CENTRAL INDIANA AEROMODELLERS

# INFORMER

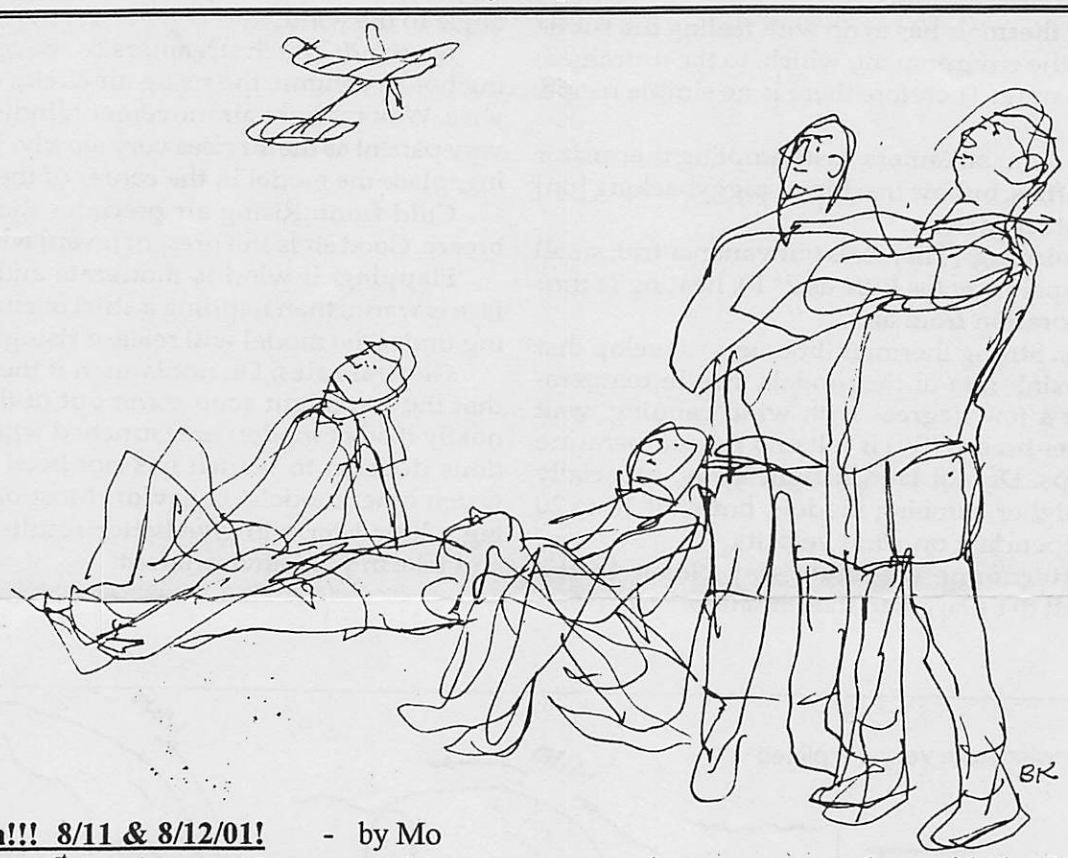
FREE FLIGHT NEWS OF THE MIDWEST

** The Weather **
*Praise these days of heat and haze!*

==========:

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**West Baden!!! 8/11 & 8/12/01!** - by Mo

For the 1st time in over 15 years, modelers were invited back to strut their Indoor stuff in the historic West Baden Atrium! The place has been beautifully restored by the Indiana Historical Society, with financial backing from businessman/entrepreneur Bill Cook. One "showroom suite" has been completed, to show how things could look, but there are no immediate plans to refurbish the old rooms. The I.H.S. is now looking for a qualified buyer for the facility.

The last time I flew there, the ceiling was falling on the modelers, the floor was buckling and the walls were shedding their fabric covering. (And a few years later, an exterior wall fell over!) As beautiful as the old place has now become, the one feature that struck me, was that one can actually *see* in there now! I could actually assemble & repair my models without having to bring along my own lighting!

Indoorsman Walt VanGorder made the fly-in possible – thru his hard work, his indoor model demos and many get-togethers with the Cooks. We can't thank him enough for his efforts! The 'event' was called *"Fly Me To The Moon"* (the I.H.S.'s moniker – not the modelers'!). As campy as the name sounds, it drew many spectators (over 500 on Saturday alone – up from the normal 200/250) – thanks to the 20,000 invites sent out and the activities link-up with the French Lick Springs Resort hotel down the road. It pays to advertise!

In addition to the "demonstration" indoor flying, Walt VanGorder and Tom Sanders (consultant to Midwest Models) ran all-day "Build 'N Take" classes for the spectators. These events were advertised in the mailings, and as a result, about 120 adults & kids signed up to build and fly Walt's souped-up Delta Darts and Tom's little catapult/hand-launch glider kits. When properly wound, the Darts would get over 1:30 in the dome (even the worst-built ones would do over 30 seconds!). Gauging by the

(cont'd p.4)

Stolen from the Aug. '01 Bat Sheet
Chris Weinreich, Ed. (thanx, Chris.)

# PICKING THERMALS

*By Peter Brocks*

*From* Vol Libre. *Peter is an American free flighter who lives in Arizona.*

Picking thermals has to do with feeling the subtle changes in the environment, which, to the untrained, are not apparent. Therefore there is no simple recipe.

**Tools:** Mylar streamers, fast sampling thermistor devices, fluffies, bubble machines, piggybacking [on] l rds and other models.

**Early morning:** [The] air is buoyant neutral, small rises in temperature (as little as.2° F), heating is thru water evaporation from air.

**Midday:** Strong thermals (boomers) develop that exceed the sink rate of the models, rise in temperature can be a few degrees with wind calming, wait until a cooler breeze (fill) is felt and the temperature clearly drops. Do not launch right away, especially with fast, higher climbing models, but wait 10 to 20 seconds, depending on wind velocity.

**Late afternoon:** Thermals stay closer to the ground, tend to be larger in size. Smaller rises in temperature (1°+ F). Be patient, fly over dark areas.

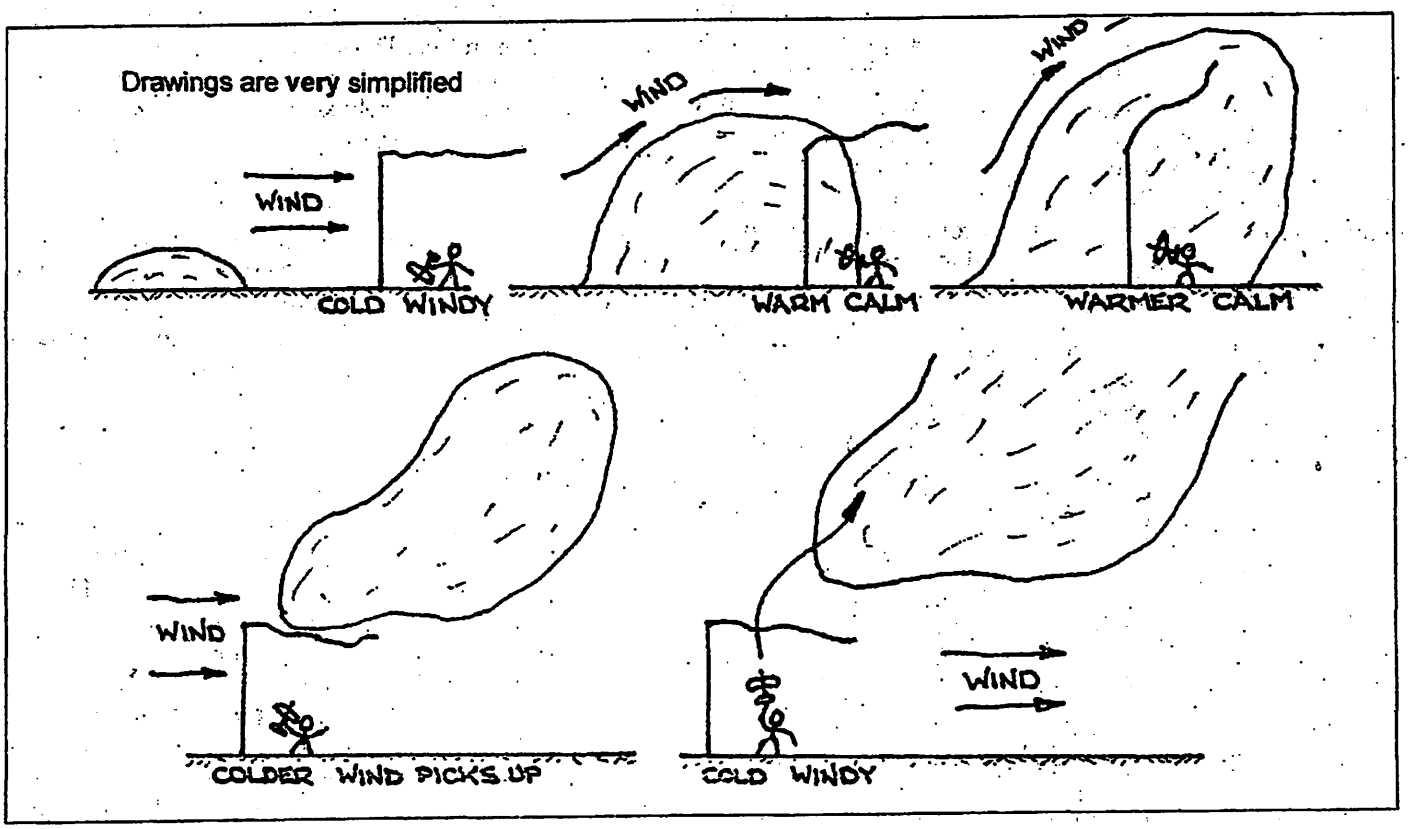
**Strong wind:** Wait for a three or four second lull of lower wind velocity, launch immediately at an angle to the wind.

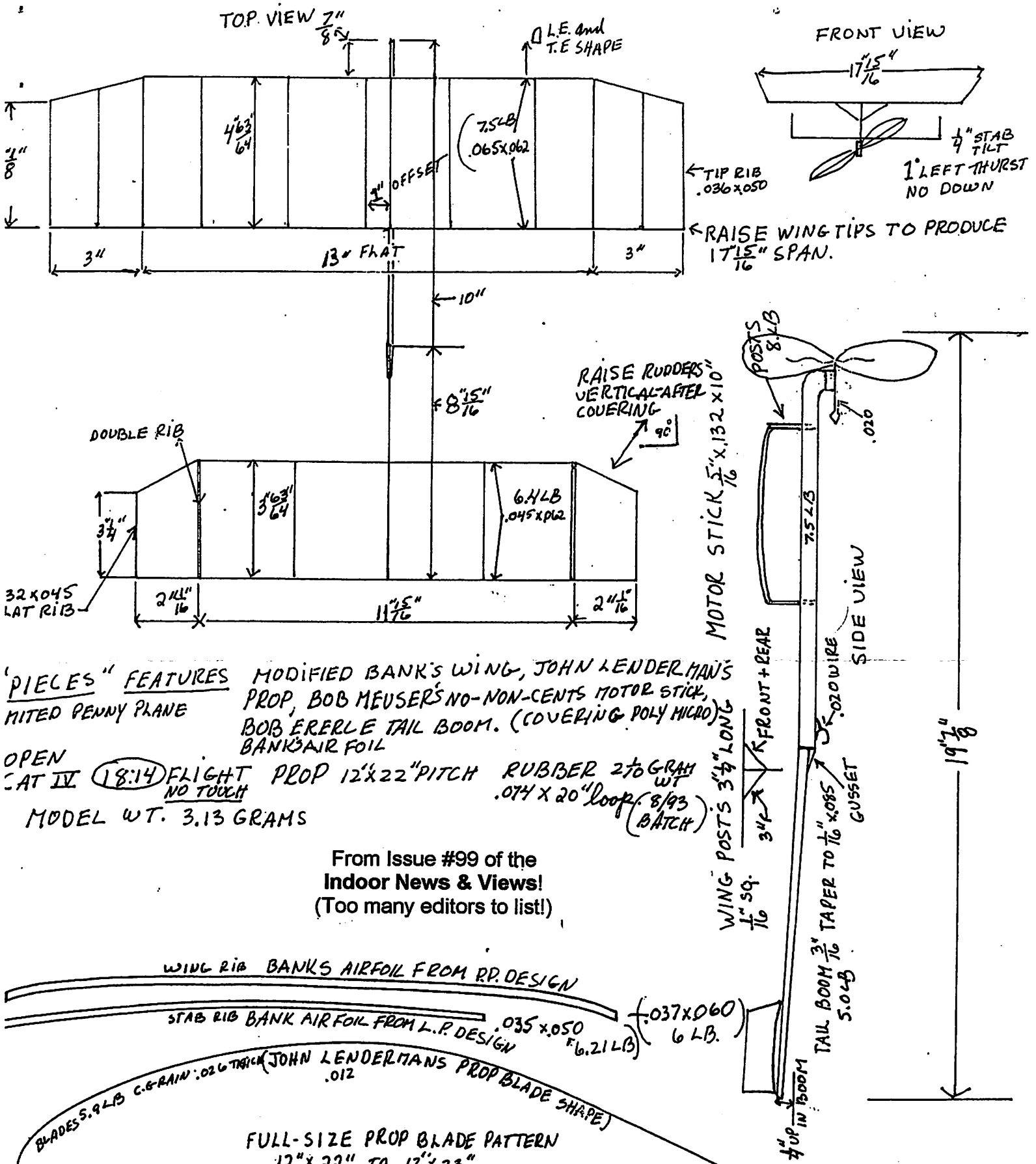
**No wind:** Watch streamers to see center of building hot air column, the rising air circles counterclockwise. Wait for light air movement [indicating] fill. Be very patient as the air rises very slowly. When launching, place the model in the center of the rising air.

**Cold front:** Rising air precedes the rain and the breeze. Good air is still present [even] when rain starts.

**Flapping:** If wind is moderate and ground surface is warm, then flapping a shirt or running or driving under the model will release rising air.

**General rules:** Do not launch if there is a chance that the sun might soon come out of the clouds. Do not fly if other models are launched when a conscientious decision to launch has not been made; rather watch other models' behavior. Most of the time flying a little later will give better results. Concentrate and take in your environment.






"PIECES" FEATURES MODIFIED BANK'S WING, JOHN LENDERMAN'S PROP, BOB MEUSER'S NO-NON-CENTS MOTOR STICK, BOB ERERLE TAIL BOOM. (COVERING POLY MICRO) BANK'S AIR FOIL

MITED PENNY PLANE

OPEN CAT IV (18:14) FLIGHT PROP 12"x22" PITCH RUBBER 2 1/2 GRAM WT .074 x 20" loop (8/93 BATCH)
NO TOUCH

MODEL WT. 3.13 GRAMS

From Issue #99 of the
**Indoor News & Views!**
(Too many editors to list!)




| "PIECES" |
|---|
| LIMITED PENNY PLANE |
| DESIGNED AND DRAWN BY |
| WALTER P. VAN GORDER. |
| CAT. IV 18.14 7-6-96 |
| CAT. III 13:27.33 1-2-2000 |
| CAT. |
| CAT. |
| CAT. |

....West Baden! (cont'd from p.1)
excitement of the participants, we may even get a few new modelers out of all this!! (I brought along a big stack of old *Informers* and the spectators cleaned 'em out before 2pm on Sunday! Hopefully, we'll get a few new Agents out of this, as well.....)

The 'Event' was well thought out. To favor the modelers, the air conditioning was turned off. And to favor the spectators, seating was provided all around the atrium periphery, and they were allowed to walk through the 'staging' areas – to mix with the modelers. They were absolutely fascinated by all the models; the really elegant F1Ds, the nearly elegant EZBs, the smaller Limited Pennyplanes and Manhattan Cabins, the "cute" Peanut Scale models ("does that really fly?"), the Bostonians, Mini-Sticks, No-Cal Scale models, etc. They watched in disbelief at the flights of the Ornithopters – never having seen anything quite like it before. They applauded the flights of a Coconut Scale monster. (Dave Thomson's spiel about the prototype's history during the launch of the model set up the spectators, perfectly!) They were fascinated with the scientific/technical aspects of the sport: the gadgetry – the torquemeters, rubber strippers, winders with digital readouts, the use of exotic materials, the constant recording of data, note-taking, etc. Something for everybody! (I deliberately showed up with uncut bulk rubber, stripping motors as needed, just so the spectators could watch. Then I'd wind and fly, testing as they watched – trying to explain away the mistakes! Even let 'em run my stopwatch to gauge the progress. They loved it!)

And the media showed up! Many regional newspapers and specialty publications did their thang, interviewing various participants (including me!). The video stuff was aired on Fox later that nite. They got an extended shot of me winding, but I hope they edited out my comment when the motor broke!

40 flyers ('demonstrators') showed up with their assortments of models. Quite a few CIA Agents participated: **Les Hallgarth, Roger Staton, Roger Wathen, Roger Lane, Jim Richmond, Jim Miller, Lonnie Kinder, Larry Loucka, Moe Whittemore...** Nearly all our guys brought their wives, and stayed for both days.

Now, on to the flying..... There was a preponderance of F1Ds to watch. I hadn't seen this class of model in a few years, and was surprised to see how *small* the new rules had made them – slightly larger than an Intermediate Stick model (but without the 'stick's aspect ratio possibilities....). Many F1D flyers are afraid that the rules change will turn the event into 'may the best rubber win' contest. But I'm sure that the modelers' innovations will soon have the times back up to the point they once were.

It seemed that the F1D flyers were holding back a bit. Not many ventured too close to the girders. I believe the high time was in the vicinity of 30 minutes – well off the site's old 45-minute- plus efforts. (The fact that the protective plastic over the 'pendant and medallion' was long gone might've made the flyers a tad gunshy, as those appendages had been model eaters in the past ...)

Surprisingly, only one model hung up on the girders – such that it had to be retrieved by the mammoth cherry-picker (100 ft. reach!) after flying had ceased. Dave Aronstein's Manhattan Cabin model was the unfortunate culprit! I thought my FROG was a goner, too, as it went up like a 1/2A, thrashed around in the girders, then hung on it's prop. I didn't even bother to look back as the crowd went *'awww'*, having resigned myself to a cherry-picker session after hours. Then, 15 seconds later I hear applause and cheering. The model had freed itself, and had happily resumed cruising! It dead-sticked from about 60ft, clocking 6:00 when it landed. Not too bad! (Sadly, the NFFS has recently deleted this event from NATS/USIC competition – just when I finally had a competitive model! Such is life....)

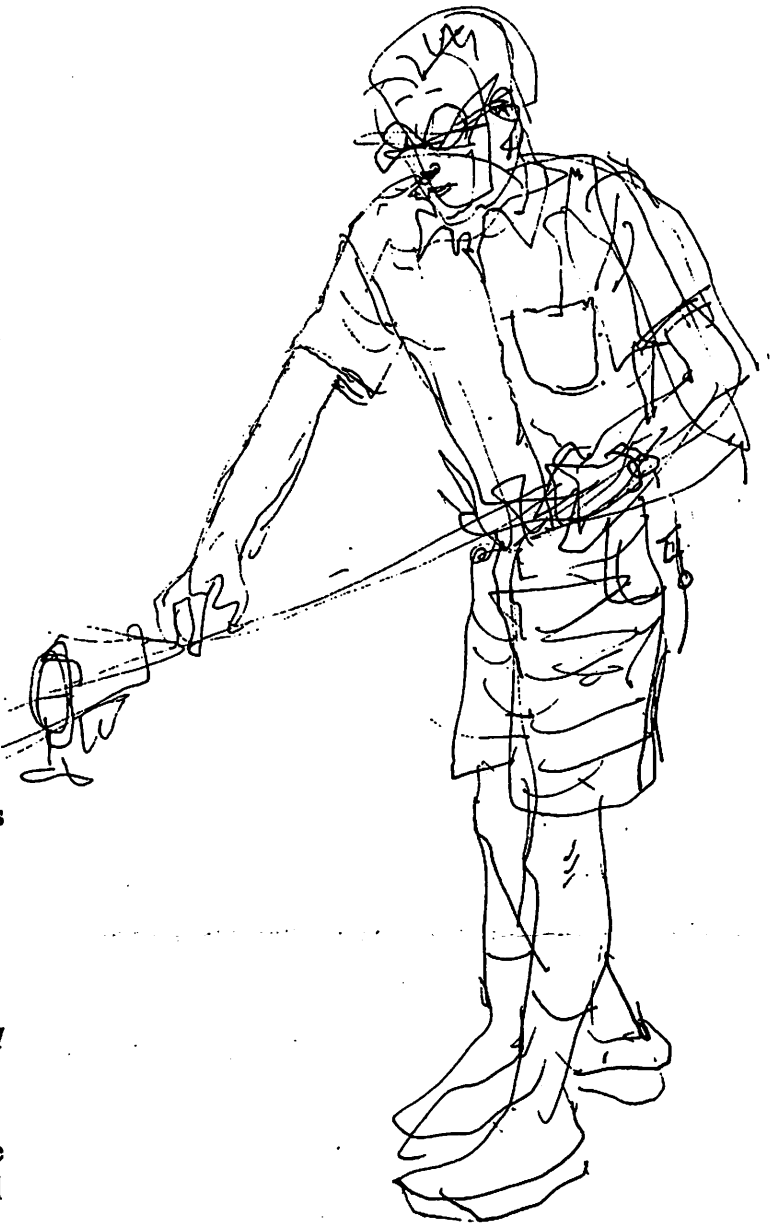
Every couple of hours, Dave Aronstein would put up his mammoth *Antonov* Coconut Scale job. Dave Thomson would first describe the plane's history to the spectators, then the model was ROG'd – to the *oohs* and *aahs* of the crowd! It'd cruise for about 3 ½ minutes, then land and taxi - to great applause. Quite a show!

Jim Miller wowed the crowds with his great-flying Peanut Scale subjects - hard to believe that something that small and "cute" could fly so long and reach the ceiling! And I'm

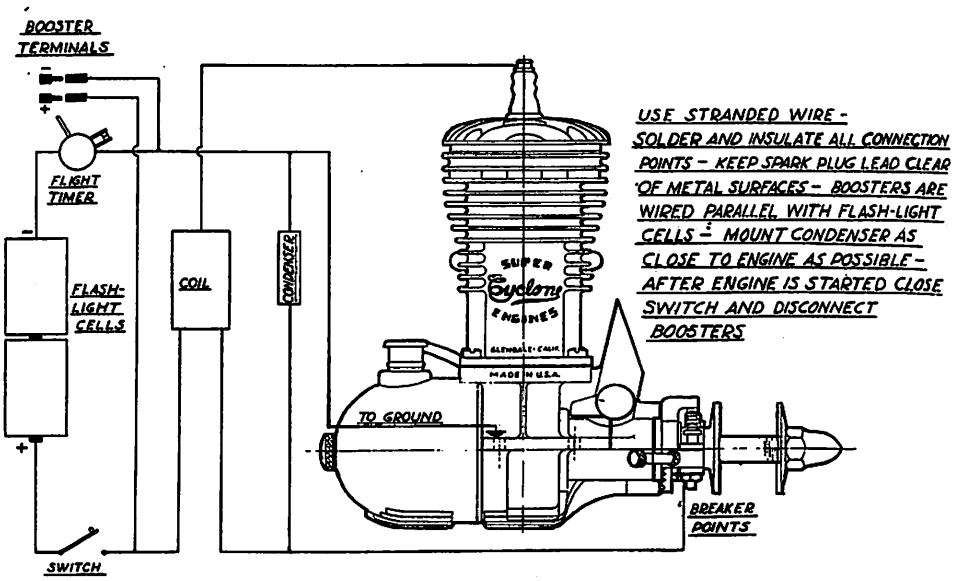
really glad I brought along an IHLG to throw. Seems as though I was the only one that did – although I did see a lo-ce catapult glider being flown. I picked a Category I model so's not to mix it up with the F1Ds and EZBs above 50 ft. It, too, turned out to be a hit with the crowd. Besides, it was a diversion from all the rubber stuff going on and an incentive to get more people involved in the glider-building classes going on across the atrium.

Most had never seen a "toy" glider fly that slowly before. It was also a great subject to demonstrate the application of the great variety of materials we routinely use; balsa, Rohacell foam, carbon fibre, boron filament, various adhesives, etc. And it was also a great subject for the spectators to hold & feel – especially the kids! Many were ready to go out and buy one – and most wanted to know where kits like it could be found. (I gave them some leads – as did all the other modelers when queried by the spectators....)

Again, many thanks to Walt VanGorder for his persistence in making it possible for modelers to fly in the dome once again – with Mr. Cook's influence & blessings, of course!! Apparently things went well during *"Fly Me To The Moon"*. It looks like there may be more to come! During a casual conversation with Mr. Cook after the show, he mentioned that *he'd like to get modelers back into the dome for a contest*! He even offered to temporarily remove the model-hungry pendant and medallion – to make the site more desirable to the flyers! How 'bout that! I'll keep y'all posted on developments. - MJW



*SUPER CYCLONE ENGINE WIRING DIAGRAM*



# Setting Up a Seelig Timer
## For
# AMA Category III Gas
## By
# Dick Covalt

The following is part #5 of a series of individual steps that can be utilized to improve the function and reliability of Seelig 4-function AMA Gas timers. Not only the "how", but the "why" is explained. Among the topics included is an effective method of cleaning, the best lubricant of those tested, and lube application. Some of which is somewhat different from the typical, and likely somewhat controversial.

### A FEW COMMENTS ON THE TWO TYPES OF LARGE SEELIG GAS TIMERS

Seelig timers manufactured prior to the early 1990s were the "fan type" which uses air friction to control the running speed. The fan type timers are extremely sensitive to cleanliness, the type of lube, temperature (primarily a function of the changing viscosity of the lube), and engine vibration (somewhat related to the amount of wear on the vane bearings.) Even so, with all things being proper (primarily the lube) and equal (especially the temperature) the repeatability over several days of a vane type timer is within ± 1.5%. However, even the best lube we could identify, which has a minimal change in viscosity with temperature change, can yield a big change in the DT time over a typical summer day temperature change. A three-minute DT set at 75F will decrease approximately 10 seconds to 170 seconds at 95F. Conversely, a three-minute DT at 75F will increase approximately 45 seconds to 225 seconds at 35F.

The Seelig "star gear & rocker" escapement type timer was introduced about 1991, with the obvious objective of making the timer more robust. With the "rocker" replacing the high-speed fan, the fan bearing wear problem has certainly been solved. And since both the high speed, friction sensitive gears have been replaced with the escapement mechanism the timer is much more tolerant of lube viscosity and viscosity change with temperature. Using the same best lube as above, the repeatability, over several days for all temperatures between 35 and 95F is vastly improved. A three-minute DT time setting at 75F, can be reproduced to within ±1.5% from 35 to 95F. This is indeed a significant improvement worthy of deep consideration. Further experience is required to make a definitive judgment on the sensitivity to engine RPM and vibration, but the impression gathered from 3 years of mixed use of the two types of timers doesn't indicate a noticeable difference.

### LUBE SELECTION

Flying in 30 to 40F temperatures at the 2000 King Orange produced an abundance of Seelig timer variation that finally convinced us that the typical recommended lubricants needed some testing. A bench test was devised using a three minute DT that included 13 runs at approximately 75F, 1 run at approximately 35F, and 1 run at approximately 95F, over a period of 5 – 6 days. A brand new "fan type" timer was utilized for the primary testing with various used fan types and a new "star gear & rocker" type for verification. The following is the list of lubricants tested:

Dukie's Oil (Outers Gun Lube)
Eezox Gun Lube
Labelle #108
Hob-E-Lube Ultra Lite # HL653
Nye Synthetic Clock Oil
Nye Fulcrum Oil
Anchor Clock Oil
Moebius 9010/2 Synthetic Clock Oil
Marvel Mystery Oil
Briggs & Stratton Ashless 2-Cycle Oil
Labelle #102.

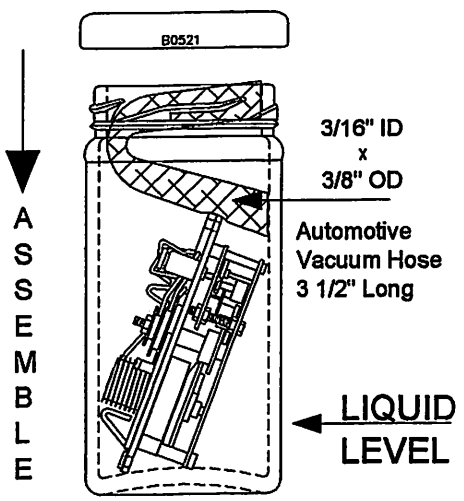
Outers Gun Lube appears to contain a surfactant (explained below), which causes the lubrication properties to dissipate quickly. The rest except for two are too viscous, or have a high viscosity change with temperature, or have volatiles that evaporate over time. The two best of the lubes which give nearly identical results are Hob-E-Lube Ultra-Lite Oil # HL653 and Nye Synthetic Clock Oil. None of the others are even close to these two. Hob-E-Lube is commonly available at your neighborhood model train shop, while the Nye Synthetic Clock Oil can be found at **www.ofrei.com** or other clock supply web sites on the internet. If you think some other lube that sounds the same will work as well, forget it, lubricants seem to be a black art and are very time consuming to sort out.

## CLEANING AND LUBING A SEELIG TIMER

This is the key to competing successfully using a Seelig timer, especially with the 4-second engine run in AMA Category III Gas. The older "fan type" units are much more sensitive than the newer "star gear & rocker" type, but each requires rigorous cleaning and meticulous lubing for repeatable performance. The following lists the individual steps:

1) Solvent cleaning with timer running
2) Blow off solvent with compressed air
3) Dip in "home brew" rust preventative
4) Blow off rust preventative carrier liquid
5) Heat to 140F and let cool
7) Lube the bearings and spring **only**
8) Wind and check time.

**WARNING:** Do not clean an assembled timer with an ultrasonic cleaner. This is the sure way to wear out your timer in a matter of seconds. The ultrasonic cleaning action scrubs away the lube on the bearings and gears almost immediately and vibrates metal against metal in the bearings and gear mesh causing highly accelerated wear. If you take a timer apart, by all means clean the parts ultrasonically for best results. No wear damage occurs during ultrasonic cleaning when wearing surfaces are not touching.




DYNASTY 5.28 OZ.
"Brown Gravy Sauce"
Glass Bottle

### 1) Solvent Cleaning:

The illustration above shows the apparatus we use for solvent cleaning a Seelig timer. The bottle contained a "brown gravy sauce" for Chinese type food preparation, and is available in grocery stores in the Midwest. Add about ¼" of Tetrachloroethylene 127-18-4 to the bottle. This solvent is a cleaning agent used in the dry cleaning industry, which is reported to cause cancer in rats, and should be treated with respect. Namely, don't breath the vapors, don't get it on your skin, don't ingest, and don't discard it on Mother Earth or down the drain! A common source is auto supply stores - Trade Name: CRC Lectra-Motive Electric Parts Cleaner – Non-Flammable or CRC Brakleen – Brake Parts Cleaner – Non-Flammable.

Insert a wound and running Seelig timer into the bottle as shown. Secure timer from rattling around by using rubber hose and screw on the cap. Vigorously shake for 15 seconds. Tilt the bottle sideways such that the timer is immersed the very minimum and observe the residue in the liquid. If the cleaning solvent is very dirty dump it into a storage container, add more solvent and clean again. When finished pull out timer and shut it off.

**2) Blow Off Solvent:** The solvent must be dried to insure the effectiveness of subsequent application of rust preventative. Compressed air applied with a vented safety nozzle does the work best. Just don't get carried away with air volume and pressure, and use safety glasses for eye protection. When blow drying we leave the timer run.

**3) Apply "home brew" Rust Preventative & Blow Off Carrier Liquid:** You have probably heard that WD-40 should not be applied to a Seelig timer because it gums it up. That's just part of the story, it can also play a part in the sulfation (copper corrosion) of the brass parts. Also, in general, products that are claimed to be "water displacement", "penetrating", or "rust preventative" have surfactants (SURFace ACTive AgeNTS) added which can and will affect the surface tension of any lubricants applied. So using any of the multitudes of these spray lube/rust preventative products can create unexpected results. In other words don't do it.

Parts of the timer (clockwork spring, wire bales & hinges, & gear shafts) need to be protected from corrosion. For this we use an old "folk" rust preventative that does not affect the lube. This rust preventative is paraffin dissolved in mineral spirits. To make your own put 1 ounce of common grocery store bought paraffin into 4 ounces by weight of

mineral spirits (Paint Thinner - Stoddard Solvent CAS# 8052-41-3 recommended - PARKS is a brand name). We use a short wide mouth glass bottle as a container. This bottle is about 3 ¼" in diameter and 3 inches tall and can be found in a grocery store containing Tostitos Salsa. Depending on the temperature, it will take a day or so for the paraffin to dissolve in the solvent.

This rust preventative also serves to lubricate the gear teeth. Although the gear teeth are brass running against steel, and tend to have reasonable wear characteristics even when dry, they seem to wear much less with a lubricating film. Over the years we have noted that the amount of brass particles in the used cleaning fluid is reduced with the use of a rust preventative. Putting any kind of lubricating oil on the gear teeth will degrade the accuracy of the timer for several flights and attract foreign material (dirt) to the gear teeth. At one time we lubed the gears with oil and had a "break-in" schedule to get the timer back to normal. This is unnecessary with mineral spirits and paraffin.

Dip the timer in the mineral spirits and paraffin solution and blow off with compressed air. To make sure the mineral spirits are completely eliminated from the timer use a modeler's heat gun or hair dryer to "blow dry". Don't heat the timer above 140F. If you try to hold something at 140F it will hurt but not burn your fingers.

**Lubricating the Timer:** As a rule of thumb the lube applicator used should be .020 in diameter or less for best results. Just remember that on a Seelig timer too much lube can be as bad as none from the repeat-ability standpoint. We like a CA applicator, which is similar to Hobbico brand CA applicator tips (Tower Hobbies part# HCAR3780.) Doug Galbreath also provides one like this with his Dukie's Oil. Also available as a CA applicator is a 1 cc syringe with a .018 hypodermic needle that works well. Or you can do as the clock repairmen do and use a .015 piece of music wire and dip in the oil a given depth to control the amount of lube transferred.

Start with turning the timer upside down and putting a small amount of lube on the hole at each of the seven bearings. Turn on the timer for 5 seconds or so to work the oil into the bearing and then blot the excess oil from the bearings with a paper towel. Turn the timer to its side and proceed to lube the 5 intermediate bearing plate bearings. A 2X lighted magnifier is a big help here. Its tough to get the lube applicator in there, but deposit a small amount of oil on the shaft and bearing edge. You can't wipe off the excess oil here so its important to deposit only enough to wet the shaft and bearing. Next lube the camshaft from the inside of the front plate, and the DT scroll shaft from either the inside or outside depending on where there is a gap. Removing the DT scroll and applying lube from the top may be required for some timers. The spring also needs some oil in addition to the rust preventative. With the timer wound or nearly fully wound put one drop of oil on the edge of the spring from either side. The important thing here is not to get so much oil on the spring that it will run off contaminating the gear train. And lastly put some lube on the start-stop plunger.

**Checking the Time:** Good practice in the care and feeding of a Seelig calls for checking the timer operation before and after cleaning and lubrication. The standard method we use is to check the time, with a full wind, of the first1/2 revolution of the engine shut down cam. This would be the run time starting with the cam notch at 12:00 o'clock and the shut down bale tripping at the 6:00 o'clock position. At the first check out of a new timer we scribe this time on the back plate of the timer as the number of seconds slash 12 (i.e. - 6.3 / 12.) The 12 stands for the 12 division marks for the 1/2 revolution timed. Used as a future reference the cleaning and lubing effectiveness, and/or overall timer condition can be readily gauged.

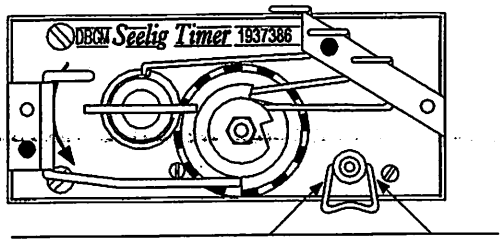
## EASING THE START FUNCTION ON A SEELIG TIMER

The F1C flyers tend to prefer a remote thumb toggle that is released as the model is launched to start the Seelig timer run. We have seen several examples of this type of timer start in the literature over the last twenty years. They are quite effective, but are a fairly complex device to build unless you have a lathe and mill available or have lots of dough to have someone else to do it for you.

When we started flying "bunt" type AMA ships a two handed launch was developed that has seemed to work well over time. For this launch, the left hand is used to grasp the fuselage at the Seelig timer location with the thumb over the timer start bale. The right hand is used to grasp the fuselage just behind the pylon. The

ship is then launched while being held vertical about 60 degrees off to the right side. The ship pulling away from the left hand causes the thumb to trip the timer.

In order to limit the exposure to the engine noise, thrown props, and anything else that can go wrong with an engine turning 25,000 RPM or better, fuel for only about a 12 second total engine run is carried. If a needle adjustment is required, it is made and the engine is shut down for refueling. We will typically abort an intended launch once every 6 or 7 runs.
As those of you who fly auto surface aircraft know, each time the surfaces are set and the lines hooked, there is a probability of error. So releasing the timer for engine shutdown increases the probably of error because it requires another setup. For that reason we never turn on the timer until the instant of launch. Obviously, a foolproof method of turning on the timer is required. Using the following method of easing the timer start has worked for us without fail for over 20 years.




Grasp bale on either side of plunger post with 2 pair of needle nose pliers and spread the bale until it detaches from the post.

Install silicone tubing as shown below and reinstall wire bale on timer



Silicone Tubing

11/64" OD - 4.4 mm

5/64" ID - 2.0 mm

Sonictronics #225 Silicon Tubing - Small

This method has worked on all Seelig timers to date without modification. But recently, when inspecting a new Seelig just received by another modeler it was noted the plunger over-travel was only about one-half what has been typical in the past. The plunger over-travel is the additional distance the plunger can be depressed when the wire bale is in the shut-off position. That distance should be one-millimeter minimum, one and one-half millimeter maximum for the best operation. If the minimum plunger over-travel is less than one millimeter some modification will be required. Since we haven't seen this problem previously a solution, unfortunately, has not yet been devised.

There will be one more Seelig article for the CIA INFORMER about mid-winter covering the following subjects:
Speeding up a Seelig for Cat III,
Comments and/or ideas received,
Clarification or correction of any errors discovered.



# Some rubber stuff – courtesy of Chris Matsuno.....

## Washing rubber

"Surely nobody uses unwashed rubber?" wrote Russell Peers. In fact a third of those who responded to the survey said they did not wash their rubber. One informant claimed to have a technical reason for not doing it ("...the technical reason is that I'm just too lazy...") whilst another made the point that "FAI rubber is always clean, but washing may introduce other contaminants." A third informant who always washed Pirelli has never washed either Tan I or Tan II - "...there's only a minimum of talc on it, isn't there?" - and two informants said that although they did wash the rubber, they were not convinced that the process and effort was of major importance, or indeed mattered at all. One informant said that he had previously washed rubber but had found it made no difference and had therefore stopped, and another was honest enough to admit that he washed it "unless I'm short of time".

The majority who washed their rubber did so primarily to remove the powder which, according to one informant, "absorbs and degrades the lubricant". Others felt that the powder must be abrasive, and it was also noted that it must have a weight, however small.

Soaps of various types and strengths were used for the washing (pure soap flakes, liquid hand soap, washing up liquid) and the majority dried the rubber with a towel, though a few hung it up to dry or left it on newspapers. Interestingly, only two informants specifically mentioned rinsing the rubber, but this may be because it was taken for granted and is done by everyone. One informant removed the talc simply by pulling the rubber gently through a wet cloth, without any use of soap.

## Lubrication

About half the respondents used silicon grease or oil (equal numbers using each) whilst the remainder opted for a traditional soft soap and glycerine mix. One informant had returned to soft soap and glycerine having "found no measurable improvement with silicon and (because) soft soap is so much more user friendly". A second informant used green soft soap and glycerine "if I can lube and weigh the motors the day prior to the competition, but I use silicon if the motors are weighed and lubed in advance... soft soap tends to dry out whereas silicon doesn't".

One flyer said that he used 50%/50% soft soap and glycerine in this country but castor oil in higher temperatures "where the soft soap/glycerine seems to evaporate". A similar point was made by a third informant: "Soft soap dries out so I don't use it unless I can check the before/after weight of the motor. I saw a British competitor add lube at the '98 Stonehenge Cup. How could he know if the motor was legal? I use silicon oil - it is very good and does not dry out".

Another fan of silicon oil described it as "the most slippery substance, difficult to remove, and light. And it lasts". A potential problem with silicon was mentioned by one informant: "I think silicon is better but it affects my eyes and if hard to get off your hands."

One flyer used castor oil (and never had any problem with it) on the grounds that "I prefer natural substances...besides which I bought five litres of high grade oil a few years ago and I'm still using it". Challenging this view, another flyer has now used Dow Corning silicon grease for some seven years, having "previously used castor oil, which I now think rots the rubber over time".

Informants were next asked whether they lube their rubber before or after making up the motors. Only about a quarter lube first.

"I cut to weight dry, at approximately 1.5 gms under 35 gms. Lube is added and the motor is then weighed again. If it's correct, then the ends are joined and the motor stranded up."

"I lube before to guarantee a finished motor weighing 35 gms. The rubber is initially weighed and cut, without lube, at 34.9 gms. It is lubed, then cut to 35 gms and tied."

Other reasons for lubing first were that "I can ensure that the motor is fully covered and maybe that the lube is well rubbed in" and, from a separate informant, that "it aids knotting and there's less risk of fraying when pulling the knots tight." For the majority however, motors were lubed after or during making up, with a suitable allowance being made for the weight of the lubricant.

"Motors are only lubed after stranding. The shorter length makes it easier to avoid contamination, dust and bits and pieces..."

"It's just less messy..."

"It's so much easier to tie the knots..."

One competitor had a more complex approach. "I wash, dry and lube, then tie. I run in the motor after a month, so the lube has had time to soak in. After another week I cut out the knot, and re-knot the motor. This reduces the chance of failure during a contest."

The assumption throughout this section of the data seemed to be that motors are a single loop of rubber, suitably stranded. One informant, however, had a different approach. Mike Richardson does not make up motors into a loop. "Instead I tie a figure of eight loop at both ends of the rubber. This way motors can easily be made up of odd strands - 17 or 19 for example - to suit the torque/turns required. All knots are tied with lubricated rubber to reduce the chance of the edges fraying. Knots are then 'locked' by the application of french chalk or talcum powder to prevent them coming undone. It seems to work well...".



## Tri County Aero's 26th Annual

# Mid America Free Flight Champs

### National Cup points available

# Oct. 6th & 7th

## Mid America Air Center  Lawrenceville IL.

**Saturday, 9:00 AM – 5:00 PM**  **Sunday, 9:00 AM – 4:00 PM**  Field available Friday for practice

1/2a Gas----A Gas----B Gas----C gas

1/2a Nostalgia---- A Nostalgia--- B Nostalgia--- C Nostalgia

HLG----Hand held Catapult glider---- A1/A2 Glider

OT Rubber stick---- OT Rubber Cabin---- Pre 50 Wakefield

Mulvihill--- Coupe--- P30 Rubber----Wakefield----Moffett Rubber

OT Gas combined

**All events may be flown either day**
**However once you put up the first flight of an event either official or attempt you must complete the event on that day**

Entry fee:
$10 first event ---- $3 all others----Max fee $30 ----**Juniors $2 per event**

Contact: Frank Roales  (812) 882-4776  flroales@bestonline.net

## 2001 AREA F.F. SCHEDULE

| | | | |
|---|---|---|---|
| Jun 30 - Jul 1 | | Florida State FF Meet | Palm Bay, FL |
| Jul 29 - Aug 2 | | NFFS/AMA FF NATS | Muncie, IN |
| Aug | 17-19 | Empire States FF Championships | Geneseo, NY |
| | 18-19 | Dixie FF NATS | Palm Bay, FL |
| | 25-26 | Aeronuts M'western States FF Champs | Muncie, IN |
| Sep | 1-2 | COFFC FF Contest | Muncie, IN |
| | 22-23 | Flying Aces Midwest Nationals | Muncie, IN |
| | 28-30 | CIA 29th Annual FF Contest | Muncie, IN |
| Oct | 1-5 | SAM Champs | Las Vegas, NV |
| | 6-7 | Tri-County Aero Contest | Lawrenceville, IL |
| | 6-8 | Gathering Of Eagles | Pensacola, FL |
| Dec | 28-30 | 48th King Orange International | Palm Bay, FL |

The **INFORMER**

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Vice President
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