconsistent as their weights go under 2 gram.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).
(1) Proposer: R. J. Sandley AMA No. 260 Member Cat. C (C.D.) Date of Signature 8/5/84

Street Address 420 Tupelo City Naperville State IL Zip 60540

Day phone (area code 312) 420-4559 Night phone (area code 312) 353-9674

(2) Endorsement: R. J. Sandley AMA No. 88247 Member Cat. B Date of Signature 8-6-84
(3) Endorsement: R. J. Sandley AMA No. 612 Member Cat. C (C.D.) Date of Signature 8-6-84

PROPOSAL NO. IND-86-7
(to be inserted by HQ)

POSTMARK DATE: 8/9/84
(to be inserted by HQ)

IND-86-7

RULES CHANGE PROPOSAL FORM

AUG 11 1984

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one)

FREE FLIGHT

INDOOR

SCALE

RADIO CONTROL:

- Helicopter
- Soaring
- Racing
- Aerobatics

CONTROL LINE

GENERAL

USE BLACK INK

1. Brief summary of the proposed change: *If, and only if, the proposal to institute a system minimum wt. limit in Easy B passes, rules about covering materials become meaningless. This rule would allow paper films or microfilm covering, so that currently available, stable, thin films could be used. I doubt that microfilm of the thinner types would be attractive.*

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording)" to: "(exact wording desired)".
Delete the words "paper covered" from 19.8.2.a

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: *Condenser paper is very difficult to use under varying climatic conditions and regaining it gives an advantage to those who have stocks of light paper. Very light microfilm would offer no advantage if the lightweight rule is instituted and the use of heavy microfilm should be encouraged.*

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: *D. J. Lundley* AMA No. 200 Member Cat. (C.D.) 8/5/84 Date of Signature

Street Address: *420 Tupelo*

City: *Napaerville* State: *IL* Zip: *60540*

Day phone (area code) Night phone (area code)

(2) Endorsement: *J. H. Fisher* AMA No. 86247 Member Cat. (C.D.) 8-6-84 Date of Signature

(3) Endorsement: *Kemp R. Bunting* AMA No. 612 Member Cat. (C.D.) 8-6-84 Date of Signature

PROPOSAL NO. IND-86-8
(to be inserted by HQ)

POSTMARK DATE: 8/9/84
(to be inserted by HQ)

IND-86-8

RULES CHANGE PROPOSAL FORM

AUG 11 1984

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one)

FREE FLIGHT

INDOOR

SCALE

RADIO CONTROL:

- Helicopter
- Soaring
- Racing
- Aerobatics

CONTROL LINE

GENERAL

USE BLACK INK

1. Brief summary of the proposed change: *The proposed rule is designed to remove a potential advantage held by those with access to very light materials, which allow them to build extremely long models. It also helps limit the size of the model boxes required to transport these "simple" models.*

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording)" to: "(exact wording desired)".
In 19.8.2.c, change present wording to "The overall length of the model, less propeller, shall not exceed 22 in."

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: *The present trend toward very long Easy B models complicates transporting them and puts an additional impetus on the use of very scarce, very light wood.*

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: *D. J. Lundley* AMA No. 200 Member Cat. (C.D.) 8/5/84 Date of Signature

Street Address: *420 Tupelo*

City: *Napaerville* State: *IL* Zip: *60540*

Day phone (area code) Night phone (area code)

(2) Endorsement: *J. H. Fisher* AMA No. 86247 Member Cat. (C.D.) 8-6-84 Date of Signature

(3) Endorsement: *Kemp R. Bunting* AMA No. 612 Member Cat. (C.D.) 8-6-84 Date of Signature

PROPOSAL NO. IND-86-9 (to be inserted by HQ)

POSTMARK DATE: 8/9/84 (to be inserted by HQ) Rec'd 8-22-84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics

USE BLACK INK

1. Brief summary of the proposed change: Delete Indoor Cabin from the rule book and the event from competition. The Stout Trophy will be awarded to the winner of Manhattan Cabin at the National Championships if this rule goes into effect

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording") to: "exact wording desired".

Delete from 19.3 "Rise-off-ground Cabin Model - The projected... 150 square inches" Delete 19.5 entirely "Cabin 3" " Delete from 19.2 "Cabin 3"

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: Cabin has been possibly contended for years, but was retained because there was no alternative. Also the model has evolved into a fragile, complex rule book. Manhattan Cabin is a much better contended event and is more official

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: E.J. Lilly Member No. 240 Cat. (C.D.) 9/5/84 Date of Signature

Street Address: 420 Trupala State: IL Zip: 60340

Day phone (area code 312) 420-4559 Night phone (area code 312) 357-9674

(2) Endorsement: J.H. Fisher Member No. 16247 Cat. 8-6-84 Date of Signature

(3) Endorsement: R.P. R. Bunting Member No. G12 Cat. (C.D.) 9-6-84 Date of Signature

PROPOSAL NO. IND-86-10 (to be inserted by HQ)

POSTMARK DATE: 8/25/84 (to be inserted by HQ) Rec'd 9-1-84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics

Basic Proposal 1

1. Brief summary of the proposed change: To remove the 300 square inch restriction on Hand-Launched Stick Models.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording") to: "exact wording desired".

Change Sec. 19 F F Indoor Rubber paragraph 3. Delete after Hand-Launched Stick Model - "the projected area of the supporting surface(s) shall not exceed 300 square inches." Substitute Hand-Launched Stick Model - "no restrictions on model size."

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: The present rules require verification and processing. Most models of this size are built for record purposes. Since there is no practical limit for FAI records and flyers in other countries are exceeding our rules with excellent results, there is no reason to restrict U.S. modelers to the 300 sq. inches.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Gaurin Rodemsky Member No. 9440 Cat. C.D. AUG-25-1984 Date of Signature

Street Address: 26 WARMSPRING State: CA Zip: 92714

(2) Endorsement: Curt Strom Member No. 219 Cat. C.D. 8-25-1984 Date of Signature

(3) Endorsement: Forest Edwards Member No. 44297 Cat. C.D. AUG-25-1984 Date of Signature

1. A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

2. A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been "tentatively accepted" by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

EXHIBIT A

PROPOSAL NO. IND-86-11
(to be inserted by HQ)

POSTMARK DATE: 8/22/84
(to be inserted by HQ) Rec'd 4-7-84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR HELICOPTER SOARING RACING AEROBATICS
SCALE: FREE FLIGHT INDOOR HELICOPTER SOARING RACING AEROBATICS
CONTROL LINE: GENERAL
GENERAL

USE BLACK INK

1. Brief summary of the proposed change: The object is to restrict steering to those events where it is appropriate. Presently, we are in a situation where steering ability is often deciding contests rather than craftsmanship or design abilities.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "(exact wording desired)").
Add after 19.14 Steering of Model: "Steering shall only be allowed in Hand-Launched Stick, P.D.G. Cabin and FA Indoor (FID) events. In all other events, keeping the model with the body or any device manipulated by the body, shall result in termination of the flight." continue with present wording.

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: Presently we are swayed in a series of protests and interpretations brought about by the use (and abuse) of steering at contests and record trials. I feel that steering might be appropriate in events where great amounts of construction time and money are tied up in the models. However, it is excessive in the majority of cases. It is in events in which it is not appropriate. I feel that it is inappropriate in the majority of cases. I feel that it is inappropriate in the majority of cases. I feel that it is inappropriate in the majority of cases.

(1) Proposer: D.F. Sandberg AMA Member No. 260 Date of Signature 8/20/84
Street Address: 420 Tupelo State: IL Zip: 60540

Day phone: (area code 312) 420-4539 Night phone: (area code 312) 355-9674
City: Naperville State: IL Zip: 60540

(2) Endorsement: John A. Fink AMA Member No. 8247 Date of Signature 8-22-84

(3) Endorsement: Kenneth R. Bunting AMA Member No. 618 Date of Signature 8-11-84

EXHIBIT A

PROPOSAL NO. IND-86-12
(to be inserted by HQ)

POSTMARK DATE: 8/23/84
(to be inserted by HQ) Rec'd 4-7-84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR HELICOPTER SOARING RACING AEROBATICS
SCALE: FREE FLIGHT INDOOR HELICOPTER SOARING RACING AEROBATICS
CONTROL LINE: GENERAL
GENERAL

1. Brief summary of the proposed change: eliminate penny plane event, and call novice pennyplane pennyplane

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "(exact wording desired)").
Page 15, ev nt 20-eliminate & NOVICE PENNYPLANE, eliminate 4. Novice Pennyplane paragraph 4.1, change 4.2 to 3.7, 4.3 to 3.8, 4.4 to 3.9, 4.5 to 3.10, 4.6 to 3.11, 4.7 to 3.12

The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: There are too many indoor events, so eliminating one would let more people fly in the same events and provide more competition.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Ray Givix AMA Member No. 8817 Date of Signature Aug 18, 1984
Street Address: 367 Orange Ave. State: FL Zip: 32234
City: Baldwin

(2) Endorsement: Joseph W. Head AMA Member No. 1909 Date of Signature 8-17-84

(3) Endorsement: John Kramer AMA Member No. 99194 Date of Signature 8-19-84

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been "tentatively accepted" by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

EXHIBIT A

IND-86-13

PROPOSAL NO. (to be inserted by HQ) POSTMARK DATE: 8/23/84 (to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR RADIO CONTROL: Helicopter Soaring Racing Aerobatics SCALE INDOOR CONTROL LINE GENERAL Cross-Proposal? (Identification No. of relevant Basic Proposal:)

1. Brief summary of the proposed change: eliminate paper stick event

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quote present rule book wording)" to: "(exact wording desired)".

eliminate paragraphs 6, 6.1, and 6.2 from rule book

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: There are too many events in indoor, so competition is spread out too much. Paper stick is a redundant event. Easy B and two pennyplane classes would be still available

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Guy Quint, AMA 8817, Member, Date of Signature: Aug 18 1994

Street Address: 367 Orange Ave., City: Baldwin, State: FL, Zip: 32234

(2) Endorsement: Jay W. Truesel, AMA 71909, Member, Date of Signature: 8-17-84

(3) Endorsement: John Kramer, AMA 49194, Member, Date of Signature: 8-19-84

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

NOTE: Rule proposals numbered IND-15, IND-16, IND-17, and IND-18 were deemed to be more appropriate for the Scale Contest Board. These proposals are for Provisional Rules for Radio Control Electric Powered Indoor Scale, Control Line Electric Scale Indoor, Indoor Rubber Powered Radio Control Scale, and Indoor Rubber Powered Radio Control Scale Duration. Indoor fliers should be concerned about how these proposed events could effect obtaining indoor flying sites - many building managers are concerned about letting planes with motors or engines fly in their buildings - and flying safety. Also these proposed events are very different from current Indoor events. Please let your Scale Contest Board member know how you feel on these events.

PROPOSAL NO. IND-86-19 (to be inserted by HQ)

POSTMARK DATE: 8/29/84 (to be inserted by HQ)

RULES CHANGE PROPOSAL FORM PROVISIONAL RULES

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics USE BLACK INK

1. Brief summary of the proposed change: RADIO CONTROL INDOOR ELECTRIC-POWERED Heavier Than Air Duration Rules, See AMA Provisional Rules.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change

Indoor RC Duration 1. Longest time in the air wins. 2. Maximum surface loading: 3 1/2 oz. sq. ft. Surface area includes wings) and horizontal stabilizer(s), based on horizontal projection. 3. Maximum overall weight: Total weight, including batteries, is 28 oz. No lighter-than-air assist permitted (such as helium, etc.). 4. Batteries: Limited to NiCd only. 5. Calling height: 34 ft. 6. Maximum wingspan allowed: 8 ft. 7. Flight task: Must be figure eight, but the size of the course can vary to accommodate the site dimensions. 8. Motors must be able to be shut off via RC (cannot be coupled to any flight control).

Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Tony Nakkalato, AMA No. 24538, Member, Date of Signature: 8-28-87

Street Address: 2121 N. Holly Woodway, City: Bunkin, State: CA, Zip: 91507

Day phone (area code 818) 842-5061, Night phone (area code 818) 842-3653

(2) Endorsement: Cap A. Adley, AMA No. 95012, Member, Date of Signature: 8-28-84

(3) Endorsement: John Macassar, AMA No. 11093, Member, Date of Signature: 8-28-84

PROPOSAL NO. IND-86-14
(to be inserted by HQ)

EXHIBIT A

POSTMARK DATE: 8/23/84
(to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: INDOOR RADIO CONTROL: CONTROL LINE GENERAL
 (Circle one) Helicopter

Type of Proposal: Basic Proposal Cross-Proposal? (Identification No. of relevant
 (Circle one) Soaring Basic Proposal: _____
 Racing _____
 Aerobatics _____

1. Summary of Proposal

This proposal changes Easy B characteristics to allow covering by material other than paper, limit minimum weight of model, and limit propeller diameter.

2. Wording of Proposal

From 1984-85 Rulebook Section 19 FF Indoor Rubber Article 8 Easy B Item 8.2 Easy B characteristics

Change line "a" to read: a. The Easy B model shall be a mono-plane covered with any material except microfilm.

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules:

SEE ATTACHED PAGES 213

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Proprietor W. Barber AMA Member Date of Signature 8-21-84
 No. 20416 Cat. 0
 Street Address: 146 STRATTON HOUSE
 City: MAPLE SHADE State: MS Zip: 39458

(2) Endorsement: Thomas W. Barber AMA Member Date of Signature 8-21-84
 No. 27417 Cat. 0

(3) Endorsement: Alan W. Barber AMA Member Date of Signature 8-21-84
 No. 20416 Cat. 0

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.

2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been "tentatively accepted" by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

2. continued

Change line "f" to read: f. The minimum weight of the model without the rubber motor shall be 1.2 grams.

Change line "i" to read: i. The propeller shall have a maximum diameter of 14 inches and no variable pitch or flaring mechanisms. The propeller blades shall be constructed entirely from wood, with the following exception: special novice or beginner events can be set up for local contests by permitting the use of plastic commercial propellers, provided advance notice is given in contest announcements.

3. Logic behind proposed change

The present rule must be changed because the very lightest grade of condenser paper is no longer readily available (if at all). This fact coupled with the no minimum weight limit means that the average modeler cannot build a truly competitive Easy B now. Furthermore, various films are readily available that cover this type model better under any circumstance.

Also the conflict between the concept of Easy B as a beginner's only event and the fact that it is the most popular indoor class and flown by all levels of indoor modeler has always caused rules problems.

England had the same problems. This proposal is based on the rules now used in England. These rules solved the problems there, raised participation greatly and made beginner and expert alike happy. This is fact, not theory.

Model processing time will change very little as it only requires a simple go-no go scale. This is done now in novice pennyplane, pennyplane and FAI.

The vast majority of Easy Bs now in use can be flown under these rules. Those that are lighter than 1.2 grams will be obsolete, but generally they have been winners already and their designer/builders could easily build models to meet these rules.

Participation will increase because these proposed changes will better accommodate modelers of all skill levels.

A PHOTOCOPY OF THE RULES PROPOSAL IS ACCEPTABLE IF YOU DO NOT WISH TO CUT UP THE MAGAZINE.

EXHIBIT A

PROPOSAL NO. IND-86-20 POSTMARK DATE: 8/31/84 (to be inserted by HQ)

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics

1. Brief summary of the proposed change: To time flights only while they are airborne. The present rule for timing allows models to have long take times at both ends of a flight to count as flight time. The present rule allows models to have a limited number of time yet count that as flight time.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording") to: "exact wording desired".

3. Logic behind proposal change, including alleged shortcomings of present rules: The present rules allow a flight for just taking around! They also allow a model to fly around with the propeller hitting the floor and count that as a flight. A model could be trimmed to take a long time after a short time air borne yet all the time would count as a flight.

(1) Proposer: Clarence J. Mather AMA No. 8133 Member Date of Signature 8-31-84 Street Address 3860 Escobar Ave City San Diego State Ca Zip 92117

(2) Endorsement: Walter E. Marney AMA No. 77000 Member Date of Signature 08-31-84 (3) Endorsement: Byron J. Banks AMA No. 8310 Member Date of Signature 8-31-84

PROPOSAL NO. IND-86-21 POSTMARK DATE: 8/25/84 (to be inserted by HQ)

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics

1. Brief summary of the proposed change: Rules change to make cabin models real cabin models, and eliminate the modified stick models now being flown as Indoor Cabin. Rule 19.5

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording") to: "exact wording desired".

3. Logic behind proposal change, including alleged shortcomings of present rules: Cabin Models should be cabin models and have a true cabin not an outrigger or flat disk for a cabin. Allows for any configuration with a volume rule. A 20" model would have a 16 cu in cabin a 15" model 6.75 cu in.

(1) Proposer: Robert A. Case AMA No. 95012 Member Date of Signature 8-29-84 Street Address 5726 Case Ave City North Hollywood State Calif. Zip 91601

(2) Endorsement: Tony Naranjo AMA No. 24538 Member Date of Signature 8-29-84 (3) Endorsement: Rella Mae Naranjo AMA No. 11093 Member Date of Signature 8-29-84

A 16 cu.in. cabin could be 2"x2"x4" or 1.41"x1.41"x8" or 1x1x16 or any combination to give 16 cu.in. etc.

EXHIBIT A

FF-86-9 and
PROPOSAL NO. IND-86-22
(to be inserted by HQ)

POSTMARK DATE: 8/29/84
(to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT, INDOOR, OUTDOOR, GENERAL
Type of Proposal: (Circle one) Basic Proposal, Cross-Proposal? (Identification No. of relevant Basic Proposal)

1. Brief summary of the proposed change: Under 5. Free Flight, General, section 6. Ornithopter. (page 8 of 1984-1985 rulebook): Change "Horizontal stabilizing surfaces must be at the extreme front or rear of the model..." to "No part of the horizontal stabilizing surface(s) shall be within a horizontal distance of one-fourth the wingspan from any part of a wing."

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quote present rule book wording)" to: "(exact wording desired)").
As above.

IMPACT ON PRESENT AMA RECORDS: None, inasmuch as the proposed change would make the rules less restrictive than the current ones.

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: The intent of the present rules was to permit canard models, with stab forward, to compete. The present rule, however, is too restrictive. If the stab is at the extreme forward part of the model, then weight must be added to the nose in order to get the model to balance correctly, or a swept-back stab must be used. It was not the intent of the rules to require such heroic measures. The proposed change would allow legitimate canards, but would prohibit the placement of the stab close to the CG where it would function more as a fixed wing.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Robert B. Meuser, AMA Member No. 2736, Cat. CD, Date of Signature 8/26/84
Street Address: 4200 Gregory Street, Oakland, CA, Zip 94619
(2) Endorsement: Lawrence E. Parsons, AMA Member No. 1105, Cat. C, Date of Signature 8-27-84
(3) Endorsement: Henry G. Cole, AMA Member No. 3007, Cat. B, Date of Signature 8-28-84

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.
2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted* by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.
* In the rulebook, Free Flight includes both Indoor and Outdoor. So how can I "circle one"?

Academy of Model Aeronautics, 1810 Samuel Morse Drive, Reston, VA 22090

EXHIBIT A

FF-86-10
PROPOSAL NO. IND-86-23
(to be inserted by HQ)

POSTMARK DATE: 8/29/84
(to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT, INDOOR, OUTDOOR, GENERAL
Type of Proposal: (Circle one) Basic Proposal, Cross-Proposal? (Identification No. of relevant Basic Proposal)

1. Brief summary of the proposed change:
Under the present ornithopter rules, a modeler could build a biplane with substantially identical wings except that one would flap by the normal amount while the other flapped by only a very small amount. The latter would, in effect, be a fixed wing.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quote present rule book wording)" to: "(exact wording desired)".
Under 5. Free Flight, General, section 6. Ornithopter page 8 of 1984-1985 rulebook): In the sentence "If the model has more than one wing, these restrictions apply independently to each wing, and the wings shall be substantially identical in size, shape, relative areas of fixed or flapping parts, and extensions of the flapping parts." change "and extensions of the flapping parts.", which serves no purpose, to "and degree of flapping motion."

IMPACT ON PRESENT AMA RECORDS: None. No records have been set with models that violate the rules including the proposed changes.

3. Logic behind proposal change, including alleged shortcomings of present rules:
Included in above

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Robert B. Meuser, AMA Member No. 2736, Cat. CD, Date of Signature 8/27/84
Street Address: 4200 Gregory St, Oakland, CA, Zip 94619
(2) Endorsement: Lawrence E. Parsons, AMA Member No. 1105, Cat. C, Date of Signature 8-27-84
(3) Endorsement: Henry G. Cole, AMA Member No. 3007, Cat. B, Date of Signature 8-28-84

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose.
2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted* by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.
* In the rulebook, Free Flight includes both Indoor and Outdoor. So how can I "circle one"?

Academy of Model Aeronautics, 1810 Samuel Morse Drive, Reston, VA 22090

EXHIBIT A

PROPOSAL NO. IND-86-24

POSTMARK DATE: 8/31/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Form fields: Rule Category (Free Flight, Indoor, Scale, Radio Control, General), Type of Proposal (Basic Proposal), Cross-Proposal?

1. Brief summary of the proposed change: ADD 1 GRAM MINIMUM WEIGHT REQUIREMENT TO EASY B AS A PROVISIONAL CLASS. REASON EZB IS BEING VERY WELL AS IS. ALSO REMEMBER THAT RULES WHICH ALLOW SPIRITING MODELERS LEAD TO REDUCE RATHER THAN PROMOTE COMPETITION.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "exact wording desired").

DELETE 19.8.2.F OR PRESENTLY STATED AND SUBSTITUTE "F. THE WEIGHT OF THE MODEL, WITHOUT RUBBER MOTOR, SHALL BE NOT LESS THAN 1 GRAM."

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: I don't see any shortcomings to existing EZB rules other than the Condenser Paper problem.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Walter P. Van Sorder, (2) Endorsement: James L. Miller, (3) Endorsement: M. Q. Rygh

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose. 2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted by the Contest Board.

EXHIBIT A

PROPOSAL NO. IND-86-25

POSTMARK DATE: 8/31/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Form fields: Rule Category (Free Flight, Indoor, Scale, Radio Control, General), Type of Proposal (Basic Proposal), Cross-Proposal?

1. Brief summary of the proposed change: EZB "PROVISIONAL CLASS" AT 1 GRAM WT MODEL CAN BE BUILT ON A LARGER PLAN FORM.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "exact wording desired").

IN 19.8.2.a change present wording to "The overall length of the model, less propeller, shall not exceed 22"

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: I don't see any shortcomings to existing EZB rules other than the Condenser Paper problem but if the model wt goes up it can be built on a larger plan form.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Walter P. Van Sorder, (2) Endorsement: James L. Miller, (3) Endorsement: M. Q. Rygh

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose. 2 A Cross-Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively accepted by the Contest Board.

EXHIBIT A

PROPOSAL NO. copy IND-86-26

POSTMARK DATE: 9/1/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics GENERAL

1. Brief summary of the proposed change: Require Indoor Rubber models with wheels be flown only in Rise Off Ground events.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quote present rule book wording)" to: "(exact wording desired)".

Add to section 19 paragraph 10 - new section 10.3 Any model equipped with wheels or other landing gear shall be declared an R.O.G. model and shall not be allowed to compete in events requiring Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: There are rumors of fliers intending to mount wheels on Pennyplanes with the express purpose of allowing the model to roll for some distance before coming to rest after touchdown. Since the timing continues until the model comes to rest. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Richard W. Day AMA Member No. 5322 Cat. 2 Date of Signature Sept 1, 1984 Street Address: 6 CANARY HILL DRIVE City: PONTIAC State: MI Zip: 48055

2. hand launching. be in process to accomplish essentially the same purpose. 3. (stops forward movement) this is an attempt to add time and thus cheat.

EXHIBIT A

PROPOSAL NO. copy IND-86-27

POSTMARK DATE: 9/1/84

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics GENERAL

1. Brief summary of the proposed change: This proposal deals with what to do for an R.O.G. model that never becomes airborne.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "(quote present rule book wording)" to: "(exact wording desired)".

Section 19 - new paragraph added after paragraph 11 Note and before paragraph 12. In the case of R.O.G. models, in addition to the definition of an official flight, the model must become successfully airborne within 15 seconds or it will be Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: A Rise Off Ground model that never becomes airborne should not be an official flight. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Richard W. Day AMA Member No. 5322 Cat. 2 Date of Signature Sept 1, 1984 Street Address: 6 Canary Hill Dr. City: Pontiac State: MI Zip: 48055

1 A Basic Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose. 2. considered a delayed flight.

EXHIBIT A

PROPOSAL NO. COPY IND-86-28

POSTMARK DATE: 9/1/84
(to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics GENERAL

Type of Proposal: (Circle one) Cross-Proposal? Basic Proposal? (Identification No. of relevant Basic Proposal): _____

1. Brief summary of the proposed change: To require a minimum enclosed volume of the fuselage(s) in Indoor Cabin models.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "(exact wording desired)". Change section 19 paragraph 5

CABIN MODEL: A cabin model has a built up, enclosed fuselage(s). The total maximum cross-section of the fuselage(s) must not be less than 2 3/16" and the minimum enclosed volume of the fuselage(s) must not be less than 4 3/16" where "L" equals the overall length

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: This proposal will legislate current conventional cabin models and eliminate the disk style which has caused so much controversy. A 25 inches long model will be required to have a minimum cross-section of 6.25 square inches and a minimum enclosed volume of 15.625 cubic inches.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Richard M. Day AMA Member No. 3372 Cat. CO Date of Signature SEPT 1 1984

Street Address 6 Canary Hill Drive City Pontiac State MI Zip 48065

(2) Endorsement: Spredl Simon AMA Member No. 2532 Cat. A Date of Signature Sept 1 1984

2. of the model, excluding the propeller(s). In case of doubt, the contestant shall present a full-size drawing of the fuselage(s) showing all three views and giving all dimensions necessary to determine the cross-section and volume. The fuselage(s) is defined as the section of the model which contains ^{and appages} the rubber motor. The fuselage(s) shall be completely enclosed. Outriggers and booms may be used to support the flying surfaces and landing gear(s).

3. Traditional warren truss fuselage(s) and ^{many} built up structures over a rolled tube will fit this proposal provided their volume is large enough.

EXHIBIT A

PROPOSAL NO. COPY IND-86-29

POSTMARK DATE: 9/1/84
(to be inserted by HQ)

RULES CHANGE PROPOSAL FORM

Send to AMA HQ. A copy will be forwarded to the appropriate CB Chairman. (Attach extra sheets if necessary.)

Rule Category: (Circle one) FREE FLIGHT INDOOR SCALE RADIO CONTROL: Helicopter Soaring Racing Aerobatics GENERAL

Type of Proposal: (Circle one) Cross-Proposal? Basic Proposal? (Identification No. of relevant Basic Proposal): _____

1. Brief summary of the proposed change: To prohibit the use of lighter than air gases in Indoor models.

2. Exact wording proposed for the rule book (list paragraph numbers where applicable: Example: Change "quote present rule book wording" to: "(exact wording desired)".

Add to section 19 paragraph 2 GENERAL: Filling or inflating any part of a Free Flight Indoor Rubber model with lighter-than-air gas (example: hydrogen, helium) is strictly prohibited.

Note: The Contest Board chairman may, at any time prior to submitting a proposal to the Contest Board for Final Vote, edit proposal wording to increase clarity and avoid ambiguity, provided the proposal intent is not changed.

3. Logic behind proposal change, including alleged shortcomings of present rules: With indoor models becoming larger this would be a possible way to reduce the weight and extend the time, thereby cheating. I want to prevent this before anyone tries this.

4. Signatures of three adult AMA members required (at least one must be a current AMA Contest Director).

(1) Proposer: Richard M. Day AMA Member No. 5392 Cat. CO Date of Signature SEP 1 1984

Street Address 6 Canary Hill Dr. City Pontiac State MI Zip 48065

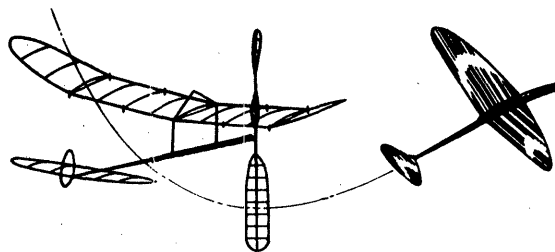
(2) Endorsement: Judith Wood AMA Member No. 2936 Cat. CD Date of Signature 9-1-84

Endorsement: Donald Benard AMA Member No. 7538 Cat. C Date of Signature Sept 1 84

Proposal is one for which no other proposal is known to be in process to accomplish essentially the same purpose. Proposal is an alternate method of accomplishing essentially the same purpose as some other proposal which has been tentatively by the Contest Board. Cross-Proposals cannot be accepted until after the result of the Contest Board Initial Vote has been published.

Academy of Model Aeronautics, 1810 Samuel Morse Drive, Reston, VA 22090

INDOOR



NEWS and VIEWS Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080
 THIS ISSUE ~ RICHARD & MELODY DOIG ~ 6 CANARY HILL DR. PONTIAC, MI 48055

1984 IN-DOOR PLANE WORLD CHAMPIONSHIPS - NAGOYA

RANK	NAME	COUNTRY	SUM.-OF-BEST-2	1 R	2 R	3 R	4 R	5 R	6 R
1	James Richmond	U.S.A.	1°17'27"	39°51"	33°02"	33°53"	37°36"	30°19"	8°50"
2	Cezar Banks	U.S.A.	1°14'43"	37°40"	5°09"	37°03"	36°52"	32°42"	19°39"
3	Robert Randolph	U.S.A.	1°12'04"	36°35"	12°47"	35°29"	7°20"	5°25"	6°58"
4	Pentti Nore	Finland	1°10'22"	15°53"	32°50"	28°51"	31°19"	10°44"	37°32"
5	Robin Leslie Bailey	Great Britain	1°09'57"	9°43"	35°25"	28°36"	30°32"	34°00"	34°32"
6	Rene Butty	Switzerland	1°09'53"	16°43"	33°03"	6°30"	35°07"	8°41"	34°46"
7	Dieter Siebenmann	Switzerland	1°09'41"	15°30"	36°35"	31°23"	33°06"	30°40"	14°56"
8	Sylwester Kujawa	Poland	1°09'24"	1°37"	34°42"	25°06"	32°34"	17°31"	34°42"
9	Ryszard Czechowski	Poland	1°09'22"	8°40"	34°49"	28°42"	31°54"	34°33"	6°12"
10	Popa Aurel	Rumania	1°08'54"	34°21"	9°01"	33°06"	30°16"	8°26"	34°33"
11	Jorgen Korsgaard	Denmark	1°08'40"	33°30"	33°24"	11°29"	25°25"	32°18"	35°10"
12	Otto Rodenburg	Holland	1°08'02"	30°22"	37°40"	0°31"	27°49"	28°04"	28°42"
13	Ronald Higgs	Canada	1°07'54"	34°49"	29°48"	26°35"	27°39"	0°23"	33°05"
14	Richard Blackam	Australia	1°07'30"	7°12"	8°12"	33°43"	31°42"	33°47"	8°26"
15	Edward Ciapala	Poland	1°06'12"	22°16"	34°22"	31°50"	29°09"	28°42"	8°24"
16	Morar Aurel	Rumania	1°05'20"	1°40"	34°37"	25°50"	8°23"	14°03"	30°43"
17	Leif G.A. Englund	Finland	1°03'48"	30°37"	33°11"	25°18"	27°29"	7°04"	7°43"
18	Zhou Wen Bin	China	1°03'04"	28°43"	29°09"	20°39"	24°50"	31°12"	31°52"
19	Mike Thomas	Canada	1°01'35"	25°24"	30°41"	29°47"	3°36"	30°54"	13°43"
20	Harri Raulio	Finland	1°00'18"	29°43"	6°45"	8°59"	30°35"	24°00"	14°58"
21	Enomoto Hideyo	Japan	0°59'58"	8°08"	27°59"	7°45"	27°24"	23°26"	31°59"
22	Chen Guo Xiong	China	0°59'16"	30°11"	28°52"	22°00"	1°07"	0°12"	29°05"
23	Boyd Felstead	Australia	0°59'04"	7°39"	31°52"	7°14"	26°05"	9°03"	27°12"
24	Nonaka Shieyoshi	Japan	0°57'53"	29°12"	28°41"	27°02"	23°19"	27°26"	13°26"
25	Werner Heise	Switzerland	0°57'48"	17°53"	12°22"	25°47"	28°26"	26°34"	29°22"
26	Carl Schueler	Canada	0°57'27"	7°53"	12°59"	29°22"	28°05"	27°46"	5°53"
27	Lu Xiu Seng	China	0°56'27"	28°01"	28°26"	25°07"	23°48"	23°00"	24°59"
28	Cornelis Wolthoorn	Holland	0°55'21"	12°24"	12°08"	20°45"	18°14"	23°04"	32°17"
29	Sakota Junichi	Japan	0°54'00"	25°16"	2°04"	18°47"	22°00"	24°42"	28°44"
30	Edmund K.T. Liem	Holland	0°52'42"	14°16"	24°16"	0°14"	0°12"	20°04"	28°26"
31	David Kerr	Australia	0°47'56"	22°05"	23°52"	17°16"	22°49"	23°49"	24°04"
32	Bezman Nicu	Rumania	0°45'33"	12°39"	21°23"	24°10"	7°38"	3°56"	1°15"

RANK	COUNTRY	TIME	NAME	SUM.-OF-BEST-2
1	U.S.A.	3°44'14"	James Richmond Cezar Banks Robert Randolph	1°17'27" 1°14'43" 1°12'04"
2	Poland	3°24'58"	Sylwester Kujawa Ryszard Czechowski Edward Ciapala	1°09'24" 1°09'22" 1°06'12"
3	Switzerland	3°17'22"	Rene Butty Dieter Siebenmann Werner Heise	1°09'53" 1°09'41" 0°57'48"
4	Finland	3°14'28"	Pentti Nore Leif G.A. Englund Harri Raulio	1°10'22" 1°03'48" 1°00'18"
5	Canada	3°06'56"	Ronald Higgs Mike Thomas Carl Schueler	1°07'54" 1°01'35" 0°57'27"
6	Rumania	2°59'47"	Popa Aurel Morar Aurel Bezman Nicu	1°08'54" 1°05'20" 0°45'33"
7	China	2°58'47"	Zhou Wen Bin Chen Guo Xiong Lu Xiu Seng	1°03'04" 0°59'16" 0°56'27"
8	Holland	2°56'05"	Otto Rodenburg Cornelis Wolthoorn Edmund K.T. Liem	1°08'02" 0°55'21" 0°52'42"
9	Australia	2°54'30"	Richard Blackam Boyd Felstead David Kerr	1°07'30" 0°59'04" 0°47'56"
10	Japan	2°51'51"	Enomoto Hideyo Nonaka Shieyoshi Sakota Junichi	0°59'58" 0°57'53" 0°54'00"
11	Great Britain	1°09'57"	Robin Leslie Bailey	1°09'57"
12	Denmark	1°08'40"	Jorgen Korsgaard	1°08'40"



AWARDS CEREMONY AT INDOOR NAGOYA '84
 (left to right) Second place team from Poland; Ciapala, Kujawa, Czechowski. First place team from United States; Banks - holding giant mic ship used as a banner in the parade - Richmond, Randolph, Cailliau (manager). Third place team from Switzerland; Butty, Siebenmann, Heise.

THIS ISSUE

This issue has been devoted solely to the recent World Championships in Nagoya. The next issue we will get to all the material that has been sent to us and we'll get into some technical items including more on variable diameter propellers. In the meantime we would like to thank:

Warren Williams for a copy of the program, his journal and some photographs
Herb Robbins for his photographs and results
Jim Richmond for his model plans and report
Larry Cailliau for his report to Model Aviation and a copy of the program
Boyd Felstead for more results and his report
and Jack Carter who sent plans of Cezar Banks' model.

* * This issue was several days behind #15 & almost done when Richard fell off the back step at his office, tearing ligaments in his ankle bad enough to require surgery 2 days later. The cast is off now, his ankle is healing quickly & our schedule is getting back to its normal hectic pace. We'll never promise when an issue will arrive again, it seems to be bad luck. * *



U.S. team members placing 1st, 2nd, and 3rd. Has it ever been done before? Certainly not in Indoor. Our team selection methods produced a winning team of unprecedented strength this time!

After a safe ride from LA to Tokyo with the model boxes occupying honored positions in the 1st class section of the JAL 747, the plan was to go by bus to the bullet train and then to Nagoya. But there were, all 7 of us, stranded in front of Tokyo's teeming Narita terminal with our huge pile of luggage going nowhere. No one would touch Randolph's huge, fragile box with a 10 foot pole. The seemingly impossible problem was finally solved by all of us buying additional tickets on the last flight to Nagoya with an added ticket for Bob's box so it could ride in the passenger compartment. Cezar's box and mine went with the baggage. The flight was delayed several times and it was a very long night.

By Sunday, everyone had arrived and we spent most of the day participating in a very long parade. We felt like conquering heroes as we walked down the street amid throngs of waving people. The next day was official practice. We had hoped for an early start but when we arrived at the site there were no tables or chairs and no helium for our balloons so no serious testing was done before noon.

My first test hop was bombed out of the air by Werner Heise's plane which wrecked the stab. Scratch one. Things were certainly off to a bad start. I made 2 test flights with the variable diameter propeller which was the first serious testing I had done with that type of prop on an F1D model. It looked pretty good but the transition was late and flight times were only 32 - 33 minutes. Cezar and Bob were testing with half loops and seemed satisfied with results. "Flyers land your planes, the bus is leaving for the hotel in 10 minutes." They had trouble persuading us to stop flying so announcements like this were made to get our attention. It worked and we arrived at the hotel in time to attend a sumptuous party complete with food, drinks, geishas, and music.

Next morning was serious business as the competition began and we launched into round one. We had agreed to rotate our starting position each day, so Cezar was first off. He managed to survive the girders and posted a great 37:40. It should be noted that both Cezar and Bob are "go for it" flyers and don't seem to hold anything back when they fly. They have some hang-ups but they also have some very long flights.

ORIGINAL MODEL DESIGN FEATURES OF JIM RICHMOND'S

"FILM FLAM" F1D INDOOR AEROMODEL

VARIABLE DIAMETER PROPELLER: Diameter changes from 22" to 18" during flight to compensate for reduction in torque from the rubber motor. This is the first known use of this feature on a competitive FAI indoor model.

PLUG-IN TAIL BOOM for ease of adjustment & parts replacement. Also permits use of a smaller model box.

KEVLAR spiral wrap on motor stick for torsional strength. Believed to be the first use of Kevlar this way.

BORON FILAMENTS (2) are applied to the bottom of the motor stick to provide compressive strength.

HINGED WING POSTS made of thread at the junction with the wing. This permits folding the wing posts inward so the wings can be stored in a smaller space.

SUPER LARGE WING of 9 1/2" chord & the area of 224 sq. inches is one of the most ever used on a competitive FAI model.

LONG OVERALL LENGTH OF 37" one of longest in competition.

The variable diameter propeller I used was developed in an effort to get good flight times without the need to endanger the model with extensive rafter banging. It served well in this regard, producing the longest flight of the meet in the very first round. In fact we all did our best time in the first round which was rather remarkable since the air did not seem to be all that good and there was considerable drift.

Before the competition, I was concerned that the variable diameter propeller might not produce as much duration as a normal one in a site of this ceiling height because it spins off the turns at a more rapid rate in the retracted phase (about 50 RPM). I still feel you can do just as well with a normal prop if you don't mind rattling around in the girders for a while. In fact, I think Cezar's last flight might have won it for him if it hadn't hung. After 19 1/2 minutes it was still at the roof!

Cezar and Bob hung their 2nd flights and my prop kicked in late at 5 feet altitude, but we all had one super flight under our belts with 4 rounds to go. The consistent Chinese team took the lead the first day, but we knew we were in a strong position.

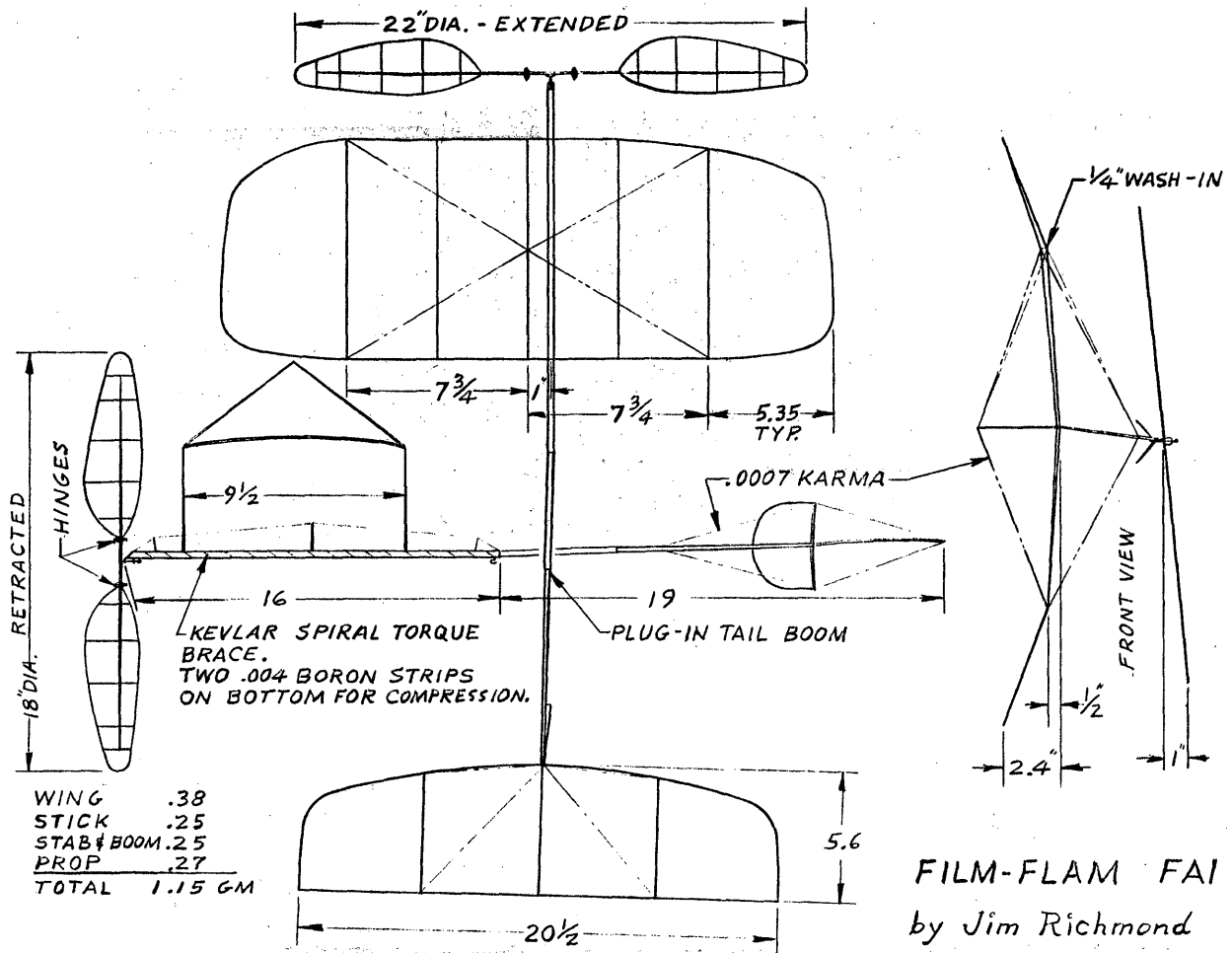
Drizzling rain the 2nd day, but no leaks in the roof. In spite of a downdraft at the center of the building and generally poor air, we were all able to post our 2nd best flights of the competition on this day which enabled us to take a commanding lead.

The last day was "go for it" day, but some bad luck and 4 hang ups kept us from improving our times which ultimately proved to be quite adequate.

The anxiety over a lost billfold - thank heaven we were in Japan, it was returned intact - and the struggle to get the boxes, luggage, and hardware home are now forgotten and the memory of a great and well run World Championships remains. Industrial financing of the meet provided many pleasant experiences. We even had a marching band to play for us at the conclusion of the meet. And I will treasure the Toyotomi Trophy which was said to cost 1,000,000 yen - always.

Many thanks to Stan Chilton who generously shared his best rubber with us. We all used it after testing proved it to be superior to anything we had. The supporters were all very helpful and seemed to enjoy the experience along with us at NAGOYA '84.

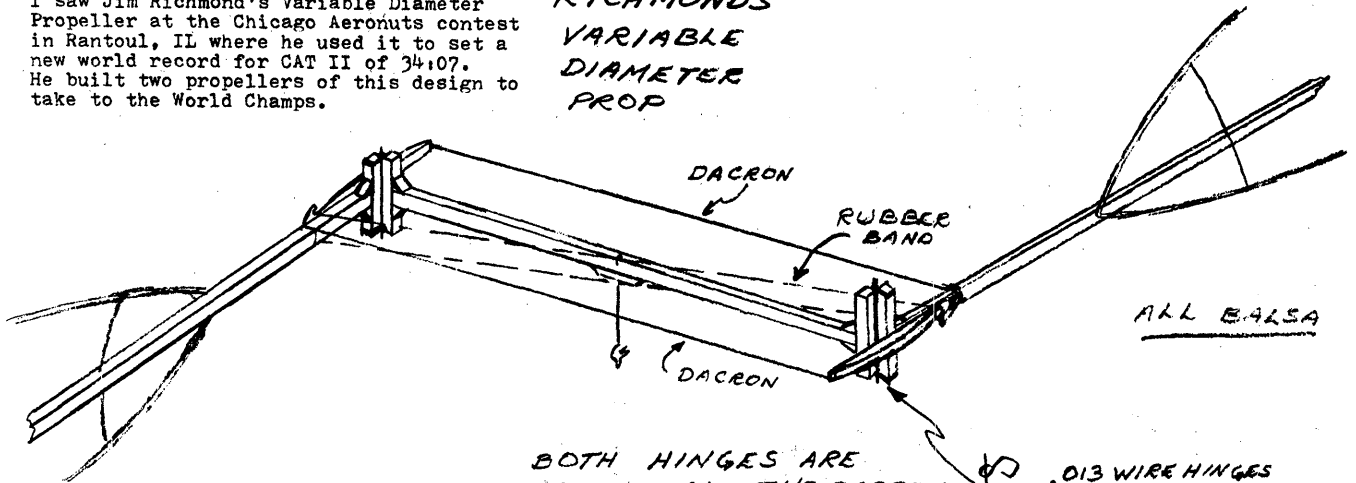
Jim Richmond
1984 World Champion



FILM-FLAM FAI
by Jim Richmond

I saw Jim Richmond's Variable Diameter Propeller at the Chicago Aeronauts contest in Rantoul, IL where he used it to set a new world record for CAT II of 34.07. He built two propellers of this design to take to the World Champs.

RICHMOND'S
VARIABLE
DIAMETER
PROP



BOTH HINGES ARE IDENTICAL. THE DACRON TENSION "WIRES" PULL BOTH BLADES IN EVENLY

22 INCH EXTENDED DIAMETER
18 INCH FOLDED DIAMETER

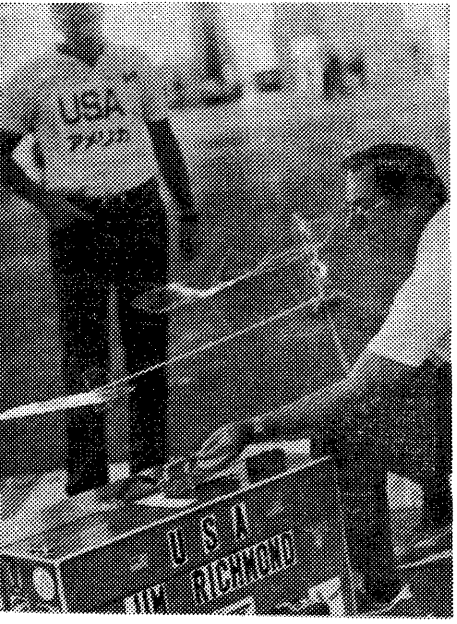
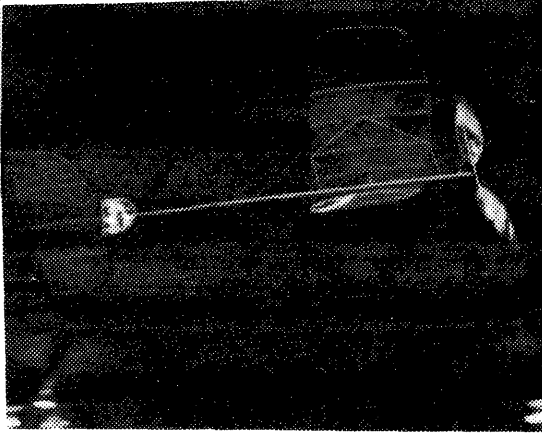
.013 WIRE HINGES

DRAWN BY: R. DOIG

INDOOR 84 NAGOYA
 室内飛行機選手権大会

1	James Richmond	39'51"
2	Cezar Banks	37'40"
3	Otto Rodenburg	37'40"
4	Robert Randolph	36'35"
5	Dieter Siebman	36'35"

Longest Flight



PHOTOS - Clockwise from upper left

One of the professional scoreboards used at the World Champs, a sign of a well run competition. This scoreboard displayed best single flight, photo taken after 2nd round. Pentti Nore (Finland) moved into 4th place during 6th round.

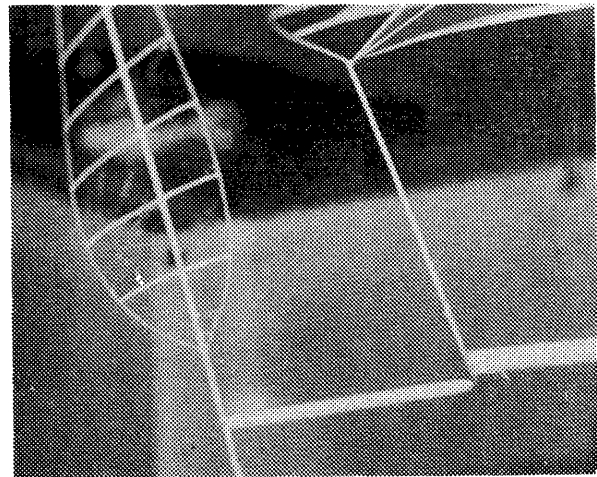
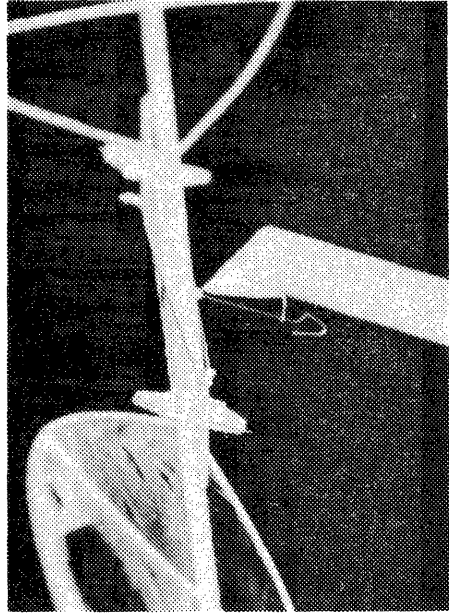
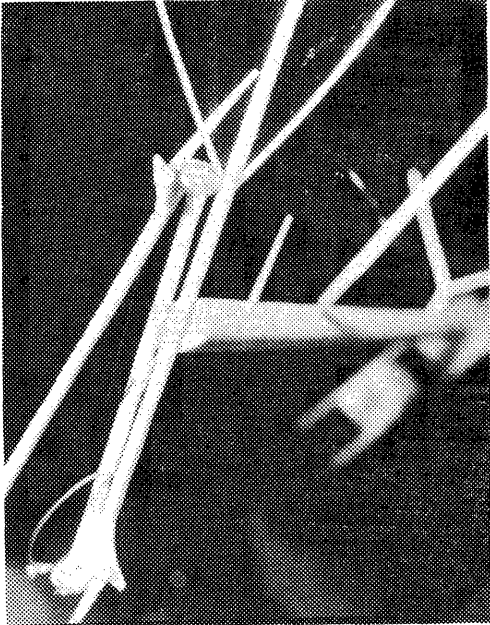
Jim Richmond's (USA) model "Film-Flam" climbs for the ceiling in Nagoya.

Richmond hooks on a motor while Larry Cailliau (USA team manager) looks on.

Richmond's Variable Diameter Propeller completely closed.

Rene Butty's (Switzerland) model had no motorstick ahead of wingpost with an extended propeller shaft.

Another view of Richmond's "Film-Flam" Richmond's Variable Diameter Propeller with one arm extended. Rubber band has been removed from its hooks & is hanging free in lower left of picture. Dacron can also be seen between hooks in this photo.



INDOOR '84 NAGOYA

A Journal by Warren Williams

Twelve nations competed in the World Indoor Championships that was held in Nagoya, Japan. The site a dome shaped Nagoya City International Exhibition Hall. The diameter being 500 feet with a height of 107 feet. It was a roomy place, to fly, but our team had their troubles hanging up in the upper structure of the dome.

Experience, reliability, plus good fortune paid off, for not only did our team carry off all the top awards, but our veteran Indoor flier, Jim Richmond, won all the marbles.

The meet was spread over five days. The first day was registration at the hotel headquarters and the gathering of the arriving contestants. All team members and their groups were invited to march in the 30th Autumn Festival Parade. While passing the grandstand the Mayor of the city presented us with the key to the city. It was a wonderful sight, looking at wall-to-wall faces. I was told there were a half million spectators lined along our one mile march.

The second day we all left the hotel by bus to the flying site for a practice session. That evening we attended a banquet given by the Mayor welcoming us to the city, plus entertainment food and drinks. Their hospitality was well received. The following morning (day three) the competition started. It was decided by the pick of straws that Bob Randolph would be the first to fly. As the spot light centered around Bob and his cement shoe - Bob broke his ankle two weeks before coming to Japan and was in a cast - while hooking up his fully wound motor, the motorstick collapsed, thus wiping out his number one model. Bob then launched his number two model and it powerstalled. After staggering around, hanging on the prop, neither gaining nor losing altitude for a breath-taking minute, the model leveled out and began to climb. Fortunately the model climbed to the top, but was off center weaving its way through the maze of girders. By using a balloon to center the model, the plane was on its way to its best flight of 36:35.

Jim Richmond's first flight took off smooth and slowly climbed to the top, but dangerously off center. He too had to balloon his model to steer it away from danger. As the model slowly descends, within 80 feet of the floor, what am I seeing, yes it is his new 22 inch variable diameter propeller shifting to its low power diameter of 18 inches. As the prop shortens I notice the prop had picked up more RPM and the model was back into cruise once again. The transition had taken place faster than an eye blink. Remarkable. As the model proceeded to stay at this altitude we sensed it would be a great flight and a great flight it was, 40:21, but wait, due to the 30 seconds steering with the balloon, 30 seconds had to be subtracted from the total and it came to 39:51. This turned out to be the longest flight of the competition, thus earning the Ernest Kopecky trophy.

Cezar Banks' first flight climbed steadily to the top and flying very comfortably it was in no danger at any time. He landed with the second highest time of the day, a fine 37:40.

Bob Randolph's second round flight, a good launch and flying well, but as it drifted out of the center it was in danger of hitting the side at the eighty foot level, a balloon was used to steer it, but the wing broke and the model spiraled to the floor at 12:47.

Jim Richmond's second flight was up and away, but it failed to climb as high as the first flight. He did however manage to grind out a 33:02.

Cezar Banks' second flight took off like gang busters, climbed to the top and hung up in the beams at 5:09. Banks then climbed the ladder and retrieved his model at the center of the dome. Model intact, ho hum, no problem. Otto Rodenburg of Holland on his second flight tied Cezar for second place with an identical 37:40. Well tomorrow is another day.

On the second day the third round began, Cezar was first off, climbing too fast, hitting several beams and hung up for a second and tailslid losing altitude and his bad position. After regaining some altitude at about 80 feet the time was 29 minutes, the beginnings of a great flight, but his model collided with another, cancelling out the flight. Cezar quickly put another ship in the air and racked up an excellent flight of 37:03. Bob Randolph's third flight resulted in a collision with another, spinning down from about 60 feet; washing out his number two model at 26:30. Bob was allowed to re-fly without losing the flight and quickly posted a 35:29. Jim Richmond's third round flight climbed steadily, the model circled in some bad air that seemed to be a down draft, losing valuable altitude, thus coming down safe at 33:53.

Cezar Banks' fourth flight climbed like a home-sick angel hitting the top of the dome several times. The model was centered and looking very good, but it too ran into the bad, rough air and down drafts. The model descended rapidly but clocked a 36:53. Bob Randolph's fourth flight was real good looking, but climbed to the top and hung up at 7:20.

The following day round five started. Jim Richmond was first off with his new propeller, determined to do a forty minute flight, but the prop did not kick in to its 18" diameter until the model got within 8 feet off the floor. A short flight of 30:19 was recorded. One to go as Jim readjusted the rubber tension for his prop to shift sooner. Cezar Banks' fifth round flight-going for broke with max. winds, motorstick bending to a banana shape, sweating it out, will it hold together or will it snap; luck prevails. The model climbs as if it was pulled by an invisible string, up, up and away. At about 8 minutes the model hits the top, after colliding with the beams ten times with the left wing tip, the leading edge breaks. The drag of the broken wing shortened the possibility of a good flight. It hit the floor at 32:42. Bob Randolph's fifth flight, bad luck prevailed as bob's model hung at 5:35. Bob's rhythm has been broken - good flight, bad flight good flight and two bad flights in a row. Whats next?

Jim Richmond's sixth flight, last round, was a disaster. His model hit the catwalk at the top, hung up for a moment, then tailslid, but did not recover as the wing folded. Our chances now are slim to break forty minutes. Cezar Banks' sixth round flight hung at 19:39 after banging the beams for ten minutes and was looking good until it drifted to the side and hung. Bob's sixth and last hung up at 6:59 ending our flights and competition.

When awards were given, our team won the Championship. Jim Richmond won Individual Champion trophy, longest flight (39:51) trophy and the Toyotomi Cup trophy for the best model design. The Toyotomi Cup is a lovely 18 inch solid bronze statue of the Greek Goddess Psyche.

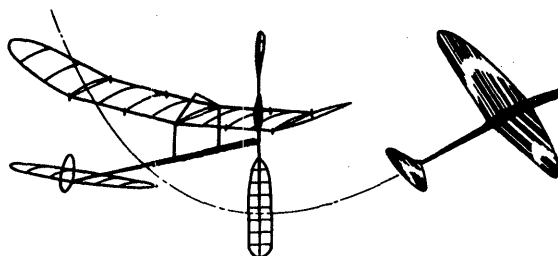
Congratulations to our team manager Larry Cailliau for his leadership, experience and hard work.

A beautiful farewell party was given by Mr. Nakamura, President of the Toyotomi Kogyo Co. who sponsored the event. The gathering gave us time to exchange gifts and say farewells. The Japanese hosted a memorable contest and one of the very few where excellent planning, hard work and dedication prevailed. No moans were heard about the organization or officials for which congratulations are due to all concerned. It was an experience we will cherish for years to come.

FOR SALE Polish gimballing Torque meters. \$50.00
Contact Erv Rodemsky (719) 786-0277
26 Warm Springs, Irvine, CA 92714

INDOOR**NEWS and VIEWS**

THIS ISSUE ~ RICHARD & MELODY DOIG ~ 6 CANARY HILL DR. PONTIAC, MI 48055



#17

(313) 373-5374

THIS ISSUE

As we promised here is more on Variable Diameter Propellers, in fact it has turned into an entire issue on them.

INDOOR NEWS & VIEWS UPDATE

Eight months and four issues after taking on INAV most of the production bugs have been worked out. We had hoped to do more issues but this is what we realistically expected. Because Bud Tenny is still handling the money and sends us the address labels there is often a gap between sending renewal notices, crediting your subscription and us getting the updated mailing labels. We had #16 labels almost a month before the issue was mailed, we're sorry if receiving redundant renewal notices caused anyone problems.

Also with issue #15 we found that with the combination of our printer's paper and envelopes it is possible to send three sheets of paper overseas on one stamp. This means that we can include more information in each issue.

SAD NEWS

Dennis Jaecks of Janesville, Wisconsin died on January 20, 1985 of a heart attack. This was a great shock to us as he was in his forties.

We first met Dennis at the Chicago Aeronuts' Championships and flew with him many times in Chicago and West Baden. The last year in West Baden (1983) his daughter Jeni came along and both set records for Pennyplane in CAT III. Not only did he do much for the popularity of Pennyplanes, he also helped share his knowledge with others. We shall miss him.

Modeling legend and indoor pioneer Carl Goldberg of Northridge, California died on January 28, 1985. Carl may best be remembered for his landmark flight of 22:59 at the 1934 NATS in the Goodyear Airdock, Akron, Ohio. Our condolences to his wife and family.

FOREIGN SUBSCRIBERS

The FOURTH UNITED STATES INDOOR CHAMPIONSHIPS will be held June 18 - 20, 1985 at the Niagara Falls Convention Center Arena, Niagara Falls, New York. If you will be in the States this summer you are welcome to compete. This may be the largest indoor contest in the world, 16 events will be flown, along with movies and a banquet. Site is CAT III with a large floor area (260'x310'). For a copy of the schedule and entry form send a large (10 cm x 24 cm) self-addressed envelope to: U.S.I.C.
1655 Revere Drive
Brookfield, WI 53005 USA

U.S. and Canadian copies of this issue will have a copy of the schedule and entry form included.

HANGER PILOT SUBSCRIBERS

Have you missed some issues? Hanger Pilot editor "Doc" Martin's Labrador puppy ate the master mailing list in October and "Doc" needs your help to reconstruct the mailing list. If you are a subscriber please mail a postcard with your name and address to:

The Hanger Pilot
Dr. John Martin, Editor
2180 Tigertail
Miami, FL 33133 U.S.A.

For those of you who might be interested The Hanger Pilot is the newsletter of the Miami Indoor Aircraft Model Association - the only active all indoor free flight club in AMA. This group who's motto is "it must be fun" is interested in all types of indoor models especially Scale models of all shapes and sizes. Subscriptions are \$10.00 a year for 8 to 9 issues.

NEW NEWSLETTER

Bill Baker has started a newsletter, The Okie Free Flight Flyer, to help unite the scattered members of the Sooner Free Flight Society of Oklahoma. He hopes this can keep members informed as to what is going on in the area for both indoor and outdoor free flight activities. There is no subscription fee.

Contact: Bill Baker
1902 Peter Pan St.
Norman, OK 73069

WANTED - Set or several sets of plastic 1/4 inch Atwood Gears formerly sold by Microdyne. Please phone or write Bob Randolph, (714)796-9706 or 25145 Lawton Av., Loma Linda, CA 92354.

CONTEST CALENDERCALIFORNIA - BURBANK

Blacksheep Squadron (flying activities for Juniors) at Luther Burbank Jr.H.S. gym -CAT I- on Maple between Jefferies and Allan. March 14 Indoor Record Trials, June 13 Indoor Scale Contest. Both Dates 7 - 10 pm. Contact Tony Naccarato, 3512 Victory Blvd., Burbank, CA 91505 or (818)842-5062

CALIFORNIA - SAN DIEGO

Contest towards High Point Championship Trophy after monthly business meetings on 2nd Friday of each month. Indoor flying sessions also the 4th Friday of each month. These activities start 7:30 pm at the Colina Del Sol Community Center, 5319 Orange Av. Contact San Diego Orbiters' Program Chairman John Hutchison (619)465-7698

VARIABLE DIAMETER & PITCH PROPELLERS

When I saw Jim Richmond's Variable Diameter Propeller last September in Rantoul, IL I asked him why he was using it and his reply was that it was a more reliable way to change the pitch than changing the blade angle. Which brings us to the heart of the matter, when this type of propeller folds you get a dramatic reduction in pitch.

BACKGROUND

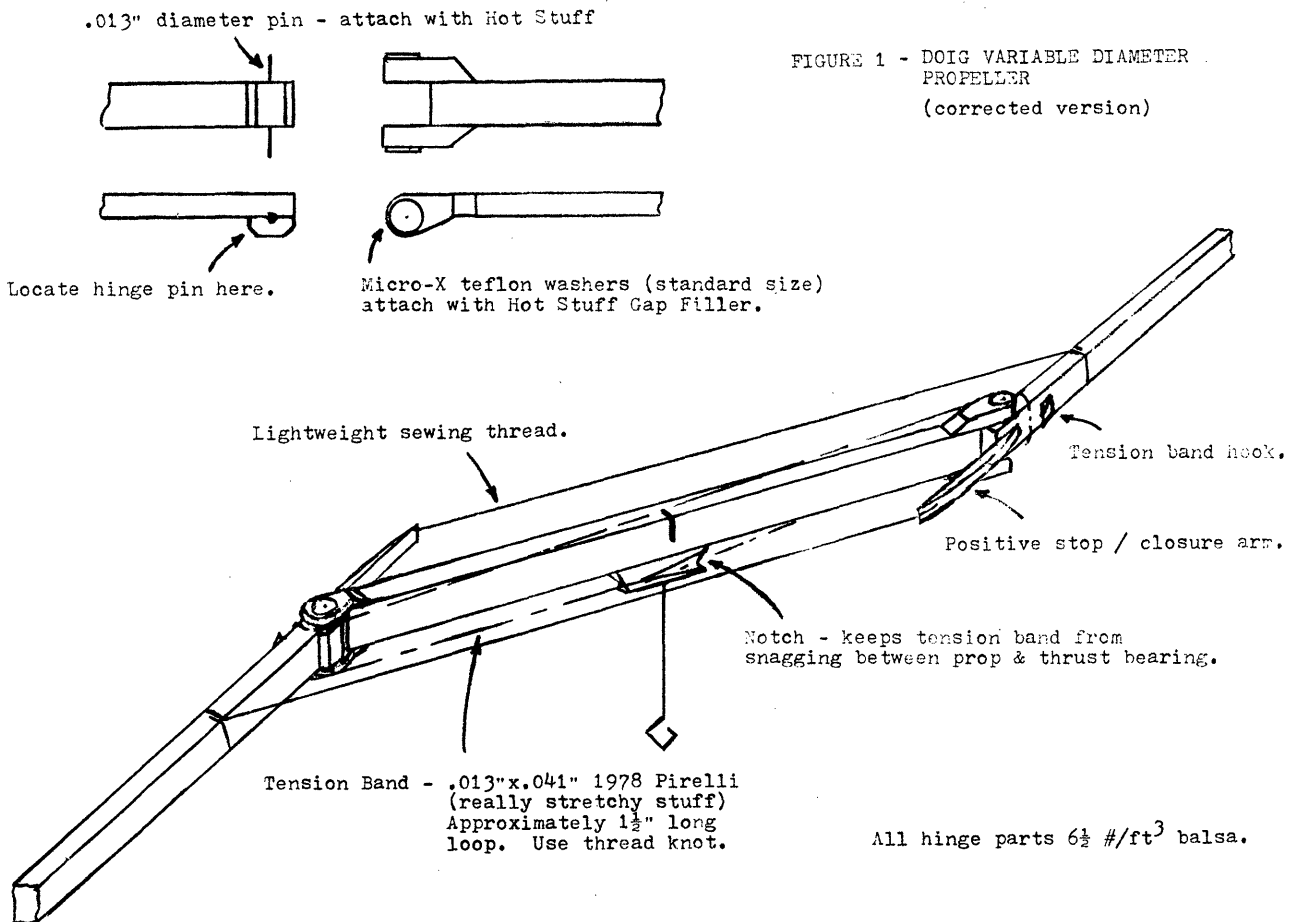
Variable Diameter Propellers are nothing new, as Hewitt Phillips and Jim Clem have been experimenting with them for many years. (See accompanying articles.) Up until very recently, however, no one had succeeded with a variable diameter prop without incurring a severe weight penalty. That all changed last September 29, when Jim Richmond broke the CAT II World Record using one. (34:07 under 44 feet) This flight had an interesting flight pattern in that the model climbed to 20 feet or so and cruised for 10 minutes. Then over the next 2-3 minutes the prop folded and the model climbed to a peak altitude of 40 feet. This was advantageous as the ceiling height was 44 feet with lights which hung down 2 feet and there was noticeable drift close to the ceiling. Richmond succeeded in staying below the drift. At the World Champs in October, Richmond was able to fly top times without touching the ceiling and without risk of hanging up, while everyone else bashed the girders. His prop was clearly the hit of the World Champs.

DOIG VARIABLE DIAMETER PROPELLER

Richmond's prop made extensive use of bent wire hinges and other parts - which he is very good at making. I took a different approach, using Micro-X teflon washers as hinge bearing surfaces around straight pieces of wire. As originally built this prop would not completely open but stopped 15° short. However it still flew well enough to win the Balsa Bug's MI State Championships in October - 23:43 at 60 feet in 50° F air.

The propeller has since been modified to reduce the distance that the rubber has to stretch for full opening and this corrected the problem. (see figure 1) This mechanism added about .0040 ounce to the weight of the prop (mostly in Hot Stuff required to repair the many breaks caused by my clumsiness during building). Properly done, this mechanism should add about .0015 - .0020 ounce.

Opinion seems to be very strong concerning Variable Diameter & Pitch Propellers. Those who oppose them are adamant that the extra work involved will reduce participation even further. Those who favor them can see their value at making models last longer because you stay out of the girders. It does take less time to build one of these props than a replacement model. Most flyers don't see any benefit from Variable Diameter & Pitch Propellers in high ceilings (CAT IV) at this point. However in lower ceilings, especially those with cluttered ceilings - girders, lights, sprinkler systems - the benefits of staying several feet below these obstacles are great.



Please note that this type of propeller is specifically outlawed in the A.M.A. Rulebook for Novice Pennyplane and Manhattan Cabin.

HOW THE CHANGE IN PITCH WORKS

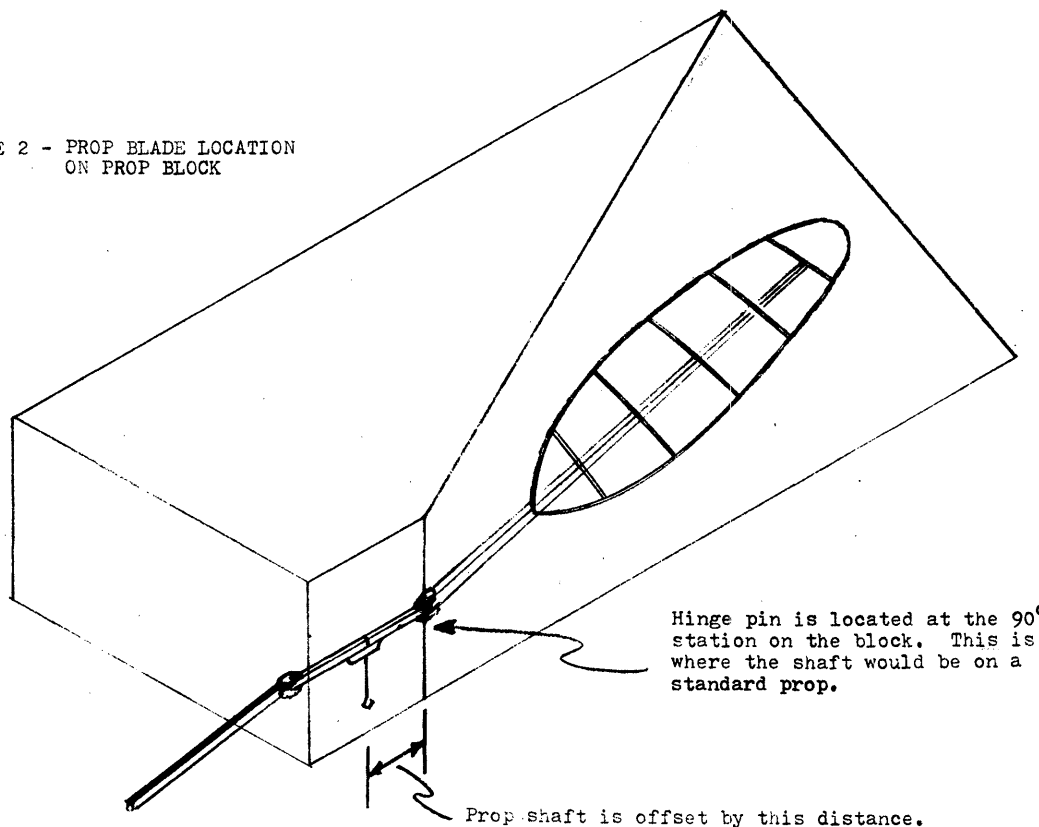
In Jim Jones' accompanying article he discusses pitch change as the blades are folded inward. However he presumes that the pitch was helical when the prop was fully extended. This is not necessarily the case. When I asked Richmond where he placed the blades, he was non specific except to say that helical pitch occurred part way through the fold. In the case of my own prop I set true helical pitch to occur when the prop was halfway through the fold. That is, I glued the blades onto the spars with the hinge pin at the point on the pitch block where I normally put the hook, see figure 2. (Actually this is the only way it would fit.) This creates a situation where, when the prop is fully extended the pitch is very high at the hub and decreases toward the tip and the average pitch is higher than the prop block. The higher pitch at the hubs slows the R.P.M.

way down while keeping the tip at a shallower pitch so the tips don't stall. When the prop is fully folded the opposite is true. The pitch is low at the hub and increases toward the tip and the average pitch is much lower. The R.P.M. increases dramatically due to reduced drag and if you are high enough on the rubber's torque curve the model will begin to climb again. This prop construction gradually folds to approximately 90° over a long period of time, 2-3 minutes or more. When the mechanism gets to 90° and goes over center, the next 90° of travel happens very quickly and abruptly taking 2-3 seconds. If properly done, the fold will not begin until 10-12 minutes into the flight (or even longer).

WHAT DOES THIS ALL MEAN ?

Only experimentation by several modelers under a variety of flying conditions will provide the answers along with discussion amongst modelers, especially if we are to come up with mechanisms which are easy to build and lightweight.

FIGURE 2 - PROP BLADE LOCATION ON PROP BLOCK



Reprinted from Indoor News & Views, April 1966. Look at what it has taken us nineteen years to learn!

The Variable Diameter Prop

by Hewitt Phillips

I have built two or three of the variable diameter props, and they really work. However, the additional weight and drag of the mechanism would be more of a penalty on today's models than it was in the old days.

The principle of operation is shown on the attached sketches. The two blades are kept in the same relative position by a parallelogram linkage (absolutely essential, as discovered on the first trial when one blade would stay full out and the other full in). The blades wind out against the tension of a fine rubber band wrapped around a small pulley. The rate of climb or descent of the model depends solely on this tension band and is independent of the winds or torque of the rubber motor. Thus, the model may be adjusted to fly level throughout the flight by carefully adjusting the tension in this fine rubber band.

Variations in the characteristics may be obtained by changing the pulley from circular to elliptical or cam-shaped. Usually, it is desirable to obtain some climb at the start followed by a long level cruise. Otherwise, the drafts near the floor will eventually bring the model down.

Also, blade angle change may be obtained simultaneously with diameter by canting the hinges. This may be used to compensate for twist of the blades under high torque at the start of the flight.

It is perfectly easy to obtain peculiar effects, such as a descent at the start under full power, with the prop stretched out to maximum diameter, followed by a climb near the end of the flight with the blades pulled in and the propeller buzzing around like a beginner's ROG. This condition obviously should be avoided for endurance.

In Boston, we flew in the old Irvington Street Armory which had a 55' ceiling. The variable diameter prop was really advantageous under these conditions. I don't think it would compete with fixed diameter props in ceilings above about 80 feet.

F.Y.I. (FOR YOUR INFORMATION)

by Jim Jones

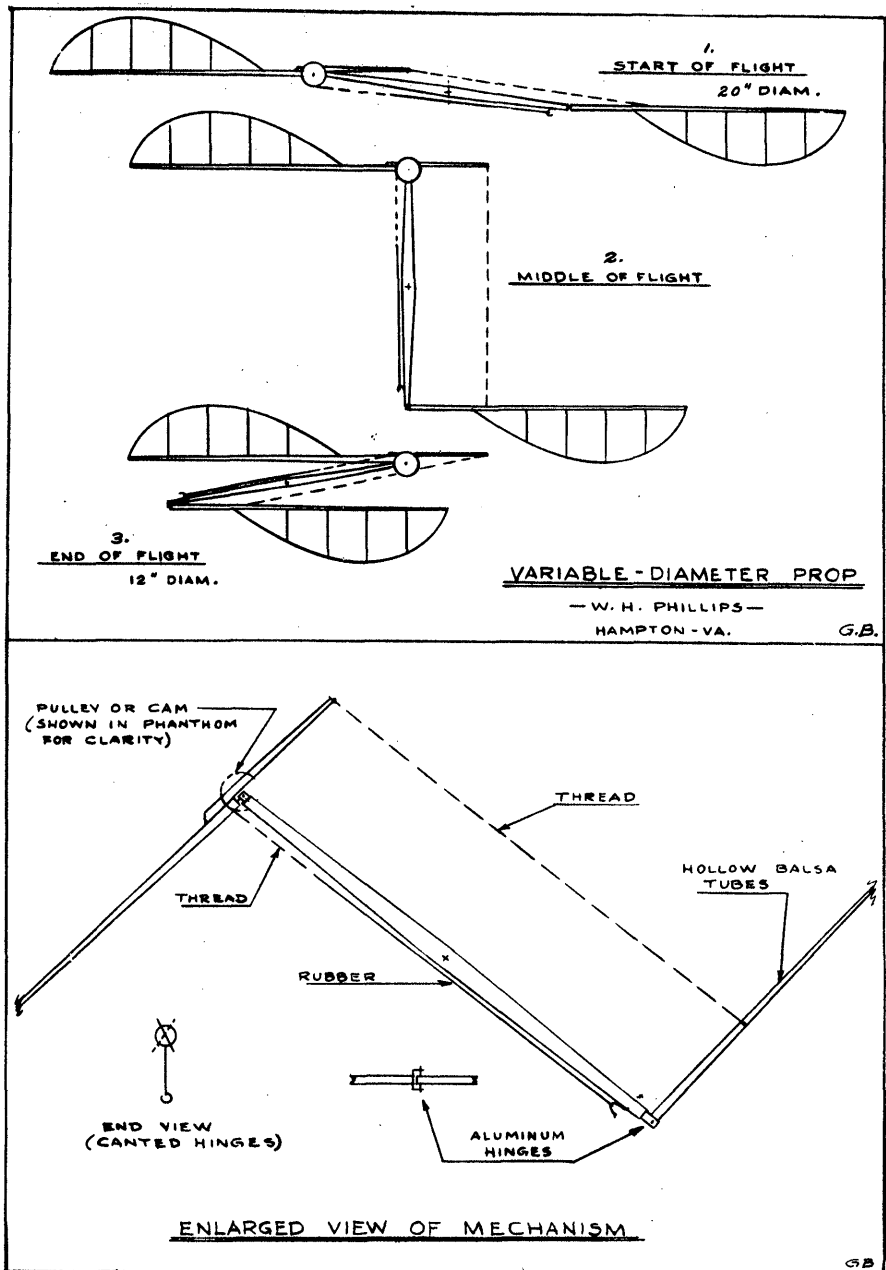
Since Jim Richmond won the Indoor World Championships in Japan, I have seen two published drawings of his winning model. One in N.I.M.A.S.'s INAV & the other in my latest edition of "Bat Sheet" both articles mention the variable pitch prop but they refer to it only as a variable diameter. When the diameter changes, the pitch also changes, & it happens like this.

For the sake of explaining this condition I will assign a pitch of 36 inches to the fully extended 22 inch position. The 45° section of a true helical pitch prop exists at 11.5 inches. When the blades are retracted to the 18" diameter minimum, the 45° sections also retract. These 45° sections now exist at a diameter of 7.5 inches. The pitch now is only 23.4 inches, but it is no longer a true helical pitch. To illustrate, the tip angle of a 36" prop at a diameter of 22 inches is 27.5°. When this prop retracts to its 18" diameter minimum, this tip angle

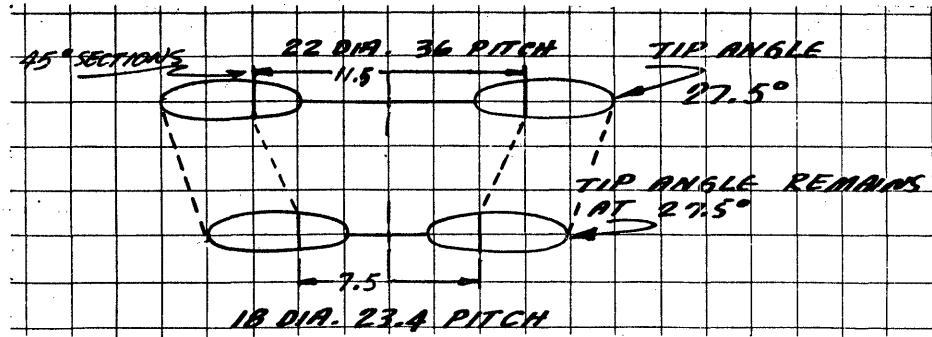
remains the same. When you figure the pitch of a blade with a diameter of 18 inches, & a tip angle of 27.5° it calculates out to a pitch of 29.5 inches. This prop now has a pitch of 23.4 inches at the 45° section and a pitch of 29.5 inches at the tip.

These calculations are based on the premise that the blade extends & retracts in a straight line without rotating on its axis. It also is figured without taking into account any of the flexing that an indoor prop has to endure. To summerise, from the center of the hub to the 45° section the angles will be less than they would be if it were a true helical pitch, & from the 45° section outboard the angles are just a bit higher than they should be. - But the change is great enough to allow the prop to pick up a few R.P.M.s & extend the cruise. When the conventional fixed pitch & diameter prop would be slowing down too much to maintain lift.

Jim Jones
36631 Ledgestone Dr.
Mt. Clemens, MI 48043



G.B.



Reprinted from NFFS Free Flight Digest, MAY, 1976

INDOOR PROPS - VARIABLE PITCH AND VARIABLE DIAMETER

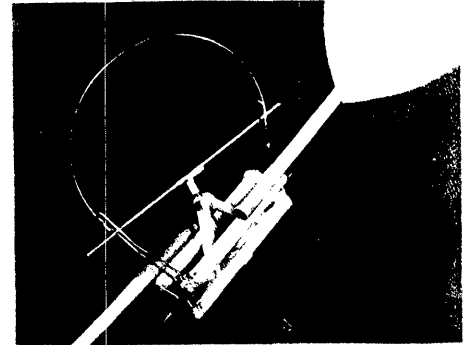
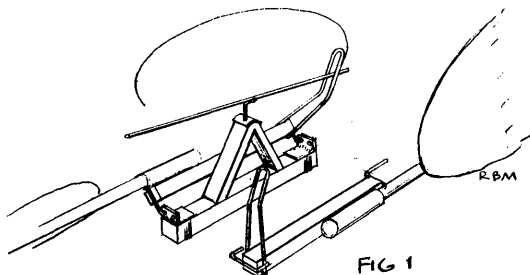
by Hewitt Phillips

Ever since the days of hand-carved balsa indoor props, attempts have been made to build in a distribution of area and structural stiffness which would allow the blade to "flare" at the start of the flight to slow down the climb and prop R.P.M. during the initial kick of the rubber motor. The slower climb was especially beneficial in low ceilings, but as performance of indoor models improved, it was found that under good conditions, models without a flaring prop would climb too high for even the tallest dirigible hangers. Thus, most all modern microfilm props are designed to increase pitch at the start of the flight.

The conventional prop with flexible spars is definitely limited in the amount of flare that can be provided. If the spars are made too flexible or the prop area is centered too far forward, a disastrous type of instability sets in under full power. One blade will diverge to a full high pitch condition but this will slow the R.P.M. to a point that the other blade will twist to low pitch. The resulting unbalance will usually shake the model out of the air.

Several prop designs have been suggested and tried in past years which allow much greater pitch change without the instability. These systems usually added some weight, which, for models without a minimum weight rule, almost always outweighed any advantage that might be obtained from the device. In the case of FAI models, Pennyplane, etc., in which the minimum weight is specified in the rules, a device weighing a few thousandths of an ounce can frequently be accommodated without exceeding the specified weight. In fact, a weight at the nose may often be beneficial from the stability standpoint. The interest in variable-pitch propellers is therefore growing.

A variable-pitch propeller was described in an article by Jeff Annis in the 1975 Symposium volume of the NFFS. The feature of this propeller which allows a greater pitch change than that of a conventional flaring prop is that the change in pitch of the two blades is kept equal through a linkage. Another prop design incorporating this principle has been proposed by Bob Meuser (figure 1). Both these prop designs should prove very beneficial whenever the ceiling height is less than that of the very biggest hangers.



Theoretically, more efficiency could be obtained by increasing the prop diameter rather than the pitch at the start of the flight. A larger diameter prop acts on a larger volume of air, thereby losing less energy in slipstream velocity. Also, a blade stall may occur if the pitch increases excessively. A method of increasing prop diameter was proposed many years ago by John P. Glass, and was tried by the author in several different versions.

The method of varying prop diameter is shown in figure 2. The propeller blades are synchronized through a parallelogram linkage, and the blade position is determined by balancing the torque against the tension of a thin rubber band wrapped around a pulley. By changing the shape of the pulley from a circle to an arbitrary cam shape, most any climb profile for the model may be obtained. For example, the model may climb rapidly to 20 feet altitude, then cruise at this altitude for the rest of the flight until the propeller reaches its minimum diameter. So long as the propeller is in this "regulating" condition the climb of the model is not affected by changes in motor torque. The effect of reduced torque due to breaking in the rubber is therefore eliminated. To offset these advantages, however, the propeller spars have high drag and the overall efficiency is generally less than that of a conventional prop. A final possibility that may be mentioned is to change both pitch and diameter simultaneously by skewing the hinges of the blades.

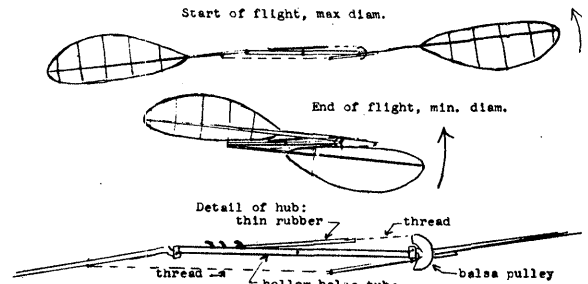


Fig. 2 - Variable-diameter indoor prop.

CONTEST CALENDER CONTINUED

REMINDER - When writing for more information on a flying session or contest we suggest you include a self-addressed, stamped business size envelope. This will help speed the information back to you and save the contact person some money and effort.

CALIFORNIA - TUSTIN

FAI Team Selection Local in Hanger #1-CAT IV- on Tustin. M.C.A.F. the first weekend of each month. The last we heard the hanger doors were stuck open, so check with Curt Stevens before making plans to fly. To gain admittance to the Base contact Curt Stevens 24692 Nympha, Mission Viejo, CA 92691 or (714)586-5779

CONNECTICUT - GLASTONBURY

Flying and contests at Glastonbury H.S. gym -CAT II March 3 8:00 am - 12:30 pm flying session. April 14 8 am - 5 pm contest: EZB, HLG, AMA Peanut Scale, FAC Scale, Mass Launch WWI Peanut, Mass Launch WWII Fighter, FAC No-Cal Scale, 7 gram Bostonian. Contact George Armstead (203)633-7836

FLORIDA - MIAMI

MIAMA indoor meet #5, Feb.10 and World Proxy Inter-Gnats on April 13 & 14. Miami Dade South College, 11011 S.W. 104th Street -CAT II- Events: Scale, Peanut Pistachio, Kit/Plan, "A" ROG, FAC Mass Launch, EZB, Pennyplane, Novice Pennyplane, Manhattan/Bostonian. Contact "Doc" Martin 2180 Tigertail, Miami, FL 33133 or (305) 858-6363.

FLORIDA - TAMPA

MIAMA Indoor meets #6 March 9 & 10 (dates confirmed) #7 May 11 & 12 (not confirmed) at MacDill A.F.B.-CAT III- Events: EZB, Peanut Scale, Manhattan/Bostonian, "A" R.O.G., HLG, Pennyplane, Novice Pennyplane, Kit/Plan. To gain admittance onto the base you must contact Dick Obarski 2349 Barcelona Av., Fort Myers, FL 33905 or (813)693-1996.

MASSACHUSETTS - CAMBRIDGE (BOSTON)

Flying sessions at M.I.T. Dupont gym -CAT II-the first Saturday of each month. 6 - 10 PM. Events flown based on participants' interest. Contact Ray Harlan, 15 Happy Hollow, Wayland, MA 01778 or (617)358-4013.

MASSACHUSETTS - CHIOPEE

A.M.A. Nationals at Westover A.F.B.-CAT III- July 27 through August 4. For more information check Model Aviation.

MINNESOTA - BURNSVILLE (MINNEAPOLIS)

Contests at Burnsville H.S., 600 E Highway 13. Feb.17: EZB, Pennyplane, HGL-all wood, Peanut, Bostonian-West Coast, Modified-FAC Peanut, Manhattan Cabin. Contact G. Oakins, 291 Jay St., Birchwood, MN 55110 or (612) 429-3150 April 14: EZB, Pennyplane, HGL-all wood, Peanut Scale, FAC Peanut, FAC Walnut Scale, FAC No-Cal, Phantom Flash and CAT II Record Trials. Contact D. Mendenhall 5100 50th Av. N., Crystal, MI 55429 or (612)535-2976.

MISSOURI - STANLEY (KANSAS CITY)

Contest at Stanley Elementary School Gym, 150th and Metcalf, enter at rear. March 17, 1 - 4:30 pm, EZB, Pennyplane, Comet ROG. April 21, 1 - 4:30 pm, EZB, Pennyplane, Open Stick, No touch duration, Ornithopter. Contact Roger Schroeder, 4111 W. 98th St., Overland Park, KS 66207 or (913)648-4265.

NEBRASKA - LINCOLN

Contest at Lincoln National Guard Armory -CAT II- March 10 EZB, HLG, AMA Scale, Peanut Scale, 14 gram Bostonian, One Design B. Contact Walt Erbach, 2979 Dudley, Lincoln, NE 68503 or (402)477-9044

NEW JERSEY - GLASSBORO

Contest at Glassboro State College, Student Activity Building, 2nd floor ballroom. March 17, 10 am - 4 pm. Events: HLG, EZB, Novice Pennyplane, Peanut Scale. Contact Al Mkitarian (609)829-6573.

NEW JERSEY - LAKEHURST

Flying should resume in Hanger #1-CAT IV- later this spring. Contact Russ Russo, 143 Willoway, Clark, NJ 07066 or (201)382-0871.

NEW JERSEY - MIDDLESEX

Contest at Middlesex H.S.-CAT I-Route 28, Middlesex. Feb. 24, 10 am - 4 pm. Events: EZB, Pennyplane, Peanut Scale, No-Cal Scale, Chili Bean & Peck ROG. Contact Gene Sellers (201)725-4186.

NEW JERSEY - PRINCETON

Fun Fly and Contest at Princeton University, Jadwin Gym.(you must wear gym shoes) May 5,9 am - 5 pm. Events to be arranged. Contact David Aronstein, 50 Pasture Lane, Poughkeepsie, NY 12603 or (609)734-0696.

NEW YORK - CANTIAGUE (LONG ISLAND)

Contest at Cantiague Park Hockey Rink after the ice is removed for the season sometime around June 1. Contact John Carbone (576)271-5548.

NEW YORK - COLUMBIA

Contest at Columbia University's Low Library Rotunda -CAT III- Feb. 17, 9 am - 5 pm. Events: EZB& Pennyplane, April 21, 9 am - 5 pm. Events: Mooney judged Peanut & Scale, all models turned in by 11 am. Contact Ed Whitten P.O. Box 176, Wall Street Station, NY, NY 10005 or (212) 724-0282.

NEW YORK - NIAGARA FALLS

Contests at Niagara Falls Convention Center Arena, downtown Niagara Falls, CAT III. May 5, 8 am - 6 pm. Events: HLG, FAC Scale, GHQ Peanut Scale, No-cal Scale, Embryo Endurance, Bostonian 7 gram, WWI Biplane Mass Launch, EZB, Novice Pennyplane, Manhattan Cabin, FAI (FID) Stick. Contact Jack Brown 1446 Red Jacket Rd. Grand Island, NY 14072 or (716)773-5674.

FOURTH UNITED STATES INDOOR CHAMPIONSHIPS, June 18-20. See flyer included in U.S. and Canada copies of this issue or contact Tony Italiano, 1655 Revere Dr. Brookfield, WI 53005 or (414)782-6256 after 7 pm EST.

NEW YORK - ROCHESTER

Bi-monthly flying sessions at Kodak Office Auditorium the first and third Sundays of each month, 1 - 5 pm. Contact Bob Clemens, 95 Shoreway Dr., Rochester, NY 14612 or (716)392-3346.

NEW YORK - WESTCHESTER

Flying at Chappaqua's Horace Greeley H.S. on March 3 and March 17, 1 - 4 pm. Contact Art Maiden (914)769-2284.

OKLAHOMA - OKLAHOMA CITY

Flying at Oklahoma City National Guard Armory, 200 N.E. 23rd St. CAT II Fun Fly on Feb. 17, 9 am - 5 pm. Contest: S.F.F.S. Indoor Champs on March 17 9 am - 5 pm. Events: EZB, Novice Pennyplane, Pennyplane, Manhattan Cabin, HLG, Scale, Peanut Scale, Ornithopter, Bostonian 14 grams, local rule Jetco ROG. Contact Bill Baker 1902 Peter Pan St., Norman, OK 73069 or (405)329-1018.

OREGON - ALBANY

Flying at South Albany H.S. gym. CAT II Nor'Wester Record Trials on Feb. 10 and March 17 Events: EZB, Pennyplane, HLG-all wood, Scale, Peanut Scale, P24 & Bostonian. Contact J. Lenderman, Route 3 Box 551, Clatskanie, OR 97016 or (503)728-2134. Nor'Westers' Endurance Indoor Record Trials on April 21. Events: FAI (FID) Stick, EZB. Contact Dave Hagan, 19957 S. Redland Rd., Oregon City, OR 97045 or (503)631-7373.

PENNSYLVANNIA - EDINBORO

FAC Scale contest on April 28. Contact Claude Powell at (301)872-4105.

TEXAS - BEDFORD (DALLAS/FORT WORTH)

Contest at Bedford Boys Ranch gym-CAT I-on Forrest Ridge at Harwood. Feb. 23, 6 pm - 11 pm. Events: HLG Peanut Scale, Profile Scale, Bostonian, WWII Mass Launch EZB, and Pennyplane. Contact Jesse Shepperd 2713 Summit View, Bedford, TX 76021 or (817)282-3770. Next contest is March 23.



FOURTH UNITED STATES INDOOR CHAMPIONSHIPS

June 18, 19, 20, 1985

At Niagara Falls International Convention Center Arena
Niagara Falls, New York



Sponsored by:
National Free Flight Society
National Indoor Model Airplane Society

Sanctioned AAAA by AMA
Category III
(Ceiling is 70')

	8 AM	9	10	11	NOON	12	1	2	3	4	5	6	7	8 PM
TUESDAY	HAND LAUNCHED GLIDER			FLD (1)		FLD (2)		FLD (3)		AMA STICK		ORNO THI/ AUTOGIRO/ SPEED		
	PP/NPP/ MANH/BOST		FLD (4)		FLD (5)		FLD (6)		BANQUET					
WEDNESDAY	EASY B/ PAPER STICK		PEANUT/ AMA SCALE/ MIAMA		GRAND PRIX									
THURSDAY														

CHAIRS AND TABLES WILL BE AVAILABLE.

BRING YOUR OWN BALLOONS (HELIUM AVAILABLE)

BANQUET - WED., JUNE 19, 1985 - 8:00 p.m. - \$11.00 Per Person

Contest Directors: H. Brodersen, A. Italiano
D. Lindley, C. Sotich
G. Wisniewski

All Senior and Open Flyers will be required to time flights and assist as called upon (be happy and VOLUNTEER!)

NO DISPUTES ALLOWED - CD's HAVE THE LAST WORD FOR FAIRNESS.

Entries must be postmarked by May 1, 1985 - late fee \$10.00 payable on site.

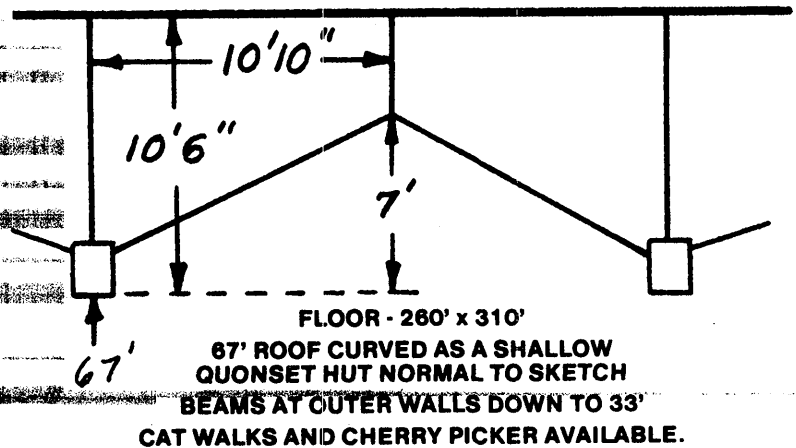
NOTE: FOR DETAILS OF THE MIAMI PEANUT GRAND PRIX, SEND A LARGE SASE TO: Dr. J. Martin, 2180 Tigertail Ave., Miami, FL 33133 - (June 20, 1985).

NOTE: ALL 1984/1985 AMA RULES APPLY. ALL RULE CHANGE PROPOSALS DO NOT APPLY! ALL OTHER INTERPRETATIONS NOT WITHSTANDING.

NOTE: All models for scale judging are to be submitted by 10:00 a.m. June 19 or earlier (along with documentation and name of contestant).

NO FAULT INSURANCE: Check your model before you come to the contest - disqualified if your out of dimension model is due to lack of self discipline.

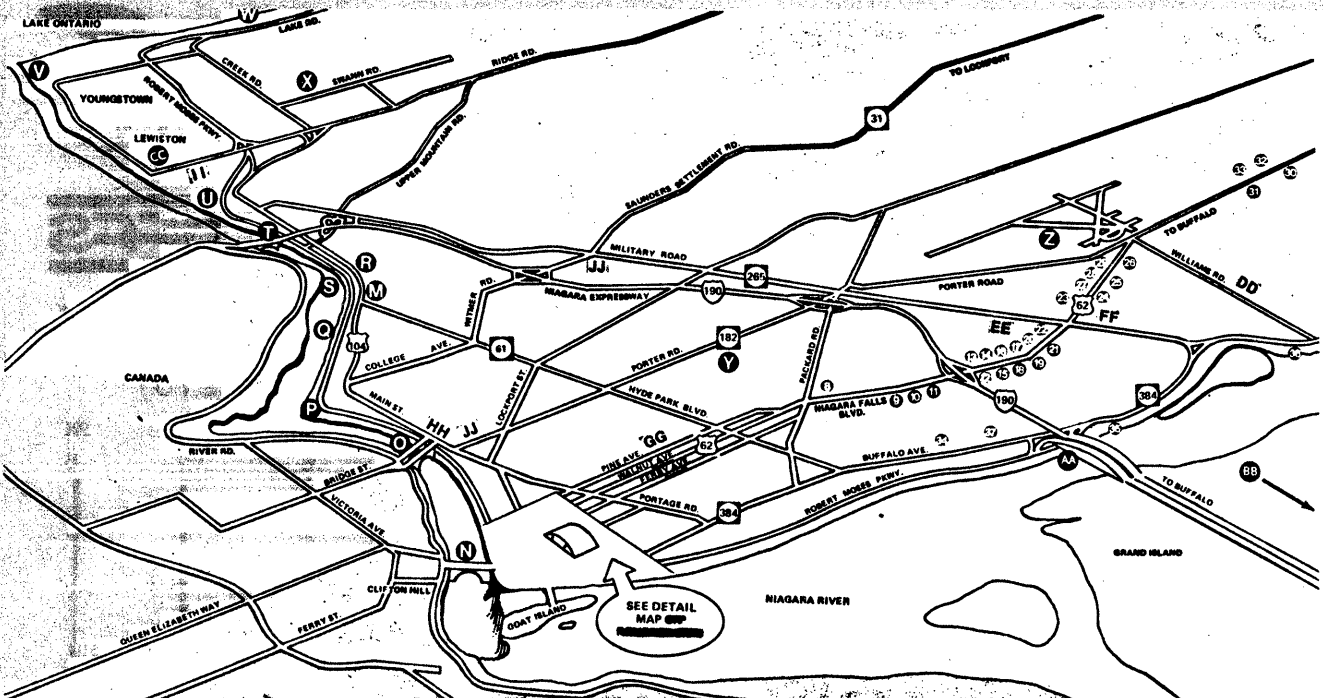
DOORS OPEN AT 7:00 A.M. FOR PRACTICE FLYING -



AWARDS TO 3rd PLACE		Includes One Event	Each Add'l. Ev
OP	NFFS AND NIMAS MEMBER	\$12.00	\$3.00
	NON NFFS AND NIMAS MEMBER	\$30.00	\$5.00
JR		\$4.00	\$2.00
SR			

All entries must be AMA Member or of their countries governing body (contestant provides proof).

Send your entry payable to:
USIC
1655 Revere Drive
Brookfield, WI 53005
(414) 782-6256 (after 7 p.m.)



GREATER NIAGARA FALLS AREA

ATTRACTIONS

- M. Buscaglia-Castellani Art Gallery
- N. Rainbow Bridge
- O. Whirlpool Rapids Bridge
- P. Whirlpool State Park
- Q. Devil's Hole
- R. Niagara University
- S. Power Vista
- T. Lewiston-Queenston Bridge
- U. Artpark
- V. Fort Niagara
- W. Four-Mile Creek State Park
- X. Fatima Shrine
- Y. Hyde Park Golf Course

- Z. Niagara Falls Airport
- AA. Grand Island Bridge
- BB. Fantasy Island (Grand Island)
- CC. McDonald's® Frontier House

SHOPPING AREAS

- DD. Summit Park Mall
- EE. Niagara Factory Outlet
- FF. LaSalle Business District
- GG. Pine Ave. Business District
- HH. Main St. Business District
- II. Lewiston Business District
- JJ. Ammex Duty Free Shop

HOTELS AND MOTELS

- 8. Parkard Motel
- 9. Thundering Water Motor Inn
- 10. Thruway Inn
- 11. Sunrise Motel
- 12. Howard Johnson's Motor Lodge East
- 13. Holiday Motel
- 14. Honeymoon Deluxe
- 15. Riviera Motel
- 16. Caravan Motel
- 17. Sharon Motel
- 18. Pelican Motel
- 19. Castaways Motel
- 20. Cascade Motel
- 21. Moonlite Motel
- 22. Clarkes Motel
- 23. Niagara Falls Motel
- 24. Henwood's Motel
- 25. Sands Motel
- 26. 3 Star Motel
- 27. Bel-Aire Motel
- 28. Castel Court Motel
- 29. Bit-O-Paris Motel
- 30. Startire Motel
- 31. Driftwood Motel
- 32. Esquire Motel
- 33. Summit Park Court Motel

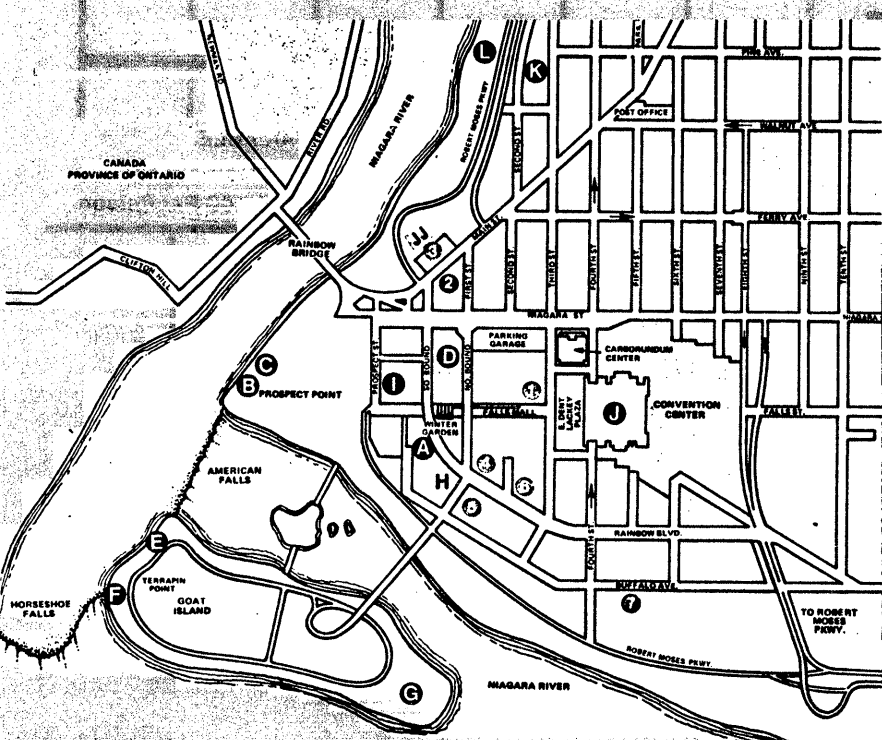
ROUTE 384

- 34. Falls Motel
- 35. Best Western Red Jacket
- 36. Anchor Motel
- 37. Holbens Travelodge

PEANUT SPEED

The Unlimited Rubber Speed rules apply except:

1. The models are limited to Peanut Scale models.
2. The models' scores will be the time in seconds for the model to fly two laps.
3. The lowest time will determine the winner.



DOWNTOWN CONVENTION COMPLEX

ATTRACTIONS

Shopping areas are shaded

- A. Turtle-Native American Indian Museum
- B. Prospect Point & Observation Tower
- C. Maid of the Mist
- D. Rainbow Centre
- E. Cave of the Winds
- F. Terrapin Point

- G. Helipoint
- H. Artisans Alley
- I. Niagara Wax Museum
- J. Convention Center
- K. Aquarium
- L. Schoelkopf Geological Museum
- JJ. Ammex Duty Free Shop

HOTELS AND MOTELS

- 1. Niagara Hilton Hotel
- 2. Quality Inn Intown
- 3. Howard Johnson's Motor Lodge
- 4. John's Hotel Niagara
- 5. Holiday Inn
- 6. Travelodge
- 7. Ramada Inn

CASH PRIZES ONLY

	JR	SR	OP
HI-TECH & HLG	X	X	X
PAPER STICK	JR. & SR. (COMBINED)		X
ROG CABIN			X
FLD			X
EASY B	JR. & SR. (COMBINED)		X
PENNY PLANE	X	X	X
NOVICE PP	X	X	X
MANHAT.			X
BOSTONIAN			X
INDOOR STICK	JR. & SR. (COMBINED)		X
PEANUT SCALE	JR. & SR. (COMBINED)		X
AMA SCALE			X
PEANUT SPEED			X
UNLIMITED SPEED			X
ORNIHOPTER			X
AUTOGIRO			X

BOSTONIAN RULES:

1. Maximum projected wingspan(s) 16" and chord(s) 3".
2. Maximum propeller diameter 6".
3. Maximum overall length w/o prop is 14".
4. Minimum weight w/o motor(s) 7 grams (bi-planes - 14 g).
5. Fuselage contains a "box" 1 1/2 x 2 1/2 x 3" (min).
6. Longerons must support the motor(s) and form "box".
7. Fixed landing gear, two or more rotating 3/4" dia. min. wheels - model must ROG.
8. Must have a windshield and a window on each side with min. of 1 sq. in. each.
9. Charisma factor: Judge rates model on appeal to him, construction neatness, scale like details, uniqueness, etc. A 1.0 to 1.2 rating is used.
10. Seven official flights over 10 seconds, total in full seconds of the best two flights multiplied by the charisma factor determines winner.

UNLIMITED RUBBER SPEED (BrokenSper Event)

1. Models must be rubber powered and propeller driven.
2. Models must start from an unassisted ROG launch from a three-point sitting position.
3. Model to be timed for two complete laps around two pylons set 20 feet apart.
4. Flights will be disqualified if the model touches the pylon or ground after crossing the starting line.
5. The timer will stand in line with the two pylons. Timing starts when the model crosses the line determined by the two pylons and ends when it crosses the line after completing two laps.
6. Shortest time for two full laps determines winner.
7. No limit to the number of models or launches.

FOURTH UNITED STATES INDOOR CHAMPIONSHIPS

June 18, 19, 20, 1985

Niagara Falls International
Convention Center Arena



Please Print

Name _____ AMA NO. _____
 Last First Initial

Street _____

City _____ State _____ Zip _____

I hereby certify that I understand all of the rules under which I will compete and will diligently follow the official AMA safety code as well as any that may be established on site as well as apply the use of good accepted common sense in all my flying and affairs at the contest site.

Signature _____

CIRCLE EVENTS ENTERED

- 1A. Hi-Tech HLG
1. Hand Launched Glider (All Wood)
2. Paper Stick
3. ROG Cabin
4. FID
5. Easy B
6. Pennyplane
7. Novice Pennyplane
8. Manhattan
9. Bostonian
10. Indoor Stick
11. Peanut Scale
12. AMA Scale
13. Peanut Speed
14. Unlimited Speed (BrokenSpar Event)*
15. Ornithopter
16. Autogiro

CASH AWARDS {

		Includes One Event	Each Additional Event
Open	NFFS or NIMAS Member	\$12.00	\$3.00
	Non NFFS and NIMAS Members	\$30.00	\$5.00
Junior Senior		\$4.00	\$2.00

Junior Senior Open

Banquet - \$11.00 per person

In case of emergency please contact:

NAME _____ PHONE _____

STREET _____ CITY _____ STATE _____ ZIP _____

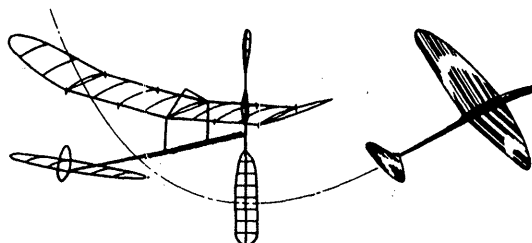
Send fees payable to:
 USIC
 1655 Revere Drive
 Brookfield, WI 53005

Contest Sponsors:
 National Free Flight Society
 National Indoor Model Airplane Society

Must be postmarked by May 1, 1985.
 Late entry fee of \$10.00 payable on site.

*Sponsored by Hardy Brodersen
 \$5 per each m.p.h. over 6 m.p.h. to winner only (\$100 max.)

INDOOR



#18

NEWS and VIEWS Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080

THIS ISSUE ~ RICHARD & MELODY DOIG
6 CANARY HILL DR, PONTIAC, MI 48055
(313) 373-5374

FAI INDOOR TEAM SELECTION REPORT

CONTESTANTS	BEST LOCAL	BEST REGIONAL	TOTAL POINTS
Cezar Banks	10.00*	100.00	110.00
Dan Belleff	10.00	42.68	52.68
Bill Bigge	6.21	-	-
Joe Bilgri	-	-	-
Larry Cailliau	10.00*	100.00	110.00
Stan Chilton	10.00	100.00	110.00
Jim Clem	7.19	96.54	103.73
Frank Cummings	7.28	88.77	96.05
Rich Doig	10.00	91.74	101.74
Joe Foster	-	91.77	91.77
Ron Ganser	9.99	93.96	103.95
Dick Ganslen	-	71.30	71.30
Bob Gibbs	8.89	59.72	68.61
Lew Gitlow	9.54	92.60	102.14
Jon Harlan (JR)	-	77.61	77.61
Ray Harlan	-	59.10	59.10
Earl Hoffman	9.77	-	-
Bill Hulbert	9.88	88.88	98.76
Larry Loucka	10.00	79.13	89.13
Clarence Mather	10.00	90.80	100.80
Larry Mzik	8.43	54.34	62.77
Dick Obarski	2.40	100.00	102.40
Bob Randolph	10.00*	94.38	104.38
Jim Richmond	10.00*	100.00	110.00
Bud Romak	-	100.00	100.00
Jesse Shepherd	3.86	74.19	78.05
Bobby Skrzjanc (JR)	-	-	-
Andrew Tagliafico	10.00	100.00	110.00
Paul Tryon	10.00	82.92	92.92
Tom Vallee	8.66	-	-
Walt Van Gorder	9.05	94.03	103.08

* 10 points for 1984 team

The program to choose the 1986 FAI Indoor team is well underway. The results above show the points earned through May 1, 1985. Regionals are scheduled at Akron and Santa Ana on July 6 & 7. At-large Regionals will be at the U.S.I.C. on June 18 & 19 at Niagara Falls and at the NATS on July 29 & 30 at Westover A.F.B. The Finals will be Labor Day weekend Aug. 31, Sept. 1 & 2 at a site not yet determined.

All FAI Indoor participants will be mailed a complete set of results in the near future.

Its not too late to join the program. All that is needed is an A.M.A. license with a \$10.00 FAI stamp added. To qualify for the Finals a participant must have scored at least 75 points in a Regional. For more information contact the Chairman Pro Tem, Richard Doig.

CALIFORNIA - TUSTIN

FAI Indoor team selection contests in Hanger #1 CAT IV, on Tustin M.C.A.F. the first weekend of each month. The hanger doors are being closed with a fork-lift. To gain admittance to the Base contact Curt Stevens 25108 Marguerite Pky, #B-160, Mission Viejo, CA 92692 or (714) 586-5779.

MASSACHUSETTS - CHICOPEE

A.M.A. Nationals at Westover A.F.B. CAT III July 28, 29, 30. AMA Scale, Peanut Scale, Easy B, Pennyplane, Manhattan Cabin, HLG-all wood & high-tech, Paper Stick, FAI Indoor, AMA Stick, ROG Cabin. **ALSO FAI REGIONAL.** More information in Model Aviation.

NEW YORK - LONG BEACH, LONG ISLAND

Contest at Nassau Arena, Long Beach, NY on June 2 8:30 am - 4:30 pm. HLG, Easy B, Peanut Scale, Pennyplane, Novice Pennyplane, H.L. Stick. FAI Regional Contact John Carbone (576) 271-5548.

Contest Calender continues on back page.

THIS ISSUE

Since the last issue we have been to several contests: Illinois Model Airplane Club (IMAC) at Chicago in February, Bong Eagles at Delafield, WI in March, Chicago Aeronuts Banquet in April, Can-Am meet at Niagara Falls in May & now a FAI local at Akron, OH.

We continue the construction articles with this issue's topic: plug-in tail booms. Also a report on the Niagara Falls Convention Center, site of this year's Indoor Champs. Hope we see many of you there.

1986 INDOOR RULE PROPOSALS VOTE

The results of the final vote on the 1986 rule proposals are in. The rules that passed go into effect with the new rulebook starting in January 1986.

- IND-86-2 Passed: Allow any covering except microfilm in Paper Stick and change the name to Intermediate Stick.
- IND-86-9 Failed
- IND-86-10 Passed: Remove 300 sq.in. limit in HL Stick
- IND-86-12 Failed
- IND-86-20 Passed: Time flights from instant model is launched or leaves floor until it touches floor.
- IND-86-22 Passed: Allows ornithopter stabs no closer than $\frac{1}{2}$ the wingspan from the wing.
- IND-86-23 Passed: Ornithopters with more than one wing, both wings must be substantially the same size, shape and degree of flapping motion.
- IND-86-24 Failed
- IND-86-25 Failed
- IND-86-26 Failed
- IND-86-27 Failed
- IND-86-28 Failed
- IND-86-29 Passed: Prohibit use of lighter than air gases in indoor models.

This means that Pennyplane, Easy B, and R.O.G. Cabin all remain the same.

CONTEST CALENDER

CALIFORNIA - BURBANK

Blacksheep Squadron (Flying activities for Juniors) at Luther Burbank Jr. H.S. gym -CAT I- on Maple between Jefferies and Allan. June 13 Indoor Scale Contest. 7 - 10 pm Contact Tony Naccarato, 3512 Victory Blvd., Burbank, CA 91505 or (818) 842-5062.

CALIFORNIA - SAN DIEGO

Contest towards High Point Championship Trophy after monthly business meetings on 2nd Friday of each month. Indoor flying sessions also the 4th Friday of each month. These activities start 7:30 pm at the Colina Del Sol Community Center, 5319 Orange Av. Contact San Diego Orbiteer's Program Chairman John Hutchison (619) 465-7698.

CALIFORNIA - TAFT

United States Free Flight Championships - Indoor events at Taft gym on Saturday, May 25, 1985 6 - 11 pm Peanut scale, HLG, Novice Pennyplane, Easy B. Only tennis shoes or stocking feet allowed in gym. Because of heat suggest no condenser paper on models. See Free Flight Digest, Feb 1985 for details or contact W.R. Stroman 12218 Dune St., Norwalk, CA 90650 or (213) 868-1479.

CAN-AM INDOOR CONTEST

NIAGARA FALLS CONVENTION CENTER

The first Can-Am Indoor Meet was held on Sunday, May 5, 1985 to test out the site of the United States Indoor Championships under contest conditions. It was a big success. More than thirty contestants came from New York state, Toronto, Cleveland, Detroit and in between. And when a nearby RC contest was rained out we had many spectators come see what Indoor is all about, including A.M.A. President John Grigg. He was quite impressed by the detail and workmanship required in Indoor models.

Of the eleven events, G.H.Q. Peanut Scale had the most contestants, but Bostonian was so hotly contested that a flyoff was needed between Jack McGillivray and Don Steeb to determine the winner. As shown in the following results many good times were posted. In FAI Indoor Canadian Ron Higgs was flying a conventional model (used at World Champs) with a mechanically varying pitch prop which got him two flights over 29:00. These long flights were his first and fifth flights. The prop is not always reliable as the second third and fourth flights were all around 15:00 because the prop shifted late. The FAI Indoor event also counted as a U.S. team local with Rich Doig earning 10 points.

The CAN-AM INDOOR MODELERS, who put on this contest, are a loose-knit group of indoor modelers on both sides of the border in the Toronto, Niagara Falls, Buffalo area. They will be flying in the Niagara Falls Convention Center as often as possible. Their next flying session is Wednesday, May 22 from 4 pm - 11pm. Call Jack Brown at (716) 773-5674 or Jack McGillivray (416) 421-1108 if you are interested in joining this group.

This building was not what I had imagined from previous information including the U.S.I.C. contest announcement. The beams run the long way of the building in a very shallow arch. (See photos) The lights are fluorescent, mounted flush along the bottom of the main girders and along the cross members. On Sunday all the main arch lights were on and half the cross member lights, giving plenty of light to see by, but when looking at the ceiling the lights were easy on your eyes - no spots before your eyes. There are two groups of speakers, one close to the south wall and the other is set off center towards the south and east walls. Both are mounted on the bottom of a main arch and are tightly packed. There are several catwalks and a cherry picker is available for model retrieval. The ceiling is quite flat, very clean and bouncing is possible. The large floor area (310 ft. by 260 ft.) is more than the Detroit Coliseum or West Baden. The floor is concrete so suggest you wear comfortable shoes. This will mean plenty of room for contestants and little congestion in the air. This is an excellent site for a national competition and if the weather cooperates we should see a high microfilm time of 32:00 or more. The drift in this building is minimal, mostly straight up and down, except for some slight drift towards the balcony in the morning. As far as I'm concerned this is one of the best sites for ceiling bouncing that I have flown in, including some flat or smooth ceiling sites. The building is quite new and very tight, no leaky ceiling - remember it rained May 5 and it was hardly noticed by the contestants. (I was so busy flying I didn't know it rained until later.)

The site in general is very clean, washrooms in the northwest and southwest corners of the site, and some tables and chairs will be available. The building's roof extends over Fourth Street resulting in a covered loading area at the main doors. The Convention Center has a \$1.00 parking concession along it's north and east sides. Two blocks west of the Convention Center is a shopping mall - Rainbow Center - which has a variety of food shops (hamburgers, hot dogs, sandwiches, Greek gyros, salads, and Haagen Dazs ice cream) all with carry out available. Another two blocks and you are at the Falls. With all the tourist attractions and hotels between the Convention Center and the Falls walking is encouraged and crime doesn't seem to be a problem.

NOVICE PENNYPLANE

B. Henderson 9:48
L. Loucka 9:36
J. McGillivray 9:13
G. Hunter 9:00
L. Leifer 8:44

EMBRYO ENDURANCE

K. Groves 9:23
R. Marshall 8:46
G. Roberts 6:19
J. Low 3:41

EASY B

G. Hunter 12:42
B. Mullins 12:06
K. Groves 11:19
B. Clemens 10:51
R. Doig 10:48

G.H.Q. PEANUT SCALE

J. McGillivray 10:17
K. Groves 9:74
D. Steeb 7:38
G. Roberts 6:91

WW I BIPLANE MASS LAUNCH

C. Brownhill 1:24
J. McGillivray
D.O. Norman
K. Groves
J. Peres

MANHATTAN CABIN

L. Loucka 6:44
D. Steeb 5:05

HAND LAUNCHED GLIDER

R. Kluiber 119.4
P. Loucka 88.8
L. Mzik 66.6
R. Rambo 55.2

FAC RUBBER SCALE

J. Peres 144.0
J. McGillivray 139.0
C. Brownhill 133.5
B. Clemens 120.5

BOSTONIAN

J. McGillivray 535.16
D. Steeb 500.16
B. Clemens 325.68
J. Peres 177.84
C. Benkert 87.78

NO-CAL SCALE

K. Groves 11:58
L. Leifer 8:44
D. Steeb 7:59
B. Clemens 1:57

FAI INDOOR

			total
R. Higgs	29:18	29:44	59:02
R. Doig	24:37	25:05	49:42
L. Loucka	21:48	27:11	48:59
C. Schueler	21:27	26:30	47:57
L. Mzik	19:34	19:43	39:17
P. Loucka	11:01	-	11:01

FOURTH UNITED STATES INDOOR CHAMPIONSHIPS

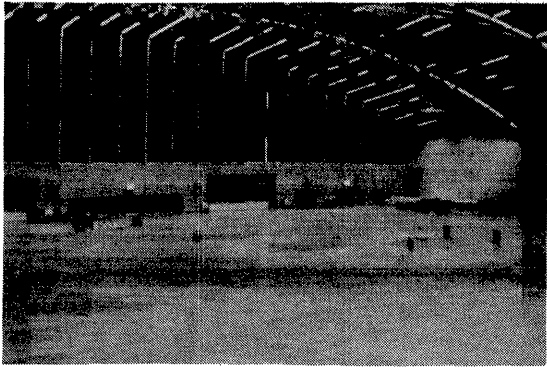
If you have not yet made up your mind about attending the U.S.I.C. this year, I strongly urge you to attend. This is one of those contests you should not miss, if at all possible. Because this ceiling height is in the middle of CAT III we probably will not see very many records set, the years in West Baden, also CAT III, saw to that. However with Canada so close by and many of the Canadian flyers planning on attending you will have the opportunity to attend a truly international contest, which there are very few.

So send in your entry now, if you are not sure you can get a model finished by then you can always add events at the contest without a late fee penalty. Entries for the U.S.I.C. go to 1655 Revere Dr., Brookfield, WI 53005.

If you fly scale events you will want to enter the Miama Peanut Grand Prix on June 20, more scale models, sizes, and events than you could imagine. For info send a large SASE or send in your entry to: Dr. John Martin, 2180 Tigertail Av., Miami, FL 33133.

LATE ADDITION - CONTEST CALENDER

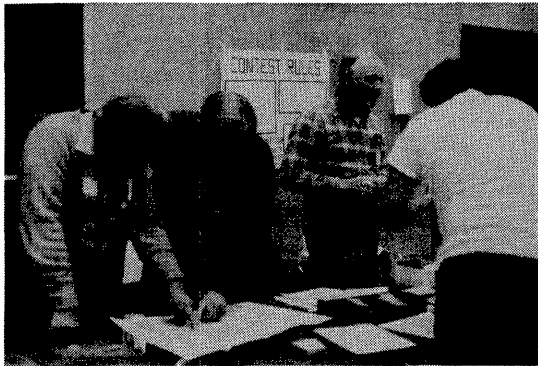
FAI Local and REGIONAL in Kibbe Dome, University of Idaho, Moscow, ID. CAT IV July 13 & 14. Contact Dave Hagen 19957 S. Redland Rd., Oregon City, OR 97045 or (503) 631-7373.



1.

NIAGARA FALLS CONVENTION CENTER

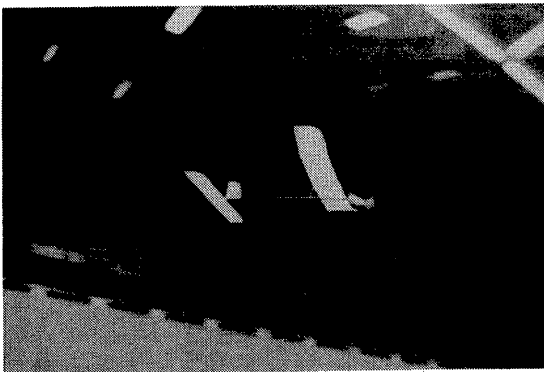
1. Interior of Niagara Falls Convention Center, looking from northwest corner of the balcony. Largest open floor area of any indoor site I've been to.
2. CD Jack Brown (second from left) and two of his hardworking crew. Larry Loucka with his back to camera.
3. Ron Higgs, Toronto, with winning FAI Indoor model. He had not taken the models out of the box since World Champs in Japan.
4. Rich Doig's Easy B, with balcony in Background.
5. Bob Clemens, Rochester, NY, readies his Scale model for flight.



2.



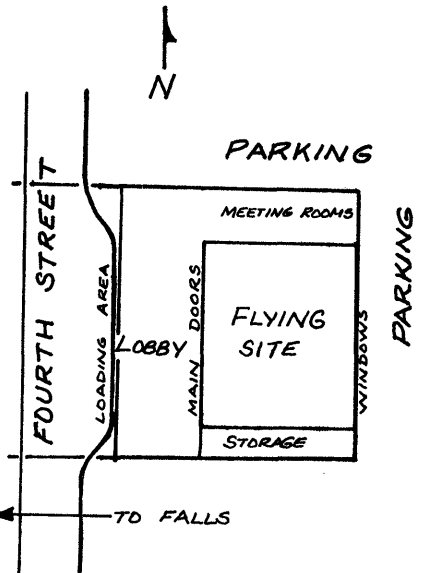
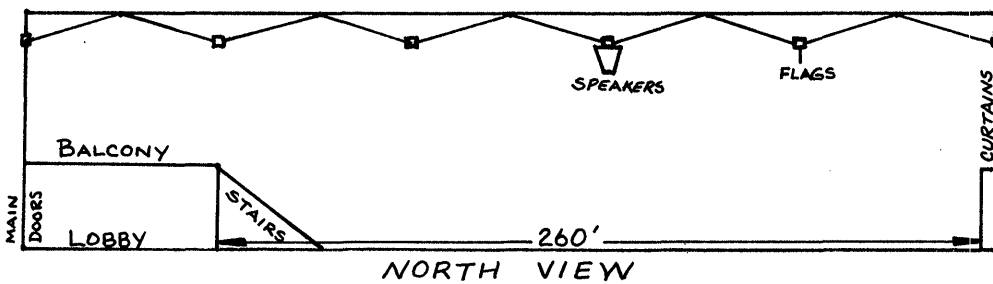
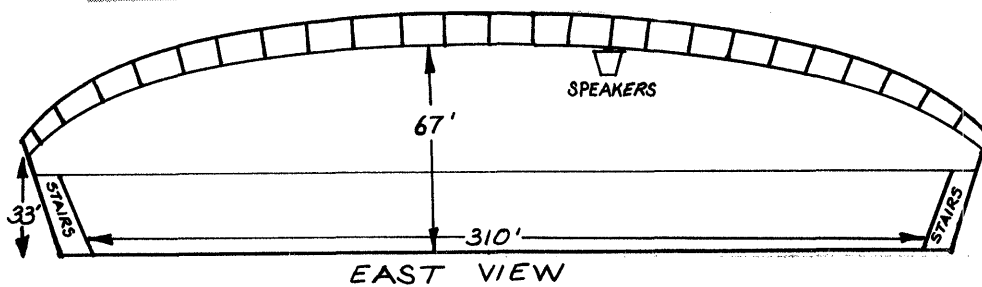
3.



4.



5.



PLUG-IN TAIL BOOMS

FIGURE #1

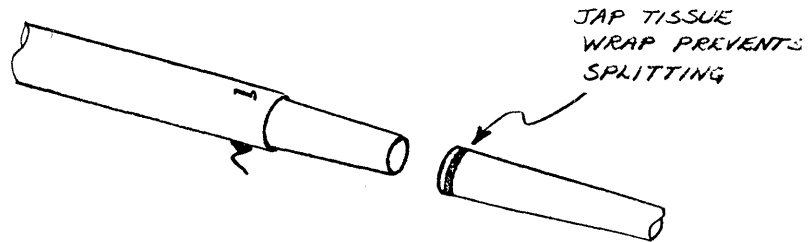


FIGURE #2

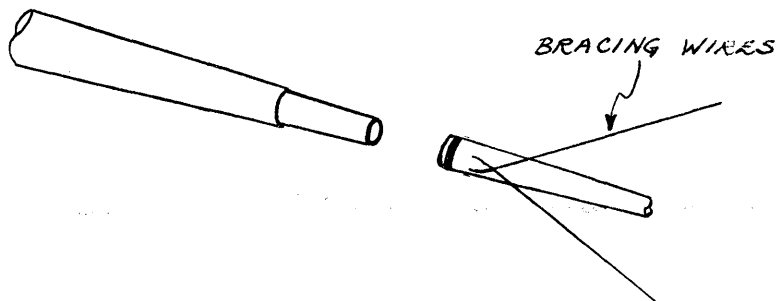


FIGURE #3

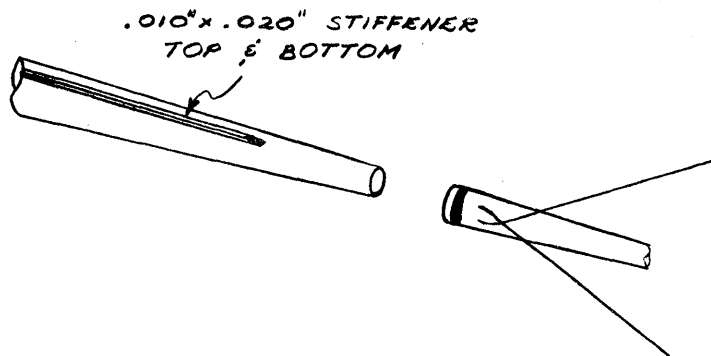
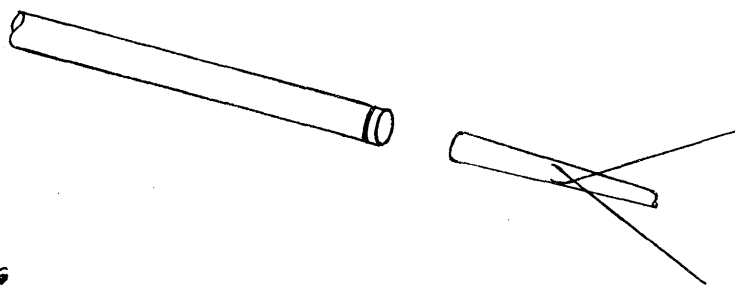


FIGURE #4



DRAWN BY: R. DOIG

PLUG-IN TAIL BOOMS

The first time I saw a plug-in tail boom was on Al Rohrbaugh's "Big D" model at the 1972 NATS. The model had such a large stab that it would not fit in his car unless the stab was turned 90° on the back seat. I didn't think much more of plug-in tail booms until the 1980 World Champs. The Swiss had model boxes that were 27" x 19" x 13" and held five models apiece that when assembled were 35" long. The high density packing spurred me into plug-in tails.

ADVANTAGES OF PLUG-IN TAIL BOOMS

1. Ease of packing - a smaller model box is possible or you can get more models in the box you are currently using.
2. Allows adjustment of the stab tilt - just by pulling the tail off it can be slid on at a different angle, no glue joints to melt.
3. Allows swapping of stabs with different motorsticks - this can be especially useful towards the end of a contest where several models have suffered damage, if you have an undamaged motorstick, stab, wing and propeller, you can assemble a complete model.

DISADVANTAGES OF PLUG-IN TAIL BOOMS

1. An increase in weight - the extra wood of the plug and the Jap tissue wrap do add some weight, however using other weight saving techniques in the stab (fewer ribs, etc.) and rudder can result in a tail assembly of the same weight.

Below are four versions of plug-in tail booms that work and winning flights have been made with all four. Most important I have never had a tail boom come off during flight, even when I missed during steering and snagged the stab so hard it noticeably moved, and not even when a model has blown up, the plug has remained intact.

FIGURE #1 shows the construction technique used by the Swiss at the 1980 World Champs. (see INAV #5 - Bacillus by D. Siebenmann) I built many -10- models using this construction starting in late 1980 up until mid-1984. It had one drawback in the relatively large diameter joint tended to get mushy as the model aged. As it mushed the boom slid on further and further until it butted against the motorstick without being tight. However, it still worked extremely well. Total weight penalty was .0010 ounces for the plug and a Jap tissue wrap of negligible weight. Advantage of this version is the tail has a long handle with the full length of the boom available for packing. Its disadvantage is that the large diameter of the plug requires more wood and incurs a larger weight penalty. Also if the same thickness of wood is used in all versions this one will mush out sooner because of the large diameter to wall thickness ratio. The smaller the diameter for a given thickness, more force (side load) is needed to crush the tube. Ask an engineer-type to explain radial stresses sometime if you are interested.

FIGURE #2 is the arrangement I used on a model built in 1984 to repair a tail where the boom kinked and broke directly under the X in the stab bracing pattern. The stab bracing wire glues to the boom about 5" ahead of the stab leading edge. I made the plug arrangement to reinforce this area because the plug slides inside the section of boom that had kinked. The advantage of this version is that reinforcement is provided in the area of the boom bracing wires. (stab bracing in future INAV) This version is made by rolling a full length tail boom and the joint is made by slicing out a 1/8" long section of boom and then inserting a separately rolled plug. The 1/8" gap allows space for the rear section of the boom to tighten as it is slid over the plug. A disadvantage occurs in that as the joint wears, the rear part of the boom may butt up against the front section of the boom without the plug being a tight fit. If this happens the rear section of the boom may have to be trimmed and a new wrap applied. This version uses less wood than #1 because the plug is a smaller diameter.

FIGURE #3 shows a version similar to #2 except instead of a stepped front section it uses a telescoping section of boom. This is the same construction as Al Rohrbaugh used minus the stiffeners. The first one I built was from two scrap and broken tail booms and it came out slightly lighter in weight (.0004 oz.) than #2 but required reinforcing strips on top and bottom as it proved to be too flexible. This is the lightest of the three versions which I have built, with no noticeable difference in strength as compared to #2. As the joint wears the stab pushes on further to maintain the fit as long as it clears the stiffeners. It has a disadvantage in that it requires two separate booms to be made and the stiffening strips (.010" x .020") are tricky to handle. Also assembly #2 and #3 are harder to mount in a box than #1 because there is not much boom clear of the bracing wires.

FIGURE #4 shows the construction used by Jim Richmond on his Film Flam. It uses a straight tube front end and tapered rear section which slid inside. I believe he originally did this to lengthen an existing motorstick and boom combination. Since I have not built this version I have no experience with it, however I see a problem with the fit if the rear half of the boom is tapered because the tapered piece can move sideways within the straight section of the tube. It also does not provide any reinforcement around the bracing as in #2 and #3. However Richmond won the 1984 World Champs with it so it does work.

Forty Minute Club

9-83

Name	Country	Time	Class*			Year	Site
			1	2	3		
Richmond, Jim	USA	52:14	X			1979	Akron
Kowalski, Dick	USA	50:41	X			1976	Akron
Barr, Laurie	England	47:28		X		1982	Cardington
Richmond, Jim	USA	47:23		X		1980	Akron
Harlan, Ray	USA	47:13		X		1980	Akron
Doig, Rick	USA	46:24	X			1983	Akron
Rodensky, Erv	USA	45:50	X			1974	Santa Ana
Rieke, K.H.	W. Germany	45:40	X			1962	Cardington
Redlin, Carl	USA	45:17	X			1962	Cardington
Andrews, Pete	USA	44:59		X		1979	Akron
Randolph, Bob	USA	44:50	X			1972	Santa Ana
Mather, Clarence	USA	44:44	X			1974	Santa Ana
Hacklinger, Max	W. Germany	44:20	X			1961	Cardington
Kopecky, Ernie	USA	43:42	X			1963	Santa Ana
Banks, Cezar	USA	43:35		X		1981	Santa Ana
Cummings, Frank	USA	43:28	X			1963	Santa Ana
Atwood, Bill	USA	43:17	X			1963	Santa Ana
Plotzke, Ron	USA	42:53	X			1969	Lakehurst
Domina, Dan	USA	42:25		X		1979	Akron
Gannizzo, Sal	USA	42:20	X			1983	Lakehurst
Randolph, Bob	USA	42:16	X			1983	Santa Ana
Calliau, Larry	USA	42:02	X			1982	Santa Ana
Romak, Bud	USA	42:01	X			1965	Moffett
Romak, Bud	USA	41:59		X		1981	Akron
Richmond, Jim	USA	41:45		X		1969	Lakehurst
Gibbs, Bob	USA	41:35	X			1981	Santa Ana
Obarski, Dick	USA	41:30	X			1981	Akron
Finch, Tom	USA	41:27	X			1963	Santa Ana
Champine, Bob	USA	41:23	X			1963	Santa Ana
Rodensky, Erv	USA	41:23		X		1979	Akron
Stoll, Ed	USA	41:21	X			1963	Santa Ana
Mather, Clarence	USA	40:54	X			1974	Santa Ana
Draper, Ron	England	40:44	X			1962	Cardington
Pymm, Dave	England	40:40	X			1980	Cardington
Hulbert, Bill	USA	40:39	X			1983	Akron
Bilgri, Joe	USA	40:37	X			1965	Santa Ana
Nonaka, S.	Japan	40:36	X			1978	Cardington
Doig, Rick	USA	40:13	X			1981	Akron
Triolo, John	USA	40:06	X			1974	Lakehurst

*Class 1 - FAI, FAI 90cm or ANA-D
 2 - FAI 65cm - 1 gram
 3 - FAI 65cm - no weight requirement

Listings are of official flights at officially sanctioned activities. (Best effort only, by individual, by class is shown.)

CONTEST CALENDER CONTINUED

NEW YORK - NIAGARA FALLS

FOURTH UNITED STATES INDOOR CHAMPIONSHIPS at Niagara Falls Convention Center. CAT III June 18, 19, 20, 1985 8:00 am - 8:00 pm. HLG, FAI Indoor, AMA Stick, Ornithopter, Autogiro, Speed, Pennyplane, Novice Pennyplane, Manhattan Cabin, Bostonian, R.O.G. Cabin, Easy B Paper Stick, Peanut Scale, AMA Scale, & Miama Peanut Grand Prix. Contact Tony Italiano, 1655 Revere Dr., Brookfield, WI 53005 for U.S.I.C. and for Miama Grand Prix: Dr. John Martin, 2180 Tigertail Av., Miami, FL 33133. See article in this issue. FAI Regional

OHIO - AKRON

FAI Indoor team selection contests and record trials in Goodyear Airdock, Akron, OH. CAT IV May 18 & 19 FAI local, July 6 & 7 FAI regional. Due to Airdock security clearances you must contact the CD in advance. Bill Hulbert 174 Castle Blvd., Akron OH, 44313 or (216) 864-8030. NO CAMERAS!

TEXAS - DALLAS/FORT WORTH

Contests at Bedford Boy's Ranch gym on Forrest Ridge at Harwood, Bedford, TX. CAT I Contact Jesse Shepherd, 2713 Summit View, Bedford, TX 76021 or (817) 282-3770.

WISCONSIN - MILWAUKEE

Flying sessions with the Bong Eagles at Wauwatosa Savings and Loan, 7500 W. State St. Start 7:30 pm. Contact Gil Graunke 15260 Heather Hill Dr., Brookfield WI 53005 or (414) 781-7087.

BORON FILAMENT UPDATE

The following article on Boron has appeared in The Hanger Pilot, Dec. '84, The Satellite, Dec. '84, FlightMasters Newsletter, Jan./Feb. '85 and El Torbellino, Jan. '85. We are reprinting it one more time so as many modelers can read it as possible, especially our friends outside the United States. This article was written by Bill Warner, Free Flight Scale columnist for Model Aviation, and a second article by Bill appears as part of the March 1985 "Safety First" column in Model Aviation.

"HIGH TECH PROGRESS: BORON STEEL WIRE is to be avoided like the plague. Sure, it stiffens up your model and lets you build nice and light but where you risking? At Sikorsky, they call the Boron Room the "Death Room". Protective clothing, masks and all the good stuff. When someone gets a bit of it in them, they cut it out immediately. Neat stuff. I tried using it, figured that I certainly was smart enough not to have any problems. Well, despite all my precautions which included protective glasses, taping all unused bits to a white paper so as not to lose any, some got away. When it gets away, it just disappears. It has the thickness of a human hair. It is nonmagnetic, so you can't pick it up that way. It gets lost in the carpet. It goes into the flesh easily and accidentally. I found I'd get a bit into a finger despite my best efforts. Finally, I began feeling a pain in my right foot. Somehow I had picked up a piece while barefoot (the bed is only 3 feet from my work space). I called Kaiser Permanente (editor's note: this is a health maintenance group in Southern California) about it and they did not know a damn thing, except that an X-Ray would be useless with something that size. Los Angeles County and UCLA Medical Center were also ignorant of what could be done. Finally, an end about .005" long worked itself out and my dear wife, Phyllis, performed surgery and got out the offending bit, a piece about 1/16" long. Even then, it broke off several times during the extraction process with tweezers, plus it keeps going deeper in when you try to get it out.

Since then, we have repeated the operation several times for other bits, and it is not fun. Also my foot still is hurting, with the boron steel somewhere inside. The articles

sound the alarm that when it gets in the bloodstream, look out. Great. The worry alone and the ignorance of the medical profession regarding it makes for something less than mental tranquillity. I'll keep you posted. In the meantime, I suggest you do not get yourself into a similar predicament."

And from Erv Rodemsky, 1980 World Champion, comes his comments "I think this boron thing is the most important issue we have ever faced! My family and I have had at least 6 pieces of the stuff in our feet, one in mine went in and never came out - it's somewhere in my body. Boron should be outlawed in all forms of modeling RIGHT NOW! The above article is from the December '84 issue of "The Hanger Pilot" and should be read by all. Do we wait until some kid puts out an eye, or worse, before we do ban the stuff?"

We have received several letters and phone calls expressing concern about Boron. Stan Chilton got a piece into his hand and when his thumb and forefinger became numb several days later he became very concerned. Materials experts we've spoken with feel it is inert and won't cause problems except they admit they know very little about Boron. We also consulted Dr. Jim Thornberry, a free flighter from Madison, WI, whose major concern is that because Boron has a rough surface and is not sterile it would carry germs, etc. into the body and become an infection site.

Boron, once it pierces the flesh and enters your body, it appears to continue to travel in the same direction through the body. Eight months after some Boron entered my own foot it came out in many pieces each about 1/32 inch long. The Boron had entered at the front of the arch and travelled forward exiting by my little toe some inch and a half away. During this same time span I suffered a respiratory infection which my doctor could not identify and it did not respond to treatment. Whether this illness was connected to the Boron or not is only speculation.

First off Boron Filament is not wire, its structure and the way it behaves is more like glass fiber and should be treated like glass fiber. Use extreme caution WEAR SAFETY GLASSES and to contain the small pieces that fracture at the ends when you break off a piece. Ray Harlan suggests you work inside a container. I suggest you store Boron in an unpenetrable container such as a coffee can.

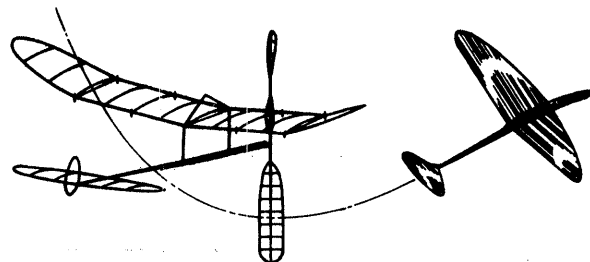
Here in the Great Lakes region drastic changes in humidity are common, often occurring within hours. As a result, unless Boron strands are placed in a symmetrical pattern, when the humidity changes and the balsa swells or shrinks, the part can warp. Also Boron applied to a motorstick of mine in January 1984 is now coming loose and falling off from repeated expansion and contraction of the wood. Another problem occurred when I had a motor come apart at the roof in Akron, causing damage to the wing, when I got the model down the wing was repairable and all the balsa pieces were accounted for, but some of the Boron which had been on the wingposts was missing. What would happen should a model explode close to the floor, near modelers and spectators? Are we endangering these people by exposing them to flying pieces of Boron?

I have found an alternative to Boron in using a .0010 x .0020 strip of balsa every place I had thought to use Boron. The wood gives extra strength while being lighter in weight than the Boron, without warpage from humidity changes. Sure, it isn't as stiff, but in most cases it is stiff enough.

Several modelers - Rodemsky and Chilton - are considering a ban on the use of Boron filament and I personally am not adverse to a ban. However, a ban only in the United States would not be effective and would possibly put U.S. teams at a disadvantage in international competitions. Note: The A.M.A. Indoor Contest Board ruled in 1984 that all high-tech materials, which include Boron, are banned from Easy B. Only wood, Condenser paper, suitable adhesives, and wire for prop hook and rear motor hook are allowed in Easy B.

We are very interested in the opinions of modelers from countries other than the U.S., especially the British and Swiss flyers who have used Boron in their models.

INDOOR



NEWS and VIEWS Editor: Bud Tenny · Box 545 · Richardson, Texas · 75080

THIS ISSUE ~ RICHARD & MELODY DOIG ~ 6 CANARY HILL DR, PONTIAC, MI 48055

(313)373-5374

FOURTH UNITED STATES INDOOR CHAMPIONSHIPS

JUNE 18 - 20, 1985

NIAGARA FALLS CONVENTION CENTER

JUNIOR HAND LAUNCH GLIDER - ALL WOOD

- | | | | |
|-------------------|------|------|------|
| 1. Don Slusarczyk | 36.8 | 34.8 | 71.6 |
| 2. Matt Gagliano | 27.0 | 26.0 | 53.0 |

JUNIOR HAND LAUNCH GLIDER - HIGH TECH

- | | | | |
|-------------------|------|------|------|
| 1. Don Slusarczyk | 33.6 | 36.0 | 69.6 |
|-------------------|------|------|------|

OPEN HAND LAUNCH GLIDER - ALL WOOD

- | | | | |
|---------------------|------|------|-------|
| 1. Bernie Boehm | 62.4 | 62.4 | 124.8 |
| 2. Ron Higgs | 56.8 | 56.0 | 112.8 |
| 3. Rudy Kluiber | 55.2 | 55.4 | 110.6 |
| 4. Bill Schlarb | 51.2 | 51.6 | 102.8 |
| 5. Dan Belieff | 51.0 | 35.0 | 95.4 |
| 6. Chuck Slusarczyk | 45.2 | 44.2 | 89.4 |
| 7. Nick Pitas | 42.2 | 44.0 | 86.2 |
| 8. Wally Simmers | 42.4 | 43.6 | 86.0 |
| 9. George Honda | 41.0 | 41.2 | 82.2 |
| 10. Vic Gagliano | 29.0 | 46.0 | 81.0 |
| 11. Richard Doig | 25.0 | 27.4 | 52.4 |
| 12. Bob Rambo | 23.6 | 22.6 | 46.2 |
| 13. Chuck Markos | 24.6 | 20.0 | 44.6 |

OPEN HAND LAUNCH GLIDER - HIGH TECH

- | | | | |
|---------------------|------|------|-------|
| 1. Bernie Boehm | 58.2 | 58.4 | 116.6 |
| 2. Rudy Kluiber | 58.6 | 58.0 | 116.6 |
| 3. Bill Schlarb | 47.8 | 50.0 | 97.8 |
| 4. Chuck slusarczyk | 41.2 | 44.4 | 83.6 |

JUNIOR/SENIOR INDOOR STICK

- | | |
|-------------------|-------|
| 1. Bob Skrjanc | 15:06 |
| 2. Don Slusarczyk | 10:25 |

OPEN INDOOR STICK

- | | |
|--------------------|-------|
| 1. Ron Ganser | 27:22 |
| 2. Bill Hulbert | 25:38 |
| 3. Richard Doig | 24:18 |
| 4. Dick Obarski | 22:31 |
| 5. Paul Tryon | 22:24 |
| 6. Larry Loucka | 21:58 |
| 7. Dan Belieff | 21:15 |
| 8. Walt Van Gorder | 20:59 |
| 9. Bill Franklin | 15:52 |
| 10. Del Ogren | 15:46 |

ORNITHOPTER

- | | |
|--------------------|------|
| 1. Frank Kieser | 5:46 |
| 2. Les Garber | 4:37 |
| 3. Joe Krush | 3:09 |
| 4. Juer Kortenbach | 2:35 |

AUTOGIRO

- | | |
|-------------------|------|
| 1. Larry Loucka | 6:27 |
| 2. Don Slusarczyk | 1:37 |
| 3. Bill Franklin | 0:02 |

UNLIMITED RUBBER SPEED

- | | | |
|-------------------|------|-----|
| 1. Chuck Markos | 14.2 | mph |
| 2. Bill Henderson | 8.5 | " |
| 3. Doc Martin | 7.3 | " |
| 4. Otto Curth | 6.8 | " |
| John Voorhees | 6.8 | " |
| 5. Doug Barber | 3.2 | " |

PEANUT SPEED

- | | | |
|---------------|-----|-----|
| 1. Doc Martin | 7.4 | mph |
| 2. Don Steeb | 4.8 | " |

JUNIOR NOVICE PENNYPLANE

- | | |
|--------------------|------|
| 1. Juer Kortenbach | 6:54 |
| 2. Matt Gagliano | 6:33 |
| 3. Don Slusarczyk | 4:43 |

OPEN NOVICE PENNYPLANE

- | | |
|----------------------|-------|
| 1. Doug Barber | 10:09 |
| 2. Jack McGillivray | 10:03 |
| 3. Del Ogren | 9:55 |
| 4. Chuck Markos | 9:47 |
| 5. Bill Henderson | 9:31 |
| 6. Larry Loucka | 9:26 |
| 7. Wally Simmers | 9:18 |
| 8. Jim Clem | 9:10 |
| 9. Charlie Sotich | 8:44 |
| 10. Bernie Boehm | 8:40 |
| 11. Don Steeb | 8:34 |
| 12. Lou Leifer | 8:19 |
| 13. Les Garber | 8:17 |
| 14. Walt Van Gorder | 7:51 |
| 15. Otto Curth | 7:34 |
| 16. Gordy Wisniewski | 7:24 |
| 17. John Hanks | 7:21 |
| 18. John Voorhees | 7:16 |
| 19. Richard Doig | 6:59 |
| 20. Joe Krush | 6:56 |
| 21. Jerry Nolin | 6:44 |
| 22. Bill Schlarb | 6:18 |
| 23. Jim Jones | 5:28 |
| 24. Tony Becker | 4:33 |
| 25. Tony Sutter | 3:49 |

JUNIOR PENNYPLANE

- | | |
|-------------------|------|
| 1. Don Slusarczyk | 9:18 |
| 2. Bob Skrjanc | 5:44 |
| 3. Matt Gagliano | 4:30 |

SENIOR PENNYPLANE

- | | |
|---------------------|------|
| 1. Charles Gagliano | 7:20 |
|---------------------|------|

OPEN PENNYPLANE

- | | |
|---------------------|-------|
| 1. Walt Van Gorder | 11:42 |
| 2. Doug Barber | 10:22 |
| 3. Dave Lindley | 9:43 |
| Chuck Slusarczyk | 9:43 |
| 5. Jerry Skrjanc | 9:21 |
| 6. Gordy Wisniewski | 9:07 |
| 7. Wally Simmers | 8:50 |
| 8. Jim Clem | 8:45 |
| 9. Tony Becker | 6:56 |
| 10. Tony Italiano | 6:41 |
| 11. Bill Franklin | 6:38 |
| 12. John Voorhees | 6:31 |
| 13. Tony Sutter | 4:33 |
| 14. Ken Gearhart | 2:47 |
| 15. Fred Franklin | 2:07 |

OPEN MANHATTAN CABIN

- | | |
|--------------------|------|
| 1. Walt Van Gorder | 8:21 |
| 2. Chuck Markos | 8:14 |
| 3. Larry Loucka | 7:47 |
| 4. Ron Ganser | 7:37 |
| 5. Hardy Brodersen | 7:14 |
| 6. Keith Fullmer | 7:05 |
| 7. Tony Sutter | 6:54 |
| 8. Bill Franklin | 6:03 |
| 9. Don Steeb | 5:38 |
| 10. Del Ogren | 2:37 |

OPEN R.O.G. CABIN

- | | |
|------------------|-------|
| 1. Larry Loucka | 21:57 |
| 2. Richard Doig | 20:07 |
| 3. Ron Ganser | 18:48 |
| 4. Dan Belieff | 15:32 |
| 5. Tony Sutter | 10:13 |
| 6. Bill Franklin | 2:31 |

JUNIOR/SENIOR PAPER STICK

- | | |
|-------------------|-------|
| 1. Don Slusarczyk | 10:01 |
| 2. Bob Skrjanc | 6:38 |

OPEN PAPER STICK

- | | |
|---------------------|-------|
| 1. Dan Belieff | 18:20 |
| 2. Richard Doig | 18:01 |
| 3. Ron Ganser | 15:33 |
| 4. Gordy Wisniewski | 14:35 |
| 5. Larry Loucka | 14:19 |
| 6. Dick Obarski | 13:55 |
| 7. Jerry Skrjanc | 13:48 |
| 8. Walt Van Gorder | 13:01 |
| 9. Bob Mullins | 12:11 |
| 10. Wally Simmers | 11:03 |
| 11. Joe Krush | 10:53 |
| 12. Tony Sutter | 9:00 |
| 13. John Voorhees | 6:36 |
| 14. Bill Franklin | 6:32 |

OPEN FAI INDOOR (F1D)

	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Total Best 2	Regional Points
1. Ron Higgs	32:57	11:37	32:34	-	-	-	65:31	-
2. Larry Cailliau	8:55	27:29	27:12	20:33	31:49	30:55	62:44	-
3. Richard Doig	4:03	4:09	26:40	6:29	26:03	27:41	54:21	100.00
4. Larry Loucka	19:03	24:13	26:05	18:21	-	15:25	50:10	92.55
5. Walt Van Gorder	13:42	16:50	26:16	21:24	24:01	23:54	50:17	92.52
6. Bill Hulbert	15:07	22:50	24:45	7:37	7:25	24:22	49:07	90.37
7. Dan Belieff	15:47	21:44	24:17	24:00	-	-	48:17	88.84
8. Paul Tryon	21:22	6:32	22:25	20:51	23:49	23:49	47:38	87.64
9. Carl Schueler	-	20:31	3:25	22:03	5:02	6:20	42:34	-
10. Bill Franklin	9:03	3:53	2:11	10:09	10:34	14:56	25:30	-
11. John Voorhees	7:59	7:02	6:56	-	6:27	8:26	16:25	-

JUNIOR/ SENIOR EASY B

1. Charles Gagliano	7:19
2. Don Slusarczyk	6:51
3. Bob Skrjanc	6:12

OPEN EASY B

1. Walt Van Gorder	13:52
2. Dick Obarski	13:48
3. Chuck Markos	13:26
4. Jim Clem	13:20
5. Jim Miller	13:17
6. Larry Loucka	12:59
7. Jerry Skrjanc	12:39
8. Jim Jones	12:33
9. Doug Barber	12:28
10. Jerry Nolin	12:27
11. Gordy Wisniewski	12:06
12. Ron Ganser	12:05
13. Wally Simmers	12:02
14. Joe Krush	11:36
15. Richard Doig	11:33
16. Del Ogren	10:58
17. Don Steeb	10:53
18. Tony Becker	10:17
Tony Italiano	10:17
20. Tony Sutter	10:09
21. John Voorhees	10:00
22. Bob Clemens	9:17
23. George Honda	9:00
24. Otto Curth	8:32
25. Bill Franklin	7:20
26. Bill Henderson	6:55
27. Vic Gagliano	5:37
28. Chuck Slusarczyk	5:19
29. Fred Franklin	4:31
30. Ken Gearhart	1:45

BOSTONIAN

	Best 2 flights	Total Time	C.F.	Points
1. Bob Bienenstein	3:13	3:03	6:16	1.1 413.6
2. Don Steeb	3:01	2:48	5:49	1.1 383.9
3. Jack McGillivray	2:49	2:53	5:42	1.1 376.2
4. Bob Baldwin	2:53	2:46	5:39	1.1 372.9
5. Bob Clemens	2:23	2:28	4:51	1.1 320.1
6. Ray Marshall	2:05	2:15	4:20	1.1 286.0
7. Tony Sutter	1:55	1:56	3:51	1.1 254.1
8. Doc Martin	1:27	1:45	3:12	1.1 211.2
9. Bill Franklin	1:11	:52	2:00	1.1 132.0
10. Hal Stewart	1:02	:54	1:48	1.1 118.8
11. Fred Franklin	:45	:44	1:29	1.0 89.0
12. Del Ogren	:57	-	:57	1.1 62.7

OPEN A.M.A. SCALE

		scale pts.	time	score
1. Jim Miller	Fike E	77	81	158.0
2. Jack McGillivray	Issac's Fury MKII	69	86.5	155.5
3. Bob Clemens	Cloudbuster	77	66.5	143.5
4. Les Garber	Lacey M-10	49	90	139.0
5. Doc Martin	Cessna AW	33	90	123.0
6. Juer Kortebach	Newport II	51	47	98.0
7. Bill Franklin	Stinson	10	33.5	43.5
Doug Barber	Fred	48		
Ken Groves	Fike Dream E	38		
Fred Franklin	Monocoupe	10		

JUNIOR/SENIOR PEANUT SCALE

1. Juer Kortebach	Neuport II	76	61.5	137.5
Juer Kortebach	Farman Mosquito	35		

OPEN PEANUT SCALE

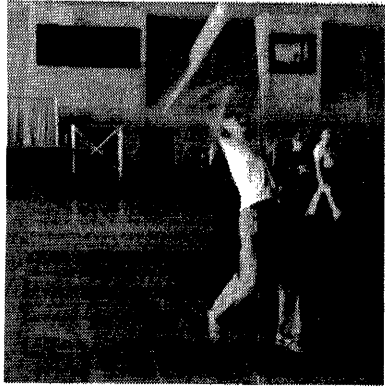
1. Jim Miller	Bleriot VII	105	93.5	198.5
2. Jack McGillivray	Issac's Fury MKII	103.5	92.5	196.0
3. Keith Fulmer	Lacey M-10	95	95	190.0
4. Ken Groves	Fike Dream E	80	80	160.0
5. Les Garber	Lacey	76.5	76.5	153.0
6. Doc Martin	Polish Canard	63	63	126.0
7. Doug Barber	Fred	56	41	97.0
8. Tony Sutter	Zippy Sport	48	48	96.0
9. Bill Henderson	White Monoplane	38.5	38.5	77.0
10. Hal Stewart	Bede BD-4	40	27	67.0
11. Tony Sutter	Piper Vagabond	28	28	56.0
Don Steeb	Wright Plane	112.5		
Jack McGillivray	SE5	108		
Don Steeb	Fike E	105		
Bob Clemens	Curie Wot	94.5		
Harvey Pastel	Glosshire Gannet	90		
Bob Clemens	Langley Aerodrome	85.5		
Jim Miller	Volksplane VPI	84		
Tony Sutter	Bat Baboon	70		
Tony Sutter	Annulate Monoplane	70		
Fred Franklin	Lacey	63		
Doc Martin	Cessna AW	45		
Bill Franklin	Stinson	24		

GET WELL WISHES

Boyd Felstead (Wahroonga, Australia) was in a serious car accident in early June, which totaled the car. He wrote us from his hospital bed that the broken ribs etc. were healing slowly and he would be out of action for several months. Boyd, get the doctor to include building models in your physical therapy.

PHOTO PAGE ONE

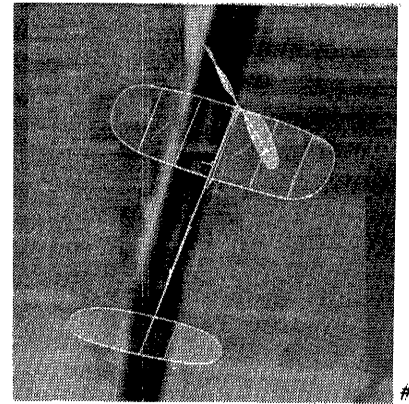
- #1. Wally Simmers, long time indoor modeler and NFFS supporter, launches his Hand Launch Glider.
- #2. Bernie Boehm gets a running start on his way to winning Hand Launch Glider and setting a new All Wood HLG record.
- #3.#4.#5. Former U.S. team member, Larry Cailliau was the top American flier placing 2nd in FAI Indoor. His model has a 9" chord with conventional prop. #3 & #5 by Ron Schifferle, photographer for the Niagara Falls Gazette
- #6. Paul Tryon processes his FAI Indoor model by weighing it on a 1 gram go/no go balance.
- #7. Paul Tryon checks launch torque with a hand held torque meter which works directly off the prop for best accuracy.
- #8. Richard Doig hooking on stab on R.O.G. Cabin model using an arrangement to allow unassisted winding and assembly.
- #9. This photo is included to show how much microfilm can balloon up from the spars and ribs. Doig FAI Indoor model.
- #10. Rick Doig, ignore the fat stomach, launches AMA Stick model (300 sq.in.) on its last flight. It was destroyed in the girders 4 minutes later.



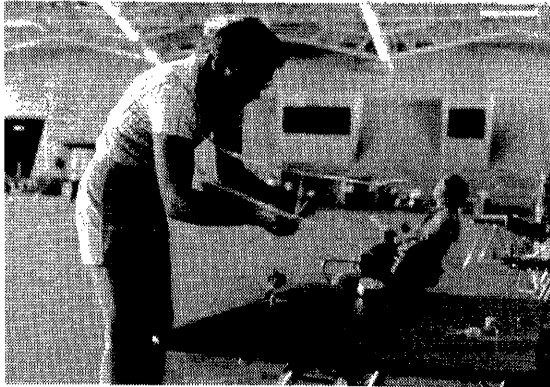
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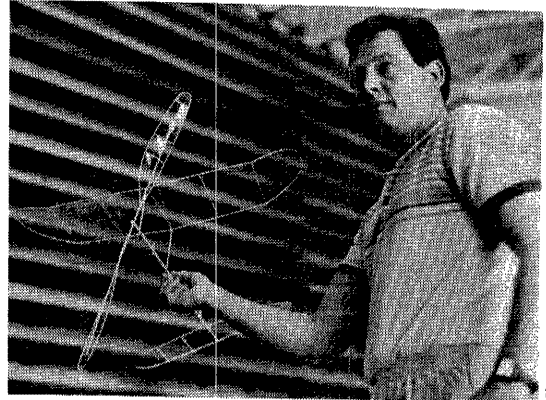
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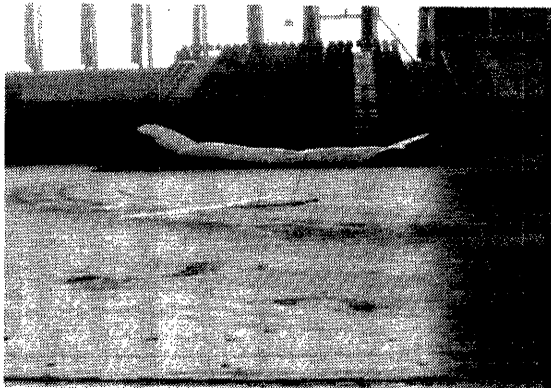
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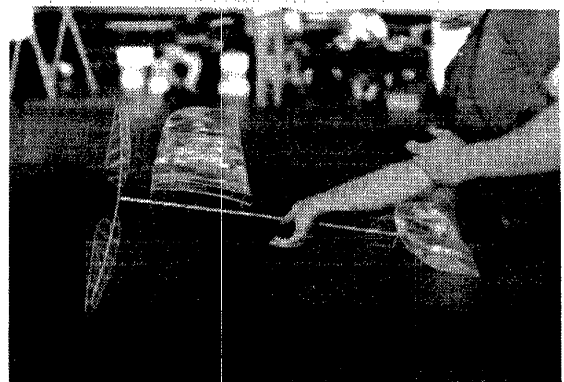
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#10



#11



#12



#13



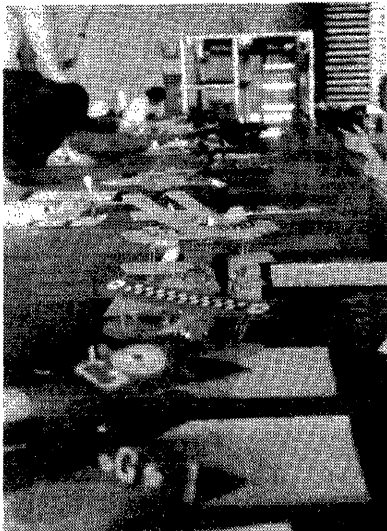
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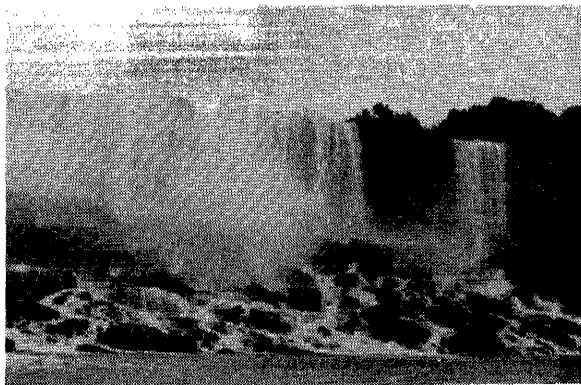
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#16



#17



#18

PHOTO PAGE TWO

- #11. Walt Van Gorder readies his model "Manhattan Pieces" for another winning flight.
- #12. Jerry Nolin launches his Easy B, he did his personal best times in this event during the meet.
- #13. Gordon Wisniewski hooks motor onto his biplane Pennyplane, during his morning off from being CD.
- #14. Bernie Boehm eyes the competition while helping Wally Simmers get his Novice Pennyplane wound.
- #15. Jim Miller hooks on prop onto his wimming Fike scale model.
- #16. Doc Martin launches his scale Polish canard, this crazy looking model flew quite well.
- #17. Scale models lined up for judging, the large number of entries kept the judges busy all day.
- #18. Yes, we really were at Niagara Falls. When we could not test fly on Monday we did all the things tourists do. This photo of the American Falls was taken from the Maid of the Mist boat ride to the base of Horseshoe Falls (Canadian side).

We arrived in the Niagara Falls area on Sunday around dinnertime. After checking into our motel, we decided to drive to the Convention Center to see if anything was going on. Things certainly were jumping. It was day four of a Polka Festival. The floor was covered with bleachers, tables, chairs, a stage complete with a polka band playing, polka dancers and banners hung from the ceiling. It was a contest director's nightmare. Consequently, workers spent Monday stacking tables, chairs, removing the banners and generally cleaning up the place. This did not allow for any test flying until late in the day and even then there were still some workers finishing up.

Tuesday morning we arrived early to find all the tables and chairs stacked and moved off to the side and half of the bleachers were folded up, but three banks along one wall were still open and this reduced the floor area considerably. Several Hand Launch Glider fliers were already warming up. The bleachers caught a few gliders that had large circles, but most of the fliers soon got the hang of where to launch to avoid them. Many of the U.S.I.C. regulars were in attendance along with some newcomers, even though they are not newcomers to hand launch glider. Competition was tough with Bernie Boehm (South Bend, IN) and Rudy Kluber (Lakewood, OH) tying for first place in High Tech Hand Launch Glider. However Kluber's "lucky Hand Launch Glider shirt" only netted him third place in All Wood Hand Launch Glider, with Ron Higgs (Scarboro, ONT) second and Bernie Boehm winning with a new CAT III record of 124.8 seconds. There were not many Juniors or Seniors at this U.S.I.C. and Don Slusarczyk (Brecksville, OH) won both Junior Hand Launch Glider classes.

Tuesday afternoon brought a great contrast as the microfilm models came out to contest the first three rounds of FAI Indoor and also AMA Stick. A number of the fliers, Ron Higgs and Larry Cailliau (Westlake Village, CA) among them, chose not to enter AMA Stick, but it was still well contended. However by looking at the results you will find these times lower than FAI Indoor by more than five minutes, even though a larger model is allowed in this event. (300 sq.in. maximum wing area) It would appear that FAI Indoor has replaced AMA Stick as the premier indoor event in this country. It also appears that CAT IV is the only place where the really large models have an advantage in doing the high times. Ron Ganser (Pittsburgh, PA) flew a conventional model with a variable pitch propeller - slightly modified Higgs/Thomas prop mechanism - to a winning time of 27:22.

Many of Tuesday's first flights in microfilm hung in the girders or crashed into the ceiling upsetting the flight. This was especially true of the fliers who do most of their flying in CAT IV sites, Akron or Santa Ana, and was not helped by the lack of test flying time before the contest. The air proved to be quite buoyant in spite of the cool weather and intermittent rain showers.

FAI Indoor counted as an at-large FAI Indoor Team Regional as well as an event in the U.S.I.C. In the results listing, those fliers who entered the Regional have the points they earned noted. Ron Higgs and Carl Schueler (Toronto, ONT) were not eligible and Larry Cailliau chose not to enter because he already had 100 points from a previous Regional (last year's U.S.I.C. Regional). Ron Higgs solved the reliability problems he was having with his Variable Pitch prop at the May contest and rose to my challenge in INAV #18 to do flights of better than 32:00. In Round 1 he posted a flight of 32:57 for the high time of the meet. Great flying! He then put up a back-up flight of 32:34 in the third round, clearly out distancing the competition. Most of the rest got their acts together in the second and third rounds with Belleff, Cailliau, Doig, Hulbert, Loucka, Tryon, and Van Gorder all putting up flights over 22 minutes.

Richard Doig (Pontiac, MI) probably had the most dramatic flight of the day when late in Round three, he had to steer his model away from colliding with Bill Hulbert's model which was at almost 15:00. During the steer at about 4:00 into the flight, the Variable Diameter prop folded, even though it was trimmed to fold at about 12:00. This caused the model to climb up into the girders where it hung, fell off the beam, and tail slid 10 feet before recovering and climbing back into the girders where the model repeated the maneuver - hang, fall off, tail slide, and recover. When the flight finally landed it had a time of 26:40 and a one inch square hole in one prop blade, on the other blade the tip had a 90° break in it, the left wing tip had an extremely large hole in it (almost one rib bay) and the stab had 3 inches more stab tilt than it started with. The prop was repairable along with the stab. By the way Hulbert's flight landed at 24:45. More FAI Indoor to come on Wednesday afternoon.

Tuesday evening brought more contrasts as the ornithopters, autogiros, and rubber speed models took to the air. Ornithopter activity has really increased lately with Al Rohrbaugh holding all four ceiling category records for awhile and the formation of an Ornithopter Society this past year. Frank Kieser (Jacksonville Beach, FL) won with a time of 5:46 flying a double wing canard. The flapping section reminds me of a bat's wing.

There has not been much autogiro activity except for what Larry Loucka (Willoughby, OH) has been doing. He won the event with a time of 6:27.

Rubber speed is an event that really took off this year. John Voorhees (Sidney, OH) obviously had so much fun with this event last year, many more contestants joined in on the fun this year. Chuck Markos (Deerfield, IL) won with a speedy 14.2 miles per hour. Doc Martin (Miami, FL) won Peanut Speed at 7.4 miles per hour. I do not know who had more fun in this event, the contestants of those running the event, especially timers John Grigg and Don Lindley. Some models produced much laughter when they would make one circle of the course before diving into the floor or taking off for the far corner of the building. Anyone who thinks this event is easy should give it a try. It is not as easy as it looks!

Wednesday morning was crowded with models as Novice Pennyplane, Pennyplane, Manhattan Cabin, and Bostonian were flown. Junior Novice Pennyplane was won by Juer Kortenbach (Bolton, ONT) with a time of 6:54. This young man has only been building indoor models for a year, but if the large number of good flying models he brought is any indication he should be flying indoors a long time. Don Slusarczyk (Brecksville, OH) won Junior Pennyplane with a time of 9:18 and Senior Pennyplane was won by Charles Gagliano (Floral Park, NY) at 7:20 with no competition.

Twenty five Open competitors took official flights in Novice Pennyplane with Doug Barber (Maple Shade, NJ) winning at 10:09, Jack McGillivray (Toronto, ONT) was hot on his heels at 10:03 and Del Ogren (Deerfield, IL) at 9:55 was third. Welcome to the big leagues, Doug!

Walt Van Gorder (Cincinnati, OH) with a flight of 11:42 won Open Pennyplane and was more than a minute ahead of second place, Doug Barber's 10:22 flight. Third place was a tie between Don Lindley (Naperville, IL) and Chuck Slusarczyk at 9:43.

Manhattan Cabin had ten competitors and once again Walt Van Gorder won the event with a time of 8:21 with Chuck Markos a close second at 8:14. Walt currently holds all four ceiling category records and plans for his "Manhattan Pieces" will be published in Model Aviation very soon. This proven winner would make a good building project this winter.

Bostonian is an event that is proving popular with fliers from all backgrounds and had twelve competitors. This is an event which looks like a scale model but there is no corresponding full size aircraft. Bob Bienenstein (Allen Park, MI) won flying "The Boston Beany" posting the best two flight, both over three minutes, and scoring 413.6 points. Second place Don Steeb (Rochester, NY) also had a flight over three minutes, but only scored 383.9 points.

Wednesday afternoon the remaining microfilm events were flown, R.O.G. Cabin and the last three rounds of FAI Indoor. Larry Loucka won R.O.G. Cabin with a time of 21:57 flying a disk style model. The big advantage these models have is about a 10% weight reduction in spite of the increased drag. Both Rick Doig and Ron Ganser flew their best times with rolled tube through the structure models, as Ganser could not get his disk style to fly. Dan Belieff (Wheaton, MD) flew his old style cabin (warren truss body) but it did not want to climb correctly. Toward the end of the contest, he discovered a broken tail bracing wire. He fixed the wire, which fixed the climb problems but the event was already over.

By the third round of FAI Indoor, late on Tuesday afternoon, most of the high ceiling fliers had figured out how to keep from boring holes in the ceiling and this continued on Wednesday. Dan Belieff started the second half off with a 24:00 flight for the high time in Round 4. Larry Cailliau, who had spent the previous evening rebuilding a stab, put up the best flights for Rounds 5 and 6, 31:49 and 30:55 respectfully putting him in second place. The fifth round flight was long enough that Ron Higgs got a model out of his box ready to fly in Round 6 in case Cailliau threatened his first place. Rick Doig got his Variable Diameter prop to work okay in Round 5 and after a minor adjustment to the tension band, it worked better in Round 6 to a time of 27:41, no touch. This put him in third place.

Wednesday dinnertime was upon us and it was time to clean up for the banquet. This was at the Como restaurant, Italian buffet, with the speaker, Jack Beilman, from Calspan in Buffalo, NY. (Formerly called Cornell Aeronautical Laboratory) They do in-flight simulations of various aircraft for the Navy, Air Force, and NASA, including simulating the flight of the space shuttle. The highlight was the films he brought of test aircraft, including some crashes.

Thursday morning the paper covered models, Paper Stick and Easy B were flown. Junior/Senior Paper Stick was won by Don Slusarczyk who also took second in Junior/Senior Easy B. This event was won by Charles Gagliano. Once again not many Juniors or Seniors attended. (We found out later that the school year had not ended for some.)

In Open Paper Stick, Rick Doig and Ron Ganser were once again battling it out. First Rick Doig posted a flight over 15 minutes which Ron bested by flying a 15:33. Then Rick took another flight, this time to 18:01, a sizable margin, only to discover that Dan Belieff who was set up at the other end of the site had a 18:20 flight posted.

Once again Open Easy B was the most popular event, with 30 competitors taking official flights. The top six finishers were all within one minute of each other with Walt Van Gorder winning in a time of 13:52. Dick Obarski (Ft. Myers, FL) had a 13:48 for second place and Chuck Markos' 13:26 placed third, but what was scale flier Jim Miller doing placing fifth? As can be seen, this is a popular event with both newcomers to indoor and the expert builder alike.

Thursday afternoon was time for the Scale models including the Peanut Grand Prix. (For those results see Doc Martin's newsletter, The Hanger Pilot.) Junior/Senior Peanut Scale was won by Juer Kortenbach flying a Neuport 11. Open Peanut Scale was won by Jim Miller (Cincinnati, OH) and his Bleriot VII, second place Jack McGillivray's Issac's Fury and third place Keith Fulmer (Mishawaka, IN) flew a Lacey M-10. Open AMA Scale also was won by Jim Miller this time with a Fike E, second place was Jack McGillivray with the same Issac's Fury, and third place went to Bob Clemens' Cloudbuster. (Rochester, NY)

You may notice Ken Groves (Unionville, ONT) missing from several events and especially not placing in the scale events. Ken's mother died on the first day of the contest and Ken had to spend much of the time back home making the necessary arrangements. Our condolences to him and his family.

In general, this was once again a very well run contest. Thanks to Jack Brown (Grand Island, NY) for all the site arrangements, he did a good job in spite of three changes in Convention Center management this year. Thanks to Contest Directors, Tony Italiano, Gordon Wisniewski, Hardy Brodersen, Charlie Sotich and Ed Stoll, whom they drafted at the site for Wednesday morning's events.

Seventy three contestants signed up (this included a couple of no-shows) which is still less than the best year at West Baden, but is more than last year. This shows that this contest will not die out even though West Baden is not available now. We had contestants from the local area to New York city to Miami to Corpus Christi, Texas to Los Angeles and a large group from Toronto, Canada. Once again this shows a well run contest in a better than average site will draw people from long distances. Besides who would you rather spend a week with, than a bunch of indoor fliers?

This building has very little drift and except for the thunderstorms on Thursday the weather was not a problem. The area's weather was cooler and wetter than is normal for this time of year. Many of the flight times during the three days were exceptional for a 70 foot ceiling, in the middle of Category III.

Jack Brown (716-773-5674) and Jack McGillivray (416-421-1108) are working very hard on a continuing program in the Convention Center possibly including a model building and flying program. We urge those in the area to get involved and support this effort. Because we are only 5½ hours travel time away we intend to attend many of their weekend contests.

Arrangements were made in advance with the local papers and TV and consequently we got great write-ups in the Niagara Falls Gazette - a whole page - and the Buffalo News - half the photo page plus a long article with a photo. These brought in many spectators some who had never seen an indoor model and others who had not built one in many years. Some of the spectators who had not built a model since they were children brought their children to see the models. Some of these spectators just watched, but others were so intrigued they bought out all of Micro-X's indoor kits. It looks like the publicity has gained us some new participants.

John Grigg, AMA President, who lives about 20 miles from Niagara Falls, spent all of Tuesday and Wednesday at the contest. When was the last time an AMA President spent considerable time at an indoor contest? He got to see at close range the joys and frustrations of indoor modelers. Of the 100,000 AMA members in 1985 only a few hundred are indoor fliers, so we are a minority and this was a good opportunity for someone to get a better understanding of indoor. In fact I hope the next Niagara Falls contest, John Grigg will come fly an indoor model, even though he complains the job of AMA President does not leave him enough time for his own models.

Hope we see more indoor modelers in 1986.

1986 WORLD CHAMPS SITE

Bernard Aslett tells us (via Jorgen Korsgaard) that they are working on bringing the World Champs to Cardington next year. We should know more after the FAI meeting in December.

THIS ISSUE

This issue which covers the fourth United States Indoor Championships has been sent to all who attended in addition to our regular subscribers. Subscriptions can be had by sending \$5.00 (covers 10 issues) to either address on the masthead.

1986 INDOOR RULE PROPOSAL VOTE

The vote results we published in INAV #18 are correct. The results in Model Aviation, August 1985, are wrong. There was some confusion over what constituted a passing vote (7-4 or 8-3) but all that has been resolved. Hope no one is confused now. IND-86-2, 10, 20, 22, 23, & 29 passed.

FAI INDOOR TEAM

By now all who are qualified for the FAI Indoor Team Finals are in a mad building spree in order to complete enough models by the Labor Day weekend competition. This year's finals are being held in the Goodyear Airdock, Akron Ohio. This looks to be a good choice of sites as it seems the World Champs may be in Cardington, also a CAT IV airdock.

Because of the large number of qualifiers and the tight security situation at the airdock, spectators are discouraged. The next issue of INAV will contain complete results.

FAI TEAM SELECTION STANDINGS AS OF 8/19/85

	CONTESTANTS	BEST LOCAL	BEST REGIONAL	TOTAL POINTS
QUALIFIED - 75 points or more in best regional	Cezar Banks	10.00*	100.00	110.00
	Larry Cailliau	10.00*	100.00	110.00
	Stan Chilton	10.00	100.00	110.00
	Richard Doig	10.00	100.00	110.00
	Ray Harlan	10.00	100.00	110.00
	Dick Obarski	10.00	100.00	110.00
	Jim Richmond	10.00*	100.00	110.00
	Andrew Tagliafico	10.00	100.00	110.00
	Walt Van Gorder	10.00	100.00	110.00
	Lew Gitlow	9.54	100.00	109.54
	Bob Randolph	10.00*	99.54	109.54
	Tom Vallee	8.66	100.00	108.66
	Manny Radoff	10.00	97.84	107.84
	Dan Belieff	10.00	97.08	107.08
	Earl Hoffman	9.77	96.37	106.14
	Bob Gibbs	8.89	95.45	104.34
	Ron Ganser	9.99	93.96	103.95
	Jim Clem	7.19	95.54	103.73
	Larry Loucka	10.00	92.55	102.55
	Bill Hulbert	9.88	92.31	102.19
	Clarence Mather	10.00	90.80	100.80
	Bud Romak	-	100.00	100.00
	Paul Tryon	10.00	87.64	97.64
	Frank Cummings	7.28	88.77	96.05
	Joe Foster	-	91.77	91.77
Larry Mzik	8.43	81.12	89.55	
Jon Harlan (JR)	1.47	77.61	79.08	
Sal Cannizzo	-	75.00**	75.00	
NOT QUALIFIED	Jesse Shepherd	3.86	74.19	78.05
	Dick Ganslen	-	71.36	71.36
	Warren Williams	-	68.60	68.60
	Mark Dreila	9.22	-	-
	Walt Everson	6.48	-	-
	Bill Bigge	6.21	-	-
	Ellis Oglesby	4.07	-	-
	Paul Loucka (JR)	2.22	-	-
	Joe Bilgri	-	-	-
	Don Godfrey	-	-	-
Bobby Skrjanc (JR)	-	-	-	

* 10 points for 1984 Indoor team members

** allowed to enter Finals by committee vote

CONTEST CALENDER

CALIFORNIA - SAN DIEGO

San Diego Orbiteer's indoor flying after monthly business meeting on 2nd Friday of each month and also on 4th Friday of each month. Start 7:30 pm at Colina Del Sol Community Center, 5319 Orange Av. Contact John Hutchison (619)465-7698.

CALIFORNIA - TUSTIN

FAI Indoor team selection contests in Hanger #1 on Tustin M.C.A.F. the first weekend of each month. CAT IV. To gain admittance to the Base contact Curt Stevens 25108 Marguerite Pky, #B-160, Mission Viejo, CA 92692 or (714)586-5779.

ILLINOIS - RANTOUL

Chicago Aeronuts 12th Midwestern States Indoor Championships on September 28 - 29 at Chanute A.F.B. hanger #1. CAT II.AMA Stick, FAI Indoor, Cabin, Paper Stick, Easy B, Novice Pennyplane, Pennyplane, Manhattan Cabin, Peanut Scale, Sport Scale, Bostonian, Hand Launch Glider. Contact Chuck Markos, 655 Carlisle Av, Deerfield, IL 60015 or (312)945-9225.

MICHIGAN - DETROIT

Michigan State Indoor Championships at State Fair Coliseum on November 10, 1985, 8:30 am- 6 pm. CAT III Details of events in next issue. Contact Richard Doig (313) 373-5374.

CHANUTE A.F.B. HANGER #1

The two photos below are of the interior of this site, where last year 13 AMA records and one World record were set in two days of flying. Rantoul is a 1/2 hour drive north of Champaign, IL and even though it really is not close to anyone it is well worth the drive. Ceiling height is 44'2" just under the maximum for CAT II. The lights are the only ceiling obstructions and they presented only a few problems. The floor area, approximately 150' x 250' gives lots of room for models and competitors. So come fly the last weekend in September and do your part in setting some new CAT II records.

