



THE KNIGHT FLYER



Jan – Feb - Mar

2013

Christmas Party 2012

The most popular meeting of the year, again proved to be our annual Christmas party.

A full house gathered to vote on a number of positions necessary to run the organization.

The task was immensely simplified due to the fact that most office holders opted to remain, thereby requiring a single slate.

The positions of two board members were up for grabs, with Orv Chatwood and Bob Waldraf securing the popular vote.

A minimum of business breezed through the formal portion of the meeting.

Gerry Piscatello reminded everyone that our 50th anniversary banquet would take place in May.

All members who attend the meetings are represented in the raffle pool.



Bob & Orv tackle the food line

At about 8:15 the aroma of fresh pizza filled the room.

The formal meeting was quickly terminated and attention turned to the sumptuous array of food accumulating on the tables.

A wide variety of desserts were brought in to pass.

The rest of the evening was spent in socializing.

There were good times during the year to be remembered and of course there were always the new planes for next year that had to be discussed.



Food and Conversation

Instead of the traditional radio, a Super Tucano model was raffled off.

Tickets for this prize are submitted at each meeting during the year.

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The Knight Flyer

Membership dues **must** be received before **Jan. 25, 2013** 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 2013 AMA card** to :
Ray Barren, 7330 Kent Road, Little Valley, NY 14775.

2013 Dues Renewal Form

Name: _____

Address: _____

City: _____ State _____ Zip: _____

Phone: _____ A.M.A. # _____

Email: (If you have one.): _____

Make Plans for Toledo

The 2013 Toledo Event will
take place on April 5, 6 & 7th
\$10 / person / day
Seagate Center

Don't miss our Famous Chinese Auction

Feb. 15 th
Benefits NC Field Fund.
A great opportunity to unload
your ~~junk~~ unneeded items.

Note: ECC spring schedule not yet available. When we get it, you get it.

Mall Show

March 1,
2, & 3rd.

McKinley
Mall
Setup Thu
Mar. 28th.



Flying Knights Officers 2013

Front Row: Chuck Caruana Vice President, Jim Ehrig President, Ray Barren Treasurer, Greg Stromecki Secretary
Standing: Jim Devlin Newsletter Editor, Bob Rodgers Board, Bob Waldruff Board, Bill Hauth Board, Orv Chatwood Board



New Solo

Member Tom Holden soloed this last quarter.

Assisting in the learning process was George Fox.

Tom accomplished three

complete take-off/landing procedures and is looking forward to the new flying season

Plan now to attend our 50th Anniversary Banquet

Saturday May 25th 2013
Fitzgerald's Restaurant
Clark Street
Hamburg, NY
The History of Our Club
Door prizes

Note: The bagpipe player shown in the last issue of the Knight Flyer was incorrectly listed as Fran Pavone. It should have been member Fran Pompeii.

Turkey Fly

The Knight's were invited to the RC Aircrafter's annual Turkey Fly.

This year it was postponed from the usual Saturday after Thanksgiving, to Sunday due to the weather forecast of strong winds.

About two dozen hardy souls showed up around noon on a cold Sunday at the Nike Base Field.

Out on the flight line, a number of combat planes were being readied for flight.



Frozen fingers ready combat planes



Bill Hauth stokes the furnace

An electric generator supplied power for a coffee hot plate and a radio that belted out the play by play losing Bill's football game.

What more could anyone want?

Soon, the table was spread with steaming hot Turkey and several side dishes. The folks cued up, filled their plates and settled down to conversation and turkey.

The RC Aircrafter's generally meet at the Nike Field on Sunday's throughout the year. Several of the members bring various elements of a picnic lunch which all enjoy along with an afternoon of flying.

They extend an invitation to the Knight's to join them.

The shelter had been transformed into a warm and cozy living and dining room. A huge barrel stove heated one end of the space, while tables were arranged for the dining area. The turkey was being cooked in a stove t the opposite end of the shelter.

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The Electric Gas Tank

The gas gauge in your car is so ubiquitous that we no longer even pay attention to it. Until we run out of gas, of course.

After years at the flying field, we have no problem knowing how much gas we have in our models.

We keep track pretty much by timing our flights. And before we take off again, we simply top it off.

Our new electric planes present a different kind of challenge.

We can't see into the battery to know how much "fuel" we have left. And we can't just top it off.

The fuel is different, too. Not liquid you can carry in a bottle.

You can't touch it. You can't see it. You can't weigh it.

This new fuel is just as real, however. It is not so different from other fuel.

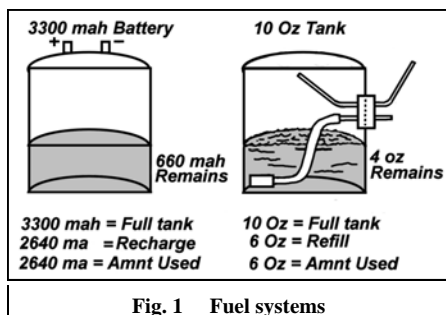


Fig. 1 Fuel systems

All fuels contain energy. And electric fuel has lots of energy. The energy per unit of weight, of course is not as good as that of gasoline, or even that of alcohol, our main model fuel.

That's why electric planes have to be so much lighter than their gas counterparts.

The big difference in electric fuel is the units in which we measure it.

Gas is measured in units of gallons, pounds or ounces. Something we can see or hold in our hands.

For example, a common model tank might hold 10 Oz of fuel. This is the capacity of the tank. See fig 1.

Our new electric fuel is measured in Amperes, units of electrical current.

The battery is the tank.

Each battery contains a specific amount of available current, just like our gasoline tank contains a specific amount of gas.

The batteries are usually stamped in **milliamperes per hour**. That number is known as the "C" rate. It is defined as the amount of current that can be drained from the battery in one hour. This is the most important number related to the battery.

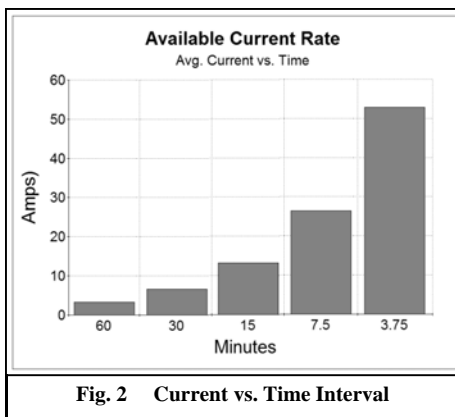


Fig. 2 Current vs. Time Interval

Our motors usually draw current in Amps. An ampere of current is equal to 1000 milliamperes.

For years the usual Tx/Rx battery was a NiCad battery used in our radios. It's "C" rate was always listed as 600 mah.

This number tells you the "discharge rate", the capacity of the battery. It will sustain that current for one hour.

Today, our Lithium batteries have humongous capacities. 2200 mah, 3300 mah and even 5000 mah.

The number tells us how much fuel we have in the tank, (battery).

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The number also tells us about the how quickly we use the fuel.

Let's take an example. See fig. 2

A battery that is listed as 3300 mah, (mah = milliamperes per hour), will supply that amount of current for one hour. (In amperes, that would be 3.3 amps for one hour).

The current versus time is a simple relationship.

If we draw 3.3 amps in one full hour, then we should be able to draw **twice as much in half the time.**

This battery is capable of supplying 6.6 amps for 1/2 hour. That is equivalent of dumping all of its available current in one half of the time.

Notice that if we divide the time by two, then we multiply the base current (3.3 A), by the same number.

So, in one quarter of an hour, we should be able to get four times the base current or 13.2Amps. Drawing 13.2 amps, this would empty the tank in 15 minutes.

Many people like to leave 20% as a safety cushion. Not a bad idea.

This is important, because you never want to completely empty the tank. For a Li-Po battery, to do so would cause irreversible damage to the battery.

Battery Usage			Flight Times		
Total	800	100%	6 Min	10 Min	15 Min
Used	539	67%	5.4 A/Min	3.2 A/Min	2.2 A/Min
Left	261	33%			
Safe limit	134	20%			
Empty	0	0%			

Battery Usage			Flight Times		
Total	2200	100%	6 Min	10 Min	15 Min
Used	1650	75%	16.5 A/Min	9.9 A/Min	6.6 A/Min
Left	550	25%			
Safe limit	440	20%			
Empty	0	0%			

Battery Usage			Flight Times		
Total	3300	100%	6 Min	10 Min	15 Min
Used	2450	74%	24.5 A/Min	15 A/Min	9.8 A/Min
Left	850	26%			
Safe limit	660	20%			
Empty	0	0%			

Fig. 4

So, how can we find out how much fuel we have used?

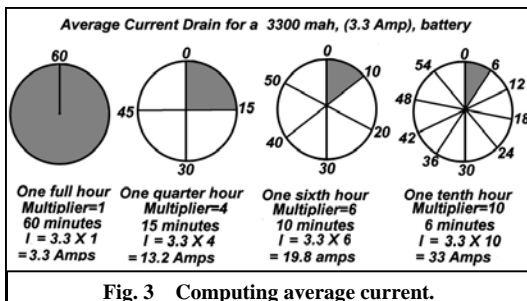


Fig. 3 Computing average current.

What we are saying is that if we want to run a motor at an average current of 20 amps, this tank will be emptied in six minutes.

Figure 3 shows how this tank will handle different loads.

Since we don't know how much current we have used on a given flight, we don't know how much fuel is left in our tank.

It is recommended that you always leave at least 10% of the charge, (fuel), in the tank.

The answer to this important question can be found on the charger that we use to recharge the battery, i.e. when we fill our tank.

Any charger that measures accumulated charge can be used. That is the amount of current recorded during the charge cycle.

The amount of fuel that was used to charge the battery is the same as the amount of fuel that was used to drain it.

To find out how much charge was left in the battery all you have to do is subtract that number from the total charge that was originally contained in the full battery. See figure 4.

This means that you should know how much fuel is represented by 10% or 20%.

This is also an easy calculation.

You already know the full capacity of the tank.

Continued on Page 7.

Chili Fly

You can always count on October to be brisk.

Brisk and breezy it was. That didn't stop a hardy bunch of flyers from coming out to the North Collins field for the annual Chili Fly.

Of course, it may have been the Chili itself that brought them out.

Whether the chili or not, quite a few planes showed up. The brisk wind only made it interesting as most took to the air.

At dinner time, however, most were ready to sit down and enjoy the Chili.



Fire heralds the Autumn season

There were several varieties of Chili and enough so that they could all be sampled.

There were plenty of excellent dishes to pass including Herb's special bread.

Hot dogs were also available so that there was plenty to eat.

The winds seemed to die down during the evening so flying resumed.

The Chili Fly is always a unique event.

Chili is a specialty for Chuck Caruana and he can always be counted on to engineer this unique Autumn event.



Trevor's unique surveillance drone

Fall auction

This year, the annual fall auction took place at the Hamburg Fire Hall. The change was made because the church hall was somewhat crowded for the number of people who were attending and the array of items auctioned.

Among the antique fire engine and racks of Fire-fighter gear, tables were set up to display the model planes and a wide variety of RC stuff.

The hall easily accommodated all the items brought in and the audience had plenty of room.

Our auctioneer was Billy Hauth who did a splendid job overseeing the bidding war on the floor.

Our refreshment operation was nicely handled by Nathan Chordas-Ewell and his mom.

Registration ran smoothly under the expertise of Gerry Piscatello, Ray Barron and Jim Pravel while Orv Chatwood and Stu Breirley handled the sales.



Bill calls out the action at fire hall

The 2012 auction did fairly well but attendance was down slightly, probably due to the change of location.

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It is the "C" rate, or the total current. Let's take the example of 2200 mah. 20% of that number is 440.

2200 - 440 is 1760 mah. This is 80% of the battery capacity. If you used amount, you will obtain 1760 when you recharge the battery.

Current is difficult to measure, but there are many devices on the market, such as **watt meters** that measure power. Power lets you know how much current is being used and at what voltage.

If you are only interested in how

much fuel, (current) you use for your flights, then using your charger is a very simple way to do it.

You can easily estimate the average current if you know the **time of your flight**.

For example, if your flight lasted 6 minutes, (1/10 of an hour), you would have used 10 times the hourly rate in just 6 minutes.

For the 2200 mah battery in the example, your rate for that flight would be 10 times 1760 or 17600 ma which is 17.6 Amps.

2013 Scale Rally Raffle Plane

B-25 Mitchell twin engined bomber.

Dual electric motors with contra-rotating props and three wheel retracts.



Indoor flying at the Agri-Center

2013 Schedule

Monday Jan. 7

Monday Feb. 25

Tuesday Jan. 29

Monday April 1

KNIGHT'S SWAP SHEET

If anyone has or knows where to find a needle valve, (or Carb) for a Thunder Tiger Pro 25
Please contact:

John Newman

824-5744

jnnewman66@verizon.net



If you have something for sale, or looking for that special something, put your request in "The Swap Sheet". Free to all club members.

1st Q 2013

Schedule

**Fri. 1/ 4, 1/25,
2/15, 3/8, 3/29**

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

Board Meeting

**Wed. 1/2, 1/23
Tues. 2/12, 3/5, 3/26**

**Time TBA
Pegasus**

Officers

President:	Jim Erhig III
Vice Pres:	Chuck Caruana
Secretary:	Greg Stromecki
Treasurer:	Ray Barren

Board

Bill Hauth	Bob Rodgers
Bob Waldraff	Orv Chatwood
Editor Jim Devlin	