



# The Flightline



Volume 35, Issue 6

Newsletter of the Propstoppers RC Club

AMA 1042

June 2005

## **The President's Message**

As some of you may have already heard Dick Seiwel pulled it off again and has found us yet another field for our use that will allow for both glow and electric aircraft. Through many hours of work and persistence he was able to convince Middletown Township to allow us to use one of their future recreational fields. (Please read editorial for more info) As of this writing, we are awaiting for the required AMA insurance papers to be compiled and mailed to us so that we can submit them to the Township and to finalize the arrangements. In the meantime the Board will be meeting as to define the new field's rules, primary revolving around hours of use, sound levels, safety, aircraft size, etc.

We will be taking a very proactive approach to respect the Township and the Township residents who own this land. The use of their land is a privilege, not a right so we will have to treat it as such. It is our hope that we can foster a great relationship with the Township and further gain their support. I believe that our future will depend on it.

It is our hope that we will have the new field open in the next couple of weeks; depending on the time it takes to get the paperwork and prep the field for use. Stay tuned, as there is more to come. Please check the Propstopper's Yahoo group for updates.

**Steve Boyajian, President**

## **Agenda for June 7<sup>th</sup> Meeting Christian Academy Field 7 pm**

- Approval of May meeting minutes
- Membership Report
- Finance Report
- Flying Field Issues
- Club Picnic Plans
- Show and Tell
- Flying

## **Editorial; The Central Limit Theorem - Continued**

Last month I explained the Central Limit Theorem and it's application to our field search process. Then I heard from Dick Seiwel about the success he has in securing another new field for us. My immediate reaction was "darn, I was wrong about application of the theorem". But the more I thought about it I came to realize that it was actually an affirmation of the theory because the one constant in this last nine months is that Dick regularly finds new fields, so we should have expected his recent fantastic success.

What success you ask, well Dick has made arrangements with his friends and acquaintance, the Middletown Township Commissioner, for the use of their portion of Sleighton; see the back cover.

You may remember that a portion of the Sleighton property is in Delaware County and when the initial sale was made Middletown Township acquired the fields south of the campus. Apparently they plan to eventually build a World-Class youth soccer facility and other sports fields on the property, but that is some years away. So Dick provided them with a simple proposal for our use of the field until the development begins. This proposal is shown on pages 4 and 5. The proposal was coordinated with the Commissioners and Dick received the OK for our use of the field until development begins, probably in two years. He believes that if we develop and maintain good relations with the recreation committee and the field's neighbors we may be included in their activity planning even after development of the Sleighton Recreation Facility. Middletown is in the process of acquiring several new open spaces as part of a deliberate plan of expansion.

An initial examination of the field, and comparison with old Sleighton Field shows that they are about the same size and the runway could be oriented in the same direction as our last Sleighton location.

The club's Board of directors is in the process of acquiring the necessary insurance policy from AMA and defining the rules for our use of the field. They are most concerned that we establish and maintain strict community friendly practices, particularly as far as noise is concerned. This field is very much nearer large, expensive, established houses on both Forge and Valley roads and we don't want to disturb their peace and quiet, particularly in the evenings.

**The initial set of New Sleighton rules are on the back cover.**

So, come to the June meeting at Christian Academy Field and participate in the discussion. Don't forget to bring a plane and fly, both before and after the business meeting.

On another matter, I have received several newsletters as Post Office returns because the mailing labels fell off. Sorry about that, I try to rub them down but I guess the box I bought three years ago is going stale. Shame, as they are quite expensive. Anyway, I have no way of knowing just who's labels fell off, so if you haven't received one I can only say sorry, and I will work harder to stick them down.

**Dave Harding**

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## Calendar of Events

### Club Meetings

Field Meeting 7:00 pm  
Tuesday 7<sup>th</sup> June 2005  
Christian Academy Field

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

### Events

Club Picnic; Saturday 16<sup>th</sup> July  
New Sleighton Field

Walt Bryan Memorial Electric Fun Fly  
Saturday 13<sup>th</sup> August  
Field?

### Regular Club Flying

At Christian Academy  
Weekdays after school; 3pm till dusk  
Last day of school 8<sup>th</sup> June.  
Saturday 10 am till dusk  
Sunday, after Church; 12 pm till dusk

Thursday evenings, at CA field.

Note; Flying must be done in accordance with the agreement forged by Vice President Dick Seiwel. Specifically, only electric powered airplanes. Beginners using due caution and respecting club rules may fly GWS Slow Stick without instructors.

## 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.

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## Minutes of the Propstoppers Monthly Meeting May 3<sup>rd</sup>, 2005 at the Marple Newtown library

Vice President Dick Seiwel called the meeting to order at 7:30 p.m. Roll call of the membership by chairman Ray Wopatek showed 20 members and 1 guest present.

The minutes of the May meeting as published were moved and accepted.

The treasurer's report by Jim Barrow was presented.

### Old Business:

Dick Seiwel spoke about the Christian Academy cleanup day. He said he is improving the entrance road and modifying the angle of the field to be away from the sun. The recent rains and water logging have been a problem but should dry out soon. He is planning to move the wood shelter to the site so it could be available during the flying season.

### New Business:

Several members proposed a Club category plane to be used for combat or group flying. Dave Harding proposed a foam profile with simple electric power.

The Club picnic was proposed for July 16<sup>th</sup>.

The Walt Bryan fun fly was scheduled for the 13<sup>th</sup> of August.

### Show And Tell:

Sam Nevins showed his scale 1913 Eastbourne monoplane. It came in and at 23.9 ounces and is powered by a geared speed-400 electric motor. He built it from a New Creations kit.

Sam Nevins with his really nice  
1913 Eastbourne monoplane



Dave Harding showed his foam profile, kit built aerobat that he took to England. It has full four Channel Control and a small brushless motor with lithium cell power.

Dave also showed his family of electric stardust specials. He has the same model in three sizes for different contest classes. He plans to take two of them to the European champs this summer.

Al Tamburro showed an electric and foam Twin Star. It weighs about 48 ounces and is powered by twin speed 400s. It flies on eight NIMH cells. He has flown it successfully and claims it can do loops and rolls.

**Richard Bartkowski, Secretary**

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## Sound Issues

Over the next short period the Propstoppers Board of directors will be developing sound level rules for flying of gas models at the New Sleighton Field. At the time of writing we don't know how the rules will end up but for illustrative purposes here are the procedures established for flying at the old Sleighton Field.

We all know that exhaust noise is the biggest problem with gas models, we also know that effective mufflers are available and that four stroke engines are usually quieter than two strokes. But we also know that many mufflers that come with new engines are not very effective, so be prepared to buy a new one if yours is one of those.

The second major noise generator is the propeller, where just like in full-scale airplanes and helicopters, noise increased markedly with increase in the Mach number of the propeller tip: Tip speed, specified as a fraction of the speed of sound; about 1100 ft/second at sea level. Propeller noise can be reduced by selection of a propeller design with low noise characteristics and by keeping propeller tip speed below Mach 0.5.

In his "Sound Advice" column in the February 1999 issue of Model Aviation Ian Maclaughlin said that keeping the product of rpm in thousands and propeller diameter in inches below 120 will keep propeller noise below 90 dBA, as measured at a distance of nine feet. At a product of 120 this is approximately Mach 0.45. A three-bladed propeller is sometimes used to provide the desired thrust while keeping tip speed down. So watch those hot-high rpm motors.

Airframe vibration also radiates noise. Interestingly enough, when Jason Shulman was developing his Hacker powered electric F3B aerobat for the World Aerobatic Championships, it was airframe noise that gave the biggest problems. They solved it by rubber mounting the electric motor and incorporating sound deadening materials into the composite fuselage structure. These approaches apply to gas powered models too, and you can assess these problems in ground runs and flight tests.

Here is the procedure set up by Rusty Neithammer for use at Old Sleighton Field. The club owns the sound meter and at Sleighton we set up a ground run area away from the pits.

### Procedure for Making Sound Level Measurements

Revision 0, December 02, 2003

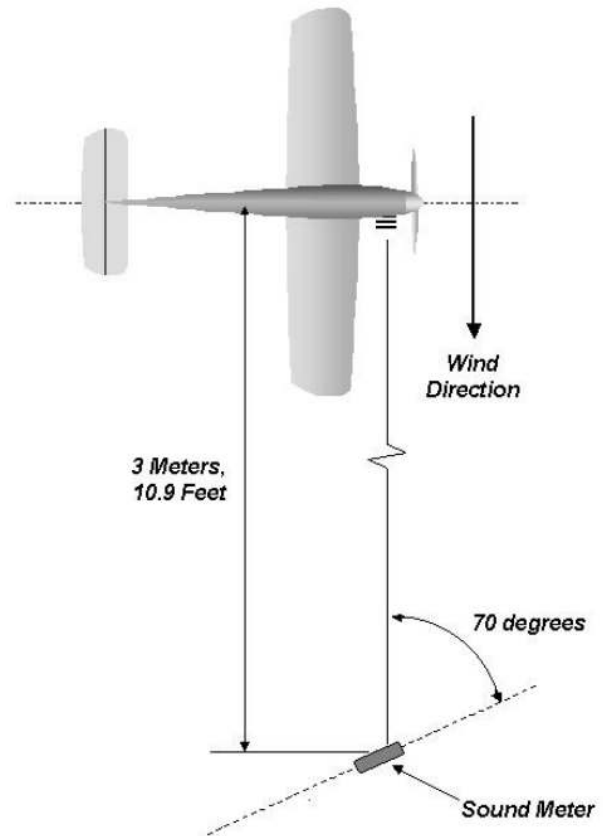
Equipment: Radio Shack #33-2050 Sound Level Meter (or equivalent)  
Tripod to support sound level meter

Reference: AMA Radio Control Aerobatics, Addendum 1 (Sound Addendum)

#### Procedure:

- Place the airplane being checked on the ground, away from any structures, motor vehicles, etc. Orient the airplane so that it is facing crosswind with the muffler outlet facing downwind. Install a restraint suitable for the airplane, with the engine running, to be held in place without human assistance. Ensure that there are no other loud sounds present from aircraft, motor vehicles, etc.
- Always read the muffler side of the aircraft (ex. The right side for upright mounted 2-stroke engines). Place the

meter downwind of the aircraft on a tripod 11 to 12 inches off the ground; perpendicular to the fuselage at the muffler outlet; and at a distance of 3 meters (10.9 feet). Position the meter at an angle of 70 degrees from the down wind line. Install the windscreen over the sound level meter microphone.



- Turn the sound level meter ON by rotating the range dial to the first position, "Batt". Verify that the battery is good by observing that the meter reads in the acceptable "red" range.
- Set up the sound level meter as follows:
 

Weighting:	A
Response:	Slow
Range:	90
- Start the engine of the airplane under test. After the engine has been started and properly tuned, and the adequacy of the restraint verified, ensure that there are no persons closer than 3 meters/10.9 feet to the airplane. Run the engine up to full throttle
- Note the reading on the sound level meter.
- Acceptable reading = 94 db (or lower).

**This level is changed to 90db for New Sleighton Field**

**Proposal for Model Airplane Flying at Middletown Sleighton Recreation Field**

We fly for the enjoyment of our hobby,  
and share our fun with others through  
training of new members and  
community oriented show days



**Trainers Mentoring  
Teen RC Pilots**



Proposal for Model Airplane Flying at Middletown Sleighton Recreation Field

- *We would like to fly our model airplanes at the Middletown Township Sleighton Recreation Field.*
- *We have been safely flying our models in Middletown, on the Moore Farm, for over 30 years. We have also flown from Sleighton School field and Thornbury Township Park. We have lost use of these fields due to land development and competing uses.*
- *We organize and ensure responsible, safe and community friendly flying through rules of operation laid down by our landlords, the National organization and our club; The Propstoppers.*
- *All members are insured by their membership in the Academy of Model Aeronautics. In addition, specified flying sites enjoy extended insurance coverage via this body. We would apply for such coverage if allowed to fly at Sleighton Recreation Field. A copy of such insurance is attached.*

Richard Seiwell, Vice President, The Propstoppers Model Airplane Club. [www.propstoppers.org](http://www.propstoppers.org)  
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Plan For Flying From Sleighton Recreation Field

- *Flying would be done with a field layout that ensures separation of airplanes from flyers and spectators.*



- *We would maintain the part of the field we use and we would mow the runway, pits and parking areas.*
- *We would limit our flying hours by coordination with the Township and neighbors.*
- *Typical hours might be 10 am till one hour before dusk Monday through Saturday and noon till one hour before dusk on Sundays.*

### **Cell Phone Interference; Is It Real?**

The whole business of RC interactions with cell phones is not new, and many modelers have started to have concerns, indeed there have been all kinds of discussions on the Internet groups. Much of this discussion is based on the kind of radio frequency interference experienced in the various bands used by RC modelers. But, the electromagnetic and electronics design experts largely discount such phenomenon because the frequencies used in RC and cell phones are so widely separated; RC 72 mega hertz; - cell phones; 2,400 mega hertz.

However, there are other potential interference phenomena quite unrelated to the classical case, and they are associated with coupling between the cell phone very high frequency radiation and the actual digital device signals. In particular, the microprocessors and their memory chips.

Here is Muxplex response to a highly publicized incident in the UK with a large gas turbine model flown with a Muxplex computer transmitter.

MULTIPLEX is extremely sorry to hear of the unfortunate incident involving the gas-turbine helicopter in early October 2004. An immediate investigation was launched to ascertain the cause. We have also taken into consideration the BMFA (British Model Flying Association) Safety Bulletin No 6 relating to the use of mobile telephones in proximity to electronically programmed transmitters.

The UKRCC (earlier JRCUC) has reported there may be a problem associated with operating mobile telephones in close proximity of programmable transmitters causing memories to be partly or fully erased. This problem has yet to be scientifically substantiated, however, it is generally known that RF radiation can disable or permanently damage some modern electronic devices. Although the risk may be small, we believe it should be minimized by bringing to the attention of RC pilots and clubs that pending resolution, we recommend that mobile telephones be not switched on within 10 feet of any programmable transmitter. This may appear to be 'overkill', but better safe than sorry. Care should be taken during pre-flight checks to ensure that all controls are operating effectively in their correct sense and to ensure that the memory has not been affected by any undetected or unknown transmission since the last flight.

Recently the NHS (British National Health Service) published a Warning Bulletin on the potentially dangerous interactions of portable communications equipment on sensitive electronic equipment such as ECG monitors, drug infusion pumps, intensive care equipment etc. if you have been in a hospital recently, you may have seen all sorts of notices prohibiting cell phone use in wards). Virtually all of this type of equipment has microprocessors in them together with their adjacent memory chips called EPROM's (Erasable Programmable Read-Only Memory). The Medical Devices Agency, which performed the measurements, and risk analysis, which prompted this warning bulletin, found that beyond one-meter separation of cell phone and such equipment, the risk of malfunction from EMI - electromagnetic interference - was insignificant. However, at distances less than one-meter, there was a 1 in 20 chance of malfunction.

On the other hand, perhaps the most cautious Government organization in the US, the FAA, is about to grant a waiver to their rule against cell phone use aboard flying aircraft. It seems that they have found no grounds to

continue the ban and one must presume that they believe the probability of interference to be extremely remote.

Taking a different approach, consider that there are now probably more than three hundred million cell phones in operation. Most of them are on our bodies, close at hand in bags or sitting on or next to our computers and other electronic equipment. Most of our microprocessor electronics contains similar parts, so why don't we hear all kinds of stories about our cell phones deleting our computer memories, or Ipod memories, or our digital watches etc. etc.?

Could it be just like most common cries of "I've been hit"; just the most agreeable explanation for a screw up, or poor memory and so on?

I certainly don't know, but I am suspicious of these claims. On the other hand, I am not a conspiracy theorist.

**Dave Harding**

### **Lehigh Students Triumph in Korea**

In November of last year I reported on the initial activities of six mechanical engineering students engaged in an activity to design, build, fly and compete in an International competition to build the smallest air vehicle that could cruise for 15 minutes. With no aero background these students started from scratch, although one of their early wise decisions was to ask for help from Boeing. Our own Dave Bevan, aerodynamicist and airplane designer extraordinaire, pitched in and also co-opted several other Boeing engineers and retirees to help guide them via weekly phone conversations.

Initial efforts had their encouraging moments but a complete solution seemed far out of reach. However, persistent efforts gradually whittled the problems down so that thrust exceeded drag, lift exceeded weight and at times the aerodynamic shape demonstrated stable flight. Not the least of their problems was that there was no RC flyer on the team, and their intention was to learn while doing the development.

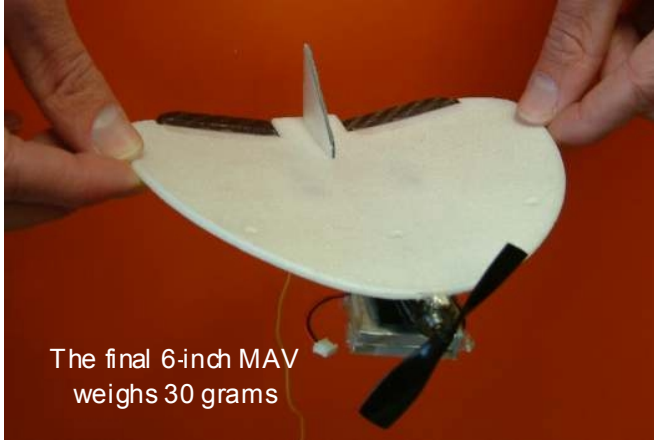
With a promising model but no success two of the students visited the Arizona U. team that had flown successful models and hosted last years competition. The AU hot-hands pilot looked carefully at the model and declared that it should fly and after some fiddling with the size of the U-80 prop, down and right thrust, a successful flight was made. The AU students also pitched in with the pilot training by giving Lehigh a 1/2 scale EPP foam Zagi to play with. This was remarkable successful as the designated student quickly learned to fly; - amazing!

A few weeks ago I visited Lehigh for the purpose of assisting with the presentation they were to make to the American Helicopter Society/SAE dinner. They insisted they give me a demonstration flight, and so they did!

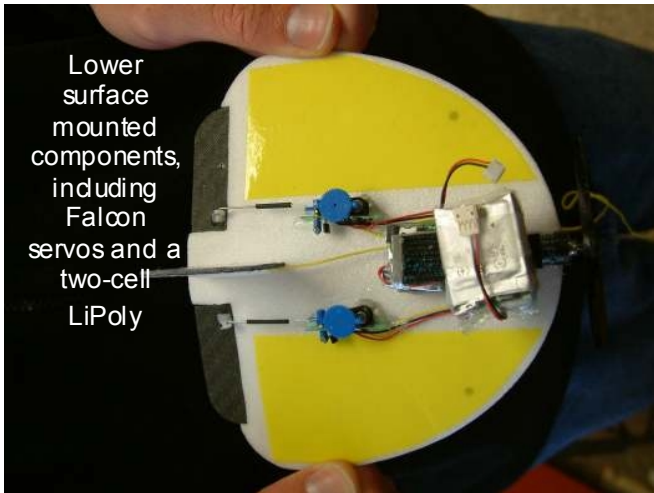
With nothing more than a few tweaks of the control settings and a CG check the first attempt was made. It resulted in a squirrely short dash followed by the inevitable thump into the campus grass. Not to worry, this is one tough machine and this came about deliberately as they recognized up front that it would take many crashes and many models to achieve the desired flight performance. So, they set about changing the prop and doing a little more balancing whereupon they demonstrated a six-minute flight in windy

conditions: Magic! Particularly as this plane flies at something like 15 mph and is very twitchy.

The model uses the latest indoor RC components including the Falcon 1.7-gram servos and LiPoly batteries. Interestingly enough, they make every landing on the battery. *They did not know of the potential hazards with LiPoly's!*



The final 6-inch MAV weighs 30 grams



Lower surface mounted components, including Falcon servos and a two-cell LiPoly

All the components are attached with hot melt glue or Velcro so repairs and adjustments can be made quickly. Here, hot hands Pat Boyle, the pilot, makes a final CG adjustment using what they call the "Dave Bev an Method".



Final CG check using the "Dave Bev an" method.



Pilot Pat Boyle and "Aero" Ange Capece ready to launch in the Lehigh Quad.



The old "final controls check"



Good launch Ange



The Lehigh MAV dimbs away for a six-minute demo flight, awesome!

Following these successes the students went to Korea where they exceeded their best performance with a fifteen-minute max flight. They ended in sixth position, a wonderful result.

**Dave Harding**

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# Propstoppers R.C. M.A.C



### **New Sleighton Field Rules**

The dub Board of Directors has established the following rules as a starting point for our community friendly operations.

#### **Hours of Operation**

Day	M – F	Saturday	Sunday
Glow Models	10 – 7pm	10 – 5pm	12 – 5pm
Electric	10 – dusk	10 – dusk	12 - dusk

- Glow models shall be powered by engines of less than .50 ci two strokes or 70 ci four strokes
- Models will demonstrate 90db or less noise at 9 feet when measured according to the Propstoppers spec.
- Flight operations with a buddy are strongly recommended.
- Every club member will be a rules enforcer to ensure all flying is accomplished in accordance with our rules for;
  - Safety (Propstoppers Safety Rules-Bylaws)
  - Noise
  - Time of operation
  - Flight in designated flight area

### **Note; Summer Meetings at the Christian Academy Field June Meeting Tuesday 7<sup>th</sup>**

*Business meeting starts at 7 pm but bring a model or two and fly before and after. Join us at 4:30 for an evening of flying.*

*No time for dinner? Why not stop at one of Brookhaven's wonderful eating establishments; Burger King, McDonalds, Wendy's, KFC and picnic at the field.*

*We suggest you bring some insect repellent as we have found ticks at the field, just as we did at Moore.*