



# Eagle Screams



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Monthly Publication of the Screamin' Eagles

February 2004

The Screamin' Eagles Giant Scale Model Airplane Club meets on the 2nd Thursday of the month. If you have any questions about club activities or meeting location please contact one of the following members.

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 Roy Seals - <http://hppilots.com>  
 Le Roy Stuczynski - <http://galleryofaviation.com>

## February Meeting at the Gallery of Aviation



The February meeting of the Screamin' Eagles will be held at the "Gallery of Aviation" on February 12, 2004. The "Gallery" is the late Steve Stuczynski's collection of aviation memorabilia which he assembled to share with all aviation enthusiasts. We will have ham sandwiches, baked beans, and refreshments, courtesy of the Screamin' Eagles. Don't miss this one. Directions to the Gallery are on page 2.

You will recall that we made Steve a lifetime honorary member of the club. Unfortunately Steve is no longer with us but he was very proud of his membership and loved to share his museum with the Screamin' Eagles. At the entry to the basement level of the museum he proudly displays the beautiful plaque we presented him.



### **Prez Sez** – By Bill Disch

It doesn't seem like it's that time already. I haven't much new to say except I am ready for spring! But the winter hasn't been too bad so stop complaining. I will be going to Arizona for ten days on the 22nd of January so see you when I get back. Don't eat your hearts out. I will be thinking of you and will send some warm air back. Bring your appetite to the meeting at the Gallery. Hope to see you all there.

Bill 

### January Minutes – By Le Roy Stuczynski

Bill called the meeting to order after we indulged in some great food and spirits at the Innkeeper. Eight members were present. Le Roy gave his treasurer's report.

We held a very informal meeting due to the limited attendance partially caused by MARCS meeting on the same night this month as well as other personal commitments.

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Carl Bachhuber kicked off a discussion about the about the AMA model weight rule and presented some safety scenarios which totally pointed out that the rule was not well thought out.

We talked about how Bob Miracle is getting along. He is having trouble with his speech but is able to help his wife.

Le Roy talked about the status of the Gallery of Aviation due to his mother's possible moving to an assisted living home. He said nothing is final yet and currently the Gallery is "business as usual". The February meeting is still on at the Gallery and will include food and refreshments.

We talked about our June 12 Fly In and our need to begin thinking about food, raffle, etc. Le Roy said he has the AMA and IMAA sanctions sent in.

A question was raised if we can bring show and tell models to the Innkeeper. Le Roy said absolutely and we urged Lyle to bring his Tiger Moth project "in the bones".

We discussed our 2004 membership numbers and agreed we should continue sending newsletters to previous members.

Many members commented about the great balsa article in the newsletter. Le Roy said he appreciates this kind of feedback.

**Show and Tell**

Charlie showed two engines. Twin cylinder ZDZ100B2NG gas engine. 4.7 lb, 10 hp, swings 26 x 10 to 27 x 12 prop. \$1,125 and Single cylinder ZDZ80RV gas engine, 4.2 lb, 8 hp, swings 24 x 8 to 24 x 10 prop. \$635.

**Have you paid your 2004 dues?**

Most of you paid have paid your 2004 dues. However, if you have not, please plan on paying your dues at the next meeting. Also there were a few of you who didn't renew last year and we would like to see back with us again. If you can't make the meeting, please send your \$10 dues to me at my address on the mailing page of this newsletter. Thanks!

Le Roy, Treasurer      \$

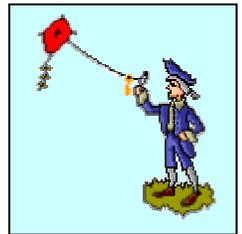
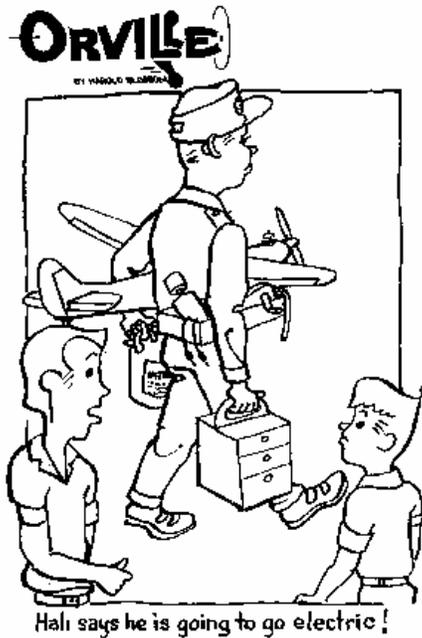
**How do I get to the Gallery of Aviation?**

- If coming into Madison on US151, take the Aberg Ave. exit. If coming from I94 or I90 take the Hwy30 exit to Aberg Ave. Hwy30 will turn into Aberg Ave. At that point you should start seeing signs directing you to Dane County Regional Airport. The Bridges golf course and Shopko will be on your right. If you see these landmarks you're proceeding correctly.

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- Proceed past Shopko on Aberg and exit on Hwy113 which will be Packers Ave. You will be going north. In slightly less than a mile Packers will become CV and 113 will veer to the left. Take the veer to the left which is called Northport drive. Soon you will see a Popeye's on the right and McDonalds on the left.
- Get in the right hand lane and proceed to the stop light at the corner of Northport and N. Sherman Ave. Turn right, going north, on N. Sherman
- Proceed north, about a block to the other end of East Bluff Condos and turn left on Troy Drive.
- The Gallery will be the first driveway on the right. You will see the Gallery of Aviation sign on the right. You are there! There is no parking on the Gallery side of Troy Drive. If you get lost call Le Roy on his cell phone at 335-1700 and he will guide you in for a landing.



**Think Spring**

**From an issue of Australian Aviation Magazine**

- In the ongoing battle between objects made of aluminum going hundreds of miles per hour and the ground going zero miles per hour, the ground has yet to lose.
- Good judgment comes from experience. Unfortunately, the experience usually comes from bad judgment.
- It's always a good idea to keep the pointy end going forward as much as possible.
- Keep looking around. There's always something you've missed.
- Remember, gravity is not just a good idea. It's the law. And it's not subject to repeal.
- The three most useless things to a pilot are the altitude above you, runway behind you, and a tenth of a second ago



## Just Where do I balance this thing?

*A while back at a Lodi Area Radio Control Club meeting we got into a discussion about how to determine the center of gravity of Lyle Stone's pretty new giant Ultimate Bipe. It is all white with bright yellow trim and black pin striping. Maybe Lyle will bring this pretty bird to one of the Innkeeper meetings. Now what about the CG? The airplane has two swept back wings with a ton of measuring points. We think we sorted out the proper CG but for future reference, here is a guide for dealing with most every wing(s) shape. Le Roy*

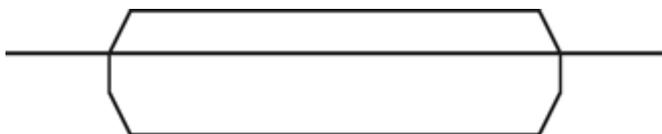
### **Determining center of gravity on your aircraft**

By JERRY NEUBERGER

A number of important factors, such as wing area, wing loading, and tail volume percentage, make an airplane fly well; however, most airplanes can fly with many of these parameters out of norms.

The center of gravity (CG), on the other hand, is critical. If the CG is too far forward, the airplane will be very stable while flying, but as it slows down to land, more up elevator is required to hold the excess nose weight up until the elevator either runs out of travel or stalls. If the CG is too far aft, the airplane will be unstable and uncontrollable.

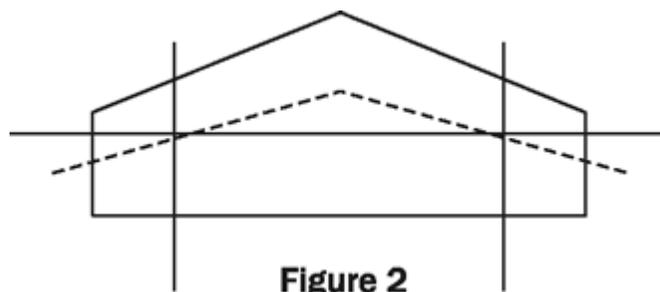
So, how do you figure out the CG? It's pretty easy, actually. Acceptable CG ranges for almost all airplanes is between 25-33% of the Mean Airfoil Chord (MAC) so the hardest part of figuring CG is the "mean" part. On an airplane with a constant chord wing, such as a Cub (see Figure 1), the MAC is easy to figure since the chord of the wing is constant. Just measure the back 25-33% of the chord from the leading edge and that's where the airplane should balance. If the chord is 10 inches, the airplane will be in balance if the CG is between 2.5 and 3.3 inches back from the leading edge.



**Figure 1**

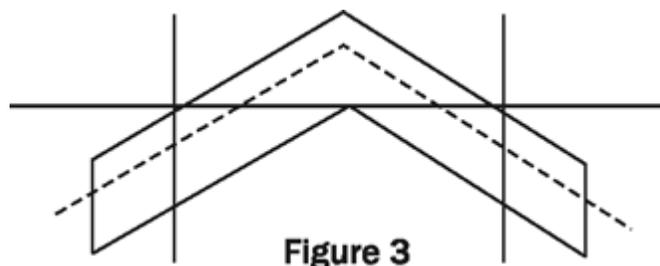
Not all wings have constant chords and that is where the "mean" part starts to get complicated. Figure 2 shows a wing with a leading edge taper so the chord at the root is considerably larger than the chord at the tip, causing the "mean" chord to be somewhere in between the two. To figure the MAC, measure back 25-33% at the root and mark it. Then measure 25-33% at the tip and mark that.

Connect the two marks with a dotted line. Now, measure the wingspan from the center of the wing to the tip (include the part of the wing that is covered by the fuselage). Go half that distance to get the mean point on the wing. Do the same for the other side of the wing and draw a line between the two points. Now you have the balance point of the airplane. Notice that the balance point at the tip is nearly at the leading edge of the wing so it's critical that you mark where the balance point is. If you just measure back 25% from the leading edge at the tip, the airplane will be nose-heavy. Although Figure 2 only shows a tapered leading edge, this method also works with trailing edge taper and even wings with both leading and trailing edge taper.



**Figure 2**

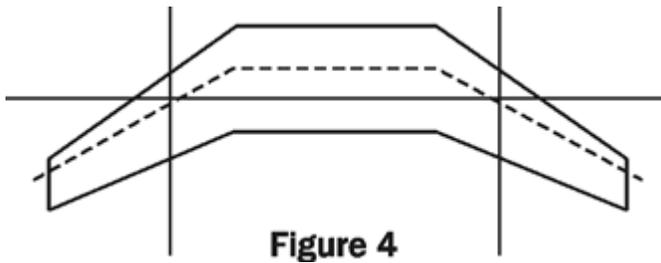
Figure 3 shows a wing with sweep, and once again, figuring the CG is a simple matter of finding the 25-33% point at the root and tip, then finding the point at half span and drawing a line between the two. Notice that the CG is well ahead of the tip leading edge and with more sweep, can actually be behind the root trailing edge. Once again, it's important that you know where on the wing you're going to balance the airplane.



**Figure 3**

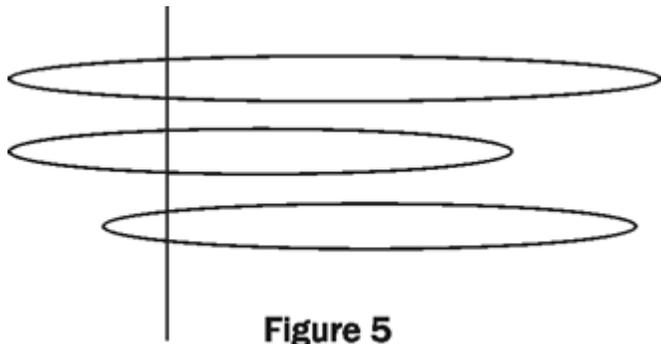
The most complex wing design you'll encounter is shown in the next diagram (Figure 4). This wing has a constant chord section, a tapered section, and sweep, so how do you figure the MAC? Interestingly enough, it's just as simple as any of the other types of wings. You find the MAC of the constant chord section and the MAC of the swept and tapered section. Then you find the mean point on the wing. The only thing that could get you in trouble here is forgetting to include the part of the wing covered by the fuselage. The sweep angle in

Figures 3 and 4 is exactly the same, but you'll notice the CG line is further forward on the wing with a constant chord section. This is the effect of the constant chord area reducing the total area of the swept section.



**Figure 4**

How does this work with a biplane and two wings? Once again, the answer is simple. Figure 5 shows the wings of a biplane (bottom and middle ovals) looking from the tips of the wings. To figure the MAC on a biplane, just consider both wings as a single wing for CG purposes and measure from the leading edge of the forward wing (usually the tip wing) to the leading edge of the aft wing. Consider the span to be a single wing (shown by the top oval in Figure 5). Then, use the 25-33% of that total as the CG location. Notice that the balance line is well aft of the 25% of the top wing and well forward of the 25% of the bottom wing.



**Figure 5**

Only one wing type will not work with this system—a delta wing. This type of wing has considerable aft shift of the center of pressure so using this method will result in the CG being much too far forward. There must be some chord at the tip for this to work.

From *The Beacon*,  
Miramar Radio Control Flyers  
Dick Doucet, editor  
San Diego CA

**First Aid Tip**

To stop bleeding, use black pepper. It does not burn, stops the bleeding instantly and it helps the wound to heal without scarring. Pepper is a natural antiseptic. Keep some of those fast food paper packets of pepper in your field box or first aid kit.

from *Smoke Signals*, Joe Di Prima, editor, Franklin Square NY



**Trez/Ed Sez** – By Le Roy Stuczynski

Well, how are all you Eagles weathering the winter? Looks like our Prez couldn't handle it and bailed out to Arizona for 10 days. Oh well, he promised to send some warm weather to us while he is down there. He'll be back in time for the February meeting at the Gallery so we can all attack him if he doesn't make good on the promise! **He didn't!**

I received the IMAA sanction packet for our June event and an acknowledgement from AMA that we are sanctioned. The AMA packet will be sent later but our event is posted on their website and they told me we are on the schedule for Model Aviation publication. Our event is also posted on the IMAA website.

Gee it sure is a good thing we now have a co-secretaries. That way one will always be in attendance. Oops. Can you believe it that both were faced with commitments that prevented them from attending the January meeting. You guessed it...I had to dust off my Secretary hat and that's why the minutes are by me in this issue. Glad to do it guys. I just thought it was quite humorous and a worthy addition to Murphy's laws.

Hey! I really appreciated the great comments about the Balsa article I put in the January newsletter. Even my mother liked it. I appreciate feedback about the newsletter (positive or negative). This way I know you're actually reading it.

Each month I send an e-mail notification to Merrit "MO" Chance of Brookeville, Maryland. MO flew Corsair #530 in the VMF 312 Checkerboarders Squadron in WWII. MO is also the original VMF 312 historian. He visited the Gallery while dad was still alive and autographed a squadron picture of him flying #530 in formation with two other VMF 312 Corsairs. The point I am trying to make is that MO, also a modeler, contacted me about the balsa article and asked if he could publish it in his club's newsletter. While at the Gallery, ask me to show you the picture. It's pretty special to me as well as knowing a special WWII veteran of VMF 312. All WWII veterans are special but MO is extra special to me.

MO's son lives in Madison so on occasion he would get to Madison. MO has informed me that soon he will be moving to Madison and perhaps we can get him to one of our meetings.

Just as Harold's WWII trivia articles ran out, he came to the rescue again. He ran across an article about "one way" conversations with kids because we have no idea what some of the words they are using mean in "cool" language. Each month I will publish a word with choices as to what the word means in kids language. Maybe through this fun exercise we can learn to actually understand some of their lingo. Here's the first one.

**Down** adj. - **A:** in agreement with, **B:** type of jacket Santa wears, **C:** furry, **D:** attractive.

Make your best guess and check the "cool" answer on page 5.

See you at the Gallery of Aviation for our annual party.



## BUILDING SEASON:

### Winter aircraft storage hints

With the weather turning colder, many of us will be storing our airplanes for the season. Here are some tips that will make a happy aircraft and a happy flier come next spring.

#### The engine

When you finish flying for the day, you should always get the unburned fuel out of the engine. Do this by pulling off the fuel feed from the carburetor, attaching the glow driver, and flipping the propeller. The engine may run a little or it may just pop. When there are no more pops, all the fuel is gone.

Next, make sure all the fuel is out of the tank. You would not believe the green, slimy crud that grows inside a tank with fuel left in it!

After removal from the airplane, the outside of the engine should be cleaned off. Block the carburetor inlet and the exhaust outlet with some wadded up paper towel. Then, get an old toothbrush and some engine cleaner (Formula 409, Fantastic, Windex, Comet, etc.) and scrub the engine. When everything is clean, wipe it down with a rag.

Oiling the inside of the engine comes next. Use Marvel Mystery Oil or plain automatic transmission fluid for this. For two-stroke engines, squirt some oil into the exhaust outlet, then remove the glow plug and squirt some into the combustion chamber. For four-stroke engines, squirt oil into the crankcase vent and for the top end, remove the glow plug and lubricate the valve train by squirting oil into the combustion chamber.

Use your electric starter to turn the engine over for a second or two. This will distribute the oil throughout the inside of the engine (including the front bearings). Be sure to lubricate the carburetor too so it doesn't get stuck. Put the glow plug back on and wrap your engine in a clean cotton rag. This will allow it to breathe over the winter. Don't put it in a plastic bag because it could trap moisture and cause rust and corrosion.

#### The airframe

Build some more wing racks if needed and store your wings on them. Don't stack them in a pile or lean them in a corner. You'll end up with warped wings. Hang the fuselage somewhere up out of the way.

#### The radio

Once a month, charge your system overnight. Keep a log book to record when you do this. Once every two months, after you finish the overnight charge, use a ESV, battery cycler, or just run the system for 1 ½ to 2 hours. Charge the system overnight again. Don't store the radio in a place where it will get too cold, such as an unheated garage.

from *Contact*  
First State R/C Club  
Timothy Mihalski, editor  
Hockessin DE



#### Cool Talk Answer

**Down** adj. – (A) In agreement with; willing; as I'm *down* for a road trip to Florida at spring break.

### Northwest Airlines has a new ride!

Eagle member Carl Bachhuber has nearly completed his Northwest Airlines Stratocruiser 377. He just sent me some pictures I want to share with you because I know it won't fit at the Gallery of Aviation for show and tell this month. It is beeeeeeeeeautiful! Last night we held a plastic modelers meeting at the Gallery and I told member Jim Oughton, who builds airliners, about Carl's project. He was extremely excited about Carl's project and in fact knows a pilot who flies for NW Airlines out of their headquarters in Minneapolis, MN and wants him to see this spectacular airplane this summer. Here's the Strat! (Who's the little guy beside the airplane?)

