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DISPATCH JANUARY 2013

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Schedule of Flying Events

Date	Day	Location	Time	Notes
Jan 6*	Sun.	Osawatomie	8:30 AM - ?	Indoor
Jan 19	Sat.	Beatrice, NE	8:00 AM - 4:00 PM	Indoor
Jan 20*	Sun.	Ozanam	8:30 AM - 12 PM	Indoor
Feb. 3*	Sun.	Osawatomie	8:30 AM - ?	Indoor
Feb. 17*	Sun.	Ozanam	8:30 AM - 12 PM	Indoor
March 3*	Sun.	Osawatomie	8:30 AM - ?	Indoor
March 17*	Sun.	Ozanam	8:30 AM - 12 PM	Indoor
April 6*	**Sat.**	**Osawatomie**	**8:30 AM - 4 PM**	**HAFFA Annual Indoor Contest**
April 21*	Sun.	Ozanam	8:30 AM - 12 PM	Indoor
May 19*	Sun.	Ozanam	8:30 AM - 12 PM	Indoor

***** indicates official HAFFA event/activity

HAFFA Indoor Site Locations:

Ozanam Gymnasium
421 E. 137th St.
Kansas City, MO

Kansas City College & Bible School
7401 Metcalf
Overland Park, KS

Osawatomie City Auditorium
425 Main St.
Osawatomie, KS

For Outdoor flying information contact Mike Basta (913-492-4830)
For Indoor flying information contact Emil Schutzel (913-341-7788)

1. Osawatomie reserves the right to cancel our reservation if they get a paying customer.

INDOOR FLYING SITE FEE UPDATE:

This is a reminder that our indoor flying fee is $10/person.

HAFFA Indoor Championship Points Standings

Name	Dec.	Jan.	Feb.	March	April	May	**Total**
Emil Schutzel	4						**4**
Jeff Renz	3						**3**
Tem Johnson	2						**2**
Gary Hodson	2						**2**
Dana Field	1						**1**

Note: Notify Gary Hodson of any scoring discrepancies

2013 AMA Indoor FF Nats / NFFS USIC by John Kagan

University of Illinois Armory, Champaign, IL

Equipment drop-off: Aug 6th, 6pm - 9pm

Contest Aug 7th thru 10th, 7am - 9pm (out of the building by 10pm)

Aug 11th, 7am - 6pm

Schedule to follow

Tables and chairs available: cost will be shown on entry form

Close parking available Wed-Fri before 5pm - $19/day
After 5pm and on weekend - free

Free parking about 10 minute walk away

There will be air-conditioned classrooms available for eating (no food on the track) and cooling off.

We plan to have helium available, but this is TBD based on the helium shortage.

Restaurant, hotel, airline, directions, and other information available here: http://tinyurl.com/bxv8qde

Every major Indoor site that I know of was obtained through someone who had an inside contact, and who did that hard work of building the relationship.

In the case of the Univ. of Illinois Armory and our most recent access, including the upcoming Nats, that person was Mike Kirda. Thanks for your efforts Mike! This wouldn't have happened without you.

USIC 2013

Built in 1914 the William Carbys Zimmerman designed Armory replaced the old "Military Drill Hall", now known as H.E. Kenney Gymnasium Annex. When completed the Armory was the largest free-span, no center support system, structure in the world. The "drill hall" now referred to as the main floor, measures 200 feet by 400 feet with a ceiling height of 98 feet.



Round Valley Dome Contest, Springerville, AZ

Steve Riley has provided some early, tentative info for the Round Valley Dome contest in Eagar/Springerville, AZ
1st weekend in April, 2013
Friday practice day (maybe a half day)
Sat/Sun 8am - 8pm

This is a fun site - start carving out some time to attend.



A Braced EZB Challenge: Glory, Fun, and Fortune by Kang Lee

Rules:

This challenge allows the use of wood bracing to be added to the solid wood motor stick of the EZB. The intent of this proposal is to remove the frustration of the weak motor stick so the EZB flier can focus on other aspects required for advanced EZB flying.

1. For any braced EZB model that passes the 30-minute mark, the flier will be added to the 30-minute EZB Club of "A History of EZB Flights." You will also receive $100 if your model weighs 0.6 g or above and $75 if your model weighs less than 0.6 g. (One prize per person per model weight class.) Note: if you have already made a previous 30-minute EZB flight, you must build and fly a new model to qualify for the challenge.

2. The flier who has the highest time in the 0.6g or more weight class will receive an additional $250 -- his flight time must be 31:00 or more. The flier who has the highest time in the sub 0.6g class will also receive an additional $250 -- his flight time must be 32:30 or more.

3. If your EZB breaks an AMA Open record (Cat I, II, III, IV), you will be added to the Record Club of "A History of EZB Flights." In addition, you will receive $100. (One prize per person, per Category)

4. All flights must be at an AMA-sanctioned (or FAI-sanctioned) contest or record trial. Processing of model by contest director is required. Photos of motor stick bracing must be provided. You must announce your flight attempt to me 7 days prior to your attempt.

5. Models, bracing techniques, fliers, etc. will all be documented in an article to be submitted to Free Flight Quarterly. Your glory will be widely known.

6. The Braced EZB Challenge starts December 15, 2012 and finishes September 30, 2013.

All rules are subject to change by me at any time.

Background: The EZB event was originally introduced in 1961 as an entry level event, a "dumbed down" version of the many complex microfilm and paper models flown at that time. It quickly gained popularity because it was easier and quicker to

build. At first, the EZB model weighed around 2.0 g, and it was a sturdy model. Competition pressure would quickly bring the weight down. In 1968, Jim Richmond's Kokomo Bomber EZB weighed a svelt 0.74g. Model weights remained in the 0.75 g to 1.2 g range for the next 25 years. In the mid 1990's Larry Coslick brought down the EZB weight to nearly 0.5 g. Throughout the 1990's, the EZB was often the most popular event flown at USIC, with nearly 100 contestants.

Today, the EZB is not a popular event. It is one of the least popular events. In order to be competitive at the national level, an EZB must weigh 0.45 g or less. Larry Coslick, Jim Richmond, Max Zaluska, and Yuan Kang Lee have successfully flown 0.3 g EZBs at national contests. Recently, the AMA Cat IV record was set using a 0.24 g EZB.

The EZB model becomes more challenging to build and fly when it is around 0.5g and below. Many can't or decide not to build so light. But perhaps a bigger challenge is that the light EZB is often plagued by a motor stick that is not stiff enough and suffers under higher torque launch conditions. Instead of being a positive challenge, the weak motor stick becomes a source of frustration and a barrier to continued effort.

By rule, the EZB motor stick must be solid wood, which means bracing is not allowed. This rule makes the EZB motor stick easy to build. But there is a caveat. You can't just use any motor stick you cut up -- you have to go through many candidate sticks before you find one light and strong enough. We have heard of the travails of many EZB fliers who have gone through hundreds of motor sticks before finding one that is good enough.

In contrast, an expert event like F1D uses a rolled motor tube for light weight, and the use of boron and bracing for added stiffness. The resulting motor stick is light and incredibly stiff. I have never heard of a F1D builder who has to go through hundreds of rolled tubes to find one that is stiff enough. In fact, almost every rolled tube is sufficiently stiff once it is reinforced with boron and tightened with bracing.

This challenge allows the use of wood bracing to be added to the solid wood motor stick of the EZB. The intent is to remove the frustration of the weak motor stick so the EZB flier can focus on other aspects required for advanced EZB flying.

I would also like to add the following flight time targets for lower ceilings:

1. Cat I: 20:00 or higher
2. Cat II: 22:00 or higher
3. Cat III: 27:00 or higher

Each of these achievements will net $50 and be added to the Notable Flights section of "A History of EZB Flights".

This way, the EZB challenge can be attempted anywhere, not just in tall Cat IV sites like Lakehurst.

That's a good point. I'm going to provide a form for the flier that explains the situation to the CD.

4. All flights must be at an AMA-sanctioned (or FAI-sanctioned) contest or record trial. Processing of model by contest director is required. Photos of motor stick bracing must be provided. You must announce your flight attempt to me 7 days prior to your attempt.

Thanks Kang, let's hope this challenge revitalizes ezb beyond the challenge date. Would like to point out that #4 above could be an awkward situation to an uninformed CD. If someone presents to him/her a braced motorstick EZB (not legal per AMA) and asks to be "processed", the flyer got some 'splainin to do....
Mark Bennet

In terms of bracing material, I say, "Go for it." Use whatever you want. In addition, you may use boron, carbon, or anything you like to reinforce your motor stick.

Same goes for the tail boom.

I believe this will remove the requirement that only the best wood be used. You can use just enough wood to keep the stick and boom light, and you can strengthen it any way you like.

As for those who would prefer a rolled motor stick or boom, I also say, "Go for it." I think a solid motor stick will take much less time to build, but you can decide for yourself.

Now, don't ask for a built-up prop. Solid balsa props only -- and no VP!

TEN-STEP TRIMMING PROCESS FOR RUBBER MODELS

by John Koptonak

As published in the March/April and May/June 2005 Issue of The Flying Aces Club News,
"Colonel" Lin Reichel, CinC

Trimming This is a topic that gets beaten to death and I'm sure that the method presented here will open a flood of comments. I will say this method has worked for me quite well for some time and allowed me to save many a model from trimming disaster. It can be used for any type of model from No-Cal to Jumbo Scale. (Ed Note: As well as endurance models of all types) The important thing to remember is not to skip any steps and to follow them carefully and patiently. Do not go on to the next step until you have met the requirements of that step. THERE ARE NO SHORTCUTS BUT THIS METHOD DOES WORK!

There are two concerns with trimming that must be satisfied; CG and thrust line. The CG of the model must be located at the right location to provide stable flight and provide maximum aerodynamic efficiency. A CG that's too far forward spells loss of aerodynamic efficiency. A CG that's too far aft spells stability problems. The thrust line determines how the model will be pulled (or pushed) through the air. Many modelers try to juggle each of these two problems at the same time causing unnecessary trimming confusion. The trimming procedure presented separates the two variables and treats them individually. You first get the most efficient "glider" you can with compromises allowed for free flight stability, then power the "glider" and adjust the thrust line. It's actually nothing new. I hear it's basically the same method utilized by rubber scale modeler Mike Midkiff. This does have a few differences from other methods I've seen and allows a logical progression towards a trimmed, stable flying model.

We will assume that your model has been built straight and true. Take the time to check this. I won't go into details on how to do this, but make sure you have no warps. This method of trimming also assumes the model has the right amount of dihedral and that all flying surfaces are of adequate size but does have some leeway to compensate for this since it checks stability. Your model will also need a way to adjust the stabilizer incidence. Here are the steps for trimming. Each will be discussed in the text that follows.

No-Nonsense Trimming

1. Locate CG.
2. Balance model without prop and motor to locate CG.
3. Glide model.
4. Adjust stabilizer for a smooth glide
5. Check stability by launching into slight dive and climb.
6. Readjust CG for stability if necessary.
7. Mark location of the new CG (if changed in step 6).
8. Install prop/motor and rebalance to established CG.

9. Test fly under power.
10. Adjust flight pattern with thrust line.

There you have it. Ten easy steps to successful free flight. Perform each step and your model will fly. Let's look at each step in detail.

1. Locate CG If the plan you are using shows a CG location, then start there. If the CG location is not known, then guesstimate the CG. Thirty percent of wing chord for a constant chord wing is a good place to start. Step 6 may adjust this later.

2. Balance model w/o prop and motor to located CG What?! Without the prop. You gotta be kidding! Nope. Leave the prop off! Have you ever seen people trying to test glide a ship with the prop on? One toss goes into a stall, one toss goes into a dive, next toss looks OK. The problem is that it's difficult to get a free wheeler up to a consistent speed that would be similar to when the model is flying at a consistent glide speed. One toss might have too much RPMs which means the ship is being launched at too great a speed to give realistic, usable results. The model will be much easier to glide without the prop. Oh, I hear you theorists out there, the spinning freewheeling prop contributes to drag so will affect the glide. Waa, waa, waa. DON'T WORRY ABOUT IT! Glide the ship at best L/D and when the prop is added it will bring the ship into the best sink rate portion of the polar curve (that was for all you theorists, the rest of you who just want to get your models to fly just ignore that). So leave the prop off for now so we can establish CG/decalage. Remember? One thing at a time!

3. Glide Model Of course this is the easy part. Now you have a glider so glide it! Launch the model smoothly towards an imaginary spot somewhere out in front of you on the floor. If you're working on a small, light model such as a No-Calory Peanut, this can be done right in your living room (if the wife will allow it...and don't hit the dog). The trick is to launch the model at it's glide speed. Do it a number of times to get the hang of it and to get some usable information on the gliding flight characteristics. If the model is turning then you have a warp! Slight amounts of turn are OK but hard turns must be tracked back to a warp and eliminated.

4. Adjust stab for smooth glide At this point the glide is adjusted using only the stab. DO NOT CHANGE THE CG BY ADDING OR REMOVING CLAY! The most efficient method for stab adjustment is to re-glue the stab with positive or negative incidence. Cement-type glues work great for this since the joint can be unglued with solvent and re-glued. Adjustable elevators can be used, but produce more drag. Take your time to obtain a smooth but not too floaty glide (best L/D not best sink rate theorists).

5. Check stability by launching into slight dive and slight climb This is the tricky step that requires some patience. If you are using a CG from a plan location then you might be able to skip this step, but it's worth checking. This idea came from flying R/C sailplanes. A neutrally stable sailplane can be put in a slight dive and will remain in that dive at constant speed. An unstable

sailplane when put in a dive will not stay in the dive, but will return to it's original attitude. This is all based on center of lift and CG location. I'm not about to attempt a lesson in aerodynamics (theorists) but I hope the idea comes across for these trimming purposes. Ideally, for maximum performance, neutral stability may not be the best way to go. Some amount of stability is desired because of the possibility of being upset during free flight (i.e.: air, ceiling, wall, other models, etc.) The closer you get to neutral stability, the more you'll get out of your model, but you'll sacrifice this stability. So glide your model and experiment with dives. The model should gently pull out of a dive. If forced into a dive, it should easily recover. If it doesn't, then it's time to move the CG!

6. Readjust CG location for stability if necessary. For a model that seems to stay in a dive add nose weight and negative stab incidence (leading edge lower). For a model that acts like a falling leaf or is overly stable (pulls out from a hard dive) remove nose weight and add positive stab incidence (leading edge higher). Continue gliding and adjusting until satisfactory results are obtained. Avoid TOO much stability.

7. Mark location of New CG (if changed in step 6) Easy enough. This is your permanent CG for your model! From this point on, you will not change this!

8. Install prop/motor and rebalance to established CG You might want to start with a bit of downthrust as most models seem to require some. Also, some side thrust. Which direction? This depends. In fact, of all the steps in this trimming method, this is the one most difficult to call. First, which way do you want to turn? Most indoor flyers try to turn to the left. Torque plays a big part in this decision. I have been flying many of my models with what would be considered small props and/or low pitch. This has provided many benefits. Problems with torque are almost nonexistent. Small props turn at higher RPMs and use smaller size rubber. Smaller size rubber means the model is carrying less weight and flying at a lower wing loading. I agree that for maximum performance and duration a large prop is the ticket. But why struggle? Start with a small prop. As an example, my 24 inch span Cessna C-34 is flying with a 6 inch Peck plastic prop and a very long loop of 3/32 rubber. Performance is great! (it flies to the right!) Unless you're heading for the NATs, start with a prop 1/4 to 1/3 the wingspan of your model. So with a smaller prop use a touch of down thrust and left thrust. Rebalance the model to the CG you have established.

9. Test fly under power Crank'r up and let her go. Start with just a few hundred turns. Rubber size is a separate topic that will not be discussed here. Just remember to check the CG after changing the motor. Observe the flight. Does it turn? Does it stall or dive? Remember how it looked when you were gliding it? What's different now? Ideally, the model should simply have an extended glide with a slight turn in the direction you desire. If everything looks good, try more power. Otherwise....

10. Adjust flight pattern with thrust line Adjust powered flight through the following adjustments:

stalling - add down thrust
diving - add up thrust
excessive right turn - try small amounts of left thrust*
excessive left turn - try right thrust*

All models will require varying amounts of thrust line adjustment. Some none at all. Some excessive. Whatever you do, AVOID REMOVING OR ADDING CLAY! Small amounts may have to be added to compensate for the propeller drag, but if you're using a smaller prop as suggested, then clay will not solve your problems. Look at the thrust line.

Phew! So there you have it: Please give it a try with your next model or if you have one of those pesky models that just doesn't want to fly, take it back to Step One. THIS DOES WORK and really is a simple method for trimming. I don't consider it a cure-all, but you'll be pleasantly surprised at the results. I would appreciate any comments of feed back on this method and would like to hear from any of you.

*these may not provide a correction to the problem and may require modification of the model fin area.

Strange Facts

Baby robins eat 14 feet of earthworms every day!

In England, in the 1880's, "Pants" was considered a dirty word!

The blesbok, a South African antelope, is almost the same color as grapejuice!

Men are 6 times more likely to be struck by lightning than women!

Ernest Vincent Wright wrote a novel, "Gadsby", which contains over 50,000 words -- none of them with the letter *E*!

Of all the words in the English language, the word *set* has the most definitions!

A toothpick is the object most often choked on by Americans!

Every 45 seconds, a house catches on fire in the United States!

The sun is 330,330 times larger than the earth!

The most used letter in the English alphabet is 'E', and 'Q' is the least used!

There are more than 50,000 earthquakes throughout the world every year!