



**SKYMASTERS RADIO CONTROL CLUB
OF MICHIGAN**

AMA Chartered Club #970
16 Year Gold Leader Club

www.skymasters.org



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From the President...



As the season kicks off we are excited to have the new heli field almost ready for operation. Actually, if you have a smaller heli it might be suitable right now as the area was leveled during our field beautification project and flight stands

have been constructed and placed on site. Thanks again to everyone who participated in this project. For the larger helis we are working on flattening the edge of the farm field.

This would be a good time to tell you some of how the heli field came to be. If you attend meetings regularly you might know some of this already. We had begun negotiating this addition last year with the majority of

the details worked out in February of this year. The DNR was reluctant to change any of the boundaries of the current leases (ours and the farmer's) so the heli are has been constructed entirely on "our side" of the line.

However, Mark (the farmer) has agreed to allow us to use the edge of his field as part of the landing area. We cannot improve it in any permanent way but we can stomp/roll it flat and cut down any weeds that grow there. Mark has been 100% cooperative through this process and we should show him and his workers the utmost courtesy at all times.

Part of our agreement was to continue to allow him access to his field through the gap in the trees where

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we have the heli area. I have told him that he can move flight stands or any other equipment if he needs to. Better yet would be if we move it for him if someone is there to do so. And any time that there are workers in that field, flight operations must be stopped in order to avoid overflying them. They are only in the field a couple of times a year so the interruptions should be minimal.

I look forward to seeing everyone at the field this summer. And I'm excited for some of the great events that we have planned. Please come out and enjoy!

Ken Gutelius

President, Skymasters

kennanc@msn.com



Front Cover:

Paul Goelz and his Hughes 500D enjoying the inaugural flight in the new Skymasters heli field. All it needs is.... Grass ;)

Fred Engelman photo

The 2013 instructor crew.... In front of a really angry sky and nearly straight out wind sock. We will teach you to fly.... In spite of the weather!

Propwash

By

Joe Finkelstine

May, 2013



The death of glow?

Hi All,

Well, this month I want to pontificate on something I am seeing less and less at the field and that is the glow engine.

Certainly, most of you know what one of these are, but for those of you brand new in this hobby, what we refer to a glow engine is an internal combustion engine, utilizing RC glow fuel and is manufactured specifically for our hobby use. If you want to be persnickety about it, our "glow" engines are actually classified as glow assisted diesel engines, but nobody really ever makes that distinction any more. Every hobby shop carries these (still) and they are readily available in many displacements and cylinder configurations.

I promise not to make this month's column a trip down memory lane along with an attempt to guilt you into running out and buying a glow engine. I would rather discuss what I think some of the driving decisions are for many new to the hobby, and for those of us who have been around for a while.

If you look back into our hobby's beginnings, internal combustion engines were the only choice for a very long time. Indeed, I would stipulate that up until about 10 or years ago, the only reasonable power choice was some form of internal combustion. To be clear, internal combustion means glow, Diesel, or gas. It took the advent of 4 things to make electric a viable choice now. Each one is equally important in my opinion

1. Lithium dominate battery chemistries
2. Brushless motors

3. Efficient and strong speed controls

4. Electric specific airframe designs

When Electric first emerged, the choice was to gang together a large number of NiCAD cells and try to remove as much weight from the glow plane you were trying to convert. Success was quite rare in my opinion for this when I saw it. The other option was to try the other end of the scale and try some of the first commercial electric planes that were mostly way underpowered and frankly dangerous to fly. Once the energy density of batteries took a significant leap (ala Lithium) and we also had efficient brushless motors emerge, the game was on for this class of powered flight. You all know this, but I think we can dig a little deeper here.

For example, even though most of my active fleet is now electric, I have kept almost every one of my glow engines, rather than sell them - why is that?

If you ask anyone who still flies glow (including me), you will often hear them discuss that they love the sound, love the tinkering, and enjoy the fact that the last minute of flight is just as powerful as the first minute. In particular, the sound of a 4 stroke is still the most pleasing sound I hear at the field.

I have discussed this with the Flight line hobby shop staff many times. The news they tell me is a bit disturbing to me in that they hardly ever sell a glow engine any more. There appears to be a monumental shift into two classes of power now, that being electric and gas.

I have thought on this one a long time and I still can't make total sense out of it, but I think I have a few clues.

A) Tuning a glow engine is perceived as a black art that only the most experienced of pilots can master.

Now, while this may have been true decades ago, it is not at all accurate any more. Most engines made within the last 10 years, even 2 strokes are quite easy to tune. I can say from experience that I have gone entire seasons

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with my Saito 4 strokes and only moved adjusted the needle valve once or twice during the summer due to the very hot and humid days we sometimes get in August. Some of the more exotic glow engines will require fiddling, but it is indeed rare for any of us to own one, and if we do, we generally know how to fiddle with it. I also have now gone at least 2 years straight on my heli motors without ever moving the needles, even though the carbs are 3 needle - I have to this year, as I replaced the bearings in both my motors and accidentally moved the needles.

B) Glow is perceived as more expensive than electric.

This is another one that does not hold up too well to close examination. In particular, once you get to a plane that we consider a 40-60 (glow) size, electric is more expensive, by a good amount more than glow. In the IMAC size planes, electric is so more expensive than gas that almost all of these planes run on gas engines. Don't forget when you opt for electric you need to include the cost for the speed control and the cost for the batteries. with glow you have cost of the engine, and cost of the fuel. In all cases I fly currently (other than my indoor foamies), the electric choice has been more expensive, even if I had to buy a new glow engine.

C) The support equipment burden for glow is higher than electric.

This argument has some purchase with me. On more than one occasion, I have come home a bit late and it was easy

to throw the plane, some batteries and my transmitter in the car and go. I did not bring any other support equipment as most of it fit into my transmitter case - However, that story fades somewhat when you look at the support equipment I have at home for electric, including the charging setup, metering equipment, soldering station, etc. I think the difference to me is where the support equipment is needed. For glow it is primarily needed with you at the field. for electric, it can often stay at home. for me cost wise, the support equipment for electric far exceeds the support equipment for glow.

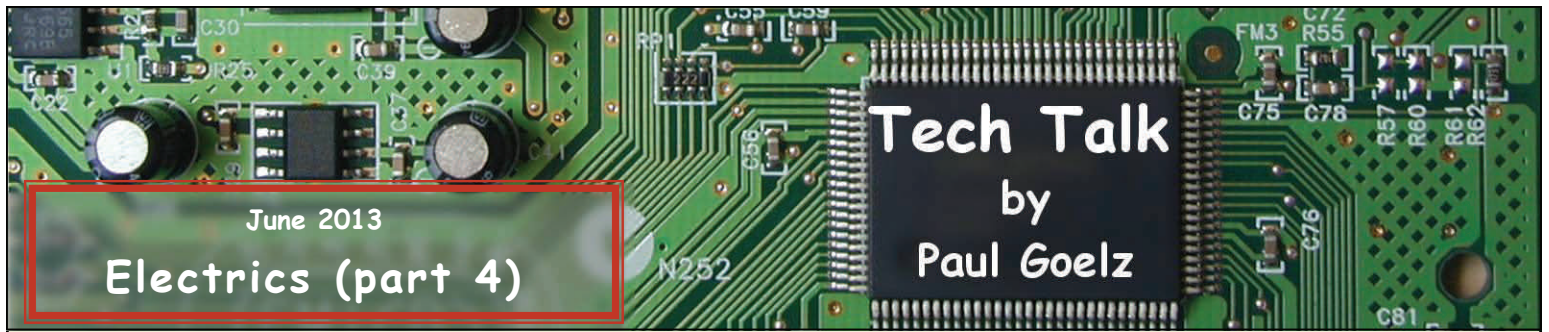
We can certainly all add other arguments to my list, but my discussions with pilots at the field usually involve 1 or 2 of my list above.

Ultimately, it may come down to your desire to expand your horizons in the hobby a bit to try glow if you have not already and are an electric only flyer. We have several single power mode pilots in the club and I think that mode of thinking will keep you from a richer experience in the hobby. We still have many pilots in the club who know glow engines very well, so you would not be out on your own figuring things out. Often times in this hobby we decide to try something new, I would suggest to those of you who have never taken a wiff of nitro exhaust from your very own glow engine, you may find it intoxicating. Please do so before your opportunity vanishes.

Joe Finkelstine



The breakfast club. So long until the fall!



June 2013
Electrics (part 4)

Tech Talk
by
Paul Goelz

Guest column — conclusion
“A sensible approach to flying
electric powered RC aircraft”

By Teo Terry
(continued from the May issue)

Deciding on a battery:

Batteries represent the most significant expense associated with electric flight since they need to be replaced every so often. As a result, it is important to get as much use out of them as possible. With this in mind, I have standardized my batteries into two categories:

Parkflyer battery:

In my case, I have opted to use the 3S1P Thunder Power 2100 mAh Pro Lite.

1.

2. Large model battery:

3. In my case, the 5S1P Hyperion G3 of 4000 mAh capacity has become my standard large model battery.

1

2A side benefit of this approach is that I never find myself at the field without the correct battery pack. If it happens, it is because I left all of my packs at home! There is one downside to this approach however; the battery becomes another consideration when selecting a motor. So far, this has not been a problem for me.

3

4In the case of small models, deciding on a battery type is quite simple. Since weight is crucial, LiPO's are the best choice. Depending on model's size, a 1300 to 2100 Mah 3S1P LiPO would work well. Look for a battery which is capable of a 25 to 30 amp discharge.

5

6For larger models, the decision becomes a little more difficult, since weight may not be the most important consideration. This is the approach I would suggest:

7

1. Decide how much power your most power hungry

model requires.

2. Assume a peak discharge current of 50 amps. Experience has showed me that a 50 amp current provides a good balance between power, motor efficiency and flight duration. Obviously, you always have the option to select the current level you are comfortable with.
3. Decide on a chemistry. Although NiMHs are still useful, I think the decision will be between traditional LiPOs or M1s.
4. Based on the chemistry, determine how many cells are needed.
5. Based on your desired flight time, you can determine the pack's capacity.

An example is in order. Let's assume that we need a pack which can deliver up to 600 watts. Limiting the current to 40 amps, we can calculate the pack voltage:

$$V = P/I = 600/40 = 15 \text{ volts}$$

For a LiPO pack, the number of cells in series would be:

$$\# \text{ cells} = V_{\text{pack}}/V_{\text{cell}} = 15 / 3.3 = 4.5 \text{ cells or } 5 \text{ cells}$$

For a M1 pack,

$$\# \text{ cells} = V_{\text{pack}}/V_{\text{cell}} = 15 / 2.7 = 5.6 \text{ cells or } 6 \text{ cells}$$

For a NiMH pack,

$$\# \text{ cells} = V_{\text{pack}}/V_{\text{cell}} = 15 / 1.1 = 13.6 \text{ cells or } 14 \text{ cells}$$

In all instances, the number of cells was rounded up; therefore, the pack voltage will be higher than 15 volts. In essence, we have a pack which can deliver more than 600 watts at 40 amps, or we can choose to lower the current draw and still get 600 watts.

Now that we know how many cells we need, we need to find out how big they need to be. A couple of things to

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Keep in mind:

1. With good throttle management, the average current draw is about half of the peak draw.
2. I do not like to discharge my packs at more than 10C on average. A 10C discharge will give me a 6 minute flight, a higher discharge will make the flight too short.
3. Plan to use 80% of the pack's capacity if you would like them to last awhile. In practice, a 2000 Mah pack only has 1600 mAH of usable capacity.

Let's finish the example we started. Assuming a 40 amp peak discharge, the average discharge is estimated at 20 amps. If this represents a 10C discharge, the minimum cell capacity would be of 2000 Mah. Right? Well not quite. The 2000 Mah represents 80% of the pack's capacity; therefore, the cells should have a capacity of at least 2500 Mah. Larger capacity packs will give you extended flight times.

A word about chargers:

Selecting the right charger is an important decision. Ironically, before you can select a charger, you need to decide what types of batteries you would like to use, and then select an appropriate charger. With this in mind, these are certain features which I feel the charger should have:

1. For larger packs (> 3000 mah), I would consider a charger with an output of at least 120 watts. Keep in mind that the charger will limit the current as pack voltage goes up. This is done so that the charger remains within its power rating. In practical terms, this means that as you add cells to your pack, the current available for charging goes down. At 21 volts (a 5S pack), a 120 watt charger can still provide about 5 amps of charging current. Conversely, you also need to make sure that your power supply can keep up with the charger's power demand.
2. Multi chargers are nice to have since they provide flexibility; you can use them to charge your power packs as well as your radio system.
3. It should let you know how many mah were put back into the battery as well as the final battery voltage.

Lithium chargers:

For lithium batteries it is best to get a balancing charger; preferably one which is also able to display the

individual cell voltages as well. Being able to monitor the individual cell voltages can give you a general idea of the health of the pack being charged. Large imbalances at the beginning of the charge or towards the end of the charge are indicators of a problem.

Case study 1: Herr Engineering Little Extra

Although not a large plane, Herr's Little Extra was my first successful conversion and it came about as an impulse buy after I crashed my first .40 conversion (a Giles 202; reversed ailerons if you must know). The plane is well put together although a little heavy but I knew that I could make it work.



Span : 36.5 in
Area : 344 sq. in.
Motor : AXI 2212/20
Prop : APC-E 9x6
Controller : CC Phx 35
Battery : Thunder
Power
3S1P 2100 mah
Watts : 160
Amps : 16
AUW : 27 oz.
Conversion Cost: \$235

The plane is designed to be flown with a 0.74 Norvel engine at a weight of 22 oz. I knew that the conversion would be a little heavier and planned for a finished weight of 26 oz (1.62 lb). Knowing this, I could estimate how much power I would need for my flying style. In this case, I planned for 80 W/lb:

$$\text{Power needed} = \text{weight} \times \text{W/lb} \\ = 1.62 \times 80 = 129.6 \text{ Watts}$$

I planned to use a 3S lipo battery for power. Under load, a typical lithium cell will provide about 3.3 volts, therefore, the battery would be delivering about 9.9 volts. Knowing the power and voltage I can compute the current:

$$\text{Current} = \text{Power/voltage } 130/9.9 = 13.1 \text{ amps}$$

Since I do not like to discharge my batteries at more than 10C, this meant that the smallest battery I could use should have a capacity of at least 1300 Mah. I opted to play it safe, and selected a Thunder Power 2100 Mah 3S1P battery.

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Knowing how much power I wanted, as well as the current and voltage, I used Motocalc to determine which motor I should use. The data indicated that an AXI 2212/26 would work. Using an APC-E 10x5 prop, the wattmeter showed a current about 13 amps and 130 W of power. Thus satisfied, off I went to the field for the first flight.

The first flight proved interesting. The plane flew, but in order for it to remain controllable, it had to be flown at wide open throttle. Not a successful first flight. The plane felt like it needed more power, but more than anything, it needed more speed. In selecting the power system, I worried too much about having enough power and thrust, but neglected the importance of propeller pitch speed.

Lesson: Propeller pitch speed is probably more important than having 1:1 thrust. I should have listened to Motocalc!

Since I had a 10x7 prop handy, I decided to give it a try. The plane flew much better and was aerobatic, but with the current running around 15 amps, it was definitely over the motor's 12 amp limit. At this point, I decided to change the motor for an AXI 2212/20 which has a 16 amp limit.

Lesson 2: Select your power system so that it has growth potential; you might find out that you need more power. Buying the right equipment the first time is cheaper than buying it the second time.

This has proven to be a very successful conversion and it is one of my favorite planes. Although small, the plane seems to be able to keep up with the big dogs. With the new power system, I have 170 watts to play with at about 18 amps. The power loading runs at about 95 W/lb. To date, the plane has more than a hundred flights on it and the Thunder Power Pro Lite batteries have survived three seasons. All in all, I am very happy with it.

Case study 2: Sig LT-25

The Sig LT-25 is one of the more popular glow to electric conversions: The airframe is light and fitting the motor and battery is almost trivial.



Span : 63 in
Area : 714 sq. in.

Prop : APC-E 14x12 (NiMH)
APC-E 13x 8 (LiPO)

Option 1

Motor : Mega 22/20/3
Gearbox : MEC 4:1
Prop : APC-E 14x12 (NiMH)
APC-E 13x 8 (LiPO)

Controller : CC Phx 45 amp
Battery : 12 cell 3600 Elite
: 12 cell GP 2200
: 5S1P 3300 TP extreme
Watts : 400 - 540

Amps : 23 - 35

AUW : 96, 86, 80 oz.

Conversion Cost: \$300 -
\$450

Option 2

Motor : Mega 16/15/4
Gearbox : MEC 4.6:1

Last winter, I decided to build one just for the fun of it. I justified the project (to myself at least) by arguing that I could use it to give "intro flights" to the neighborhood kids. Well, so far, I am the only person who has flown the plane, but hopefully, that will change next summer now that I have become an instructor. At any rate, this is an example of a lower powered model.

My intent for this project was to be able to re-use as much equipment as possible. Given its generous wing area, I was not too concerned about weight as long as it did not exceed 6 lb.

Much has been written about the LT-25. A search of the ezone (www.ezonemag.com) revealed an example which flew on only 250 W of power. For a 5 lb plane, this translates into 50 W/lb. This seemed rather modest, so I opted for 70 W/lb. On a 6 lb plane, this meant that 420 W were needed.

A good NiMH cell will deliver about 1.1 volts under load. Since I planned on using 12 cells, the battery pack voltage would be of 13.2 volts.

Current = Power/voltage 420/13.2 = 31.6 amps

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A good quality NiMH cell is capable of a 15C discharge; therefore, I needed a cell with at least 2000 Mah capacity. Taking into consideration that the plane is a trainer and that longer flights are desirable, I opted to use Elite 3600 Mah Sub-C cells. These cells are relatively inexpensive and a 12 cell pack can be had for \$60 if you are willing to assemble it yourself. Unfortunately, these cells are also heavy; the pack weighs almost 30 oz. As an alternative, I also made up a pack using GP 2200 cells which weighs 20 oz.

Now that the voltage, current and power are known, I could select a motor. The simplest solution would have been to use an outrunner such as an AXI 2826/12. On 12 cells, using an APC-E 12x6, this motor would do quite nicely. However, I was interested in using a more flexible power system, so I opted to use a geared inrunner.

Option 1: Initially, I used a Mega 22/20/3 motor, driving an APC-E 14x10 prop through a 4:1 MEC gearbox. At 28 amps and 400 watts, this motor was not being pushed at all which meant that it would remain cool during long flights. A 14x12 prop was also tested; the current increased to 32 amps while the power reached 440 watts.

The first flight proved that the 6 lb model can fly well on 400 watts. The plane was capable of steep climbs and large loops. I also discovered that at 6 lbs, the plane did not like to slow down; landings required a side slip in order to bleed off speed. For subsequent flights, I changed the prop to a 14x12 which increased the power slightly, but also increased the flight time. How could this be? Since a trainer spends most of its times cruising around, I found that the higher pitched prop allowed me to cruise around at a lower throttle setting.

Lesson: A high pitched prop turning at low RPM gives better cruising flight performance than a low pitched prop turning at high RPM provided that the propeller diameter remains the same.

Option 2: I decided that I would like to use the Mega 22/20/3 motor on another project, so it was

replaced with a Mega 16/15/4 motor. Weighing in at 2.7 oz. this is a very small motor for such a large plane. I wasn't sure if it was going to work, but Motocalc appeared to think it would. The gearbox ratio was changed to 4.6:1 and the NiMH battery pack was replaced with a 5S1P lithium pack. This allowed me to do two things:

1. The higher gear ratio allowed me to use a higher battery voltage which in turned allowed the current to drop to 23 amps while still generating the same amount of power (about 400 watts)
2. The lighter motor and battery reduced the weight of the model from 6 lbs to 5 lbs.

These changes resulted in a better flying model since the power level remained unchanged, but the model became 1lb lighter.

Using the Mega 16/15/4 motor in such a large plane was risky decision; I was asking a 250 watt motor to deliver 400 watts. I am not advocating that you try this, but I feel that it is reasonably safe:

1. The max current is below the max rated current for the motor (23 vs. 25 amps). If you recall, heat is what damages motors and it is a function of the current.
2. In cruising flight, the current averages 12 amps, well within what the motor can handle.

Teo Terry

The new Skymasters Heli field has arrived!

There may not be any grass yet, but thanks to the hard efforts of a bunch of people, the area to the south of the parking lot has been cleared and leveled and is now available for EXCLUSIVE heli use by Skymasters members. Non-members are welcome to come and try it out as a guest of a Skymaster member. AMA is required, and (at least for now) flying will be restricted to 2.4GHz only, to simplify frequency management with the main field.

There were some initial concerns about a south-facing field, but except for early morning, it seems the spring and summer sun is high enough that it is not in your eyes for most flying.

There is space for two flight stations, and the suggestion is that if there are two helis in the air at the same time, just divide the field in half and each fly to one side or the other of center field.

Flight stations are located on the dividing line between our property and the farmer's field. Flying is permitted over the entire field. The farmer has indicated it is OK to (respectfully) walk through any crops to retrieve a downed heli.

This field is for helis only. No aircraft are permitted at any time.

Heli flying is still permitted on the main field, but with the addition of the new heli-only field, please take any 3D flying or extended hovering to the heli field if there are airplanes using the main field. And of course we still have the "hover practice" area to the west of the parking lot.

So.... We built it. Time for y'all to come and use it!

Paul Goelz



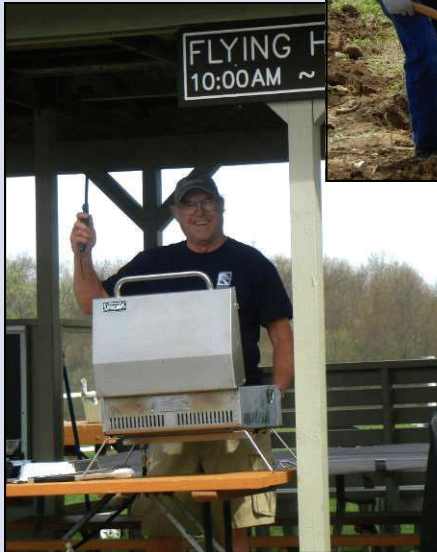
Field improvement work party

On Saturday, May 4th, Skymasters converged on the field to tackle several projects.

A LOT of brush and undergrowth was cleared from both sides of the field entrance to improve visibility when exiting the field as well as improve the overall look of the entrance. As a second phase, new signage is in the works, to dress up the entrance and give a unified look to the field as one of the Bald Mountain Recreation Areas.

Another project tackled that day was the clearing of the area to the south of the parking area, to create the pits and flightline for the new heli-only field. The trailer was moved out of the area, and a huge amount of undergrowth, trash, rocks and stumps were removed in preparation for leveling the area (which took place the following ednesday). The heli field pit area is now leveled and while it is currently bare dirt, it will be seeded and eventually will be a nice grassy area.

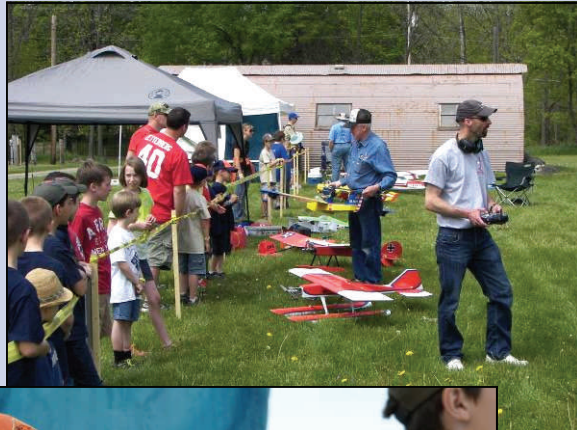
After the work party, there was of course a cookout!



Skymasters at Camp Rotary



For the second year, Skymasters was invited to demo RC aircraft at Camp Rotary, for a Cub Scouts outing called "Everything Airborn". In addition to flight demos, we had two simulators running the whole time, with a lot of interested kinds trying their hand at flying.





www.romeoskyhawks.org

STONY CREEK FLOAT FLYING

SPONSORED BY THE ROMEO R/C CLUB
AND THE
FRASER FLYING CLUB



www.flyfraser.net

Every Wednesday, May thru September

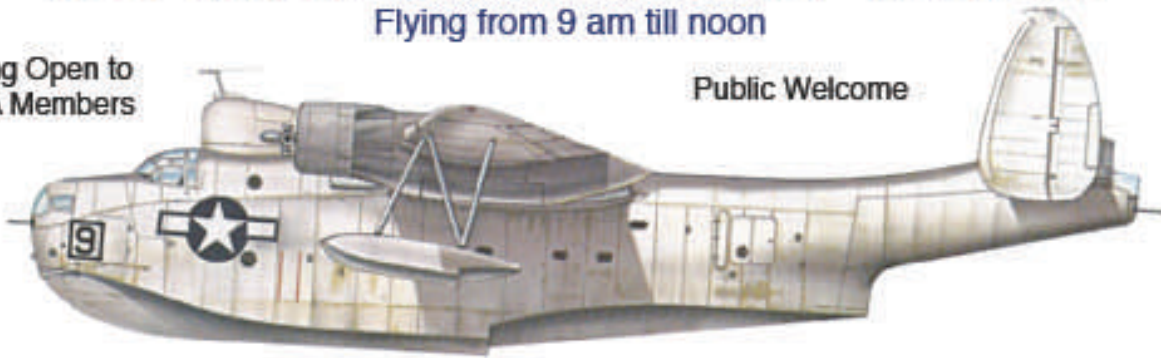
On June 19th and August 21st we will be flying at Addison Oaks Park, Buhl Lake

Stony Creek Metropark at Winter Cove 4300 Main Park Road, Shelby Township

Flying from 9 am till noon

Flying Open to
AMA Members

Public Welcome



- * \$5 per Day Retrieval Fee or \$30 Season Pass
- * Plenty of Free Parking
- * Great Chance to See This Exciting Hobby
- * Main Park Entrance on Shelby Road at 26 Mile Road
- * Follow Park Road to Winter Cove
- * Plane Retrieval Boat Provided
- * All Cars Need Annual/Daily Metropark Sticker - Available at Entrance
- * No R/C Boats During Flying Times
- * Weekly Email Notification of Flying Status



For more information call Jim Held at 248-641-9724 (H) or 248-835-4491 (C)

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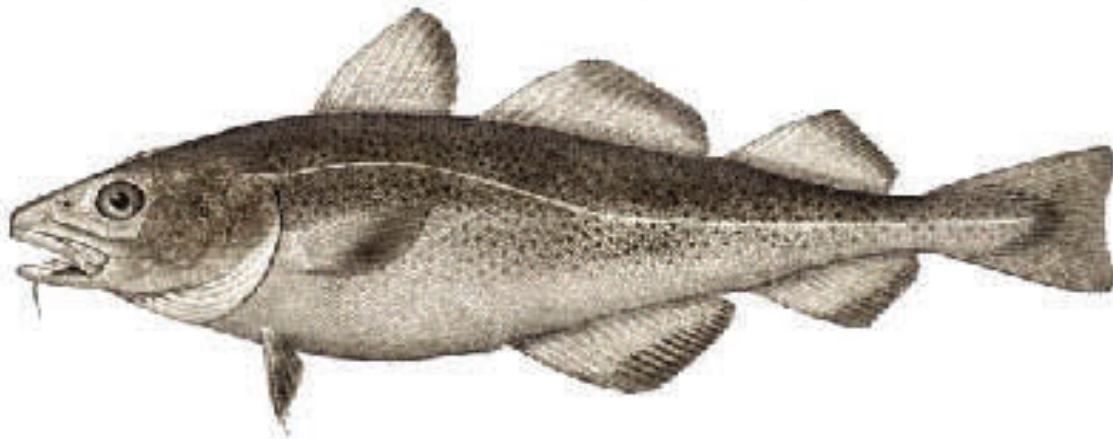
“We’ll teach you to fly”



Join Skymasters for all types of “Fun Flying”

17th Annual Fish Fry

Wed. June 19, 2013



Rain or shine, dinner will be served 6:00 pm. at Scripps Rd.
Flying Field – Bald Mountain Recreation Area, Lake Orion, MI

- Bring a dish to pass and your non-alcoholic beverages.
- Want a different main dish? Bring one, our grills will be fired up!
- Donations welcomed to help cover the cost of fish and supplies.
- Open flying, with priority to Student flights.
- All motor vehicles require a “Recreational Passport” available at the Michigan Secretary of State, or DNR.



For more information call Bill Dezur 586-739-7124
or - bill.dezur@yahoo.com



[Visit our website for location and map at www.skymasters.org](http://www.skymasters.org)

All Pilots must have proof of current AMA Membership



Flying open
to AMA
members.

ELECTRICS' OVER e LO = FUN LAKE ORION

Saturday June 15, 2013

Skymasters Field

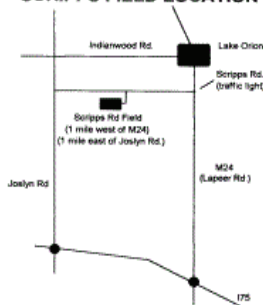
Event Flying starts at 10AM and goes until ???

Potluck dinner at the field, bonfire and NIGHT FLYING!

Get a plane ready with lights!!!

Camp overnight at the field. Open flying on Sunday.

SCRIPPS FIELD LOCATION



- Lots of Parking
 - Refreshments available at event
 - 94 dBa 10AM-8PM Night fliers must be extra quiet.
- No Landing Fee!
Pilots Prizes!

Flying field is located within the Bald Mountain Recreation Area, about 5 miles north of the Palace of Auburn Hills on Scripps Road between Lapeer Rd (M24) and Joslyn Rd.

All vehicles require a Recreation Passport available from Secretary of State or DNR.

For more information email petefoss@skymasters.org
Visit our website at www.skymasters.org

ON THE WING

Heli pilots...

Come try out our new exclusive heli-only field. We are still trying to get grass to grow but in the mean time, come check it out. Recreational passport, AMA and Skymasters membership are required but if you have current AMA you can be a guest of a Skymasters member for a couple visits to see if you would like to join the club.



Next Skymasters Meetings...

Wednesday, June 12th

Wednesday, June 26th

(Informal meetings at the Scripps Road field)

Other local indoor flying sessions

Thursdays, 9AM to 3PM (6 hours)

[51379 Quadrate, Macomb MI](#)

(north off 23 mile, east of Hayes)

Small electric planes and helis

(safe separate heli space)

AMA not required

\$10/session

Information: Steve Durecki 586-246-4203

June 2013

SUN	MON	TUE	WED	THU	FRI	SAT
						1 MidAm Heli Funfly Grosse Ile airport
2 MidAm Heli Funfly Grosse Ile airport	3	4	5 Stoney Creek Float Fly 9AM Student night 3-8PM Pot luck 5PM	6	7	8
9	10	11	12 Stoney Creek Float Fly 9AM Student night 3-8PM Pot luck 5PM	13	14	15 Skymasters Electric FunFly 10AM, with night flying after dark
16 Skymasters Electric FunFly continues 10AM till?	17	18	19 Stoney Creek Float Fly 9AM Student night 3-8PM Pot luck 5PM	20	21	22
23	24	25	26 Stoney Creek Float Fly 9AM Student night 3-8PM Pot luck 5PM	27	28	29
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Skymasters Information...

[The Skymasters field is located in Lake Orion, within the Bald Mountain Recreational Area](#) on Scripps Road (see map). A state park permit is required and can be obtained from the Park Headquarters located on Greenshield Road or at club events. Or, you can check the box on your tab renewal for a "Recreational Passport". Flying is permitted from 10 AM to 8 PM. The noise limit is 94 dBa at 10 feet. This noise rule is strictly enforced.

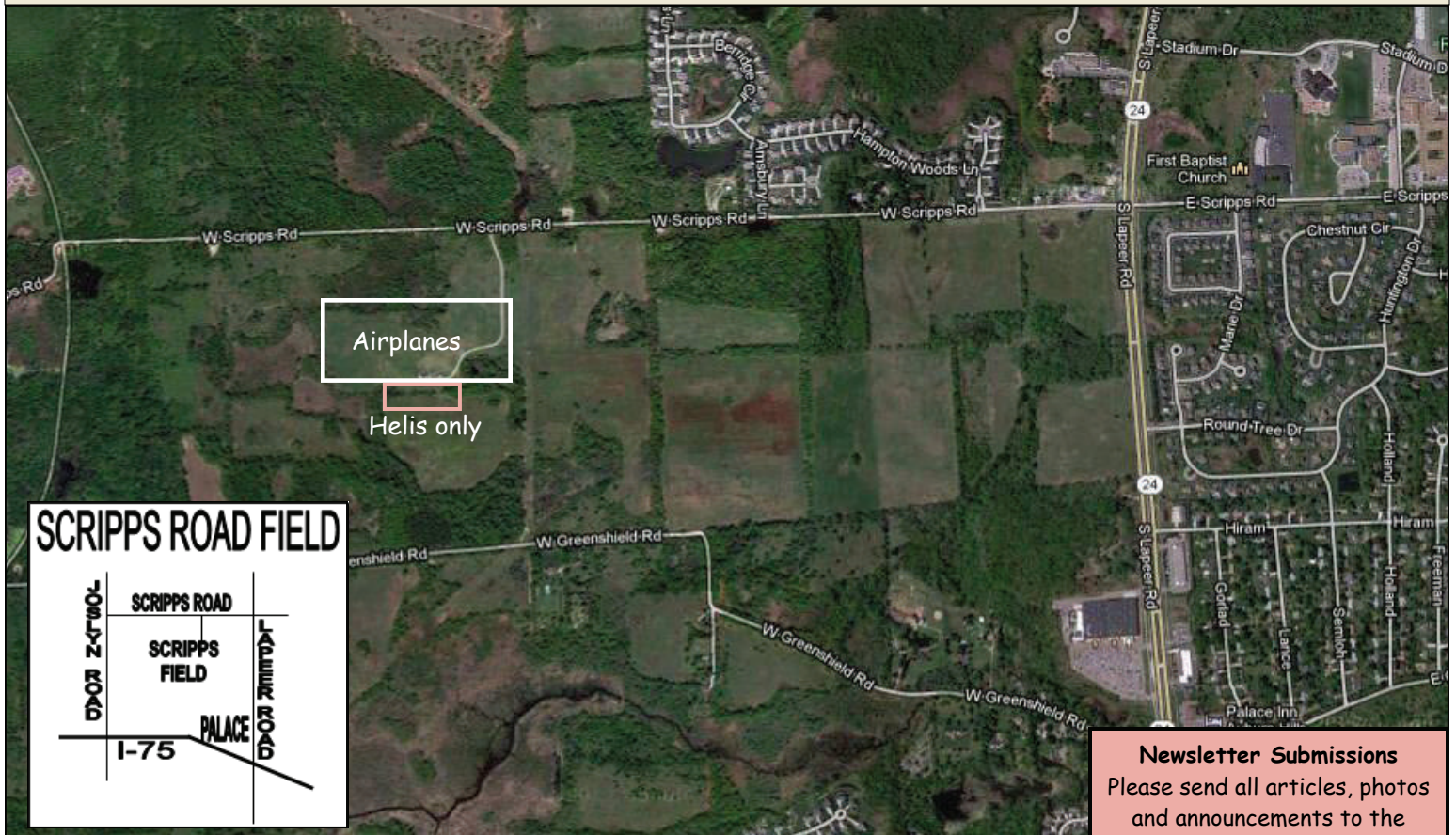
Wednesday evening (through August) is Family Night with flying and a pot luck buffet. Bring something for the grill & a dish to pass.

Wednesday 5PM to 8PM is also Student Night (through August) but there are usually instructors around all day. Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Greg Brausa, 248-373-8949 cgbrausa@gmail.com

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 usually 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 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!



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

2013 Club Officers & Appointees...

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