



# THE RAMS HORN

The Official Newsletter of the Rainbow Aero Modelers Society  
Metro Milwaukee Area Franklin, WI Founded Nov. 6, 1980

AMA—Academy of Model Aeronautics Club #1264, Operating for Public Benefit, Milwaukee County RC Flying Field, S.70 & W. Oakwood Rd.

Volume 29 – Number 12, December, 2008

**Next Meeting: Wednesday, December 3, 2008**

WaterStone Savings Bank, 6560 S. 27<sup>th</sup> Street, 7PM  
(formerly Wauwatosa Savings Bank)

**PRESIDENTS REPORT**, by Tom Ryan

**Awards Night.** At this December Club Meeting I will be presenting awards to several members who have no idea that they will be on the receiving end of an award. The first ever “**Presidents Award**” will be given out. I hope it becomes a tradition.

Two six-foot Cousins Party Subs, mixed snacks, soft drinks, coffee and cake will also be served up as will some light hearted humor..who knows, maybe even a bit of magic?

We’ll review the 08 season and set the stage for what’s up coming in 2009. So I hope you’ll join us for what should be a nice night of fun and food with a really nice door prize too! Some lucky member will go home real happy. Don’t miss this meeting!

**Some Don’t!** The club is changing to keep pace with its growth and most members like that very much, of course **some don’t!** Trying to make everyone happy just isn’t going to happen. Example, some don’t like the new rule that on weekends and holidays spotters are now required for all pilots. Truth is, it’s safer for everyone during those congested periods, or for public events such as the club picnic, for insurance purposes. During the week if the air traffic is slower, no spotters are required. When disagreements arise, Safety has to prevail.

**Instructor Training Program.** November 3<sup>rd</sup> and 6<sup>th</sup> an instructor training program was conducted at the Franklin library from 6 to 8 PM for those seeking club flight instructor privileges. This wasn’t an “*how to fly program*” but rather a “*how to teach*” program, and was open to all club members to attend. (*You need not want to be an instructor to come, but rather want to come for the learning value of the program, and several did.*) The training in the Sievert room on both nights saw a nice turn out. We now have our new instructor core. (*More next issue.*)

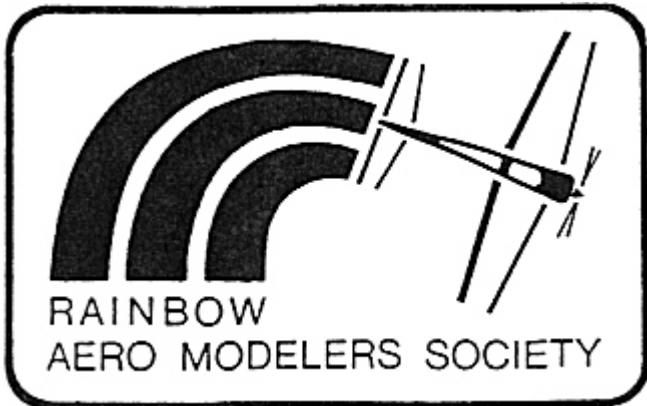
**Become an Officer!** Soon we’ll have club officer elections and it’ll be your chance to toss your hat in the ring and seek a position as an officer, director, safety officer or news editor.

You all know someone who says’s “*if I was running this club I’d do this or that differently, or I’d have this or that in place.*” You all know who you are. Think about it, can you add to our team in a positive way? This is your chance to do just that!

**Personal Comment!** The November meeting ran long and some issues and debates came to the floor by the request of the members.

In the future to prevent those long drawn out debates, the officers and directors will hold a private meeting with those who have issues and hope to deal with them there, and not in an open meeting.

**Pilot Profiles This Issue:** Bill Belonger and Chuck Bucci



Founded Nov 6, 1980 Club #1264 Academy of Model Aeronautics

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**MEETINGS-7PM**

First Wednesdays  
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**All Flight  
Instruction  
is  
Without a Fee**

**Contact:**

WATCH THIS SPACE next issue for possible changes in the lists of flight instructors, following the November 3, and 6, 2008 Flight Instructors Training session organized by RAMS President Tom Ryan.

***Whew...what a year!***

Year end thoughts by Tom Ryan, Pres., 2008  
With the early season floods, the field and parking lot improvements, and the sometime debates on how we're doing things, 2008 was a year of change for sure.

The list of changes still continues, and there is still a lot to do to get the club where it needs to be. ByLaws need to be updated and rules that are cumbersome and hard to interpret need to become streamlined and made clear, short and to the point!

Jeff Borowski, now President of SWARM as well as our Vice President, understands that there is a conflict with him holding officer roles in two clubs. His desire to seek the SWARM President's position in 2009 has caused him to remove himself from holding office with the RAMS in 2009, a good decision on his part. Jeff understands that a dual role can be held in question by club members who seek their officers to be free of any perceived bias favoring another club.

With Michael Lutzenberger taking over the remaining term of Andy Runte's position as a club director, we'll have yet another change. Andy's new ownership of his own veterinary practice in Dousman has put some real time restraints on him, and travel is now an issue as well, so Mike's coming in to take over for Andy is a big help to the club.

It would be hard for me to close out the year without singling out a few notable names for their contribution in making the field the best it's ever been. We've all done some, but some have done more. During the June 7,8-9 flood Bob Maciejewski was a huge help. Bob Kabella along with Roger Olsen and Dale Champagne knocked themselves out clearing and cleaning the trees and brush while cutting and rolling the field. Marv Wolff and Steve Navone brought in their own equipment to finish off the parking lot.

*(continued on page 4)*

**- Visitors at Meetings or the Field Always Welcome -**

# Happenings at the Meeting

**RAMS Club, November 5, 2008**

by Russell Knetzger, Librarian & Editor  
(Partial Notes by Jim Hatzenbeller, field licenses)

One day short of its 28<sup>th</sup> Birthday (Nov. 6, 1980), the RAMS Club set an all-time record by holding its most lengthy meeting – 2-1/2 hours, adjourning at 9:30PM. At 41 members attending, that was also likely a record. Almost two hours were spent on one item of business. It was whether **Roger Olsen**, a member since 2006, should be suspended or not, or whether his counter-motion, to ban helicopter flying at the field, should prevail. In the end, Roger resigned both his club membership and his field license, and helicopter flying will continue.

The topic began with new RAMS member Chuck Bucci reporting on the outcome of the SWARM Club's suspension of three of its members for 30 days. Chuck is Safety Officers for SWARM. With one pilot, safety was an issue (flying too close to the flight line), but with him and the other two, it was also an attitudinal issue. The RAMS on Sept. 3rd had voted to "loan" its suspension powers to SWARM to deal with the three, otherwise the matter would return to the RAMS for action. Chuck said the 30 day suspension did occur. It was hard to do, because friendships were strained, but all three are back now, and there is a noticeable improvement in them.

But Chuck said Roger Olsen made the whole situation more difficult by chiding some of the three when Chuck arrived at the field, "There is the Gestapo who got you suspended." Chuck privately counseled Roger that was not a joking matter and to cease. But on a second occasion Roger repeated the behavior. Chuck then asked to speak at this meeting. Roger did the same. Chuck made a motion to suspend Roger for the same 30 days guys of SWARM were suspended, or it would appear unfair that for the same or worse offense RAMS members are treated more lightly. The motion was not seconded.

Roger took the podium and observed the field was becoming too rule-oriented, and offered to cut trees down on the hill south of the SWARM area, to allow helis to not fly as close to the fixed wing flight line. Pres. Tom Ryan intervened by reporting both the DNR and Milw. County Parks had visited the field, and said tree cutting must stop. Each took site pictures for future reference, and satellite photo evidence was also mentioned. With that revelation, Roger then moved to ban helicopters. No 2nd occurred.

Merging the clubs was discussed, but did not advance. Finally an open ended "straw-vote" on the Olsen suspension received 6 for 30 days, 13 for 24 hours, and 3 for no suspension. Then a straw vote on banning helicopters received 6-yes and 20-no. Having "Spotters" when flight

lines are busy got 24 yes votes, 1-no. (Editor-it already is a rule "Flying Safety 25: The use of a spotter is encouraged." Limiting fixed wing to 5 or 4 in the air at once could not be found in the rules, though 4 was mentioned by many as the unofficial rule. Roger then made his resignations, club & field license.

Prior to all this drama regular club reports revealed that the September visit by RAMS members to Rosholt, WI to bolster that club has received coverage in the **Rosholt Record**, their area newspaper, said Tom Ryan.

Craig Manka, club secty./treas., announced two new members, raising the RAMS to 82. One, tool maker in the Franklin Industrial Park, **Tom DeNoble**, introduced himself to the club.

Other reports included progress on **Flight Instructors Training**, underway this week, Nov. 3rd & 6th. Tom Ryan is conducting the classroom sessions, and feels First Aid Kits should be carried by all Instructors. Marty Gscheidmier is working on a printed packet for Instructors. Non-instructors are welcome to audit. Club By-Laws will be reviewed for possible updating this winter.

Bob Kabella, field manager, noted parking has been expanded west along the North Flight Line. Pilot flight station barriers will be installed. The field itself is closing the main summer season in good shape, in spite of the heavy June flood. Field License issuer James Hatzenbeller reported 125 licenses have been issued.

**Michael Lutzenberger**, will replace **Andy Runte, DVM** as a club Director. Andy is buying a veterinary practice in Dousman, WI, just south of Oconomowoc. Vice President **Jeff Borowski** does not want another term after his ends Feb. 28<sup>th</sup>. Pres. Ryan encouraged members to step forward to volunteer for offices.

Bob Kabella, club delegate to the **Milwaukee R/C Assn.**, which meets twice a year, met a week ago Saturday and will hold its Auction/Swap Meet Sunday, January 4, 2009, with volunteer shifts 7AM-9AM, 9AM-11AM and 11AM to 1PM. The club will get \$10 for each member who volunteers. Sign-up with Bob, **(414-282-1145)**.

The **meeting raffle** produced these winners:

Dennis Kukla of a gallon of fuel; Dale Champagne of a Hinge Slotter; Steve Navone of a fuel gallon; Marvin Anderson of a gallon of 4-Cycle fuel, Craig Manka of a bottle of Cyanoacrylate (CA) glue with a companion bottle of Accelerator; and Bob Kabella of a pair of tubes (Part A and Part B) of 30 minute epoxy glue.

**(President's Year End Message, cont. from p.2)**

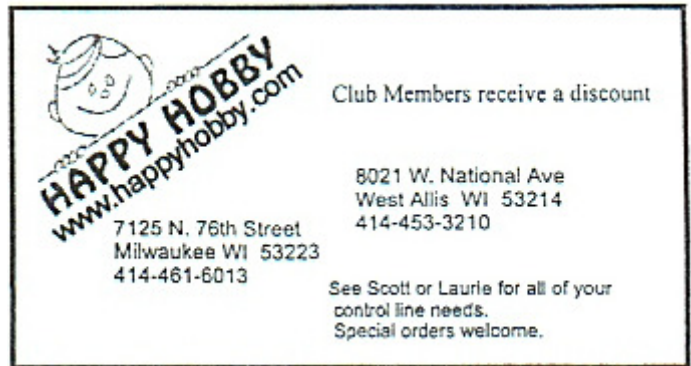
Jack Spindler took charge of the Club Picnic and helped make it a big success. Marv Anderson used his contacts to get us reduced cost for the materials for our improved parking lot, and worked with Roger Olsen to get it cleaned up and organized. Dennis Bartz bought food for the working crews during the June flood damage clean up, and many members from SWARM helped clean up the flood damage left in its wake.

Of course these are but a few who made a difference in 2008, and there are many not mentioned here who were there when we needed them. To everyone I say, "Thanks." It's your efforts that make us grow and stand as one of the best RC clubs around. You made it happen!

Thanks again, *Tom Ryan*, President/RAMS



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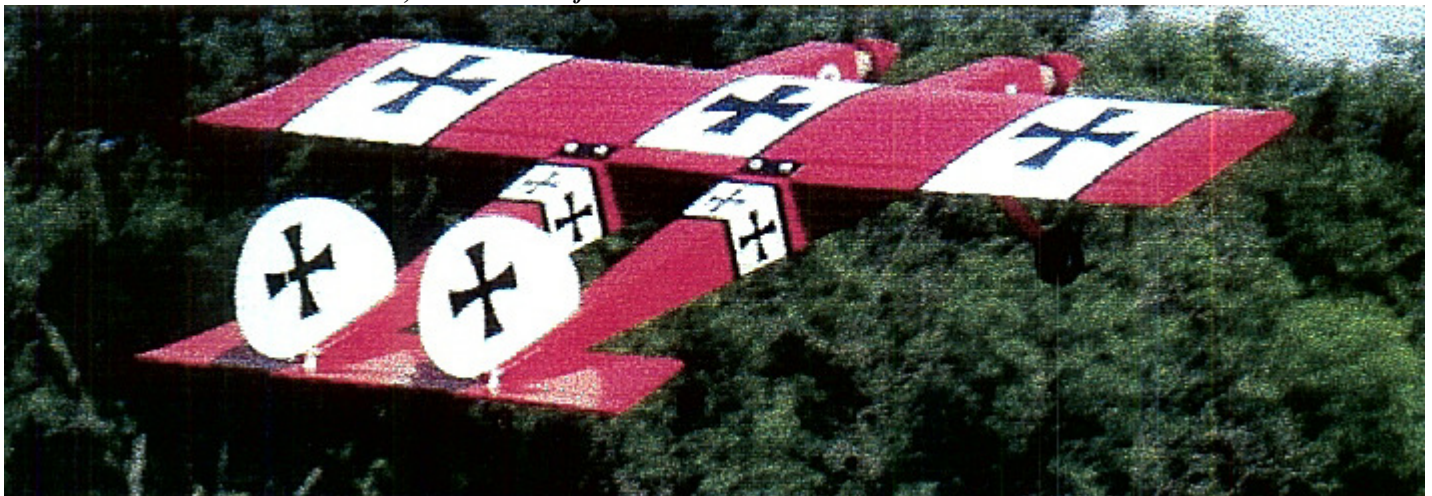


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*Below: Dell Fisher's photo of his twin boom, twin electric motor "Stick" mentioned in his Nov., 2008 Pilot Profile.*



## Pilot Profile: Bill Belonger

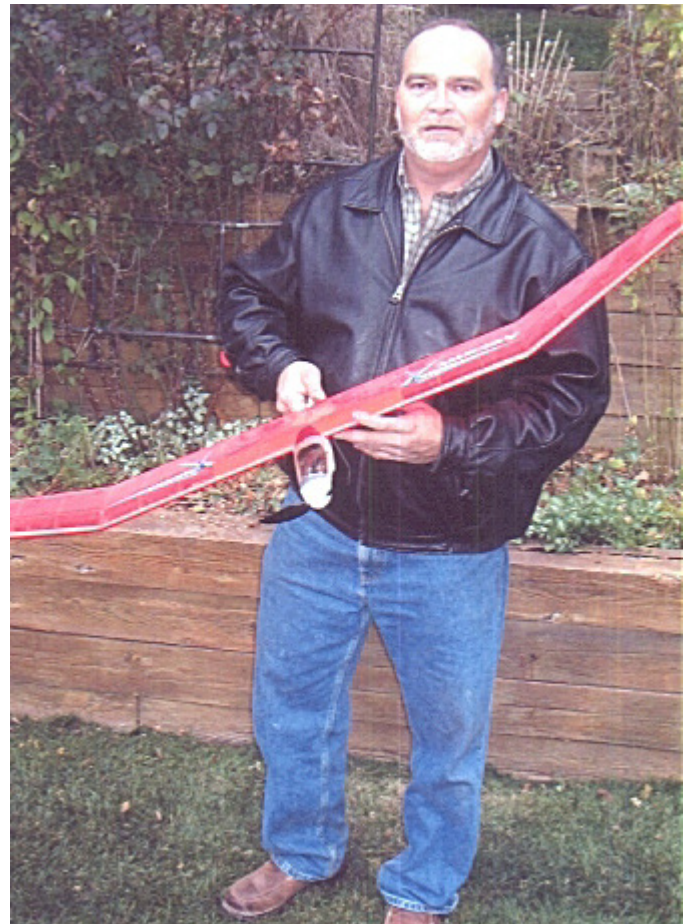
by Russell Knetzger

Bill Belonger is one of our newest members, joining just this Fall, soloing in September on his Nexstar trainer, shown below. Bill became re-interested in model aviation by hearing and watching his neighbor, Don Finney, test run his engines in his corner backyard, which faces toward Bill's home on W. Arthur Avenue. That is in West Allis, just south of Greenfield Park, where Bill has watched informal R/C activity such as helicopters and sailplanes. That flying reminded Bill of aeromodeling in his youth, with rockets and control line flying.

At the Milwaukee County R/C Model Airplane Flying Field on Oakwood Rd. in Franklin, Marv Anderson and Roger Olsen gave Bill flight instruction just about to soloing, when Floyd Katz was on hand to complete the training.



**Above: Bill Belonger standing in front of his raised back yard in West Allis, with his 63" inch span Nexstar trainer, Evolution .46 cu.in. engine. The multilevel garden is tended by his wife, Carol.**



**Above: Bill Belonger and his 4 foot wingspan Ascent electric powered ARF glider**

Although a beginner, Bill has enough small engine experience that he spotted an inherent problem in the fuel supply of the Nexstar ARF, and with Marv's support, changed over the tank to a proven brand.

Bill's ability with engines, etc. comes from his job. He is an auto mechanic and shop foreman for all 117 vehicles operated by UWM, the University of Wisconsin-Milwaukee. That ranges from police cruisers to sidewalk vacuums and riding lawn mowers. Bill points to his education in small engines at Bay View High School as his start, going from there to service station work, including Bill Maynard's at 30<sup>th</sup> & Loomis Rd., and the Bob Tolkan car dealership. He also did foundry work at Maynard Steel while going to MATC night school for his metals and auto shop training. Now age 50, Bill has been at UWM since 1991. With his ASE Master Mechanic status, certified in all 8 automotive areas plus his ASE CNG (compressed natural gas) certified rating for truck and automotive, UWM now has 30% of its fleet on CNG, and 30% are E-85 vehicles.

**RAMS HORN**, December, 2008 Russell Knetzger, Editor  
Rainbow Aero Modelers Society, Franklin, Wisconsin

## Pilot Profile: Chuck Bucci

by Russell Knetzger

Chuck Bucci, 55, of Hales Corners in southwestern Milwaukee County, merged two life events to reach his contented success, with his own electrical contracting business, and several hobbies: ham radio, home metal working shop, and R/C aeromodeling.

The first life event was at age 13 when his parents moved out of Milwaukee to buy a resort north of Merton and Hartland on Lake Keesus. Helping his mother, Alice, and father, Orville, in that business meant dealing with vacationers, a great training for human relations.

The second event was attending Arrowhead High School on Hartland's NW edge, at a time when it offered a wide range of shop courses. Those courses are dwindling as parents think "college" is the only ticket to a secure future for their children. By the time Chuck graduated Arrowhead in 1973, he had completed 4 years of metals shop, 4 years of woodworking shop, and 3 years of electronics study. His steamfitter father, Orville, supported such hands-on learning.



**Above: Chuck Bucci holding his .50 cu. in. engine radio controlled Raptor helicopter, - 26 inch blades.**



**Above: Chuck Bucci in his ham radio room with US and world wall maps for ham contacts, and his 30" all foam, rear electric motor prop powered FunJet.**

The electronics work opened doors for Chuck to work with various electrical contractors, and then into electrical union apprenticeships, including night school. He worked at such large firms as Staff Electric and Pieper Power. After a two year stint in Long Beach, California, he and wife Andrea came back to Milwaukee and in 1980 Chuck opened his own business in Hales Corners. There they have raised their two girls, Katie and Maria, now grown and on their own. Chuck's ability to work with people has led him to represent municipalities as their electrical inspector on a contract basis. Currently, he inspects for the City of Franklin, and the Towns of Norway, Raymond, and Rochester.

Now at the Oakwood Rd. field for 3 years, Chuck knew the late R/Cer Viktor Zernikel from their ham radio club. Chuck belongs to both our fixed wing club, the RAMS, and the helicopter club, SWARM - SE Wisconsin Area Rotary Modelers. Chuck is Safety Officer for SWARM..

**RAMS HORN**, December, 2008, Russell Knetzger Editor  
Rainbow Aero Modelers Society, Franklin, Wisconsin

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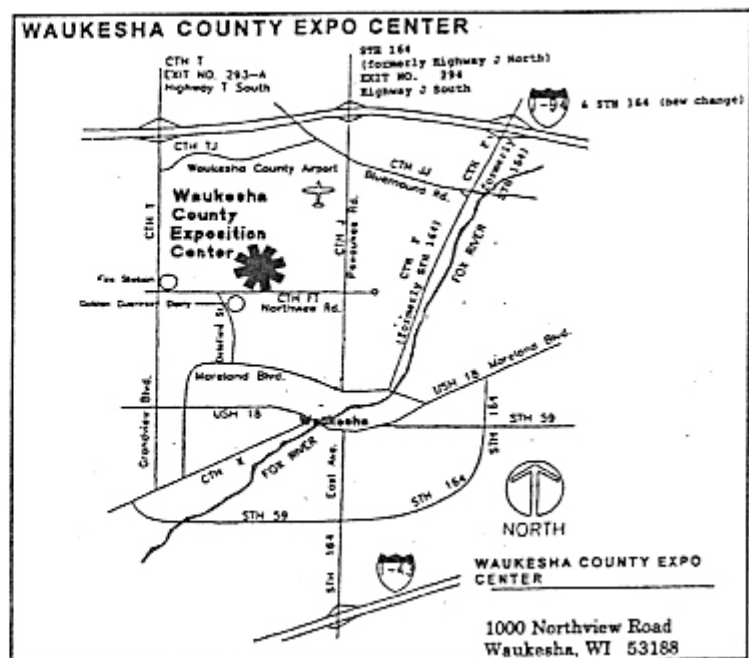
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**AUCTION**

Every 30 minutes in 15 minute segments, from 12 noon until all items are auctioned.

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**AFFILIATE CLUBS:** Bong Eagles; Circlemasters Flying Club, IPMS: Billy Mitchell Chapter; IPMS: Richard I. Bong Chapter.

## Electric Flight News - XII

by Dennis Vollrath, Editor, "The Flightline"- August, 2008  
Racine R/C Club, Inc., Racine, Wisconsin – Reprinted in the  
RAMS HORN, Russell Knetzger, Editor, Franklin, WI

### ***HIGH POWERED ELECTRICS (cont.)***

One of our club members has purchased a Hanger 9 Show-time 90 model with the intent of converting it to electric. The setup is as follows:

Model	Showtime 90
Wingspan	66 inches
Wing Area	900 Sq. Inches
Motor	E-Flite 60
Battery Pack	Six Thunderpower 4200 cells
Projected weight	128 ozs. (8 pounds)
Propeller	To be determined.

(Note, this is very close in size to my 150% Electrostroke)

Lets see, what we've- got here. Plug all of these numbers into MotoCalc, see what pops up. It should be noted, right or wrong, that the MotoCalc program does not like the E-Flite motors, because of poor efficiency. The DC winding resistance of this- motor is 3 times higher than the equivalent Hacker A50-16S. (Greenfield Hobby has one of these Hacker A50-16S motors on display!) However, I've seen these E-Flite motors fly, and they do seem to perform OK.

Lets crunch the numbers. The MotoCalc screens at the end of this column show the info plugged in for this example. Note that for the propeller, I've selected a prop ranging from a 14X8 to a 16X12 size. Below is a printout of every prop size from 14, 15, and 16 inch diameter, with pitch changing from 8 to 9 to 10 to 11 to 12, for a total of 15 selections. The E-Flite motor is rated at 40 Amps continuous, with a 15 second maximum of 60 amps. We want to load this-motor at around 45 Amps on the ground, so the best prop size looks to be about a 15X10 inch size. MotoCalc shows that the input watts will be about 830, output watts is 603, showing losses of 227 watts. That is quite high, resulting in an efficiency of only 72.6 percent. The Hacker A50-16S motor in this same model with a 15X10 prop will run at 930 watts input, 815 watts output, with an efficiency of 87.8 percent. The- motor energy loss- is 112 watts, less than half of the E-Flite 60, at full power. This difference reflects in higher power to the model for Hacker, and more flying time on the battery.

Kind of a figure of merit on the setup is the Rate of Climb, (feet per minute). The E-Flite shows a rate of 1,420 fpm, the Hacker shows over 2,000 fpm.

The MotoCalc program does provide a very noticeable bias toward the Hacker vs. the E-Flite motors. As previously mentioned, I've seen both fly. Both fly well.

Note that you should be using electric props, such as the popular APC-E series props. These props are much more efficient in converting the motor's energy to flying the model, versus the props used with glow and gas models. Greenfield has an assortment of these props in house.

OK, what is this going to cost? The LIST prices are:  
\$129 E-Flite 60 Motor      \$140 Castle Creations ESC  
\$260 Battery Pack          \$130 Pack Charger  
Astroflight \$ 85 Deep Cycle Battery      \$744 Total

That \$744 total is a good sum of cash. Greenfield might give you a little break if you walk in with a bundle of \$20 dollar bills, but that is still a bunch of cash.

The biggest part of this is the battery pack. An equivalent-A123 pack will run you about \$220.

Here is where decisions must be made. The Thunderpower battery is lighter but costs more. The A123 packs are heavier, but cost less. But a very big difference is in the lifespan of the battery pack. The Internet and modelers that have used the Lipo batteries are beginning to note that some of these battery suppliers exaggerate a little on their maximum current output ratings.

I talked to a member of another club last week who found that when he ran his batteries at their maximum rated current output, that the battery charge cycle life only was FIVE CHARGE CYCLES.

If you just spent \$260 on a battery pack, that calculates out to \$52 per flight! When dealing with this amount of cash, it is not wise to use unknown or off-brand Lipo batteries.

(Historical note, in the early 1980s the Engineering manager where I worked informed me about a Nicad battery pack that had a continuous current rating of 35 Amps, a very nice rating at the time. The manager contacted the battery supplier for a free 24Volt sample, and-gave-it to me for "Engineering tests." I put the battery into one of my electric models, and promptly burned up the battery pack. Literally. The motor was only pulling 28 Amps full load. The manager contacted the battery supplier, who responded "Oh, we don't actually test at 35 Amps, those are calculated values!" In other words, the battery spec of 35 Amps was worthless.)

One of the quick killers of the Lipo AND A123 batteries is high temperature. Please note that this is INTERNAL



temperature of the battery, not the temperature you find on the outside of the battery. If you discharge the battery in something like 8 minutes or more, the internal temperature will be close to the external temperature, and all is OK.

However, if you run the battery pack down in 2 or or 3 minutes, the internal temperature can be much higher. (It takes time for the heat to get out.) The magic temperature maximum is about 140 degrees F. Most Internet info shows that a battery that hits 180 degrees will have a very short cycle life, on the order of 5 or 10 flights.

One of the items about the A123 cells is that they are larger than-the LiPos. This is good in one way, in that they have larger surface area to radiate away heat during a flight, making them run cooler during a flight. I've actually found that putting my A123 cells outside in the hot sun heats them up more than when they are powering the model during a flight. The danged things actually cool off during a flight!

The A123-cells are RATED at 1,000 charge cycles (that's 1,000 flights!) if you run them at no more than 25 Amps per cell. That's what I'm running on my two bigger electrics, with six series cells, two paralleled (or 50 Amps). It's interesting to note, that the setup on my 150% ElectroStreak, the motor GAINED 100 RPM from the time the battery packs were brand new! That is after a total of 5 1/3 hours of actual flying time on this model from the- beginning of the 2008 flying season. (And, you can recharge them IN THE MODEL, in about 20 minutes or so. Now you know why I like the A123 cells.)

In either case, Lipo vs. A123cells, you DO NOT want to run the battery down during a flight. It's best to only use up about 2/3 of the energy of the battery during a flight, similar to that procedure I noted on the aircraft receiver

battery packs early on in the "How it works" RC manuscript series.

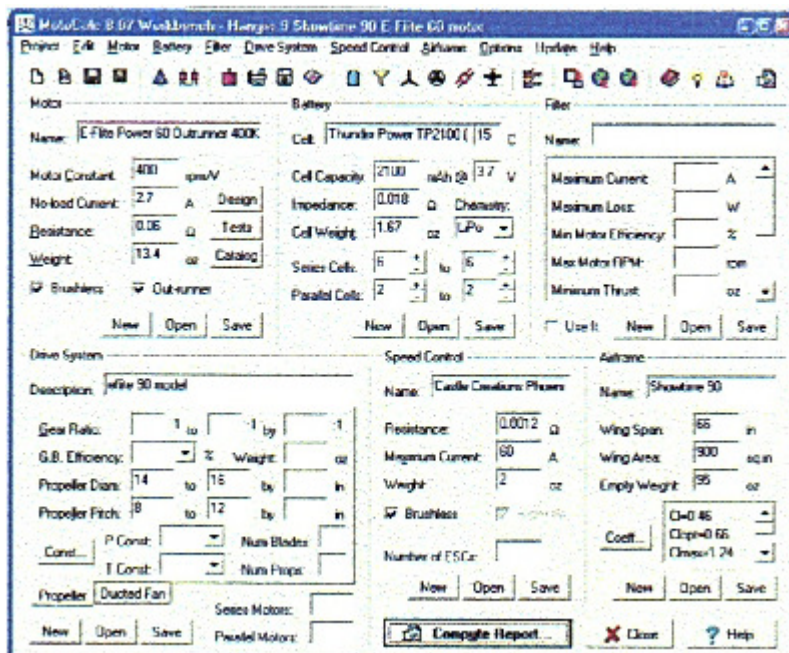
The reason has to do with how these batteries are set up. If you program your ESC with a shut down voltage of say 3 Volts DC for each cell of your Lipo battery, you might think you are OK. WRONG! If you have a \$260 Lipo battery pack, you could damage your pack permanently.

Here is why.

All battery cells are not created equal. Lets take six Lipo cells rated at 4200 Milampere Hours. And, lets say, due to production tolerances, five cells measure 4240 MaHrs capacity, and one measures 3900 MaHrs. If you discharge them no more 3500 MaHours or so, then recharge. AND balance them, all is OK. But lets say you try to discharge to the 4240 MaHrs of the five "better cells" what happens is the five cells will run down to the 3900 MaHr capacity (weakest link) cell, causing it to drop below the critical 3 volts DC or so. Your ESC shut down voltage setting will not protect you, and you risk damaging the 3900 MaHr cell. This phenomenon is not new, it's been around for 50 years with the Nicad cells. It's just that the Nicad cells could survive this type of punishment. The Lipos will be damaged by similar treatment.

Now, if you are looking at electrifying a 50 cc sized gas model, you might be looking at \$1,000 in batteries. So why go high powered electrics at all? They pretty much provide absolute reliability in power to the propeller if you are building a prized scale model in the larger sizes. And they are an option (an expensive option) in the big electric jet models.

(Showtime 90 Workbench MotoCalc Screen Below)  
(See Showtime 90 Static Analysis results next page)



Below: Conclusion of Vollrath Electric Flight article XII, August, 2008; Showtime 90 Static Analysis screen (MotoCalc)

Static Analysis - Hanger 9 Showtime 90 E Fite 60 motor

Motor: E-Fite Power 60 Outrunner 400KV; 400rpm/V; 2.7A no-load; 0.06 Ohms.  
 Battery: Thunder Power TP2100 (ProLite) (15C); 6 series x 2 parallel cells; 2100mAh @ 3.7V; 0.018 Ohms/cell.  
 Speed Control: Castle Creations Phoenix 60; 0.0012 Ohms; High rate.  
 Drive System: eFite 90 model; 14x8 to 16x12 (Pconst=1.31; Tconst=0.95) direct drive.  
 Airframe: Showtime 90, 900sqin; 130.4oz RTF; 20.9oz/sqft; Cd=0.057; Cl=0.46; Clopt=0.66; Cmwx=1.24.

Cells	Gear Ratio	Diam (in)	Pitch (in)	Weight (oz)	Batt Amps	Motor Amps	Motor Volts	Input (W)	InPLd (W/lb)	Loss (W)	MCbOut (W)	OutPLd (W/lb)	RotGb Ef(%)	Shaft Ef(%)	Prop DPH	Thrust (oz)	PSPd (mph)	RofC (fpm)	Time (m:s)
6S2P	1.00	14.0	8.0	130.4	33.3	33.3	28.4	677.7	83.1	141.2	536.5	65.8	79.2	72.6	7817	187.8	53.2	1887	7:34
6S2P	1.00	14.0	9.0	130.4	35.5	35.5	20.2	717.8	88.0	157.0	560.8	68.8	78.1	71.2	6847	102.4	58.4	1223	7:06
6S2P	1.00	14.0	10.0	130.4	37.3	37.3	20.1	751.0	92.1	173.9	577.1	70.8	76.8	69.7	6674	100.6	63.2	1280	6:46
6S2P	1.00	14.0	11.0	130.4	38.9	38.9	20.1	780.6	95.7	190.7	589.9	72.4	75.6	68.3	6513	98.3	67.8	1287	6:28
6S2P	1.00	14.0	12.0	130.4	40.3	40.3	20.0	805.9	98.9	207.5	598.3	73.4	74.2	66.8	6357	95.5	72.2	1272	6:15
6S2P	1.00	15.0	8.0	130.4	38.2	38.2	20.1	767.6	94.2	183.0	584.6	71.7	76.2	68.9	6586	118.1	49.9	1213	6:36
6S2P	1.00	15.0	9.0	130.4	40.2	40.2	20.0	802.6	98.4	205.2	597.4	73.3	74.4	67.0	6379	116.5	54.4	1376	6:16
6S2P	1.00	15.0	10.0	130.4	41.8	41.8	19.9	830.9	101.9	227.4	603.5	74.0	72.6	65.1	6179	113.5	58.5	1420	6:02
6S2P	1.00	15.0	11.0	130.4	43.1	43.1	19.8	853.5	104.7	249.4	604.2	74.1	70.8	63.2	5988	109.7	62.4	1414	5:51
6S2P	1.00	15.0	12.0	130.4	44.1	44.1	19.8	871.3	106.9	270.7	600.6	73.7	68.9	61.4	5806	105.4	66.0	1378	5:43
6S2P	1.00	16.0	8.0	130.4	42.3	42.3	19.9	839.6	103.0	235.3	604.3	74.1	72.0	64.4	6110	129.7	46.3	1277	5:58
6S2P	1.00	16.0	9.0	130.4	43.8	43.8	19.8	865.6	106.2	263.4	602.3	73.9	69.6	62.0	5868	126.4	50.0	1454	5:46
6S2P	1.00	16.0	10.0	130.4	44.8	44.8	19.7	884.5	108.5	290.2	594.3	72.9	67.2	59.7	5641	121.7	53.4	1486	5:37
6S2P	1.00	16.0	11.0	130.4	45.6	45.6	19.7	897.8	110.1	315.5	582.3	71.4	64.9	57.5	5427	116.4	56.5	1457	5:31
6S2P	1.00	16.0	12.0	130.4	46.1	46.1	19.7	906.9	111.2	339.0	567.8	69.7	62.6	55.4	5228	110.7	59.4	1399	5:28

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# Upcoming Events – December

**Wednesday, December 3, 2008 RAMS Club Meeting-7PM**

*(WaterStone Savings Bank – Formerly Wauwatosa Savings Bank, - 6560 S. 27<sup>th</sup> Street, Oak Creek)*

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## HOLIDAY STYLE MEETING

Cousins Sub-Sandwiches, Cake & Other Refreshments

Awards – Humor - Magic

\*\*\*

**Tuesday, December 2, 2008 MARKS INVITATIONAL to RAMS, 7PM**

Photos of MARKS, 2008 Float Fly at Bong Recreational in Kenosha County and/or

“All Because of Model Airplanes” AMA Video featuring film star Peter Fonda

*(82<sup>nd</sup> & W. Forest Hill Ave., Franklin Public Schools District Offices & Community Center)*

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**Looking Ahead: Sunday, January 4, 2009 31<sup>st</sup> Annual Swap Meet & Auction**

Sponsored by the Milwaukee R/C Association (RAMS belong) - Volunteers earn \$10 each for RAMS

9AM-3PM, Waukesha County Exposition Center, SW corner, Waukesha County Airport

*(Take I-94 to CTH J – Pewaukee Road Exit, south one mile past airport to Northview Rd., Turn west one mile)*