



THE KNIGHT FLYER



Jan – Feb - Mar

2011

Christmas Party 2010

The most significant difference this year was the introduction of a new menu.

Jim Devlin received an award for work as club editor.

Instead of the Pizza that we had grown to know and love, the members voted to try out something different. Subs!

However, the most sought after award, the first annual "Certificate of Total Awesomeness" or the "P.A.A.S. (Pilot Achieving Aeronautical Supremacy) Award was won, hands down, by none other than Herb Paas.

That's right. Subs and wings.

The jury may still be out, but there were few complaints.

The meeting went smoothly and the election of the new officers for the upcoming year passed without incident.

Some continued in their previous positions, some swapped hats and perhaps a new one joined the crew.

The annual radio raffle was won by Greg Stromecki. This raffle is based on attendance.

Each meeting every member puts a ticket in the bucket and on the final meeting of the year a name is drawn. The winner must be present.

Nearly fifty members and family attended.

During the meeting, five awards were given out to deserving members.

George Fox received the "Helping Hand" award for all that he has done to help new pilots win their wings.

Bill Hauth got the "Certificate of Bravery" for destructive testing of the new safety fences at the North Collins and Hamburg fields, by repeatedly flying his planes into them.



The final award, the exclusive "Sit & Spin Award, was captured by Orv Chatwood for excellence in mastering the art of the Dizzy, his unmatched skill in control line flying .

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Membership dues **must** be received before **Jan. 14, 2011** or you will be dropped from the roster.

Extension by request only. (Call 699-4716).

If you are not able to see the Treasurer, please use the form below to renew your membership by mail.

Remember, flying privileges at the Nike Site and the North Collins fields are restricted to club members only!

Return form along with **payment** and a copy of **2011 AMA card** to Ray Barren, 7330 Kent Road, Little Valley, NY 14775. You **must present** your current AMA card or a copy of same.

2011 Dues Renewal Form

Name: _____

Address: _____

City: _____ State _____ Zip: _____

Phone: _____ A.M.A. # _____

Email: (If you have one.): _____

Make Plans for Toledo

This year's Toledo Event will take place on April 1, 2 & 3rd

\$10 / person / day

Seagate Center

Don't miss our Famous Chinese Auction

Feb. 4th

Benefits NC Field Fund.

A great opportunity to unload your ~~junk~~ unneeded items.

Mall Show

March 4,
5, & 6th

McKinley
Mall
Setup Thu
Mar. 3rd

New Officers for 2011



Front Row: Ray Barron, Treasurer, Jim Ehrig, President, Dave Savini, Secretary, Jim Devlin, Editor
Back Row: Jim Pravel, Bob Rodgers, Orv Chatwood, Bob Waldraff, Board, Chuck Caruana, Vice President

Picture by George Fox

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From the
President's



"If your actions inspire others to dream more, learn more, do more and become more, you are a leader."

John Quincy Adams

George Fox has been an Officer of the Flying Knights for eight years.

Serving as President, he has led the club in a positive and influential manner.

I want to personally thank him for the dedication and friendship he has provided.

Furthermore, I would like to thank the membership for allowing me to follow in his footsteps and lead our club.

We also welcome Dave Savini as Secretary.

His wealth of knowledge and dedication to the hobby will provide us with opportunity to learn from him and strive to become the pilot he is.

My goal as president is to ensure the standards and traditions of the club are maintained, as well as, introduce new ideas that will focus on increasing membership, providing opportunity for current members to express their own ideas and be more involved with decision making, become cohorts with other local clubs, and most importantly you having **fun** flying.

As we move forward into 2011, we will establish several groups of "leadership teams".

I will be working closely with the Board, to determine the responsibility of each team.

Areas we will focus on are Training, Safety, Special Events (Scale Rally, Mall Show, Auction, etc.), Grounds & Maintenance, and Field Activities.

I will be looking within the

membership for the necessary "buy-in" and individuals wanting to take leadership positions.

A couple of items stand out from 2010.

First, the turn-out for each of the Sunday "Fun-Fly's" was tremendous, even in the bad weather.

With a little additional planning, we can make them even more enjoyable.

Second, the North Collins field saw increased use.

I cannot think of any other way to demonstrate the strength of the club, than seeing you fly.

It is imperative the established flight patterns are adhered to at all times.

Third, it certainly is frustrating to show up at the field expecting the grass cut and finding it not.

I have donated another riding lawnmower to the club and will be formulating a plan with the board to minimize the down time due to grass cutting.

Indoor flying has become as popular as flying outdoors!

I encourage everyone to give it a try.

It is a tremendous opportunity to improve your skills, learn new maneuvers, and it is **fun**!!

We have established a calendar for 2011, please be on the lookout for any changes or additions.

I will ensure proper notification is passed along.

If anyone needs to contact me, please call or e-mail as necessary.

Home Phone : 649-2943

Cell Phone : 771-7958

E-mail : jehrigui@gmail.com

Please feel free to contact me with any ideas, questions, or concerns you may have.

I look forward to your input for the betterment of our club.

Thank you for your support,

Jim Ehrig

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Motor Myster-

Motors often have a lot of technical specifications listed as part of their attributes.

Stuffed into the tech specs for the motor, amongst the length and diameter, is a mysterious number called " K_v ". See Fig. 1.

Looks impressive. Should it be bigger or smaller?

Just what is a " K_v " and how would I use it to tell me more about my motor?

This is a number that tells us how the motor performs.

It relates the rotation speed of the motor to the voltage used to turn it. See Fig. 1.



Fig. 1 Motor technical specs.

To put it another way, how many RPM's will you get for each volt that you apply.

For any given voltage, the speed of a motor is constant regardless of load.

This seems surprising sometimes. Perhaps it is because we are used to our gas motors.

As you put more load on a gas engine, it simply slows down and eventually comes to a stop. Not so with the electric motor.

The electric motor will always try to maintain the RPM's at the applied voltage.

Knowing K_v , you can calculate the RPM that will be generated. for any given voltage.

This is true regardless of the size of the motor or the number of turns in the winding.

Here's an example.

If K_v is 1700, then for a Lithium battery of 7.4v, you will have 12,580 RPM at that voltage.

At 5 volts, the speed will be 8,500 RPM.

This is what your controller does. It supplies a variable voltage to the motor.

In order to do this, more current must be supplied to the motor.

Motor "current" is proportional to the torque or turning force. Fig. 2.

In other words, the greater the load, the harder the motor works.

If there is no load on the motor, the current will be zero.

As you place more load on the motor, it will just draw more current to maintain the same RPM that the voltage calls for.

If you stall the motor, it will draw as much current as it possible can.

In a "real world" motor, there is a limit to the current.

A real motor has resistance and as the current increases, this resistance will take its toll. The motor heats up.

For large motors, the heat generated is significant.

As anyone who has turned their car on with the wipers frozen, well knows, the motor becomes toast!

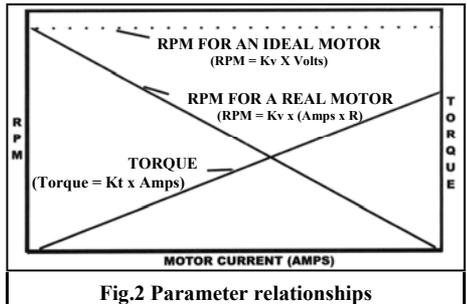


Fig.2 Parameter relationships

Because of the resistance in the windings and brushes, increasing the load will indeed cause the motor to slow down.

The motor does not want to slow down.

It wants to maintain a constant RPM as determined by the applied voltage.

Thus, it draws more current, producing more torque until it self-destructs.

Torque is turning force.

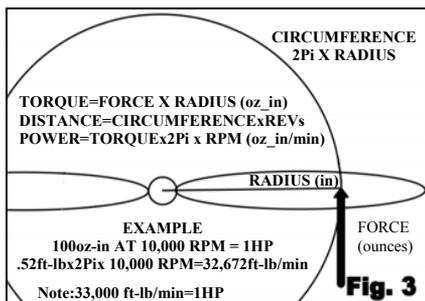
Torque is always measured at

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right angles to the radius. See Fig 3

So we do not want to load the motor.

We would like it to operate with the RPM's determined by the applied voltage .



Here's how.

The product of K_v times K_t is always equal to the number 1355. (This is true when the torque is measured in oz-in).

As an example, if K_v is equal to 1000 RPM per volt then, at one volt, you will have 1.355 oz-in per amp.

Ten amps will generate 13.55 oz-in.

For the motor shown in Fig. 1, K_v is equal to 1700 RPM per volt, so, you will have 0.797 oz-in per amp.

If our current is 1 amp the Torque will be .797 oz-in. For 10 amps it would be 7.97 oz inches.

That will be the force applied at one inch from the motor shaft.

Knowing the torque at 1 inch from the shaft allows you to calculate the torque at any other radius.

This means that we should also know something about the load.

And we can.

There is another mysterious number called " K_t ". This number does not usually appear in the specs.

It is the amount of load per amp of current.

Or to put it another way, the amount of torque produced by an amp of current.

These two numbers define the motor that we are using.

How can we use these numbers to reveal the capability of our motor?

The first number, " K_v " tells us how many RPM's per volt.

The second number " K_t " tells us how much torque per amp.

And they are related. See Fig.4.

We can actually get the number K_T from our knowledge of K_v .

$$K_v \times K_t = 1355$$

$$\text{thus: } K_t = \frac{1355}{K_v}$$

Fig. 4 Finding K_t from K_v

This determines the size of the prop you are using.

A great deal of information about a particular motor can be gleaned from the spec provided by the manufacturer.

Knowing about these sometimes mysterious numbers can increase our understanding of how the motor works in our model.

Understanding will allow us to better enjoy our hobby.



2011 Rally Raffle Model
Beechcraft Bonanza (eflite)

72 MHz Frequency Chart

A frequency usage chart for 72 MHz radios will not be presented for this year. Many have purchased new radios of the 2.4 GHz spread spectrum type which do not need a frequency pin when flying.

Fewer 72 MHz radios means that there will be fewer conflicts.

Flying at Agri-Center

Indoor flying at ECC South and the Agri-Center is very popular this season.

The first event at the Agri-center featured demonstrations by expert 3-D and Heli pilots. The admission returns exceeded the cost, so our second event only asked that participants bring a toy.

Unfortunately, the event coincided with the worst snowstorm of the season.

In spite of the snow, the turnout was excellent and over \$500 worth of toys were collected for needy children.

These toys were donated to Children's Hospital in buffalo.

Thanks go to all of the RC clubs in our area for their generous support. A lot of kids who would not otherwise, had a very happy Christmas.

The new schedule has been determined.

The dates are 1/11, 2/16, 2/23,



AMA Dist II AVP Bill Hauth delivers toys to Sue Mirabella of Children's Hsp.

3/ 29, and 4/20. All dates are Wednesdays except for 1/11 & 3/29 which will be on Tuesday.

Admission will be the same as before, \$10.00.

Time will be from 5-10 pm.

2010 Fall Auction

The 2010 auction went very smoothly.

A large number of entries to be auctioned made for a fine afternoon.

The bidding seemed spirited but there were many items that would prove to be great bargains.

Bill Hauth did the auctioneer thing wringing the best prices out of the participants.



I have 20, do I hear 22?

Continued from P-1

Right on schedule, the subs and wings arrived.

The food was arrayed on the tables in a most appetizing manner and everyone fell into line to fill their plates.

There were plenty of subs and wings to go around and a splendid array of desserts to complement them.

Everyone of course, settled down at the tables to enjoy the food.

Conversation ranged from a recollection of the past year to a discussion of the projects that are in the works for the coming year.

The annual Christmas Party meeting is always our best attended meeting



Enjoying our new menu

and one that members thoroughly enjoy every year.

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The Great Chili Fly of 2010

As the cold days of autumn worked their way into Western New York, a number of the folks inquired about the Chili Fly.

Last year Chuck Caruana initiated this unique event with a spectacular menu of Chili.

There were fond memories of last year's event.

Everyone thought it was such a great idea, that it should be repeated.

Chuck hastily brought together a number of members who agreed that there should indeed be a 2010 Chili fly.

In spite of the short notice, a large number of Knights turned out for the October event.

Unlike last year, which was cold and windy, the day turned out to be sunny, cool and mild.



A little fire takes some of the chill off.

It was an opportunity for many to get in that last flight of the season.

At the field and Off the field



Now that cold weather is upon us it is time to patch the defects in our planes to keep them flying.

Are your skis ready to go on your plane for some winter flying?

Building a new model for next year sounds like a great idea; at least it is warmer than trying to fly.

We now have a new computer and simulator. Come to the meetings early to take a shot at flying on this system.

It has three levels of difficulty to apply to the planes. Which one can you handle?

In February there will be a Chinese auction.

How about looking around your workshop to find items that you no longer use that can be donated to this event.

It is always fun to see what unusual things show up to bid on.

What aircraft are you planning to bring to the Mall Show?

It is only about 8 weeks away.

There might be prizes for the planes / aircraft that get the most votes.

It is time to get your favorite (s) all polished up.

Our club plans a number of events during the year. They help us to reach goals beyond learning to fly and flying.

You are all very willing to take part. We need a person(s) to lead each one.

Will you be the one(s) to take charge of the Mall Show, the Scale Rally, a Fun Fly, or the Auction?

Please work to be "making a difference" for our club.

"You have to put in many, many tiny efforts that nobody sees or appreciates before you achieve anything worthwhile."

(Quote from Brian Tracy)

That quote sure applies to my experience in building and flying RC planes.

Hope to see you at our meetings and at the field.

George

1st Q 2011

Schedule

Fri. 1/14, 2/4,
2/25, 3/18

St. James Church 7:30
New members 6:30

Board Meeting*

Wed. 1/12, 2/2,
2/23, 3/16
7:30 pm

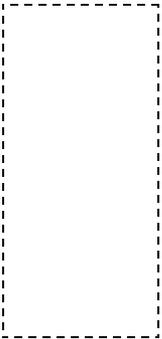
*Check meeting cards to verify.

Officers

President: Jim Ehrig
Vice Pres: Chuck Caruana
Secretary: Dave Savini
Treasurer: Ray Barren

Board

Jim Pravel Bob Rodgers
Bob Waldruff Orv Chatwood
Editor Jim Devlin



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Academy of Model Aeronautics - A Chartered Radio Control Flying Club

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