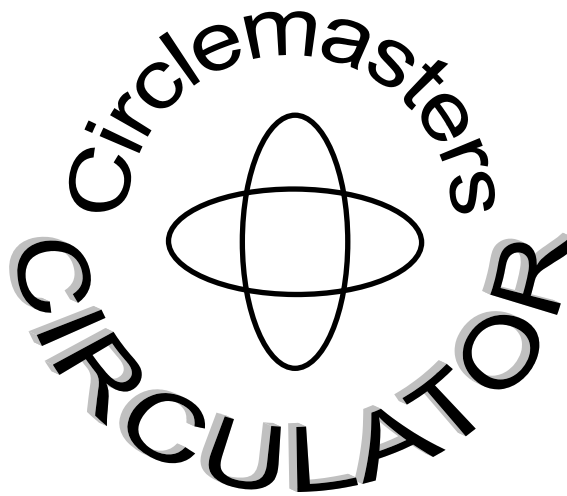
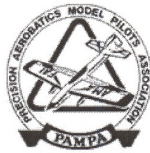


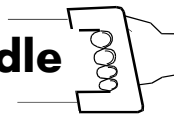
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Newsletter of the Circlemasters Flying Club  
Milwaukee Wisconsin  
Academy of Model Aeronautics Chartered Club # 662

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## At The Handle



If you would like to contribute material, please submit to the address on the cover or contact me at (715) 697-8458 I may be reached via e-mail at [clmodman@wctc.net](mailto:clmodman@wctc.net)

### Ramblings from your Editor

Hello Circlemasters. Here's the latest communiqué from Circlemasters outpost North. First off: Thank you to all of the members who tried to make the North Lake Harvest Festival a success. Another one of those deals where we end up getting bumped from our spot because of double booking of the flying site we are planning to use. The Lady in charge of the festival sent an apology letter to Melissa explaining what happened. It turns out that the kid's football organization that was using the field in the park had it leased for playing on for that Saturday when the Harvest Festival folks thought they had use of the whole park. It also appears that some members of the football bunch go out of their way to be uncooperative. Here's the sad part. There were kids at the festival planning on us being there and doing training flights. Some of the children were even from the Make A Wish group that we contribute to. A number of the kids in attendance were also planning to walk with our guys in the parade. Overall, it sounds like we got burned and the kids got short changed at the same time. At any rate, they would like us to be there next year. I am for trying to make this work, provided we get some kind of concrete assurance that we won't get rousted out of our spot by someone else. I know you guys went out of your way to be there and we headed down after sleeping for only three hours Friday night. Not cool.

If there is an up side to the whole North Lake fiasco, it is that most Circlemasters who showed up, retired to the flying field in Sussex and an impromptu fun fly broke out. A good number of flights were put up and those in attendance seemed to have a good time. Mike put a show with one of his electric powered models that was unforgettable. Apparently, one of the evil spirits that power these things went totally ape... ah I mean crazy and disintegrated the whole front end of the plane in mid air! Are you one of those people who goes to stock car races just to see the pile ups? Then you would have loved this show. Mike probably didn't love it. One real bright spot for the club is the enthusiasm of our two junior members, Katie and Ryan. Both of these youngsters were out there having at the handle and are progressing in their flying skills. These kids look like they are actually eager to get out there and give it a whirl, not just being dragged along with their family members. Now let's see some building over the winter so they can enter one of the scale events or maybe beginner stunt at the contest. If you can take off and land, you can get a few points and learn more for next time. Great job!

And now for something completely different. Next month we go back indoors for our meetings. There has been some discussion about doing something besides the movies we have been watching for the last few years. One suggestion proposed was having building sessions for half A scale models to promote entries at the contest. That idea was shot down due to the mess involved and potential for damage to the floor and tables in the meeting room. I don't have any awesome ideas, I always enjoyed the movies that were shown. If you can think of something, don't be shy, bring it up for discussion.

We have a pretty full newsletter this month. Thanks go to Wayne, Ron W. and Pete for submitting material.

I hope all of you can make it to the meeting. The boss and I will not be there because both of us have to work. It would be nice if all commercial air travel would grind to a halt on weekends, but until that happens, I am trapped. I don't what her excuse is for having to work. We will see you when we see you. Have fun without us.

Howard

P. S. The format of the minutes is a little weird this month, but you can read them no problem.

***CIRCLE MASTERS FLYING CLUB  
MEETING MINUTES FOR SEPTEMBER 2013***

The monthly meeting of the Circle Masters Flying Club was held at the Sussex Public Library on Saturday September 7<sup>th</sup>. This change was made due to another event using the flying field and inclement weather.

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The meeting was brought to order at 1:10PM by President Don A. who began by asking if the members had received the August newsletter and had reviewed the minutes of the last meeting. Remaining curious, he further inquired if any errors were noted but since there were none the minutes remained as published. Treasurer Ralph K. gave his usual detailed report on the financial status of the club. A motion to accept his report was immediately made and seconded.

\*\*\*\*

***REPORTS AND ANNOUNCEMENTS:***

Wayne reported that he had received the insurance certificate for the North Lake Harvest Festival flying demo. The original was sent directly to North Lake. Don passed around a flyer for the upcoming "MECA" engine show scheduled for Sep.14<sup>th</sup> at the Legion Hall on 65<sup>th</sup> and Grange Av. Don read a letter he had received from Bob G. who is a long time C/L modeler from Caledonia. Bob is interested in joining the club.

***OLD BUSINESS:***

The annual Waukesha County Make-A-Wish event is currently going on and the club members once again voted to donate \$100.00 to this cause. Jason will present the check following the meeting.

***NEW BUSINESS:***

A discussion regarding the upcoming flying demo at North Lake included field preparation on Friday evening and set-up on Saturday morning. Pete outlined the air show schedule with emphasis on the mass fly segments.

Mike discussed his intentions on publishing an ad in "Stunt News" detailing the club contest in 2014 with the hope of drawing more participants in both stunt and scale venues.

***SHOW AND TELL:***

There was no show & tell this month.

\*\*\*

There being no further business, a motion to adjourn was made by Pete & seconded by Wayne. The meeting adjourned at 2:15 PM.

Wayne M. Schmidt, Secretary 09/23/13

# UPCOMING EVENTS

**Come to the meeting early and enjoy some flying before it gets cold!**

October Meeting: Saturday October 5th. Meeting at 1:00PM with flying before and after. Last one before we head indoors so make it count.

November Meeting: Saturday November 2nd. Pauline Hasse Memorial Library on Main Street in Sussex. Movie or other program at Noon, meeting begins at 1:00 PM.

December Meeting and Christmas Party: Saturday December 7th. Party at noon. Bring something to share. Meeting at approximately 1:00 PM.



Look what Wayne has been up to. This is another nice Bi-Slob. Rumor has it, he can build these things with his eyes closed or with both hands tied behind his back, but not both. What do you have for building projects? Send in some pictures.

## The Golden Age of Stunt

I have known we are living it; however, while at the VSC 18, this thought was solidified. The Golden Age of Stunt is today. At no time in history did we have more planes, motors, props and all the stuff we use. It is amazing the amount of choice that is available to every stunt flyer. From Laser cut Old Time and Classic kits to modern AAC motors to the light, super strong Carbon Fiber items that seem to grow out of the wood-work everyday. The planes were absolutely stunning and comparing motor runs to 30 years ago, well suffice to say [there's no comparison. I have been asked many times lately to explain how to setup an engine for a good stunt run. All too often I see motors running backwards from the ideal. Four stroking up hill and breaking into a 2 stroke downhill, going blubbery rich on insides, screaming lean on outsides, etc, etc. I would like to talk about the basics for setting up your engine to get a better machine. Someone once said a good stunt ship is 40% design, 60% motor. The performance of some of the airplanes at VSC proved this is true.

In a nutshell: Remember the needle is for setting the fuel mixture, not for setting the plane speed. The prop pitch is for setting the speed of the airplane. The prop diameter is for loading the engine properly and getting maximum thrust from the motor. Nitro is for controlling how much or how little break you have, this is to say how strong the motor will come on in the maneuvers. The other 2 items that work with this are compression and venturi size. This is not all there is to getting perfect engine runs. Many things work in conjunction with each other to achieving this goal, and most everything I am going to mention affects the others to some degree or another. Please do not think of the following as an oversimplification, it is not. It would take a volume of text to try to explain all the relationships that one item has to another, this is just to try to add a little clarity, and to give you a place to start.

The 8 basics to helping yourself to a better engine setup are:

1. Engine: Pay careful attention to matching the engine to the airframe. Don't overpower or under power your plane. Make sure your power plant is an acceptable weight for the ship it is in and matches well with it
2. Correct Fuel: Fuel is one of the most important things in tuning an engine. You must make sure that you have the correct oil type and percentage for the engine your using. For example Fox 35s, OS 35s, older McCoys and such need high oil content fuels 24 to 29% are common percentages. Modern ABC and AAC engines will use much lower oil, 18 to 22 % percentages are the norm here. Nitro percentage is also key to getting the best from your power plant, There are so many ways to run stunt engines it is impossible to print anything but guide lines. I have written many times about fuel. You can get a copy of my Care and Feeding of a Stunt Engine from the PAMPA archives. Typical stunt engines will use 5% nitro in cold weather going to 10 or even 15% in hot months. You can get in trouble using, say 15% in January, this setup would need 25% or more to be the equivalent in August. So unless you really have this working it is best to setup your engine for lower nitro in cold months and higher nitro in hot months. This will help keep the run constant thru out the year. Also it will help control power in your motor.
3. Correct Props: Props are also critical for achieving good engine runs; a prop needs to load the motor correctly without over or under loading. It also needs to be the correct size and pitch to pull the airplane. This is an over simplification, but generally the diameter will be what you use to load the engine and the pitch will be what you pick to set the plane speed  
Some of the things you will run into when over propping an engine are; hard to set the needle on the ground; the engine will unload a lot and go rich in the air; the engine will run hot, or not cycle very rapidly. When under propping generally you will notice the engine will also not cycle correctly. They at times, will just 4 stroke through everything, sometimes going into a 2 cycle at weird times. A properly loaded engine will use a prop that if running a 4-2 break, will come onto a 2 stroke at 10 o' clock and back to a 4 at 2 o' clock. There are variations on this; You can have a strong motor just beep 2 stroke at the tops of maneuvers, but you shouldn't have one that 4 strokes uphill and switches to a 2 stroke on the downhill parts of maneuvers. You can set up the run with a very strong 4 cycle that doesn't break anywhere, but will still cycle and increase/decrease power in maneuvers somewhat. Don't try to get so deep into a 4 cycle that the engine goes even richer when starting a maneuver, or slows and speeds up in weird places, generally this setup should still be in a high power setting that is close to the 2 cycle beep without going into a 2cycle.

## The Golden Age of Stunt

4. Needle setting: Don't try to use the needle to set the speed of the airplane; the needle is for setting the fuel-air ratio that goes into the engine. Typical settings are so the motor will be in a very fast 4 stroke when in level flight. If you set the needle too rich it will delay the engine switching and make the engine come on late in the maneuvers. If you set it too lean, you can sometimes run the risk of too much 2 stroke and going sagging lean in the tops of maneuvers, killing your drive and over heating the engine. Once you get this set, you will have a little leeway in tweaking the needle in or out for conditions.

5. Airspeed: Most all planes like to fly at the airspeed they work best in, even exact or what is supposed to be the exact same design, will a lot of times want to fly at different lap times. Example: I have flown many SV-11s, at the same weight that fly at different speeds. Try to find the optimum speed for the plane your flying. This will depend a lot on the weight of the plane and also the power of the engines.

6. Compression: Setting the correct compression for you motor isn't a simple thing and will vary with nitro and prop size. Try to set the compression so when your engine hits into a 2 stroke it doesn't come on too hard or too soft. This will work in conjunction with nitro and venture size. Generally you will use higher compression for low nitro and lower the compression when using higher nitro fuels.

7. Venturi : Venturi size is one of the keys to get a proper switching 4-2, while not coming on too hard or too soft or too late or too early. If you are constantly accelerating too much when your engine cycles you may need to go down on venturi size. If you are not cycling much or have too soft of a break or a late break, you may need to open the venturi up a size or 2. This will work in direct relationship to nitro and compression.

8. Fuel Tanks: A large portion of engine problems I see are really not engine problems. They are fuel delivery problems that many times relate to fuel tanks, Tanks are maybe the most critical component of your power train. Make sure you have a solid mount, and a tank with no leaks or cracks in the tubing, inside or out. When in doubt I suggest trying a new tank, if there is a difference, you may have bad tank. Don't forget to use a good filter and make sure there are no holes in the fuel tubing. It is also advisable to try to keep the tank as close to the engine as possible.

These are just basic suggestion to help you tune your engine, and by no means covers it all. There are literally thousands of engine setups that would take volumes to cover.

Randy Smith

*Editor's Note: The preceding article was written by Randy Smith and submitted by Pete. The original article was edited to remove typos, etcetera. I don't think that any of the changes altered the general content of the material.*

I am pleased to report that I am “current” on control line flying again, after nearly 40 years. I accomplished six flights on my E-flite PT-19 ARF on the hallowed circles at the AMA International Aeromodeling Center in Muncie, IN, on September 17, 2013. I flew control line beginning at age 11 in 1961 through the mid 1970’s. I never lost interest, but control line was overtaken by other priorities in life. Don Adriano tried to get me going again during our days at the Wisconsin Air National Guard – which is now a long time ago. Howard did a photo spread on some of my older models in the December 2012 “Circulator”. I attended several of the Circlemasters winter meetings, and was very impressed with the members and the models. Then Melissa called last month to invite me to the North Lake event. That did it. I promised I’d be there with something, and I knew Melissa would hold me accountable. I selected the E-flite PT-19 ARF from my stock of new control line items. I just didn’t want to fly my older models for sentimental reasons. The ARF felt like cheating – but it got me flying and flies very well. I must say that I don’t think I prefer electric over glow, but it works and I intend to fly both. Naturally I wanted to test hop the airplane before showing up at Circlemasters. It happened that I was going to visit my good friend Jim Rice in Decatur, IN, who flew control line with me at Purdue in the late 1960s. We went to Muncie and the rest is history. It doesn’t matter to me that the North Lake event didn’t happen as planned. I’m excited and looking forward to flying with Circlemasters and the model building I want to do this winter. Melissa says I’ve been “born again.” I feel more like I have been “recycled.” Now, my full scale 1942 Boeing Stearman N2S-4 restoration project will have to wait a little longer. Thanks to everyone in Circlemasters for your inspiration!

Ron Wojnar





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