



OMAHA NEBRASKA
AMA 857 - IMAA 284

TAILSPIN NEWSLETTER

April 2008 Issue

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A Word From The President:

Greetings everyone, Spring is almost here are you ready, planes done, batteries charged and tested????!!!!

Well Spring means its time for our WRCF Auction.

We will be looking forward to a *GREAT* Auction this year. So dust off and shine up those unused "*treasures*" and let's be prepared for the big event.

We need everyone to share in the fun, camaraderie, and the tasks necessary to complete this event.

Please make your selves available and be at the event to help.

We always have more fun when not having to work all day.

Enough of the Auction stuff. How about those projects this winter???? I have been thoroughly impressed with the "show and tell" portion of our meetings. These folks should really "*brag it up*" on these projects that have been displayed. They are *GREAT*, thanks. See you at the auction.

Thanks

~ Rick Miller

Vice-President's Corner:

Auction time folks! This is one of the highlights of the year for our club. Not only does it provide us with visibility, but it also raises money which keeps the annual dues down. If you show up at the auction, and wish to help out, just let one of the club workers know. While at the auction, don't forget to buy a few tickets on the spread spectrum radio. This year's radio is a nice one! Hope to see you there.

Soon we will be out at the two flying fields as the weather and ground conditions turn to our favor. Make sure the inspection of that plane you stored all winter is adequate. Any chance your batteries need replacing, or the fuel tubing? Better check everything out to be safe, and not sorry.

I really appreciate those who have sent material for the newsletter. I am still looking forward to receiving photos of your favorite airplane, or on-going project with its description. See you at the next meeting and the auction!

Come out and fly!

~ Nelson Carpenter

Next Meeting:

7:00pm Tuesday, April 1, 2008

**Location: Papio-Missouri River NRD Office
154th and Giles Road**



Treasurer's Report:

To be provided at the April meeting.

Thank You!

~ Ed Splitgerber

March Meeting Notes:

The March meeting for the Western flyers was held on March 4th 2008. The meeting was called to order at 7:10p.m. by Nelson Carpenter.

Bob Burt had order forms for bulk fuel to purchase from Magnum. Unfortunately, by the time you read this in the newsletter, the deadline will have passed to place orders.

Discussion was made as to how we could draw in more people to the auction. There were no actual suggestions made that....

.....Continued Page 2

March Meeting Notes Cont...

...require attention at this time. Any suggestions as to how we could reach out to more people would be greatly appreciated.

Discussions were made by several members as to the coordination of item sales. As of this time the use of computers was up in the air. (since the March meeting, we have purchased the program and that we will have use of the computers for the auction).

Auction help is still voluntary but help is needed at the end of the auction for teardown. So please don't just show up for the beginning. (It would be great if at least four individuals volunteered for final clean up at our next meeting on April 1st).

It was made clear that auction helpers could bring their auction items in on Friday the 18th of April, during auction setup time. It was also mentioned that those items don't have to be auctioned as first come first serve, they can be placed anywhere in the auction lineup. So take advantage and help set up so that you can get your items in the lineup for optimal sales times.

Ed Splittgerber was to do research on which radio system to get for our raffle item.

Motion was made, seconded, and passed for Ed Splittgerber to be in charge of all receipts for club expenses. A suggestion was made by Bob Burt to invite Mark Smith to one of our club events. He is the AMA VP for District IX.

The meeting was technically adjourned at 7:50 p.m., however Rick Miller had shown up afterwards, and needed to discuss some logistics with the group and gather volunteers to get items for the auction rounded up. There was also a late motion made, and passed to get both fields rolled for the upcoming flying season.

Meeting actually adjourned at 8:15p.m.

Blue Skies

~ *Dustin Anderson*

News, Rumors, and Gossip



Well here we are again looking at a new flying season in the eye of an ever changing hobby.

It is quite a change seeing how many guys are trying electric now that the batteries have come of age. One great example is Rob Skiba's impressive helicopter. The battery pack alone could power a welder! It is impressive looking, and seems to fly the same as gas powered based on Rob's skills -- it makes me jealous. Certainly everyone has been impressed with Dean Copeland's experiments, and Nelson Carpenter is no slacker either. I am naming the ones I have seen, but there are many others. These guys don't know it but their efforts are what drive the hobby.

Cont....

News, Rumors, and Gossip Cont....

In the past we had airplanes like the Sukhoi, Ultimate bi-plane, Cap, Pitts, and the Cub. These airplanes, when brought to a club's field, inspired others to buy and build one because the wanted one. 3D has inspired a number of people to build that type of plane for that activity. Look at Morris Hobbies (recently advertised 4 sale on EBay) and how the fame came and went. The point here is that right now we have some real inspirations. The "Scale Guys" are doing a great job of rekindling the Hobby interest. All it takes are people who want to join in.

The last subject is Park Flyers. I have no idea what the big deal is here, but evidently there is some excitement on the part of the AMA. They are thinking that somebody who spends \$39 for some toy to fly in the school yard has a burning desire to join a club. I think that a few of these Park Flyer guys will have some success, but most will crash and that will be the end of it. They even have a magazine called "*Backyard Flyer*." I am sure the AMA has protested that! Let us be realistic, if you see some guys flying in a park and schoolyard, and want to talk to them about flying RC with real club, okay I am for it. But I think thousands of people will have what I will call the "*Cox experience*." Cox probably scared more people out of the hobby than anyone else. The .049 would not start and if it did that plastic plane flew like a lead bomb. Nice...! That is a sure fire way to get people interested in our hobby. I believe the Park Flyers will do the same. I don't think any club needs to get excited about them yet.

Keep your wheels on!

~ *Bob Boumstein*

From the Albuquerque Radio Control Club, Albuquerque NM

Basics of Electric Flight

by Pat Tritle

I really enjoy getting together with clubs and speaking to the group about the basics of electric power. However, because there is so much information that needs to be passed along, it would be difficult, if not impossible, for those attending to remember much of the pertinent information. For that reason, it's better to write up the basic guidelines so that those who are interested in getting into electrics would have the information available for reference at a later date.

Here goes. I'll keep the numbers as simple as possible to avoid unnecessary confusion.

OK, here's how it all shakes out. The basic power required to fly an electric model is as follows:

Direct Drive Systems	60 watts/pound
Gear Drive Systems	50 watts/pound
Mild aerobatic performance	70-80 watts/pound
For all-out aerobatics	100-110
watts/pound	
3-D performance	150 watts/pound or more

Cont. Page 3....

Basics of Electric Flight Cont....

The above numbers are based on models with wing loadings from 8-16 oz/square foot. As with gas models, higher wing loadings require more power since they must fly faster to support the added weight. By the same token, a lightly-loaded model with a wing loading in the 3-5 oz/square foot range will fly very well at 25 -30 watts/pound.

What's a "watt" and where can I get some?

Wattage is the term used in electric flight to relate the level of power that an electric drive system will produce. To relate it to terms we're familiar with, 746 watts = 1 horsepower. To calculate the wattage delivered by a given system looks like this: amps x volts = watts. So where do these numbers come from and how do I know how many volts and amps are needed to fly a given model?

Okay, let's say you want a mildly aerobatic sport model with a 14 oz/square foot wing loading that will weigh in at 2 pounds. We already know that the power requirement for a model like this is about 70 watts/pound, so we're going to need to generate about 140 watts. Let's assume that you are going to use an eight-cell Ni-Cd battery. At 1.2 volts per cell, eight cells will deliver 9.6 volts. To arrive at the necessary current draw to achieve 140 watts, simply divide 140 (watts) by 9.6 (volts) and you arrive at 14.58 amps.

Now, let's assume that you have a three-cell Li-Poly battery for the model, which is rated at 11.1 volts. The formula is the same; 140 (watts) divided by 11.1 (volts) = 12.6 amps. As you can see, as the available voltage increases, the lower the current draw needs to be to deliver the necessary wattage.

Now here's something to consider when selecting your system: the higher the current draw, the shorter the flight duration on any given battery. Therefore, the ideal setup would be to use a higher-voltage battery with lower current draw for maximum duration. On the downside, when using Ni-Cd and NiMH batteries, as the cell count goes up, the weight will increase significantly as well. It works that way with Lithium too, but Lithium batteries are greatly lighter than old "round" cells.

Okay, let's say we're going to use an 11.1 volt Li-Poly battery. All we need to do now is select a motor that will swing enough propeller at 12.6 amps to fly the model at a top speed of around 40-45 mph and we're in business. Now that you know the parameters, visit your local hobby shop and select a motor that fits that description.

Gear Drive vs. Direct Drive: Why is one better?

Well, it all depends on the kind of performance you're looking for. If you're looking to go fast, go with direct drive. Going fast requires a high-pitch propeller turning high rpm. The formula to calculate propeller pitch speed is easy; it looks like this:

$$\text{rpm} \times \text{pitch (in inches)} / 1056 = \text{mph}$$

Let's say that you are turning a 7-6 propeller at 14,000 rpm.

$$14,000 \times 6 = 84,000 / 1056 = 79.55 \text{ mph}$$

Now, let's assume you are setting up a slow, relaxing park flyer

Cont....

Basics of Electric Flight Cont....

with about a 5 oz/square foot wing loading. If we swing a 9-7 propeller at about 3,500 rpm, we'd be looking at a top speed of roughly 23 mph. To swing that much propeller with a small, light drive system, we would use a gear drive unit at a very low current draw and a small, light battery.

Again, to make a known comparison, we can relate all this to riding a 10-speed bicycle. A gear drive swinging a big propeller is like riding your bike in low gear. You pedal like mad with little effort, you don't go very fast, but you can climb steep hills with ease. The direct drive system could be compared to riding the bike in high gear. It'll really go fast, and even though you're pedaling slower, it requires considerably more effort.

What all this boils down to is "propeller disc loading." We all know what wing loading is: it's the amount of the model's weight that each square foot of wing must carry. Prop disc-loading works the same way. A large propeller will be more lightly loaded, thus delivering more torque than a smaller propeller turning high rpm. The tradeoff will be speed.

One more thing to cover and we'll give you a rest. Batteries are rated in "voltage" and "amperage." Voltage dictates the amount of power the battery will deliver. The amperage rating dictates for how long the battery will deliver that power. To relate that to glow fuel, consider the voltage as nitro content. High voltage (nitro) means more power. The amperage is related to the quantity of fuel, or simply the "size of the tank."

To figure the size of battery needed, let's go back to our 140-watt sport airplane. If we're pulling 14 amps from a 1400 mAh (1.4 amp hour) battery, we will have full power duration of five to six minutes. In the real world, with proper throttle management, you'll see flight times of approximately eight minutes. These are common flight times

To arrive at that number, divide the battery amp rating by the current draw: 1.4 (amp hours)/14 (amps) = 0.1. Then take 60 (minutes per amp hour) x 0.1 = 6 minutes. Now, to double the duration, you must either cut the current draw in half (to 7 amps), or double the battery size (to 2800 mAh or 2.8 amp hours)—again we see tradeoffs. To reduce the current draw, we can use a larger, higher-pitch propeller turning slower with very little weight penalty. If we double the size of the battery capacity, the weight penalty is quite high unless we go over to the new Lithium batteries in which we will discover we have benefited from a tremendous weight reduction, but at a higher price than conventional batteries.

Once again, there's a tremendous amount of information here for a newcomer to electrics to digest, so let's do this: if you have specific questions about setting up an electric model, please feel free to drop me a line and I'll do what I can to steer you in the right direction. For now, I'll offer up one last piece of advice. To get started, work with a known good design, and use the recommended equipment that has been proven to work. Talk to the people who are successful and copy what they're doing. The one thing I do know about modelers is that they are always willing to share their knowledge with those interested in what they are doing.

MARCH 2008 SHOW 'N TELL

Gale Sherman brought his winter project to the meeting. A Great Plains P-6E Curtiss Hawk that he built from the kit. The wingspan is 81" and for power he has mounted a Stiy 31cc gas motor. First flight will be this spring.



Jim Drickey showed us his recently built project of a Northrop XP-56, 1943 vintage flying wing. It is an electric powered model with a wingspan of 36" and weighs approximately 27 ounces.



Nelson Carpenter displayed his third project this winter designing and building an all foam airplane for indoor electric flying. He scaled and proportioned plans from a 3 view drawing obtained from an internet site. It is a Fairchild C-119 Flying Boxcar with two electric motors swinging 9" props. Wingspan is 48" and it weighs 27 ounces with all equipment onboard including the 3 cell lipo battery. Flight control is with ailerons and elevator as well as throttle. One servo is for a steerable nose wheel. No rudder control. It has had 12 flights, and despite its mostly flat airfoil, the Boxcar tracks real well in the air.



Bob Boumstein brought his newest ARF which is an F-15 plastic job that has twin prop engines with differential power to turn it in the air. The large motor is the famous German 3W120. This monster can swing a 30x10 prop for Giant scale. These engines dominated the Tournament of Champions in the late 90's and cost \$1400 then. Today the advance model 3W150 is priced at \$2200. Great news is Desert Aircraft still supports these motors.



Bob Burt rolled out plans for an upcoming mono-wing airplane project. The design is by Leon Davis who was an experimental metal worker at Aero Commander. Just a basic box with wings. The plans are one third scale. He decided to make the "V" tail more like stabilizers and elevators so it would not be as sensitive. Wing span is 78 inches and Bob will power it with an OS 160. *Editor's note: all of us at the meeting really expected Bob to roll out the plans for Santa's sleigh.....*

CLUB FLYING ACTIVITIES – FLASHBACK 1986

Where were you twenty two years ago? The year was 1986. If a member of Western Flyers, you might very well have been at one of these flying events shown in the photos below. These photos were taken by the editor at Mead and Springfield. Do you see yourself or anyone you know? Bet some of you will at least recognize these airplanes from back then. The pilots? Maybe you won't now. Note how small the trees are on the north end of the Mead runway.





Annual R/C Auction

Saturday, April 19, 2008

BJSA Building 1001 High school Drive – Bellevue, Nebraska

Just Minutes South of downtown Omaha, Nebraska

\$5.00 Adult Admission Includes:

- Buyer/Seller Number
- 1 Free Raffle Ticket

Children Under 10 are Free
(No buyer/seller Number or free raffle ticket)

All Items will be sold in order of check in.
Check in starts at 8am, Auction starts at 10am

Bidding Starts at \$20.00

Sellers MUST group your small items

- 10% Sellers Fee for all items sold
- If you buy back your own item there is a 10% Selling Fee
- Sellers may designate a Minimum Selling Price on Item Registration Card
- All items with no designated minimum bid will sell to the highest bidder! \$2.00 "No Sale" Fee
- Checks or Cash only please!
- *Fast Computer Check Out!*

Tons of Bargains, Food, Friends & Fun!

For Additional Information contact:

Rick Miller, P.O. Box 195 Mead, Nebraska
Email: rick.miller@kellogg.com Phone: 402-624-2530

Bob Boumstein,
Email: bbhwc@cox.net Phone: 402-334-0122

All concessions and a portion of the admission go to the Non-Profit Bellevue Junior Sports Association

Food and Drinks Available!

*Just Minutes From Area Motels, Entertainment, Omaha's Old Market, Casinos, Strategic Air & Space Museum
Make it a weekend!*

**Doors Open at 8:00am
Auction Starts at 10:00am**

**2.4 Gig Spread Spectrum
Radio System Raffle**

\$1.00 dollar a ticket, One lucky winner!



Take I-80 in Omaha, to Kennedy Freeway (Hwy 75) South to Cornhusker, turn east it becomes Harvell Drive., Turn right on Lincoln Rd. Go 1/2 mile south on Lincoln to BJSA building on east (left) side of street.

*All items will be considered in "AS IS", "unknown condition" by the Western R/C Flyers. As always, inspect the items closely **BEFORE** the auction begins!*

*All Bids are **FINAL** and no warranties or guarantees are expressed, or implied by the Western R/C Flyers.*

www.WeFlyRC.org

~ 2008 Western R/C Flyers Event Schedule ~

2008 Tuesday Night Fun-Flys, Springfield, Every Tuesday night May 6th through September 2nd 2008
(Weather Permitting)

Food – Fun – Flying – Friends!

**January
2008**

Tuesday, Jan 8th - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(CAP meeting room, basement, far left of entrance)

**February
2008**

Tuesday, Feb 5th - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(Board Room, just inside right of main entrance)

**March
2008**

Tuesday, Mar 4th - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(Board Room, just inside right of main entrance)

**April
2008**

Tuesday, Apr 1st - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(Board Room, just inside right of main entrance)

Friday, April 18th - WRCF Auction Set-Up
- 7pm, BJSA Building - Bellevue
Saturday, April 19th - Annual R/C Auction
- BJSA Building - Bellevue - Sign in at 8am
Auction Starts at 10am (Members should be there no later than 7:45am Auction day)

**May
2008**

Tuesday, May 6th - Meeting
- 7pm, Springfield Flying Site, bring a plane, open flying & food
Saturday, May 10th - Old-timers Fun Fly
Spring Round-up
- Mead Field 9am
Sunday, May 18th - Quickee Racing
- Mead Field - Check in @ 9:30am, Racing starts @ 10am

**June
2008**

Tuesday, Jun 3rd - Meeting
- 7pm, Springfield Flying Site, bring a plane, open flying & food
Saturday, Jun 7th - Spring IMAA Fun Fly
- 10am Mead Field (Limited to Giant scale IMAA aircraft, \$5.00 landing fee, Open Flying)
Saturday, June 14th - Old-timers Fun Fly
- 9am, Mead field
Sunday June 8th - Quickee Racing
- Mead Field - Check in @ 9:30am, Racing starts @ 10am

**July
2008**

Tuesday, Jul 1st - Meeting
- 7pm, Springfield Flying Site bring a plane, open flying & Food
Saturday, July 12th - Old-timers Fun Fly - 9am, Mead field
Sunday, July 20th - Quickee Racing
- Mead Flying Site - Check in @ 9:30am, Racing starts @ 10am

**August
2008**

Tuesday, Aug 5th - Meeting
- 7pm, Springfield Flying Site - bring a plane, open flying & food
Saturday, August 9th - Old-timers Fun Fly
- 9am, Mead Field
Saturday & Sunday, August 16th & 17th - 19th Annual Bud Hall Memorial IMAA Fun Fly
- Mead Field -9am both days, aircraft limited to IMAA members, large scale aircraft all AMA - IMAA rules apply. May join IMAA at the field.
(80inch & up monoplanes, 60 inch up biplanes)
Sunday, Aug 24th - Quickee Racing
- Mead Field - Check in @ 9:30am, Racing starts @ 10am

**September
2008**

Tuesday, Sep 2nd - Meeting
- 7pm, Springfield Flying Site - bring a plane, open flying & Food (Last Tuesday food will be served)
Sunday, September 7th - Open Fun Fly and Outdoor Swap meet - Mead Field - Swap Meet set-up after 9:00am, Open Flying @ 10am - 3pm
Saturday, September 13th - Old-timers Fun Fly
- 9am, Mead Field
Sunday, Sep 21st - Quickee Racing
- Mead Field - Check in @ 9:30am, Racing @ 10am

**October
2008**

Tuesday, Oct 7th - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(CAP meeting room, basement, far left of entrance)
Saturday, October 13th - Old-timers Fun Fly - 9am, Mead Field

**November
2008**

Tuesday, Nov 11th - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(Board Room, just inside right of main entrance)
- Nominations taken for 2009 Officers

**December
2008**

Tuesday, Dec 2nd - Meeting
- 7pm, NRC, Natural Resources Center, Chalco Hills Recreation Area, 8901 S. 154th St.
(Board Room, just inside right of main entrance)
- 2009 Officer elections

Want to schedule a 2008 event? Contact any officer or attend a club meeting with a proposal.

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Tailspin Newsletter
Western RC Flyers
Omaha, Nebraska

TO:

Western R/C Flyers Inc. 2008 Membership Application

Please print clearly!

Name: _____

Address: _____ Zip Code: _____

Evening Phone: _____ Day Phone: _____

Email: _____

AMA Number: _____ IMAA Number: _____

Dues Paid: \$ _____

2008 Dues: \$35 (2008 Renewals must be paid by **February 1**) New/Renewal: ___ New ___ Renewal ___ (Check One)

Sign Here: _____ Date _____

AMA membership is required
Make Checks Payable to: Western R/C Flyers

Print this form and send check to WR/CF Treasurer:
Ed Splitgerber 5046 S. 174th St. Omaha, Nebraska 68135