

# PHOENIX MODEL AIRPLANE CLUB

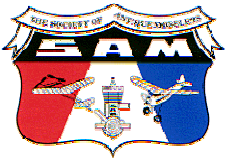
HAVING FUN WITH MODEL AIRPLANES SINCE 1937

VOLUME 12 NUMBER 4

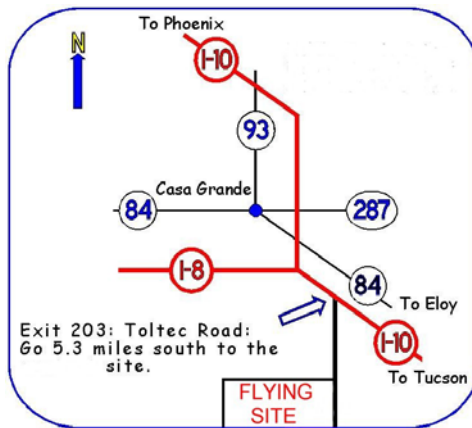
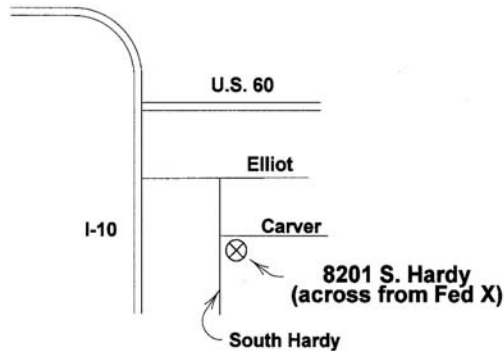
APRIL 2007



**NFFS**



**FLYING  
ACES**



**NEXT MEETING**  
**APRIL 10<sup>th</sup>**  
**7:00 PM.**  
**8201 S. Hardy**  
**Tempe police Dept.**  
**Auditorium**

**NEXT CONTEST**  
**SATURDAY**  
**APRIL 21<sup>st</sup>**  
**ELOY, ARIZONA**

**NEW WEB SITE**

Thanks to Alan Petersen, we again have  
a web site

<http://www.freeflight.org/PMAC/>

## CLUB OFFICERS

*President:*  
*Vice President:*  
*Secretary:*  
  
*Treasurer:*  
*Newsletter Editor:*  
  
*Webmaster*

Al Lidberg (480) 839 8154  
Peter Brocks  
Bill Sewel (623)-551-8678  
[bseweanthem@qwest.net](mailto:bseweanthem@qwest.net)  
Elmer Nelson  
Steve Riley (505) 615 8112  
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Alan Petersen  
[alan@apetersenpaintings.com](mailto:alan@apetersenpaintings.com)

**MEETING MINUTES**  
**Phoenix Model Airplane Club**  
**March 13<sup>th</sup> 2007**

Location: Tempe Police Substation

President Al Lidberg called the meeting to order.

9 members present

**OLD BUSINESS**

Bill Langelius has had a poor response from members with suggestions for meeting discussion topics.

Elmer has a Dick Wood agenda for some previous programs, which he will share with Bill Langelius.

Al stated that The Builder of Model rule has revisions pending. The current class grouping is A & B, C & D. Elmer stated that in FAI classes you can purchase the model and compete. He feels that the level of building skills in each club probably will not sustain a buy and fly market for AMA Free Flight classes.

Frank Roberge stated he feels special builders will follow the course of FAI, costs will rise and there will be fewer competitors. Ken Oliver now builds and sells fuselage tubes, one possibility of the pending rule change would be to allow wings and stabilizers to be purchased.

Elmer said that December Contest winners were promised plaques, and that they were not received yet. There are 21 Plaques outstanding, Elmer will call winners to determine if they still want awards. This will reduce the number needed.

Financial Status: Al stated the SW Regional Modelers Assoc. lost \$300.00 on the regional's. (SW Regional \$ are kept separate from PMAC \$) At that rate we will be broke in 57 years. (Editorial question from Sec.- any volunteers who expect to be around then to verify?) In PMAC, we raised \$480.00 from 07 dues collection. We have outstanding News Letter bills for \$65.00 and \$141.00

The contest account has \$1875.00, this is shared with Tucson.

Elmer moved that we give a \$ prize for all six classes and that we also have a \$ prize for the overall winner, to be determined by points. Peter Brocks seconded.

Bob Loeffler proposed an amendment that we let the (executive committees of the two clubs) treasurer and club officers define the specific amounts based on the balance in the club account.

Peter seconded

Further discussion – none

Al called for a vote: 8 for one opposed – carried.

Al presented the current Club Champion, Peter Brocks with a cup and a \$60.00 gift certificate from FAI Supply.

**NEW BUSINESS**

Al stated we are not reaching new community move in's. With about 38,000 new folks in the valley every month, some of them just have to be Free Flighters! That count was verified by Ted from his work with APS.

Ted Hiding stated that there is a new Free Flight Class E 36, which is electric and that BMJ has a kit in process.

Frank stated that Ed Carlson has new stock on a lot of CS Chinese diesels. Some are CS brand plus some are replicas for Old Timer such as Ed Hunter.

Ted stated that NFFS Digest is looking for an editor, a paid position.

**SHOW & TELL**

Elmer presented a procedure to make nose cones for rubber models.

Al presented a procedure for removing wing warps using a tapered clothes pin half for measurement and a table top. NFFS Digest has photos.

Ted stated that a GPS chip is coming that could be used to locate models.

The current estimated cost is \$800.00 per chip.

Secretary

*Bill Sewell*

623-551-8678

bseweanthem@qwest.net



**Willard Smitz, AZ, with his twin pusher - that he built in 1937!**



**The Nelsons from Tucson**



**Elmer Nelson times Dick Wood's F1H.**

**I don't know who to give the all important photo credits to, I lifted these pictures from the S.W.R. web site.  
ED.**



**Logan Tetrick, CA, our youngest contestant who flies F1A and F1H, with Ms. Archer, AZ, our favorite 'cookie lady'.**

## Tail Volume, Applied

At an earlier meeting, Bill Langelious talked about the Tail Volume concept, without getting into details. It's a fine way to learn more about a model and to choose a starting place for the CG.

Here's the formula – and the math is simple enough:

$TVo \sim \text{Tail Volume} = \text{Tail area/Wing area} \times \text{Tail arm/ Wing Average Chord}$

Where:

Tail area = stab area and Tail Arm can be measured from Wing LE to Stab LE

Here's a model of the 1931 Les Long "Longster" I did for 1/2A Texaco RC Scale some years ago – let's run the TVo on it:

Tail area = 64 sq in, Wing Area = 325 sq in, Tail arm = 21", Wing avg chord = 7.75

So:

$TVo = 64/325 \times 21/7.75 = .196 \times 2.71 = .53$  which according to Bill McCombs, is in the range for a full scale plane.

What can we do with this? We can find the CG starting place in % of the wing chord:

$CG \text{ in } \% = 16 + 36(TVo) = 16 + 36(.53) = 35\%$  which is no big surprise because for scale models we can say "1/3 back" works fine.

What does a 35% back CG tell us? For one thing, we know that it takes a fair amount of decalage [difference in angles between wing and stab] to get the thing to glide. Because of that, one cannot expect the plane to glide exceptionally well. For another, we'll need a lot of downthrust especially if we want to climb quickly, or this thing will stall or loop a lot.

Can we make things work better? Sure, tho we can't do much with a scale model as we'd have to change proportions. Let's look at the equation again:

$TVo \sim \text{Tail Volume} = \text{Tail area/Wing area} \times \text{Tail arm/ Wing Average Chord}$

The first part amounts to the % of stab area. In our example, it's about .19 or 19%, which would be considered quite small for a performance model. If we make the stab bigger, this part of the equation gets bigger. Similarly, the second part suggests that we can make that bigger by lengthening the body. Both elements affect that CG. The extreme value for CG was found on the Civvy Boy gas models where the CG was at or even behind the wing's TE! That was achieved by using a very large stab and a quite long body. One thing about the Civvy Boys tho – the transition between climb and glide was critical and they could glide in very steeply if things weren't just right.

I hope you'll agree that the math wasn't all that terrible and that one can learn a bit about a model from this exercise!

*AL LIDBERG*

### **An alternative.**

A formula developed by R. Josien is more involved in that it takes into consideration a lot more parameters. If you have Microsoft Excel program on your computer, I have a program for both McCombs and Josien where all you do is plug in the parameters of your model and it solves the math for you.

If you want it, send me an email.

The disclaimer;

I have run several of my models thru the formulas and also some other well known models.

The results were interesting. In some cases both methods were in agreement. In many cases they were quite different. However, they do give you a starting point on a model where the optimum C.G. is not known.

*Steve Riley*

## Spring Break Contest

March 18th

Eloy, AZ

Another great day to fly free flight! While warm, it was not HOT. While breezy, not windy. Attendance was good with a total of 14 entrants plus several others who were doing some flying but didn't post times. Included in the 14 were two junior fliers from Tucson who were flying catapult gliders under the sponsorship of Ben Nead. Good work Ben, we need the young folks.

Flying was limited to four of the six categories we are experimenting with for the 2007 contest year. Tom Miller flew two different models in AMA/Classic Gas picking up a total of 29 points. Dick Nelson flew three models in Nostalgia/OT Combo. His C Nos model turned in a perfect string of five maxes. With these three models, Dick picked up 83 points. Dick also flew in HL Glider taking second place for an additional 12 points. Under our new system, you can enter as many different models in a given category as you wish to with one exception. You cannot enter multiple models of a given event. As example, you cannot enter more than one Class A Nostalgia, but you can enter one Class A, one Class B and one Class C Nostalgia in the NOS/OT Gas category as Dick did. Our objective is to promote flying activity in a competitive way.

The 3 Minute Rubber/Glider Combo Category had the largest number of contestants who flew in three different events: classic tow line glider, OT rubber, and Nos Wakefield. This is a good example of how the points are earned for total time, max flights, and for the number of flights flown. Jean Andrews who took top honors in this category earned 12 points for high time, 15 points for flying max flights and 10 points for flying three official flights for a total of 37 points. This was the second contest flown under the new system of earning points for the club championship. In addition to crowning the annual club champ, both clubs have also agreed that the annual winner of each of the six categories will win some type of prize to be determined by the executive committee of both clubs.

Results are shown in the tables below.

2/24/20073/18/2007Total**AMA/CL Gas**Dick Nelson2222Tom Miller1919

**Nos/OT Gas**Dick Nelson424183Dan Sobala2222

**3 Minute Rub/Glider Combo** Jean Andrews463783Paul Andrade443074Elmer Nelson172845Roland

Lovejoy151732Dick Strang 1515Kent Prescott 55Jim Seamster8 **83 Minute Rub/Glider Combo** Jean

Andrews463783Paul Andrade443074Elmer Nelson172845Roland Lovejoy151732Dick Strang 1515Kent Prescott 55Jim

Seamster8 **83 Minute FAI Combo** Peter Brocks32 32Elmer Nelson32 32**2 Minute Combo** Dick Strang22 22Ben

Nead, SR12 12Jim Seamster5 5**Cat/HL Glider Combo** Peter Brocks43 43Elmer Nelson24 24Ben Nead,

SR 1414Dick Nelson 1212**Junior fliers** Ben Nead, Jr 1414M. Mosier 1212Chris Mays5 5

**Contest Ladder Summary**2/24/20073/18/2007TotalDick Nelson6495159Elmer Nelson7328101Jean

Andrews463783Peter Brocks75 75Paul Andrade443074Dick Strang221537Roland Lovejoy151732Tom Miller 2929Ben

Nead, SR121426Dan Sobala22 22Ben Nead, Jr 1414M. Mosier 1212Jim Seamster5 5Kent Prescott 55

### A note from the editor

As you look at the tables above it is clear that an awful lot of work goes into recording, calculating, and tabulating the results each month.

We are lucky to have a bunch of hard working Contest Directors. And a special thanks to Dick Nelson and Elmer Nelson for their work on the Club Championship Ladder.

Next time you see them, give em a pat on the back.

Steve

2007

**PHOENIX MODEL AIRPLANE CLUB / TUCSON FREE FLIGHT CLUB  
CONTEST SCHEDULE**

With the new contest format you can bring just about any model and find competition either by event such as ½ A gas, P-30, etc. or by a category such as Nostalgia/OT gas, Two Minute Rubber Combo, etc. Or just come out and test your latest model.

So here is the contest schedule;

<u>DAY</u>	<u>DATE</u>	<u>CONTEST</u>	<u>CONTEST DIRECTOR</u>
Saturday	April 21 <sup>st</sup>	I-10 Challenge	Peter Brocks
Sunday	May 20 <sup>th</sup>	Hot Stuff	Frank Roberge
Saturday	September 15 <sup>th</sup>	Fall Kick Off	Bob Loeffler
Sunday	October 21 <sup>st</sup>	Ghost Riders	Dick Nelson
Saturday	November 17 <sup>th</sup>	Turkey Shoot	Jean Andrews
Saturday & Sunday	December 8 <sup>th</sup> & December 9 <sup>th</sup>	Arizona Free Flight Champs	Randy Burros & John Nystedt

So what do we do in the middle of summer when it's just too darn hot for a contest ?

**DAWN PATROL !**

We start around sun up and fly until it's too hot. Usually around 9:00 A.M.

A great time to do test flying or just fly for the pure fun of it. Then we usually adjourn to a local eatery for coffee, breakfast, and a bull session. And you get home in plenty of time for church, a NASCAR race, or just flop in the pool.

Here are some dates;

Month	Saturday	Sunday
June	2	17, 30
July	14	29
August	11	26



**NFFS**



**NEXT MEETING  
APRIL 10<sup>TH</sup>**

**NEXT CONTEST  
SATURDAY  
APRIL 21<sup>ST</sup>  
ELOY**

**PHOENIX**

**MODEL AIRPLANE CLUB**

Steve Riley

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