#### SKYMASTERS RADIO CONTROL CLUB OF MICHIGAN



Chartered Club #970 11 Year Gold Leader Club







#### 2011 Club Officers & Appointees...

President: **Greg Cardillo** 2086 Cedar Key Ct. Lake Orion 48359 248-393-1056 Vice Pres: Neil Krohn 722 Leinster Rochester 48309 248-375-0908 Secretary: Dan Stolz 1311 Pondview Ln. Oxford 48371 248-236-0206 Treasurer: **Bob Donohue** 3323 Baldwin Woods Lake Orion 48359 248-915-9791 Editor: Mark Smith 1955 Hopefield Lake Orion 48359 248-391-5970 CFI: Ron Sokacz 40714 Matlock Sterling Hts 48310 586-977-1404 State Park: Bill Stark 1010 E. Clarkston Lake Orion 48362 248-693-8639 Membership: Randy MacInnes 8189 Easton Rd S. Clarkston 48348 248-394-0414

#### President's Message...

It's already June... the year is approaching half over... and our friendly newsletter editor is reminding me I'm late with my President's letter...

#### **The Past Month**

It always amazes me how much some of our members give to the club... The last

month started with over 25 people volunteering at Bald Mountain Involvement Day - completing all the projects the park had planned for us. The efforts of our members contributed to a successful Estate Sale - benefiting both Skymasters and the Boys and Girls Club of Troy. We then turned our sights on our field and completed painting of all the tables - and re -roofing the shelter (in the rain of course!) The field looks great as we enter the busier flying season!

Our flying events for the year started with some beautiful weather for our Chet Brady Memorial and Bald Mountain Float Flys! The Wednesday Stony Creek float flying has started up for the sea-

son, and our Student Night started with a windy evening – but good food and even some flying.

#### **Upcoming Events**

Our flying events continue with our Electric Fly on June 11<sup>th.</sup> See event flyer for more details. This has been a very popular event over the years.

Student Day starts on Mondays – from 10am till 2pm... and Student Night continues on Wednesdays from 3pm till 8pm – with pot luck dinner at 6pm... (remember we eat rain or shine – so come out and enjoy!)

#### **Bylaws Update**

At our June meeting

(Wednesday, June 8) the Board will be asking for your approval on a change to our bylaws. This change is creating an "Associate Member" class of membership in Skymasters. This will be a non-voting class of membership, with no flight privileges at Scripps Road field. It is being created for financial

accounting purposes to more easily comply with the requirements of our current tax status. Due to a personal conflict, we will discuss and vote on this during dinner (approx 6pm.)

#### **Newsletter**

As you may know, in addition to our members, our newsletter

is sent to a number of manufacturers/ distributors. In the last month, we received an email from Art and Carol Pesch from Hobbico complementing Skymasters on all we do especially with the "young ones" and the quality of our newsletter. I would pass on my thanks to Mark Smith for his work so far this year (and past editors as well) on one of the main faces our club has to the community/industry. (and if you receive a hardcopy of our newsletter, would recommend you look at the expanded color edition online!)

#### Flying Season

As the flying season starts, just a reminder to take a few minutes to go over your aircraft before flying... Bolts/screws have a way of coming

loose. Batteries should be checked. A few minutes spent now could keep you happily flying later!

May Mother Nature continue to smile on our events...

Happy Landings! Greg Cardillo Skymasters General Meeting Minutes April 27, 2011 Attendance: 60 Members & Guests

Greg Cardillo called the meeting to order at 7:00PM

Greg Cardillo opened the meeting by discussing some of the upcoming events on the Skymasters calendar including Bald Mountain Involvement Day April 30. A \$10 gift certificate per family and some special prizes at lunch will be offered to those who participate. Some of our guests represented the Radio Controlled Club of Detroit (RCCD), Midwest, Electric Flyers Organization (EFO), Rib Crackers, Greater Detroit Soaring and Hiking Society, and the St. Clair County Prop Busters.

David Wendt introduced our special guest, Patrick del Castillo, who is President of Castle Creations. Castle was started 13 years ago and created the first brushless speed controller. They are now manufacturing 17,000 speed controllers per week with employees in the US, Mexico, and China. Castle is experiencing 40% growth per year which includes their fastest growing market segment - cars.

Patrick brought with him a prototype of a new motor he nicknamed the "DA100 killer". It generates 20HP continuous output doing 7-8k RPM and can swing a 32-34" prop. Patrick then proceeded to give us a brushless motor and speed controller 101 class that included many technical details with great Q & A participation from those present. And for all those attending the meeting, Castle will be sending them an ICE 50, LITE 50, BEC, or voltage regulator. Attendees had the opportunity to specify which one they would like sent to them. Thank you Patrick and Castle Creations!



**Show-N-Tell** - A brief review follows.

Joe Rubinstein brought his Blackhorse Stuka outfitted with speakers and sound system but minus the arming code. The Stuka was silent for tonight but be ready when Joe remembers the arming code! Joe had to modify the battery tray for the 8S pack he will be using.



David Wendt brought a Corsair ARF which weighs in at 7-8 lbs. It is fitted with a Castle Creations HV85 speed controller and an 8S pack delivering 1600 watts that will "pretty much do unlimited vertical performance" according to David. Can't wait to see this bird (rocket?) fly.



★ Jim Held showed an ARROW which is a sister ship to the Northstar. It was equipped with a Winged Shadow speed sensor and has been clocked at 120 MPH with and OS 46AX. The plane weighs 6 ½ lbs.



Dan Stolz showed his recently complete SIG ¼ scale J-3 Cub with an OS 160 Twin using onboard glow from Electro Dynamics. The 105" wing and fuselage is covered with Solartex and painted with Klasskote. Total weight is

16 1/2 lbs.

★ Joe Finkelstine brought a beautiful pattern ship called the Osiris which uses a 5S battery pack and an ICE 100 Lite controller. It flies very well at ½ throttle.



Neil Krohn "flies" on the ground with his scratch built scooter. It has a 160 amp Castle speed controller with a 12S battery pack. Neil reports the scooter does about 23-24 MPH and will run for about 45 minutes on flat ground.



★ Chris Hass showed his Cermark Sukhoi with a Hacker A30 motor and 3S 2100 mAH battery. It weighs 2 lbs, 10 oz. and flies great. The build quality is OK, but Chris did change out some of the hardware.

Joe Rubinstein won a gift certificate for bringing his Show-N-Tell project.

Jim Sieger won the 50/50 for \$25.

Respectfully Submitted Dan Stolz Skymasters Secretary

# PROPINSH Joe Finkelstine

Hi all.

Well, perhaps I can finish off my ranting about electric stuff over the next month or two, as I have come to the last topic. I get asked about electric wise and that centers around the term power.

Of all the terms I hear misplaced and misunderstood, I would vote this one champion. It is quite relevant to us in the hobby, particularly in the electric realm. Several years ago, I ranted about the glow equivalent of this term (called horsepower) and when I get really desperate for a topic, I'll convince your editor to re-run that one, so I can take another month off. (I will of course take a 1/12 pay cut if that happens)

What exactly is power and why is it important to us?

Well, there are several definitions of power, but the one I like to discuss defines power as the product of current and the voltage providing this current. In working words, it is a measure of how much "work" we have available from our electrical circuit. I prefer the more quantitative measure of power, because it is relatively easy for us to figure out and measure.

The formula is rather simple  $P=I^*V$ , where

p = Power (expressed in Watts)

I = Current (in Amps when using Watts)

V = Voltage (in Volts when using Watts)

Let's look at some examples here. Let's say I have an airplane I am considering at the hobby shop and it calls for a 400 Watt class power system - what the heck does that mean, and more importantly, how do I determine if the batteries I have can be used?

The first thing I would do is make some quick calculations to see if, from a power point of view, can the batteries I already have be used? - Or do I have to buy another type?

If I had to supply a motor with

cant heating and other parasitic effects - not a good choice. The second example would keep the current very low at the expense of a high voltage, which might be much easier to actually implement.

Now, looking back at the 400 watt Motor. - How do I figure out what I need and if my Lipo's I have will work (Being the lazy person I am, I would not do this analysis, I would just ask someone who flies the plane already or John at Flight Line hobbies!). Let's assume though, that you



100 watts, look at the possibilities here. On the extreme ends I could supply 200 Amps at 1/2 volt (200A \* 1/2V) = 100W, or I could supply 1 Amp at 100 Volts (1A \* 100A) = 100W

Either way supplies you with 100 Watts, but there is a major difference in the two methods to supply it shown above. The first example uses a huge amount of current that would have signifireally have to figure this one out. Can my Lipos supply 400 Watts and if so, how long might they last per flight?

For this example, assume I have the following types

3S-2200 Lipos - A common Lipo nowadays

2s -450 - Common Lipo for indoor foamies

4S -3200 - A good size pack

(Continued on page 10)

















### Instructor Notes



or not, Instructors are to take full control of the aircraft in order to prevent:

- Flying over the flight line.
- Landing in trees.
- Flying out too far.
- Damaging or destruction of any aircraft while instructing our students in Take Offs and Landings.

The Frequency Pin for 72 MHz must be pulled at all times!!!

 Only Pilots are allowed in the Pit Area and on the Flight Line. Children should not be playing in the Pit Area.

- Spectators are not allowed on the field side of the fence
- The Instructor must control the pace at which each student progresses. As an example; do not start to teach "how to take off or land" when the student has not mastered good flight control. Encourage Students to be patient.

It takes two (2) Instructors to sign-off a Student.

PLEASE HAND IN NAMES OF SIGNED OFF STUDENTS TO EITHER RANDY MACINNES OR RON SOKACZ.

Thank You Ron

#### Now That I have Your Attention!

Well it's that time of the year again. Spring is upon us. For most of us, the coming warm days and gentle winds will bring us out of hibernation and out to the field. This is also the time that we begin our Student Instruction for the year. On this note, I would like to point out areas that all Instructors need to be concerned with:

All Instructors are Sound and Safety Monitors. Do not hesitate to address these issues when needed.

When enforcing Safety Rules, please be courteous but firm. It is better to have someone unhappy, rather than the cause of an injury to themselves or others.

When enforcing Sound Rules, assure that our DB Level is maintained.

When utilizing a Buddy Box

Always monitor our new pilots and when necessary give immediate advice or assistance.

Act as a "Spotter" when required.

Instructors to enforce the Safety Rules that:



(Continued from page 4) that is also common

Let's look at this now from what the battery can deliver power wise. My first step would be, what current does each battery above need to deliver to supply 400wats? I can then relate this calculated current to what the "C" rating of the pack is (Remember the "C" rating is how many multiples of the pack capacity can the Lipo deliver steady state - a 20C 100Mah Lipo can deliver 20\*100Mah = 2 Amps steady state for example). For sake of argument, I will declare the nominal fully charged voltage of a Lipo cell to

3.5 volts be steady (yes this is not correct, but work with me here). For this calculation, we solve the P=I\*V, for I and get  $\rightarrow$  I = P/V (V will be the output voltof the age pack)

So for the 3S 2200, 3S 3\*3.5V = 10.5volts. The cur-38 rent our

pack would need to deliver 400Watts is

400watts/10.5Volts = 38.1 Amps, now how does 38 Amps compare to the "C" rating of the pack?

The Lipo is 2200 mah, so we need to convert 38 Amps to 38,000 mah

"C" required @ 400Wats @ 10.5V = 38000/2200 = 17.25. --I.E. we need a 3S 2200 pack that can do at least 17 "C" for this to supply 400 Watts. Most Lipos can do 17 C nowadays, so this pack may very well

work. There are some further things to consider, like how long will the pack last at 17 "C" discharge? - That one is also easy to quesstimate

The pack holds 2200 mah at full charge, which is defined as the battery can supply 2200 mah for 1 hour

To estimate the time the pack will last at this discharge, I would actually use 80% of that amount, as draining a Lipo to 100% of capacity before recharging is not a good idea!

.8 \*2200/38000 = .04 hours =2.5 minutes. Perhaps a 2200 3S is not such a good pick here, even with judicious throtat 28.5 Amp draw? .8 \* 3200/28500 = .09 hours =

5.4 minutes

Close, so maybe we might have to consider adding a new Lipo to our stable of batteries. Perhaps a 4s 4000 or a 4s 5000 if we want to fly that 400Watt ship for 8-10 minutes

There are several other key factors here that are not vet considered, such as what motor and prop are needed to fly the airplane well and can the battery turn the prop at proper RPM. All I am doing now is checking if my existing Lipo's can supply the required power without regard to the motor cho-

sen.

One here ing in systems

the things that might be a bit more apparent is the potential benefits of goto higher voltages our electric power

where possible. Since I am running out of room for this month, I will discuss this advantage next month when I discuss my two new ships to my fleet, both of which are classified as "high" voltage electrics. These high voltage airplanes also lead me on a long search for a suitable charger that also centered on available power, so we'll discuss that as well

Until then, keep the shiny side up and see you at the field (if it ever stops raining)

"Okay, Copper - what's the charge? Assault and Battery? I have contacts you know."

tle management

We should be able to ascertain from the analysis above that the 2S 450 mah pack has no chance, but what about the 4s 3200 pack?

Let's start with the anticipated current draw again

400 Watts/ (4\*3.5 Volts) =28.5 Amps (did you notice how the required current is now lower?)

"C" amount = 28500/3200 =8.9 (almost 1/2 of the 3S!)

So far, things are looking good. Now how long will it last

Joe



#### Skymasters R/C Club

#### We'll Teach you to fly!

Join the Skymasters Radio Control Club for an R/C Aircraft Event

#### Electric Fly!

#### Saturday June 11, 2011 Bald Mountain Scripps Road Field

Flying open to AMA members.

94dBa at 10 feet enforced. Event Flying starts at 10am



Public Welcome!

**Electric Powered Aircraft Only!** 

From slow flying 'park flyers' to full aerobatics and scale Come see what electric power can do today!

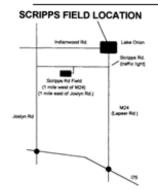






No Landing Fee

Pilots Prizes!



- Lots of Parking
- Refreshments available at event
- Toilet located at field
- Great chance to see this exciting hobby!

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 registered after 10/1/2010 need a Recreation Passport (available from Secretary of State or DNR)

For more information call Pete Foss 248-236-0676 Visit our website at www.skymasters.org



#### Skymasters R/C Club

We'll Teach you to fly!

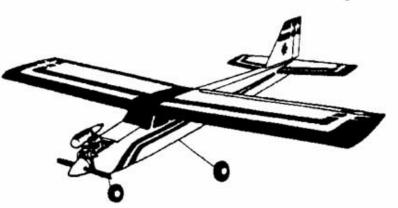
Join the Skymasters Radio Control Club for an R/C Aircraft Event

#### Student Day

Every Monday from Memorial Day to Labor Day Bald Mountain Scripps Road Field from 10am – 2pm

#### **Student Day:**

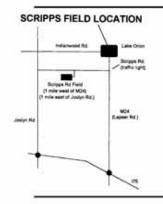
Instructors available from a 10am – 2pm (weather permitting)
Open flying – with priority to student flights



#### **Students Always Welcome:**

Students are ALWAYS welcome at the field to fly. We set aside times for Student Day and Student Night (see reverse) to have instructors already available. Students are encouraged to make arrangements for other times to fly as well!

We have split Student Day and Student Night for 2011 to insure instructor availability and have a second chance of nice weather.. ©



94dBa at 10 feet enforced.

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 registered after 10/1/2010 need a Recreation Passport (available from Secretary of State or DNR)

For more information call Ron Sokacz 586-977-1404 Visit our website at www.skymasters.org



#### Skymasters R/C Club

We'll Teach you to fly!

Join the Skymasters Radio Control Club for an R/C Aircraft Event

#### **Student Night & Pot Luck Dinners**

Every Wednesday from Memorial Day to Labor Day Bald Mountain Scripps Road Field from 3pm -8pm

Rain or Shine! "We always eat, we sometimes fly!"

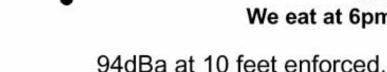
#### Student Night:

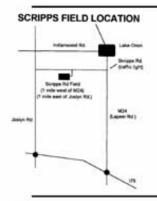
Instructors available from 3pm to 8pm (weather permitting) Open flying – with priority to student flights



#### Pot Luck Dinner:

For those participating we ask that you:
Bring something for the grill – enough
to feed you and your guests
Bring a dish to pass (see note)
Bring your own (non-alcoholic)
beverage
We eat at 6pm – rain or shine!





•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! The potluck is sustained by those participating with no expense to club. 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 registered after 10/1/2010 need a Recreation Passport (available from Secretary of State or DNR)

For more information call Charles and Dairdre McGlothlin 248-364- 4194 Visit our website at www.skymasters.org

# JUNE 2011

			STUDENT			SCALE
		30	29	28	27	26
RCCD WARBIRD			STUDENT			PMAC TAG DAY
25	24	23	22	21	20	19
ROMEO FUN SCALE			STUDENT			RCCD BIG BIRD
18	17	16	15	14	13	12
11 ELECTRIC FLY RCCD BIG BIRD UFO SWAP	10	9	8 STONY & STUDENT	7	6	5 C.A.R.D.S. WAR BIRD
4 C.A.R.D.S. WAR BIRD	S	2	1 STONY & STUDENT		MEMORIAL DAY	
SAT	FRI	UHT	WED	TUE	MON	SUN



Mark Smith 1955 Hopefield Lake Orion, MI 48359

> Web site: www.skymasters.org Email: newsletter@skymasters.org



#### SEE THE EXPANDED FULL COLOR ISSUE ONLINE

#### PHOTOGRAPHY

by Greg Cardillo and Fred Engelman

## HOME OF THE "MIDWEST REGIONAL FLOAT FLY"

#### Skymasters Information.....

Skymasters field is located within the Bald Mountain State

Park Road (see map). State Park Permits are required and can be obtained Park from the Headquarters cated on Greenshield Road or at club events. Flying is permitted from 10 AM to 8 PM. The noise limit is 94 dBa at 10 feetthis noise rule is strictly enforced.

In the summer, Wednesday evenings are Student Nights and there are usually instructors around all day. Student night is also a pot luck buffet,

bring

thing for the grill & a dish to pass. Meet the Instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Ron Sokacz (586)977-1404.

some-

From June to August, Club meetings are held at the field, on the s e c o n d Wednesday of

the month at 8 PM . A great chance to fly and socialize. Winter meetings—September to May—are held at Larson Middle School (on Long Lake just east of John R—see map) on the second and fourth Wednesday of the month at 7:00 PM. Bring a model for Show and Tell, enjoy coffee with donuts and listen to the speaker of the evening.

The Skywriter newsletter is sent to members, local hobby shops, and other R/C clubs in the area and around the country. All contributions are welcome. Please send articles to the Editor. If you know of anyone who may be interested in R/C Aviation, please give them a copy of this newsletter or a copy of an AMA magazine. It may spark their interest!

