CENTRAL INDIANA AEROMODELLERS

INFORMER

FREE FLIGHT NEWS OF THE MIDWEST

** The Weather **
Ring around the moon
snow upon you soon.

- Editor -
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2348S, 700W
New Palestine
IN 46163

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AMA Gas Bunt Lore - by Dick Covalt

The Background:

The change in Category III gas free flight rules in the mid-eighties from 5 second-2minute maxes to 4 second-2 1/2 minute maxes on the sixth and subsequent flyoff flights, is causing a rethinking of AMA Gas aircraft design and a quantum leap in competition results.

Under the pre-1986 rules, a powerful engine in a relatively heavy aircraft could easily make a 2 minute max in dead air on the 5 second flyoff flights. Our 780 sq.in., 46 ounce C-ship and 535 sq.in., 27 ounce B-ship would do 135+ seconds on a 4 1/2 second engine run in dead air. Thus, allowing for some error in selecting air, and even some loss due to a poor power-to-glide transition, a 2 minute max was nearly certain.

And so it was for several years that we simply maxed until we got tired and quit, or got bored and made a mistake. Well, that changed big time in 1986 with the advent of new Cat. III rules. The challenging 4 second, 2 1/2 minute max required for the 6th flight, which was proposed by Harry Murphy, turned our aircraft into 110 second also rans, along with a lot of others!

The fun was over, our well seasoned aircraft, flying skill and sheer determination could no longer insure a win. It took luck, too! Enough luck to put the plane into strong lift to max every time when the power-to-glide transition variable was taken into account. Enough was enough, so out of flustration we hung it up for a few years while getting our competitive enthusiasm rejuvinated.

The Problem Analyzed:

Raising the nitro content of the fuel, tuning the engines and refining the props were all tried immediately after the new Cat III rules went into effect, but with little success. The results were a less controllable power pattern and a less predictable power-to-glide transition. Indeed, the practical limit of the classic Ron St. Jean/Ramrod spiral power pattern had been reached - at least for non-auto surface AMA Gas aircraft design as it existed then (and now).

After several years experience flying F1C in the seventies with auto rudder and stab we con-

(cont'd p. 4)



C.I.A. Yearend Banquet - 1993

Our annual CIA Feedbag, awards banquet, and funfest is to be Saturday, January 22, 1994 - if we should all live that long! The place is Guy Welliver's smorgy, Hagerstown, IN per usual at the same time - 7pm EST in the basement, on the west side.

Adult tickets (12 and over) are $15 each. Ages 10-11 are $8, 7-9 are $6, and 2-6 are $3. Send your monies to Harry Murphy, CIA Sec/Treas, 3824 Oakwood Blvd., Anderson, IN no later than Monday, January 17 to enable ole Guy to catch the proper amount of cocktail shrimp for the occasion!

Outgoing Prexy **Steve Frazier** and Veep **Phil Sullivan** have teamed up to supply the jokes and insults. Come prepared to be the brunt of one or the other - and see Harry Murphy get rid of the Crash and Burn Award to someone more deserving ..... see ya there! - HSM

New Faces .... roll out the welcome mat for new Agents **Donald Diggs** of Monon, IN; engineman **Doug Galbreath** from Davis, CA and **John Watters,** of Battle Creek, MI. John sez his club has gone almost totally RC - no FF'ers left!

The Fayette, NY site of the 25th Empire State Champs, is a big field - 1000 acres, sez Agent **Brooks Goodnow.** C'mon over, August 12 thru 14!

Anecdote of the Month .... we caught this one in a '93 SAM Champs report in Dan O'Grady's SAM 86 Speaks Canadian newsletter. It states that a couple of guys were standing outside their cars along the edge of the Lost Hills site, watching a Lanzo Duplex thermalling overhead when they were joined by a third person who accompanied them in the subsequent chase. The model finally lit in a treetop in Taft. While the original two pondered the near-impossibility of climbing the tree themselves, the third guy volunteered his services. He zipped up the tree like a chimpanzee, down came the model, then the retreiver in effortless fashion, much to the amazement of the original two chasers! .... come to find out the gentleman was a reporter for the French equivalent of RC Modeler, and his entire family were "trained circus acrobats!"
(... where are those guys when I need 'em?) - HSM

The pattern for the Russian VA Engine Mount on the facing page is courtesy of Agent **Gil Morris.** Pretty neat!

Read the Fine Print! When you receive your 1994 AMA membership card this winter, note the "fine print" adjacent to your card, which is attached to this subject thin cardboard strip which in turn just fits into a #10 envelope.

Don't throw the cardboard away after you peel off your membership card because the fine print sez that if you want a **free** 1994 AMA Rule Book you gotta return this cardboard strip back to AMA hqtrs. I wonder how many guys will be complaining next year that they didn't receive a rulebook?

By the way, if you haven't heard, you no longer need a "site pass" to enter the flying field area at Muncie! The new administration regime promptly did away with that questionable requirement which essentially only affected those area folks who frequented the site for test flying purposes.

The $25 fee was no big deal, for the monies were supposedly to go to support the museum, and most were just so happy to have a flying site that the fee was a bargain. However, when one looks at the big picture it did sorta seem rather odd to stick it to the locals when these were the very folks from whom the AMA sought volunteers everytime they needed extra hands! Oh well, why kick a dead horse? Let's move along ..... HSM

Texas Timers Again .... Just a reminder that the fine line of engine timers is now under the guidance of **Hank Hystrom.** A nutshell description of the products are:

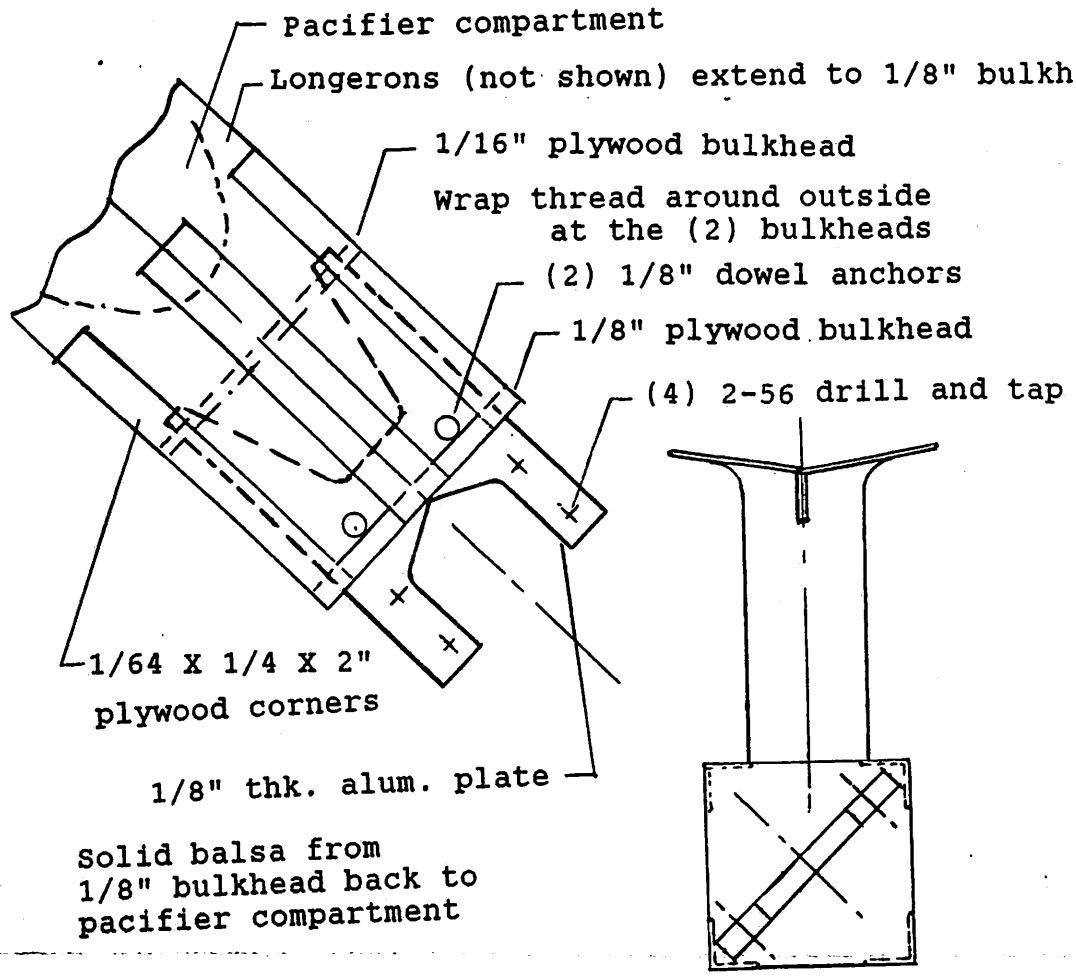
* ABC Texas Timer - standard unit; 2 function; 16.8g; $27.50.
* 1/2A timer - 40% smaller than standard; 2 fct; 16.0g; $27.50.
* Fuel Off (new) - 21 seconds max; one function; 15.2g; $18.95.
* Remote Pinchoff attachment - use with ABC or 1/2A timers; plunger style; 1.9g; $4.50.
* Bunt Mechanism - vert. plunger; 2.9g; $15.00.

For complete specs, drop Hank a line at: 3317 Pine Timbers Dr., Johnson City, TN 37604.

Consider ... real gliders have lowest sink rates considerably above their stall speeds; outdoor models have their lowest sink rates very near their stall speeds - due to the 'scale (RN) effect'. Apparently it's more important at these low speeds to maximize Cl, *regardless of the additional drag that might go along with it.* Carrying this thinking into the very low RN (1000 - 10,000) range where indoor flyers play, is Cl proportionally even more important - regardless of drag? - Mo



Dirty little secrets: There are still times when you buy the cereal just to get the toy.

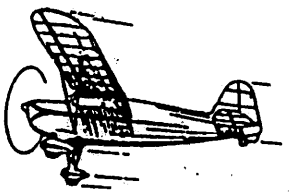


PATTERN FOR RUSSIAN VA ENGINE MOUNT

At first glance, the new .049 Russian VA engine looks like a toy but, in fact, packs a wallop like the Russian Stels or a good Cox TD .049 and at a tare weight of 1/2 oz less than either. But, my experience is that it needs a good solid, flat mounting surface. The best arrangement I've found so far is shown in the sketch.

I might add that if you are having trouble getting a stable needle valve setting on your VA and you believe it to be caused by crankcase leakage at the split, try the following fix. It worked for me.

1. Disassemble engine & remove crankshaft & piston assy.
2. Clean surface of lower case split with solvent & coat this surface with RTV rubber. I used GE's RTV Silicon Auto Gasket available everywhere in a tube. Place a piece of mylar over it and clamp together the two case halves. Allow the rubber to ooze out all around.
3. When cured, disassemble, remove mylar film, trim excess rubber and reassemble engine. The split is now sealed without disturbing the crankshaft fit.



(Gas Bunt Lore ... cont'd)
cluded that in general this type of auto surface lacked effectiveness. That, considered along with the reliability/complexity issue, makes it unattractive for AMA gas free flight. It was recognized that a transition function separate from both the power and glide function was needed, but it was 1986 and a "bunt" function was not recognized, let alone understood.

In 1991 we had the pleasure of CD'ing the FAI FF semis at Dayton, OH. "Bunt" systems of F1C ships were in use by Gil Morris, Norm Poti, Dale Mateer and others, and they were spectacular! Needless to say this got the gray matter cranked up on free flight again, but it just didn't add up to suit, because the bunt mechanisms were complicated/expensive, and as being used on F1C there were now 5 timer functions!

So, even though we felt the "bunt" was a definite part of the answer to the AMA gas competition equation, it certainly wasn't everything required in getting that 2 1/2 minute max every time on a 3 1/2 second engine run.

The Solution:

Observaation of AMA gas free flight competition in 1991 and 1992 indicated that with current stock FF engines, it is practical to build light enough and strong enough to make a 2 1/2 minute max on a 3 1/2 second engine run, if the power-to-glide transition was smooth. As current examples, Guy Scott's 788 Satellite is easily a 2 1/2 minute aircraft with a good recovery. Also, Steve Frazier's 19 ounce 522 Pilfered Pearl with an OS .25 will easily do 2 1/2 with a good recovery. But both Guy and Steve dropped sure maxes this year for the lack of a good recovery. After watching Charlie Caton's Hummingbirds at the 1992 USOC at Muncie, there was no doubt that a bunt system will give a near perfect recovery every time on an AMA Gas ship.

Much brainstorming and sketching on bunt mechanisms ensued during the bleak winter & spring months of 1993. After bouncing some ideas off Bob Mattes, the telescoping tube concept evolved. Experimentation showed that the wire-in-slot retention concept was indeed very positive in holding the power position. So the telescoping tube/torsion spring bunt system described in the last CIA Informer became a reality. A real bonus was that this system is retrofittable without major surgery on the fuselage.

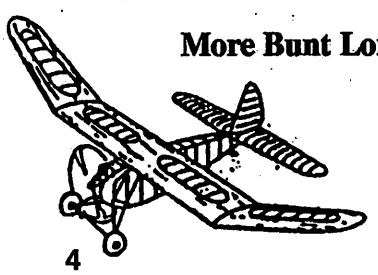
We converted our 1982 Son-Of-Pearl 535 in June '93 in about 4 hours. This ship had pre-engine shutoff and DT only. Subsequent testing found the power trim safe and precisely adjustable with only one minor problem. This plane has severe wash-in and wash-out built into the wing (for the right spiral climb it was designed to have) and has a pronounced left roll that causes the plane to end up on its back at the end of a 6 1/2 second engine run. No problem, it simply does a 1/2 outside loop and falls into the glide. On a 3 1/2 second engine run, the roll is only slight and a straightforward 90 degree arc is accomplished smoothly into the glide every time. One neat aspect of bunt is that it becomes more effective and compensates for increased deviation in the power pattern as the engine run is increased (this is due to increased velocity).

The telescoping tube bunt mechanism has proven itself beyond a doubt to be simple, reliable, retrofittable and effective in solving the power-to-glide transition on AMA gas ships. So now that we've got a surefire transition to glide, why didn't we win something this summer? Well, 3 times we maxed the first five flights and missed the sixth by 46, 10 and 5 seconds. The 46 second miss was an obvious case of picking bad air, the second and third cases were neutral air and simply indicates too high a wing loading. Our 535 Son-Of-Pearl with the addition of the bunt system is now up to 28 ounces, but nevertheless, even with the 4% increase in weight the dead air duration increased about 25%. Which says we are netting an additional 25%+ in altitude due to the straight-up power pattern and bunt transition!

The Summary:

Contrary to our fondest dreams, a bunt system and a light aircraft will not put you into the winner's circle everytime. You might be competing against Norm Poti and his '93 USOC winner that accomplished 33 maxes for a new national record. Norm's "B" Niblet uses auto stab and rudder instead of bunt. You also could be flying against very impressive non-auto surface ships such as Gib Robbin's 450 Pearl of Steve Frazier's powered 522 Pilfered Pearl and get your plough cleaned on any given day. But if you want to **Consistently** and **Effectively** compete with these guys and Charlie "Hummingbird" Caton, you had better move up to bunt!

More Bunt Lore in Future Informers!



The following is an interesting FreeFlight event proposal introduced by agent **Dick Covalt.** Comments welcome!

A Proposal For A New Free Flight Event: **Basic Gas Powered Free Flight**

Background

Currently there is no gas powered free flight event that is well suited to the entry level individual. Nostalgia, which comes closest to meeting this need, requires the use of what might seem to the new free flighter, obsolete and irrelevant engines and aircraft design. In addition, the seasoned flyer at some point in time probably desires the opportunity to compete in an event that doesn't require exotic engines and aircraft with complex mechanisms, but nevertheless is interesting, diverse and competitive.

Rules Proposal

Power Source: Any plain bearing internal combustion engine up to .65 cu.in. displacement, fitted with a *commercial muffler.*

Fuel System: Rigid fuel tank with a vent to atmosphere. *No pressurized fuel system* of any type.

Aircraft Design: Automatic in-flight changes to flight surfaces limited to *dethermalizer only.*

Engine Starting: Hand starting for official flights required. *No electric starters allowed.*

Cat.III Flight Times: Maxes for first three official flights of six allowed attempts shall be 2 minutes. Maxes for all subsequent flyoff flights shall be 2 1/2 minutes.

Cat.III Engine Runs: Reduced engine runs for flyoff flights shall not be used.

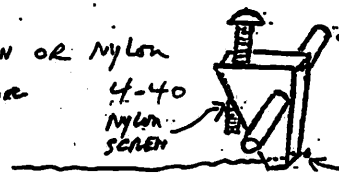
Glow Plug Engines:	8 seconds
Diesel Engines:	9 seconds
4-Cycle or Ignition Engines:	10 seconds

Entries: The engine and aircraft is considered the entry. Only one engine/aircraft allowed per entry. Other engine and aircraft combinations can be entered by the same person. No engine or aircraft may be entered more than once per contest event.

CATON BUNT (cup dated sept. 1993)

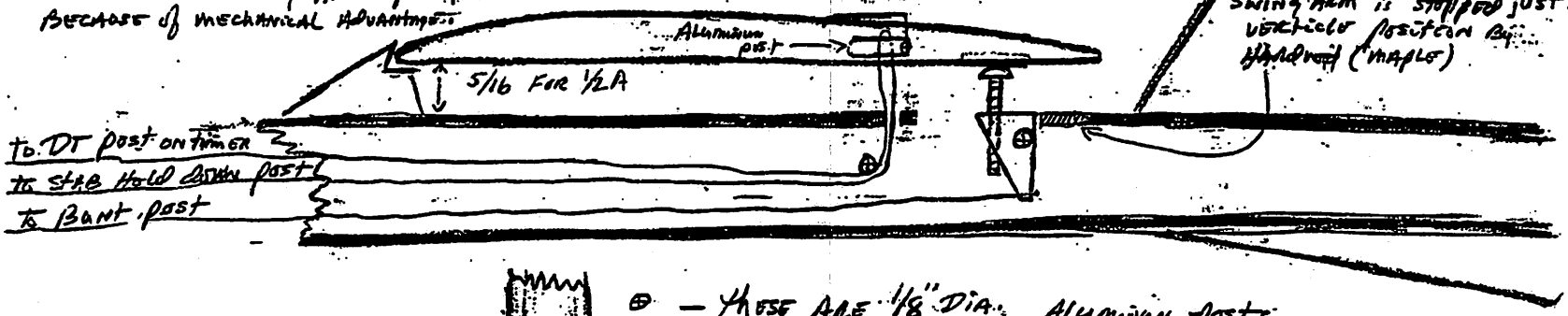
FOR 1/2A

- SWING ARM MADE of DELRIN OR Nylon ENGINE MOUNT MATERIAL, OR ANY HARD PLASTIC — EVEN MAPLE WOULD WORK.



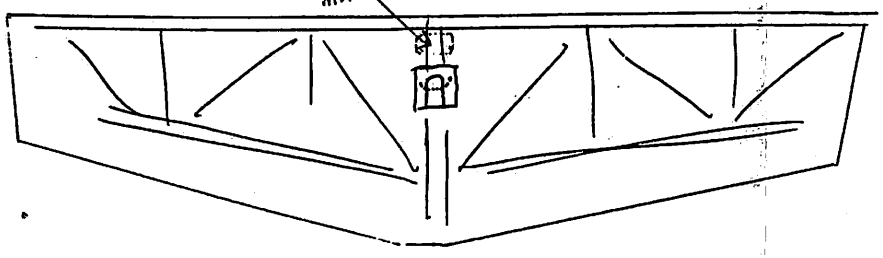
— DELRIN UNIT is 3/32 OR 1/8 WIDE TO KEEP UNIT FROM WOBBLING
— HOLE DRILLED in BOTTOM FOR Nylon COATED STEELON LOADER MATERIAL — 15 LB. TEST — BERKLEY products (OR MONOFILIMENT LINE)

- COIL SPRINGS FOR TENSION ARE
  AT TIMER — SPRING STRETCH FOR STAB HOLD DOWN MUST BE LONG ENOUGH TO LOWER STAB 'TIL IT HITS BOTTOM — SWING ARM SPRING TENSION IS LESS BECAUSE of MECHANICAL ADVANTAGE.



-.00 — ENGINE STOP
- at 1/2 SEC. STAB DOWN
- HOLD BUNT FOR APPROX, 3/4 TO 1 SEC.
- BUNT IS 1/4 TO 5/16 FOR 1/2A.





⊕ — THESE ARE 1/8" DIA. ALUMINUM POSTS, EPOXIED INTO FUSELAGE SIDES — THEY DO NOT MOVE.

— USE 15 LB. STEELON LINE, OR MONOFILIMENT,

STEVE — THE BUNT MECHANISM will WORK WITH ANY VIT SYSTEM THAT INCLUDES DOWNWARD PRESSURE ON THE STAB DURING THE CLIMB.

1994 Area Free Flight Contest Calendar

May	1	Columbus, OH	MECA Collecto
	14/15	Muncie, IN	Thermaleers FF Meet
	21/22	Muncie, IN	Jim & Dale's FF Meet
June	2-5	Johnson City, TN	USIC
	4/5	WPAFB, Dayton, OH	COFFC Spring Meet
	11/12	Muncie, IN	'94 AMA Open House
	19	Bong Field, WI	Aeronuts Spring OT FF Meet
	19	WPAFB, Dayton, OH	FF Meet
	25/26	Sturgis, MI	MAM OT FF Meet
	25/26	Galeville, NY	Eastern FF Champs
July	5-9	Muncie, IN	USOC (Incl. NFFS NosGas)
	16-24	Lubbock, TX	AMA Combined Nats
	23/24	WPAFB, Dayton, OH	CIA OT & NosGas FF Meet
	23/24	Bong Field, WI	IMAC & FAI Invitational
Aug	7	Bong Field, WI	Bong Eagles FF Meet
	6/7	WPAFB, Dayton, OH	NOFFA FF Meet
	12-14	Fayette, NY	25th Empire State FF Champs
	14	Bong Field, WI	Midwestern States FF Meet
	20/21	WPAFB, Dayton, OH	COFFC Fall FF Meet
	21	Bong Field, WI	Aeronuts Fall FF Meet
Sept	3-4	Muncie, IN	CIA Regional FF Meet
	11-16	Muncie, IN	SAM Champs (incl Intl OT Wake 9/11-12)
	21-24	Palm Bay, FL	FAI Team Finals
Oct	1/2	Lawrenceville, IL	TCAC FF Meet
	15/16	WPAFB, Dayton, OH	Practice Session
Nov	6	Columbus, OH	MECA Collecto

Contest coordinator: Harry Murphy (CIA), 3824 Oakwood Blvd., Anderson, IN 46011. (317) 642-7377

The initial formal listing for '94 area contest dates is presented above, but not without a number of preliminary mailings and lotsa phone calls to enable finalization. At one time we had a log jam of two National meets and a regional contest which was to take up 13 of the first 18 days of September! There are still a few minor problems such as 3 Bong and Dayton conflictions, but those we can live with.

At any rate, I wish to thank all who aided in putting together this resultant schedule including AMA, NFFS, and SAM structures. Anytime we have more than one week-long affair in our area, it makes for considerable juggling of dates to work everyone into the pot! At this writing, we have the Intra-City FAI to work in yet - so '94 will be a very busy year in these "h'yar parts". Ain't it a turrible thing to have all of these contests to attend? Let's support 'em by attending as many of these affairs as we can without jeopardizing our happy homes - ha!

See you there! - HSM

1993 "MID AMERICA F.F. CHAMPS

This traditional Free Flight contest, which has been sponsored by the "Tri-Country Aero Club", for over 20 years was once again held at the Mid-America Air Center, Lawrenceville, IL on the first weekend of October. This year for the first time, we had the Friday before the contest started all day for practice. Naturally, it was a complete blow-out with 35-40 mph winds.
Saturday, October 2, contest day one.

During the night, a cold front had passed through, leaving us with light NW winds and cool temperatures, with the wind predicted to increase later in the afternoon. Other than some flyers getting tunnel vision and crossing the active runway while chasing, the day proved to be good for some, bad for others. Lift was so strong that a number of planes were never found, just DTing and continuing to climb out of sight.

A Gas (21)

Bob Perkins	1050	seconds
Gil Robbins	895	"
Gil Morris	656	"
Don Spehn	549	"
Dick Covalt	547	"

Mulvihill (15)

Guenther Nowak	1427	seconds
Howard Henderson	1040	"
Joe Williams	927	"
Lew Zemeck (?)	761	"
Larry Willis	533	"

Peanut Scale (7)

Jim Miller	206.5	points
Roger Lane	185.9	"
Dot Odum	152.3	"
Robert Butsch	150	"
Norman Becker	146.9	"

Nostalgia Gas (14)

Keith Fulmer	1320	seconds
Bob Mattes	600	"
Bob Watson	598	"
Dick Bloomquist	593	"
Ed Aikman	534	"

Coupe (14)

Wally Mumper	540	seconds
Tom Hepler	519	"
Joe Williams	336	"
Don DeCook	331	"
Eric Hepler	316	"

B Gas (12)

Gil Morris	1500	seconds
Steve Frazier	1188	"
Bob Watson	1003	"
Dick Covalt	744	"
Bill Schlarb	661	"

HLG (6)

Phil Sullivan	299	seconds
Bill Schlarb	285	"
Gerald Caldwell	125	"
Don DeCook	102	"
Don Kugler	67	"

O.T. Rubber Stick (18)

Ed Konefes	540	seconds
O. C. Stewart	526	"
Larry Willis	495	"
Roy Stewart	492	"
Len Zemeck	479	"

1/2 A Texaco R/C (8)

Harold Ericksen	1617	seconds
Bill Kleinhaus	1385	"
Gene Wicks	1124	"
John Schifko	855	"
Frank Mehrtens	639	"

Catapult Glider (11)

Ralph Schlarb	360	seconds
Bill Schlarb	298	"
Ralph Waser	288	"
Joe Konefes	265	"
Greg Mattes (Jr)	192	"

1/2 A Scale R/C (4)

John Schifko	1499	seconds
Bill Kleinhaus	1019	"
Harold Ericksen	834	"
Al Boeglin	422	"

SUNDAY, OCT 3

Cool, mid 40's, light SW winds, with winds expected to increase to 10-15, temperatures into the 70's, promised a good day with strong lift, and sink too. Flying started right at the 8:00 AM opening. Those who flew early proved to be the smart ones as the wind did increase and thermals became more difficult to pick consistently.

1/2 A Gas (22)

Keith Fulmer	828	seconds
Bob Mattes	746	"
Gil Morris	560	"
Dick Hall	433	"
Mark Mattes (Jr)	343	"

C/D Gas (8)

Dick Bloomquist	900	seconds
Gil Morris	860	"
Bob Coverdill (?)	548	"
Dick Hall	469	"
Tom Gates	465	"

P-30 Rubber (20)

Randall Hopkins	335	seconds
Vicki Wicks	334	"
Larry Coslick	310	"
C.A. Schuchman	308	"
Don DeCook	305	"

Wakefield (9)

Bob Thoren	771	secpmds
Moe Whittemore	644	"
Guenther Nowak	621	"
Ed Konefes	461	"
O.C. Stewart	417	"

A-1/A-2 Glider (2)

Bill Schlarb	320	seconds
Bob Thoren	235	"

AMA Rubber Scale (7)

Jim Miller	171.3	points
Dottie Odum	139.2	"
Ted Dock	111.5	"
Norman Becker	109.5	"
Robert Butsch	103.2	"

O.T. Gas (10)

Larry Willis	360	seconds
Elmer Jordan	326	"
John Schifko	281	"
Matt Basta	139	"
Richard Rikel	89	"

O.T.Rubber Cabin (19)

Don DeCook	514	seconds
Roy Stewart	509	"
O.C. Stewart	492	"
Roger Lane	333	"
Howard Henderson	329	"

.020 Replica (21)

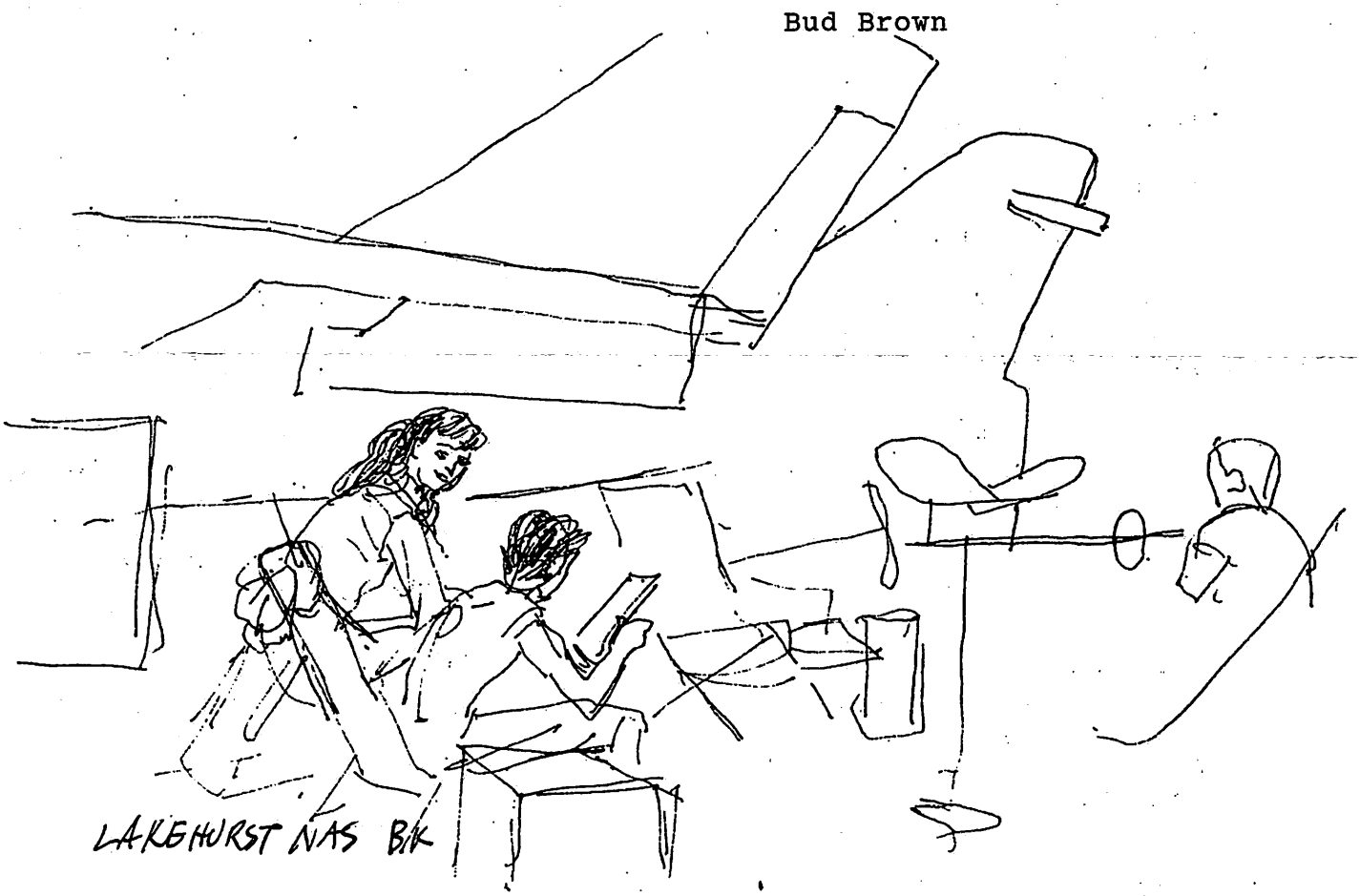
Warren Kurth	480	seconds
Don Spehn	360	"
Tom Hepler	357	"
Larry Willis	338	"
Gary Oakins	315	"

Moffett Rubber (9)

Ed Konefes	360	seconds
George Batiuk	343	"
Tony Telford	272	"
Chuck Hermanek	234	"
Bud Brown	120	"

It would be difficult to decide if there are any trends that should be obvious from this years contest. Attendance was down somewhat, probably due in part to the fact that the Mid-West has been saturated with FF contests this past Summer. There is no doubt that the dates for the World Champs and the SAM Champs that nearly fell on our dates kept some of the regulars away. But, attendance was still around 70, and thats not at all bad considering the facts. The low entry in some events simply, in my opinion, are the result of the above named conflicts.

Lessons learned by me throughout the season, and once again at this contest, are that you can't win a contest when you spend most of your time looking for lost planes. Get a model locator to prevent this from happening, because things aren't going to get any better. And, fewer models will be lost initially if your chase bike starts the first time you try, Get a fuel filter and a tune-up. Don't forget to make plans and reservations for the 1994 Mid-America Champs to be held October 1 and 2.



New Mark of Excellence!

In discussing the World Champs during a recent phone conversation with NFFS President Bob Waterman, he mentioned they had 658 attending the barbecue and 602 attending the banquet - to which I commented that the WC appears to have been well-attended. He then volunteered that the event was so large it required 20 Port-O-Cans! As I remember, USOC of last summer was about an "8-10 crapper meet" and something less for the COFFC and CIA affairs. Thus, you can be sure there shall be at least 21 crappers on the premises at next year's gatherings at Muncie! (It's called "keeping-up-with-the-Jonses" - or is it "Johnses"?) - HSM

Free Flight Aeromodelers Society

June 19-20, 1993 Contest - Wright-Patterson AFB, Ohio

1/2 A Gas (6 Entries)

1st	Keith Fulmer	698 secs
2nd	Gil Morris	595
3rd	Steven Frazier	467
4th	Harry Murphy	285
5th	Bob Placier	281
6th	Phil Sullivan	98

A/B/C Gas (4 Entries)

1st	Gil Morris	472 secs
2nd	Gil Robbins	360
3rd	Bob Placier	278
4th	Harry Murphy	92

Contest Directors: Norm Poti / Marty Richardson

Hand Launch Glider Sr/Open (2 Entries)

1st	Phil Sullivan	289 secs
2nd	Joe Mekina	181

P-30 (2 Entries)

1st	Lou Willis	279 secs
2nd	Frank Heeb	125

Mulvihill Rubber (3 Entries)

1st	Larry Willis	360 secs
2nd	Lou Willis	322
3rd	Joe Mekina	202
4th	Jason Poti (Jr.)	27

1/4 A - 1/2 A Nostalgia (4 Entries)

1st	Harry Murphy	480 secs
2nd	Keith Fulmer	440
3rd	Floyd Miller	287
4th	Gene Bowers	214

Catapult Glider (7 Entries)

1st	Rudy Kluiber	129 secs
2nd	Phil Sullivan	79
3rd	Floyd Miller	70
4th	Lou Willis	34
5th	Larry Willis	DNF
6th	Les Hallgarth	DNF
7th	Gerry Nolin	DNF

Old Time Rubber (5 Entries)

1st	Larry Willis	540 secs
2nd	Lou Willis	513
3rd	Frank Heeb	360
4th	Bill Jackson	330
5th	Gerry Nolin	DNF

Special thanks to Ellen Poti, score keeper and super picnic organizer!

Time to re-up as an Agent? Here's a handy renewal form!

CENTRAL INDIANA AEROMODELLERS - Club Membership Form

Expiration Code

Name _____ AMA# _____ _____ (Office use only)

Address _____

City _____ State ____ Zip _____ Ph: _____

Age last July, if under 19 _____

$7.50 - Club Membership (New or Renewal - Includes INFORMER - 6 issues/yr).
Add $1.00 to the above for Canadian, $2.00 if Foreign (surface mail only)
Please send this form and proper remittance to Moe Whittemore, 2348S, 700W
New Palestine, IN 46163. Thank you for your support of free flight !!
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