



Academy of Model Aeronautics

Chartered Club #970
5 Year Gold Leader Club

Skywriter

PRESIDENT'S MESSAGE...

BY: ROSS JONES

Well, spring is finally here! We all had a great time at the Bald Mountain Involvement day. In spite of the fact that it was spring break for many schools and parents were off with their kids we had a good turnout of members and the jobs we were assigned were completed in admirable fashion. See further for details/pictures of the event. I know that the Recreation Area officials were most pleased with our efforts and what we didn't finish we took a good chunk out of for the Friends of Bald Mountain; who had their involvement day the following Saturday (on the 24th). A great job to all of us! This involvement day is an excellent time to catch up with people you haven't seen all winter – it's a heck of a social event!

Paul Zabawa has done a remarkable job with the field – it's in good shape, the tractor is in tip-top shape and we're all set with a new fire extinguisher. Some lackey nailed the last one with a shotgun... Paul is pretty

quiet, but the dedication that man has is beyond measure. Be sure to thank him when you see him – there is a lot that he does – and that thing about the vice presidency being worth “no more than a warm bucket of spit,” (I forget who said that), well, they would be wrong, I think.

Speaking of board positions: I will not be running for the presidency for 2005. My kids are growing up and getting into sports and I am becoming a regular “Joe Finkelstine,” in this regard. Don't know what that is? Ask him about his four kids and their schedules. So folks, lemme tell you, this is actually a really good position and resume builder. This position really isn't hard and together with the board, members of experience and input from members – just listening will keep you out of trouble. Please talk to me if you are interested in running – I'll help you just like Darrell Watts helped me! The public speaking aspect isn't hard either. Just

imagine Ron Sokacz in his underwear when you are up there and you'll be fine!!!

Now get out there and fly! Remember last year I talked about the wind? When I wind-surf (and the season is in full bloom now) I bring my quiver of sails and every board I own. My sails are 4,0 to 7,5 Square Meters and I have three boards. You pick sails and boards to suit the wind in question. The smaller the board/sail, the greater the wind speed. You get the idea. The point is – you never know what you will get. I think it's much the same with airplanes. Don't wait for the perfect wind conditions – just go! I swear this is an absolute skills builder. Now, 25mph and gusty is something else, but you get the idea. Flat light, grey skies and a warbird with olive drab paint – uh, that would be suicide – but a great way to learn what not to do. Okay, nevermind, but just get out there. You'll spend the rest of your life waiting for perfection – just do it!

2004 Club Officers & Appointees...

	President:	Ross Jones	6028 Meadowgreen	Waterford	48327	248-738-4435	
	Vice Pres:	Paul Zabawa	PO Box 138	Metamora	48455	810-678-3332	
	Secretary:	Joe Hass	1142 Brunswick Dr.	Rochester	48309	248-321-7934	
	Treasurer:	Joe Rubinstein	155 Cayuan	Lake Orion	48362	248-693-4265	
	Editor:	Mike Holmes	2557 Hemlock Ct.	Oxford	48370	248-969-9189	
	C F I :	Ron Sokacz	40714 Matlock	Sterling Hts	48310	586-977-1404	
	State Park:	Bill Stark	1010 E. Clarkston	Lake Orion	48362	248-693-8639	
	Membership:	Gary Weaks	2512 Red Fox Trail	Troy	48098	248-540-8358	



SKYMASTERS 25th MARCH MEETING MINUTES

Ross Wegryn-Jones discussed the front page article about Joe Hass and Ross Jones at Firefighters park in Troy with the Jason project from NASA in conjunction with Avondale Meadows 6th grade science class. 25 students got a first hand lesson from Joe on flying and they received lots of video footage in infra-red and color in their NASA Plane. The plane was based on an electrified Sig Kadet which provided a good platform for video work.

Ross Jones discussed a call from a Mr. Bailey regarding electronic devices that can disable wireless devices such as those being used in remotely detonated bombs in Iraq and Afghanistan. No one really had any ideas except Dave Lange, who mentioned some form of jamming device burglars use for remote keyless entry in automobiles.

Ross Jones Introduced Dan Schwartz from Foam Fly.com of Ann Arbor, MI.

Dan is the founder of Foam Fly.com. He believes in the Lean ap-

proach using fan fold foam, popsicle sticks, brush motors, bamboo, nylon zip ties and packing tape. 3/16" thick is the basis for a lot of his designs. This does have some drawbacks. It is wavy, and full of little holes. This extruded polystyrene foam is closed cell. The plastic skin that is on it provides for a lot more strength. You can get away with a profile form and it will work. The frog is an Amphibious aircraft and his first design. The middle section to it provides more than adequate space for radio. The wing shape is actually formed in a jig with heat over time. In a standard oven at 250 degrees, it works in a wing baking jig. Once it cools, the foam hardens into the right shape. This design, with a Speed 300 motor, achieves unlimited vertical.

The wing has no spars, yet strong enough to handle the loads placed upon it. Mainly this is due to the overall weight of the aircraft.

Dan showed us his Canard forward swept wing design. The edge of kitchen counter is his number one tool. Number one add on material is the packing tape, skid pads, ailerons, etc. Dan says that you can achieve any airfoil you want with a little planning...

Dan uses a computer controlled hot wire cutting machine now. He pretty much uses 3M #78 contact cement to bond foam together. RC 56 used also. As these adhesives stay flexible, he finds this advantageous as the foam bends also. The parts stay together longer. Dan says that it

is in your interest to make the whole thing a little bit floppy. Instead of packing tape for hinges, just slit the foam, cut in a bevel, now you have a functioning hinge with no add'l weight. All designs now have interlocking tab designs, integral hinges, and easy ass'y – very much like a conventional balsa design, but a lot less expensive.

The universal fuselage. Dan challenged people online to come up with as as

many different designs as possible based on one fuselage. The wing is butt joined with the following technique: using jig, use sanding bar to line up joints, then use contact cement. He did cheat with utilization of packing tape, but has found it is not really necessary. .7oz/ft square is the weight. Canard, 15.9oz. He went to lithium and went to 15.5, but doubled the performance with longer flight time. Dan believes in the use of fewer parts to produce the planes that he builds.

Dan says that If you peel off the covering on one side of the foam (it comes on both sides), you can create tight radii and curves. Note the F4U Corsair. This plane is actually a slow backyard flier. Dan has recently contracted with a sheet foam making company to have his own fan fly foam with no holes and flat. In addition to these advantages, it is also white! The sheets of foam are 6x20x2 and in a warehouse. He is now using it to produce his own line of kits.

(Continued on page 5)

PHOTO CONTEST



Announcing the 1st annual Sky-masters Photo Contest. Email your best airplane and members pictures. A highly qualified board (Carolynn, Sam and I) will pick the best photos. Gift certificates for the top three, plus star billing on the Member Pics section of the website. See the Member Pics section for the type of pictures I mean.

Nice clean backgrounds, etc. Posed pictures, not pictures of planes with stuff everywhere.

Email your photos to:

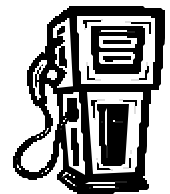
peteskymaster@sbcglobal.net

Please don't send them to my regular email address and clog it up!!!!

Pete Foss

"FUEL SALE"

LAST CALL FOR FUEL!!!! ORDERS HAVE BEEN SLOW COMING IN. THE ORDER DEADLINE WILL BE EXTENDED TO MAY 15. IF YOU NEED FUEL ORDER NOW!!!!!!



**Alan McGee
(248) 589-0283**

PROP WASH...



Joe Finkelstine

Well, its time for installment number 3 in this never ending series on designing an RC model using CAD. If you do not happen to recall where we left off, allow me to recap here.

Last month, we left off with our 3 view scanned in and turned into a vector file, hopefully a DXF file. This month we finally fire up the CAD program and watch our ship begin to take form. I am going to focus on some setup issues in the CAD program this month.

I need to point out a couple of big qualifiers here, as they come into play starting now.

1) I use a CAD program called TurboCad. All CAD programs do essentially the same things, but they often have different names or ways to do them. I will do my best to describe what I am doing independent of the way TurboCad names it, but ultimately, my screenshots and methods will show TurboCad. My version of TurboCad is Version 7, which is quite old now.

2) Like many things in our hobby, there are multiple ways to get something done. This is true for designing in CAD. I am not a professional CAD designer, so my methods may bring shivers to the expert, but we'll get the job done!

3) Almost all CAD programs can do much more than we need for designing a RC model. I will be using a traditional method of creating a 2D drawing and only drawing in 2 dimensions. The CAD world evolved out of 2D into full 3D solid modeling over a decade ago. Even though I know how to use the 3D stuff, I will not discuss it in this series as I firmly believe the added complexity of asking beginners to learn 3D to wind up with a 2D drawing are not worth it in a hobby setting. If you want to make a living doing this stuff, that is a different story!

4) Since we can design in 2D, we can be cheapskates here for CAD. There are several older revisions of commercial CAD programs available

that only allow 2D drawing, but they are free! – Sometime before I finish the series, I will list out where I think you can get a copy.

With that out of the way, let's get started!

Through much aggravation, I have now become a firm believer in setting up the CAD environment to suit the end point of creating a 2D drawing as a starting point, so let me begin here. The primary things I like to do are

- 1) Set up my drawing size, and most importantly, the scale
- 2) Set up drawing layers
- 3) Set up my default font sizes, pointer styles, line styles, etc.
- 4) Put a couple of beers in the fridge for when things go wrong

In many CAD programs, you can set most, if not all of this stuff in a "template" file, and start a new drawing with this template, so you only have to do this once. Let me explain what these mean one by one though

Set up drawing size and scale. – The most important thing here is to set the scale of the drawing. Since we build 1:1, I set my drawing 1:1 in inches (sorry to our Metric inclined club members, but England got this one right!). The reason I do this is that I can draw and measure things directly, rather than having to remember to scale any measurement I take. The Cad program does not care if your drawing is the size of our flying field, it will still work the same. Do not worry yet about the actual drawing border and title block and such from your drafting days; we will add that to the drawing near the end.

Set up drawing layers – One of the best setup features in a CAD drawing is the capability of layers. Remember back in our high school drafting days, we were given a piece of onion paper to trace with, or some clear vellum. You could build up a drawing by stacking multiple vellum sheets, or onion skins, because you could put notes on one sheet, dimen-

sions on the other, optional stuff on yet another, etc. This ability to put different CAD data on different layers is critical for us in one spot in particular. In our last two installments, we discussed how to get a 3 view into a DXF file. Well, we are going to read in that 3 view, scale it to the wingspan (or model scale we want) and put it on its own separate layer. We can then design the actual model on another layer, but always have the trace layer be visible when we need to verify that drawn outlines are exactly matching the 3 view.

This would not be possible if we had to put the scanned in 3-view and the actual design on the same layer. We will also create additional layers for our design, including, a layer for notes, etc. Personally, I am always trying new things and playing around with formers, etc., I create a couple of "scratch" layers. On these scratch layers I can copy something from another active layer, see if my brilliant idea to make it better actually works, (usually find out it doesn't) and I can leave it, or erase it without fear of wrecking the original. Figure 1 below is a picture of layer setup in TurboCad for my ME-410 design.

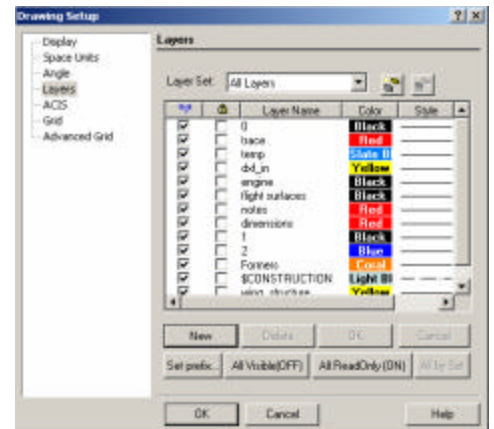


Figure 1 - Drawing setup in TurboCAD

As you can see, I added a bunch of layers, some of which I never actually used. If you look a little closer, you may be able to determine that I can set up the color of things on the layer, lock changes (the little lock symbol), view the layer (the little eyes and nose) and general line style.

It will help you immensely down-
(Continued on page 4)

(Continued from page 3)

stream to think about what layers make sense for you and I would suggest this as a minimum set.

A) Trace layer – we will read in our 3-View to this layer, scale it, then lock changes out

B) Construction layer – a layer to create object to help you draw other things – just like in drafting class on a board, but you may find that many things do not need construction objects anymore

C) Notes layer – add dimensions and notes to a separate layer, so you can turn them off when designing to help de-clutter a design

D) Object layer – main design layer, where outlines, formers, etc. will be drawn. I like to further add more object layers by building my formers on one layer, ribs on another, etc. You do not need to go this far, but you will need at least one layer to draw stuff on.

Set up default font sizes, pointer style, line styles, etc. This stuff is less important, and is often spread around the CAD program in different setup commands, but it is a good idea to play with all of the different fonts, and pick one that prints or plots well. Resist the temptation to create a grey dotted line style with old English text; nobody will be able to read what you have done once plotted!

How you go about setting this up and saving these defaults will differ in each CAD program. They all will be able to do it though.

One of the more confusing things to new CAD users, particularly if they grew up on drafting boards is that the concept of paper size is mostly irrelevant in the CAD world until you need to print. Back in our Drafting classes, one of the first things we always had to do was go to the blank sheet cabinet, select a A,B,C,D, or E size blank and begin using it. In the CAD program, our setup ignores paper size, as the “sheet” grows as big as we need. Once we set up all of the stuff above, like layers, scale, etc. we are ready to finally go. When we get ready to plot the drawings, we will return to paper sizes, because the plotter we will use will define what we can actually print.

Several CAD programs (TurboCad included) have a concept of model space and paper space and I would suggest you steer clear of this

stuff until you are comfortable with CAD and what you need to do to get the job done. I have yet to find anyone who can clearly define what these “spaces” are, when to use them, and most importantly, when not to. This includes people who make their living in CAD.

So, get your drawing set up and next month we will get it into the trace layer and if space permits, I will discuss CAD basics.

Keep the balsa dust flying.

PICTURES FROM BALD MT. INVOLVEMENT DAY

PHOTO'S BY: GREG CARDILLO



(Continued from page 2)

The hot wire cutter is computer controlled. He stacks up the sheets, and uses two different programs to make cones, etc. Floats take 8 minutes to run. Capacity is 32" long. Could run two pieces and could glue them together to make a longer float. He does use CAD software for his designs.

You can actually work out wash in and wash out on these wings as well. You do this by cutting the wing at an angle. The jigs work as follows... The jigs are hand made and utilize aluminum. 20 minutes @ 215 degrees. Not for high production, because you are only talking one panel at a time. But you cannot stack them up because the radius will change. 24" oven, standard stuff. No residual gases, foam melts @ 215. Using the hotwire machine,

there are some styrene fumes, but nothing serious.

With the Zagee, it weighs 6.7oz. and reached speeds of 40-50 mph, and achieves 5 - 6 rolls per second. Uses popsicle sticks for motor mounts and colored packing tape, which he would have to use anyway. Motors are from surplus electronics places for \$1.00 each. Largest plane ever built. 50" span. 12' spans have been built. Plan out internal structure so that support exists. And you will be fine. Doing more brushless, so span is limited to 4'.

With some new material, Dan is bringing the weight down to 9 grams/ft square. 1,0mm thick. Can do really nice radii curves with this material.

Show and tell: Profile Gee Bee - Mark Smith. Built a couple of years ago. From tail feathers. Bought fiber-

glass landing gear. .46fx. 4lbs, 4oz.

Jack Goodrich. Extra 300S ARF .40 size. Looks good, but says that's because he hasn't flown it. OS 46 engine. Using standard muffler.

Ross Jones - Dazzler, ARF, picked up for \$82. Also incomplete Fuselage of Pilot 1/4 Scale Tiger Moth.

Video presentation. Slow flier presented first. Smaller ones are good to 8mph winds. Then it's not fun anymore. The staggered biplane can have several landing gear permutations, so they are all built very flexibly.

Paul Zabawa, Joe Rubinstein, Frank Lange and Mike Holmes all won kits and foam from Dan.

Doug Riley won the 50/50 raffle. Uses speed 400 brush motor.

That's it...

Meeting adjourned 9:34pm.

Membership Renewals for 2004

All membership renewals and membership questions for 2004 should be addressed to:

GARY WEAKS
2512 Red Fox Trail
Troy, MI. 48098

You can phone Gary at:
248-540-8358
or email him at:

Gary.T.Weaks@USA.dupont.com

Remember, if you are renewing by mail you must include a photocopy of your 2004 AMA card & completed application.



FOR SALE

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PLANE ONLY, GREAT COVER JOB

OWN ONE SEASON

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STONY CREEK FLOAT FLYING



The Skymasters and the Fraser Flying Clubs have joined forces again this year to promote float flying at Stony Creek Metro Park. Every Wednesday weather permitting there will be flying at "Winter Cove" from 9:00 - 12:00. After entering the park stay to the left, watch for signs, it is on the right after the golf course.









Stony Creek is west of Van Dyke (M-53) on 26 mile road. There is a \$2.00 daily park fee or annual park pass is available.

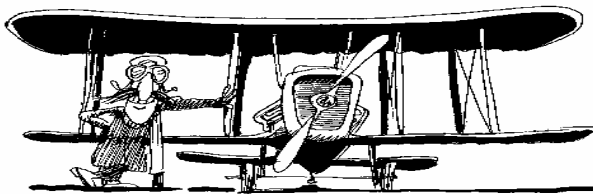
"Get your floats on and join us at Winter Cove every Wednesday"

For information contact: Jim Held 248-641-9724
jimwheld6651@wideopenwest.com

AREA EVENTS...

AMRCC CONTEST SCHEDULE

-  **MAY 10.....SENIOR CENTER.....HAROLD REUTER 248-391-2669**
-  **MAY 12.....LARSON MEETING...KEITH SHAW BUILDING LIGHT .-ROSS JONES 248-738-4435**
-  **MAY 15,16.....MID-MICHIGAN IMAC AEROBATIC CONTEST.....RICHARD FAST 517-522-4931**
-  **MAY 16.....INTER- CLUB FUN FLY.....MARK SMITH 248-391-5970**
-  **MAY 22.....CHET BRADY FLOAT FLY...SEVEN LAKES ST. PARK.... PETE FOSS 248-236-0676**
-  **MAY 23.....BALD MT. FLOAT FLY..BALD MT. REC AREA.....ROSS JONES 248-738-4435**
-  **MAY 24.....SENIOR CENTER.....HAROLD REUTER 248-391-2669**
-  **MAY 26.....FIELD CLEAN UP.....ROSS JONES 248-738-4435**



LAKE ORION SENIOR CENTER
 HELP OTHERS BUILD PLANES
 THEN FLY THEM IN THE SPRING!
 1:00 - 5:00 THE 2ND AND 4TH MONDAY OF EACH MONTH
 CONTACT HAROLD REUTER AT 248-391-2669

" SKYMASTERS " ~ MAY ~ 2004

SUN	MON	TUE	WED	THU	FRI	SAT
2	3	4	5	6	7	8
9	10 SENIOR CENTER	11	12 MEETING LARSON	13	14	15 MID- MICH AERO CONT.
16 INTER- CLUB FUN FLY	17	18	19	20	21	22 CHET BRADY FLOAT FLY
23 BALD MT FLOAT FLY	24 SENIOR CENTER	25	26 FIELD CLEAN UP	27	28	29
30	31					

SKYMASTERS "2004"

EVENT SCHEDULE

<u><i>April 17</i></u> <i>(Saturday)</i>	<u>Bald Mountain Involvement Day</u> - Bald Mountain Park Headquarters. Come out and volunteer to help our park prepare for the summer season. There are light jobs & heavy jobs and everything in between. -Gary Weaks (248) 540-8358
<u><i>May 16</i></u>	<u>Inter-Club Fun Fly</u> - Fly against other clubs in the area. Each club will send a team to compete for bragging rights. Fun Events. This years first fly will be held at our Scripps Rd. Field 11:00am - Mark Smith (248) 391-5970
<u><i>May 22</i></u> <i>(Saturday)</i>	<u>Chet Brady Memorial Float Fly</u> - Seven Lakes State Park, Holly. AMA. Our first Float Fly Event of the year. It adds a whole new dimension when flying from water - it's also great to watch. Flying starts at 9:30 AM. - Pete Foss (248) 236-0676
<u><i>May 23</i></u>	<u>Bald Mountain Float Fly</u> - Bald Mountain Recreation Area, Trout Lake. AMA. The beach will be closed. Another fun day float flying! <i>The Scripps Road Field will be closed for this event.</i> - Ross Jones (248) 738-4435
<u><i>June 19</i></u> <i>(Saturday)</i>	<u>Small Fry, Electric, and Sailplane</u> - Scripps Road Field. AMA. Electric's & Gliders or any plane with a 2 cycle engine to .25; 4 cycle to .30 (tow planes any size welcome) High Start, Power Pod, or Tow for Gliders. - Pete Foss (248) 236-0676
<u><i>July 11</i></u>	<u>Team Fun Fly</u> - Scripps Road Field. Even if you don't fly you got to see this one! Lots of exciting flying events, lots of fun, and even some prizes. Need a teammate, we'll find one for you! - Dave Wendt (248) 969-8738
<u><i>August 1</i></u>	<u>Harold "Big H" Maseles Warbirds and Scale</u> - Scripps Road Field. AMA There's lots of variety in the air and on the ground, P51's to Tiger Moths. Come see Military and Civilian scale planes. - Joe Finkelstine (248) 375-0530
<u><i>August 29</i></u>	<u>Corn Roast and Top Gun</u> - Scripps Road Field. This is the club event of the year with our annual 'Top Gun' pilot competition. A field full of aircraft and some great flying & great food! A Excellent day out for all club members, their families, and our neighbors. - Ross Jones (248) 738-4435
<u><i>September 11-12</i></u>	<u>Midwest Regional Float Fly</u> - Island Lake State Park, Brighton. AMA. This is the Largest float fly in the Country! Over a 100 Float flyers from all over the Midwest bring all sizes, shapes, and color of aircraft imaginable and fly them for two days solid. "Super Prize Raffle". Flying starts at 9:30 AM both days!
<u><i>October 9</i></u> <i>(Saturday!)</i>	<u>Kids' Day</u> - Friendship Park, Lake Orion. We are again Joining Orion Townships " Barn Daze " for 2004. Trainer aircraft and instructors will be available to guide the kids through a short flight of a real R/C aircraft. - Gary Weaks (248) 540-8358
<u><i>December 31</i></u> <i>(Friday)</i>	<u>Krazy Snow Fly</u> - Scripps Road Field. AMA. Come and give your planes and winter clothes an outing. There's plenty of hot food and drinks, a fire, and some 'cool' flying. The more snow, the better! - Paul Zabawa (810) 678-3332



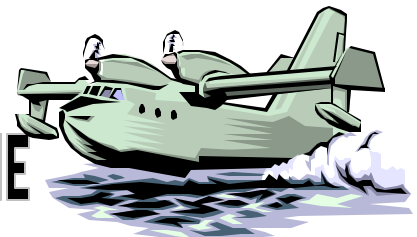
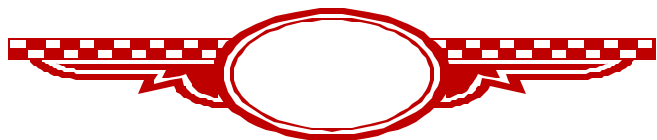
SKYMASTERS RADIO CONTROL CLUB OF MICHIGAN

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Web site: www.skymasters.org
Email: mholmes969@sbcglobal.net

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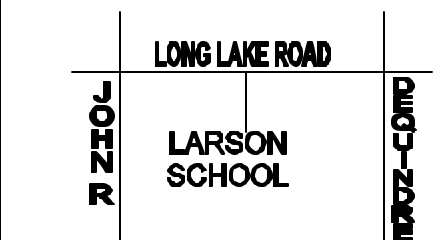
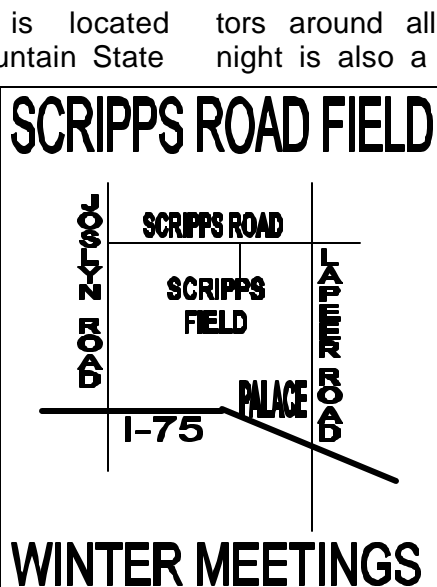


HOME OF THE "MIDWEST REGIONAL FLOAT FLY"

Skymasters Information.....

Skymasters field is located within the Bald Mountain State Park on Scripps Road (see map). State Park Permits are required and can be obtained from the Park Headquarters located on Greenshield Road or at club events. Flying is permitted from 10 AM to 8 PM. The noise limit for 2004 is 94 dBa at 10 feet—this noise rule is strictly enforced.

In the summer, Wednesday evenings are Student Nights and there are usually instruc-



tors around all day. Student night is also a pot luck buffet, bring something 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 (810) 977-1404.

From June to August, Club meetings are held at the field, on the first Saturday of the month at 12

Noon. 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 7:30 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!