the Ampeer

August The EFO Officers 2005

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The Next Meeting:
Date: Sat., Aug. 06 Mid-Am **Time:** 10:00 a.m.
Place: Midwest RC Society 5 Mi. Rd. Flying Field

What's In This Issue:

ARVADA ASSOCIATED AIRPARK
FIRST ANNUAL ROCKY
MOUNTAIN ELECTRIC FUN FLY

Saturday, July 30th, 9 am to 4 pm

Hosted by the Rocky Mountain Electric Flyers in cooperation with the Arvada Associated Modellers
Site; Arvada Air Park, SH 93, Golden, Colorado West Field.

EVENTS

Speed 400 7 cell LMR Sailplane, AMA Event 610 except 45 second motor run, 5 minute glide, no spot landing. 7 cell NiMH or NiCad only, brushed 400 only, gear drive and folders OK. 3 Rounds.

Limbo- Any plane, motor, battery. Starting height 10 feet. 25 points each lower pass, double points for inverted limbo pass. 2 attempts per contestant at each pole height.

Helicopter Pad Hop (4 pads, 10 foot square layout). 2 attempts per contestant, lowest single elapsed time wins.

GWS SLO STIK Precision Flight. Any Motor and Battery. Aircraft must be GWS "Slo Stik". R.O.G., 3 Loops, 3 Touch-and-Go's, Spot Landing, 2 minute flight.
Each second over/under, 1 point lost. Maximum Flight score 120 Points.
Landing (10 Foot circle) 10 Points; Inner (5 Foot Circle) 20 Points. Entire Aircraft must be stopped in circle. 2 Attempts per contestant.

FUN FLYS ALL DAY!

ALL ELECTRICS WELCOME!
SUPPORT E-POWER IN COLORADO

AWARDS
Best Finish/Covering (static), Pilots Choice (overall), Best Original Design.

ENTRY
AMA License required to fly, $ 10.00
Entry fee (includes one event) $ 5.00
each additional event.

No age categories (open only).
Spectators FREE.

Raffles too! No pre-entry, registration starts 8:00 a.m. Cash only. Contest Director George Baxter
Flying Demonstrations- E-Helicoptors, Hotliners, 3D, Ducted Fans, E- Vintage and E-Oldtimer.

Contact Information:
http://www.rmeflyers.org/funfly2005.htm or;
rmefrbe@aol.com (720) 220 3384

BATTLE CREEK BALSA BEES
2ND ANNUAL
OPEN ELECTRIC FLY

Saturday, AUGUST 27th, 2005
(Rain date August 28th)

Pilot's Fee $5.00 INCLUDES Hot Dog Lunch
Proof of AMA Membership is required for pilots

Pilots briefing 9:00am
Tx impound w/controlled flying until 5pm

Spectators are welcome and entry to the field is free.

The BALSA BEES flying site is located SOUTH OF I-94 EXIT 100 (Beadle Lake Road) approx. 5 1/2 miles to D Drive South, then WEST approx. 3/4 mile. Follow Beadle Lake Road past Beadle Lake, Harper Creek High School, Binder Park Zoo.

WATCH FOR THE SIGNS!!!

Cell phone help will be 269-275-9272.

Modern Porta-Potti will be available but no running water. Cold soft drinks and water will be available.

Contact Event Chair at 269-979-9272, or email at NSCALENUTS@AOL.COM

Licking County Radio Control Club Electric Fly-In
Sunday, September 11 – 9 a.m. – 10 p.m.
(Night Flying Permitted with proper equipment)

Tailgate Swap

All Transmitters MUST be impounded or inspected for battery removal

All AMA RC Pilots are Invited

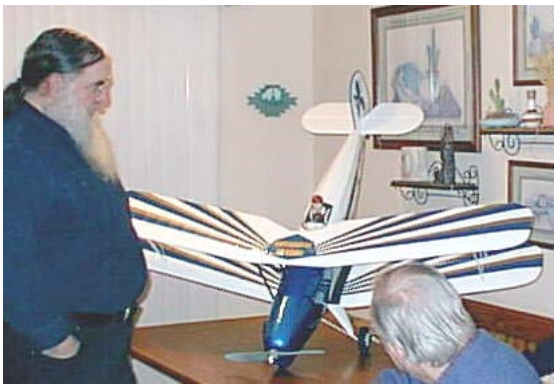
Free Food and Drinks for ALL Pilots
(grilled hot dogs, hamburgers, baked beans, etc.)

NO Registration Fee
Free Raffle Prize for Registered Pilots

Come One, Come All
To the LCRC field in Newark, OH

Contact Don Wise, 740-345-9167,
donwise@alltel.net
Web site info: http://www.lcrcc.net

Jungmann Is Back, Again!
From Keith Shaw, Ann Arbor Michigan



I flew the Jungmann last night with a 7-cell 3.2Ahr Kokam 20C/40C pack. It's back!!!! I was disappointed with the original e-conversion, I think I wrote you about it before with all the details. (*see info below from April 2003 Ampeer KM)*

At 20 x 2Ahr NiMH cells and the lowest belt ratio available, I had to go up to a 16x12 APC-E to get it to load to even 25 amps. Even though the plane only weighed a few ounces more than it did as a glow with a full tank of fuel, it felt heavy and unwieldy. It had similar vertical but was significantly slower than before. That, combined with the processional gyroscopic quirks of a larger-than-scale prop, gave it "interesting" flight characteristics. Planned simple maneuvers would sometimes degenerate into scary unintentional alternate activities, like a stall turn flopping on its back and ending up as a flat inverted

spin with controls neutral, or an outside snap whipping into a very violent lomcevak.

With the 7 Kokams (7S1P), it is 9 ounces lighter, but more importantly, it now turns an APC 14x12-e prop at more rpm at 32 amps, so max power has gone from about 500 watts to about 800 watts.

It now tracks well, does what I ask of it, but no more. Last night's flight went 8.5 minutes, battery was just slightly warm (94 deg air temp!), and recharging put in 2.5 A-hr. I could probably get 10 minutes if I drained the tank, but I have no low-voltage safety circuit on it as yet.

I still need to do some fine aerodynamic trimming and work up a routine, but it has taken a huge step toward becoming a member of my Airshow fleet.

It felt so good to have my old friend back, the Jungmann has been one of my favorite planes over its 30 year life.

Info on Keith Shaw's Jungmann

From the April 2003 *Ampeer*

My restored Jungmann has an Aveox 1412/4Y on 20 CP1700s or 2000NiMH, with a Modelair-Tech H-500 belt drive, 2.6:1 ratio. Initial prop tests show 15x10 @ 5.5K @ 23 amps, so I may go up to a 16x10 or 16x12 after flight tests. A 15.5" prop is scale diameter.

The Bucker Jungmann (pronounced BOO-ker YOUNG-man) was a mid 1930's German two-seat trainer and aerobatic mount. Having flown both the Jungmann and its more famous sibling, the Jungmeister, I much prefer the Jungmann for aerobatic work. It is smoother and has a more "balanced" control authority on all three axes, while giving up none of the legendary Bucker snap and knife edge characteristics. As much as I love my Great Lakes and Stearman, the Jungmann has to get my vote for favorite aerobatic biplane.

My Jungmann is 1/5th scale, 59" span. It was built as a glow plane in 1974, powered with a SuperTigre .56 with a 12-ounce fuel tank, used a 13x5 prop, and weighed 7 pounds (112 oz.) when fueled. It served long and hard, flying countless Airshows and just good sport flying. The MonoKote had gotten so brittle; it was like Japanese tissue, so a restoration was started a couple of years ago. The entire airframe was stripped, damaged and fuel-soaked woodwork was repaired or replaced. The 1/4" plywood firewall was removed, and a new balsa cowl was made to replace the old heavy fiberglass one, while new, built-up tail surfaces replaced the solid sheet originals. The incredibly heavy wheels, 8 ounces for the pair, were replaced with Dave Brown types. A more modern Airtronics with smaller, lighter and much more powerful ball bearing servos replaced the old Kraft radio with KPS-15s.

The final result of all this work has ended up with a flying weight of 7 lb. 4 oz. (116 oz.). That's right, only a net quarter-pound gain to convert a glow plane to electric, which must be some sort of a record.

I look forward to flying with a very old friend this summer.

Updated Data For Keith Shaw's Jungmann

If not noted by Keith the Data has been approximated by Ken Myers

Wing Area: 840 sq.in.
Wing Span: 59 in.
Weight: 116 oz. - 7 lb. 4 oz. (w/Nickel)
Weight: 107 oz. – 6 lb. 11 oz. (w/Li-Po)
Wing Loading: 19.89 oz./sq.ft. (w/Nickel)
Wing Loading: 18.34 oz./sq.ft. (w/Li-Po)
Cubic Loading: 8.23 oz./cu.ft. (w/Nickel)
Cubic Loading: 7.59 oz./cu.ft. (w/Li-Po)
Aveox 1412/4Y
Wt. 10.2 oz.
Kv = 725, Io = 0.065, Rm = 0.065
Model Airtech H-500 ratio: 2.6:1, Wt. 3 oz.
Total Motor + reducer Wt. = 13.2 oz.
20 Sanyo CP-1700 (1.69 oz.) = 32.4 oz.
20 Panasonic 2000 NiMH (1.5 oz.) = 30 oz.
7 Kokam 3.2Ah Li-Po = 24 oz.

E-flight in Nebraska

From Larry Bailey lnbailey@cox.net

Ken,

Electric is alive and well in Omaha, Nebraska.

The Midwest Performance Flyers sponsor an indoor fly at the LaVista Community Center, LaVista, NE on Monday and The Center near Chilco Hills State park on Wednesday. Both are from 11:30 - 1:30. The center is 100 by 50 yards and 50 feet high. (Yes, that's yards.)

Here is a link to the web page.
http://performanceflyers.com/

Here's more electric news. The SWIFT glider group (see same web site) is holding E-Glider events based on the F5J extreme rules.

We enjoy your newsletter. Good job.

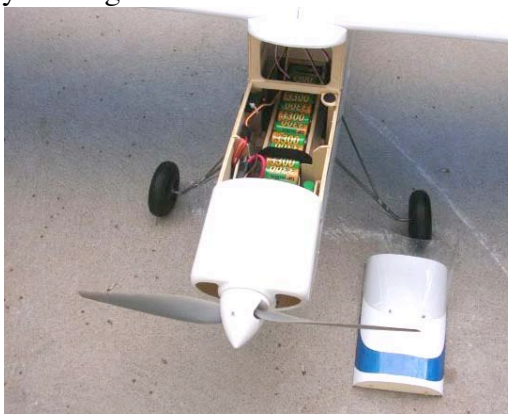
Larry Bailey

Here is some info from Dan Cramer (via Larry Bailey), dan.cramer@cox.net, Bellevue, Nebraska about his Electric Sig Senior.

The first photo is the Senior being held by my son James (14) and Jacob (12) on his left. This is the first plane James has ever flown and he completely soloed on his fourth flight. He thought he was ready earlier, but Dad was nervous, not him.

Do you get a sense of how great this trainer is? I have flown this as a glow model and was not really that impressed. The ultra light wing loading produced an aircraft that wallowed through the air and was no fun at all in Nebraska wind. As an electric and with 24 cells of "ballast", this thing flies absolutely beautifully. Very solid handling yet light on its feet for landings. It will do very large loops from level flight.

A few more details: AXI 4130 outrunner, APC 14x10 prop, converted to tail-dragger and "electrified" by my good friend Bob Roegge whom I worked with at Offutt AFB. He said it was simple, but I say he's a gifted builder.



The second photo is of the hatch removed (Bob cut this part of the fuselage which is solid structure in the original ARF). You can see the battery mounting tray and associated Velcro strap, ESC, RX battery, etc. There are cooling holes in the cowl.

The motor mount is the metal cage style being sold by Hobby Lobby, Esprit, etc, to accommodate the outrunner style motors.

The 24-cell pack (GP 3300s) has no shrink wrap helps cooling and allows the gaps between the cells to seat on triangle stock in the battery tray so you can shift forward and aft for CG adjustment. The Velcro then holds it down and keeps it from shifting.

This is not a cheap way to go, but the performance is absolutely first-rate.

As an 80" aircraft, you can also show up at IMAA gatherings and be the rare/only electric guy there. I have four battery packs and charge before I go to the field.

As a trainer, it cruises at half throttle and gives close to 15 minute flights, so that's an hour of flying time before you even need to recharge.

Bottom line: A great trainer that flies better than its glow counterpart.

Dan

Motor Definitions Comments

From Weldon Smith, Cary, IL

Ken,

Misplaced the April *Ampeer*, but just found it and was looking at it until I saw your method of comparing motors on page 4. This is what I use when possible (not always possible when all info not available). I seldom build kits, but if I have the weight, size of prop, RPM and current at a certain voltage, I can make a comparison to other motors and decide what to do design for the best one.

Unfortunately, most of your correspondents leave out at least one of these elements and their reports become useless. Why don't you enumerate the things that are necessary to compare motors? Maybe the manufacturers will catch on and give us that info instead of describing their products with stupid groups of numbers.

Okay Weldon, here goes. First of all, I don't believe that the manufacturers will ever give us the numbers we need to compare motors. That would be way too easy! What we need are, and this is very

important, real Kv, Rm and Io for the motor in question. We also need real prop and cell tests with specific brand name props and specific brand name cells. I believe that Model Motors has tried to do this, from looking at the data on their site, but there seems to be a very large variation in their actual production motors.

Here is a specific example of a problem I have with a Model Motors AXI 2820/10. There are many places on the Internet that have a lot of information on this motor. I used the Steve Horney review on the Ezone, Bob Aberle's info in the Bonnie Review on the AMA site (Sport Aviator), flyingmodel.org, the info from Elektroflug fur kleine Geldbeutel, Model Motors AXI data and Gary Ritchie's column from the June 2005 issue of Quiet Flyer. While none of the data from these sources matches very well, my specific AXI 2820/10 is WAY out of the ballpark!

I posted the following as a question on rcgroups.com. I never got a very good answer or explanation. Hopefully some Ampeer readers can help, at least with an explanation.

AXI 2820/10 & Phoenix 45 too much power

I have the Model Motors AXI 2820/10 and Castle Creations Phoenix 45. My problem is that it is drawing too much current and spinning too fast compared to all the data I have been able to find on the AXI 2820/10.

The problem is that I can't use the prop I want when using 10 cells. The largest prop I can use on 10 cells is the APC 10x7e.

The CC Phoenix 45 has the following settings:
Current Software version: 1.12
Cutoff Voltage: 9.0v – (6.0v was used when I used a 7-cell pack of NiMH to try and verify)
Cutoff Type: Hard Cutoff (*)
Brake: Disabled
Throttle Type: Auto Calibrating (*)
Soft Start: Softest
Rotation Direction: Forward (*) – visually confirmed
Motor Timing: Standard Advance & Low Advance used for different sets of tests
Current Limiting: Insensitive
PWM Frequency: 13khz (*)

10-cell pack is composed of Sanyo RC1700 cells (yes, it's a few days old ;-))

Test Equipment:
Astro Flight Whattmeter – used for amps
Radio Shack multimeter – used for volts and follows the volts on the Whattmeter closely, but I feel more accurately, as it gives me decimal point to the hundredths.
NorCal tach (verified with Hobbico tach which is reading about 100 RPM higher in the range of RPM I'll mention below than the NorCal)
Flashlight for light source and no inside lighting of any type
Camcorder to record and play back collected data

Volts, amps and RPM are collected at the same time and written down using the playback of the Camcorder.

Here is my bench test data from several days of tests. These numbers are averages from doing the following 4 times, for a series of three tests. All runs were for 5 seconds at maximum throttle using the counting method, one thousand one, one thousand two, etc. At no time did the motor or controller ever become warm. The pack was recharged after four runs and there was quite a bit of cooling off time between each series of runs. Air temperature was between 60 and 65 degrees F with fair weather on all days of testing. According to a Google search the elevation here is somewhere between 750 feet and 800 feet above sea level. Each run consisted of a motor run with no prop for Io, then motor run with small stick to get RPM, Amp & volt readings for figuring mathematical Kv and Rm and the final run was done to collect RPM, Amp & volt readings using the High Point balanced APC 10x7e prop. These were followed by three more runs in the same order. A total of 4 of these run-throughs were on the pack before recharging and collecting the data via Camcorder playback.
The data is presented with two decimal places, even though the Whattmeter only reads to one, because it is the average for the 4 runs.

Standard Advance:
9.58v, 38.87 amps, 9990 RPM
9.48v, 39.75 amps, 10,040 RPM
9.82v, 41.4 amps, 10,333 RPM

Average of the averages: 9.63v, 40 amps, 10,121 RPM

Low Advance:
9.91v, 40 amps, 10,250 RPM
9.99v, 40.45 amps, 10,318 RPM
9.75v, 39.15 amps, 10,115 RPM
Average of the averages: 9.88v, 39.88 amps, 10,228 RPM

As would be expected, the Low Advance has slightly higher volts and RPM and slightly lower amps.

When I first started the testing, I wanted to use the APC 11x7e as the upper end of the tests, as I did not have an APC 12x6e, which is where I really wanted to start. The first time I tired to run the 11x7e, the ESC cutoff quickly. That is when I changed the cutoff on the Phoenix 45 to insensitive. I ran up the 11x7e and when I saw on the monitor that I use 53 amps while taping the data, I immediately shut down. From that point on, the 10x7e was the prop I used.

I wanted to use this motor with the 11x7e and a 3S1P Kokam 2.1Ah 20C Li-Poly pack. I don't have the taps on that pack yet for charging the individual cells to equalize them, that is why I used the RC1700's.

I based my motor selection on the following data:
flyingmodels.org 10x7e, 10 cells, 10.6v, 29.7 amps, 8,930 RPM
flyingmodels.org 12x8e, 10 cells, 9.7v, 40.8 amps, 7380 RPM
Bob Aberle's Bonnie review, 10x7e, 3S1P Kokam 2.0Ah, 10v, 32.7 amps, 8,800 RPM
Model Motors AXI 2820 data: 12x6 APC slim, 10xRC-2000, 10.38v, 40.5 amps, 8550 RPM - * there is no slim, so this is an unknown. Personally, I believe it might be the standard APC as it is slim, compared to the E and SF versions.*
Steve Horney's review on the Ezone, APC 10x8 (not e or SF), ??v, 35 amps, 9400 RPM
Rick Sawacki's AXI 2820 at the field, APC 12x6e, 10 cells, ??v, 40 amps, ???? RPM

The problem is that the 10x7e is pulling like a 12x8e, but showing much higher RPM, almost 3000 when compared to the 12x8e, based on the flyingmodels.org site data. This also is reflected in the Kv and Rm when derived mathematically.

Standard timing: Kv 1330, Rm 0.047
Low timing: Kv 1288, Rm 0.046
These numbers are very different than what is reported on the AXI site for this motor, Kv 1100, Rm 0.039

At first I thought that my good old NorCal tach was not working correctly, that is why I purchased the Hobbico tach, and as noted, the two units track very closely in the RPM range I was recording.

I did just two recordings of the 7-cell Panasonic 2Ah pack on the APC 10x7e prop with an average of 7.28v, 25.15 amps, 7975 RPM. I had pulled 150mAh out of the pack using my discharger, so that it wasn't peaked, before taking these readings.
flyingmodels.org 10x7e, 7.6v, 18.4 amps, 6,830 RPM
Again my volts are lower, amps higher and RPM much higher.

I guess there are several problems here:
1. I really want to use an 11" diameter prop because of a large circular cowl on the project this motor was supposed to go into, and 11" would be better than 10".
2. The available motor data doesn't match what is on my bench in any way shape or form.
3. Do I have a weird, too high Kv AXI 2820/10 so that I don't have enough torque?
4. Is there any way to set the Phoenix 45 so that the amp draw isn't so high?

One other curiosity is that after connecting the battery to the ESC, when I start to open the throttle, the motor runs in reverse for about a second and then reverses itself to forward rotation.

Thoughts and comments appreciated.

Ken Myers, Croswell, MI USA

It should be noted that I verified my tach and new tack with other tachs and my Whattmeter with another Whattmeter.

Here is some more information that I posted to the thread:

I put this motor in my TigerShark sport plane last night. 488 sq.in. and with the motor/controller/mount

change 53.6 oz. It was 57.4 oz. before the switch over to the AXI 2820/10 and Phoenix controller. The power system replaced the original AF035G 2.82:1, Jomar SM-4 ESC and 250mAH Rx pack and the same prop. That power system turned the same MA 10x6 standard wood prop at about 8,600 RPM. I plan to fly it today at the EFO flying meeting. I'm going to use the same Master Airscrew standard wood 10x6 prop. Average static volts, 10 - amps, 38.5 - RPM, 10590 on 10 RC1700. Computed Kv 1315, Rm 0.050, Io 3 amps

I flew the system in the TS on Saturday. The second flight was interesting, as I tached the prop before flying. I had several folks help me, and I told them I expected at least 10,600 RPM. Well, the second flight on a Ni-Cad pack syndrome kicked in. It was closer to 11,500 RPM! This is the oddest motor I've ever run across. I didn't take a watt or volt readings, but obviously the volts were up even higher, and therefore the amps must have been too, but the CC Phoenix 45 never kicked out. I was able to do a vertical roll, which the plane had never done before.
I guess my only option is to reduce the cell count, if I want to continue to use this motor. I'm really disappointed, as this is my first AXI. I don't know whether to order another one like it, and take a chance that it will be "right" or a different one for my 10-cell project. Maybe I'll just use a geared brushed AF 15. I've got several of those, and I know what they can do, but then I will have to up the cell count to 14 or 16 as the AF 15 is happiest at about 25 amps, which would mean I'd need a 5S if I use Li-Po cells. I find it hard to believe that no one coming to this service has any data for the AXI 2820/10 and a CC Phoenix 45 controller using 10 cells and various props.

I guess the bottom line is that even when we do have all the numbers, there seems to be a much larger variation in individual motors than I previously had expected. As always your thoughts and comments will be appreciated. KM

Thoughts on Going Li-Po
From John Houvener Midland, MI

I finally went Li-Po. After research, I found that the Poly Quest has more to offer, i.e. separate taps to check and also charge individual cells with their PCM charge guard. They are about the same prices as others. They have a narrow size to fit in skinny fuselages. They sell directly to you at eflightpacks.com.

Here are my pros and cons on Li-Po batteries:
Con: 1C charge rate – same as small Ni-MH (NiCad up to 3C for fast charge cells)
Con: 240 cycles before decline (NiCad good for 500)
Con: should charge or discharge in a fireproof container
Con: should not top off voltage at field unless one good flight in
Con: If voltage drops below 2.5 volts per cell – will ruin battery (some modern ESC's have built in voltage cut-off, if not, there are add-on units for about $16
Con: If you suspect one cell is bad you have to tear the pack apart to check the cell, except that some Li-Po packs have extra taps to check and charge single cells
Con: If you have a WWI type of plane with a very short nose where the battery has to be stuffed far forward right behind the motor for balance, the Li-Po battery might be too light. You might have to add lead, ugh!
Pro: maintains steadier voltage during flight
Pro: 1/4 to 1/2 the weight of Ni-MH or NiCad
Pro: retains voltage for a long time after a charge
Pro: 3 cell Li-Po is close to 10 cell Ni-MH in voltage
Pro: can be put in series with series connector

Voltage difference between 10 cell NiCad, 10 cell Ni-MH and 3 cell Li-Po
Full charge static volts: Ni-MH, 14.35 - NiCad, 14.17 – 3S1P 12.60

I agree with you about some of the reviews in the model magazines. Some guys are getting on the electric bandwagon and don't know what they are talking about.

I get a kick out of some of the big wheel fliers, past TOC and other top pattern fliers, etc., who have suddenly declared themselves experts in electric power. Two years ago they couldn't even spell electric.

I finally broke down and put together (not build) my first ARF, the Mini-Funtana. It is a fine flier, but the gear (I think it is a GWS, but has E flights name on it) never made it through the first flight. Will have to do something different.

Upcoming PMAC Electric Meet

On August 7 the Pontiac Miniature Aircraft Club (PMAC) presents its electric fly-in, "Electrics Over White Lake". It will be held at the PMAC field in the Pontiac Lake Recreation Area. The field is located off of White Lake Rd. just east of Teggerdine Rd. Contact Sterling Smith, 248.673.2882 or email smitty559@comcast.net Flying starts 10 a.m. Flyer available at EFO Web site.

One More Day of Flying

From Rich Flinchbaugh Vero Beach FL

Looks like yesterday was the last for flying this winter trip down here. (*Rich lives in South Dennis, MA in the summer. KM*) Tom Kempf thought we should have one more day, so I took him up on it, hence the enclosed photos.

The Donald 4 has really perked up with it's new Mega AC 22/10/06 brushless motor, and the pair of 3 2100mAH Lithium cells is a big factor in its outstanding performance.

Here's our Donald 4 from Hobby Lobby. With a new Mega AC 22/10/06 combined with a Castle Creations Phoenix 35 brushless ESC it gets off the water fast – lots of power. In the photo it has just taken off. Performance is outstanding.

The other photo is of our 80% scratch-built Dreamboat flying boat shown coming about. It is powered by a Mega AC 16/15/5 combined with a Castle Creations Phoenix 25 brushless sensorless speed control. It ROW's quickly and flies well.

Camel Finally Flies!

From Walt Thyng wthyng@earthlink.net

Nearly two years ago I sent you a photo of my VK Camel in the bones. Here are some finished photos. These are before the rebuild following a severe crash on the initial test flight. My "helper" responded to my request for "two clicks of up elevator" by giving me FULL up trim resulting in an instant unplanned loop and snap spin with predictable results. It took me six months to cool off enough to look at the wreckage and realize that it wouldn't be all that hard to rebuild it. I finished the rebuild a month ago and have been waiting for the wind to ease off.

Finally got in two great test flights on Sunday. It still needed some up trim, but this time I handled it myself. I cannot believe how nicely the Camel flies in spite of being very scale (even to the under-cambered airfoil). Take off was typical tail-dragger; as soon as the tail came up the rudder was very effective in keeping it straight. Climb-out was at thirty degrees with no aileron correction. All flight maneuvers appear to be pretty prototypical. Loops aren't very round at the top; it rolls better to the right than the left. I haven't been able to get it to stall yet; full up elevator, power off gives a wings level, nose

slightly low, easily controllable rapid descent. Now landing is another issue; so far I've had two nose-overs, but then that's also prototypical from what I've read.

The rotary motor was made from balsa, aluminum tubing and common pins. The fins were accomplished by running a threaded pipe coupler over a piece of rounded balsa stock.

Details: WS 59in, WA approx 700sq in, Wt 7 1/2 lbs. Motor Astro 25 w/Superbox on twenty PA3000 Ni-MH; Astro ESC, UBEC; Servos: mixture of Hitec, Futaba and Airtronics. (dual aileron servos with 50% differential). Test flight prop MA 16/10 (non-E). Flight time is approximately 8 minutes with full power for landing.

It isn't as pretty now, but I hope to bring to the Mid-America if all goes well.

Walt Thyng

Coldwater Meet Report
By Ken Myers

Dave Grife had another very successful "Keith Shaw Birthday E-Fly In". The new runway was in absolutely perfect condition. This meet is great because it is a really laid back time of flying. With about 30 of our closest flying friends, this is the meet I enjoy most every year.

Jim Ryan's fleet of great Sp400 planes can be seen in the photo above, as well as Jim Young's Hughes H-1.

A shot down the flight line shows a lot of activity on the field, as well as in the pits.

Dave can be seen with a big, well deserved smile on his face with the birthday boy in the background.

Next time you might want to ask him how much Velcro should be used on large Li-Po packs.

Great time!

Upcoming E-vents
2005

July 23-24 Phantom Flyers 5th Annual E-Fly-In, Phantom Flyers R/C field near St. Charles, MO. No landing fee! AMA required. Info at: phantomflyersrc.com

July 30th Rocky Mountain Electric Flyers Electric "Fun Fly" Speed 400 LMR, Limbo, Heli Pad Hop, GWS Slo Stik Precision Fly. Arvada Associated Airpark, Golden, Co. Map, rules, info at www.rmeflyers.org or www.amadistrict-ix.org.

July 30 - Aug 2 Electric Nationals, AMA Headquarters, Muncie, IN contact: lonniee@modelaircraft.org Visit the AMA site for more info at www.modelaircraft.org

August 6 Fort Wayne Flying Circuits 10th Annual Electri-Fly, Flying Circuits Field, New Haven, IN, 1702 Webster Rd., $5.00 landing fee, CD Clay Benjamin 260-627-2760, clbenjamin@yahoo.com or Pat Mattes, 260-478-7302

August 6 & 7 Cedar Rapids (IOWA) Skyhawks E Fun Fly info at: www.crskyhawks.org/index.htm or contact Plenny Bates 319-362-2969

August 7 Electrics Over White Lake, Pontiac Miniature Aircraft Club, Pontiac Lake Rec. Area, off of White Lake, Rd. Contact Sterling Smith, 248.673.2882 or email smitty559@comcast.net

August 13 & 14 Sharks All Electric Fun Fly #2, Sheboygan Falls, WI,, AMA Members**,** Web site www.mcallisterdesigns.com/elec05.htm for map and updated information.

August 27 BATTLE CREEK BALSA BEES 2ND ANNUAL ELECTRIC FLY, AT OUR FLYING SITE JUST SOUTH OF BATTLE CREEK, Contact: DAVID SOOTSMAN, Event Director email: NScaleNuts@aol.com, info 269-275-9272 Cell phone help will be 269-275-9272

Sept. 10-11 E-fly Iowa, Iowa, Contact: Jon McVay www.rc-dymond.com/efliowa

September 11 Licking County Radio Control Club Electric Fly-In, NO Registration Fee, LCRC Newark, OH, Info Don Wise, 740-345-9167, donwise@alltel.net, Web site info: www.lcrcc.net

The Ampeer/Ken Myers
5256 Wildcat
Croswell, MI 48422
http://members.aol.com/kmyersefo

The Next Flying Meeting:
Date: Saturday, Aug 06 **Time:** 10:00 a.m.
Place: Midwest RC Society 5 Mi Rd. Flying Field