



The Flightline



Volume 44, Issue 4 Newsletter of the Propstoppers RC Club AMA 1042 April 2014



President's Message

The monthly meeting will be held at the Christian Academy Building [GATEWAY COMMUNITY CHURCH]. The meeting will start at 7:00 an end when we are done. The room is large with plenty of room for show & tells.

The egg hunt for the church is Saturday April 12th. They would like to have us flying around 12:00 till 1:00 for the egg hunt and we can continue to fly after.

Middletown Community Day is 3rd May, 11 till 3. We will be at the same field as the last few years .We would like to have a good turn out so if you can spare some time the club would appreciate it. The parking is great and the field is close. The Club has been flying in the township for 15 years or more. So if you could come out and show what you have they would appreciate it. Don't forget, we are the only club to have TWO fields in Delco.

Dick Seiwel, President

Agenda for April 8th Meeting At Gateway Community Church, At our CA Field site; Meeting 7pm till 8:30

1. Show and Tell
2. Membership Report
3. List of Unpaid Members Reminder
4. Finance Report
5. Easter Egg Hunt Plans
6. Middletown Community Day Plans

Minutes of the Propstoppers Model Airplane Club March 11th 2014

The meeting was called to order at 6:30 pm.

Role call was taken by Ray

14 guests and members were present.

The treasurer's report was given by Pete

New Business

This will be the last meeting to be held at the library. Starting next month meetings will be held at the school building adjacent to the field, so it will be convenient for getting in some flying before or after the meeting during the summer.

Mick was volunteered to be custodian of the keys, and to open up the building before the meetings. Meeting will continue to be held on the second Tuesday of the month with the meetings starting at 7:00 pm.

The Church will hold an Easter Egg Hunt at the field on April 12th from 11:00 to 12:30. We will cut the grass, and they like us to do some flying to entertain the kids.

Middletown Township will hold Community Day May 3rd.

Our first club picnic will be June 21st, starting at 11:00 am; the second one will be timed to fit in with Church event.

Members are reminded that all their 'planes should carry their name and address - excellent stick-on labels can be obtained from AMA.

At the next meeting the use of simulators to help beginners will be discussed

The meeting was adjourned at 7:45

Mick Harris for Dick Bartkowski, Secretary

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Calendar of Events

Club Meetings

Monthly Meetings

Second Tuesday of the month.
Gateway Community Church at the Christian Academy. Doors open at 7:00
Next Meeting; 8th April

Tuesday Breakfast Meeting

Tom Jones Restaurant on Edgemont Avenue in Brookhaven. 9 till 10 am. Just show up.
Flying after in the summer at CA or Elwyn Field 10 am. Weather permitting.

Regular Club Flying

At Old Christian Academy; Electric Only
Monday through Friday after school till dusk
Saturday 10 am till dusk
Sunday, after Church; 12 pm till dusk
At Elwyn Field; Gas or Electric
Monday through Saturday 8 am till dusk
Sunday 12 pm till dusk

Special Club Flying

Saturday mornings 10 am
Wednesday Helicopter evening in summer
Thursday evenings in the summer
Tuesday mornings 10 am weather permitting after breakfast.
Check our Yahoo Group for announcements;
<http://groups.yahoo.com/group/propstoppers/>

Beginners

Beginners using due caution and respecting club rules may fly Apprentice or similar models without instructors at Christian Academy Field. The club also provides the AMA Introductory Pilot Program for beginners without AMA insurance.

Show & Tell

Joe Mesko had a partially completed 3D foam airplane that he built from plans downloaded from the web. The foam used was dollar store foam poster board with the paper removed by using a 50% alcohol and water mix. Joe used new glue by the name of "Foam Tac" and highly recommended it due to its lack of expansion and slight amount of working time. Dry wall tape was used to strengthen the fuselage and hinge the control surfaces. Joe will make the plans available by request. Can't wait to see the finished plane. *Eric Hofberg*



The original plans have cut outs that will allow the build to be super light similar to the Horizon Hobbies UMX Extra 300. I chose to keep mine solid and it weighed about 0.8 oz. I also tried to airbrush one of the builds and found that the Createx airbrush paint added about 0.2 oz of additional weight. The Createx paint did cover the Dollar Tree Foam nicely.

The Micro #D plane.pdf shows the top and side views and the scaled_extra.xps is a tiled version scaled to about 20 inches long with a wing span of about 18 inches. The forum posting is below:
<http://www.rcgroups.com/forums/showpost.php?p=20108938>

Also, I can't say enough good things about the new glue from Beacon called Foam Tac. <http://www.foam-tac.com/>

Couple good demos about using the glue and

1. FibaTape Ultra Thin dry wall mesh tape to reinforce foam,
2. Making airfoils with dollar tree foam,
3. Making Foam Tac Hinges,
4. Removing the paper from Dollar Tree Foam using 50/50 alcohol water mixture...

<http://www.foam-tac.com/foam-tac-demos.html>

Joe Mesko

Propstoppers RC Club of Delaware County, Pennsylvania.

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Propstoppers Web Site; www.propstoppers.org

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Just park at the upper level and come in through the front door.

Meetings will start at 7 pm and end when we are done, or the person with the key wants to go home.



From The Last Brookhaven Indoor

Eric Hofberg flew his new Heli-
Max 1SQ V-Cam Quadcopter.
See this detailed video review;
<https://www.youtube.com/watch?v=nxH3tPoZFYw>

Eric took the following pictures of
members flying at the meet.







Flying Display for the Gateway Community Church Easter Egg Hunt

President Dick Seiwel called me earlier this month, to share that the Gateway church folks asked we may like to fly for the kids at their Easter egg hunt at our Christian Academy field. As the club's unofficial "event coordinator" I am trying to get the message out.

The date of the event is Saturday April 12th. The key time for flying for the kids will be 11AM and 1PM

Obviously, feel free to arrive earlier and stay later as you like. Even if you don't plan to fly, you can bring some models out for display if you would like to do so. I think it is great that we are building a good relationship with the church people and I plan to attend to support the club.

Al Koz, who is planning to become a club member, offered the following;

Even though I'm not officially a member of the club yet, I've been to a few indoor events. If I may, and I can make it, I'd like to set up a table of micros. I think the kids would get a kick out of planes that aren't so big and are more their size.

Why not support Al's idea and bring some of your micros too.

I hope to see you all if you can make it.

Next Big Thing; The Middletown Township Community Pride Day; May 3rd!

As a club, we participate every year at the Middletown Community Day <http://www.middletowncommunityday.com/> (previously called "Pride Day"). It is scheduled for Saturday May 3rd this year. I usually coordinate the logistics and planning for us - so here we go 2014!

We would like to make this year bigger than ever simply by having more club members present to attend, demonstrate airplanes / helicopters and to fly if you are comfortable doing so. I think there is a misconception that you are expected to actually fly - that is not the case, attending to talk with the kids or just demo'ing a plane is more than enough.

It is always a fun day. There is food, entertainment and a lot to see. For our stuff, the community really enjoys the aircraft - especially the kids. Try to make it if you can. I think one demo what would be really neat would be AI T's control line planes. I think that would be great.

We will provide further information as to place and time etc. later in the month as the township completes their plans.

• *All Trails Lead To Middletown* •

COMMUNITY DAY 2014

MIDDLETOWN EST. TOWNSHIP 1686

Twentieth Year Celebration

Saturday May 3, 2014
11 am to 3 pm • Rain or Shine



Like us on Facebook
Middletown Twp.
Community Day 2014

Penn State Brandywine Campus
25 Yearsley Mill Road
Media, PA 19063



Sponsorship & Volunteer opportunities available.



Jeff Frazier

Estes Proto X Micro Quad

Borrowed from RC Sport Flyer, April 2014 a good magazine

If you're looking to have a little fun with a quadcopter, check out the Estes Proto X. Billed as the world's smallest production quad, the petite Proto X is not even two inches across and weighs the same as two quarters: less than half an ounce.

Although obviously designed with the great indoors as its preferred venue, this tiny aircraft is easily capable of putting on more speed and climbing faster than you will likely feel comfortable with, unless you're flying in a gymnasium or a concert hall or some similarly cavernous space.

Enclosed within its thumb-sized canopy is a solid, six-axis Flight Control System (FCS) that does a good job of auto-leveling the aircraft when you let up on the control sticks and limiting pitch and roll inputs to a pre-determined maximum. Overall, it's a pleasure to fly — nimble, responsive and very smooth.



The Proto X carries a total of eight surprisingly bright LEDs to help the pilot maintain orientation, with blue lights forward and red aft. When the aircraft's 100-mAh battery is almost fully discharged, the lights start flashing to alert the pilot to land.

The Estes Proto X depicted alongside two 25-cent pieces. The coins not only provide a sense of the aircraft's diminutive size — they are also equivalent to its weight: less than 12 grams.

With the stock controller, you're limited to the factory default settings, analogous to "stability" mode on other multirotors. However, the Proto X does have acrobatic capabilities you can tap into with a controller upgrade. See the sidebar for details.

The aircraft has a built-in 3.7-volt 100-mAh lithium-polymer battery, charged by means of a USB cable with a custom plug on the end that hooks to the Proto X. Don't lose it, because there is nothing else in your laptop bag that you can substitute for it. The charging cable has a red LED that illuminates while the battery is



charging, and extinguishes once it is fully charged.

Because the battery is internal, you won't be swapping it out to quickly get back in the air. On my



unit, each flight lasted about 5 minutes, and it took 25 minutes on the charger before it was ready to go again.

The Proto X is a stout little machine that endured several hard knocks that I gave it — intentionally,

The circuit board that the Proto X's electronic components mount to does double-duty as its airframe. This ingenious design reduces both weight and mechanical complexity, but snap off a limb in a bad crash and a repair will likely be impossible.

of course — with no damage other than a detached propeller, which easily slid back into place on the motor shaft. That said, I wouldn't repeatedly smash it into a rock wall or a tile floor just for fun.

The circuit board that holds the FCS and the battery doubles as its airframe, so I'm sure that there is a limit to how much abuse it can withstand — and because of its integrated design, you won't likely be able to repair it if you do manage to snap off one of its limbs.

Estes could have done a favor for all of the junior quad pilots out there by making the propellers lurid shades of green and orange, to increase their visibility after they become separated from the machine by a crash. Their gray-and-black color scheme can make them a little hard to spot on many household surfaces. Four extra propellers are included in the box, just in case.

When it's flying, the color of the propellers is pretty much irrelevant to maintaining orientation, thanks to a total of eight bright LEDs on board the Proto X, which unmistakably identify the front and rear of the aircraft.

The Proto X arrives bound to a 2.4-GHz radio of Lilliputian dimensions, which also comes included in the kit box. In spite of its diminutive size — and my relatively large hands — I had no trouble flying it, and it would no doubt be great for children or other people with small hands who are learning to fly.

The tiny controller even includes trim buttons for pitch and roll, which do a good job of taming the Proto X's occasionally meandering flight path — see the side bar for instructions on how to permanently resolve this issue.



Estes did make one peculiar choice in the design of the controller, however: a tiny, Phillips head screwdriver is required to open the battery compartment, so make sure you've got one handy, along with the two AAA batteries required to power the radio.

In addition to the aircraft, the controller, the charging cable and the four extra propellers, the box also includes a thorough, lavishly illustrated instruction sheet — presented in English, as well as French and Spanish for our friends both north, and south, of the border.

On the "beginner-intermediate-expert" continuum, Estes rates the Proto X as well suited for "intermediate" skill level pilots — likely because it is so responsive that it can put on some serious speed before a novice even realizes what is happening.

So, this probably isn't the perfect aircraft for someone who is just getting started, but for journeyman pilots who want to keep their skills sharp during the long, cold winter months, a beginner who is ready to take the next step, or an experienced pilot who wants to try out a multirotor without making a huge commitment, you could do a lot worse for \$40. **RCSF**

Editor's Note;

Having seen the outstanding flight performance and indeed display of this model by Chris Maruzzi at our last Brookhaven Indoor I planned to do the research and write an article on it. However, my April copy of RCSF arrived at my door and I found the article already written!

*So here it is with thanks to RCSF
Dave*

See a review video here;
<https://www.youtube.com/watch?v=YbdNZIL6Lpw>

Battery Charging and Storage

By Phil Whittingham.

After a recent sump pump failure I lost several batteries due to charging them on the concrete basement floor. As we should all be aware LiPo batteries can and do fail, and although relatively rare the consequences can be a pretty dramatic. That's why I liked the idea of using the concrete basement floor as a cool, flame proof surface ideal for charging. Granted the ergonomics could be improved but that was a minor inconvenience.

I came home recently and switched the basement light on to see 3" or so of water across my whole basement. The sump pump had failed, leading to an unplanned indoor swimming pool. Fortunately the water wasn't high enough to damage appliances etc, but I had left several LiPo batteries on the floor. I'll cover the damage and repair of these LiPos in a future article.

Once I'd dried out the basement from the flood I decided that I'd better come up with a better solution to LiPo charging. I thought about building a dedicated workstation for holding chargers, power supply and batteries and started to think about designs. Ideally an all metal structure would be best, and I was thinking about building a simple structure using welded square tubing.

Right about this time I was looking through one of the ubiquitous Harbor Freight advertisements when I noticed that they had several rolling mechanics tool boxes on sale. These multi-draw toolboxes are built from steel and have a very sturdy construction. With the super saver coupon I could pick up a very nice toolbox for way less than the cost of materials to build my own. I think the total cost of this unit was \$110.

As can be seen in the photos below the toolbox makes a very nice dedicated charging station, with lots of options to customize layout of charges and power supplies. In addition the storage drawers can be used for holding LiPos in a much more organized arrangement than my previous solution.

All in all this was a great solution to my problem, and the cost was less than some of the batteries that were damaged in the basement flood.





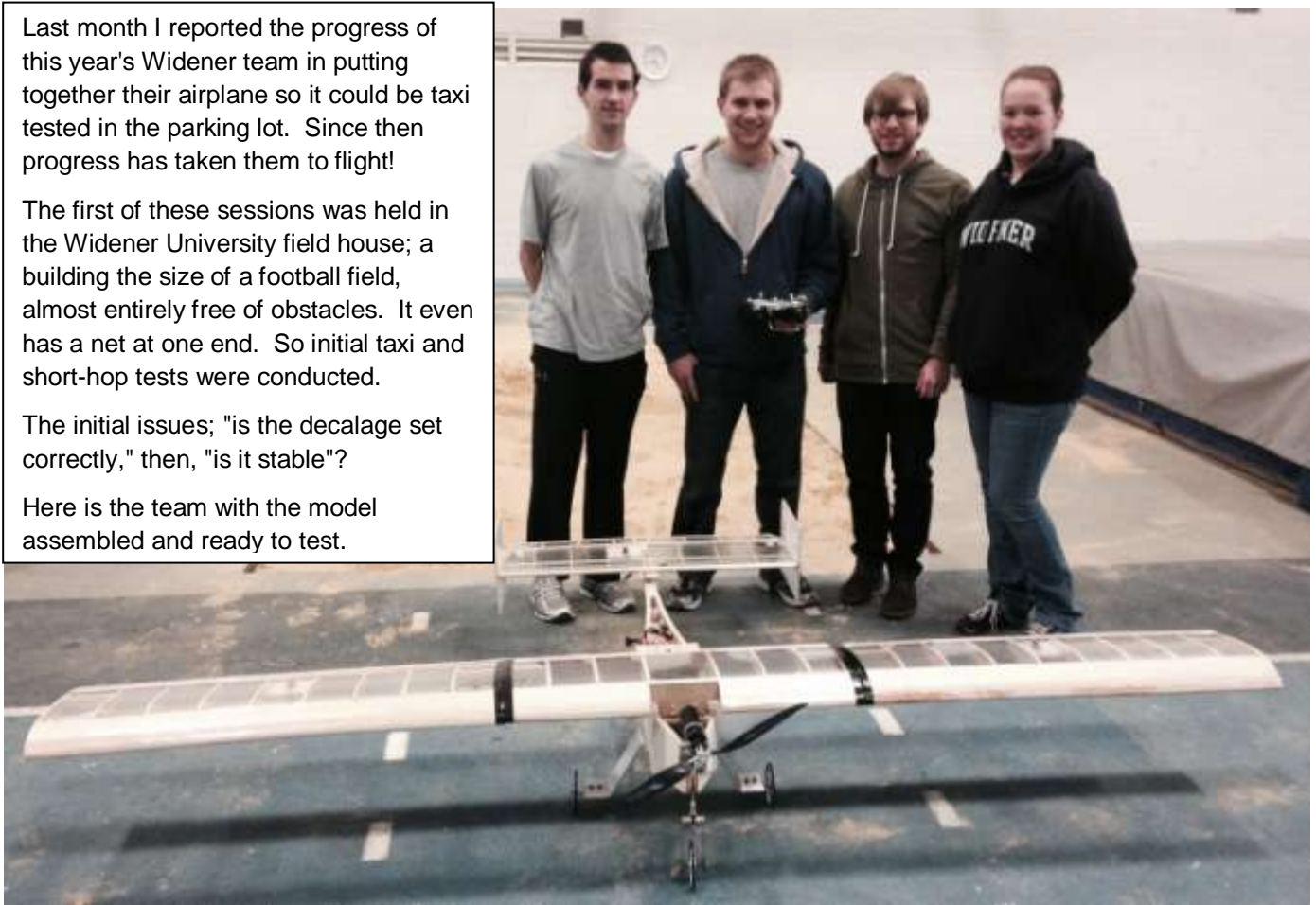
Widener SAE Aero Design Progress

Last month I reported the progress of this year's Widener team in putting together their airplane so it could be taxi tested in the parking lot. Since then progress has taken them to flight!

The first of these sessions was held in the Widener University field house; a building the size of a football field, almost entirely free of obstacles. It even has a net at one end. So initial taxi and short-hop tests were conducted.

The initial issues; "is the decalage set correctly," then, "is it stable"?

Here is the team with the model assembled and ready to test.



Decalage is the incidence difference between wing and tail. Get it wrong and the model will either takeoff and loop or you can't get it off the ground. If you can get it off the ground you want the elevator trim to be between full up and full down. You do this by adjusting the tail or wing incidence. If you get it off the ground safely, is it stable?

It was only possible to get an initial feel for this in the field house but without payload the 12 lb model with a 1KW motor accelerated fast enough to get in the air and back down before hitting the netting at the far end. So far so good.

Next to make a real flight, and what with the snow almost everywhere and the hard skinny wheels it needed a special place for these tests. Fortunately the team leader's father works at the Glenn Mills School and they were allowed to fly off the football field. The good news was the running track provided a perfect surface for taxi and takeoff. The bad news was bleachers on both sides and a forest of very tall and imposing floodlight poles. Furthermore, as time marched on the wind became a factor; not at the field level but at altitude, with the wind direction from the North it picked up considerable turbulence from the buildings you see in the picture below.



Nevertheless, ace Boeing pilot, Pete Noelle, was up for the task and a flight was made; watch the video on YouTube. <https://www.youtube.com/watch?v=MwTv7iMAZqY>

The roll control, an issue with last year's design which also featured a highly undercambered wing section, seemed satisfactory. But the pitch stability was a handful, especially when it reached the altitude where there was turbulence.

Pete struggled for control on approach to landing but caught a gust at the last moment which rolled the model into the bleachers. Damage was modest and the team set about repairs and design improvements. It was decided to increase the horizontal tail area by 50% by adding to each tip. This was calculated to move the neutral point aft by two inches giving what should be an ample stability margin for minimal weight and drag penalty.



By the time the model was ready the weather had improved and although the ground was soft our field was deemed satisfactory for an attempt.



Chuck Kime aims the model to the best trajectory

Once again the model took off easily and climbed out well but again there was a modest wind and as it turned towards the tree line the horizontal tail peeled off. The model without a tail fluttered down to a relatively soft landing and again the damage was modest but they are running out of time.



It is necessary to make a series of unloaded flights to get the stability and trims set then payload flights must be made to determine the payload that can be carried with confidence. Scoring this year is such that the payload on every flight counts, unlike prior years where only the highest payload scored.

There are a whole array of settings which vary the possible payload including the propeller diameter and pitch and indeed the flight profile to get off in 200 feet. So, further flights are necessary, if a suitable place can be found. But then another issue comes to the fore; do you risk the model at this late date? I am writing this on Monday 31st March. The repairs continue and flights are possible late this week, but we must leave for Georgia Wednesday 6th April. Meanwhile the team is making spare parts, so maybe they will make it yet.

Oh, Chuck and Tina Kime and I plan to go down with them so we are hoping they will cross this first threshold of having a model in one piece to take down. Then let the games begin.

Dave