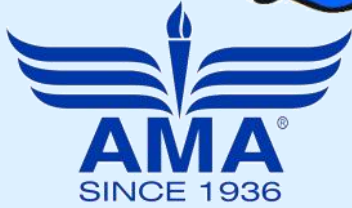


August

# Skywriter

2016



SKYMASTERS RADIO CONTROL CLUB  
OF MICHIGAN

AMA Chartered Club #970  
23 Year Gold Leader Club

[www.skymasters.org](http://www.skymasters.org)



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## From the President...



Well we had a great Open House / Recreation 101. Twenty minutes after the event began the turnout was ten times our previous years. Even without the draw of the full scale Blackhawk at noon we had a great event and huge crowds all day! It was a huge SUCCESS!

On behalf of the club, I want to thank everyone who contributed to the event we had a great representation of static displays of aircraft and a full slate of flying demonstrations. Tom Wheeler is always impressive and very enjoyable to watch fly his precision IMAC maneuvers. The PMAC guys and Tom Bocksani with his Albatross and other huge jet were top notch. We appreciate one of our clubs' great 3D pilots Steve Schott and everyone else who flew that day. Thanks Ken Gutelius, Phil Saunders and Tim Tou-tant, RCCD, for everything. Thanks to Bill Dezur and team for a great food and refreshments! **Well done everyone!**

Next WEEK, Sunday August 7, is our Warbirds and Scale Event from 10AM -3PM. Last year this event was huge and

*(Continued on page 2)*

(Continued from page 1)

we're planning for similar large numbers this year. Our Event and Contest Directors; Joe Finkelstine and Dave Wendt will need help the day of for setup and cooking. They're both going to be out of town until the day before the event so I know we'll all step up as usual and make this happen in typical Skymasters fashion.

Later this month is our Corn Roast and Top Gun competition on Sunday August 28<sup>th</sup> The top gun is a great event and I am planning on having you fly for this event so get ready. When you see the new revised Top Gun Trophy you'll want to win that! Thanks to VP John Billinger for getting that done. PMAC has their Flying Circus on Saturday August 27<sup>th</sup>.

**Six weeks ONLY until the Midwest Regional Float Fly.** PLEASE MARK YOUR CALENDAR and make plans to come out and support your club by participating as a pilot for the event and especially by helping both days to make this event happen. Your club needs you and if you haven't been able to participate in any other activity throughout the year, **this is the time.** Please let me know you'll be able to help Dave Shea set up on Friday September 9<sup>th</sup> beginning at 9:30 a.m. Help Fred Engelman with Registration one or both days of the event, Saturday or Sunday, help Bill Dezur cook and sell food, or help at the flight line down on the beach OR help Sunday around noon to clean up/pack up the items back into the Float Fly trailer.



I cannot emphasize enough how much your help is needed. If I could, I would say that all our membership needs to contribute to some event throughout the year and this is the event where your help is really needed. Please check out the club website ([MWRFF Info](#)) and the flyers and information in this newsletter for all kinds of information about the 26<sup>th</sup> annual Darrell Watts Memorial Midwest Regional Float Fly... don't wait, make a decision now so we can count on you! Your club needs you!

It is my plan to have a **Float Fly Seminar at the field on Wednesday August 3, at 6:30 p.m.** The goal is to draw attention to how cool float flying is and for you to be able to see all kinds of float planes and learn about this aspect of the hobby as well as to promote our clubs' premier and biggest national event happening next month, September 10-11 at Island Lake Recreation Area. I've asked the Wednesday Addison Oaks float fly group to come out to the field and share their airplanes and float flying experience with us on this day.

I am very excited to see our club continuing to grow. We've had an influx of young people and great guys lately. We have a very busy student roster and our club instructors are very busy on Wednesday and as well on all the other days of the week. At our July Club Meeting two weeks ago we voted 15 new club members into full membership. That is a great sign of our healthy and thriving club. I continue to receive compliments and positive feedback about how warm and welcoming our club is. I know you hear it too! We will have another club meeting at the field on Wednesday August 17, at 7:00 p.m.

Our solar charging system phase I is now complete with the addition of the second panel and additional storage cells. It is a great part of our club and has been a huge hit. Again, I want to thank John Billinger our club Vice President for his hard work in making all this happen.

Lastly, I want to make my plea again for anyone interested in running for club officer. We've got a great team and as far as I know everyone is willing to return, if that is the clubs will. I was told a long time ago that a good leader is always looking for his replacement and I am doing just that. I know that we will need people to step up in the near future and take on these roles. So, please let me know if you are interested in an officer position and also if you have any nominations of someone you think would serve our club well!

It is another beautiful day at Skymasters! Get out and fly! See you at the field!



Bob Chapdelaine, President, Skymasters RC

**Front Cover:** Spectators at the Skymasters Open House enjoy the show. Fred Engelman photo



# Center of Gravity

This month I'm going to briefly talk about the center of gravity (cg) of our models. The cg is one of the most important adjustments we make on our models before the maiden flight. If it is not right your maiden flight can be very short and end very badly. I'm not going to go into the technical aerodynamic details. There are plenty of web sites that will go into great detail on this for those interested. Please just take it on faith that your cg needs to be right for your model to fly well. The cg has a strong influence on the stability of an aircraft and can mean the difference between a model that flies poorly, one that flies great or one that is uncontrollable. An excessively nose heavy model will require a lot of up trim for level flight and it is possible that you may not have enough elevator authority to land normally. An excessively tail heavy model will be so unstable that even the best flier will not be able to control it. There is a sweet spot somewhere in between those two conditions. So where is that point? Ordinarily the designer/manufacturer will have worked that out and will show the location or range of acceptable locations on the drawings or in the instructions. Unfortunately it is not uncommon for the information to be wrong. My advice is that you go to the on line forums for your particular model and do some reading and see where others have found the best cg location. If you designed your own model or are not confident on where the cg should be there are some great calculators on line that will perform the sometimes complicated calculations for you. Here are some links to those calculators.

A simple one: [http://www.scaleaero.com/CG\\_Calculator.htm](http://www.scaleaero.com/CG_Calculator.htm)

A more detailed one:

[http://adamone.rchomepage.com/cg\\_calc.htm](http://adamone.rchomepage.com/cg_calc.htm)

A nice article on cg and stability:

<http://adamone.rchomepage.com/index5.htm>

So once we know where the cg should be how do we determine where it actually is so we can make any changes necessary to move it to where it belongs?

The simple (but not necessarily the best) method is to mark the desired location on the under side of the wings and place your index fingers on those marks and lift the model. If the model sits level on the tips of your fingers you are good to go. Right? Well maybe not. The contact width of your finger tips is about 10mm. That can be greater than the total acceptable cg range for your model. You can also find a variety of commercially available "CG machines" that you can purchase. They all work but in my opinion they all have limitations and some are quite expensive. A year or so ago I came across a "CG machine" design that is simple, clever and extremely accurate. Its called Vanessa. I have no idea why it is called that. Before we get going on this I must state **THIS IS NOT MY INVENTION** but I really like it and I made one in about an hour with stuff from my 20 year box. It will work on a 2oz foamie or a 55 lb monster.

So lets make one. Fundamentally this is a really simple device. It is a plumb bob with a means of adjusting the length of the bob, a means of suspending the model under the bob and a means of leveling the model. So here are the materials we will need:



## Materials list

A dowel about 12" long. I had a 3/4" piece in my shop. This dowel will be used to level the model when it is

(Continued on page 4)

(Continued from page 3)

lifted off of your bench.

A block of wood about 10" to 12" long. Mine is a piece of 1X2 from my scrap bin.

A pulley with an eye for hanging it. Mine is from my 20 year box.

A 1/4-20 bolt about 2" long. This will be used to clamp the dowel to keep it from turning after you level the hanging model.

(3) small screw eyes.

A small plumb bob. I made one from a 1/4-20 socket head screw sharpened on one end with one of the screw eyes soldered into the head end of the bolt.

A piece of light string about 2ft long attached to the eye in the plumb bob.

About 8ft of heavy cord. I used a length of 1/4" braided nylon rope.

A block of wood to hang the pulley from. I used a 6" piece of 1X2 scrap.

A wood screw to attach the pulley to the block.

A "C" clamp to attach the pulley/block to a joist or beam in your shop.

A length of string or cord (not shown) made into a loop that will be used to support the model.

## Part preparation



Drill a hole the size of your dowel near one end of the larger piece of 1X2. Make sure the hole is on the long center line. The dowel should be a snug fit but be able to rotate in the hole.



Drill and tap a hole for the 1/4-20 bolt in line with the dowel hole. Thread the bolt into the hole. This bolt will lock the dowel from turning when it is installed.



Drill a pilot hole in the exact center of each end of the long block. Install a screw eye in each hole.



Attach the long heavy cord to the screw eye on the end opposite from the dowel hole. I made a loop and bound the joint with light string. I applied CA glue to the joint then put a piece of shrink tube over the joint.

(Continued on page 5)

(Continued from page 4)



Here is the small block with the wood screw installed. The pulley will be hung from the screw and the whole thing will be clamped to a joist or beam above your work bench.

### How to use your Vanessa



Using the 12" piece of string make a loop through the end of the plumb bob. I made the loop the same way as I did with the heavy cord.



Attach the small block to something solid above your bench, hang the pulley from the screw you put in the block and run the heavy cord through the pulley. Tie off the loose end of the heavy cord to something solid.



Here is what it looks like when it is assembled.

(Continued on page 6)

ahead of the wing and the rear part is behind the wing.



Lower the Vanessa enough that you can loop the string around the dowel on each side of the large block. **IMPORTANT..wrap the string around the dowel about 4 times making sure that the wraps go in the same direction as in the picture above.** I have put a piece of tape on the belly and I will make a mark where the cg needs to be.

(Continued from page 5)



Make a loop of string or cord (depending on the weight of your model). Use the lightest cord that can safely support your models weight. The length will be determined by the size of your model.



Now take the loop and slip it over the nose and the rear portion of the fuselage. In this example it is around the nose and the prop shaft of the pusher motor. The exact location doesn't matter as long as the front portion is



Now using the heavy cord lift the model off of your bench a couple of inches and secure the cord to keep the model in the air. Now adjust the length of the plumb bob string so that the bob is just above the surface of the model. Now we want to level the model. Loosen the 1/4-20 friction bolt and rotate the dowel to bring the model to a level flight attitude. To be consistent with this I use a small plastic line level resting on the bottom of the fuselage as in the picture below.

(Continued on page 7)

(Continued from page 6)



I happen to know that the placement shown in the picture is parallel to the thrust line.

With the model suspended off of the bench and leveled, the bob points at the location of the current cg. If the bob is in front of the target, you are nose heavy. If it is behind the target you are tail heavy. In the picture I have moved my propulsion battery to put the bob right on the 103mm target location.

## Final notes

Now that I have this built it is always hanging up out of the way above my bench. It only takes a minute or so to lower it and loop the string around the fuselage. Once I've got the model level I remove the level so it doesn't influence the cg location.

For this article I have chosen to hang the model upside down since it was easier to mark the desired location of the cg. The method works just as well if the model is right side up as with a high wing trainer type.

The weight of the suspension string does influence the indicated cg. Use the lightest weight string that can safely support the model. A piece of sewing thread would be appropriate for a micro light model. I have tested the nylon string and screw eyes that I used in my example with a 40lb weight without any issues.



If you don't have a nice spot to put the plastic level I have also used the horizontal stabilizer to level the model. Just make sure that you remove it before you take your cg location. Use the level for consistency between adjustments.

I'm currently working on an ESM 80" electric Junkers JU87G Stuka Kanonenvogel (the one with the huge 37mm cannon mounted under the wings). It's a nice model but the vacuum formed exhaust stacks look really bad so next month I'll show you an easy way to make more scale looking exhaust pipes that you can use on most WWII fighters that use an in-line engine.

**Steve**

## **Editor's note**

*I have no idea what the large spaces are at the beginning of each page. Sometimes MS Publisher "just does it like that" and is so inscrutable that I just give up..... :)*

*Paul*

# Skymasters Open House / Rec 101

Saturday, July 16

Click anywhere in the collage to view the entire photo album on the Skymasters web site

And special BONUS... [CLICK THIS LINK](#)

for a great video produced by ONTV (Orion Neighborhood TV)!





Recently, the club received the following letter from Darryl Watts' wife Jane. Hope to see her at the float fly!

Dear Bob,

Thank you very much for the invitation to the Float Fly and especially for honoring Darrell in this manner. I plan on attending the event on Saturday - my flight connections are on Sunday, so I won't be there both days.

Darrell enjoyed his time in Skywriters. His background was in marketing and advertising and through the years put these skills to use promoting the float fly. (In the days before internet, I stuffed hundreds of envelopes inviting people to attend.) He got to know people with the RC magazines and got many articles and pictures published.

Let's keep our fingers crossed for nice weather for that weekend. I realize there are probably not too many of the "old crew" still there but I look forward to meeting you. Jane

# Help Wanted:

Skymasters RC Club of Lake Orion is looking for people to fill several positions. Some long term some short term. Open positions available are:

**Staff Photographer:** work with Webmaster and Newsletter Editor to photograph club meetings and events and submit for publication and upload to the club website archive.

**Staff Writer:** need individuals who attend the many various Skymasters events, and document the event by writing an article for the club Newsletter the Skywriter. Writers don't need to attend everything and are welcome to contribute by writing some general interest articles also.

**PR/Promotions:** looking for Skymasters to help on promoting our upcoming summer events in various ways, such as distributing flyers and brochures in Lake Orion and surrounding communities. Looking for a few Skymasters who would sit at a table with a couple of display aircraft and give out brochures etc. (like outside of Kroger in Lake Orion etc.) a few days this summer.

**Grill Chef:** we are always looking for help to perform one of the most important tasks of our club... keep us well fed. Our Chief Cook, Bill Dezur is on sabbatical for some of our events this year we are looking to fill some key positions for some of our big events. Shift work available and you can eat for free. We will need help at our Sunday May 15 float fly and Wednesday June 15 fish fry as well as many other infrequent opportunities. Your help is appreciated.

**Sanitation Engineer:** keeping our flying field looking nice involves everyone's hard work constantly picking up around the field. We need someone or several people who will just take it upon themselves to just sweep the cement area under the pavilion as often as possible. Along with this task and also asked of all members is to take home the trash from the trash bins at least once per year. Anyone who is able to do this we are grateful to. Seems like a simple thing except when you show up at the field the morning of an event and both trash cans are overflowing. We need your help to keep the trash flowing! We have several places we can dump the bags of trash, locally, the problem is transporting them from the field to those dumpsters. Not all of us have trucks that can easily do this. Please do not try to take the trash home in your car or SUV even if you double bag it because it will leak.



**Watch for more Job Postings in the Skywriter**

2016



# WARBIRDS & SCALE



Radio Control Model Aircraft

OPEN TO  
THE PUBLIC

**Air Show—Fly In**  
Skymasters RC Club Lake Orion, MI  
Sunday August 7, 10:00 a.m.



Scripps Road Flying Field Part of Bald Mountain Recreation Area

~ 4 miles north of the Palace of Auburn Hills on West Scripps Road between Joslyn and M-24



- Public Welcome ○ Food & Refreshments ○ No Landing Fees
- Flying Open to AMA Members ○ Plenty of Parking
- Pilot Prizes ○ Civilian & Military RC Scale Aircraft
- Restroom Available ○ AMA Sanctioned

[www.skymasters.org](http://www.skymasters.org) | email: [warbirds@skymasters.org](mailto:warbirds@skymasters.org)





Darrell Watts Memorial  
26th annual  
Skymasters RC Club



# Midwest Regional Float Fly

September 10-11, 2016



Join us at Island Lake State Recreation Area, Kent Lake  
in Brighton, Michigan for the premier Float Fly in the Midwest.

The 2016 MWRFF™ hosted by Skymasters RC Club invites you for a weekend of flying, friendship and fun for the whole family. With the 1000' sandy beach and beautiful Kent Lake the Island Lake State Park offers one of the best float flying venues, overnight RV camping. There will be food and refreshments, pilot prizes, and lots of other exciting surprises.

Go to: [www.skymasters.org/MWRFF](http://www.skymasters.org/MWRFF)  
and see 25 years of videos & photos and for more information.

You can even register early and save \$5\*.

Email: [floatfly@skymasters.org](mailto:floatfly@skymasters.org) for more information.



**Darrell Watts  
Memorial  
26th Annual**



**Midwest Regional Float Fly  
September 10-11, 2016**



*We will be giving away a Super Stearman (pictured here) on floats from Darrell's prized collection as one of our pilot prizes. It has a 72" wingspan and is powered by a Saito 150 four-stroke engine.*

*So sign up now for the [MWRFF2016](#)*

**For more information go to:**

**[www.skymasters.org/MWRFF](http://www.skymasters.org/MWRFF)**

**Email: [floatfly@skymasters.org](mailto:floatfly@skymasters.org)**

**Register NOW, before August 1 and get an extra entry in the pilots' prize drawing and win the Stearman!**

**Mark Your Calendar Now—Register Soon—Don't Miss it!**

# 2016 FLYING EVENTS

SKYMASTERS RC CLUB – LAKE ORION, MI



## May 2016

Wednesday June 18 – **Student Flight Training & Potluck** begins each Wednesday

Sunday May 22—**Spring Float Fly [Chet Brady]**

## June 2016

Wednesday June 15—**Fish Fry Dinner & Member Appreciation**

Saturday June 25-26—**Electric & Night Fly In**

## July 2016

Saturday July 16 –**OPEN HOUSE – AIR SHOW Recreation 101**

## August 2016

Sunday August 7—**Warbirds and Scale Fly In**

Sunday August 28—**Corn Roast and Top Gun Flying**

## September 2016

Sat & Sunday September 10-11—**Midwest Regional Float Fly**

Saturday September 24—**Skymasters Fun Fly**

## November 2016

Tuesday November 1—**Indoor Flying Season Begins**

## December 2016

Saturday December 31—**Krazy Snow Fly**



all dates subject to change – PLEASE always consult current information on website: [www.skymasters.org](http://www.skymasters.org)

# ON THE WING

**Skymasters Student Night and Pot Luck Every Wednesday at the field. Flying any time but we eat at 6PM**

For those participating we ask that you:

- Bring something for the grill - enough to at least feed you and your guests
- Bring a dish to pass (see notes below)
- Bring your own (non-alcoholic) beverage

**We eat at 6pm - rain or shine!** The potluck is sustained by those participating, with no expense to the club.

**Something for the grill:**

The obvious choices are burgers, sausages/brats and hot-dogs - but other alternatives are welcome. If you bring it - we will cook it! Already this year we have cooked pork tenderloin and chops, salmon, venison burgers and more.

Don't forget the buns if appropriate for your contribution!

We start cooking about 5:30 - having grill items available by then helps us get everything ready on time.

Dish to pass: Don't know what to bring? Each week a board will be up listing supplies needed - from plates to condiments, charcoal, etc. Pick one of the needed items to bring instead!

Not one to cook? A quick stop at local supermarket deli for a side salad, or bakery for dessert always works.



## **Skymasters Breakfast** (Everyone is welcome)

First and Third Monday of each month  
*through the summer*

**9AM**

Red Olive restaurant

In the strip mall on Walton  
across from Crittenton Hospital

**Rochester MI**

## **2016 FLYING HOURS**

**QUIET ELECTRICS** only from  
8AM to 10AM and 8PM to  
10PM *The noise limit during  
these hours is 80 dBa at 10  
feet. If in doubt, don't fly.*

Regular flying is permitted  
between 10 AM to 8 PM

*The noise limit during these  
hours remains 94 dBa at 10  
feet.*

# August 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	<p>1</p> <p>Skymasters Breakfast 9AM</p> <p>Red Olive, Rochester Hills</p>	2	<p>3</p> <p>Addison Oaks Float Fly 9AM</p> <p>Addison Oaks</p> <p>Student night and pot luck 3PM (dinner at 6PM)</p> <p>Scripps field</p>	4	5	6
<p>7</p> <p>Warbirds and Scale 10AM</p> <p>Scripps Field</p>	8	9	<p>10</p> <p>Addison Oaks Float Fly 9AM</p> <p>Addison Oaks</p> <p>Student night and pot luck 3PM (dinner at 6PM)</p> <p>Scripps field</p>	11	12	<p>13</p> <p>Milan Flyers Open House and Swap 12PM</p> <p>Vern Campbell Park Milan, MI</p>
14	<p>15</p> <p>Skymasters Breakfast 9AM</p> <p>Red Olive, Rochester Hills</p>	16	<p>17</p> <p>Addison Oaks Float Fly 9AM</p> <p>Addison Oaks</p> <p>Student night and pot luck 3PM (dinner at 6PM)</p> <p>Scripps field</p> <p>Skymasters Meeting 7PM</p> <p>Scripps field</p>	18	19	20
21	22	23	<p>24</p> <p>Addison Oaks Float Fly 9AM</p> <p>Addison Oaks</p> <p>Student night and pot luck 3PM (dinner at 6PM)</p> <p>Scripps field</p>	25	26	<p>27</p> <p>CARDS Electric Event 9AM</p> <p>CARDS Field Grand Ledge</p> <p>PMAC Flying Circus 2PM</p> <p>PMAC field White Lake</p>
28	29	30	<p>31</p> <p>Addison Oaks Float Fly 9AM</p> <p>Addison Oaks</p> <p>Student night and pot luck 3PM (dinner at 6PM)</p> <p>Scripps field</p>			



# Skymasters Information...

[The Skymasters field is located in Lake Orion, within the Bald Mountain Recreational Area](#) on Scripps Road, between M24 and Joslyn (see map). A recreation passport or sticker is required and can be obtained from the Park Headquarters located on Greenshield Road or you can check the box on your tab renewal for a "Recreational Passport".

## Flying hours:

**QUIET ELECTRICS ONLY from 8AM to 10AM and 8PM to 10PM.**  
**The noise limit is 80dBa at ten feet.**

Regular flying is permitted between 10 AM to 8 PM. **The noise limit is 94 dBa at 10 feet.** These noise

limits are enforced.

**Wednesday evening (through August) is Family Night** with flying and a pot luck buffet. Bring something for the grill & a dish to pass.

**Wednesday 5PM to 8PM is also Student Night (through August)** Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Ken Gutelius, 248-892-2943, cfi@skymasters.org

From June through August, club meetings are held at the field, on the second and fourth Wednesday of the month at 8 PM. A great chance to fly and socialize. **Winter meetings**

(September through May) are held at the Orion Center, 1335 Joslyn, in Lake Orion. Check the calendar here or on the [web site](#) for specifics. Bring a model for Show and Tell, enjoy coffee and donuts and listen to the speaker of the evening.

The Skywriter newsletter is available online at the Skymasters web site and is free to all. It may also be printed from the web site if desired. All contributions are welcome. Please send photos and articles to [newsletter@skymasters.org](mailto:newsletter@skymasters.org) If you know of anyone who may be interested in R/C Aviation, please give them a link to this newsletter or give them a copy of an AMA magazine. It may spark their interest!



## 2016 Club Officers & Appointees...

President:	Bob Chapdelaine	Lake Orion	president@skymasters.org
Vice Pres.:	John Billinger	Troy	vicepresident@skymasters.org
Secretary:	Pete Foss	Oxford	secretary@skymasters.org
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EOC at large	Jon Grigsby	Ortonville	at.large3@skymasters.org
EOC at large	Paul Goelz	Rochester Hills	at.large1@skymasters.org

## Newsletter Submissions

Please send all articles, photos and announcements to the Skywriter editor at:

[newsletter@skymasters.org](mailto:newsletter@skymasters.org)  
 Deadline is the 20th of each month.

The Skywriter newsletter is published monthly by the Skymasters Radio Control Club of Michigan

[www.skymasters.org](http://www.skymasters.org)