CENTRAL INDIANA AEROMODELLERS

INFORMER

FREE FLIGHT NEWS OF THE MIDWEST

** The Weather **
Thunder on April Fools' day,
Great corn and hay!

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Beyond Slow Open Power - Free Flight Power. Back To The Future!!! - by Keith Hoover

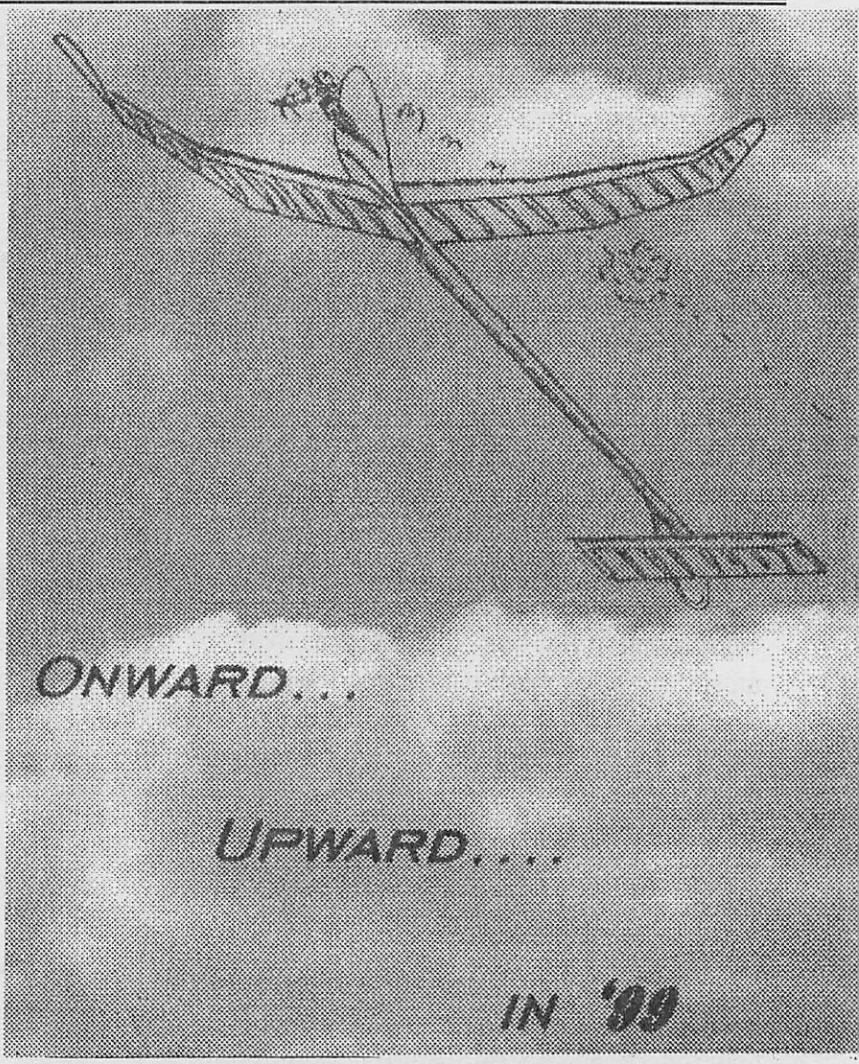
Having read the editor's survey of Slow Open Power in several (NFFS) Digests, I sat down at my typewriter on July fourth to make my contribution. Only one thought was in my mind: "This is our national holiday dedicated to *freedom* for Americans." Then I remembered the classic *Digest* cover - a gas model starting its climb with these words on the wing: FREE FLIGHT FOREVER!

Currently, the saying should read "For highest performance, automate!". This, of course, is true - for changing the incidence of flying surfaces is the most powerful adjustment force (either by pilot or automated changes). The result is that engine runs have been reduced to five seconds, and there are about half a dozen places in the U.S. where 'pros' can fly F1Cs. For the majority of FF power flyers, something needs to change. However, most Americans would prefer freedom from excessive, restrictive rules which limit their creativity.

Nostalgia is a good name for our first attempt; hearing modelers on the field discuss the merits of past designs reminds me of comparisons of Spitfires, Hurricanes, P-47s and Mustangs to ME-109s and FW-190s by old fighter pilots!

The intense interest in Slow Open Power here and abroad shows that we are ready for a next step. The simple solution is to ban the auto-pilot. This has been the idea of some of America's oldest Free Flight clubs - the Brooklyn (NY) Skyscrapers and "my" Chicago Aeronuts, who will be joined in a version of allowing each modeler's choice of engine by the Central Indiana Aeromodellers next year, who have named the event "Classic Power". This obviates the old English/Harry Murphy trick of adding on an "eligible" engine of larger displacement to pep up the climb - as I've done this year by substituting a Cox TD .09 ala Gib Robbins for an earlier CS .049 in my VHTL 300 sq.in. model.

Three major advantages of a hands-off approach (simply, don't permit automation) follow:
1. Simplicity of model design and field processing.



2. Consistency with FREE Flight Forever. (No auto-pilots.)
3. Encouraging innovative and varied aerodynamic design. Engine availability would not be an issue and, as in England and New Zealand, *longer* engine runs of 10 seconds would be realistic.

This suggests a completely different possibility - a ***reward*** for the truly FREE flight model of a longer motor run in the AMA classes (comparable to the California VTO reward and SAM engine runs for diesels/spark engines). Such a simple rule addition can allow the choice of FREE flight models by non-engineers an even hand

(cont'd p.4)

Propellor Propulsion Predator!

The little model on the facing page is the subject of a kids' project developed by agent **Jim Richmond**. Sez Jim:

"Enclosed is the plane I designed as an aid for the Carmel High School Science Olympiad project *"Propellor Propulsion"*. I made one and found it to be a good flyer, then made up 2 kits for the kids to try."

"The rules for this event restrict the wings to 60cm (23.62") span, 10g min. plane weight, 3g max. rubber, with 30 cm (11.81")max loop length, 17cm max plastic prop (trimming/altering OK), paper covering and wood construction, traditional stuff for LG, hooks and glue OK."

"I understand the event was proposed by someone at Midwest Products (*ed* - Tom Sanders, probably), and I think it's a good way to promote our activity with the kids. The plane was intended to be easy to build, fly well and of course meet the rules. The 10g weight proved to be difficult to get close to, even though light materials were used. The only heavy wood used was in the wing mounts. The front bearing can be obtained from an AMA Cub or Peck ROG kit. The best props were found in Sig kits. The LG was made of .025" music wire, and small plastic gears were used for wheels. Instead of using wing offset, the ribs have more camber on the left side (but both tips are flat)."

"In their last competition, their plane ran into a basketball goal and crashed! Oh, well. Maybe next time will be better." - JR

Grand Event Help Wanted!!! It's that time again! AMA's Bob Vojslavek is looking for adult help for the AMA Cub 'Build 'n Take' booth at this year's shebang at Muncie, June 11-13.

The numbers require 5-6 people working 2 hour shifts. AMA furnishes all materials and fixtures, and a place to work. This is a great opportunity to influence a few kids! If you're into it, contact either **Moe Whittemore**, 2348S, 700W, New Palestine, IN 46163 (317) 861-4266 (mjwhitte@ix.netcom.com), or **Bob Abernathy**, 1105 S. Tiger Dr., Yorktown, IN 47396, (765) 759-7543 or at AMA HQ (765) 287-1256.

Gib Robbins wants to remind us all that there's *NO* scaling allowed in the "new/old" O.T. Glow event in the upcoming CIA OT & NosGas Meet.

Dayton Sector Skirmish! Agent **Dick Meixell** invites us all to partake in this FAC/Small Field contest on Saturday, June 19 at WPAFB.

Events include FAC, Peanut, Electric, Dime & Comet Scale; Embryo, Elec OT, Jimmie Allen, Twin Pusher, Small Cabin, Small Stick. Catapult Glider, Jetex and P-30.

Please register with CD Frank Scott, 6633 Lefevre Rd., Casstown, OH 45312 by June 1st so you can gain admittance to the field.

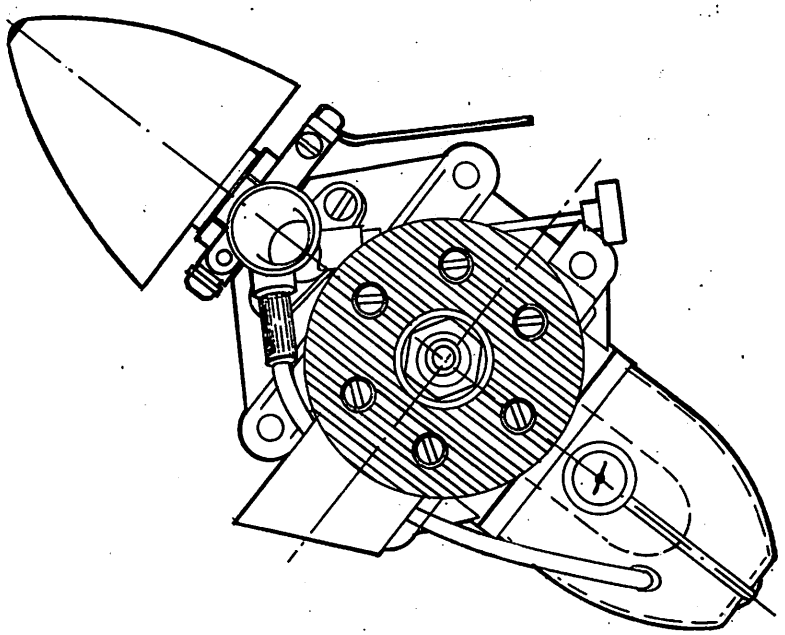
A Plea for Informer Readership Input!!!

I'm beggin' again for *anything* our readers can furnish me: tech articles, 3-views, FF-oriented artwork, cartoons, interesting stories, etc... I'm scraping bottom on all of the above! Help!!

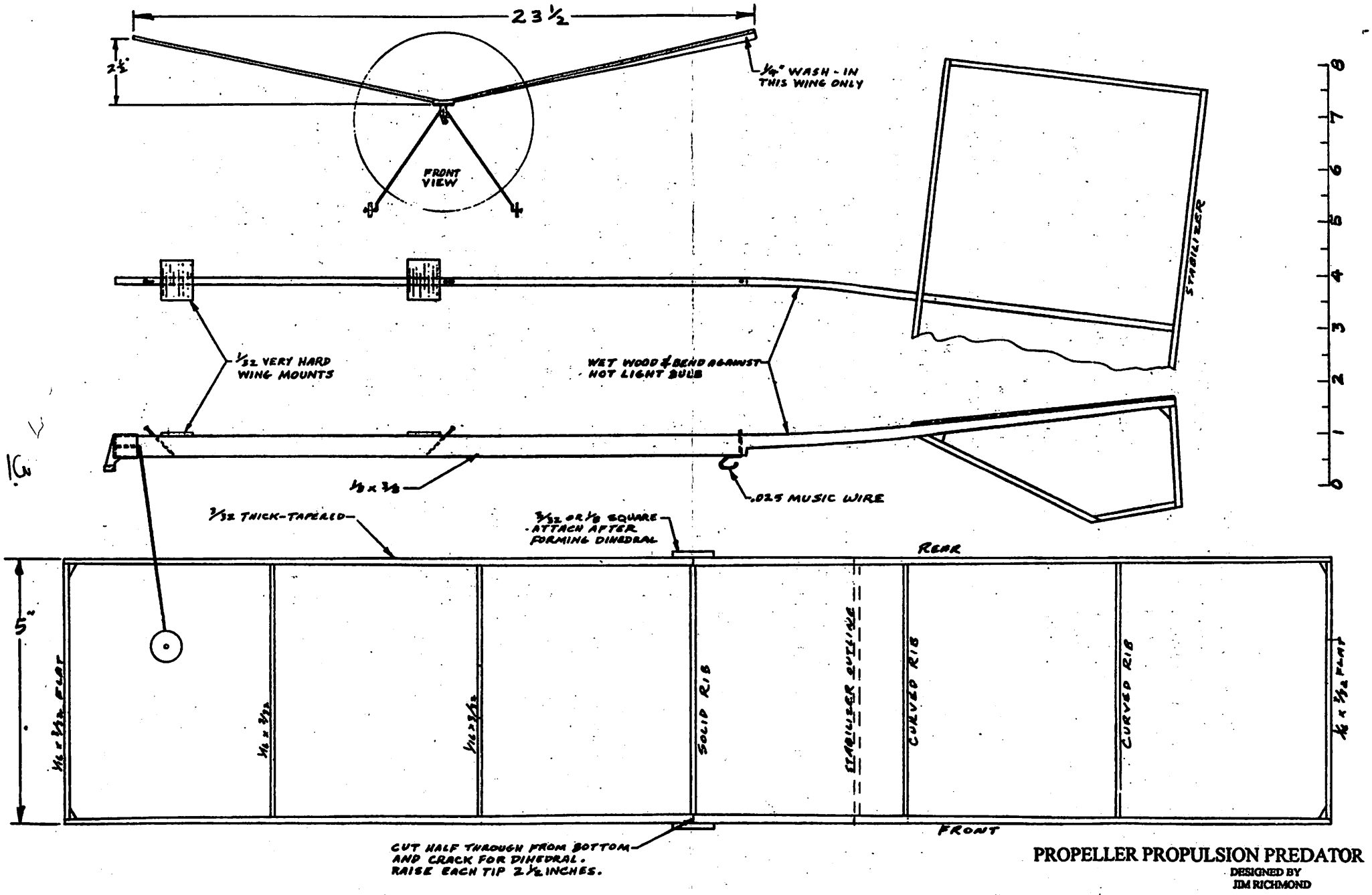
Send offerings to me at the address (email, too!) shown on the front page. Thanx.

On a sad note.....

The FF Fraternity recently lost another good guy. Virginia Agent **Emmett Holt** died suddenly in early March. Our heartfelt sympathies go out to Emmett's family and his many friends.



Phantom P-30



PROPELLER PROPULSION PREDATOR

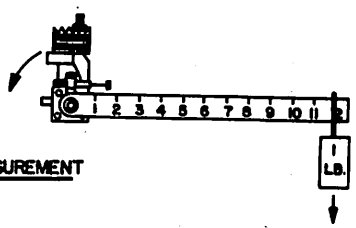
DESIGNED BY
JIM RICHMOND

(FREE Flight Power, cont'd.....)
to compete in AMA of Open classes (Britain and others) with a motor run longer that that afforded automated models (Oh, Joy! Fewer over-runs!). Also, this does not add to the excessive number of classes now burdening Contest Directors. Such a proposal meets *all* of NFFS president Bob Stalick's criteria for 'Limited' (not slow!) Power, as published in the December, 1998 Digest and noted as follows:

1. Don't make current models obsolete.
2. The event should be easy for contestants and CD's to understand and interpret.
3. Don't complicate the CD's job.
4. Don't add just one more event to an already existing overload of FF events.

Let us now acknowledge the comments of Bruce Augustus, looking at broader issues. The end of the Cox monarchy in 1/2A makes the timing of Bruce's suggestion of a 1 c.c. upper limit for 1/2A perfect to encourage entry into international competition. F1J does not limit fuels, weight or surface areas/loadings, and some well known international figures have suggested a move to the 1 c.c. engine in the major FAI power event, as durations of ten minutes plus surpass timer vision - even with binoculars! Simplification of classes can accompany, not be alternative to simplification of models. Many local contest formats are combining A&B, C&D, and at times, everything aver 1/2A.

The motor run bonus for true FREE Flight would make unnecessary the limited/unlimited dichotomy. For AAA and national competition, a separate FREE Flight power event with the longer motor runs could be instituted. If limits of engines, flying surfaces, wing loadings, fuels, etc., analogous to the Nostalgia movement enhance participation at the local level, they can continue as special events, without massive disputes and delays to institute a new national class. - Keith



PRINCIPLE OF TORQUE MEASUREMENT

PADCOM Recommends 1999 Flying Site Improvements - by Dick Covalt

The International Aeromodeling Center PADCOM (short for Planning and Development Committee) met Jan. 29 and agreed on the following recommendations to be presented to the AMA Executive Council for 1999 flying site improvements:

1) Increase capacity of HQ parking lot with gravel expansion to accommodate visitors to HQ during peak field use periods.
2) Install permanent restroom facilities located at Stage Center main parking lot pending acceptable soil tests.
3) Run city water from HQ area to south end of flying field to accommodate planned permanent restroom facility and possible future restrooms.
4) Upgrade electrical service to the L-Pad (CL) flying site to accommodate show tents, exhibits, etc.
5) Pave the two gravel roads.
6) Seal and repaint Stage Center and Speed/Team Race circles.

The Executive Council reportedly approved all of the above recommendations during the Jan. 30 meeting.

Hardy Brodersen (a PADCOM member) asked me to attend in his absence. The PADCOM was chaired by Bob Brown and was attended by Chuck Foreman, Russell Knetzger, Sandy Frank, Dave Brown, myself and AMA staff members Steve Kaluf, Greg Chartrand and Teresa McKee.

Of course, the permanent restroom facility and the paving of the gravel roads are of greatest interest to the free flight competitors. A comment by me on the likely completion of these items would be in order: assuming the paving company can be contracted before highway work begins in the spring, the roads should be paved before the NATS! While I'm sure a dedicated effort will be made to complete the permanent restroom before the NATS, it's likely the time is too short. An improvement such as this is a complex undertaking.

Taken By the Wind??? - a bit of retro by Mo (Reprinted from the May/June 1987 Informer....)

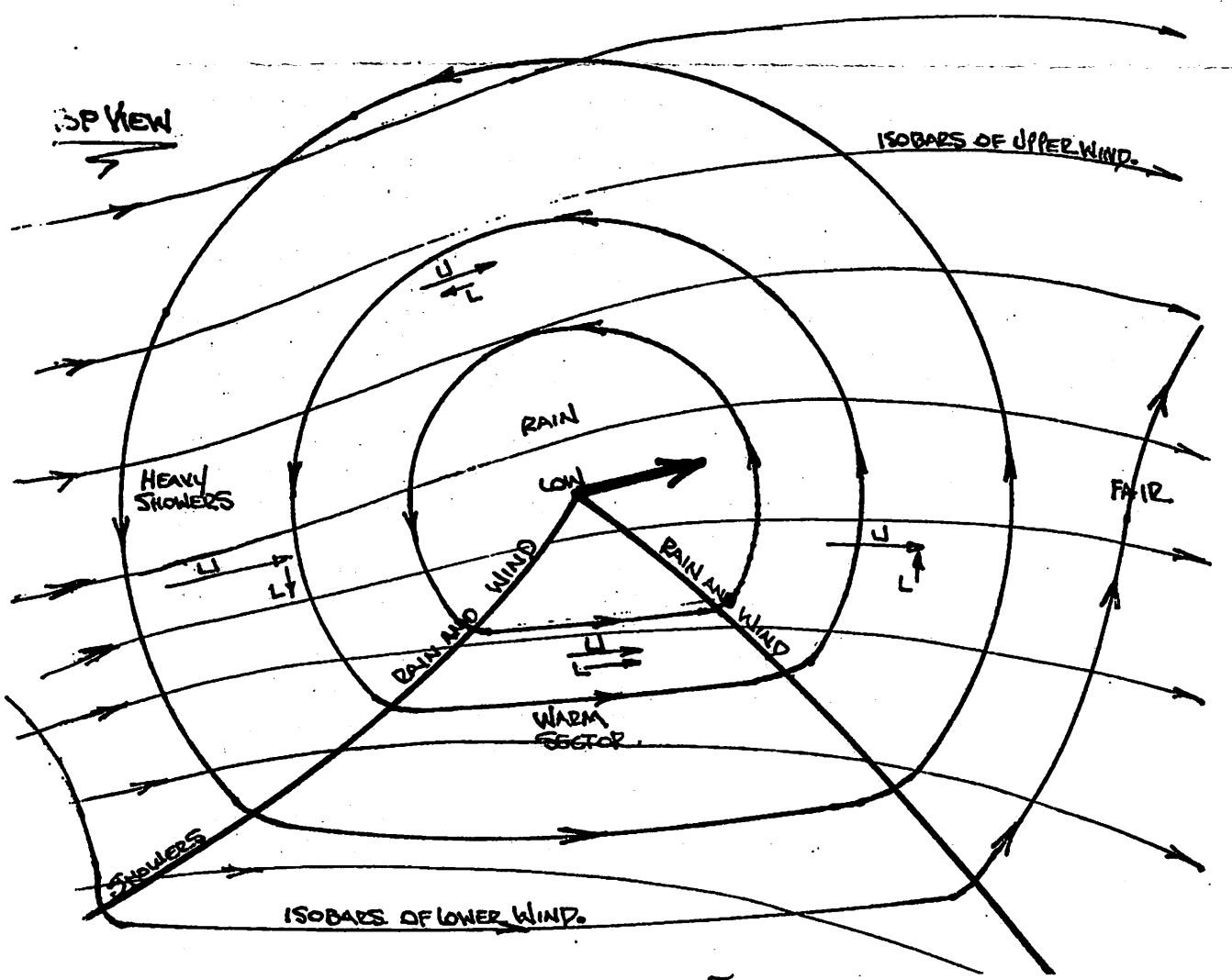
Time again to get into a weather mood. I'd like to pass along a neat bit of meteorology furnished by Agent **Gil Morris**. It goes by the name of *"The Crossed Wind Rules"*, and is ideal for modelers as it gives clues to local weather situations for the next few hours - (Should I fly now, or wait a bit?). Gil guarantees that 'it really, really works'! The drawing shows the relationship between the upper wind ("U") where the clouds are, and the lower wind ("L"), rotating near the surface.

In a nutshell, it works this way:

1.) Stand with your back to the surface wind.
2.) Rotate clockwise about 30 degrees to correct the surface wind to the "lower wind" (" L").
3.) Look up to the clouds.
4.) If the clouds come from the left, the weather will normally deterioriate.
5.) If the clouds come from the right, things will improve.
6.) If the clouds come directly from the front or back, no change can be expected.

I walked outside to try it out. No clouds! Oh, well ..... so I tried it again the next day. Plenty of clouds, but no wind! All was not lost, as both days were perfect for flying. (By the way, Gil, I tried it later and it worked perfectly!) This knowledge should be invaluable when flying at an unfamiliar site. If you'd like to dig a bit deeper for more details, Gil advises that this gem came from the book "Instant Weather Forecasting", by Alan Watts.

Here's some additional info gleaned since the original article came out..... The speed of the clouds and the surface winds are directly proportional to the severity of the coming change. Look for a place to hide if winds are 20-30mph out of the South, with clouds moving in rapidly from the West!



Aldrich Engine Stuff - (A Dec '99 exchange between George and Chris W. from the internet...)

George was commenting on engine articles in the last 2 issues of the *Digest*. Here goes: "This prompts me to comment on the last two articles that appeared: The first was a comparison of various Nos engines being run on smaller props, and the last was about how the bore/stroke ratio affected an engine's ability to swing certain sizes of props."

"I would like to point out some other factors that enter into the 'equation'.

1) Exhaust timing.
2) Intake timing (cyl.).
3) Relation between the exhaust and intake timing.
4) Shaft timing.
5) The effect of rod length.

1) The exhaust timing, measured from the time the exhaust opens through BDC (Bottom Dead Center) has a great deal to do with where an engine will develop its maximum output (rpm). The main thing this determines is the engine's power stroke. An engine that has a 140 deg of total open exhaust timing will have a power stroke of 110 deg. (This is found by subtracting the 140 deg from a total rotation of 360 deg, which gives 220 deg of rotation remaining. Dividing 220 deg by 2 gives 110 deg of 'power stroke', or the distance in degrees from TDC until the exhaust opens.) This number has a great deal to do with the size of prop an engine will develop its max output with.

2) The intake timing determines how long the fuel will be allowed to enter the cylinder. Its relation to the exhaust timing determines how the engine likes to run.

3) The difference between the exhaust and intake timing is called "blow down". An engine meant to run for CL stunt will have a blow-down of about 12 to 16 deg, and it will have what has become known as the 4-2-4 type of setting. Such an engine doesn't gain nearly as much power when leaned out to a clean 2-cycle, as one with a blow-down of say, 25 deg. An engine that has this much blow-down (20-25 deg) will want to be set right up on a hard 2-cycle to get its best output - and in fact is not nearly as happy running any other way.

4) The shaft timing often determines an engine's ability to "unload" when high rpm's are involved. It has been found that until an engine passes 15,000rpm, anything over 180 deg of shaft or rotor intake timing is wasted. Some of the latest designs have been found to have as much as 215 deg of total open shaft timing. These engines have to be turned much higher to let them take advantage of this much open time. In fact, if they are running below 15,000rpm, fuel can be seen blowing back out of the venturi while running!

Putting the above in relation to what we do in free flight, let's consider the difference between most Nostalgia engines, and the modern Schnurle types we see today. Most of our Nostalgia engines were timed in the 135 to 140 degree (exhaust) area. Some have blow-down in excess of 20 deg, and some - like the old Fox .35 - less. These engines develop their maximum output at a much lower rpm level than the more modern designs we see today. As an example, some .35 engines are ***under propped*** with a 10 x 4!!

The Schnurle types have exhaust timing 155 to 165 deg, and intake timing of something like 130 deg - which can mean 35 deg of blow-down, or more! An engine that has 165 deg of exhaust timing has only 97.5 deg of power stroke. It's not hard to see that such timing requires quite a bit more rpm to make up for the power stroke loss.

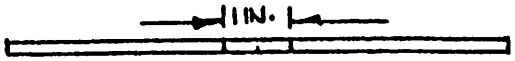
Most design books on 2 cycle engines talk about the rod length and rod angle, and how the longer rod is more efficient. I can only assume that no one has ever written design books on engines that run in the rpm range as high as our model engines! Practical experience has taught me that what happens in the field is infinitely more accurate than all that theory. The two best examples of this came with the Super Tiger racing engines of the '60s. A long rod version of their G-.15RV was produced, and it was down 1500rpm to the short rod version. Taking the long rod theory to heart, we put ST.40 rods in the .29, and shimmed the cylinder to make up the difference. The engine then showed more than a 1500rpm loss!

There are many other factors that can affect how an engine performs, such as head design and compression ratios. But these are some basics that you may want to consider when selecting the best prop for your event." - GMA

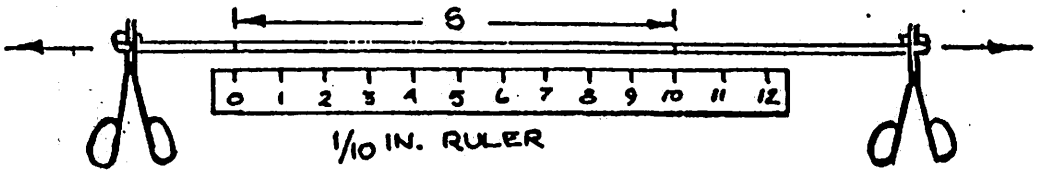
A QUICK RUBBER TEST
from HANK COLE

EQUIPMENT:
1) two forceps
2) gram scale
3) 1/10 in. ruler
4) hook from which to suspend rubber sample.
5) pan or cup to load weights in.

PROCEDURE:
1) Cut a twelve in. sample of rubber to be tested.
2) Mark off one inch, in the center, with a pen.

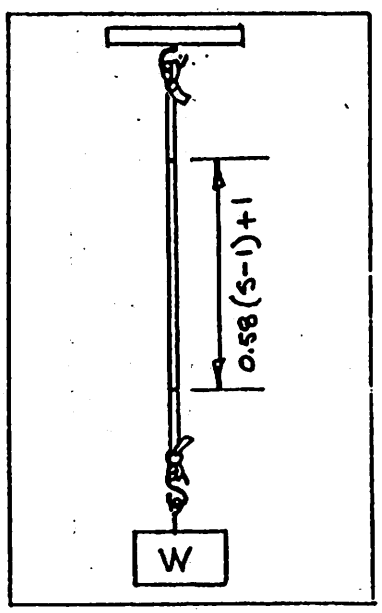


3) Grip the free ends with forceps. Roll up the ends on the forceps until almost at one inch marks. Pull lengthwise of the sample two or three times to find the maximum stretch. This will take considerable force.



NOTE: For Tan Two s = 10 to 11 inches.

4) Tie loops in both ends of sample. Hang on hook with pan (or cup) for weights at lower end. Load weights until rubber stretch is 0.58 (s-1) +1.



5) a. Weigh the sample (wt.)
   b. Weigh the weight (W)

6) Energy = $\frac{W\ (s-1)}{wt.}$ s = the stretch length of the sample.

Note: E is expressed in ft.lbs / lb.
Note: W & wt. must be in same units; grms. or oz.

Typical numbers:
wt. = 1.04 gr.
s = 10
W = 537 gr.

$$E = \frac{(537)\ (10-1)}{1.04} = 4647 \text{ ft. lb./lb.}$$

Additional notes:
1) Be sure to include weight of container in W.
2) Samples will not usually yield Energy ratings as high as the example. There often are variables within the rubber skein.
3) 4000 - 4100 is the average Energy range.
4) The sample weight is critical for this measurement. Use an accurate gram scale (e.g. indoor scale, etc.).

FREE FLIGHT COVERING MATERIAL WEIGHTS

covers.xls 4/4/99 DC

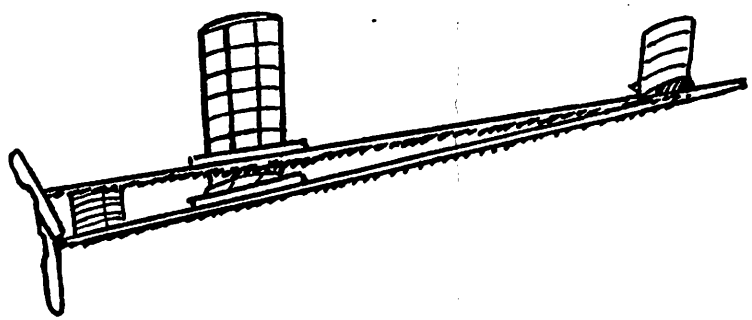
Type of Covering Material	gm / 100 sq in	gm / sq ft	gm / sq yd	oz / 100 sq in	oz / sq ft	oz / sq yd	
Goldberg Ultracote Florescent Orange	5.9	8.5	76.5	0.21	0.30	2.7	1996 dc?
Silk - Red w/8 coats nitrate	5.75	8.28	74.6	0.202	0.292	2.63	From Fresno Model News 8/92
Monocoat - Transparent Red	4.5	6.5	58.7	0.16	0.229	2.07	From Fresno Model News 8/92
Black Barron Film	3.7	5.4	48.5	0.13	0.19	1.71	
Goldberg Ultracoat Transparent Red	3.8	5.45	49	0.13	0.19	1.64-1.81	1.73 avg. - measured 7/96 dc
Sig Supercoat Transparent Red	3.35	4.8	43.4	0.12	0.17	1.53	
Icarex incl. weldwood contact adhesive	2.9	4.2	37.4	0.10	0.146	1.32	measured 4/4/99 dc
Micafilm - Orange	2.73	3.93	35.4	0.097	0.139	1.25	measured 1/9/94 dc
Solarfilm - Red	2.72	3.92	35.3	0.096	0.138	1.24	measured 1/11/94 dc
Micafilm - Red	2.26	3.25	29.3	0.080	0.115	1.04	measured 1/9/94 dc
Icarex (fabric only-no adhesive)	2.4	3.5	31.1	0.085	0.12	1.08	measured 4/4/99 dc
Micafilm - Clear (including adhesive)	2.0	2.8	25.5	0.07	0.10	0.90	weight includes adhesive
Raw Silk - Red	0.71	1.02	9.19	0.025	0.036	0.324	From Fresno Model News 8/92

CHEAPEST SOURCE

Icarex can be obtained from:
Hang-em High Fabrics
1420 Yale Ave.
Richmond, VA 23224
M-F 10AM-10PM (804) 233 -6155

Icarex, new 1/2 oz. Polycarbonate, $8.95 linear yd. - 41" width

Black, Orange, Purple, Midnight Blue, Charcoal, Royal Blue, Florescent Green, Plum, Carribean (teal), White, Flame (florescent orange type), Grape, Forest Green, Teal, Florescent Orange, Dark Gold, Yellow, Rubin (red), Sky Blue, Florescent Yellow, Hot Pink, Red (deep), Silver



Central Indiana Aeromodellers

AMA Field
Muncie Ind.

20th Annual

AMA
Sanctioned
Sam-Nffs

OLD TIMER
NOSTALGIA GAS
CLASSIC POWER
Regional Free Flight Champs

Sat June 5th (9 - 5) EST

1/4 A Nos/.02 Rep.
B/C Nos Gas
A/B Fuselage OT Gas
Early 1/2 A Nos gas
Nos Gas Ignition
OT Gas (Glow) Pylon/Fuselage.
Small OT Rubber Stick
Classic Power .11cu.in. or more.
Jimmie Allan Rubber
Large OT Rubber Fuselage

Sun June 6th (9 - 4) EST

1/2 A Nos Gas
Commercial Rubber
A/B Pylon OT Gas
C Pylon/Fuse OT Gas
A Nos Gas
Small OT Rubber Fuselage
Large OT Rubber Stick
1/2 A Antique
Jimmie Allen Rubber
Classic Power .10cu.in. or less
OT HLG

CATEGORY 3

(TROPHIES) thru 3rd place in all events except one. (1/2A Antique) fly for perpetual trophy only
(ENTRY FEE) $10 for first event. $3 for each add on, $25 Max. JR/SR FREE
(JIMMIE ALLEN) Can fly either day, but must finish on same day
(OLD TIMER) Sam rules except(approved ignition engins only, No converts, Glow, or diesels)
(NOSTALGIA GAS) NFFS Rules, 9 sec. engine runs, Flyoffs are 7,7,5,5,5,5 etc.
(OLD TIMER GLOW) Any old timer model with a glow engine (NOSTALGIA RULES WILL APPLY)
(CLASSIC POWER) C.I.A. 1999 RULES

CD: Gib Robbins 1507 Patterson St Anderson Ind. 46012 (765) 644 2046
Alternate CD: Merideth Chamberlain 5810 S. Madison Av. (765) 643 1885

BALTIMORE AEROCRAFTSMEN
host the

50TH ANNUAL INTER-CITY MEET
JUNE 26 & 27, 1999
AMA FIELD - MUNCIE, IN

This is an "AMERICA'S CUP" contest

FAI EVENTS

SATURDAY JUNE 26th	SUNDAY JUNE 27th
F1A - JSO	F1G - JSO
F1B - JSO	F1H - JSO
F1C - JSO	F1J - JSO
7 one hour rounds with ½ hour overlap, starting at 8:00 AM	No rounds - 5 flights 8:00 AM to 1:30 PM. Fly off @ 2:00 PM

*Special - Sunday only -- F1A, F1B & F1C - 7 Flights - no rounds. *
For team selection time accumulation purposes. No entry fee.

AMA & OTHER EVENTS

SATURDAY JUNE 26th (8AM - 5 PM) and SUNDAY JUNE 27th (8AM - 4 PM)

Fly an event either day
and/or
start flying an event on Saturday
and finish flying it on Sunday

1/2A GAS	**- J**	**P30**	**- J**	**HLG**	**- J**
1/2A GAS	**- SO**	**P30**	**- SO**	**HLG**	**- SO**
ABC GAS	**- JSO**	**MULVIHILL**	**- JSO**	**CAT HLG**	**- J**
Nostalgia	**- JSO**	**MOFFETT**	**- JSO**	**CAT HLG**	**- SO**

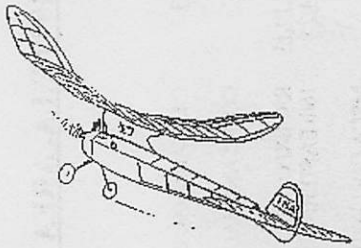
AWARDS: FAI - Trophies to 3rd place plus team trophy (F1A, F1B, F1C).
AMA and others - Merchandise to 3rd place, plus trophies for junior events.

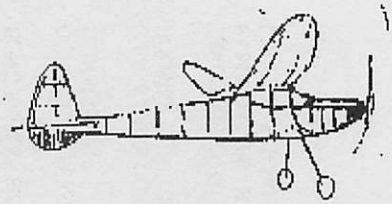
ENTRY FEES: FAI - $20.00 for 1st event plus $5.00 for each additional Event - JSO.
AMA and other - $10.00 for 1st event plus $3.00 for each additional event - open flyers only.
$3.00 covers all events for jr and sr flyers

****ALSO -- On Saturday:** The Detroit Balsa Bugs will be hosting a "50th Year Celebration" cook-out on the field.

CONTEST DIRECTOR: Bob Sifleet - RD 3 Box 56, Glen Rock, PA 17327
Tel (717) 235-2421

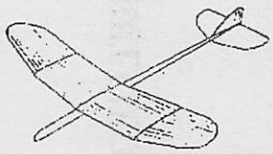
ADD'L CONTACTS: Fred Blom - 223 Treherne Rd., Timonium, MD 21093
Tel (410) 252-1196
Joe Williams - 233 Main St., Brookville, PA 15825
Tel (814) 849-2721



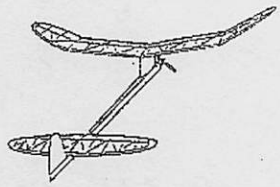


Northern Ohio Free Flight Association

Summer Free Flight Contest



AMA National Flying Site
Muncie, Indiana
August 14-15, 1999
9:00am to 4:00pm local time



Saturday's Events	Sunday's Events
ABC Gas Combined PeeWee 30 Hand-Held Catapult Glider (NOFFA Rules) ABC Old Timer - Fuselage 1/2 A Nostalgia Gas Old Time Rubber - Cabin & Stick Combined P-30/Coupe Combined	1/2 A Gas Classic Open Towline Glider ① (non circle-tow) .020 Old Timer/Nostalgia Combined ABC Old Timer - Pylon Hand Launch Glider (NOFFA Rules) ABC Nostalgia Gas Nostalgia "Geef" Gas event ② (NFFS rules)
Junior Hand-Held Catapult Glider* Junior-Senior 1/2A Gas Power*	Junior Hand Launch Glider* Junior Rubber*
<u>Starting at 5:00pm</u> 3 Person Catapult Glider Team Challenge	
<u>Starting at 5:00pm</u> .020 Payload 1/2 A Nostalgia Payload .010 Open Gas Power	

High Point Trophy
To be awarded Sunday!
The more you fly
the better your chances!

For the FAI F1A, F1B, and F1C flyers you may fly to accumulate time for team program finals. No prizes or awards are given.

Entrance Fees: <u>$10.00 Flat Fee</u> covers all events. All Juniors events are <u>FREE!</u> *

** A $.25 AMA fee is required for all <u>non</u>-AMA member Junior participants.*

<u>Contest Directors:</u>

Charlie Jones
32130 Cambridge Circle
Avon Lake, Ohio 44012
(440)-933-7377

Warren Weisenbach
4568 W. 146 St.
Cleveland, Ohio 44135
(216)-671-8623

① **Classic Open Towline Glider (non circle-tow event)** – Any towline glider model is eligible. No circle towing allowed. No VIT functions allowed. No wing wiggler functions allowed. Auto rudder is allowed. No weight or size limits. Standard FAI towline length of 164ft. (50meters) maximum. Six attempt (flights that are 20seconds and under) to make three official flights.

② **1/2A Nos. "Geef "Gas event (NFFS)** – This event is a single design event for the "Geef" model. All NFFS Rules apply to this event.

AMA National Flying site rules apply. Check in at the CD's tent for contest rules.

1999 C.I.A. AREA FREEFLIGHT CONTEST CALENDAR

JAN	23	C.I.A. ANNUAL BANQUET	HAGERSTOWN, IN
MAR	6	COFFC ANNUAL BANQUET	COLUMBUS, OHIO
APR	9,10,11	R/C EXPO (COLLECTO SAT)	TOLEDO, OH
APR	24,25	16th EASTERN U.S. AAA FF CHAMPIONSHIPS	TOM HIGGS FARM - INGLESIDE, MD
MAY	2	MECA COLLECTO	COLUMBUS, OHIO
MAY	9	MOTHER'S DAY	
MAY	15,16	FFAMS ANNUAL FF CONTEST	AMA FLYING SITE - MUNCIE, IN
MAY	31	MEMORIAL DAY	
JUN	**2-6**	**USIC/AMA INDOOR NATS**	**JOHNSON CITY, TN**
JUN	5,6	CIA OT & NOS GAS FF MEET	AMA FLYING SITE - MUNCIE, IN
JUN	11-13	AMA GRAND EVENT	AMA FLYING SITE - MUNCIE, IN
JUN	19,20	M.A.M. OT FF MEET/RC ASSIST, Slag & Nos.	STURGIS, MI
JUN	26,27	INTER CITY FAI/NOS/AMA	AMA FLYING SITE - MUNCIE, IN
JUN	27	AERONUTS FUN FLY	BONG, WI
JUL	3,4	INDEPENDANCE DAY WEEKEND	
JUL	11	IMAC ANNUAL	BONG, WI
JUL	18	AERONUTS OLD TIMERS	BONG, WI
JUL	25	PELICAN OLD TIMERS	BONG, WI
AUG	1-5	AMA FF NATS	MUNCIE, IN
AUG	8	BONG EAGLES ANNUAL FF MEET	BONG, WI
AUG	14,15	NOFFA FREE FLIGHT CONTEST	AMA FLYING SITE - MUNCIE, IN
AUG	25	BONG EAGLES SILENT	BONG, WI
SEP	4,5	COFFC FREE FLIGHT MEET	AMA FLYING SITE - MUNCIE, IN
SEP	6	LABOR DAY	
SEP	11,12	C.I.A. AAA FF CONTEST	AMA FLYING SITE - MUNCIE, IN
SEP	11,12	HOOSIER CUP - AMERICAS CUP EVENT	AMA FLYING SITE - MUNCIE, IN
OCT	2,3	TRI-CO AERO CLUB FF MEET	LAWRENCEVILLE, IL
OCT	**4 - 8**	**SAM CHAMPS - HATBOX FIELD**	**MUSKOGEE, OK**
OCT	16,17	CIA FALL SCRAMBLE	AMA FLYING SITE - MUNCIE, IN
NOV	7	MECA COLLECTO	COLUMBUS, OHIO

The INFORMER

CIA Central Indiana Aero Modellers

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1999 President
Sean Cochran

Vice President
Phil Sullivan

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