

Ampeer

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The Next Meeting:
Date: Thursday, October 2 Time: 7:30
Room 1, Dublin Elementary just north of the Dublin Community Center, on Union Lake Rd. north of the village of Union Lake

On Prop Loading
by Ken Myers

The following started with an answer I wrote to Ron Fikes on how to use prop loading to determine the diameter of a prop for a sport or sport-scale plane. I've mentioned it here before, but this, hopefully makes it clearer.

These prop loading formulas work for sport and sport-scale models. Several years ago I read an article on prop loading. It was an article on choosing the right props for glow airplanes. The author stated that props that were loaded 150 oz./sq.ft to 100 oz./sq.ft. were the norm. After doing a lot of head scratching, the following formulas will give you what you need. They have been explained in several Ampeers, but just using the formulas will put you right in the ball park. I like to fly at the lighter loading of about 100 oz./sq.ft. I set my absolute "if you have to use this diameter" at the 150 oz./sq.ft of prop loading. Actually, I almost always have to compromise.

Using my TigerShark for an example. I set a weight limit of 56 oz., based on my

original wing area of 450 sq.in. - 3.125 sq.ft. (which has since changed to the actual 482 sq.in. or 3.347 sq.ft.). I chose 18 oz./sq.ft. as my target wing loading, then $18 \times 3.125 = 56.25$ ounces. To figure the prop at 100 oz./sq.ft. use the following formula:
plane weight in ounces times 1.44 divided by Pi. Next, find the square root of that answer, then multiply that square root by 2 to give the diameter. That may sound complicated, but if you have a calculator it is simple. I'll write out the TigerShark at 56 oz. for you so that you can just punch in the key I designate. You should get the same answers.

- 56 times key
- 1.44 equals key
- 80.64 shown on display
- divide key
- Pi key
- equals key
- 25.668509 shown on display
- square root key
- 5.0664099 shown on display
- times key
- 2 key
- equals key
- 10.13282 shown on the display

What's in this issue?

Finding Proper Prop Loadings - "PuddleMaster":Twin Variants - Plane Ratings: Jager - HTW - Not Canard Info - E-flight in the UK - On using AE cells - Supplier: Cavazos Sailplane Design - A Thanks - The 1997 Mid-Am

This is the diameter in inches.

Some judgement is required to determine where a 9" diameter leaves off and 10" starts, but I'd say anything from 9.5 - 10.49 would be 10 inches. Also common sense dictates that you may want to use a 9" prop for some reason, like a clean high speed aircraft.

To get the heavier prop loading, the only thing in the formula that changes is the constant 1.44, which now becomes 0.96. The smallest prop I'd even consider for this plane is:

56 times key

0.96 equals key

53.76 shown on display - divide key, then Pi key, then equals key

17.112339 shown on display - square root key

4.1367064 shown on display, then times key, then 2 key, then equal key

8.2734127 This is the diameter in inches.

As you can see the plane would be over 150 oz./sq.in. of prop loading with an 8" prop. The real choices are 10" (my preferred) and 9".

The required speed is 3 to 3.5 times the stall speed. The stall speed is equal to (square root of the wing loading) * 3.7. For the set up I was using 18 oz./sq.ft. The square root of 18 = 4.2426407 * 3.7 = 15.6977771 or about 16 mph. 16 x 3 = 48 mph and 16 x 3.5 = 56 mph. Hitting the average of 52 mph using a 6 pitch requires: 52 divided by 6 = 8.6666667 * 1000 = 8,666 RPM or a 7 pitch prop would be 52 divided by 7 = 7.42857114 * 1000 = 7,429 RPM

I now know a lot to help to select the power system for the 56 oz. Tigershark. I want a power system that will turn a 10x6 at about 8,700 RPM or a 10x7 at about 7,500 RPM. I prefer "power" over speed, so the 10x6 is what I chose and then matched a system to it.

Next I determined the prop watts, or power out, using the formula

Watts = Diameter in ft.⁴ x pitch in ft. x RPM in thousands³ x 1.31
 $(10/12)^4 \times (6/12) \times 8.7^3 \times 1.31 = 208$ watts

Knowing that I want to fly for about 8 minutes with 1700SCRC cells which have a capacity of 102 amp minutes, means that I divide 102 by 4 (half the "motor run time") = 25.5 amps. The amps required to run the motor or motor and gear drive must be subtracted from the system amps. This is often called the I_o amps. In programs like ElectroCalc, the motor I_o is taken into consideration, but not when the gear box is added. I've found that a gear box adds up to 1 amp to the I_o and a belt drive about 1.5 amps. Many of the common motors we'd use in these type of planes have an I_o amps of 2 to 3 amps. For estimating I use 2.5 amps + an amp for the gearbox equals 3.5 amps. 25.5 - 3.5 = 22 amps. 208 watts / 22 amps = 9.45 volts. Since a

ni-cad at this current delivers about one volt per cell, 10 cells ought to do it. If 10 cells are used, the nominal pack voltage is 12.5 volts. The battery, itself eats up the largest percentage of this voltage. A 1700SCRC cell has a resistance of about 0.0055 ohms, therefore a 10 cell pack at 25.5 amps would lose 10 x 0.0055 x 25.5 = 1.4025 volts while the rest of the system (wire, connectors, controller etc.) might have a resistance of about 0.015 ohms for a loss of 0.015 x 25.5 = 0.375 ohms for a total loss of 1.4025 + 0.375 = 1.7775 volts. Volts supplied to the motor would be about 12.5 - 1.7775 or 10.7225 volts. It doesn't matter what motor, if the load on the system is 25.5 amps, that's the approximate voltage at the motor terminals for ten ni-cad cells and the other components.

To determine a motor and motor/gearbox combination, you must have the specs on the motor. You will need its RPM/v, R_m, and I_o. You can get this info from some manufacturers' data sheets and from the EFO web site for many of the popular motors. You can also determine these values, but that's another article.

I'll run through 3 examples here since the data is easily obtainable.

The Astro Flight 035

RPM/v = 2765 R_m = 0.04 I_o = 2.5

motor RPM = RPM/v x (Volts in - (amps x R_m))
 $(2765 \times (10.7225 - (25.5 \times 0.04))) = 26,827.413$ motor RPM
 The motor RPM divided by the required RPM (8700) = 3.0836106.

The Astro Flight 05

RPM/v = 2121 R_m = 0.045 I_o = 2.5

$(2121 \times (10.7225 - (25.5 \times 0.045))) = 20,346.875$ motor RPM

20,346.875 / 8700 = 2.3387213. That's close to the AF standard drive for this motor of 2.38:1

The Graupner Speed 500 7.2v Race #1789

RPM/v = 2850 R_m = 0.075 I_o = 2.0

$(2850 \times (10.7225 - (25.5 \times 0.075))) = 25,108.5$ motor RPM
 25,108.5 / 8700 = 2.8860345

For a gear drive on the AF035 and the Graupner #1789 the Master Airscrew 3.0:1 could be used. The actual ratio of this gearbox is 2.933.

It sounds like any motor will work. Well... In a way yes, but it must meet some criteria. The maximum motor RPM must not be exceeded. This a tough figure to get from the manufacturers. The maximum amp draw must not be exceeded and the total power system weight should not

exceed half the total plane weight. You must be able to find a gear drive with the appropriate ratio. The Astro Flight 25 would not work because it is too heavy and with 10 cells and the 10x6 prop only reaches about 8100 RPM. The Astro Flight 15 would not work because it would need a gear ratio of 1.53:1, which is not available, but it would meet the weight criteria. Not just any motor would work in this application, but several can be found that can.

As you have read here earlier, I chose to go with the AF05G because I did not have the Master Airscrew 3.0:1 drive. Now that I have it the other systems will be tried.

Getting the Ampeer

Many folks are unclear as to how to get the Ampeer and what its cost is.

The Ampeer is available on the WEB for free. See the Ampeer Newsletter page on the EFO site at <http://members.aol.com/KMyersEFO/>

There are a full year of downloads available on the site. You will need the Free Adobe Acrobat reader to read them. The most recent Ampeers are also available in HTML format and can just be read with your browser.

Sorry, I don't take credit cards. I'm just a fifth grade teacher who enjoys helping folks with electric R/C flying. The cost for the paper edition just covers the postage and printing costs. If you really need the paper issue, you can subscribe by sending me a check for \$10.00 to :

Ken Myers

1911 Bradshaw Ct.

Walled Lake, MI 48390

If you'd like to call for any reason it is (248) 669-8124. I'm usually up to 11 P.M. eastern time.

Sincerely,
Ken

"PuddleMaster" - Twin Variants

David Summers

Toronto RC Flying Club, Canada

Email David at: ironsidz@netcom.ca

To: WadeMeyer@aol.com

The following is a copy of an e-mail sent to Wade Meyer from David Summers, and it shows how effective e-mail can be in getting info in a timely manner. David was nice enough to CC to me so that I can share with you all. km

Wade:

I picked up your question on how to find plans for a twin version of the PuddleMaster from Ken's July edition of "The Ampeer". The PuddleMaster was my introduction to flying off water. It is a superb design.

I have good news and bad news. Good, in that I have an inkling of an idea of where to find the plans for twin variants of the PuddleMaster, and bad news in that I do not know the exact details.

I keep remnants of old articles in a three-ring binder. Hence, I can tell you that in the September 1994 edition of "flying models" (published by Carstens Publications) there appeared an article entitled "Ripple Skipper I and II" by Paul Hook pages 21 to 26 inclusive. The difference between the two planes is that the first sports twin Kyosho AP-29 motors while the second has Astro Cobalt 035 FAI power plants.

My plans of the PuddleMaster indicate that it was designed by Scott Hartman with a copyright to ACE/RC. Only a mother could tell the difference between the Hartman's PuddleMaster and Hook's Ripple Skipper twins.

Now the bad news. Since I only keep some pages out of any one issue, all I can tell you is that full size plans for both Ripple Skippers are available through Carstens Flying Plans - Plan CF 942. The problem is that I have no idea where to find either Flying Models magazine or Carstens Flying Plans.

I hope this will provide some information that will eventually lead to a solution.

Happy Flying Off Water!

Plane Ratings from Jim Jager

Email to: jimjager@juno.com

Ken,

I am finally getting around to writing my input to the plane ratings. All of the planes listed below used a Futaba Attack-E radio system (receiver with built in BEC speed control). I bought my first one shortly after they were introduced about 10 to 12 years ago and I still have that radio as well as 2 others. I have never had any problems with any of them, and I believe that they are one of the best values in electric powered aircraft. They have shortcomings, (low frame rate, lack of brake) but the low price for such a light-weight, compact system makes it ideal for beginnings in electric.

Enough said, here are my ratings;

***** Sig Riser 2 meter glider with Futaba Attack-E, 550 "can" motor from Futaba "Professor" with Master Airscrew 2.5:1 gearbox, 9x6 folding prop, 6 cell Sanyo 1700SCRC, 44 oz. I bought this plane equipped with an .049 and all ready assembled at a swap meet for \$40. The conversion to electric was easy, just saw the nose off and install a new firewall drilled for electric motor. The fuselage sides came with a thin ply doubler, making an ideal battery compartment, but why I rate this as my best was because this plane wants to fly, and it uses very little power do so.

The above mentioned power setup gave 15 minutes of continuous full power, longer time when throttled back, plus the ability to soar in even the slightest thermals. Needless to say, it was not a rocket in climbing ability, but hang time counts highly in my book. The wing is strong enough to withstand a straight down dive with out fluttering, and with power off, speed builds up very quickly in such dives. I've seen other powered gliders that would not withstand the dives, pullouts, and other maneuvers that I continuously put this craft through. I set it up as a trainer, but I had a lot of fun with it myself. On late summer evenings, when all winds had died, it became difficult to land because the glide was so flat. In summary, this plane is sleek, light, strong, graceful, and a joy to fly for beginners and relaxing for pros.

**** Sig Wonder with Cermark cobalt 05 (7T), 8x4.5 Graupner folder, 6 cell Sanyo 1700SCRC, Futaba Attack-E, 38 oz. This setup gives 5.5 to 6 minutes of 'You better keep your eye on it' performance. This plane also glides very nicely, flat and stable, but is not very maneuverable at slow speeds. Mine is now entering its 4th season of flying, I believe that I was the first to fly an electric version of this kit. I wanted to give a 5* rating, but since only one is allowed, I demoted this only because it has some tricky characteristics when the airspeed gets low, mainly due to the elevator which loses effectiveness at high angle of attack. Other than that, it is fun and compact enough to throw into the trunk or back seat of even the smallest cars, and rugged. I have thrice flown it into tall grass at high speed and once landed it in a tree, where I used the throttle to work it free land in the weeds, all with no damage. This plane climbs really good, goes fast, and really keeps the heart pumping.

**** Goldberg Electra, Kyosho 240E BB motor, 2.5:1 gearbox, Graupner 10x6 folder, 6 cell Panasonic 1700 SCR, Futaba Attack-E radio, 46 oz. This craft is similar in design to Sig Riser, and probably would have near identical performance with the same power setups, but I rated this one lower because the wing was not nearly as sturdy as the Riser's, and in fact I managed to buckle it where the center sheeting doubler ends. Otherwise, this setup gave good performance, excellent climb, was able to maintain inverted flight, and could maintain full power for 6.5 to 8 minutes.

*** Ace PuddleMaster, Astro 035 cobalt. 7x4 APC prop, 6 cell Sanyo 1700SCRC, Futaba Attack-E, 42 oz. This plane flies beautifully off of and onto the water, but it suffers from what I will call "poor lift to drag ratio" (see my "FlyBaby" rating below). The setup mentioned gives 6 to 7 minutes of full power, and full power is where you should be

most of the time. Reduce power and it will slow down rather quickly. The high drag also accounts for lack of acrobatic ability despite good power and light wing loading, for if it can't get the speed up (except in dives) then it can't do much in the way of acrobatics.

** Midwest E-Hots, Astro 035 cobalt, 7x5 APC prop, 6 cell Sanyo 1700SCRC, Futaba Attack-E (full house), 39 oz. Pulling 25 amps with the 7x6 resulted in unacceptably short (for me) flight times, 3.5 to 4 minutes. Although it gave exciting performance, this is another plane that needs a lot of power to maintain flight. I believe that in this case the airfoil is to blame, it is thin and certainly not a high lift profile. After the success of my Sig Wonder, I thought that I could do better using a similar sized airplane with a more conventional layout (this one has a conventional tail). Apparently that thick symmetrical airfoil on the Wonder is quite a good lifting device. I should have taken the hint a couple of years ago at the Mid Am Electric Fly in Saline when I witnessed a Cobalt powered, 7 cell E-Hots take to the air for a high performance 2.5 minute flight.

_ (0 stars) Davey Systems FlyBaby, Kyosho AP29R, Master Airscrew 2.5:1 gearbox. M.A 8x4 prop, 6 cell 1400 SCE (7 oz. battery pack), Futaba Attack-E (no rudder), 26 oz. The above mentioned power setup pulled about 10.5 amps so with 6 cells we are looking at about 70 watts in an aircraft slightly over 1.5 lbs; not to bad, right? Wrong, those formulas just don't cover some things, like "lift to drag ratio". I bought this plane assembled (minus above mentioned power train) at a swap meet. The previous owner had installed Davey Systems 075 with 7 cell pack, full house radio, but that resulted in high wing loading (275 sq. in advertised, 40+ oz.) so I chose a different route, using components I had laying around to get the weight down to a respectable 26 oz., but as I mentioned, there is more to the story. First flight take off from baseball diamond was good, climb out fair, but that's it; speed did not pick up noticeably after leveling off, but it looked kind a cute just floating along at near scale speed, just can't get enough speed to do anything but go in circles, so I reduce (not chop) power to set up for landing and right now it starts falling from the sky (boom). In retrospect, I deduce that the cup shaped nose is to blame. This plane had nothing going for it; not much wing and a whole lot of drag is not a good formula for electric powered aircraft. With gas powered ones it is simpler just to add more power, but with electric, more power adds much more weight, so we must make our airframes light and clean in order to obtain good performance, or spend big bucks to buy big motors and big battery packs and big chargers and separate car batteries to run our chargers. I prefer to keep it

simple, when I fly electric I do not bring a field box of any sort, just my plane, transmitter, and a couple of battery packs in my back pockets

Well, that's it, I welcome feedback on my ratings.

Jim Jager (jimjager@juno.com)

One for the Plane Ratings

Dereck Woodward

Email to: weekendpilot@juno.com

Model "Pandora" - A Design by Dereck Woodward.

Type: HTW (High Wing Thing:-)

Span: 48"

Area: 400 square inches.

Weight: 56 oz.

Wing loading: 20 oz / square foot

Power and stuff: AF05G, 2.38:1 ratio. Ten 1700 cells and a Master Airscrew "S" series 10 x 7, 28A max draw. Three FMA Direct S200 mini servos Astro 210 ESC, JR RX and FMA Direct 270 nicad.

Structure is trailing edge of technology balsa and spruce, parallel chord wing with NACA 23012 section. Uses a "Klett" composite commercial LG, ailerons are top hinged with homemade torque rods, otherwise it is all "off the shelf".

Model is a basic aerobatic high wing, about as good looking as a "Stik". It will take off in around twenty feet, roll inverted to a 30 degree inverted climb. Aerobatics include Cuban Eight, four point roll, vertical roll, Avalanche loops and the usual stuff.

Duration is around 6 minutes, I have an aversion to straight and level. A fast building airframe that could use less (eight cells) or more power (12 cells / AF15G, MEC WEP, etc.). Hard to spin, will slow for landing. A good intermediate design that can perform but is not frightening to fly. My first sports model that approaches the aerobatic standards I designed gas models to. If there's positive reaction to this one, I might well publish her, but right now, my drawings are pretty basic.

A definite four star flier, but mostly because I'm upgrading my Lazy Bee to five stars!

Not Canard Info but ...

from Keith McConnelly

Email to: FLYBOY@prodigy.net (FLYBOY)

In the July issue of the Ampeer, Filippo asked about info on Canards and Flying Wings. Keith responded to Filippo with the following:

Filippo,

I don't have any information on canards, but I have come across some construction articles and a book on flying wings. The May 1994 Radio Control Modeler (RCM) has plans for the for the El Condor. The El Condor is an 80 inch span, 985 square inch flying wing, electric powered sailplane. It uses an 05 electric motor and 6 1200 mA cells. Controls are rudder, elevator, and throttle. It looks like a fun model. The plans for El Condor (plan number 1168) are available from RCM, P.O. Box 487, Sierra Madre, CA 91025 USA. In 1994, the price was \$8.75.

Traplet Publications used to have (it may still be there) the construction article for the MAX, an E400 Sport or Competition Flying Wing Electric Soarer. It has a 60 inch wing span and weighs about 23 ounces. It has a speed 400 6 or 7 volt direct drive, or a 6V Speed 400 and a 4:1 gearbox. Price a year ago was \$6.50. Plan Number WR8 0JL. You can reach Traplet Publications at 144 W. Sierra Madre Blvd., Sierra Madre, CA 91024-2435, USA. Phone is 818 836-6931. I haven't built either of these yet, but I think that Max will be my first flying wing.

If you are looking for more theoretical information on flying wings, you should read Tailless Tale by Dr. Ing. Ferdinando Gale. The Book is available from B² (B Squared) Streamlines, P.O. Box 9976, Olalla, WA 98359-0976. Two years ago, Tailless Tale was \$35.00. It doesn't explicitly cover electric powered, but it has many plans for gliders, wet power, and rubber power models, as well as full sized airplanes. It has excellent information on how to design a flying wing.

Our own EFO club member, Jack Lemon also came up with the following information:

In Silent Flight, Nexus Special Interest, Nexus House, Boundary Way, Hemel, Hempstead, Herts, UK HP2 7ST, 01 442 66551 Vol. 5, Issue 2, 1997 there is a plan for the Cicogna. It is a 62" span flying wing, of Italian design. It uses a direct drive Speed 400. Jack told me the full-size plans are in the magazine.

Some Electric Flight in the UK

from Steven Goff

Email to: goff@power1.powernet.co.uk

Greetings from the Uk!

I have just finished reading the July issue of your newsletter and thought how good it was, I ended up downloading all of the back issues!

I just thought I'd drop you a line (maybe make the newsletter ;) to let you know about E-Flight over here in England. At the model club where I fly, I am the only E-flyer I know of, and I was quite jealous to see how you organize such spectacular events over in America.

I currently own 3 models, a Precedent Electra-fly, a Galaxy models Aerojet (540/05 size) and a little geared 400 trainer. I think it is a pity there is not larger scope for this size (400) motor, as it is such a in-expensive little power plant. I see in your newsletter that many people fly big powerful motors with 15-20 cells, but I am a firm believer that small, light models fly well. Plus you usually get a longer flight time, as they are not sucking so many amps.

Also soon to be released is my new range of speed controllers. MOSFET controlled, will handle 50 amps and up to 30 volts. We are still perfecting the prototype, the end result will be surface mount components and weight under 25g.

Anyway, good job with the newsletter and I shall be downloading a copy each month!

On Using Sanyo AE Cells

by Ken Myers

Chris Boultinghouse of CAB Designs <http://www.netads.com/com/cabdesigns/> posted a question to the eflight-list (eflight-list@ezonemag.com) about Sanyo KR-1400AE and how much current these cells could tolerate. He was wondering about using a 20 Amps draw for a twin Speed 400 in parallel. That sent me to my Sanyo data sheet to figure out the following. The following assumptions are being made:

- 1.) A 7 cell pack would be used at 20 amps
- 2.) That nominal cell voltage is 1.25 volts
- 3.) That the plane he had in mind would fly well with the output of a 7 cell pack at 20 amps.

First we'll look at the data for the 1400AE cell:
cell resistance: 0.010 ohms, weight 31g/cell, pack cell weight = 217g

pack nominal voltage = 8.75V

voltage drop from cell resistance = 1.4V

(0.010 ohms * 7 cells * 20 amps)

pack out voltage = 7.35V

(8.75V - 1.4V)

watts lost to internal resistance = 28W

(1.4V * 20amps)

typical cell capacity = 1450mAh or 87 amp minutes

expected motor run time 87 / 20 = 4.35 minutes

Next the 1200AE cell: cell resistance = 0.0076 ohms,
weight = 30g/cell, pack cell weight = 210g

pack nominal voltage = 8.75V

voltage drop from cell resistance = 1.064V

(0.0076 ohms * 7 cells * 20 amps)

pack out voltage = 7.686V

(8.75V - 1.064V)

watts lost to internal resistance = 21.28W

(1.064V * 20 amps)

typical cell capacity = 1300mAh or 78 amp minutes

expected motor run time 78 / 20 = 3.9 minutes

The above were figured for a parallel system. The last example uses a series system. Therefore the amp draw will be 10 amps and the pack out voltage must be divided by 2 to compare to a parallel series.

The pack changes to a 13 cell pack: Sanyo 500AR: cell resistance = .009 ohms, weight = 19g/cell, pack cell weight = 247g

pack nominal voltage = 16.25V

voltage drop from cell resistance = 1.17V

(0.009 ohms * 13 cells * 10 amps)

pack out voltage = 15.08V / 2 to compare to parallel = 7.54V

((16.25V - 1.17V) / 2)

watts lost to internal resistance = 11.7W

(1.17V * 10 amps)

typical cell capacity = 550mAh or 33 amp minutes

expected motor run time 33 / 10 = 3.3 minutes

It looks like the AE's win, but... Through my personal experience, there is a problem. I actually get as long or longer flight times with AR's! Why? Technically, I'm not sure, but AE's seem to run down in a "straight line" and not "knee over", while the AR's "knee over". That means that on Speed 400 planes, I usually land before the BEC kicks in when flying with AE's, or just get really high and wait for the BEC to kick in. Neither is really fun, and for me, the plane has "stopped flying" when it stops being fun. Therefore, I say the AR's "fly" my plane as long or longer. Another advantage is that the AR's charge faster without getting as hot, which obviously means it's not hurting the cell as much. There is also one other advantage to the series AR setup. The whole system efficiency goes up because of only a 10 amp draw. True, the motor efficiency should be about the same, but there should be less losses through the ESC, wire, etc.

I just like the idea of more volts, less amps, same power. What do you think?

New Electric Flight Supplier: Cavazos Sailplane Design

Robert Cavazos

Email to: RCAV@aol.com or visit his web site at:

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

12901 Foreman Ave., Moreno Valley Ca. 92553

(909) 485-0674

I am not sure if you have seen my web site <http://members.aol.com/rcav> I have just started to manufacture my own line of kits. The first kit to be introduced officially is the S400 Switchblade. It was

Latest Version of the Switchblade



originally designed to be a very fast plane with the intention of using a larger receiver or a larger ESC. Plus the instructions and detail to the kit was to improve the flight ability of the flier. CSD has a S400RACE plane that is all composite wing and fuse also. This Race plane must utilize the smallest of all radio components to fully maximize it's potential.

Getting into R/C Electrics

from Mark Wolf, Danville, IN
mwolf@trader.com

Dear Mr. Myers,

I owe you a very big THANK YOU. About 12 years ago my father came home with a used R/C glider. It was just about the coolest thing my (then) nine year old eyes had ever seen. I used to love watching him fly it. When he became more confident he taught me to fly, and soon I had a smaller glider of my own. We originally became interested in e-flight primarily due to lack of space required to stretch our hi-start. My dad built himself an Electra and helped me build a Mirage. R/C was something we could share and we always did it together. After 2 bad crashes (one due to radio failure, the other to pilot error) Dad quit flying. I made a 5 or 6 flights with my new Mirage, but without Dad it just wasn't the same. I quit as well.

Fast forward to about 4 months ago.....

I stumbled on to your web page one day while surfing the 'net. WOW! I couldn't believe how much electric planes had evolved. I looked across the room and there was my old mirage, sitting on a shelf in my closet. Hmm, I wonder if it will still fly? YES, it did still fly! I'm now more into R/C than I've ever been. That old mirage is still my primary plane, but my new Ryan P-38 should fly by this weekend and I've got 4 more new kits waiting to be built.

If the story ended there I would still owe you a great debt, but it doesn't. My dad saw how much fun I was having and he is now flying again too! It all started with a glance at

your web page, thanks...

The 1997 Mid-America Electric Flies Northville Twp., Michigan - July 12 & 13



Spectators and contestants sought shade under the Midwest R/C Society shelter from the two days of sun and no wind perfect flying weather!

1997 will be the **THE YEAR** to remember for the *Mid-America Electric Flies*. The weather was great two days in a row. That is almost a first in itself! That's not to say that it wasn't a tad warm - but hey, this is Michigan in July!

AirAge Publishing (Model Airplane News), Airtronics Inc. (a radio!), Aerospace Composite Products, AVEOX Inc., B&T R/C Products Inc., Dremel, Futaba Corporation of America (a radio!), Kress Jets, Inc., Master AirScrew: Windsor Propeller Co., MaxCim Motors, Inc., Tim McDonough, ModelAir-Tech, Model Electronics Corporation, New Creation's R/C, Radio Controlled Models, Inc., Rocket City Specialties, Sig Manufacturing Co., Inc., Bob Smith Industries, SR Batteries, Inc., Tower Hobbies, Unbeaten Path Imports, U.S.R.&D. Inc./AeroComp, and the estate of Gus Wiklund all contributed gifts to allow many contestants to take home a tangible remembrance of the event.

On Saturday, the EFO members put in an outstanding day of work, with the Ann Arbor Falcons picking up the slack, so that everything went smoothly! Debbie and Jim McNeely did their superb job at registration! I guess all of these years of "practice" have paid off! Jeff Hauser came up with and followed through on a great parking plan. Chris Myers, Michele Hauser and Richard Yeager kept the dogs and sodas coming, and they did a great job all day long. John Geyer, along with Dick Hearn, Donald Skiff and Mike Holroyde did an excellent job with the parking. Gus Nuerenberg, Doug Kursinsky and Jack Lemon were seen manning the transmitter impound. Bob Clapp, Norm Dmuchowski, and Richard Utkan were on hand and filled in



Debbie and Jim (at the far left) handled registration, while Chris and Michele take care of business at the food booth.

where needed. Many of the members pulled double duty by “running” for needed items and relieving others when necessary and just plain pitching in, like John Geyer. He was everywhere doing everything, even looking for downed aircraft in the hot sun in the nasty “no man’s land”! There is no way that I can even begin to express my thanks to these hard working EFOers and the Falcons, especially Warren Plohr, who set up and ran the impound both days! Thanks folks! Thanks!



Behind participant Jim Young, the transmitter impound is being manned by Gus. Thanks to all who took time to help here!

On Sunday, the Ann Arbor Falcons took over many of the main rolls, while the EFOers pitched in where they could. Chris and Michele once again did a lot of the “dogging” while Jeff also helped in this area. With the Falcons down on membership because of the loss of their field, there was quite a bit of pitching in, and once again, thanks go to all of those pulling “double duty”.

The real success of the weekend was the participants. As

usual, they came from all over the US and Canada. Texas, North Carolina, Wisconsin, Illinois, Indiana, Ohio, New York, New Jersey, Iowa, South Dakota, Minnesota and Ontario all had license plates in the parking area. There were many folks returning for their umpteenth Mid-Am, and plenty of “new blood”. For me, this is the best part of the whole meet, seeing, talking, sharing and being with old friends and making new ones.



A typical sampling of aircraft found in all the shaded areas.

Keith got a “recharge” from all of the fantastic aircraft that showed up and flew so well. After all his years of “hard work” promoting electric flight, he was wondering if it was ever going to “pay off”. Well, he was paid off big time. The diversity of aircraft was extreme! Big, small, biplane, multi-motor, ducted fan, glider, scale, sport, flying wings and you name it, it was there! He was filled with satisfaction to see so very many good to great pilots with very, very successful electric aircraft. He smiles again!

Being CD and assistant CD doesn’t allow me to participate as much as I’d like. There is always something going on, like the man who passed out and having to call EMS. (As far as I know he’s fine, and was back purchasing items from New Creations by the end of the day!) With jobs to be filled and rotated there are all sorts of details that keep me from seeing it all, but my impression is that it went well and a good time was had by all.

The Saturday night pot-luck picnic went well, once we got it going! Sorry about that. For a while I thought that there was an earthquake about to take place, but it was just the rumbling of hungry stomachs. This is a fun time to relax, talk and share our lives and our hobby. I love it! Next year, we will get the “cooking” going much sooner - promise!

Several folks showed up on Friday and did some flying. Doug Ingraham and Ralph Weaver just didn’t want to stop at sunset and kept on flying into the moonlit sky. Ralph used LED lights on his Bleriot, while Doug used glow sticks

on his Timothy. Not only did they do this on Friday evening, we all had so much fun then that they repeated it on Saturday! I'd not be surprised to learn of some UFO sitings being reported on both of those evenings by the local residents.

There were many outstanding aircraft present. Some of these aircraft and their owners received awards.

Saturday's Awards:

Best Sport Model: Carl Small's Red Flash

Best Multi-motor: Laddie Mikulasko's Potez-Camps

Best Scale: Mike Stewart's Big Taylorcraft

Most Beautiful: Lynn Carpenter's PT-19

CD's Choice: Dick Flemming's B-17

Longest Timed Flight: Les Garber

All Up/Last Down: John McCullough

Sunday's Awards:

Best Biplane: Lynn Carpenter's Gypsy Moth

Best Mini-Electric: Les Garber's Bleriot (scratch)

Most Beautiful: Jim Young's Skybolt

Best Scale: Martin Irvine's Newport XII

CD's Choice: Laddie Mikulasko's Autoplane (??)

Longest Timed Flight: Bill Snow

All Up/Last Down: John McCullough

I wish I had photos of all of these fine aircraft, but it just didn't happen this year, but next year

Keith Shaw had quite a surprise. Doug Ward, president of the National Electric Aircraft Council, presented Keith with a beautiful plaque from NEAC, and all electric fliers. It was presented to Keith as a Lifetime High Achievement Award. Very well deserved! Keep us flying Keith, and thanks again, from ALL OF US, to you. We wouldn't be where we are today without your hard work at the promotion of electric flight and the inspiration of your fantastic designs.

This year's **Charlie Spear Memorial Award** for efforts in advancing Electric-Powered Flight was given to Bob Kopski. All of you know that Bob writes for Model Aviation, month after month, year after year, and has contributed a great deal to the advancement of this hobby. It was with a great deal of pleasure that the EFO and Falcons presented this honor to a well deserved Bob Kopski. Thanks Bob! (*I told you this was the year to come! Hopefully, someday! km*)

One of the highlights, and there were many, was when Keith Shaw demonstrated many of his fine aircraft. People drive hundreds of miles just to see him fly these magnificent planes with his masterful flying ability. This year he was joined by Dave Grife, one of the master's former "students", who can now stake his own claim to fame with his fine fleet of electrically powered aircraft and excellent flying ability. Besides the "regular" spectacular flying demos of their

planes, on Sunday we were treated to formation flying of Dave's Hurricane with Keith's Spitfire. What a sight! Thanks guys, you are an inspiration to us all.

Keith and I would like to thank all of our club members who helped to make this meet the best ever Mid-Am. We'd also like to thank the 66 pilots who registered on Saturday and 63 who registered on Sunday, for a total of 75 pilots! We want to tell you how much we appreciate your sharing your over 280 aircraft with us! To all of you, thanks!

The **Midwest R/C Society**, whose 5 Mile Road field was used for the meet, must be congratulated for allowing the EFO and Falcons to use this field. It is not every AMA club that is willing to give up most of two days of flying to have other clubs come in and use their field. There is no way we can thank them enough for their unselfishness and willingness to help fellow clubs. If you attended the meet, you could thank them personally with a note sent to Howard Kendall (MRCS president), 21950 Currie, Northville, MI 48167.

As I write this, it has been four days since the meet "officially" ended, and all four days have been filled with finishing up, putting away, and taking care of the end of meet items. A meet like this is always a big job, but when I get to "chat" with friends from far and wide, relax and marvel at your creations, all of the effort seems worth it. Thanks to all of you who came and all of you who worked. It just doesn't get any better than this! Doug, exactly where is that land we can get cheap in South Dakota so that we can all come and spend our summers there flying together? Our "own" retreat - wouldn't it be great? Ahhh...

On with Mid-America 1998! Hope to see you there!

One last item. I must thank Chris. She works very hard at the meet and misses much of the action, which she enjoys very much. For the week leading up to the meet, she puts up with a nervous nelly who does not always have the most pleasant disposition and temperament. For a week after the meet, she knows that not a lot will be getting done around the house, as I tie up loose ends. Her contribution to this meet is incalculable. Thank you Dear, thank you!

It's the PAYOFF for all of the EFO & Ann Arbor Falcons' Hard Working MEMBERS!

The following notes arrived via snail mail, e-mail and from the E-zone's E-flight list. Although they may be addressed to Keith or myself, they are really for all of you workers!!!

Doug Ward - "I want to thank you formally for the super meet you and Keith held. Nice weather, good friends and model airplanes is as good as wine, women and song any day!

Jack Sowle - "Boy, do Ken Myers and Keith Shaw know how to put on a show or what!?! 2 full days of absolutely perfect weather, a LOT of fantastic planes and outstanding flyers from

Upcoming Events:

September 20 & 21 Queen City Airport, Allentown, PA: KRC - setup on the 19th. For more info e-mail Anthony Assetto at 102723.2566@compuserve.com

October 4 & 5 11th Annual DEAF Fly-In, Dallas R/C Club Field in Seagoville Greg Judy (817) 468-0962 email 75267.224@compuserve.com

October 17, 18 & 19 Gulf States Electric Fly-In hosted by the Ozone R/C Club for more info:

Paul Perret 1780 Prytania Street New Orleans, LA 70130 (504) 524-3442 PaulCPerret@worldnet.att.net

as far away as South Dakota and New York that I know of.

The flight demonstrations given by Dave Grife and Keith Shaw were as impressive as ever. The skill and craftsmanship that was on display just amazes me.

Thanks to all the EFO and Falcons club members that worked so hard to put on a fantastic show and everyone that I met and talked to all day both days for making the meet the best I have ever been to. (Even if I didn't win anything in the raffles <G>)"

Darwin - "Spent the entire day today getting over my Saturday visit to Mid-America. Ken and Keith did a really fine job organizing a great event. All the helpful volunteers from EFO

and the Falcons made life easy for us travelling flyers. I couldn't stay for Sunday, but had a ball all day Saturday until the only things you could see were Ralph

Weaver's Bleriot and Doug Ingraham's Timothy with light sticks on it. I got snagged into judging "Most Beautiful" category by Ken. Keith and Dave did a demo, I pulled up a chair and watched the demo, which was really good (especially the Bearcat)." <Please note much of this post was "snipped" to fit in the space left here, but I believe I've captured the essence. km>

Marc Thompson - Thanks to all who helped make Mid America a really fun event. After a slow start (went to last years venue) I finally got there and got a lot of flying in during the two days. There were a lot of impressive aircraft and pilots there and I left very inspired. Keith Shaw and Dave Grife had a gorgeous collection of aircraft and really knew how to fly them. Keith's ME-35b was especially impressive with the Max Cim on 20(?) cells. Great aerobatics for about 8 minutes.

Tim McDonough - "Ralph treated the Mid-America participants to probably a dozen "night flights" over the course of two evenings. The Bleriot doing an ROG off the short clipped grass field and then rocketing to a top speed of 3-4 mph at twilight is a beautiful sight! Marc's EFI Spitfire was impressive. He was using the 7.2V motor, no flux ring, 7-500AR cells and the Graupner 6x5.5 prop. I came home with a couple of these props to try out to "see for myself"."



The Ampeer
Ken Myers
1911 Bradshaw Ct.
Walled Lake, MI 48390

**Next Meeting: Thursday, October 2, 1997,
Time: 7:30 Room 1, Dublin Elementary, just north
of the Dublin Community Center,
Union Lake Rd. north of the village of Union Lake,
across from St. Pat's Church**