



# The Flightline



Volume 36, Issue 5

Newsletter of the Propstoppers RC Club

AMA 1042

May 2006

## President's Message

This is the month! The CLUB NEEDS **YOUR** HELP. Please help to make Middletown's Community Pride Day a huge success on Saturday May 13<sup>th</sup>, 11am to 4pm. We have been invited to show off our wares and our FLYING MACHINES. I would like to hear from you guys; we need some nice displays, and some pilots to fly gas and electric planes and helicopters. I have permission for test flying on Saturday May 6<sup>th</sup>, I will tell you about the times at the meeting.

Club meeting reminders; The Club Picnic is on June 17th at Sleighton field and the Walt Bryant Memorial Fun Fly is on August 12th at Christian Academy field.

The monthly meeting night will change in Oct. to the Second Tuesday of the month. Our summer outdoor monthly meetings will be at Sleighton field and we now have permission to fly gas models on meeting nights.

Our application for future use of the Smedley field has been put on hold by the

township. The township manager will contact us when a decision has made. (Letter dated 4/12/06).

The Christian Academy Field is in good shape and ready for Thursday evening fun flies again

Hope to see you at the meeting Wednesday 3<sup>rd</sup> May at the Middletown Library, and don't forget those items for Show and Tell.

**Dick Seiwel, President**

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## Propstoppers know how to put on a Community Show; Thornbury Township Day 2001

Let's see if we can make it as good as this was. Now we should have helicopters, 3D flyers, engines running and the Township will take care of the food, old cars and the band, well, bands actually; there will be two.



*Agenda for May 3<sup>rd</sup> Meeting  
Middletown Library 7:30 pm, doors  
open at 7:00*

- ? Approval of April meeting minutes
- ? Membership Report
- ? Finance Report
- ? Flying Field Status
- ? Summer Meeting Plans
- ? Planning for Middletown Community Pride Day.
- ? Show and Tell

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## Calendar of Events

### Club Meetings

Regular Meeting 7:30 pm  
Wednesday 3<sup>rd</sup> May, 2006  
Middletown Library  
Behind Weather's Dodge on Rt, 452

Tuesday Breakfast Meeting  
The Country Deli, Rt. 352 Glenn Mills  
9 till 10 am. Just show up.  
Flying afterwards at Sleighton Field

### Regular Club Flying

#### At Middletown / Sleighton Field

Monday - Friday;  
10 am until dusk - Electric Only  
Saturday  
10 - 3pm-for FUEL PLANES and  
10 - Dusk for Electric  
Sunday - 12 - Dusk - Electric Only

At Christian Academy; Electric Only  
Monday through Friday after School till dusk  
Saturday 10 am till dusk  
Sunday, after Church; 12 pm till dusk

### Special Club Flying

Club Picnic Saturday 17<sup>th</sup> June, Sleighton Field

Walt Bryan Electric Fun Fly, Saturday  
12<sup>th</sup> August, Christian Academy Field.

Saturday mornings 10 am Sleighton Field  
Tuesday mornings 11 am Sleighton Field  
Thursday evenings 4:30 p.m., at CA field.

Note; only electric powered airplanes.  
Beginners using due caution and respecting club rules may fly GWS Slow Stick without instructors.

## Minutes of the Propstoppers Monthly Meeting April 5<sup>th</sup> at the Middletown Library

Somewhere between Middletown and Pasadena a dog eat the minutes! So these minutes are the sum recollections of Mick Harris, Dick Seiwell and Dave Harding.

The meeting was opened at 7:30 pm by President Dick Seiwell; there were 14 members and 3 guests present.

Treasurer Jim Barrow gave the finance report.

President Dick Seiwell reported that he had rolled Sleighton Field but the results were less than hoped for as the ground was too dry. However, the upper part of the runway has improved.

The club activities for the Middletown Township Community Pride Day were discussed. Dave Bevan and Dave Harding reported on the visit they made to the Williamson Free School with Dick Seiwell including the provisions for our flying and displays. Again, the membership was solicited for their support be it flying, display or engine running. Dave Harding reported that he plans to bring the RV and large Subaru canopy for club use.

Dave Bevan discussed his response to the Middletown request that we provide hand-outs in the form of balsa had launch gliders. Apparently Gullows make these kits but they are quite expensive and are sold only through commercial advertising outfits, wherein they are printed with a sponsor's logo. Dave suggested that he could make loads of them for a fraction of the cost and proceeded to demonstrate the flying qualities of a prototype in the meeting room. He took the action to further explore how we will respond to the request.

President Dick Seiwell reported that the Christian Academy field lock had been set to a number that will remain fixed for the year, unless there is a good reason to change it. It seems that changing the combination monthly and communicating just when it was changed has been confusing people. Dick also reiterated the need to correctly close it "lock to lock" so Academy people can open the gate with their lock, leaving ours in place for our member's access. *(This seems to be a practice that field maintenance people understand but the rest of the world doesn't; it is not what we did when we locked our bikes!)*

President Seiwell reported that the reduction in numbers of members attending the club meetings at the Middletown Library may be due to our changing the long standing Tuesday meeting day to Wednesday. So he has arranged to shift the meeting day to the second Tuesday of the month, beginning with the first fall indoor meeting. He said that the summer meetings would be held at Sleighton Field and he would request permission to fly gas models on that evening. He did not say if the summer meetings would be on Tuesday or Wednesday. Hopefully this will be stated at the May meeting so we can plan for our first outdoor meeting in June.

### Show and Tell

Guest, and now new member, Phil Oetinger, with his father, presented his electric powered 3D foam model that he says with which he has over 100 flights. This is his first successful model, the first being a poor flying plastic model that was given to him. It lasted only one flight.

When asked how he could just start flying such an advanced model he said he owed it to the time spent on the Real Flight Simulator. **See the cover picture.**

### Propstoppers RC Club of Delaware County, Pennsylvania.

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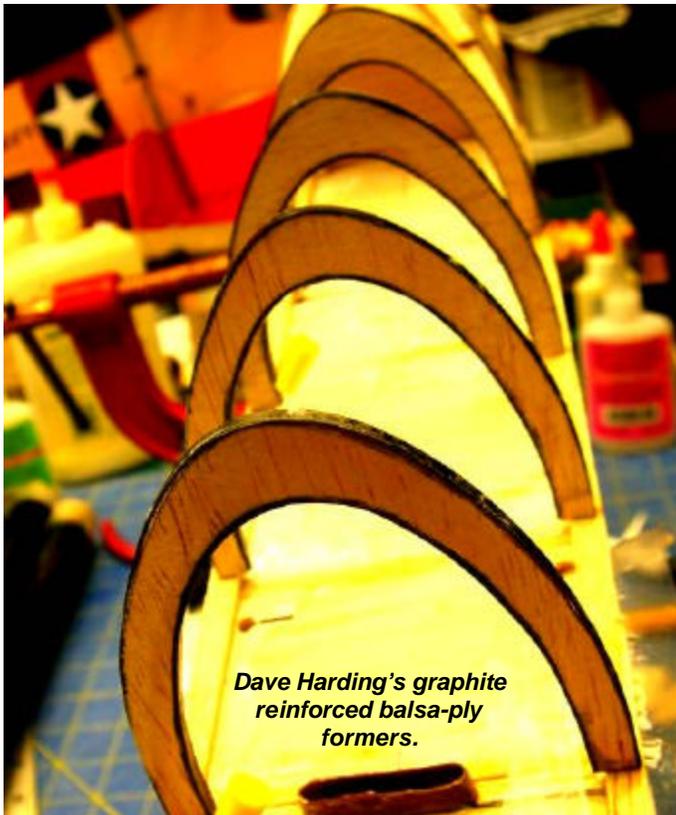
Propstoppers Web Site; [www.propstoppers.org](http://www.propstoppers.org)

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Dave Harding showed his new Stardust Special Old Timer contest model that had previously been reported in the newsletter. The model was broken down for transportation via airline baggage and has been to Arizona, California and back successfully despite several inspections by the Transportation Security Agency personnel. Dave includes notes to these people together with packing instructions as they usually open the boxes and need to understand how to repack them.

Dave showed the various features he built-in to allow such a large model to fit this rather small golf bag shipping box. They include a three-panel wing with mid-span joiners and a removable tail, held in place by a single nylon screw.

Dave also showed a new-to-him construction technique for making strong/stiff cowlings and access panels. He uses graphite uni strips over two-ply balsa formers covered by molded soft balsa sheet, applied soaking wet. The formers are made by hand wrapping the graphite strip and fastening with thin CA, a length at a time.



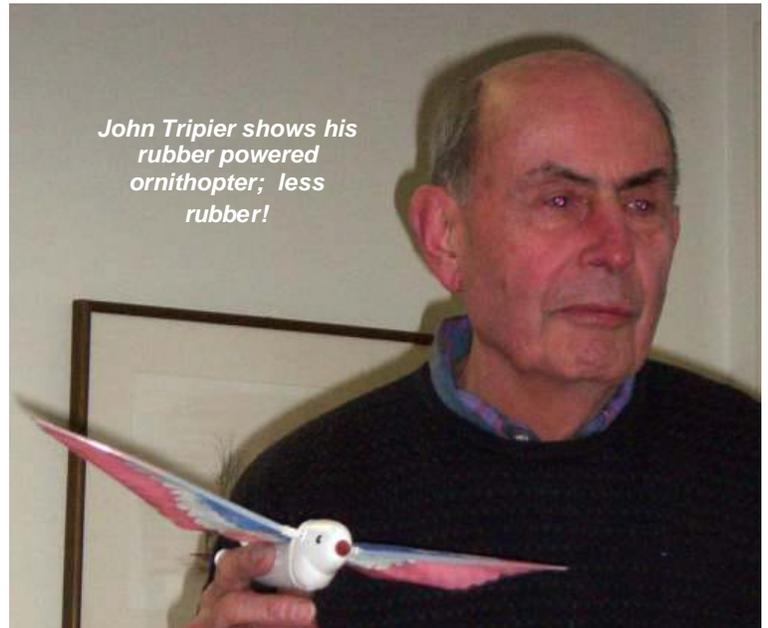
*Dave Harding's graphite reinforced balsa-ply formers.*

John Tripier began his report by saying that at 79 he had just received a successful physical and would the next day once again fly a full size airplane.

He then showed a foam and plastic RTF ornithopter with which he has been having fun, although he had worn out the rubber motor and could not fly it at the meeting. Apparently, the manufacturer insists that you only use the rubber supplied by them as anything else would be unsatisfactory! I wonder if the freeflight rubber contest guys know about this stuff.

John went on to make a pitch for the most basic of model flying, one largely forgotten in this ARF/RC age; balsa hand launched gliders. He brought two. He and Dave Bevan

regularly fly these models at Rose Tree Park, where people frequently quiz them as you don't see such good flying models much any more.



*John Tripier shows his rubber powered ornithopter; less rubber!*



*John Tripier with a pair of his "old fashioned" hand launched gliders. They are still a lot of fun to make and fly.*

The meeting was adjourned at about 8:45.

*Mick Harris, Dave Harding and Dick Seiwel, from memory, for Secretary Richard Bartkowski*

## The Li Poly Battery Guide

By Jim McPherson, from the RC Groups

After seeing the many, many posts on LiPoly's and answering similar questions time after time I've decided to put up a guide for using LiPoly batteries.

Lithium batteries are the preferred power sources for most electric modelers today. They offer high discharge rates and a high energy storage/weight ratio. However, using them properly and charging them correctly is no trivial task. There are many things to consider before using lithium cells for e-flight. But none is more important than safety.

### 1. Charging/Safety IMPORTANT!

**Until you are willing to follow all safety precautions, DO NOT use lithium batteries.** If you are a type of person that prefers to push the limits of products, or be haphazard about following safety requirements, Lithium technology is not for you. Read on to find out why.

**Lithium cells must be charged very differently than NiCad or NiMh.** They require a special charger specifically designed to charge lithium cells. In general any charger that can charge lithium ion can charge lithium polymer, assuming that the cell count is correct. You must NEVER charge lithium cells with a NiCad or NiMh only battery charger. This is dangerous. Charging cells is the most hazardous part of using lithium batteries. EXTREME care must be taken when charging them. It is important to set your charger to the correct voltage or cell count. Failure to do this can cause the battery to spew violent flames. There have been many fires directly caused by lithium batteries. PLEASE BE RESPONSIBLE when charging lithium batteries.

Here are a few MANDATORY guidelines for charging/using LiPos (Lithium Polymer Batteries).

**1. Use only a charger approved for lithium batteries.** The charger may be designed for Li-Ion or Li-Poly. Both batteries are charged in exactly the same. Some older cell phone chargers may charge the batteries .1 volt too low (4.1 vs. 4.2), but that will not harm the battery. However, inexpensive lithium chargers are widely available and the use of cell phone chargers is highly discouraged.

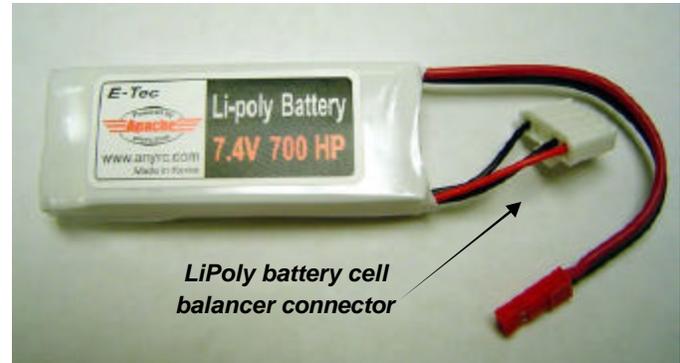
**2. Make certain that the correct cell count is set on your charger.** Watch the charger very closely for the first few minutes to ensure that the correct cell count continues to be displayed. If you don't know how to do that, get a charger that you do know how or don't charge the batteries.

*(Some early LiPoly "smart" chargers guess the number of cells from the initial voltage. Unfortunately, a fully charged two-cell battery has a voltage of as much as 8.4, but so can a fully discharged three cell pack. Some of these chargers have been known to "guess" the two-cell is a three-cell and proceed to charge it that way to the point of catastrophe. Ed.)*

**3. Use the Taps.** Before you charge a new Lithium pack, check the voltage of each cell individually. Then do this after every tenth cycle there after. This is absolutely critical in that an unbalanced pack can explode while charging even if the correct cell count is chosen. If the cells are not within 0.1 volts of each other then

charge each cell individually to 4.2 volts so that they are all equal. If after every discharge the pack is unbalanced you have a faulty cell and that pack must be replaced.

Taps are provided on most new lithium packs. Taps give you the ability to check individual cell voltages and charge one cell at a time.



Make sure and get the appropriate connector to go into your taps. Don't try to stick your volt meter probes in the taps to measure voltage. They could slip and short your cells. Don't try to charge more than one cell at a time from the taps. Unless you have an isolated ground charging system, you'll short your batteries out. Refer to your individual cell maker for tap pin-outs.

**4. NEVER charge the batteries unattended.** This is the number one reason for houses and cars being burned to a crisp by lithium fires.

**5. Use a safe surface to charge your batteries** on so that if they burst into flame no damage will occur. Vented fire safes, Pyrex dishes with sand in the bottom, fireplaces, plant pots, are all good options.

**6. DO NOT CHARGE AT MORE THAN 1C unless specifically authorized by the pack vendor.** (1C is the current that is 1 times the battery capacity divided by 1000 in amps i.e. a 1300 mah battery should be charged at 1.3 amps or less Ed.)

I have personally had a fire in my home because of violating this rule. Today's highest discharge batteries can supposedly be safely charged at greater than 1C, however so far in all cases doing so shortens the life of the pack. Better to buy 3 packs than to try to charge 1 pack 3 times quickly. This may change in the future but as of winter 2005 1C is still the recommended charge rate.

**7. DO NOT puncture the cell, ever.** (Hear that you Grothmans!?) If a cell balloons, quickly place it in a fire-safe place, especially if you were charging it when it ballooned. After you have let the cell sit in the fire-safe place for at least 2 hours. Discharge the cell/pack slowly. This can be done by wiring a flashlight bulb of appropriate voltage (higher is voltage is ok, lower voltage is not) to your batteries connector type and attaching the bulb to the battery. Wait until the light is completely off, and then throw the battery away.

**8. If you crash with your lithium cells they may be damaged** such that they are shorted inside. The cells may look just fine. If you crash in ANY way carefully remove the battery pack from the aircraft and watch it carefully for at least the next 20 min. Several fires have been caused by damaged cells being thrown in the car and then the cells catch fire later and destroy the car completely.

9. **Charge your batteries in an open ventilated area.** If a battery does rupture or explode hazardous fumes and material will spew from the battery.

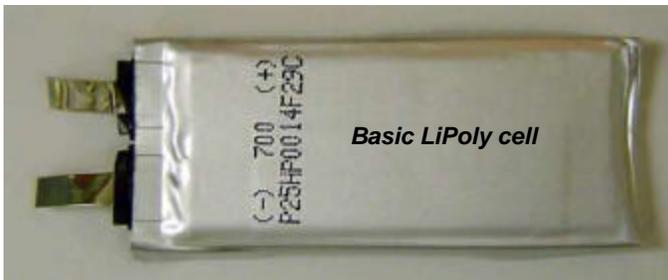
10. **Keep a bucket of sand nearby** when you are flying or charging batteries. This is a cost effective way to extinguish fires. This is very cheap and absolutely necessary.

11. **It can happen to you**, do not think to yourself that "it won't happen to me" as soon as you do that it you'll be trying to rescue your kids from your burning house or car. I'm very serious about this.

Now that we have covered that important topic let's move on to lighter matters :

## 2. Lithium What?

Lithium Polymer batteries are used in many electronic devices. Cell Phone, Laptops, PDA's, Hearing Aids just to name a few. Most, if not all, lithium polymer batteries are not designed for RC use, we use them in different applications than they were designed for. They are similar to Lithium Ion batteries in that they each have a nominal voltage of 3.6 volts, but dissimilar in that they do not have a hard metal casing but rather a flexible material encloses the chemicals inside. The "normal" lithium polymer batteries are thin rectangle shapes with two tabs on the top one positive one negative. The reason we use Lithium cells is that they are significantly lighter than comparable NiCad or NiMh batteries, which makes our planes fly longer and better.



## 3. Voltage and Cell Count:

LiPolys act differently than NiCad or NiMh batteries do when charging and discharging. Lithium batteries are fully charged when each cell has a voltage of 4.2 volts. They are fully discharged when each cell has a voltage of 3.0 volts. It is important not to exceed both the high voltage of 4.2 volts and the low voltage of 3.0 volts. Exceeding these limits can harm the battery.

The way to ensure that you do not go below 3.0 volts while flying is to set the low voltage cutoff (LVC) of your electronic speed control (ESC). It is important to use a programmable ESC since the correct voltage cutoff is critical to the life of your batteries. Use the ESC's programming mode to set the LVC to 3.0 volts per cell with a hard cutoff, or 3.3 volts per cell with a soft cutoff. If your ESC does not have hard or soft cutoff, use 3.0 volts per cell. You will know when flying that it is time to land when you experience a sudden drop in power caused by the LVC.

If your ESC has an automatic lithium mode. Use it, it will correctly sense the number of cells and set the auto cutoff appropriately. If you have previously been flying with NiCad or NiMh batteries, switching over to lithium polymer will result in a different number of cells being used. If you had 6 to 7 round cells then 2 lithium

polymer cells will correctly duplicate the voltage of those cells. If you had 10-11 cells then 3 lithium polymer cells would be right for you. There are a lot of 8 cell flyer's out there that are stuck between 2 and 3 cells. In my experience the best option is to determine how many watts you were using before and duplicate that with your LiPos, Motor, and Prop. For example. If you were running 8 cells (9.6volts) at 10 amps on a speed 400 airplane, then you have 9.6 x10, 96 watts. So if you went with 2 lithium polymer cells (7.2 volts nominal) then you'd need to change your prop such that you used 13 amps. If you went to 3 LiPoly's (10.8 volts nominal) then you'd need to reduce the amperage to 8.9 amps. These estimates are approximate, and some experimentation is required for best results but conserving Watts is a good way to start.

## 4. 10C from 3S4P? Naming conventions explained.

How fast a battery can discharge is its maximum current capacity. Current is generally rated in C's for the battery. C is how long it takes to discharge the battery in fractions of an hour. For instance 1 C discharges the battery in 1/1 hours or 1 hour. 2 C discharges the battery in 1/2 or half an hour. All RC batteries are rated in milliamp hours. If a battery is rated at 2000 mAh and you discharge it at 2000 mA (or 2 amps, 1 amp = 1000 mA) it will be completely discharged in one hour. The C rating of the battery is thus based on its capacity. A 2000 mAh cell discharged a 2 amps is being discharged at 1C (2000 mA x 1), a 2000 mAh cell discharged at 6 amps is being discharged at 3C (2000 mA x 3). All batteries have limitations on how fast they can discharge.

Because of this many LiPoly batteries are put in parallel to increase the current capacity of the battery pack. When 2 batteries are wired positive to positive and negative to negative they become like one battery with double the capacity. If you have 2 2000 mAh cells and you wire them in parallel then the result is the same as 1 4000 mAh cell. This 4000 mAh cell has the same C rating as the original 2000 mAh cells did. Thus if the 2000 mAh cells could discharge at a maximum of 5C, or 10 amps then the new 4000 mAh cell can also discharge at 5C or (4000 mA x 5) 20 amps. This method of battery pack building allows us to use LiPoly batteries at higher currents than single cells could produce. *(This is like filling the swimming pool with a hose. Can't get it to fill fast enough? Then use two hoses in parallel and fill twice as fast! Ed.)*

The naming convention that allows you to decipher how many cells are in parallel and how many are in series is the XSP method. The number in front of the S represents the number of series cells in the pack so 3S means it's a 3 cell pack. The number in front of P means the number of cells in parallel. So a 3S4P pack of 2100mAh cells has a total of 12 cells inside. It will have the voltage of any other 3S pack since the number of cells in series determines the voltage. It will have the current handling of 4 times the maximum C rating of the 12 individual cells. So say our 3S4P pack had a maximum discharge of 6C. That means that it has a nominal voltage of 10.8 volts (3x3.6) and a maximum discharge rate of 50.4 amps (2100mAh x 6Cx4P).

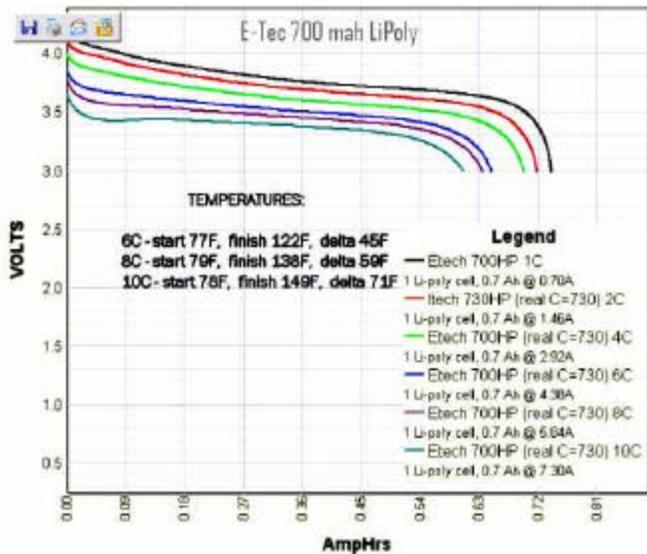
## 5. Which battery should you buy?

With so many choices out there it is difficult to decipher what is marketing hype, what is brand loyalty, and what are outright lies. Battery manufacturers are constantly trying to one-up one another. While capitalism can drive prices down, it also can give cause to false claims about products.

One great way to find out what the best battery is is to look at graphs of the batteries performance. Looking at how low the

voltage of the cell drops at various amperages will give you a metric to compare that battery to similar size/weight batteries.

*(Battery temperature under load is also a good indicator of the maximum discharge current as the temperature is one of the key factors in cell damage. A great deal of data, including discharge curves and temperatures from many different batteries may be found on the RC Groups discussion forums; <http://www.rcgroups.com/forums/showthread.php?t=342568> Ed.)*



If graphs aren't your thing then simply look at what other people are using in successful setups that are similar to your application. If a lot of people are reporting long flight times and lots of power from airplane X, with power system Y, and battery Z and you do the same, then if your setup is similar the same battery will probably work well for you.

It pays to learn something about Watts, Volts, and Amps. Understanding these concepts is beyond the scope of this document, but can serve you well in not only figuring out what battery is best but also in your electric aircraft hobby.

I'm not convinced that a 30C battery is really any better than a 10 or 20C battery. Sure a higher C rating means it can discharge faster. But at the same time a battery discharged at 20C continuously will be empty in 3 minutes. Do you really only want to use the battery for 3 minutes? *(Well, yes, we use 40C in our SAM competition, but that is another story... Ed.)*

I love having burst power in helicopters and boats, but in almost all other applications actually running a battery at or above 20C is useless to me. I prefer to run batteries at 8-10 C and have a little headroom if I need it.

A final note on choosing a battery; don't cheap out. Confirm that your batteries are capable of running that the amperage level you plan to use them at. Running a cell at a higher C rating than the battery can handle can not only damage your batteries, but it can also damage your speed control. Castle Creations has an excellent article on how using a weak battery can destroy a perfectly good speed control of any brand. Better to buy a bit better battery than you need than to destroy your electronics.

## 6. Dealing with temperature.

Lithium batteries like heat, but not too much. In the winter time, try to keep your batteries from the cold as much as possible. Leave them in the car while you're flying, or keep them in your cargo pants... etc. At the same time don't let them heat up too much. Try to keep your batteries from reaching 160F after use. This will prolong the life of the cells. A good way to measure temperature is a handheld IR meter; they can be found for around \$50.00 at most hobby shops

**Jim McPherson**

<http://www.rcgroups.com/forums/showthread.php?t=209187>.

## World-Wide Contests, Good Flying Models that are Easy to Build; Propstoppers Club Projects?

Last month I mentioned some possible club projects, this month I want to make a proposal for our involvement in two World-Wide contests that we may try with just one model.

The two events are, the Electric Texaco Postal, and the Frank Ehling Memorial ½ A Texaco Postal for the ubiquitous Cox 049.

First of all, these events are "stay up" flying. You power to altitude and come down as slow as possible, finding thermals on the way to stretch your flight time. Now this type of flying is not for everyone, the hot shots may be hovering over the runway during the event, but many of our flyers could compete as it only requires you to keep the model steady and steered back to the field to land. With some help, your model could be trimmed to fly itself, as these Old Timer models do so well.

So, what is involved? First you need a model. Between Mick Harris, Dick Bartkowski and I, we have several candidates to loan you. But most of these models are so easy to build that maybe we should have some building sessions and make a batch of them. There are many candidates but we could pick one and mass produce it; I suggest Mickey DiAngelis's Trenton Terror.



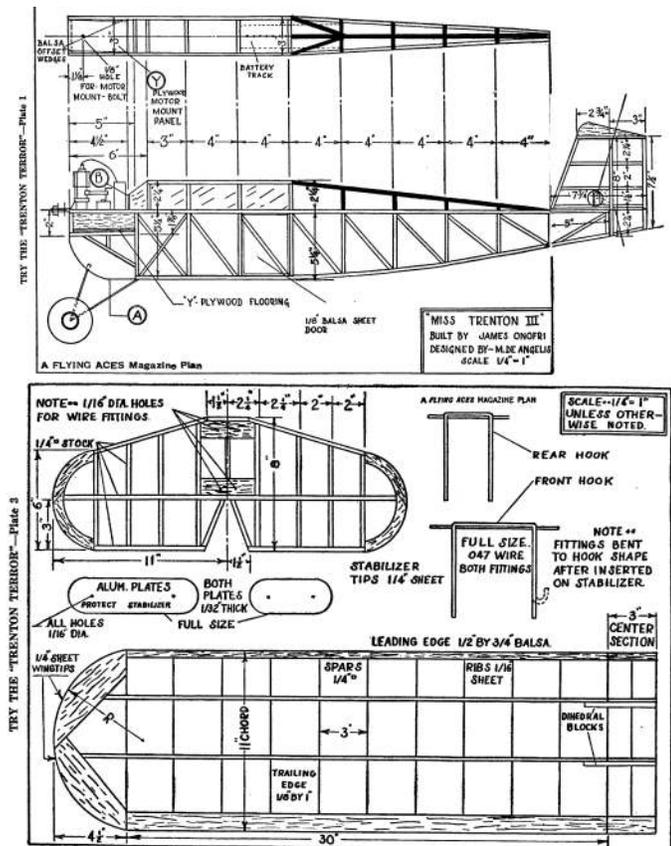
*Introducing Miss Trenton III—better known as the "Trenton Terror"—with Barney Onofri, its builder, and Mickey DeAngelis, its designer. Sturdy and stable and with easily adjustable controls, this ship was making quite a reputation in the East before the travel bug bit her and she failed to return from an exhibition flight.*

Dick Bartkowski has campaigned a tiny version for years with a good deal of success. Last year Mick built two, one to try it and the second to refine the size. I also built one for my Ohlsson 60 ignition engine getting a max on its maiden flight at the SAM Champs in 2004. Then I modified it to fly with a big electric motor at the 2005 SAM Champs Electric vs. Gassie event and won my class. This model flies well and it would make a super trainer too. My model was made to Mickey's original plan at the full 72 inch span. Dick and Mick have scaled that plan to build other sizes. The size appropriate for the two contests is probably 70% of the original, and about 50 inches span, 7.7 inches chord and 350 square inches area



Dick Bartkowski holds while Dave Harding tunes the Ohlsson in Dave's Trenton Terror at the 2004 SAM Champs

The Trenton Terror is a very simple, stick-built model with slab sided fuselage and constant chord wing. It can be built in a few days or a week of long evenings. Faster if we mass produce the components.



Plan and article at; <http://www.ualberta.ca/~khorne/oct-04/ft.pdf>

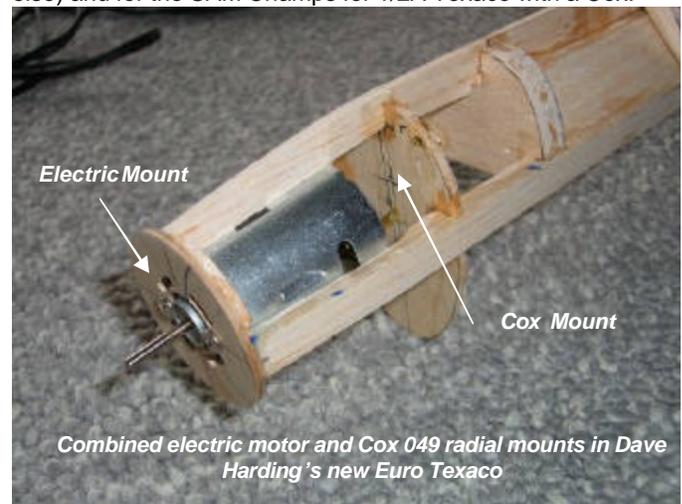
But back to the contests. First is the Electric Texaco that we entered last year (and would have won except for the "mother of all thermals" in California). A 350 square inch model must weigh at least 20 ounces so it is a little more than a park flyer but since it only has to cruise you may use a small geared

motor and big prop, maybe even one of the GWS indoor motors. The Contest Director for this event has introduced new battery rules so NiMH and LiPoly batteries can be used. The rules specify an energy per ounce formula to pick the battery, so don't worry about that right now. So there you have it; a simple to build model and an inexpensive motor and battery. At the 20 ounce weight I don't expect you will have to use micro radio components so use what you have. You will need a receiver and two servos and of course, and ESC to match your motor.

Now I said in the beginning that you will be able to use this model for two competitions. The other event, 1/2A Texaco, is the most popular event at the SAM Champs. It involves using a model, such as the Trenton Terror I just described, powered by a Cox 049 reed valve motor with a five cc tank, the small one we are used to, not the later long tank. And there you have it. Put on an eight inch prop, fill the tank and fly it up till it runs out of fuel, then glide down.

"Fuel" you say, yep, you can still get the stuff, and you may remember that if you build your model for fuel you had better fuel-proof it. This means the engine/motor compartment, where we can't leave it in bare wood, and the surface finish, where the usual mylar films are probably the way to go.

The old Cox is mounted on a former, spaced so the prop ends up in the right place. I have made such an installation on my latest contest ship, one I will use in Europe for their Electric 1/2A Electric Texaco (with funny rules that don't apply anywhere else) and for the SAM Champs for 1/2A Texaco with a Cox.



We can design just such a front end for the Trenton too.

Now the next thing is for everyone in the club to go to the workshop and find those Cox motors. Get them out now so we can check them out at the Community pride day event. If they are stuck put them in a jar of kerosene and leave till the 13<sup>th</sup> May.

Next we need you to make a commitment to join us for this endeavor. Call or e-mail me, or Mick (no e-mail there though) or Dick Bartkowski. Or come out to Tuesday breakfast and discuss it there. We will lay out a plan for you, be it a loaner, or help you build one. Next thing for us to do is get a plan copied at the right scale. Maybe Mick will bring out his models and the plans to the next meeting and discuss it further in Show and Tell.

A summary of each event is shown on page 8.

So, are your competitive juices flowing? Want to be part of a winning team gaining glory with your picture in all the mags? Then join us and lets have some fun.

**Dave Harding**

Dave Harding – Editor  
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# Propstoppers R.C. M.A.C

***Aero modeling Old and New: and still just as enthusiastic.***

***John Tripier and new member, Phil Oetinger, show off their models at the April meeting.***



## **2006 ELECTRIC TEXACO POSTAL CONTEST**

**Sponsored by SAM27, Napa California**

**DATE:** Any date during the months of June, July, August or September to make the contest flights. A team may repeat their flights at a later date if they feel they were penalized by the weather. This is an attempt to level the world-sized flying field on which the flying conditions differ and change dramatically on any given day. Since the weather can deteriorate rapidly to worse than the original day, the score is the best team score of the two days. Flight times may not be transferred between days.

**SCORING:** Each club's team score will be the sum of the longest flight scores of the three highest scoring members.

**GENERAL INFORMATION:** The winning club will receive and hold the perpetual **Electric Texaco Postal Championship Trophy** (currently held by SAM 27) for one year. The winning club agrees, as a condition of entry, to organize the following year's postal championship.

**RULES:** This International Postal Contest is open to:-

- 1) Pre-1943 Old Timers on the SAM Approved Design List for Gas Models
- 2) Pre-1951 European Old Timers

- 3) Pre-1943 scale models.

*Scale model of any full sized aircraft designed or built by December 31, 1942. Plans may come from any source. No scale points are awarded...."* Balsa construction with tissue, fabric or plastic covering is required.

2006 SAM Electric Texaco Rules will be used, but broadened to include the more popular and lighter NiMH and LiPo batteries. Battery energy (equivalent to ounces of fuel) is allocated in proportion to the Flying weight.

## **FRANK EHLING COMMEMORATIVE 1/2A TEXACO POSTAL**

**Sponsored by SAM 600 Australia**

**DATE:** This postal meet may be flown on any day **October 1<sup>st</sup> to 24<sup>th</sup>** Do all your flying on the same day. No fair starting to fly, then deciding to come back on a better day. If one flight is made, then it's on for that day. And, please, do not use scores from another contest for this postal meet.

**SCORING:** The best 2 out of 3 flights, 15 minute max, Flyoff if two maxes scored?

**GENERAL INFORMATION:** The winning SAM chapter will have the honor of sponsoring this postal meet next year.

**RULES:** SAM rules, Cox 049 reed valve, 8 inch prop max, 5cc's fuel 8 ounce wing loading, pre 1943 Old Timers.