

the

Ampeer

October

The EFO Officers

2005

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The Next Meeting:
Date: Sat., Oct. 1 **Time:** 10:00 a.m.
Place: Midwest RC Society 5 Mi. Rd. Flying Field

What's In This Issue:

Wattage Reno Racer - Update on the Tiger 2 Conversion –
J-3 Cub on Floats - Small Motor Data –
Czechmate Flies! - The Mid-Am 2005 Report – Upcoming Events

WATTAGE RENO RACER

From Mike Southwood
michael.southwood@ntlworld.com



SPECIFICATIONS:

Span: 30.75 in.
Wing area: 174 sq in.
Weight ready to fly: 17 – 18.5 oz. Mine comes out at 13 oz (370g) using brushless motor and LiPoly 3 cell X 900mah battery. 14oz with 1800 LiPoly 3 cell.

GENERAL Power Class: Electric Class:
Park Flyer Category: Aerobatic | Scale
Flying Skill: Intermediate, Build Type: RTF (optimistic claim)

- Light-Weight Blown Plastic Fuselage with Foam Sheeted Wing
- Sleek Aerodynamics for Less Drag
- Accepts Most Micro Radio Equipment
- 380 Direct Drive Motor (280 size brushless used)

- All Necessary Hardware
- Colorful Racing Oriented Decals
- Detailed Instruction Manual



**BOX OF BITS!
FIRST IMPRESSIONS:**

Opening the pretty box, everything inside was packed well in polythene bags. Nothing was damaged and it all looked to be of high quality. Two sets of decals, one for a blue plane and one in Red. These also help strengthen the rather flimsy polystyrene board parts.

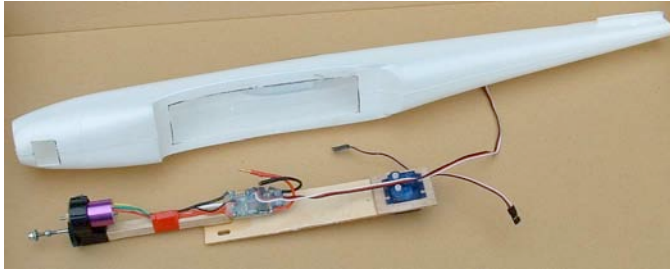
CLOSER LOOK:

The fuselage is blow moulded from a thin ABS type material. I found that in some areas it has been thinned by the process and is very weak. The wing support flanges at the back were very thin.

Tail feathers are made from Polystyrene foam boards. They have to be reinforced in

various ways, by the addition of plastic self-adhesive card.

The motor supplied is a standard can type. Probably would go well after the running in period recommended, but in my case I decided to change it for a 280 brushless, which I had recently been given to test. It came with a 4 -1 gearbox which I tried to fit, but in the end gave up and fitted the motor as direct drive. Mounting holes were the same as for the can motor.



This was my original attempt at using the 4:1 gearbox and stick mounting. This did not work out very well, so the motor was removed from the gearbox and fitted in the usual way. The servo plate broke, being light plywood; it was very weak around the servo cutout. A ply plate was glued on.

I also had some Tower Pro 9g servos, which fitted in the supplied light-ply board. The radio I use is a 4 channel Jety and the speed controller a HM-18A unit, supplied with the motor.

ASSEMBLY:

The instruction book is very comprehensive. Without it, assembly would be difficult, even for an experienced builder. Even with it, the task is not easy! There are so many parts, mostly bits of self-adhesive plastic board that have to go on the correct place and at the right time.

Wings are moulded polystyrene. Well finished and with a slightly hard outside skin. They have a hard plastic sheet leading edge wrapped on. The ailerons have to be cut at each end to allow hinging, using the thin moulded foam hinge. These have to be bent about for a while until reasonably free. They are quite flexible and tend to twist when operated, giving more movement at the root. Not a bad thing, self-adjusting pitch! The operating arms are thin wire, pre-bent and threaded for the connections. Epoxied in place and covered with plastic card squares, it works quite well, despite being crude. The two halves are glued together with epoxy while the wing is laid on a flat, straight board topside down. The match was perfect and the result was a true wing. If I did it again, I would not apply epoxy where the front peg goes. The epoxy being harder than the foam, makes drilling in the centre very difficult! Clear plastic tape (not supplied) had to be used to cover the joint and strips placed along the wing to add bending strength. A bit ugly to my eyes. A ply plate is glued on underneath to reinforce the back screw fixing. A reinforcing board on top finishes the job, adding strength to the centre section.

Fuselage: This has to be cut out where the wing seats, leaving about a 3/8" flange all around. At this point it is very thin and care has to be taken. I had to add reinforcement at the back corners. A ply wing fixing plate is glued in. I found the plastic very difficult to glue to, even after cleaning and roughening up, the epoxy did not stick easily. Probably coated with mould release! A few holes have to be drilled right on the centre mould line, which is raised and thick. It is difficult to do without slipping off centre.

The servo-mounting tray is best fully assembled before fitting in the fuselage. It is very easy to break where the servos fit through. I know because I broke mine!

The tail feathers are held in place with plastic board reinforcement in to which tiny screws are used through 1/16" holes drilled in the fuselage. An unusual method, but it worked. Screws look a bit naff though!

My motor shaft was smaller than the can motor. I had to make up a spacer tube before fitting the prop driver on. The prop is supplied and has a rather nice spinner. A quick check using my rev-counter, showed 13,000 rpm on a part discharged 3-cell Li-Poly. That's plenty of power for this light plane. Thrust at this stage appeared low, but this is in comparison to my Alfa Models Corsair with an out-runner and larger prop.

I opted not to fit the undercarriage. As I fly from short grass, I could not expect the small wheels and simple undercarriage to cope. It also saves weight and looks better in the air. The tail wheel was fitted as it provides the hinge for the rudder

FINISHING: The application of all the decals, proved to be quite easy. They certainly improve the looks. I used the red set, hoping to make it easier to see in the air. I suspected at this time that it would go very fast.

BALANCE: The manual gives clear instructions on how to balance and where. 2-3/8 in, behind the leading edge. They advise putting marks on the top of the wing and balancing upside down. In my case, even with the Li-Poly pack pushed right in to the nose, it was still tail heavy. As it is so much under weight the solution is to go up to an 1800 mAh Li-Poly rather than use extra lead. (I hate having to add weight to balance!)

FINAL READY TO FLY: The finished model has ended up at 14 oz. That is 3 oz less than specified on the box lid. The motor is much lighter and the undercarriage saves a bit. It looks quite nice from a distance, but I have a feeling that flying the thing will be difficult. It is heavier than my Alfa Models Corsair, with less wing area and a much thinner wing. It should fly a long time on the 1800 Li-Poly!

A BIT MORE DETAIL:



The little 280 brushless motor with gearbox removed. Size: 30mm X 20mm. Voltage 6V – 12V, Turns 8. On 11.1V, 7500 rpm with 10 X 4.7 prop. 13000 with 6 x 3.5 prop.



Brushless Speed Controller HM – 18A Constant current 15 Amps. Maximum 18 Amps. BEC 1.5A



SG – 90 Micro Servo 9g weight, Dimensions: 22*11.5*27mm

*Operating Speed (4.8V no load): 0.12sec/60 degrees

*Stall Torque (4.8V): 17.5oz/in (1.2 kg/cm)

*Temperature Range: -30 to +60 Degree C

*Dead Band Width: 7usec

Operating Voltage: 3.0-7.2 Volts

REX 4 plus



4 channel, FM single conversion receiver band: 27, 35, 36, 40, 41 MHz dimensions: 31 x 24 x 14 mm weight: 10 g X-tal: standard



CODE: LI1811 NAME: 1800mAh/11.1V 8C EP Series Li-poly battery pack W/Tap CATOGRY: Electronic BRAND: HiModel WEIGHT: 129g(4.6oz) SIZE: 72x34x28mm

Flight Report

I have had two flights with Reno Racer. Fitted with an 1800mah Li-Poly to get the balance almost right. It flew without any trim from a hand launch in to a fairly strong wind, about 6 mph gusting to 10 mph. It is very fast and quite twitchy. Being so small, it is easy to get too far away very quickly and with my 71 year old eyes, despite my new Axis Ranger special sun glasses, it was a difficult flight. Unlike the Alfa Corsair, which can be flown over

our patch with ease, the Reno prefers high speed and smooth large manoeuvres. There is plenty of power and about 15 minutes of duration before I got fed up! I deliberately stalled it at a good height. It dropped a wing very sharply and required power to bring it out. Pulling tight turns was also a danger especially as the wind got on its tail, an instant flick dive / spin. Landing had to be fast and flat. At least with power to spare one could open up and climb away at about 45 degrees. Rolls are straight and fast, but it is not a plane for beginners or slow reactions. An interesting experience, but a model to sell on quickly, before I break it!

My conclusion is that this is now an old technology model. I looks good, but for me is too high a wing loading and too fast (that is what it was designed for) I have come to the conclusion that electric small models need to be very light and stable. Full power is used most of the time. Slow flight is difficult; despite this the brushless motor and 1800 Li-Poly gave at least 15 minutes. I never did run it out!

Update on the Tiger 2 Conversion Found in the September Ampeer

From John Zook

Hi Ken,

I just thought I would email you about my Tiger 2 conversion that I sent you last month. I am now using 2-3S2P 4160 Appogee Li-Po packs. The performance is better than I hoped, as it now has shed over a pound of battery weight and provides sparkling performance for more than 10 minutes.

I am more than pleased with this power package as it is right now. I hope to someday obtain Li-Po packs in the 5000 to 6000 range for extended flying, but right now 10 minutes of aerobatic flying is plenty for me.

Cheers and regards to all,
John Zook

Piper J-3 Cub on Floats

From Rich Flinchbaugh r.flinchbaugh@worldnet.att.net

Dear Ken,

I just recently added floats to this 2000 Piper J-3 Cub, and it looks like a real winner. It's really lively on the water with a new MEGA 600/20/5 Outrunner Motor using a 10 x 5 prop.

It should be ready to take to the air in just a few days. It flew great as a landplane, and should be fine on floats. Most modelers would agree, "There's nothing as pretty as a Piper J-3 Cub on floats!"

The pack I'm using for first flights is a Sanyo 1300mAh 10 -cell.

I am wondering what you would recommend to get a little more endurance? This pack handles the Donald 4 fairly well, however it's smaller and lighter. The Piper is the Great Planes Electric kit with a 58-inch wingspan. It weighs 42.5 ounces without batteries. It was a good kit!



What would be your recommendation, for NiMH cells? I haven't ventured into the Lithiums, yet?

I forgot to mention that the speed control is another Phoenix 35 Brushless SENSORLESS controller. I'm loyal to this company, because they make the best that I have ever used. And, when there's a problem, they are right there for you and treat you fairly. They are a credit to our hobby. That's my 2 cents worth!

I assume you are using the Sanyo CP-1300 at 1.16 oz. each or about 12.2 ounces for a 10-cell pack with wire and connectors. The Gold Peak GP-2200 NiMH cells weigh 1.62 oz. each for a pack weight with wire and connectors of about 17 ounces. I would believe this plane is capable of handling the extra 5 ounces quite easily, without changing the flight characteristics very much. KM

Addendum:

Thank you for your reply on the Moose, and Batteries. On the Moose, we will keep our distance but hope to see some. *(Yes, folks we were talking about real Moose, not Martin's plane. How many of you remember that one? KM)*

On the batteries, I can add a comment that may be helpful to another modeler.

It turns out that the Sanyo 1300 mAh is very good for its size and weight. I thought I was in Heaven when a 2500 mAh cell became available in the same double A size. Unfortunately it turns out to be unable to withstand current drains of more than 15 Amps where the 1300's will easily handle 20 Amps, even 25 Amps for short periods. In the last message we spoke of the GP-2200 AFHR cells. Don't have any mainly due to cost. Some pals in Rochester, who are active electric flyers, and are very knowledgeable, seem to settle on a very similar GP cell,

the 2000. It's good for 30 Amps, versus 40, and costs \$3.25 vs \$5.25. The weight difference is negligible. All this gets down to what's available now in a good solid 30 Amp cell that's light, (about 1.2 ounces, is affordable, and won't explode if a seaplane flips over)

I realize I'm asking a lot, but understand some new batteries are coming to the market as I write this.

Any new ideas? Would the readership have any? The NEAT Fair should be a valuable source and it's only three weeks away, as I write this! PS About half of my fleet are water craft, and, LITHIUMS DON'T LIKE WATER!

And More:

Hi Ken,

I can only hope that you'll be as pleased as I am! I drove over to the fairly local Thompson dam Float Fly in Eastern Connecticut on Saturday to be there early on Sunday, the day of the event.

The day started out beautifully, but got progressively windier. By 1:00 PM it has started to rain. Fortunately I was able to get a flight in before that occurred.

This is the new model, a Great Planes 58" J-3 Piper Cub that I have equipped with scale Edo floats. I am using the latest MEGA Outrunner RCn 600/20/5, in conjunction with a Castle Creations Phoenix 35Amp Brushless, Sensorless Speed Control. This combination works great! The plane broke water in less than 10 feet for a 4-minute flight. If it hadn't been so windy, it would have been at least twice that! I used a 10-cell pack of Sanyo 1300 MA cells. Maximum current drain is 16.5 amps with a 10 x 5 prop. It would maintain altitude at half throttle. I never realized before what a great flyer a Piper Cub is! The flying weight is 53 ounces giving it a wing loading of 16.1 ounces/sq ft.

Read the August issue from cover to cover. Well done!

Best wishes from the Cape, and hope to see you at the NEAT Meet,
Rich Flinchbaugh



Cub on takeoff run

Small Motor Data

From Jim Yuzwalk jjy@pop4.net

Ken,

Over the past few months I've been experimenting with a little foamie flying wing that Hobby-Lobby used to sell -- The Direct. It came with a Multiplex 280 motor, and a 125x110 mm prop (the same prop as used on the Wingo).

The "Flight Perf Rating" is an integer from 1 to 5, where 1 is poor and 5 is excellent. Based on a ~14oz EP flying wing.

Static thrust measurements taken with an electronic postage scale.

RPM measurements taken with a NorCal optical tachometer.

Motor Name	Prop Name	Diameter (in)	Pitch (in)	Motor Voltage (V)	Motor Current (A)	Motor Power (W)	Motor RPM	Prop Thrust (oz)	Flight Perf Rating	Notes
Multiplex 280	APC	4.7	4.25	7.5	3.2	24.0		2.2	3	
Speed 280 BB	Graupner CAM	3.0	3.00	7.5	7.0	52.5		4.2		
Speed 280 BB	Nylon 4x3	4.0	3.00	5.5	4.5	24.8		2.8		
Speed 280 BB	Graupner CAM	4.0	3.00	5.5	7.0	38.5		3.8		
Speed 280 BB	APC	4.7	4.25	5.0	8.0	40.0				
Speed 280 Sport	Graupner CAM	4.0	3.00	7.5	3.4	25.5		3.0		
Speed 280 Sport	APC	4.5	4.10	7.5	3.8	28.5		2.8		
Speed 280 Sport	APC	4.7	4.25	7.5	4.2	31.5		2.7		
Speed 280 Sport	Wingo 125x110mm	4.9	4.30	7.5	4.7	35.3		2.5		
Speed 280 Sport	Nylon 5x2	5.0	2.00	7.5	3.4	25.5		3.1		
Speed 300	Graupner CAM	4.0	3.00	7.5	2.2	16.5		3.0		
Speed 300	APC	4.5	4.10	7.9	3.0	23.7	7300		5	Outstanding flight performance. Much better than Speed 330 with same prop! See notes (1) and (2).
Speed 300	APC	4.7	4.25	7.5	3.5	26.3		3.3		
Speed 300	Wingo 125x110mm	4.9	4.30	7.5	4.3	32.3		3.3		
Speed 300	Nylon 5x2	5.0	2.00	7.5	2.3	17.3		3.4		
Speed 330	Graupner CAM	4.0	3.00	7.5	3.3	24.8		3.0		
Speed 330	APC	4.5	4.10	7.5	4.1	30.8		3.1	4	
Speed 330	APC	4.5	4.10	7.7	4.5	34.7			4	See notes (1) and (2).
Speed 330	APC	4.7	4.25	7.5	4.4	33.0		3.0	4	
Speed 330	Graupner CAM	4.7	4.70	7.7	5.3	40.8			3	See notes (1) and (2).
Speed 330	Wingo 125x110mm	4.9	4.30	7.5	5.2	39.0		2.9	2	
Speed 330	Nylon 5x2	5.0	2.00	7.5	3.6	27.0		3.6	3	
Speed 330	Graupner CAM	5.2	5.20	7.6	5.5	41.8			3	See notes (1) and (2).

Well the plane didn't actually perform the greatest, but it was fun to fly. So, I decided to buy a bunch of different motors and props and start experimenting. All motor prop combos were direct drive mode.

The best result, thus far, was obtained by using a Graupner speed 300 and an APC 4.5x4.1 prop. The plane, still not the best performer, can now at least do loops at any time during the flight with a little help from some down elevator. This is much improved over its original design.

I gathered quite a bit of data and put it into a spreadsheet showing the different electrical and mechanical parameters as measured on the bench and on the plane. Perhaps others will find the information useful. There doesn't seem to be a whole lot of information on the smaller motors 280-330 size.

Best regards,
Jim Yuzwalk

Notes for the information:

In all test cases, power was supplied by a Tenma 72-630A 30 Amp variable power supply, unless noted otherwise.

Voltage and current readings were taken with an Astro-flight Whattmeter (with Sermos connectors) at the motor unless noted otherwise.

All readings taken after approximately 10 to 20 seconds of run time – i.e., I waited until the readings were stable.

Notes:

(1) Voltage and current measured at battery – motor connected to speed control.

(2) Measurements taken using a Kokam 2-Cell Lithium 1500mAh.

J. Yuzwalk
August 9, 2005

Czechmate Flies!

From Keith Shaw, Ann Arbor, MI



Here is just a short 'news release' of the test flight on Czechmate. To remind everyone, it is a 1/6th scale model of the Reno Gold Unlimited Racer, a very highly modified Yak-11.

It handles superbly; I don't think I have ever had a plane that tracks so perfectly through maneuvers even though this was the test flight! It performs big inside and outside loops at 1/3rd throttle. The axial rolls need very little correction. It has a very gentle stall, even at a 30 oz/sq.ft. wing loading. Unlimited vertical performance is effortless. In fact, when I pull the plane into the vertical at 1/4 throttle, open it up and initiate a roll, it ACCELERATES while rolling, up to the limit of my eyesight. I almost succumbed to the equivalent of 'rapture of the deep' the first time I did this, and by the time I pulled the power back and pushed it into level flight the wingspan looked about 1/4" at arm's length. I shut the power off and did a long re-entry glide back down to a reasonable altitude.

The top speed is less than I estimated (only about 100), but it is very obvious that the plane is out-flying the prop. When I get time for further tests, I will install my on-board data system to monitor system voltage, current, motor and battery temperature. I suspect the motor current will drop a lot at full speed due to the prop unload. I'm guessing I need more pitch and blade area, but tests will tell. I may have to carve a custom prop for it.

The birthing pains were significant as indicated by the long delay. I had major problems with nose-heaviness requiring an extended side trip to make a much lighter carbon spinner and back plate. The original 5.5" metal spinner with mounting hub weighed 15 ounces, while the carbon fiber unit weighs 3.5 oz.! I have made many carved plug/fiberglass molds, but this was the first attempt at a spinner. It is MUCH harder to do than I imagined. There were several tricks dreamed up to get the carbon cloth lay-up to release. Wax and PolyVinylAlcohol were not enough. But it was worth it. The spinner is scale shape and runs true.

There were also fits with the radio getting interference at partial throttle, cured by some repositioning of equipment and ferrite toroids on various radio leads. The

Castle 85HV controller is opto-isolated, but apparently there are enough generated fields to ride down the ESC and servo wiring and scramble the receiver.

After all the bugs were worked out of the plane, the weather decided to step in with rain, 30 mph and/or dead crosswinds, or 100% bright cloud cover, none conducive to the testing of a high-performance racer. I finally flew it last night after a short, unpredicted rain shower.

After the 5-minute test flight, which used 2.6Ahr of the 3.2Ahr 9s1p Kokam pack, the motor temp was 100F, Castle controller was 90F, but the Kokams were 130F. Not all that high, but I think a couple of built-in blower fans would be appropriate as the peak currents are about 70 amps.

I'll send out more information along with some pictures at a later date.

Take care,
Keith

If you think things always go right, even for a great modeler like Keith, here's a little of what didn't go quite right with the birthing of this plane. KM

Hi All,

Thought I'd relate a story for your enjoyment and horror. On Monday, I finally had all the parts to bench run the 'Astro Monster' prototype 90. I set it up on my portable Workmate in the driveway, carefully taped down the tach, Whattmeter, receiver and battery, 9s1p 3.2Ahr Kokam pack, and transmitter. The Castle 85amp HV controller was programmed, 16x13 pattern prop attached, and with a very good grip on the Work-mate, the throttle was slowly increased. At a couple of amps it was already pushing quite a bit of air, somewhere around 30 amps it took noticeable effort to restrain the bench from trying to fly. I watched with glee and amazement as the current climbed to 70 amps, 2200 watts, and 8600 rpm. My biceps were *really* straining, even with both hands it was a struggle. I let it run wide open for 1.5 ahr (a little over a minute), the rpm holding at 8300@67amp@2000 watts. WOW! I would estimate static thrust around 25-30 POUNDS or maybe more.

Upon shutdown, IR temp showed motor at 130F, ESC at 94F (it was 85F ambient that day), and the Kokam pack 120F, all amazing low for such power. I continued to check the temps, they did not increase, but gradually decreased. After everything was back to ambient, I ran it at 40 amps for .5ahr to check the partial throttle efficiency of the Castle controller. Temp of the controller was 98F, motor 100F, battery 95F. All these tests were with a Wattmeter in series and one adapter plug in line. Everything works great.

I installed the equipment in CzechMate, with renewed wonder on what it will do in this 62" 700 sq.in. Reno Racer. I carefully strapped it down in the front yard to do

some current/rpm tests with a clip-on ammeter, and to do motor off/on ground range tests.

Running it up with the recharged pack now showed 75 amps initially and 8700 rpm. Wow was it pulling, struggling to get to the starting line. The ground range with motor off was 60 paces, but unfortunately the motor on range was only about 20 paces, not good enough for test flying. Because of the heavier than expected final weight of the motor, compounded with the weight of the 5.5" metal spinner, the battery had to be mounted almost to the rear of the wing compartment, almost touching the receiver and radio wiring. I'm sure this is what is causing the problems. I had carved the plug and made the fiberglass mold for a scale, lightweight carbon spinner, but just ran out of time to perfect the carbon lay-up, ergo having to use the much heavier metal spinner. I moved the battery forward to see if this helped the range situation, which it did, figuring that I could add tail-weight or temporarily use a non-scale too small 4" plastic spinner I had.

Range was almost good enough for a test flight, I figured some additional wire re-routing would all that would be needed. I decided to run it up once more for fun just to listen to it.

However after about 10 seconds, something sounded just slightly different, so I shut it down. I carefully inspected the plane and wiggled everything, all looked well. I disassembled the plane and took it inside. Found the 4" spinner after a search of the nether regions known as my basement, and removed the metal spinner, prop and back plate to prepare for the 'nose job'. The square firewall is just slightly behind the lip of the cowl, and there is a foamboard bulkhead ring around it to support the curved cowl structure. This was all painted black for display at Toledo.

I noticed a faint light colored line at the boundary between the carbon-plywood laminated firewall and the foam board.

THE ENTIRE EPOXY JOINT TYING THE FIREWALL TO THE PLYWOOD/SPRUCE INTERNAL STRUCTURE HAD FAILED ! ! ! ! !

Only the RC56 glue holding the foamboard to the edge of the firewall was still intact! With horror I removed the motor and popped out the firewall with little effort.

I can see it now, everyone waiting for the demo at Mid-am, throttling up and watching the motor/prop/spinner ripping out of the front of the plane, or worse yet, bailing out in the air. Somehow I don't think Czechmate would be very flyable minus about 3 pounds of metal from the nose!

Needless to say, CzechMate will not be at Mid-am, it is back in the shop for some serious additional structural re-engineering.

This is an insane amount of power and thrust, and I have renewed respect for the Reno aircraft and their

owners, pilots, and mechanics. I'm sure they fight problems like this all the time when they are modifying the airframes to take 2-3 times the horsepower they ever had in military life.

As an example CzechMate placed 4th in the Gold Unlimited even though they had not been running it at full power. They are carefully solving bugs and modifying the aircraft to hopefully finally be able to use the 3000 horsepower available in the relatively tiny 30' span plane originally flown with a 570hp engine in military service.

We live and learn. Even me.

Keith

PS: Fortune cookie thought for the day: "The measure of time to reach your next goal is the measure of your discipline" Very appropriate.

The Mid-Am 2005 Report

By Ken Myers



We've Come a Long Way, Baby!
Epower now provides excellent performance!

As I write this, it has been a couple of months since the Mid-Am. That hardly seems possible. This is, as Larry Marshall called it, more of a party for 100 of our best friends. Keith and I relish this aspect of the meet very, very much. We must, as we've been doing it for 20 plus years. It is hard to believe that Keith will be sixty the next time the meet rolls around, and I will be sixty the month after. My goodness, where has the time gone?

I have to thank the handful of hard workers who've stuck by us all these years. These are the folks our guests see year after year, but I don't believe

realize that there are so very few of them. This meet is put on with a "shoestring" of some very dedicated volunteers from the Ann Arbor Falcons and EFO. Both clubs are small in numbers, and our dedicated cadre for the event even smaller! Keith and I really appreciate our volunteers' invaluable help!

Thanks also to the Midwest RC Society for so very generously allowing us to use this exceptional facility for all these many years. Keith and I certainly appreciate this accommodation. Thanks Midwest!

Each year we have some excellent vendors attend the meet, as well as some die-hard sponsors. We appreciate them, and hope that you'll remember them when you need to make that next purchase. Here they are for the entire world to know.



Part of Vendor Row, 2005

SR Batteries, Inc.
 Radio Controlled Models, Inc.
 Model Electronics Corp., Inc.
 JMGLascraft
 Vinyl Graphics by Greg
 Tower Hobbies
 AirAge Publishing (Model Airplane News)
 Windsor Propeller Company
 Boca Bearing Company
 RWDRRC
 Flying Models
 Radical RC
 Z-Planes
 Cambria Tool/Chris Balsler
 Classic Aero
 Astro Flight, Inc.
 Monsoon RC
 Mark Rittenger (plans)

Over the years, it has been our goal to keep this a pilots' meet, one where the pilots can fly and demonstrate your latest creation. We've seen a lot of changes in electrically powered RC aircraft since the mid-80's. Here is a listing of some of the outstanding planes and pilots of this year's meet.

Saturday's Awards

Best Sport Plane – Bob Livin's Antic
 Best Ducted Fan – Chris True's F-86 (prior to impact)
 Most Beautiful – Martin Irvine's PZL1/2

Best Scale – Jim Jager's Corsair
 All-up-Last-Down – Ken Bates
 CD's Choice – Bill Brown's Wright Flyer

Sunday's Awards

Best Multi-motor – Laddie Mikulasko's Blohm & Voss
 Tri-Motor
 Best Mini Electric – Ken Kaiser's VAL
 Best Scale – Mark Rittenger's B-26
 Most Beautiful – Jim Young's DH-88 Comet
 CD's Choice – Doug Hoyt's SAAB J-21A

The Charlie Spear Award

Charlie Spear was a very fine gentleman, who was an early electric columnist spreading the Electric word, along with his good friend and partner, Dr. John Mountjoy. When Charile passed away, Keith and I decided that we would honor the memory of this fine man with this award. Before the Mid-Am Keith and I discuss some possible nominees and decide who will receive this prestigious award. This year we selected Don Belfort. Don is a columnist for *Flying Models* and participates in the electric flight AMA Nationals. He has built some of the most unique electric planes over the years. His creativity and problem solving can be seen in each and every plane he builds and designs. He is an outstanding "E" modeler, and we consider him a great friend as well. Congratulations Don. We are proud to add your name and contributions to the plaque along with Ken Myers, Dr. John Mountjoy, Bob Kopski, Bob Boucher, Martin Irvine, Jim Ryan, Jim Bourke, Bob Aberle, Doug Ingraham and Dave Grife.



Jim Jager's Award Winning Corsair

One of the great traditions of this gathering is the Saturday night potluck, featuring steak sandwiches. The Hare's family, lead by Dave, seems to have been putting this on "forever", and we thank them for there efforts through all these years!

Following the potluck, the flying continues well into the night. This is when Ken and Keith get some time to

relax and Keith is usually asked to checkout someone's new creation.



Always fun to visit with old friends like Doug Ingraham with his geared AF25.

After sunset, there were several planes flying with various lighting means. Someone set up a monitor and showed videos of Saturday's activities, and then fireworks appeared over Mount Trashmore. When the fireworks were over, the star of the evening appeared. No, it was not a star in the sky, but Midwest RC Society president, Howard Kendall and his uniquely lighted 3-D glow helicopter. His demonstration of nighttime lighted 3-D flying has to be seen to be believed. As the helicopter goes through its routine, the various lights change colors. As in years past, everyone stands in awe and silence, watching intrigued that anyone can fly that well in total darkness. There is little sound from the folks watching, only slight breathing and an occasional gasp. When the flight ends, the clapping is thunderous, and cheers and whistles riotous. He is a master showman, and we really appreciate his taking the time to share his skill and joy of the hobby with us.

To all of you pilots who came, and have come over all these years, Keith and I say thank you for sharing with us. Thanks for sharing your creations, enthusiasm and you. It is wonderful to know that we modelers are the greatest group of folks on this planet, and those that come to our "quiet little party", the absolute best of all. Thank you, one and all!



Tom and Jim enjoy the fine weather early in the day.



Some of Dave Grife's fine scale models. How'd that OLD Ken Myers TigerShark sport plane get into this photo?

For an excellent write-up, more photos and video of this "E"vent, visit Jim Bourke's Ezone Magazine, for the article by Jim Young and Chris True, <http://www.rcgroups.com/links/index.php?id=4838>



Some of Mark Rittenger's great flying sport scale planes.



Al Mrock's S-39 with scale biplane in back. Is there a theme here?

Upcoming E-vents 2005

October 7, 8 & 9 3rd Annual Best Electrics in South Texas, hosted by Tri-Country Barnstormers & New Creations RC, New Waverly, Texas, info at www.tri-countybarnstormers.com or email Scott Mrosko at smrosko@cox-internet.com

October 7, 8 & 9 NIRAC 3rd Annual Indoor RC Champs, Oakland Yard, Waterford, MI, Dave Robelon (434) 392-3451

November 5-6 JR Indoor Electric Festival, Columbus, OH visit Web site for details: www.jriefestival.com

November 12 & 13, The Las Vegas Soaring Club SuperFly IV, Located at Bennett Field in Las Vegas, Nevada, Information will be updated at the date approaches on our website at www.lasvegassoaring.org

A Note From Boca Bearing Company

The Boca Bearing Company has been an industry leader and innovator in the Radio Control Hobby industry for over 15 years. We have stayed ahead of the competition by

developing and introducing new technologies to the market at an unparalleled pace. As hobby enthusiasts the world over strive for better performance and more speed, Boca Bearings will continue to make the best bearings available at the best prices.

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Please visit our new website www.bocabearings.com for more information. The website has a user-friendly search facility, for Manufacturer & Model which will allow you to know which bearings are used. In case the kit / bearings are not listed, we can suggest suitable bearings if you let us know the dimensions of the bearings. If you are the FIRST to provide us with accurate information you will be eligible for reward.

Thanks,

Sunil Waikar - sunil@bocabearings.com

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The Ampeer/Ken Myers

5256 Wildcat

Crosswell, MI 48422

<http://members.aol.com/kmyersefo>

The Next Flying Meeting:

Date: Saturday, October 1 **Time:** 10:00 a.m.

Place: Midwest RC Society 5 Mi Rd. Flying Field