

# MARCS Sparks

MAY 2011

VOLUME 50 ISSUE 5

Monthly newsletter of the  
MADISON AREA RADIO CONTROL SOCIETY  
Madison, Wisconsin AMA Charter #665



## COME FLY WITH US...

The MARCS' meetings are held on the first Thursday of each month at:  
**MADISON LABOR TEMPLE**  
1602 South Park St. Madison, WI.  
7:00pm room #201B

Visitors are always welcome. We think we have a great Hobby and we invite you to come and see, and consider joining us.

### Club Officers:

**President:** Brad Witt.....bwitt@chorus.net  
**Vice Pres:** Danny Sutter.....stodan@merr.com  
**Secretary:** Don Weigt.....d\_weigt@sbcglobal.net  
**Treasurer:** Dick Sutton.....jdsutt@mhtc.net

**Membership information** (more details on page-9)  
**Dick Sutton** phone: (608) 437-6795

**Flight instruction coordinator:**  
**Conrad Tufte** conradtufte@gmail.com

**Web master:**  
**Jeff Alexander** webmaster@marcswi.org

**Club photographer:**  
**Otto Oie** ooie3@charter.net

**Club safety officer:**  
**Bill Kinney** hukilau@centurytel.net

**Club website:** ----- [www.marcswi.org](http://www.marcswi.org)  
Info."About us", our "Flying sites", "Newsletters" (present and archives), a calendar of events, "Pictures & Videos."  
**Contains links to:** "War Birds" "Electric Flyers" & other special interest groups. Membership application forms for the **MARCS** club and the **AMA**.

**Newsletter Editor**  
John Steen steensr@yahoo.com

### Minutes of the:

## MARCS General Membership Meeting

April 7, 2011

Submitted by: Don Weigt, Secretary

The meeting was called to order at 7:01 P.M. by President **Brad Witt**. There were 31 people present, including one guest and one new member. The guest was James Cullen, **Tony Kremm's** son. The new member is **Ashley Wolcott**, James' fiance and **Tony's** future daughter-in-law. Welcome, **Ashley!**

**Secretary's Report:** The minutes of the March, 2010 meeting were approved as published in **SPARKS**.

**Treasurer's Report:** No report printout was available: Treasurer **Dick Sutton** was out of town. Brad reported paid up 2011 membership is at least 67.

### OLD BUSINESS:

**2011 Banquet:** Wednesday, April 20, social hour beginning at 5:30 P.M., meal served at 6:00, awards to follow, Maple Tree restaurant on Hwy 51 in McFarland. **Dave Rush** was accepting banquet reservations. The last day to get the money and forms to him is Wednesday, April 13th.

**Awards:** All the trophies have been returned, and it was the last chance to nominate people for them this year. The Board will select the recipients at their meeting tonight, after the General Membership meeting. The awards for 2010 will be presented at the banquet, April 20th.

**2011 Float Fly:** **Brad** reported the shelter has been rented at Riley-Dieppe Park in Marshall for the Float Fly, and he has the **AMA** insurance certificate for the event, although he still hasn't received the certificates for some other club events. He's working with **AMA** HQ to resolve that.

**Gate proposal:** Nothing new, except **Dave** was assured our request has not been forgotten. The City is busy and preoccupied just now, with the budget changes and a new mayor.

#### NEW BUSINESS:

##### **Changes coming to FAA and AMA regulations:**

Questions were asked about **AMA's** requests we contact Congress-people. **Don Weigt** spoke briefly about the FAA's pending proposed regulations. FAA is looking to make rule changes to provide for the commercial use of small unmanned aerial vehicles (UAV), many of them similar in size to our models. AMA has people working with the FAA's committee, hoping to avoid the rule changes causing onerous FAA regulation of our hobby. FAA is forbidden by law to tell anyone what will be in the proposal until it's published for comment this summer. **AMA** has gotten the impression that the proposal would be a problem for us. That is why they asked us to contact congress. Many did, with good effect. Quite a number of congress-people have supported NOT including regulation of our hobby activities by FAA. It is hoped that in light of our good safety record for the past 75 years that FAA won't try to fix what "isn't broke", nor spend scarce funds to regulate where it isn't needed. **AMA** is working on changes to its rules and regulations, in conjunction with FAA. The hope is that FAA will conclude there is no need to further regulate our hobby and sport flying as long as it is done within those rules. Right now, as always, we need to fly safely and within the current rules.

**Property damage:** Someone broke the buddy box door and damaged the wood around it. They didn't take the buddy boxes inside: they are of little or no value to anyone else. The wood has been repaired by **Brad Witt** and the door replaced by **Ed Buechner**. Thanks, **Brad** and **Ed**!

**Field condition:** **Brad** reported the field is "squishy".

**Field Work Day:** Saturday, April 23, ~9 A.M. **Brad** said he'll be there between 8 and 9. The plywood will be taken off the shelter. The fence around the runway will be taken down. Both will be stored for the summer. After that, as time permits, soil will be moved to fill low areas. Bring gloves, shovels, diagonal cutters, and other work tools that may be

appropriate. **Jeff Brimmer** may be able to borrow motorized equipment to help move and level the soil.

**Rolling the field:** **Jeff Brimmer** thinks he will be able to borrow a roller again this year to roll the field. It will be done on a different date than the work day, sometime when the field is the right firmness for best results.

#### NEARBY EVENTS:

**WarBirds meeting:** April 19, Tuesday, 7 P.M.: Labor Temple, Room 201C. Chat about full scale planes, modeling them, plans, books, magazines, equipment, techniques. Free.

**MARCS Annual Banquet:** April 20, Wednesday, 5:30 P.M., meal at 6:00 P.M., club awards to follow, Maple Tree restaurant, Hwy 51 in McFarland.

**Dawn Patrol Breakfast:** April 21, Thursday, 8:30 A.M., Elie's Restaurant (formerly Prime Table) 4102 Monona Dr.: Share breakfast and visit with your fellow club members and flying buddies.

#### RAFFLE WINNERS:

**Tony Kremm**.....E-Flite Park-370 Outrunner Motor  
**Ed McDonald**...Roll of Ultracote ~ covering material  
**John Granberg**.....Hanger-9 ~ Wing-Rack  
**Wendell Hottmann**.....Balsa USA 2-oz thick CA  
**Bob Geimer**.....Plano small Tool Box

#### SHOW AND TELL:

**Wendell Hottmann** showed a Nieuport 28 that he bought from Stuart Schultz. It was in Charlie's shop for a long time, and Wendell was refurbishing it. The 88 inch span, 1/4 scale plane is powered by an Aerovate 32 cc gas(!) engine turning a near scale size prop through a 1:1.5 belt drive speed reduction Wendell made. The radio is on 2.4 GHz.



**Dave Rush** showed two electric powered foam "Iowa Combat" models of 36 inch span. Batteries are 1100 mAh 3S LiPos, motors are 1500 kV speed. Controls are aileron and elevator plus motor speed.

**Dave** also showed a Parkzone electric powered Mosquito WWII twin engine fighter-bomber. The 20.5 inch span plane weighs 2.6 oz, has rudder, elevator, and aileron servos, and motor speed control. It uses a 1S 250 mAh LiPo battery for power. One propeller turns clockwise, the other counterclockwise, to minimize torque and slipstream effects. It can be flown indoors, but only at reduced throttle. It should be fun outdoors, too!



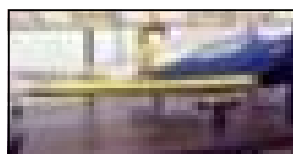
**Jeff Brimmer** showed a nice looking unidentified pattern model with 55 inch wingspan. Jeff reused the landing gear and some other parts from other planes. The model weighs seven pounds and has a MAG .46 glow engine, APC 10x6 prop, and four channel radio. The model is built up of balsa and lite ply, the wing is sheeting over a foam core. Jeff had to calculate where to put the CG. He has it 90 mm from the leading edge, and hopes that's about right.

**Jeff** also showed some simple, inexpensive skis and explained how he made them.

**Gary Gausmann** showed a red and white WACO YMF-3 classic "Golden Age" biplane from a second hand kit. The 72 inch span model weighs 14.6 pounds, has a Saito 1.50 four stroke glow engine, 16x8 prop, and Hitec four channel radio.



**Roger Zimmerman** showed a scratch built BT-13 with six and a half foot wingspan. The model weighs nine and a half pounds, has a Magnum .91 four stroke engine, and a Futaba 2.4 GHz radio. Roger used ash for the leading edges: this is one wing that won't be easily dinged!



**Ray Walsh** showed a quarter scale PA-18 Piper Super Cub he had built from a Balsa USA quarter scale Cub kit, following information in an article. Ray built the model,

and sold it to Charlie about six years ago to complete. Ray bought it back from Stuart Schultz after Charlie died. Charlie hadn't done any work on it. Ray is going to complete the model. Power is an Aerovate 32 cc gas engine, the same as Wendell has in his Nieuport 28. The covering is Solartex, which Ray recommends. After the fabric is sealed with nitrate dope, Ray will paint the model with sprayed exterior latex paint diluted with windshield washer fluid. He hasn't decided on the colors, but it won't be Cub yellow. He may paint it in the colors of some Alaskan flying service.



**Joey Jobe** showed a Great Planes 40 size P-51D Mustang. The model has an AviaStar .53 two stroke glow engine and Futaba radio. Joey is having trouble getting the inverted engine to idle reliably, and asked for suggestions. Some were to check the carburetor adjustments and for air leaks in the fuel lines, and to add an onboard glow driver if no other fix is found.



#### PROGRAM:

**Wendell Hottmann** showed a test setup he uses to evaluate electric motors, props, speed controls, and batteries for electric powered models. **Dave Rush** assisted, entering the measured currents, voltages, RPMs, and thrusts into a spreadsheet on a laptop. The projected spreadsheet had the same columns as the paper ones Wendell handed out at the March meeting. The thrust per watt was the thing Wendell was most interested in. Given variations in props between different brands, and even series in one brand, using a prop of the same diameter and pitch won't always give the same results. Wendell showed how testing could remove some of the mysteries of what performs best on a given model. Thanks, **Wendell & Dave!**

**Next meeting:** Thursday, May 5, at 7:00 pm

The meeting adjourned at 9:00 pm

Photos by: Otto Oie, Club Photographer

# BANQUET

## MAPLE TREE SUPPER CLUB

### MARCS ~ 2011



#### PROGRAM:

Members started to arrive about 5:00pm on this Wednesday evening to grab a cocktail and/or a soft drink. By the time I walked in, there were a half dozen seated at one of the tables already swapping flying tales and lies. Another half hour and just about everybody was there which totaled around 35-people, by my count.

The food selection and quality was great again this year and everyone ate to their heart's content. The service of the wait-staff was superb too; keeping up with coffee and any other of our immediate needs.

Our President, **Brad Witt**, took care of all the presentation formalities of passing out the awards, while **Dave Rush** followed him up with the drawing and the passing out of the beautiful and unique door-prizes that members **Harley Nelson** and **Bob Geimer** had custom made for the event. A friend of **Dave's** also donated a nice hand carved duck.

A nice visitation time was enjoyed after the program. The majority of the group began leaving around 7:30. It was, once again a very nice Banquet. Our hearty thanks to **Dave Rush** for making it all happen!

JOHN EDITOR



#### AWARDS: BY BRAD WITT

**Frank Baker** is the only person I have ever known that could admit to qualifying for all three categories in one year. Thus the *SMOKING HOLE*, the *TREE CHOPPER*, and the *SUBMARINE CAPTAIN* trophies are all awarded to Frank Baker for 2010. *Congratulations Frank!*

**Gary Gausmann** is the 2010 *SCOOTER* trophy award winner. From many people I have heard praise for his assistance in finding lost aircraft. Other people's comments have lead me to believe that there we days when Gary may have spent more time in the brush than on the field. *Congratulations Gary!*

\*For "Outstanding Service to **MARCS**" we award *that certificate* to **Ozzie Johnson**, who for many years was the training coordinator for the club. *Thanks Ozzie!*

\*For "Outstanding Service to **MARCS**" we award *that certificate* to **Wayne Lanphear**, who for more years than I want to count was liaison with the municipal entities we have to deal with. *Thanks Wayne!*

\*For "Outstanding Service to **MARCS**" we award *that certificate* to **Ed Buechner**, who fixes our equipment, and in the past year has fixed our flagpole, and also magnificently secured our shed doors to keep thieves from stealing our ancient field equipment.

*Thanks Ed!*

## WARBIRDS & CLASSICS OVER the MIDWEST

The fifth annual Warbirds and Classics over the Midwest event (WCOM) held in Fond du Lac, WI is less than five months away! The dates are August 18<sup>th</sup>, 19<sup>th</sup>, & 20<sup>th</sup>, with a fixed wing open event on the 21<sup>st</sup>. Quite a few pilots are already preregistered. Check out some of the "big guns" already signed up at: <http://www.midwestwarbirds.com/List-Pre-Register.cfm>

You can Pre Register at:

<http://www.midwestwarbirds.com/signup.cfm>

Check out the hundreds of photos by world renowned photographer Palmer Johnson and several excellent videos of recent shows. There is a feature article in the May, 2011 issue of FLY RC Magazine that will also give you a taste of the event. At the rate of pre registration, this years show promises to be the best ever. It draws pilots from all across the USA and Canada. Currently the pilot from the farthest distance is from Auckland, New Zealand. Last year over 125 pilots thrilled the 3,000 spectators over the 4 day event.

### RCU:

[http://www.rcuniverse.com/forum/m\\_10418601/tm.htm](http://www.rcuniverse.com/forum/m_10418601/tm.htm)

### Videos:

<http://www.youtube.com/watch?v=nvPeIPCTvQY>  
<http://www.midwestwarbirds.com/2010/videos/>

### Pictures:

[http://www.midwestwarbirds.com/2010/Show/1-1\\_001](http://www.midwestwarbirds.com/2010/Show/1-1_001)

### Website:

<http://www.midwestwarbirds.com>

### FlyRC:

<http://www.flyrc.com/051198>

**Warbirds and Classics over the Midwest**  
**N4841 Hickory Rd.**  
**Fond du Lac**  
**WI 54937**

[WarbirdsNews@MidwestWarbirds.com](mailto:WarbirdsNews@MidwestWarbirds.com)

# LANDINGS

## TOUCH-AND-GO OR BOUNCE-AND-GO

"Touch-and-go" is a great way to practice landings. It's a sure way to rapidly improve your technique. Even the best of us, however, will bring one down a little too hard once in a while, and the inevitable result will be a bounce.

The size of the said bounce will be in direct proportion to how enthusiastically your plane meets the runway. If unattended, of course, the first bounce will be followed by a second, and if the second bounce doesn't break your propeller, you might be lucky enough to dribble to a stop before running off the runway.

This kind of landing often will bring an enthusiastic response from the critics sitting on the sidelines.

There are however, a couple of ways you could recover from a bad bounce and keep your dignity intact. One is to maintain "full backpressure" on the stick (i.e. full up elevator) in the hopes that there is enough flying seed to cushion the second bounce. If the bounce is more of a high-speed skip, this method works well.

The second method is to immediately apply power and return to level flight.

This bounce-and-go method with a quick application of power will usually result in a more positive recovery from a bad bounce. If performed with finesse, you might even make it look as though you did it on purpose.

The best landing procedure is to hold the aircraft off the deck a foot high with idle power and try "not to land." The airplane will slow and "sink in" in spite of you, giving you a smooth transition from air to the ground.

GLYNN MOUNT

# IN FLIGHT TRIMMING

Now that the flying season is finally here and we can get out to the field and retrain our flying-thumbs, what better time to trim out that new model you're flying or any of those in your hanger for that matter.

To properly trim your model for straight and level flight, you should know that your model is balanced correctly longitudinally within its suggested CG range and laterally (wing tip to wing tip). You should also make sure that you have the engine down and side thrust properly set. From here on out, it's all in the air.

Take off and climb to a safe altitude of about 100-feet. Smaller models can be flown a little lower and giant-scale models can be flown a little higher. The idea is to have a safe altitude while still being able to easily see if your model is climbing or losing altitude. Set the throttle to about 1/2 to 2/3 throttle for your cruise speed and fly the model directly into the wind.

Neutralize the elevator and aileron stick and see what happens. If your model wants to climb, add several clicks of down. If the model wants to come down, add some up clicks. This usually takes a little while so make as many passes into the wind as it takes to get the elevator sorted out. Now do the same for the ailerons. Set up a flight path directly into the wind and neutralize the aileron control. Left trim corrects for a right turning tendency and right trim is needed for a model that wants to turn left.

Now go-around and set-up one last trim pass into the wind to confirm the model will fly straight and level with the control stick in the neutral position. Remember that a properly trimmed model will climb slightly when you increase the throttle from the cruise speed throttle position, and it will lose altitude if you decrease the throttle below the preset cruise speed position.

The last thing to do is to land and take note of the positions of the control surfaces. Move the trim levers back to their neutral positions and mechanically adjust the control clevises so the surfaces are back in their trimmed positions. It may take two or three more flights to fine-tune the trim positions of the

control surfaces, but you should end up with a model that flies straight and level with the trim levers centered.

It will be nice the next time you fly this model not to have to worry about those special characteristics it used to have. With everything set in a neutral position, it will fly as straight as an arrow so you can spend more time experimenting with your smooth moves of the flight-path you want to fly. Mentally, put yourself inside the model and cruise your flight-plan like that little boy pilot you are at that moment.

Be careful not to run out of fuel though.

**MAY**

# RAFFLE PRIZES

GENERAL MEETING

*TOWER HOBBIES* System 3000 (FUTABA)  
**4-channel Radio ~ Channel 18**  
 With 5-servos ~ 6-CH Receiver ~ Charger  
 In box with new fresh batteries

**HANGER-9 Wing Rack**  
 Complements: Stuart Schultz

**BALSA USA 2-oz. THIN-CA GLUE**

**FISKARS**  
**HAND DRILL**

**TOP FLITE**  
**COVERING TRIM IRON**

# WarBirds

## MEETING

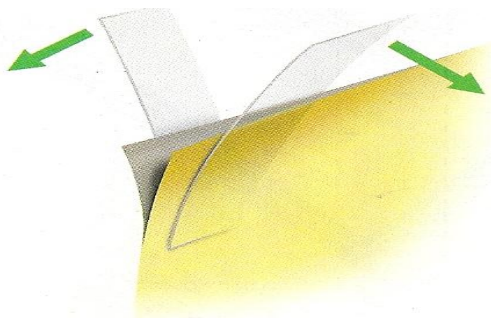
@LABOR TEMPLE

MAY-17 ————— TUESDAY — ROOM 201B

### TIP of the MONTH

#### GETTING THE EDGE

Sometimes, trying to separate that back sheet from your covering material film is a tricky job and can frustrate even the most patient hobbyist. Here's an easy way to overcome that.

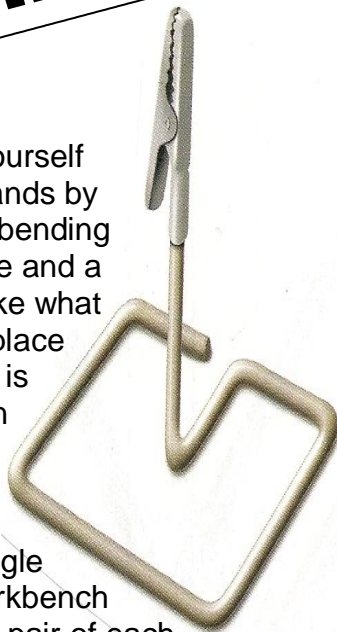


Attach a strip of any kind of tape to each side of the sheet you're fighting with so you have created a handle on both sheets to pull in opposite directions and thus separating them. Just be careful that the two pieces of tape don't grab on to each other.

Help Support the  
Madison Area  
**HOBBY SHOPS**  
Buy Locally

### EASY THIRD HAND

You could easily make yourself a fleet of useful third-hands by doing a little innovated bending on some coat-hanger wire and a bit of soldering. A base like what is shown here is a good place to start. The upright wire is where some variation can be done. Perhaps a 45 degree angle would be a handy variation. Also another bent at a right angle to be parallel with the workbench would be handy. In fact a pair of each wouldn't be a waste of time, as long as you were at it. After soldering on the alligator-clips, they too could be customized to your needs by filing off the jaw-teeth or attaching small wood pads made from some light-ply to them with some epoxy for a more gentle grip. Learn to be a creator of tools.



**12TH ANNUAL  
TAILGATE SWAP  
AND FUN FLY**  
LODI AREA R/C CLUB'S FIELD  
**SUNDAY MAY 15, 2011**  
SWAP MEET STARTS AT 9:00AM  
FLYING AT APPROXIMATELY 10:00AM  
*(AMA membership required)*

Admission: Pilots: \$5.00  
Buyers/spectators: Free

Bring your own tables, tents, or sell out of your own vehicle  
Food and Soda will be available at the field

**N2234 County Hwy JJ, Lodi, Wisconsin**  
FOR MORE INFO: [WWW.LARCC.COM](http://WWW.LARCC.COM)

# 2011-Club Events

Event	Date	Location
<b>War-Birds</b> <i>OVER DANE</i>	June-11	Kettle Field
<b>ELECTRIC</b> 2011 <b>FUN-FLY</b> SPECIAL 2-DAY EVENT	July 9 & 10	Kettle Field
MARCS 2011 <b>Float-Fly</b>	August-7	Riley-Dieppe, Park Marshall, WI.
<b>KEN KINDSCHI</b> <i>MEMORIAL</i> <b>Scale Rally</b>	August-13	Kettle Field

## BUILDER'S Work Bench

### COVERING MATERIALS:

**TISSUE:** This is not Kleenex, but more like gift-wrap tissue. It is really paper and it comes in different weights. It works best for the lightest balsa models. It has a grain and should be applied in the direction needing the most strength. It is traditionally applied to the wood frame with dope, although thinned glue also works fine. Once the tissue is applied, it is shrunk tight with a light mist of water, then sealed with dope or spray enamel.

**SILKSPAN:** This covering is like tissue, but contains other fibers and is generally stronger but heavier. It is applied the same as tissue and is a good covering for foam.

**FABRIC:** Fabric covering can produce a very realistic finish and can be painted or purchased painted. It goes on like a film; roll out and apply, then iron at low heat to properly activate the adhesive. Because of the low heat iron, it can be used on sheeted foam also.

**FIBERGLASS:** This woven material is great on solid structures, but not over open areas. It can be used to seal balsa wood or foam and comes in a variety of weights. It adds great strength for very little weight. It can be used in or over a form to produce a shell-type item like a nose shroud or motor nacelle.

**PLASTIC COVERINGS:** Known as polyester films or shrink coverings, most are all applied to the wood frame-work with heat that activates the adhesive layer on the underside of the film. Once the film is attached to the structure, it can be shrunk tight with a hot-air heat gun.

**Ultracote**(by Hanger-9) Polyester type with a lower gloss finish.  
**MonoKote**(by Top-Flite) Preferred by many because of its high gloss, smooth finish and is very durable.

**21st Century Film**(by Coverite) Handles extreme temperature and humidity changes.

**Lifespan**(by Solarfilm Company) Much lighter than MonoKote or Ultracote but has no adhesive on its underside. Is said not to shrink quite as drum-tight as other films do.

**Solite/Litefilm**(by Nelson) Super-light film, but has adhesive on the underside. Many of the "opaque" colors are somewhat translucent.

**PAINTING:** This is another option for finishing an airplane. Wood or foam must be sealed before painting to produce a smooth surface. A primer coat is applied after the sealing coat to create a better bond between the sealed surface and the paint. There are many types of paint to choose from. Dope is a lacquer. Enamel gives a great finish, but is tricky to clean-up and dries slowly. Latex dries quickly and is easy to clean-up. It tends to dry flat so if a gloss finish is desired, it will need a separate clear-coat. Make sure that the clear topcoat is fuel-proof.

ELLIE PFLAGER

## BOARD of DIRECTORS Meetings

These meetings are held on the same evening as the monthly General Membership meeting, shortly after its adjournment.

**General Membership meeting: 7:00~9:00pm**

**Board of Directors meeting: 9:00~10:00pm**

Both meetings are held in room: 201-B. Club members are welcome to stay and observe the meeting. A Club member may have the floor by being recognized by the Chairperson. Input and/or opinions must be brief and to the point, as the overall meeting time is limited.

**Agenda: May 5, 2011**

NEW GATE PROPOSAL STATUS

2011 EVENT DISCUSSION

FIELD ROLLING

RASCAL-110 REPAIR STATUS

CELL PHONE: WORKING?

ISSUES FROM THE GENERAL MEMBERSHIP

# M.A.R.C.S.

Madison Area Radio Control Society

## Annual Membership Dues

<b>Regular membership</b> .....	\$60.00
<b>Junior membership</b> .....	\$25.00
<b>Park Pilot membership</b> .....	\$25.00
<b>Family membership</b> .....	\$20.00
<b>Associate membership</b> .....	\$20.00

All applicants for a **MARCS** membership must show proof of their **AMA** membership at that time.

To receive the club's monthly "**NEWSLETTER**" by regular first-class mail, rather than off the Internet, please add \$10.00 to your annual fee.

**Treasurer: Dick Sutton**  
**612-South First Street**  
**Mount Horeb**  
**WI. 53572**

# River Valley Flyers

WISCONSIN RAPIDS

**ELECTRIC FUN FLY**

**JUNE 11-12**

Electric Fun Fly notice url  
for River Valley Flyers is:

[http://rvfrc.com/e107\\_plugins/forum/  
forum\\_viewtopic.php?121.last](http://rvfrc.com/e107_plugins/forum/forum_viewtopic.php?121.last)

The River Valley Flyers club web site is:

<http://www.rvfrc.com/news.php>

# Brodhead INDOOR FLYING

**HIGH SCHOOL GYM**

**WEDNESDAY EVENINGS 7:00~10:30**

*(through APRIL 27th, 2011)*

**Pilot's cost: Free** (PLEASE CONTRIBUTE \$10-\$20 OR MORE FOR JANITOR'S GIFT)

**No flying** if school is cancelled or released early due to bad weather.

**Rules:**

6-oz. weight limit; Electric, CO2, or rubber powered  
6.5-oz. weight limit; with protected prop.

Other rules; Flight-Line, Rest-room location, Children rules available on site. Spectators are free.

**No AMA membership required**

<http://www.facebook.com/pages/Brodhead-Indoor/160588840650921>