

official digital newsletter of
Skywriter
AMA Charter Club #970 www.skymasters.org 24 year Gold Leader Club



Skymasters Radio Control Club of Michigan

it's another beautiful day at Skymasters...

July, 2018



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This month we celebrate the fourth of July! Happy Independence Day! As proud citizens of the United States of America, we are celebrating a great holiday of our nation. May it be a beautiful day of self-awareness, patriotism, kindness, and love. Have a wonderful Fourth of July!

As a club we focus on our **Open House - Air Show - Recreation 101**, all one event coming up very soon, **Saturday July 14, 10:00 a.m. to 2:00 p.m.** where we promote our club to the public by doing what we do best, flying! We promote our club and the park to the public. We appreciate the Skymasters and PMAC and other clubs' participation in making this a great show. Mark your calendar, tell your friends, grab some flyers from the field or at Flightline or print them off the website and put them up at the local stores, churches and local businesses and invite everyone you know to c'mon out to Skymasters for a great day of flying! (Last minute announcement is that we will NOT have the full-scale CBP helicopter landing for this event - no crew or heli is available at this time).

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Student Flight Instruction and our weekly potluck takes place each Wednesday beginning around 5:00 p.m.

Lastly, our new control line, multi rotor, heli field has now been seeded. We had a great crew out last weekend working in the heat to rake and pick up the rocks. It's coming along well.

Later this month we have the Wing It Design Fly contest Sunday July 28, at 3:00 p.m. Next month in August we have our Warbirds and Scale Event on Sunday August 5.



Bob Chapdelaine

President, Skymasters RC



Front Cover

Keith Shaw and his "Vampyr" powered glider. Truly spectacular in the air.... See the Electric Fly In album in this issue for several more photos.

Paul Goelz photo



Viper II design and build

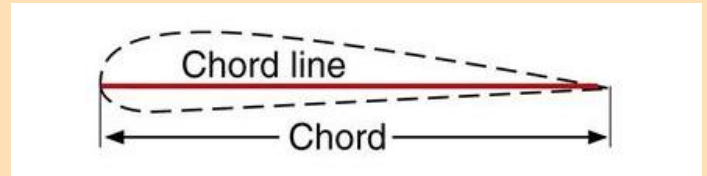
This month we will be starting a series of articles that will start with the original design of a model and end with the construction of that model. In doing this series I will be trying to keep things simple when in fact aerodynamic and structural design can get extremely complicated (lots of math). I will be drawing heavily on the work of others who have designed successful models and easy to use online calculators to work out the stability margin and center of gravity.

So why do this at all? After all there are hundreds, maybe thousands of designs with drawings available on line. There are many fine kits available also. For me there are several reasons. First, I get personal satisfaction in doing the design as well as the construction. Second, I want a sport aerobatic model of a very specific size, configuration and appearance to use a very specific engine. In this example, the list of existing designs to meet those requirements essentially went to zero.

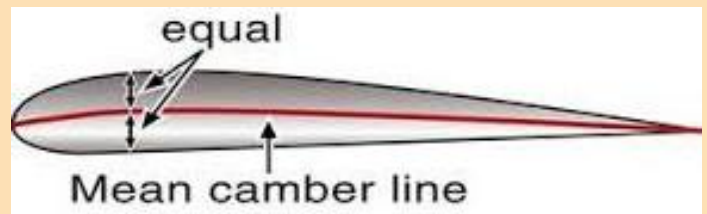
So here are the preliminary specifications:

- Sport aerobatics capable
- 70 inch wing span
- 700 square inch wing area
- Mid mounted plug in wing
- Less than 25oz/square foot wing loading
- Tapered wing plan form
- Modern "pattern plane" look
- Vintage Ross_60 (10cc) 2 cylinder engine

So where will we start on this. Let's start with the wing airfoil and construction that we will use. There are thousands of potential airfoils for this airplane. First, a bit of terminology. All airfoils have something called a chord line. It is a line drawn from the trailing edge of the airfoil through the center of the circle defining the leading edge.



Another airfoil term is mean camber line. It is a line that is drawn at an equal distance from the airfoil top and bottom surface,



Airfoils can be grouped into two main types; symmetrical and asymmetrical. The difference between them is that in a symmetric airfoil the mean camber line is straight and falls on top of the chord line and an asymmetric airfoil has a curved mean camber line as above. Why do I care about this? Well, the selection of symmetric or asymmetric airfoil has a huge impact on the way a plane flies. A symmetric airfoil works the same whether it is right side up or upside down. Modern pattern planes and aerobats use this kind of airfoil to help make the plane have neutral pitch behavior thus making aerobatics simpler to perform well.

Asymmetric airfoils can still do aerobatics but require more elevator correction when flown inverted and the lift increases quickly as the speed goes up. This is a problem when doing maneuvers where the speed varies. Doing a round loop takes more correction than with a symmetric airfoil. However, for trainers and mildly aerobatic planes this increasing lift helps a model pull out of a dive by itself.

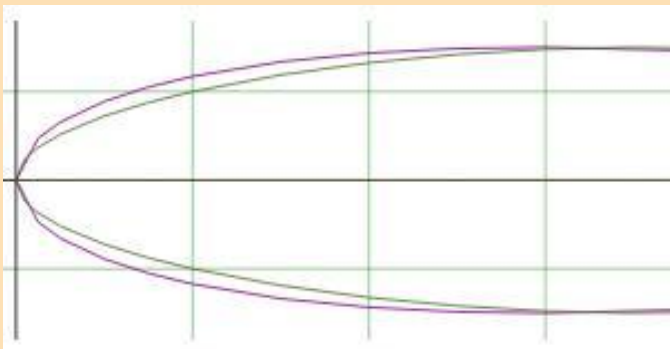
So, for this model I will be selecting a symmetric airfoil. There are thousands of symmetric airfoils to choose from so how do you pick one? The NACA airfoil catalog

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"names" airfoils with numbers that describe certain characteristics of the airfoil. NACA groups airfoils with similar characteristics. Two groupings of particular interest to me are the 4 digit grouping and the 6 digit grouping. The 4 digit grouping contains the very popular 00XX series of symmetric airfoils. The 00 first two digits indicates that the airfoil is a symmetric one and the 3rd and 4th digits tell us how thick the airfoil is. For example a NACA 0015 is a 15% thick symmetric airfoil. So, an airfoil with a 10" chord length is 1.5" thick at its maximum thickness.

A very popular modern pattern plane airfoil is the NACA 6 digit airfoil NACA 63-015. For this airfoil name the 1st digit is the series number, the 2nd digit indicates the location of the lowest pressure as a fraction of the chord length (generally the point of greatest thickness) the third digit is a modifier (obscure purpose) the 4th digit is the design lift coefficient and the 5th /6th digit identifies the profile thickness. Below is a plot showing the differences in the first half of the airfoils.

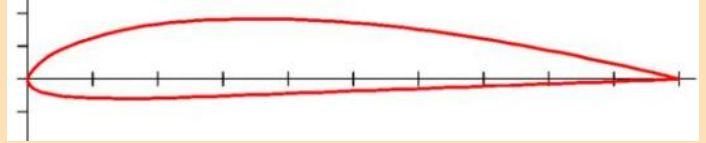


NACA 0015 and NACA 63-015 airfoils

The fatter profile is the NACA 0015 and the other one is the NACA 63-015 airfoil. So why choose one vs. the other they are pretty similar right? It turns out that for common airfoils like these the "blunter" the nose of the airfoil the more gentle the stall characteristics. So in this case, the 0015 is a little fatter near the leading edge and thus is a little more forgiving than the 63-015. But the flip side of that is that the 63-015 having a more abrupt stall characteristic will perform snap maneuvers better. So, I'll be using the NACA 63-015 profile.

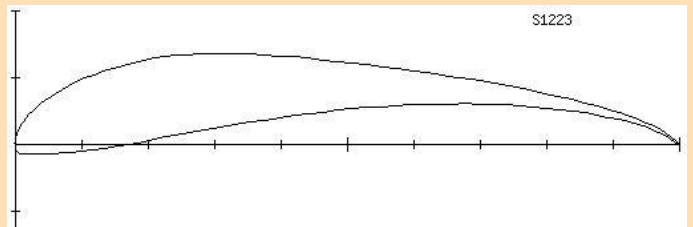
I can't leave this basic discussion of airfoils without mentioning a few other airfoil types. First, there is the "flat bottom" group of airfoils. These fall into the asymmetrical grouping and are characterized by a flat bottom surface for most of the profile. Most common of these is the "Clark Y" airfoil. It's a relatively high lift airfoil with a very gentle stall characteristic. This makes the Clark Y a very popular airfoil for trainers.

But generally, the flat bottom airfoil aerodynamic characteristics do not lend themselves to good aerobatic performance. One nice thing about flat bottom airfoils is that they are easy to build on a flat surface. There are MANY flat bottom airfoils. Only one of them is a Clark Y. All others have a different name and different aerodynamic characteristics. There is a tendency to call all flat bottom airfoils a Clark Y when in fact there is only one true Clark Y airfoil,,,,just so ya know.



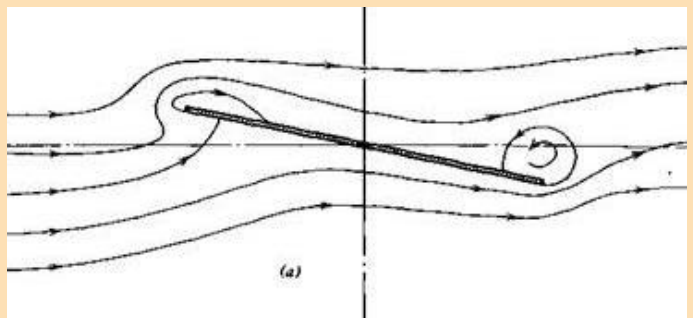
Clark Y airfoil

Next, there are the very highly cambered airfoils where both the top and bottom surfaces have an upward curvature. These airfoils have a very high lift coefficient and were developed after observing the shape of a bird wing. Very early airplane designers used these airfoils believing that nature's solution must be best. Many modern free flight model airplanes use these airfoils because of their high lift characteristics.



Modern "highly cambered" airfoil

Finally there is the "flat plate" airfoil most commonly used on small foamies. These are not very efficient and have poor aerodynamic characteristics. Having said that they do work surprisingly well for low speed very light models. The main attraction I think is that flat plate wings are so easy to make from sheet material.



Flat plate airfoil

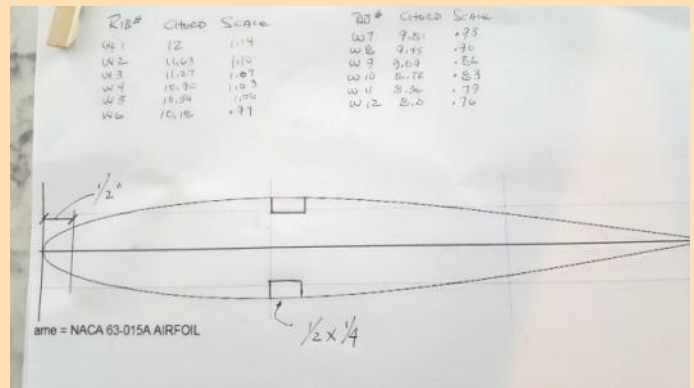
Another term to learn is angle of attack. As a wing with a particular airfoil moves through the air, the wing may

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be inclined to the flight direction at some angle.

The angle between the chord line and the flight direction is called the angle of attack and has a large effect on the lift generated by the wing. An asymmetrical airfoil generates lift even if its chord line is parallel to the direction of flight (0 degree angle of attack). A symmetrical airfoil does not generate lift at 0 degree angle of attack. Since we will be using the symmetric NACA 63-015 airfoil we need to deal with this one way or another in the final design. More on this later.



Spar and leading edge NACA 63-015

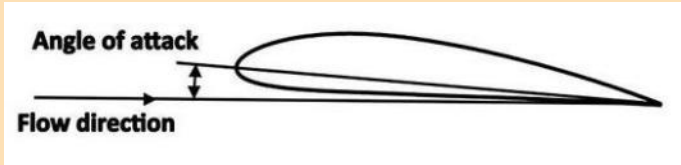
To assemble the wing I make a very simple full scale drawing on banner paper I get at the office supply store. Banner paper comes in 24" and 36" wide rolls 20ft long and is great to draw on. Just cut a piece big enough for your wing and tape it to the surface of your work table. My wing drawing consists of two lines. The first is the fore / aft center line of the wing. This will be where the root (first) rib will be placed. The second line will be at 90 degrees to the root rib line and will be the line that will be used to align the spars.

The wing will be assembled using the same steel rod fixture and rib spacer technique that I used in the Taurus wing build article a couple of months ago. It is such an easy method for scratch builds where alignment tabs are used on a hand cut rib set.

So we have selected the airfoil for the model but to complete the design of the airplane we have to determine the size of all of the aerodynamic parts and the dimensional relationships between them.

Starting with the wing we initially decided on an area of 700 square inches and a wingspan of 70 inches. Those dimensions are fairly common for .60 size models. We must now determine the chord lengths of the root rib and the tip rib to satisfy those dimensions. For a tapered wing we will need an average chord length of 10" (700square inches/70inches). So we need to determine the root chord and tip chord that results in an average of 10". I don't like really narrow/thin wing tips or really wide root chords. I like a 1:1.33 tip to root ratio strictly for the looks (no science here). This results in a root chord of 12" and a tip chord of 8". I'll introduce another term here: "Mean Aerodynamic Chord" (M.A.C). We will use that a little later. The M.A.C. is the location of an airfoil chord that is the average of the root chord and tip chord. In my case the root chord is 12" and the tip Chord is 8" so the M.A.C. is 8". The illustration be-

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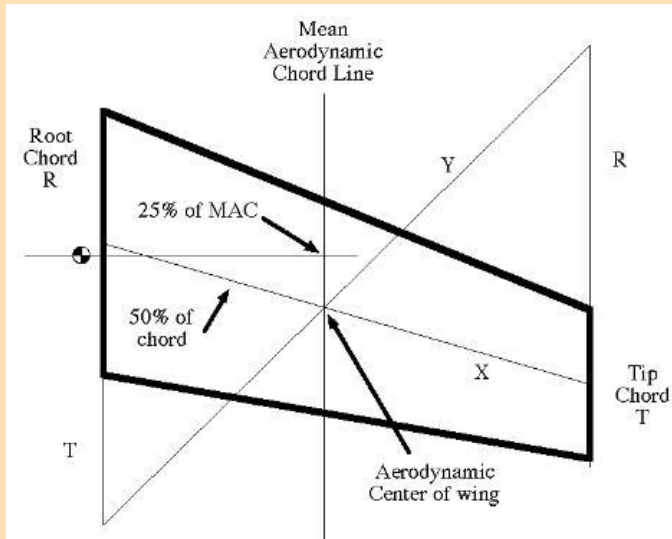


Angle of attack

The wing will be tapered which means that all of the wing ribs will be different from the center to the wing tip. Each airfoil has published shape data available on the internet. You can use airfoil plotting web sites such as airfoiltools.com and others to plot an airfoil. I plot and print the airfoil at a convenient size and then use the enlarge / reduce function in my printer to get each of the different ribs I need for the tapered wing. If you are CAD capable you can input the airfoil data points and scale as necessary to get your ribs. If you have followed my articles over the years you probably know that I do not spend a huge amount of time doing completely detailed drawings. It is my opinion that if you have ever built a model from a kit or commercial plans you don't need most of the details to build a simple wing like this will be. This is especially true for one off designs such as this one. As this design and construction proceeds you will see what I mean. If you enjoy doing the fully detailed design via conventional drafting or CAD, by all means do it. This hobby is about having fun...Right?? A lot of what I do and the way I do it is to benefit those who may not want to get involved with CAD or lasers. Call it old school if you like but for me it is easier and faster for a one off design and I get good results. So let's talk about making the rib templates from the paper plots of the airfoils. Since we created the different sizes by enlarging and reducing using a printer none of the standard size parts can be included since they get enlarged/ reduced from the proper nominal size. A case in point is the spars. I will be using $\frac{1}{2}$ " x $\frac{1}{4}$ " balsa so I will hand draw the slots on the paper templates. The leading edge will be $\frac{1}{2}$ " balsa so I will draw the trim line on each of the ribs. The whole process just takes a few minutes.

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low shows how to locate the M.A.C. graphically. This is extremely important for determining the center of gravity of a model with a tapered and/or swept wing.



Mean aerodynamic chord line

There is one more thing we need to determine for the wing. That is the dihedral. The dihedral is the angle between the right and left wing panels when viewed from the front or back. The dihedral helps determine the roll stability. The greater the dihedral the more the aircraft tends to self-level (in the roll direction). Less dihedral is common in pattern planes where self-correction is not necessarily desirable. So in that case 0 degrees of dihedral would be more desirable. For me, the problem with Odegree dihedral is that the wings appear to be drooping (especially tapered wings). What I like to do is build my wings such that the top surface is 0 degrees

(flat). Since there is a difference in thickness from the root to the tip because the wing is tapered there is the appearance of a bit of dihedral. For me it is a good look and I'm willing to pay the small aerodynamic consequences. There is another reason I like this configuration that we will talk about during the construction of the two piece wing.

Back "in the day" there was a guy named Jimmy Greer who was a notable Chicago pattern flyer in the early to mid-1960. Jimmy's planes were very distinctive in those days because he built his wing with negative dihedral (anhedral). This made his planes very unstable in roll when he was flying upright but more stable when inverted. He had the skill to fly them well with that wing design. Keep in mind that this was before proportional radios! I mention this because Jimmy was willing to go against the standard of the day because he thought he could get an edge with the better inverted performance. The lesson here is that the best design is what works for YOU which may not be what everyone else does. This article pretty much describes what everyone else does because it has been shown to work well for most people. If you want to get into the R&D mode to try something different, go for it. It can be extremely rewarding when you get it right.

I'm going to end this month's article here. Next month we will get into the design of the rest of the plane dealing with tail volume coefficient, tail moment, center of gravity and stability margin. If it sounds kind of complicated, it isn't since we will be using online calculators that take all of the hand calculations out of it.

Steve Kretschmer



Student night, July 4th. Reminds me of a line from Porgy and Bess..... "Its Too Damn Hot".

2018 Electric Fly

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



2018 Skymasters Control Line event

Another great day of control line flying began with ominous skies and warm temperatures, and it started raining right on cue at 10:00AM! The rain would not last long however, and it quickly dissipated and left us with overcast skies, reasonably warm temps and near dead-calm conditions. As the rain passed through, the growing number of C/L pilots started to line up their aircraft and roll out their lines.

As captured in the photos, there was an impressive display of aircraft present—everything from RC-throttled glow and electric control line airplanes, to timer-equipped electric stunters as well as a wide variety of conventional glow-powered stunt, sport and combat airplanes. Before too long, we were treated to seeing the pilots put the aircraft through their paces, thrilling the many spectators that had gathered. The balloon bust was exciting to watch, and also exciting for the pilots brave enough to give it a try.

As the noon hour approached, Ivan Dulskij was busy at the grill preparing the burgers, dogs and brats for the hungry group. As usual, he did an

outstanding job. Be sure to thank Ivan for his services to our club. You can find him manning the grill at on most Wednesday Student Nights, as well as many other Skymasters events throughout the year.

As flying drew to a close, the pilot / participant drawing was held. This year the grand prize was the classic Sig Twister kit. The lucky winner was Skymaster Dan Stolz—Congratulations Dan! Hope to see that bird completed soon!

I'd like to thank all of those that helped to prepare and run this event, including Bob Chapdelaine (field mowing) Steve Kretschmer (co-event director) and Ivan Dulskij (kitchen). Your efforts are truly appreciated!

In closing, I'd like to put in a quick plug for our newly-expanded multi-purpose area (across the parking lot on the south side of Skymasters field), especially designed for multi-rotors, helicopters and control-line aircraft. Due to the efforts of many Skymasters members, within the next few weeks it will be ready for its first mowing and members should be able to start using it soon thereafter. Looking forward to seeing many of our members become regular users of this new and improved area!

Jim Satawa



Skymasters "Rock Party"

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



Five Minutes on Safety

Random Thoughts

Range check

- It is a good idea (that many of us ignore) to do a range check before each new flying session. A known good radio system can fail, and you never know when that might happen.

Prop safety

- ALWAYS treat the propeller on an electric aircraft like a loaded gun whenever the battery is connected.
- ALWAYS treat the propeller on a fuel powered aircraft with extreme respect when the engine is running. Take extra time to think it through when making any needle valve or engine adjustments with the engine running.
- ALWAYS make sure that any cords or cable (like remote glow starters and starter power cords) are well clear before starting the engine.

Throttle Hold switch

- ALWAYS program, understand and USE a throttle hold switch on your transmitter if the transmitter includes that function. A THROTTLE HOLD switch is different than a THROTTLE KILL switch and is useful on both fuel powered and electric aircraft.
- The THROTTLE HOLD switch locks the throttle channel to idle (fuel powered) or zero throttle (electric) and prevents the throttle from advancing unless the switch is placed in the "non-hold" position.

Battery disconnect

- Electric aircraft are MUCH safer if they are equipped with a master battery disconnect switch, accessible from the outside of the aircraft with all hatches closed / in place. The disconnect usually takes the form of a shorting plug that can be seen and when NOT inserted, you know for sure that the motor is disabled. This is even more important if the battery plug is not easily accessible in an emergency.

Taxi safely

- It is good practice when taxiing not to aim directly at an opening between flight stations. When taxiing back to the pits, I angle towards a flight station until I get close and then I taxi parallel to the flightline until I reach the opening where I am standing. While still aiming east or west (ie., NOT towards the pits) I shut the motor down and then carry or tail walk the aircraft back to the pits.

Help Wanted at Skymasters



Website Content Editor Updater

Looking for a club member who can keep our club website calendar and website events updated. Requires a little skill getting around but most of it is auto-

mated. Training provided and most of the information is provided for you to add to the site. If you are interested let Bob, club president or Greg, webmaster know.

Email: president@skymasters.org or webmasters@skymasters.org. Thanks!

Club Email System Notice

We have a great club email system. Just an FYI, when you have something to sell or list for sale (or looking for something) please use the

"classifieds@skymasters.org". I encourage use of this email mail list system. Our member to member email address "members@skymasters.org" is for general communications between our members. We have several other great email addresses (actually many) such as the "indoorfly@skymasters.org", floatfly@skymasters.org, and many other email lists that you may be on by default. For a complete list, [click this link](#) (you will need to log in with your Skymasters credentials to view the addresses). Each mail list has a specific purpose for our very active club and you'll see that the emails that come as official club communications, i.e. club leadership, event directors or club officers, etc. are marked that way... either way you have control over the emails you receive or don't want to receive... by going to your member profile in your Skymasters Profile and "edit my profile" and then "Edit Email Subscriptions/Options:" I would really advise you to NOT change these unless there is some problem. Email is the primary way we communicate what is happening in our club! NOTE: to communicate TO the club you must use the email address you registered with on the site. Also, it is great when you log into the Skymasters website too! www.skymasters.org.



Skymasters RC Club of Lake Orion

presents **Radio Control Model Aircraft**

Air Show

Open House—Recreation 101



**Bald Mountain Recreation Area Lake Orion, MI
West Scripps Road Between M-24 & Joslyn Road**

Sat. July 14, 2018 10-2pm

food and refreshments

F-16 F-18 jet formation flights

full scale helicopter landing and close-up on runway*

nationally sponsored young pilots

precision aerobatics

flight simulators

quads, multi-rotors & FPV display & demos

many, many static displays

all day demonstration flights

bleacher seating, picnic tables, & rustic restroom

bring your own blanket or lawn chairs for viewing
and relax on the lawn—fun for the family!



www.skymasters.org





Skymasters

**Midwest Regional
Float Fly**

SEPTEMBER 8-9, 2018

SEVEN LAKES STATE PARK-HOLLY MICHIGAN

**LARGEST FLOAT FLY IN THE MIDWEST
LARGER BEACH AREA AND PARKING CLOSE TO BEACH**

Event Registration: www.skymasters.org/mwrff

State Campsite Reservations: www.midnrreservations.com

Make your reservation 6 months in advance to ensure you will get a campsite for event

**EMAIL: FLOATFLY@SKYMASTERS.ORG FOR MORE INFORMATION
OR CALL DAVE WENDT (313) 938-9854 OR 248-805-1404**



2018 CLUB EVENTS

SKYMASTERS RC CLUB – LAKE ORION, MI



April 2018

Saturday April 21 — **Involvement Day** – Bald Mountain

May 2018

Saturday May 12 – **Field Opening/Work Day** – Scripps Road Flying Field; Lake Orion

Sunday May 20 — Chet Brady - **Spring Float Fly** – Bald Mountain Trout Lake; Lake Orion

Wednesday May 30 – **Student Flight Training & Potluck** begins – Scripps Road Flying Field; LO

June 2018

Saturday June 9 — **Night Fly (evening)** – Scripps Road Flying Field; Lake Orion

Sunday Jun 10 – **Electric Fly** – Scripps Road Flying Field; Lake Orion

Saturday June 16 — **Control Line Fly In** – Scripps Road Flying Field; Lake Orion

July 2018

Saturday July 14 – **Open House Air Show 2018 - Recreation 101**– Scripps Road Flying Field

Saturday July 28 – **Flightline Wing It Contest Fly** – Scripps Road Flying Field; Lake Orion

August 2018

Sunday August 5—**Warbirds and Scale Fly In** - Scripps Road Flying Field; Lake Orion

Sunday August 12 – **OCIA Airshow & Open House** at Pontiac Oakland International Airport

Sunday August 19—**Corn Roast and Top Gun Flying** - Scripps Road Flying Field; Lake Orion

September 2018

Sat. – Sun. September 8-9 - **Midwest Regional Float Fly** – Seven Lakes State Park Rec. Area, Holly

Saturday September 22- **Skymasters Fun Fly** - Scripps Road Flying Field; Lake Orion

October 2018

Indoor Flying Season Begins – Ultimate Soccer Arenas; Auburn Hills

December 2018

Christmas Party – Orion Center; Lake Orion

Monday December 31—**Krazy Snow Fly** - Scripps Road Flying Field; Lake Orion

all dates subject to change – PLEASE always consult current information on website: www.skymasters.org

ON THE WING

Skymasters Breakfast (Everyone is welcome)

First and Third Monday of each month
through the summer... and beyond!

9AM

Red Olive restaurant

In the strip mall on Walton
across from Crittenton Hospital

Rochester MI



Skymasters Student Night and Pot Luck Every Wednesday at the field (beginning May 30th). Flying & in- struction 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 hotdogs - 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.

July 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4 Float Fly 9AM Addison Oaks Student Night & Pot Luck 5PM Scripps Field	5	6	7 Saturday Breakfast 8:30AM Iris Café
8	9 Skymasters Breakfast 9AM Red Olive, Rochester Hills	10	11 Float Fly 9AM Addison Oaks Student Night & Pot Luck 5PM Scripps Field	12	13	14 Saturday Breakfast 8:30AM Iris Café Skymasters Open House 10AM Scripps Field
15	16	17	18 Float Fly 9AM Addison Oaks Student Night & Pot Luck 5PM Scripps Field	19	20	21 Saturday Breakfast 8:30AM Iris Café
22	23 Skymasters Breakfast 9AM Red Olive, Rochester Hills	24	25 Float Fly 9AM Addison Oaks Student Night & Pot Luck 5PM Scripps Field	26	27	28 Saturday Breakfast 8:30AM Iris Café Flightline "Wing It" con- test Fly Off 3PM Scripps Field
29	30	31				

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.

Student Instruction & Pot Luck

Every Wednesday, May through September. Flying any time but we eat at 6:00 p.m. - rain or shine, literally!
 For those participating we ask that

you bring something for the grill - enough to feed (at least) you and your guests -OR- bring a dish to pass -OR- bring your own (non-alcoholic) beverage. **Something for the grill:** The obvious choices are burgers, sausages/brats and hotdogs - but other alternatives are welcome. If you bring it we will cook it! We've cooked pork tenderloin and chops, salmon, venison burgers, steaks and more. Don't forget the buns.

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

Potluck dish to pass: Don't know what to bring, working late? Each week we'll let you know what is needed for the next week 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!

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. 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 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!



2018 Club Officers & Appointees...

President:	Bob Chapdelaine	Oxford	president@skymasters.org
Vice Pres.:	John Billinger	Troy	vicepresident@skymasters.org
Secretary:	Phil Saunders	Rochester Hills	secretary@skymasters.org
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Please send all articles, photos and announcements to the Skywriter editor at:

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