



The Flightline



Volume 47, Issue 2 Newsletter of the Propstoppers RC Club AMA 1042 February 2017



President's Message

The fields are snow covered as I write this so you might fly if you have skis, but it is windy too, so better wait for the great weather ahead of us this year.

Meanwhile get ready for the February Indoor on Sat 18th in the Brookhaven Boro gym.

So bring your Show & Tells to the meeting, see you there.

Dick Seiwel, President

Agenda for February 14th Meeting At At the CA Church Room 7:00 pm till 8:30

1. Show and Tell
2. Membership Report
3. Finance Report
4. Club Calendar Review
5. Indoor Flying Program

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Brookhaven Gym Indoor Program 2016/17

6:30 till 9:00

Feb 18th 2017

Mar 18th 2017

Minutes of the Propstoppers Model Airplane Club

January 10th at the Gateway Church Meeting Room

Roll call was taken: 12 members were present, and the Treasurer and Secretary were unable to attend.

Old Business

Optimizing the layout of the runways at Elwyn is continuing with present efforts being directed towards incorporating a control-line circle. A concern was expressed that the flying of C/L models along with the R/C ones could be potentially hazardous, but it was explained that the C/L flyers would not use the field when in use by other flyers. Also, for the benefit of drone flyers, a special area for them should be provided at the Christian Academy field.

The possibility of obtaining a heavy roller to flatten the uneven surface in parts of Elwyn was discussed.

New Business

Larry has acquired two boxes of various modeling 'stuff' that he will bring to a meeting to see if there is anything that members would like.

Show-and-Tell

Larry presented a realistic ducted-fan model of a SkyRay. First flight has been delayed due to lack of a suitable ESC, but this is now in hand so it will soon be airborne. **See following article.**

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; 14th February at the Gateway Church room.

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.

Indoors at the Brookhaven Gym in bad weather 10:30-11:30 See dates allowable.

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

INDOOR Flying, see attached dates.

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.

Propstoppers RC Club of
Delaware County, Pennsylvania.

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Al Tamburo brought along his replica of the Guff - the first radio controlled model, designed built and flown by the Goode brothers (one brother was an expert in radio, the other a fine modeler).

Al's model is electric powered but a realistic dummy engine gives the impression of it being gas powered. Covering is Doculam. He always makes great use of non-traditional modeling materials



The meeting adjourned at 8:00.

Mick Harris for Secretary Dick Bartkowski

F4-D SKYRAY: A simple Dollar Tree Foam Scratch Build EDF

By Larry Woodward

It all started last summer when I lucked across an offer of some free hobby shop cast-offs that included a few high Kv EDF motors. Although I had never had any interest in EDF before, you don't look a gift horse in the mouth.

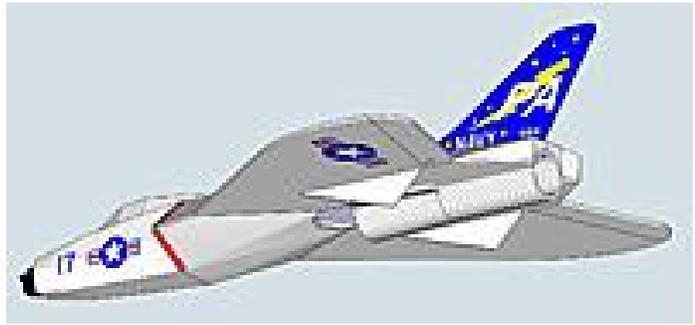
Once I got back to Pa and winter build season was under way, there was no way to escape it. I had to find a way to use these new motors. A little research at Hobby king and Amazon found me a 64 MM fan that would fit the motors. Now I needed plans. And of course, they had to be a cheap foam build design. After a few hours of research I found my EDF soul mate. He is a locksmith living in Australia and has been developing designs for Dollar Tree Foam jets. "Lockey" has a thread on RCGroups with three foam jet designs under his belt already and more to come.

<https://www.rcgroups.com/forums/showthread.php?2355859-Dollar-Tree-Foam-EZ-Jets>

After a little back and forth on RCGroups, I decided to go with Lockey's suggestion of the F4-D Skyray. Lockey's design is a nice semi-scale version made entirely from foam board and hot glue, just like the Flitest designs I enjoy so much.



There is substantial debate over how to best use foam board for model building. "Paper on or paper off?" is a constant question. The problem is that literally half the weight of Dollar Tree Foam Board (DTFB) is in the paper. But, the paper provides all the stiffness and strength too. Without a tensile skin on the outside, DTFB has all the strength of a damp Pringle. At the same time, if you want to bend or curve DTFB you need to score it heavily or remove the paper on one side. I knew that for an EDF weight would be an important factor. I needed a way to cut down weight without sacrificing strength and stiffness.



I have had good results with Fan Fold Foam (FFF) from Home Depot and Lowes, also a very weak and brittle material by itself, by adding various types of skins after model assembly. One of my favorites is heat-applied document laminate (HADL) such as Doculam. So, I did some experimenting. Removing the paper from DTFB cuts the weight in half. Adding back HADL returns half of the paper weight for a savings of 25%. If you only cover the outside of the finished model with HADL, which is where most of the stress occurs, the weight reduction is 37.5%. So, after cutting out all the parts, I removed all the paper before assembly.

Now, without any paper, using hot glue for assembly creates new problems. In normal DTFB construction the hot glue is mostly in contact with the paper. The paper handles the heat well and protects the foam core from melting. I knew that without the paper the hot glue would do more harm than good. As an alternative adhesive I used Gorilla Glue (GG). Again, from my experience with FFF, I knew that GG was very good for foam to foam applications. It adheres well to almost any type of foam. It expands considerably in application and fills small voids and increases the contact area for extra strength. It is very messy to work with and requires some clamping until it sets, but the end result is strong and light weight.

After assembling the parts and a little judicious sanding, the entire model was covered in HADL. Decorative touches were made with ink jet images under clear packing tape, and colored areas were made from colored packing tapes. A few strategic stress areas were further reinforced with fiber glass strapping tape.

VOILA!

Final Specs:

Wingspan	30"
Length	39"
AUW/ no battery	19 oz.
Motor	ERC 2610-5000kv
Fan Unit	5 blade-64 mm
ESC	HK 60 amp
Amp draw @ 3s	40
Thrust	15 oz.



Performance:

As you will see in the maiden flight video below, the first flight was unremarkable. Clearly the system is under powered. The model will fly, but just barely. Given the bench test result of 15 oz. thrust for a 19 oz. jet, this is not surprising. To add insult to injury, there was a faulty solder connection in the power harness and the motor cut out completely, resulting in the lawn dart dead-stick landing seen at the end of the video.

<https://drive.google.com/file/d/0B65EUjJOLT5KYnFjV2huejhHWXc/view?usp=sharing>

Thanks to Pedro Navarro for his characteristically excellent video work.

I have another motor, ERC 2815-3500kv, that I am going to try next on 4S. I'll let you know how that turns out.

Larry

Pedro's Bi-Motor

Larry Woodward's flying buddy Pedro Navarro was drawn in to Larry's exploits by using his video skills to make some artistic and memorable videos of Larry's exploits with foam airplanes. Naturally he progressed to buying a couple of airplanes and not only learned to fly but also built and demonstrated a variety of airborne video techniques.

Now he has caught the construction bug and joined that small band of Propstoppers who build and fly. His latest model is a twin motor design from Flitetest.

<https://flitetest.com/articles/ft-bronco-build>



https://youtu.be/8l_o0UCho

Here is Pedro's Bronco.





See Pedro's excellent video of the maiden flight here;

<https://drive.google.com/file/d/0B65EUjJ0LT5KTnVsdGRjQVZ6OWc/view?usp=sharing>

Is the Flyboard Air the logical next step for our advanced members?



<https://youtu.be/deyMNPbaRpA>

<https://www.youtube.com/watch?v=KEDrMriKsFM>



Membership Renewal For 2017

Membership renewal for 2017 is now required. You can renew by mail or at the club meeting in February.

Don't lose your club privileges!

Bring cash or check and your AMA card.

Dues are \$60.

Please send a check *made out to the Propstoppers* 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