

PRESIDENT'S MESSAGE...

BY: ROSS JONES

Spring is here! And so is some of the highest stress you will ever see amongst modelers. You know, those winter projects that you had plenty of time to complete? Well, now it seems, you don't! Don't worry, snow still falls in April and I've even been bitten by snow in

May. Keep building (don't rush!) and you'll finish and miss only a very few nice flying days... While we're on the subiect of the field – we have been asked by several members about rolling it. There is a perfect time to roll the field, and there is a terrible time. More often than not, the timing is such that we roll it at the terrible time. Paul Zabawa is the resident expert in this area. and I would like those of you handy with a tractor and a roller to keep in touch with Paul on the "perfect" time to Dan Devine hit that field. See his address

below. We plan on having these items available for the perfect time and will need someone to do the small chore... At the right time.

Important Dates and Date Changes. When one looks at a calendar for a free date, one generally doesn't look at what relevance that date is to another, more important date, like, say, Easter, or Memorial day... As such, one of our more important dates, the Bald Mountain Involvement Day will be on the 12th of April. Gary Weaks is in the prœessing of getting a list of 'to-do's' together and needs a few more team leaders to lead in the accomplishment of the tasks assigned to us.



Bald Mountain State Park really likes our work here and it goes a long way to better public relations. Please attend!

May is a busy month with three events! The Skymasters Field Cleanup day has been moved to the 21st of May. The following Wednesday, the 28th, is right after Memorial Day and would be the first student night! The field cleanup day is time for us to work on our field to address winter wear and tear and prepare the field for upcoming use...

Don't forget our two float flies on May 17th and 18th. Chet Brady Memorial Float Fly and Bald Mountain Float Fly are our first two low pres-

sure events of the year. The weather is usually very cooperative for at least **one** of the events!

Scripps Road Lease Agreement and Additional Field (s). The board is still working on additional fields and a long term lease for Scripps Road Field. What's a long term lease, you ask? Well, It's kind of like getting a driver's license. As you may know, in the State of Michigan, a driver's license is regarded as a privilege, not a right. One wrong turn too many (pardon the pun) and you have jeop-

ardized your position to have that driver's license. It's the same with a long term lease. All the long term lease means is that we don't have to apply for a new lease (or, in keeping with the analogy; driver's license) every year. We can apply, say, every five... However, the same rules still apply – we have to exercise due dili-

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gence to keep the field. This is nothing new, we follow rules we have laid out, never deviate from them and respect our neighbors.

With that being said, we are still looking for an alternate field for the following reasons.

1). A backup to our existing field.

2). Membership Convenience.

3). Benefit to Model Fliers in General.

The sites we are reviewing are in prime locations, close to many existing modelers in our club. In no way are they intended to replace Scripps Road Field. They are also sites close to lots of other potential members. I remember the saying "A bird in hand is worth two in the bush" (I may have just killed the structure of the saying). Anyway, the sites we are reviewing may have qualities unlike Scripps that are suitable to a different type of flying – like Combat flying – you get the point. So, with the field development fund we'll have the money to develop such a field quickly when we find it. Now if any of you guys have 20 acres in your backyard you're not telling us about – now is the time to fess up!!! Safe Flying and See You Soon!

 $\sim Ross$

General Membership Meeting - 3/12/03 Troy Boys and Girls Club

<u>Introduction of 2003 officers and appointees</u>

Officers Present: Gary Weaks, Bob Donohue, and Ross Jones.

Presiding officer was Ross Jones. Attendance was 46.

Skymasters Swap Shop. Joe Finkelstine, the event director for this year's Swap Shop,

thanked the group of Skymasters that helped out at the event. He then gave a brief update on the profits. **Up-coming events:** The second meeting in March (3/26/03) will feature Monocoating techniques with Vince Pettke. The first April meeting (4/9/03) will include a flight instructor's meeting a half-hour before the general membership meeting.

Bald Mountain Involvement Day has been moved up one week to avoid conflicting with Easter Saturday. The new date is April 12. We will start at 9:00 AM at the Bald Mountain Park Headquarters on Greenshield Road. In addition to a good turn-out of the membership, we are in need of five members to be team leaders on that day. Please contact Gary Weaks (248-540-8358) for more information.

Our field clean-up day has been moved to a new day. It will now be held on May 21. It will conclude with the "lighting of the grills" to feed the hungry workers.

Plans for the **Midwest Regional Float Fly** (September) were discussed. We had a vote on having pizza or Chinese for the Saturday Night Dinner and pizza prevailed. This year's event will be lead by Bob Donohue. The three super prizes include a Tiger Moth ARF on Floats with a 120 Four Stroke Engine, a Ryan STA-M ARF, and a Futaba 9C radio. Judged prizes will be from Balsa USA and the judging will be pilot's choice.

Some other area events of interest were highlighted. These include the Toledo R/C Exposition at Seagate Center in Toledo, Ohio. The Toledo Weak Signals R/C Expo will be held on April 4, 5, and 6 this year. This event which is part industry show, part builder's contest and part swap meet is a must see. Skymasters members organize a car pol every year. See Greg Cardillo for more details. The Yankee Air Force Museum is holding an open house on May 26th. This will also include static displays, B-17 flights, and model Fly In. The North American Model Engineering Society (NAMES) is holding their annual Exposition on April 26 and 27 at the Southgate Civic Center, Southgate, MI.

Hundreds of model engines, from tiny to large. Steam Engines, Stationary/Mobile, Aircraft, Railway and Boats.

Video Librarian, Sherman Dixon informed the group that there are a lot of tardy tape returns. If you cannot make it to a meeting to return a borrowed tape please mail it back to Sherman. Thank you.

Program: Ross Jones and Jim Held demon-

strated fiber-glassing techniques. Jim started the discussion by comparing the weight of a fiberglass and paint finish to that of a Monocoat-type finish. He earlier had finished a 2 square foot piece of balsa wood sheet and weighed it after each step. The final fiberglass and paint finish added 0.7 oz per square foot compared to 0.2 oz per square foot for Monocoat. However, the glass finish does provide a hard and scale-like finish that resembles painted aluminum. Jim and Ross then demonstrated the technique using ¾ oz fiberglass cloth and finishing epoxy resin thinned with denatured alcohol. The finishing resin was a mix of 1 to 1 to 1 epoxy, hardener, and alcohol. A thin application of 3M Re-mount glue to the wood is handy to help hold the cloth in place while applying the resin. A dry paint brush can also be used to smooth the cloth to the wood before the application of resin. A foam brush was then used to apply the resin. Afterwards a playing card was used to shovel the extra resin off of the cloth. After the resin has dried for at least 24 hours a second coat can be applied or some prefer to fill the cloth weave with primer. Both techniques are successful. A primer of choice is PPG K-36 automotive primer. For repairs and large filling, a product called Evercoat Spot-light can be used. Show and Tell:

- Mike Katalinich brought in a Falcon Airteal from Falcon Aviation. This is a rare model of a one-of-a-kind full-sized float-plane. It weighs 9 ¼ pounds and is powered by a 60.
- Ron Sokacz displayed a Canadian Arrow. This Northstar look-a-like uses a ST45 with a Max pipe. It weighs 5-6 pounds.
- Sherman Dixon brought in a work in progress of an AKM Models Mig 29. He intends to finish it in the Ukraine Falcons' color scheme. It will be powered with a ST 90.
- Chris and Joe Hass brought in two models. The first was a Stick Jr. 3S park Flyer. It weighs in at 6.2 ozs. The second model was an electric P-51 park flyer. It is priced at \$60, has full-house controls, and weighs 16 ½ oz. It will be an up-coming kit review.
- Greg Brausa showed an Ultra Stick ARF Enya 60 four stroke engine.

The show-and-tell raffle was won by Ron So-kacz.

Meeting adjourned at 9:00



Welcome to the March Issue of the Skywriter. Toledo is finally here! The unofficial start of the flying season. (Note: The shuttle bus from the Arena will not be running this year.)

Gary Weaks is spearheading the "Bald Mountain Involvement Day" which is held on Saturday April 12. (changed from 19) We can't tell you enough how important it is to the club that all members get out for this event. There will be coffee & donuts for the early risers and lunch for everyone at noon. Try to get

See Skymasters on the web at - www.skymasters.org

there at 8:30 to get your assignment for the day.

Go to www.eaa.org for some cool wallpaper for your computer. Mark & Liz

masmith248@earthlink.net

Articles must be received by the 20th for next ssue. Articles may be reproduced from Skywriter.

APRIL 2003

!!! NOTE DATE CHANGE !!! "BALD MOUNTAIN INVOLVEMENT DAY" NOW - APRIL 12





Please join your club for our annual Bald Mountain Involvement Day, Saturday, April 12. The Skymasters enjoy a great relationship with the Bald Mountain Recreation Area along with many special use privi-



leges. In order to show our appreciation we volunteer one day each year to help the park with cleaning and repair tasks. These can range from heavy work like clearing paths and replacing roofs to lighter ones like painting and cleaning. There is always a task for every skill and ability level. We start work at 9:00 AM at the Park Headquarters on Greenshield Road 1 mile east of M-24. Lunch will be provided for all of the hungry workers. If you can bring tools such as rakes, shovels and hammers they always come in handy (make sure your name is on them so that they can find their owners again). Dress for warmth and comfort with a good pair of working gloves and boots. We could use about 5 people to volunteer as team leaders for that day. If you would like to be a team leader or have any questions please call Gary Weaks (248) 540-8358. Thanks and see you at Involvement Day!



FOR SALE: The new "2002 FLOAT FLY" video is now available. only \$20 contact Bob Donohue 248-391-1385 or Darrel Watts 248-391-4677.



APRIL 2003



HI All,

I am hoping to wrap up my discussion on basic computer radio setup and perhaps go into some more advanced stuff if we have any space left.

Let me first talk about expo, and then move on to end point adjustment and sub-trim.

Last month, if you may recall, I discussed the features of dual rates. In case you forgot one of my brilliantly crafted pictures, a repeat of it is below.

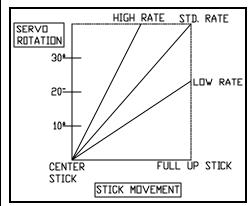


Figure 1 – Servo movement Vs. Stick movement, standard proportional.

The dual rates on almost every radio are represented above in the graph above. From last month, I mentioned that low and high rates each have good points and bad. For low rates, the good is that this rate tends to make the ship less twitchy and stable about neutral, but it does not lend itself well to large deflections necessary for aerobatics, or a fast pull out of danger. High rates bring the larger surface deflections, but do so at all stick movements. making the ship more sensitive to all stick movements. Now one could argue that all you need to do is just switch between hi and low rates as you fly, but this is not realistic for many sport flyers. Can you imagine forgetting to switch to low rates for a maneuver and having the ship dive

up or down on you low to the ground? - Been there, done that. I now use expo.

Expo brings in the best of low and high rates by removing the straightline responses to stick movement in figure 1 above. For those of you mathematically inclined, expo gets its name from the fact that the curve of servo response to stick movement somewhat resembles an exponential function. Look at figure 2 below: (as I continue my wonderful drawing skills in word!)

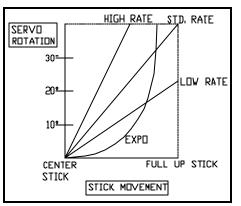


Figure 2 – Servo movement Vs. Stick movement, standard proportional

The straight line is the standard response from the previous graph, but the expo line is actually a curve. Notice first that the ends of both lines are the same. Therefore, at center stick and full up stick, the servo will have rotated the same amount in either case. How the servo gets to the same end point makes all the difference though. Look first at the first half of the expo curve. In this region, the servo is actually rotating less per little stick movement than the standard rate. This means that if you move the stick a little bit from center stick, the servo will hardly move. This is the advantage of a low rate. Now examine the second half of the expo curve. The slope gets steeper as the servo "catches up" to the same end point. What this means is that near full stick deflection, the control surface will rapidly move to a large deflection. This is the primary advantage of a high rate. Expo allows a soft feel around center stick, and fast response around full stick deflection, which combines the benefits of both low and high rates. As always, when I write on stuff like this, I need to add some caveats and notes

1) You can still use expo and dual rates at the same time. Many radios allow expo to be set up on both low and high rates. My radio actually supports triple rates and I use expo on at least medium and high.

2) Futaba and JR radios are opposite in programming expo. To soften up the center in JR, one adds positive expo, to soften up in Futaba, one adds negative expo (at least that's the way I remember it) - I made for some fun flying for more than a few students until I remembered this one!

3) One of the biggest uses for expo that I recommend is to soften a ship's response around neutral stick. You can easily add expo at the field to soften your ship response up until you get a chance to mechanically adjust throw at home.

4) I often use very large amounts of expo, in excess of 70% on my highest rates. Many people would never recommend so much, but I have found it suits my aerobatic flying methodology well. Start with small amounts and experiment around.

Closely coupled to expo and dual rates are the end point adjust and sub-trim functions. Your radio may not have sub trim, but it probably has end point adjust.

End point adjust is simply the ability to set where the servo stops rotating (up to the mechanical limit of course). This allows you to set the end points of servo travel to help in set up. The most useful spot for end point adjust is throttle set up. If you do not have end point adjust in your radio, you have to fiddle around with adjustable servo arms, wheel positions, etc. quite a lot to get your throttle to completely close at full down throttle and trim, and still just

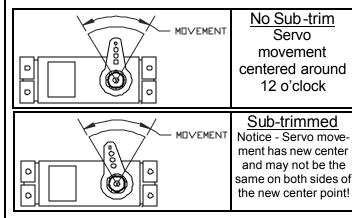
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give wide open carb at full throttle. Another example, although less employed is to alter the amount of surface deflection in one direction. For example several ships fly better when the up going aileron deflects more than the down going aileron (Adverse yaw). End point adjusts can sometimes be employed to make to help this along. I use a dedicated mix in my setups for this function though, since my radio supports this.

Sub trim allows you to redefine where the midpoint of the servo is. I.E. when the channel is centered (the stick usually at center) you can alter where the servo wheel is. The biggest benefit here is to make final corrections to neutral for elevators, rudders, and ailerons. If your ship has just a slight amount of up elev ator at neutral trim, you can sub trim the center point down a few clicks and your ship will have neutral elevator at neutral stick and trim.

As always, some important caveats here.

1) It is very easy to drive a servo into stall using end point ad-



just. Just because you can set a servo end point to 125% of normal, does not mean you have to do it! – You must always check for stalled servos when you twiddle with end point adjust.

2) Neither end point adjust or sub trim are meant to replace poor mechanical set up. As a general rule you should follow the 90-90 rules I have written about before. For example, at neutral elevator stick, your servo arm should be at 3 or 9 o'clock. This is not always true, but it will generally keep you close to the proper set up nearly every time.

3) You will induce unequal throws by using sub-trim. When you use sub-trim, you are essentially stealing movement from the direction you sub trim towards. Start with a servo, with no sub-trim set that has a clevis attached at 12 o'clock. We now add 10 degrees (which is a big amount of sub trim!) of sub-trim towards the left. On our original servo, set at 12 o'clock, we would get 30 degrees of travel on each side of 12 o'clock. On our now sub trimmed servo, we rotation centered at 11 o'clock, which will almost certainly give more travel in one direction vs. another through the pushrods, etc. Think about this one until you understand it.

I have noticed many people do not realize this aspect when they add in sub trim. I often see this when someone does not have a good 90-90 setup and they have set subtrim, end point adjust, and expo to all kinds of crazy values to get the proper movement of a surface. Set it up as close as possible mechani-

cally, and use the sub-trim and end point adjust sparingly as they were designed.

As computer radios continue to gain acceptance and come down in price, you will soon have every radio you own capable of at least the functions I describe above.

They can help you enormously in setup and taming a ship until you get it flying the way you like it. Learn what they are and how to use them. I guarantee you will use them for every ship you will ever have from then on. I would be happy to help you out at the field with your actual ship and radio if you still need help.

Hope the winter projects are nearing the maiden flights.

The Dauntless is actually in primer now!



a Meeting for all Instructors at the **April 9th** meeting 7:00.

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AREA EVENTS...AMRCC CONTEST SCHEDULE• APRIL 2......RCCD "50TH PARTY"ZUCCHARRO BANQUET HALL\$17 PER PERSON• APRIL 4-5-6...TOLEDO EXPO.....www.toledoshow.com....WAYNE YEAGER 517-547-4430• APRIL 7......SKYMASTERS.....RETIREES BREAKFAST....BOB BURNS 248-628-4666• APRIL 9.....SKYMASTERS....LARSON.....INSTRUCTORSSTARTING-FLYING-SAFETY• APRIL 12..... "BALD MOUNTAIN INVOLVEMENT DAY".....GARY WEAKS 248-540-8358• APRIL 21.....SKYMASTERSRETIREES BREAKFAST.....BOB BURNS 248-628-4666• APRIL 21.....SKYMASTERSRETIREES BREAKFAST.....BOB BURNS 248-628-4666• APRIL 21.....SKYMASTERSRETIREES BREAKFAST.....BOB BURNS 248-628-4666• APRIL 23.....SKYMASTERSRETIREES BREAKFAST.....BOB BURNS 248-628-4666• APRIL 23.....SKYMASTERSRETIREES BREAKFAST.....BOB BURNS 248-628-4666• APRIL 23.....SKYMASTERSRETING BOYS & GIRLS CLUB....SETTING UP AIRPLANES• APRIL 27.....WEAK SIGNALS.....SAM 40 EVENT.....CHUCK HUTTON 734-761-9304

APRIL 4-5-6..... "TOLEDO EXPO".....www.toledoshow.com

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2 RCCD 50тн ANNIVERSARY	3	4 TOLEDO EXPO	5 TOLEDO EXPO
6 TOLEDO EXPO	7 Retirees Breakfast	8	9 Skymasters Meeting LARSON	10	11	12 BALD MOUNTAIN INVOLVEMENT DAY
13	14	15	16	17	18 GOOD FRIDAY	19
20 EASTER SUNDAY	21 Retirees Breakfast	22	23 Skymasters Meeting B&G CLUB	24	25	26
27 SAM 40 WEAK SIGNALS	28	29	30			

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Skymasters "2003"				
	IT SCHEDULE			
April 12 (Saturday!)	Bald Mountain Involvement Day - Bald Mountain Park Headquarters. A great start to Spring. 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			
May 17 (Saturday!)	Chet Brady Memorial Float Fly - 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> Мау 18</u>	Bald Mountain Float Fly - Bald Mountain Recreation Area, Trout Lake. AMA. The beach will be closed, and the planes will take the place of bathers. Another fun day float flying! <i>The Scripps Road Field will be closed for this event</i> . Ross Jones (248) 738-4435			
June 7 (<u>Saturday!)</u>	<i>Small Fry, Electric, and Sailplane</i> - 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			
July 13	Team Fun Fly - 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. There are categories for intermediate pilots and experts (using purpose designed fun-fly airplanes.) Need a teammate, we'll find one for you! Dave Wendt (248) 969-8738			
<u>August 3</u>	<i>Harold "Big H" Maseles Warbirds and Scale</i> - Scripps Road Field. AMA There's lots of variety in the air and on the ground, P51's to Tiger Moths, Cesnas to Tom- cats. Come see Military and Civilian scale planes. Joe Finkelstine (248) 375-0530			
August 24	<i>Corn Roast and Top Gun</i> – 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>September</u> <u>6-7</u>	<i>Midwest Regional Float Fly</i> - 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. "Pizza blast" Saturday night, "Pancake Fly-in Breakfast" Sunday morning, "Super Prize Raffle". Flying starts at 9:30 AM both days! Bob Donohue (248) 391-1385			
<u>October 11</u>	Kids' Day – Friendship Park, Lake Orion. We are Joining Orion Townships " Barn Daze " for 2003. Come and try R/C flying. 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			
December 31 (Wednesday)	Krazy Snow Fly - 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			
Noise Limit All State Park Events req	vent Flying starts at 10 AM unless noted. t of 94 dB at 10 feet for all Bald Mountain Events uire daily or annual State Park Motor Vehicle Permit (available at events)			



Mark Smith 1955 Hopefield Rd. Lake Orion, MI. 48359

Web site: www.skymasters.org Email: skymasters@geocities.com

SKYMASTERS

RADIO CONTROL

CLUB OF MICHIGAN

UPCO	MING EVENTS
APRIL 2	RCCD "50TH PARTY"
APRIL 4-5-6	TOLEDO EXPO
APRIL 7	RETIREES BREAKFAST
APRIL 9	SKYMASTER MEETING
APRIL 12BA	LD MOUNTAIN INVOLVEMENT
APRIL 21	RETIREES BREAKFAST
APRIL 23	SKYMASTER MEETING
APRIL 27	WEAK SIGNALS

Scripps

1 Mile

1-75

Winter

meetings

Long Lake (18 Mile)

Larson

Middle

School

Scripps Rd Field

Road

field

Joslyn

John R

Rd

HOME OF THE "MIDWEST REGIONAL FLOAT FLY"



Skymasters Information.....

Lake

Orion

1 Mile

The

Palace

807

/Scripps

Traffic

light

M-24

Dequindre

(Lapeer Rd)

Rd

Skymaster's 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 2003 is 94 dBa at 10 feet-this rule noise is strictly enforced. In the summer. Wednesday evenings are Student

Nights and there are usually instructors around all day. Stu-

> dent night is also a pot luck buffet, bring som ething 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!