

# NARCA Eagle

Volume 2016-03  
March 2016

North Alabama  
Radio Control Association  
P.O. Box 173  
Harvest, AL 35749  
<http://www.flynarca.com>



## Next Meeting

Place: **Madison**  
Date: Thursday March 10, 2016  
Time: 6:30 PM  
Program: Airplane Setup Tips (Don Apostolico)  
Batteries Part 2 (Tim Batt)

## Upcoming Club Events

March 19 - Swap Meet, Pineview Baptist Church  
April 14 - Duane Black Project Show,  
Pineview Baptist Church

## Eagle Droppings From the President:

Please try to make the next meeting as the Swap Meet is rapidly approaching and assignments need to be worked out. The Swap Meet is one of our biggest events and is definitely our most labor intensive, but a good turnout lessens the workload a bunch. Please try to be available Friday afternoon (18<sup>th</sup>) and Saturday (19<sup>th</sup>) until about 3.

We've been getting good numbers at the field on the nice days that are starting to crop up. About a dozen people got to watch a bit of a full scale air show on a recent Saturday as several itinerant planes showed up to do some short field work and the Great Lakes did some aerobatics for us. A related aside - Acrobatics and aerobatics are not interchangeable terms. Aerobatics are done while the plane is flying and may include loops and rolls. Acrobatics are performed while the aircraft is in the process of ceasing to fly and may include somersaults, cartwheels, and nose stands. Usually acrobatics performed by an aircraft are not repeatable on the same day by the same aircraft while aerobatics are.

Snakes haven't been a problem at the field to best of my knowledge. Larry feels it a good idea to be aware of the possibility of meeting up with one and I'm including a link so you can calmly scroll through the pictures and identify the creature that caused your current high speed dash through the poison ivy while screaming like an unlubricated bearing. [Snakes of Alabama: How to identify all 50 species | AL.com](#)

About FAA registration, a subject near and dear to all of us, I want to remind our membership that as

of now NARCA does NOT require you to register. However it might be a good idea after reading this link:

<http://thehill.com/policy/transportation/270297-drone-users-face-fines-jail-time-for-not-registering-devices>.

I'm sure we all find it interesting that not telling the Feds about our legally purchased toys is a far more severe crime than, say, being in the country illegally. Unless our hypothetical illegal brought a quad copter with him.

One of Larry's old club members in Ft. Smith sent this link to keep us up to date on AMA efforts. <http://www.modelaircraft.org/aboutama/gov.aspx>

Cycle your batteries and I'll see you at the field! →

*Rick Nelson, President*



## **Membership (Second Votes) March 2016 Meeting**

- Steven Armstrong, Larry Holcomb sponsor

## **11 February General Meeting Minutes**

Unfortunately, your newsletter publisher (a professional IT specialist!) let technology get the best of him. I took the notes on my laptop but they are nowhere to be found. I think I forgot to save the document when leaving the meeting. Something to

be said about writing it down in a notebook the old school (Archie) way.

With that written, I need to be patched...



## Human v 1.1

### Hotfix patch

- dislodged eyelashes will no longer enter eyeball area and become inaccessible
- random cheek and tongue biting issue during food consumption fixed
- memory leak patched, should fix the "enter room and forget why" and item misplacement issues
- fixed a bug where the motivation module would randomly fail to load

The battery presentation by Dr. Mike Marcel was outstanding, and we definitely need to invite him back for an encore presentation so those who missed it can see it. The different types of batteries were presented, with the pros and cons of each. Several members asked very good questions; I think all of us came out of the presentation knowing more about batteries.

*Respectfully submitted  
(without expectation of respect in return),  
Kevin Reynolds*



Don's  
Flight Tip #2

### **Straight Planes and Flight Trim**

**When building or assembling aircraft do you trammel and check incidence levels (Even on ARFS?)**

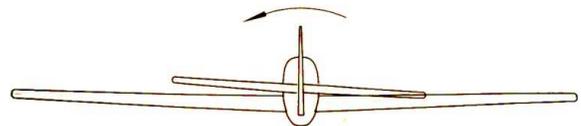
Trimming a plane is much more than centering the trim tabs on the test flight and believing the plane is properly trimmed. Flight trimming actually starts on the workbench by building or assembling a straight plane and applies to scale, warbirds, sport aircraft and precision aircraft.

A crooked plane is always destined to be impossible to fly straight and true resulting in the pilot always fighting the aircraft. Extra time spent trammeling (measuring to insure the plane is straight in all directions) makes the flight trimming process much easier.

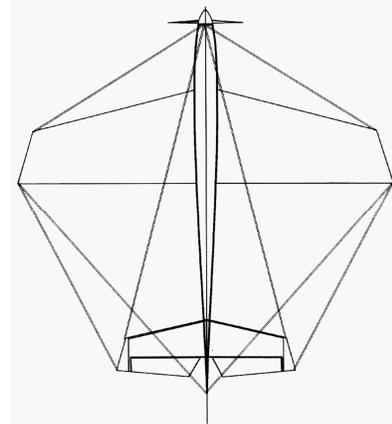
One should always check ARFs as well as built up aircraft as I've taken hundreds of calls from modelers over the years, complaining about flight trim on their brand new plane. My first question was, did you trammel and check incidence and thrust line measurements and the answer was always no. Once they bought an incidence meter I received many call backs saying that the stab or wing incidence was crooked or the trammeling was off. Its far easier to fix these problems during the assembly process than after you glue everything in place.

Many people forget the front to rear and rear to front alignment of the wings and stab. If your plane has a stab or wing not mounted parallel to each other, this will cause the plane to turn towards the tip of the stab that is highest. IE: Looking at the plane from the rear with the left stab tip high – the plane will bank left toward the high tip. You can trim this out for one speed in level flight but as soon as you change speed or attitude the plane will again roll to the high stab tip. This pilot will constantly fly an out of trim plane.

**This aircraft will roll left towards the high side of the stab.**



### **Trammelling Your Aircraft**



All dimensions need to be checked (even on arfs). I use a thread and T-pins to measure the distances. This is amazingly accurate to 1/32". Check wing tip to tail, stab tip to wing tip, nose to stab tip as shown above and incidence angles.

Assuming you start with a straight plane it still may take up to 50 or more flights to finely tune your plane. That statement may be a shock to some who center the trims on the first test flight and consider the plane trimmed. There are a number of variables that have to be flight checked and adjusted such as CG, correct prop, right thrust, wing weight, aileron differential, roll coupling, up and downline trim as well as other variables that are addressed in the trimming process. Proper flight trimming is a process that has about 15 major steps, each interacting with all of the other trimming variables. When you change any one item it is necessary to go back, check and reset, if necessary, the rest of the affected variables.

Once you fly a straight trimmed plane (ahhhh they fly so nice) you will never be satisfied flying an out of trim plane again.



If you look close you can see the T Pin stuck in the top center of the firewall by the clamp that is "Home Base" for trammeling the aircraft with a piece of sewing thread.

To trammel the above aircraft, set incidence angles and make all necessary adjustments to square the plane took me about 5 hours. When finished the plane was perfectly aligned so I knew there would be no galloping surprises on the first takeoff.

Shown is an incidence meter sold by Robart #404. I used to sell hundreds of these meters every year as they are easy to use and are accurate. If you use multiple meters make sure you zero the meters to each other.



Shown is my 40% Carden Extra 300. Incidence meters are used to check wing and stab alignment relative to the longitudinal axis of the aircraft. The photo above shows 4 meters being used. One on each tip of the stab and wing. You can use one meter if that's all you have, it just takes longer. (Robart incidence meters work great).



If you have never flown a squared trimmed plane you don't know what you are missing until you do, and then I guarantee you will never want to fly an untrimmed out of square plane again.

Until next time...

Fly Safe