



# The Flightline



Volume 34, Issue 3

Newsletter of the Propstoppers RC Club

AMA 1042

March 2004

## Editorial: Indoors with an Accent

Seemingly in a recurring dream I am once again driving on a dark overcast night across the fields of Southern England with the spire of Chichester cathedral in the distance. Tangmere is just ahead but there is no sound of the Hurricane's RR Merlins or the JU-88's unsynchronized BMW 801's to accost the still air. But what's that over there, blow me down, it is a BMW factory, one that makes Rolls Royce motorcars no less. Confusing? Well, no, you see its 2004 and time and space has changed things somewhat.

I am visiting my mother and this evening I am going to attend the local model club's indoor meet held in the gymnasium of a private school. This country school is located in what was probably once a great estate. The sure clue is the solid but quaint gatekeeper's cottage standing guard over the entrance (just like the one I imagined in Lady Chatterley).

When I decided to spend a winter month with my mother I did a search for indoor flying activities to see if there were enough to justify making or taking some models and buying some UK legal RC gear; they use 35mhz for flying models. I was pleasantly surprised to find seven meetings within striking distance during my stay so I began to plan to participate and ordered a transmitter and two receivers for delivery to mum.

### Agenda for March 2<sup>nd</sup> Meeting Marple Newtown Library, 7:30 pm

- Approval of February meeting minutes
- Membership Report
- Finance Report
- 2004 club event planning
- Field Report – Sleighton plans and search.
- Field Preparation Plans
- Plan for Lebanon Flea Market Trip
- Show and Tell

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I have had excellent success in traveling with carry-on models in a box that fits in the overhead. I have also shipped models in Mick's purpose-built box, as checked luggage, so both methods were viable. However, a quick check on US Airways web site showed that Mick's box was too big to fit as a normal piece of luggage and I was not motivated to build a new one or pay a premium. In the event I got all worked up about building a model I had been planning for our indoor meets before unanticipated travel cut back on my US season. This model, yet to be definitized (as we used to say in the Big Airplane business) was to be as light as possible using conventional GWS motor, receiver and servos with one or two-cell lithium poly batteries. I also wanted it to be a scale model, so with five days to takeoff Mick Harris and I did a survey of available plans and data books. The model had to be simple to construct, of course! In the end I decided to build a Bleriot XI, like Mick's but much smaller to fit in the carry-on box.

I had an excellent book on the history of Bleriot, which included scads of photos, three views and detail drawings of the hard bits. Best of all, apart from the landing gear, the construction would be simple, and I had a number of pictures of the one in the London Science Museum. Better yet, the one in the Science Museum was claimed to be, not a Bleriot but a JAP - Harding.

J A Prestwich was a manufacturer of engines used primarily in motorcycles. H J Harding was his professional motorcycle racer who subsequently became the JAP representative in Paris. My grandfather worked briefly at JAP in the early 1900's. The Science Museum display indicates that Mr. Harding may have stolen the airplane plans from Bleriot!

So, with four days to go I scanned and printed the three views at 1 inch to the foot scale, resulting in a 30-inch span model. At the end of three days (remember there are 24 hours in each one) I had finished the model, less landing gear, and prepared a box for transportation.



*Bleriot XI or JAP - Harding? Dave's latest indoor model*

My brother had ordered some shirts and a coat from Orvis. He asked me to carry them over for him. These arrived in a fine cardboard box so with the hour or so remaining I fitted my four indoor scale freeflight Warbirds and reinforced the box with Styrofoam columns. This was to be checked luggage and although I hoped it and the models would survive there would be no loss if it were completely crushed. I loaded two plastic boxes with tools, materials, spare parts and two mini chargers for conventional and lithium poly batteries and packed these in my suitcase.

Continued on page 3

## Calendar of Events

### Club Meetings

Regular Meeting 7:30 pm  
Tuesday 2<sup>nd</sup> March  
Marple Newtown Library

### Flying Events

Tuesday Breakfast Meeting  
The Country Deli, Rt. 352 Glenn Mills  
9 till 10 am. Just show up. Flying  
afterwards at Sleighton or Moore (weather  
permitting)  
Call Dick Klekotka 610-692-4527

Indoor Fun Fly  
Saturday 28<sup>th</sup> Feb in the Chester Salvation  
Army gym 10 am till 12pm

Friday 5<sup>th</sup> March  
At Tinicum School Gym, 7 till 9 pm

Saturday 13<sup>th</sup> March  
Lebanon Flea Market  
Meet at Granite Run Mall parking lot

### Regular Club Flying

At Moore and Sleighton Fields

Daily	10 am til Dusk
Saturday	10 am til Dusk
Sunday	12 p.m. till Dusk
	(Electrics 10am till Dusk)

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

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Propstoppers Web Site; [www.propstoppers.org](http://www.propstoppers.org)  
Check the web site for back issues of the  
newsletter, pictures of club events and the calendar  
of future events.

Pictures courtesy of Bob Kuhn and Dave Harding

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## The President's Message

Dear Fellow Propstoppers

At February's club meeting we had a successful club auction that benefited the club thanks in part to Al Tamburro and Mike Black and to those who participated. Many of the auction items went at extreme bargains.

Some changes are being made to improve and update our web site [www.propstoppers.org](http://www.propstoppers.org) by Bob Kuhn (webmaster) and John Drake. Thank you both.

We have two more indoor fun flies at the Salvation Army and Tinicum School.

Our indoor flying has been going very well with many dates to fly. I think everyone has had a good time. I would like to thank Mike Black for arranging the flying at Interboro and to Dave Harding and Richard Bartkowski for the flying at the Salvation Army gyms. It was good times flying indoor during the cold weather but, I think we are all looking forward to some warmer weather!

But first, let's prepare the fields. Come to the next meeting to make the plans then be ready to help out in one of our fieldwork days.

*Keith Watson, President*

## Minutes of the Meeting,

### February 3<sup>rd</sup>, 2004 at Marple Library

The meeting was called to order at 7:00 p.m. By Vice-president Dick Seiwell, President Keith Watson presiding.

The roll call by Ray Wopatek showed 28 members and 3 guests present.

Minutes of the January meeting as published were accepted by the membership.

The treasurer's report was read by Al Gurewicz and accepted by the membership.

### Old Business

President Keith Watson reminded the membership of all the indoor events upcoming. These are listed in the newsletter event calendar.

Adjournment of the business meeting took place at 7:30 p.m. this was followed by the annual club auction where Al Tamburro used his skills to sell numerous kits, ARFs, fully built models and supplies to the benefit of the club. Over \$700 was taken and the club share was almost \$80.

*Richard Bartkowski, Secretary*



*Al Tamburro works his auctioneering magic on the Propstoppers. Mike Black looks on in admiration. Rich Bourassa looks uncomfortable sitting on his wallet.*

This all worked perfectly. The airport security and airline staff were completely disinterested and to my surprise both boxes and the models arrived in perfect condition.



*Indoor models packed for transport to the UK*

The day after my arrival, the day of the first meeting, I finished the landing gear and sorted out the radio gear. To my chagrin the GWS receiver had not been shipped but I had received my other order for a HiTec Feather receiver and crystal. Furthermore, the Futaba 6AX did not come with a charger, so some improvisation was in order, but I triumphed and was ready.

My host was the Chichester and District Model Airplane Club, one just like ours including their having two fields with one difference. This part of the South Coast is paralleled by the South Downs, an almost unbroken line of hills a couple of miles inland. With the prevailing southwesterly winds there are several choice spots for club slope soaring. Also like us, they hold a regular monthly indoor meet at which the railbirds outnumber the flyers by five to one. I have my temporary BMFA membership and I'm ready.

The Chichester hall was about the same size as Tincum but a little higher. There were about the same number of attendees and flyers as we usually get, with about the same mix of models, with three exceptions. First, there was a vendor present, Flitehook, and they sell a popular, minute, ARF rubber-powered duration model. Several of the members spent all evening trimming these little gems. Some of them flew well.

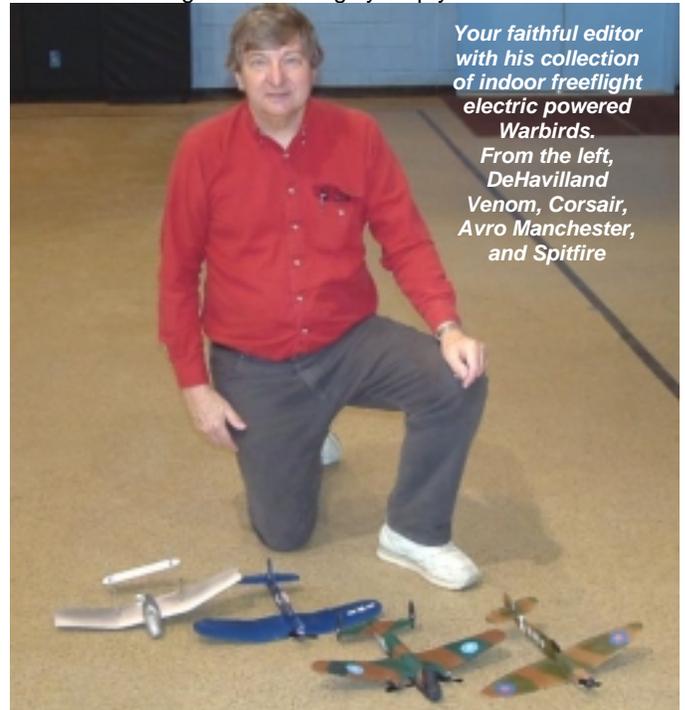
The second difference is the popularity of the Kolibri type carbon fiber RC models that have been available in Europe for some years. These models are very light and fly quite well. The third difference was a Round The Pole (RTP) setup where electric powered models fly around a pole on the end of a tether. The tether is also the electric conductor. An operator, who sits outside the circle, controls the model with power-only. They use a 24-volt power supply, which ends up as 12 volts after the losses through the wires. These models flew quite well. There were no electric powered free flight models other than mine.

My evening started with the assembly and range check

of the Bleriot. Before I left I had contacted Azarr at Ecubed to see if his exquisite little M-72-Lite antennas would work on 35mhz. He said he thought they would, as they would be about 1/8 wavelength. So it proved, as the range check of only about 20 feet translated into good reception throughout the hall.

First try with the Bleriot resulted in extensive taxi trials showing that rudder control was good but even though flight speed was reached there was no "flight". Hmm, I had placed the CG at the quarter chord point to start with but the single surfaced and cambered wing airfoil probably has a fairly high pitching moment so maybe it needs more decalage. Now Bleriot went through all this in full-scale and he wisely provided for a ground-adjustable empennage pitch trim; I didn't! However, a sharp knife a little balsa packing and some hot stuff and the deed was done; 1/8 inch under the trailing edge. Still no flight; more packing needed and installed.

Now flight was imminent, but still not quite there. Moving the CG aft was the next step but I was concerned about stability so I set it aside to think for a while and flew my freeflight Warbirds. With the usual fiddling these performed well and looked great in the largely empty hall.



*Your faithful editor with his collection of indoor freeflight electric powered Warbirds. From the left, DeHavilland Venom, Corsair, Avro Manchester, and Spitfire*

The local members also flew the Piccolo type light indoor electric helicopters and a couple of members flew freeflight scale models, one rubber powered SE-5 and a CO2 powered Eindecker. Both flew well and presented a fine sight.

Towards the end of the evening I decided to try the Bleriot with the CG moved aft with a lump of modeling clay in



*Superb rubber-powered SE-5 flies great*

the tail and the receiver moved as far aft as possible. The CG was now at about 40% of chord. So I tried a test hop to see how it would handle. The answer was well. It took off and was easy to control in the same kind of slow realistic flight that Mick's model demonstrates. Wow, what a thrill, but it was cut short by a turn into the RTP pole with the resulting shattering of one wing. Not to worry, an easy fix and no reduction in elation. In fact, I thought I had earned a prize, and so it was that I stopped at the fine "local" to hoist a quick pint on my way home!

The following morning the afterglow was still burning and I contemplated the next meeting two days hence. On reading the meet announcement again I noticed that freeflight was not allowed at this meet, which is very well attended by RC flyers. Furthermore, they were planning a pylon racing evening with classes for IFO's, semi-scale and unlimiteds. Hmm, another aeronautical challenge?

There is a fine hobby store, SMC, in the adjacent town and they are one of England's main mail order stores too. They are GWS dealers so perhaps I could get what I needed to build something. Let's see, semi-scale and unlimited, but in a smallish hall, although larger than those to which we are accustomed. Maybe something a little smaller than a LiteStick with the same power setup and radio gear. Less drag too, so a built-up fuselage with some streamlining and a good wing and airfoil, but watch the weight.

I thought either an AT-6 or Focke Wulf T-152, the high altitude, high aspect ratio version of the FW-190 might work but a web search for three-views was fruitless. There were lots of pictures but no 3-views. Then I looked for Formula 1 or Goodyear Racers, same story. But all of these looked the same so I thought that I would just make a representative version. I quickly sketched the design, made a shopping list and made a quick trip to the hobby store. I wanted the low gearing GWS motor as I planned to go fast, but all they had was the "A" motor that is standard in the LiteStick. Hmmm, another problem to solve. Well, if I can't make the prop turn fast with gearing, I'll have to do it with voltage, and what do you know, they stock three-cell Li-poly batteries, just like Rusty uses in his go-fast stuff. I had the smaller props necessary to keep the current within limits. A few sheets of balsa, a GWS receiver and I was on my way using the GWS Pico servos I brought, just in case.

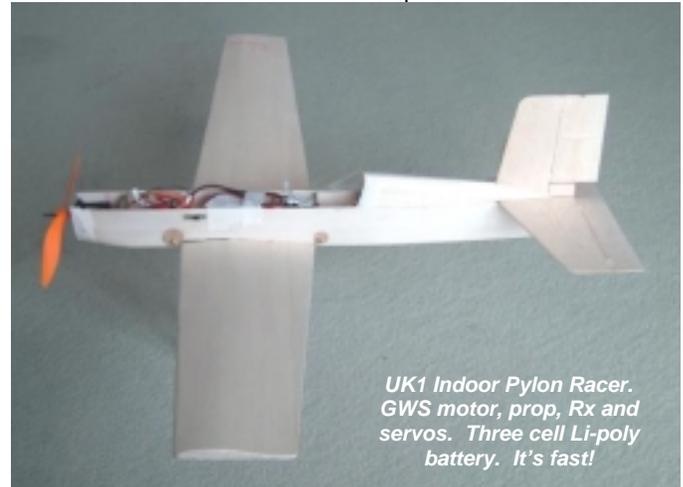
Saturday morning saw my mother's dining table covered with newspaper and other armor for the onslaught. First the wing design. I wanted low drag and decent lift, so I decided to use a modestly cambered, thin, flat-bottomed airfoil. For low drag in the turns I wanted efficient lift distribution so a tapered plan form and moderate aspect ratio was in order. A thicker airfoil at the tip should take care of tip stall concerns. The wing was made as a sheeted design with 1/32-inch light balsa skins over a simple spar with a few ribs and an additional leading edge strip so I could sand a generous leading edge radius. This approach allowed me to build it flat on the lower surface sheeting. The design was for a shoulder wing location and a suitable dihedral was cemented into the wing with some newspaper and CA reinforcement at the center joint.

I had considered ailerons but the complexity was too much for the time available, so rudder and elevator won the day. The empennage was from 1/16-inch firm sheet with hinges sewn with cotton thread.

The fuselage consisted of 1/16-inch balsa sides joined to corrugated cardboard formers. The servos were cemented to the fuselage sides, elevator peeking through the side so as to provide for external pull-pull control, and the rudder with an inside/outside pushrod. After fixing all this and sorting it out I realize they interfered with the wing location! Oops, oh well, a

low wing it is and I cut the usual saddle in the bottom skin and sides. Now all that was required was to install the radio gear and check the CG, then make the turtle deck, but I ran out of time as so just covered the forward fuselage top surface with tape.

This is how the model looked after some aerodynamics tweaks described below. Time to depart for the meet.



*UK1 Indoor Pylon Racer.  
GWS motor, prop, Rx and  
servos. Three cell Li-poly  
battery. It's fast!*

The Eastleigh hall was much bigger and the meet much better supported by flyers and spectators. They managed a transmitter impound and allowed only five flyers at a time. Five flew almost continuously from 7 till 10 pm.



*Excellent turn out at the Eastleigh Indoor RC meet.*

I first assembled the Bleriot and made a flight. It flew very well and made several tours of the hall close to the ground to stay out of strafing range of the fast movers overhead. Flight was just like I imagine an early Bleriot to be; marginal. In fact I thought the battery was a little low so I landed and plugged it in to recharge. Time to play with the pylon racer; UK1.

First I asked around for the local hot-hands pilot. There were several and the first I asked quizzed me on the transmitter mode. You see there are AC and DC in Europe and wouldn't you know, the first guy flew throttle on the right stick! However, he pointed me to the real hot-hands, Nigel Potter, pilot extraordinaire. Nigel was willing and the model ready. First, like all good test pilots he set up the controls to his liking, gave it a quick burst of power and nodded his acceptance. We waited till the air cleared of slow flyers and went for it. The model surged away and into the first turn but it was difficult to control and we stopped for some elevator adjustment. Second try also found difficulties as it would not pull out of the turn so we landed

for a debrief and council. Nigel suggested the dihedral was too low or rudder too small, the simplest fix was the rudder so with an extension from 1/32 in balsa we tried again.



It handled better but now there were power problems so we landed and I did some diagnostics. It turned out that the battery was low and the ESC BEC was dropping power. The next problem was my Li-poly charger only handled two cells. Hmm, what to do? Well, I borrowed a seven-cell NiMH battery from an old friend and then thought some more about the various lessons learned. Clearly the dihedral was wrong for a low wing airplane so I cut the wing through the upper surface, cranked in some more dihedral and glued it back together. All problems solved but what about the power with only 8 volts vice 12? Meanwhile, Nigel said he could charge a three cell Li-poly so with a little ingenuity we managed to lash up a connection and left it to perk as it would clearly not be ready for the race. Too late to try another test, the pylon races had begun.

I took the model to the line and launched with two other models in the race. As I expected we weren't the fastest but it was clearly handling well and Nigel was a really smooth pilot. Fortunately for us the leading plane cut a pylon and with his extra lap we were the winners.



Following the race Nigel was clearly happy with the model and its handling. Now we were both anxious to find out what it could really do so we installed the partially charged Li-poly and flew again. This time it was magic, the speed was just about all he could handle and the handling so smooth that before long he was

flying the whole course knife-edged and really pulling through the corners. Performing as designed, it did not slow down in the turns, just pulled tight. This one is going to be a real winner outdoors but I don't know about my ability to fly it indoors. Maybe with a two-cell battery and training wheels!

How about that, two successful models in one fell swoop. Now I really deserved the trip to the "local" and made it just before the bell for "last call".

Next Saturday is another meet at another location and the following week yet another, this time freeflight only. Then finally another RC meet. I also plan to attend the British Electric Flight Association annual meeting and trade show. I'll report on these events in the next newsletter although flying at these meets cuts down on the opportunities for recording other people's activities.

Meanwhile, so long from the UK.

Dave Harding

## CENTRAL PENN AEROMODELERS ASSOC.

### 24th Annual Radio Control FLEA MARKET

**PLACE:** LEBANON FAIRGROUNDS  
Intersection of Cornwall Road  
and Rocherty Road, Lebanon PA

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PA Turnpike  
Exit No. 20  
(See Map on Back)

**DATE:** SATURDAY, MARCH 13, 2004  
(Regardless of weather)

**TIME:** 9:00 A.M. for General Admission  
7:00 A.M. for Space Renters Only  
Open 'Til 3:00 P.M.

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boats, control-line airplanes, and related accessories.

## Propstoppers Trip to Lebanon Saturday 13<sup>th</sup> March

Join us for our annual trip to this fantastic flea market just one hour away. As usual we will form up a caravan in the parking lot of Granite Run Mall on the Baltimore Pike side adjacent to the old Boston Market. Just show up before 7:30 and work out the ride or drive arrangements.

### Propstoppers Indoor Flying Report

Most of the Propstoppers flying activities we know about occurred indoors during the last month. First there was the February 6<sup>th</sup> meeting in the Tinicum School gym. This was well attended by the usual suspects and some great flights were made.

Dick Bartkowski continues to refine his collection of ever smaller indoor freeflight models with his attention firmly on the capacitor powered pager motor end of the scale. These models fly beautifully.

Your editor always brings out whatever can be fixed in the few hours before the meet, this category usually includes the family of electric powered models with N-20 motor and two or three cell 110 mah NiMh batteries. These mostly foam models are fiddly to trim right but when they are the flights look realistic.

**Freeflight requires a good deal of fiddling to get it right. Your editor and Dick Bartkowski tweaking in Tinicum.**



Now the good doctor tells me that all really capable indoor flyers (and outdoor too) make their models so they hold their settings once trimmed, but I made them adjustable so I could achieve the necessary trim! Maybe one of these days I'll figure out how to do it, but in the meantime..... just fly it!

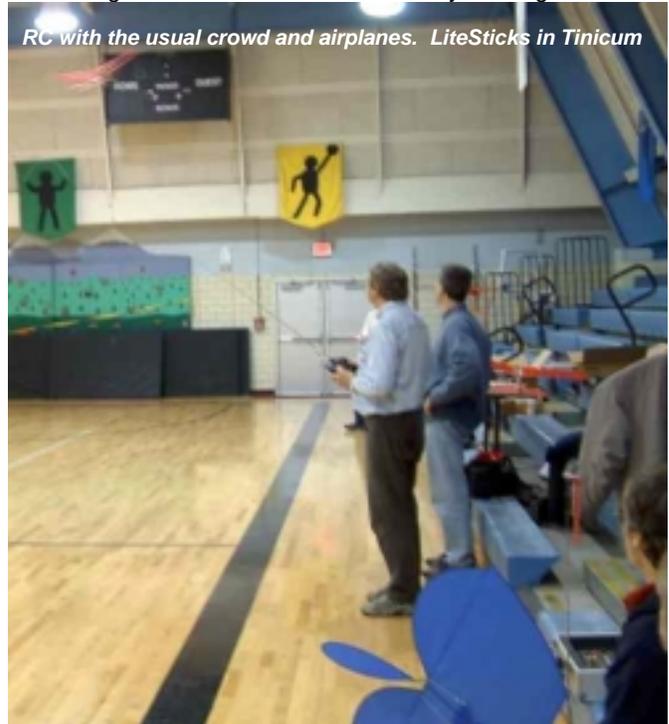
*Dick Bartkowski has this capacitor driven plane flying magnificently*



The RC community flew the usual LiteSticks and IFO's. They fly so well it's hard to improve on them as trainers and aerobats respectively. Now there are IFO's and there are IFO's, and Rusty, the speed freak that he is, has one hopped up machine. His one features a twin motor GWS setup with a three-cell Li-poly battery. Silver soldered brass rod joiners are a bit over the top however. Perhaps you should get these special fittings chromed, Rusty.

Rusty also flew Mick's old Antoinette in its usual majestic flight pattern. If you haven't seen it fly you have missed a treat. It flies so slowly that you observe the control movements of the rudder and elevator before the model responds. Rich Bourassa flew his tiny RFFS controlled model. What a sight to see a 12-inch RC model fly under good control.

*RC with the usual crowd and airplanes. LiteSticks in Tinicum*



Ray Wopatek flew his "Miss America" blimp with the usual displays of delight, especially from the kids.

*Always a treat, Ray Wopatek "flying" his blimp*



Speaking of which, there were a gaggle of kids present this evening. Here is Dave Bevan with some grandkids and their friends. With Dave's usual guidance, they all built and flew freelflight models.

Dave runs a summer camp for kids at the Helicopter Museum. The campers get instructed in the basics of aeronautics from one of the country's leading technologists (Dave) then they build and fly models to test the theories. How about talking to Dave about this program. Maybe you have a child or grandchild who would enjoy it this year.



*Dave Bevan with grandsons and friends*

Again we were blessed with a group of enthusiastic kids, several of them my grandkids. In addition, my daughter Pauline was attending a shower for Captain Clark's wife and we invited those children who were interested to build and fly some Delta Darts. Pauline seems to travel with whatever materials may be required to make a party out of any endeavor, so we had the kits, knives and glue. Some cardboard boxes were sacrificed for building boards and there were several skilled adults to provide guidance.



*Delta Dart building session in the Salvation Army gym*

The results were some surprisingly good flights enhanced by the fact that Dick Bartkowski had brought his rubber winder, which was in constant demand.

John Drake continued his education by tackling the widest possible variety of aeromodeling projects while quizzing the "experts". His thirst for knowledge is endless but he is rapidly maturing into a complete modeler.

It is a shame that more Propstoppers don't take the opportunity to tackle indoor flying, it is a wonderful way to enjoy our hobby and emerging technologies allow you to do almost anything indoors that you might do out. There is still one more meet to go on Friday 5<sup>th</sup> March in Tinicum School.

The second indoor meet of February was held on Saturday the 14<sup>th</sup> in the Chester Salvation Army gym. This is an excellent facility and the parking is convenient and safe too.



*Your editor's granddaughter Susan shows her form with a hand launched glider*



*Dave Harding*

Dave Harding – Editor  
4948 Jefferson Drive  
Brookhaven, Pa. 19015  
610-872-1457

# Propstoppers R.C. M.A.C



*Maybe the best ever Propstopper's auction.  
Al Tamburro works his magic late into the  
night as he clears over \$700 worth of gems.*

## *My Favorite Tools*

- A pin vise with a selection of very small bits that are stored in the handle. Has proven to be great for any number of jobs, and especially, for mounting control horns or drilling fine holes in new ones.
  - A pair of tweezers about 4" long with right angle tapered tip. Great for covering jobs and also for retrieving or steadying engine mounting bolts as they are tightened inside cowl area.
  - A magnetic probe about pencil size. Very useful for retrieving loose bolts and screws.
- Do you see a theme here?
- Finally, Harry Higgle's drill jigs have proven indispensable for drilling engine mounting holes in motor mounts and also, for drilling bolt holes for wing mounting.

Eric Hofberg

## *For Sale*

**Goldberg Gentle Lady, Electric  
Powered Glider  
Speed 600 motor, charger, and  
batteries and complete Futaba  
radio.**

**Complete and ready to go, well,  
you will have to charge the  
batteries.**

**\$100 or best offer, must sell  
Dick Campbell,  
e-mail Dave Harding or call Mick  
Harris for contact info not  
available at press time.**

**Membership renewal for 2004 is now past due.  
You can renew by mail or at the club meeting in  
March Dues are \$60.**

Please send a check to;  
**Ray Wopatek  
1004 Green Lane  
Secane, PA. 9018**

Please enclose a **copy** of your current  
A. M. A. Membership card,  
**And Please, Please enclose a  
Stamped self-addressed envelope.**

Ray Wopatek Membership Chairman

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