# The Flightline

Volume 47, Issue 3 Newsletter of the Propstoppers RC Club AMA 1042 March 2017

## President's Message

Snow covers our fields as I write this, but Spring is right around the corner, the clocks changed and we should be off for another season of fine evening flying.

See you at the meeting, and please bring your show and tells, especially you guys who burn the sky at CA field, we miss seeing your planes and hearing about them at the meetings.

**Dick Seiwell, President**

*Agenda for March 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

INSIDE THIS ISSUE



Brookhaven Gym Indoor Program 2016/17

**6:30 till 9:00**

Final Meet of the Season

**March 18th 2017**

## Minutes of the Propstoppers Model Airplane Club

## February 14th at the Gateway Church Meeting Room

The meeting was brought to order at 7:30.

The late start was due to a problem with the security system .The most likely cause of the problem was that somebody walked down the hall before the codes had been entered, and triggered the sensors. To prevent another occurrence of this would members please not enter the building before the system has been disabled!

14 members were present. The Treasurer reported that club funds were about the same as this time last year.

A meeting should be held to discuss the final configuration of the Elwyn field to ensure that the layout best meets the needs of all the different user groups (i.e. drones, c/l, aerobatic, etc). Members should attend the next meeting prepared to give their inputs. It was suggested by Al that the c/l circle should be as remote as possible from the runway to minimize interference between the two disciplines.

Show & Tell

Ken Merlino brought his `Dusty' a crop - duster style model, built from foam-board (an investment of $3) to plans from the internet. His main beef was with the landing gear.

Dave showed his B-24, an early attempt at using foam. Not a bad flyer once in the air, but needed a hefty heave-ho to launch it. (How do I know that?)

Al brought his Champion-45 pattern ship converted to electric. Mainly balsa construction, with the covering being the bad feature of the model.

The meeting was adjourned at 8:30.

***Mick Harris for Secretary Dick Bartkowski***

## 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 March 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.
Club Officers

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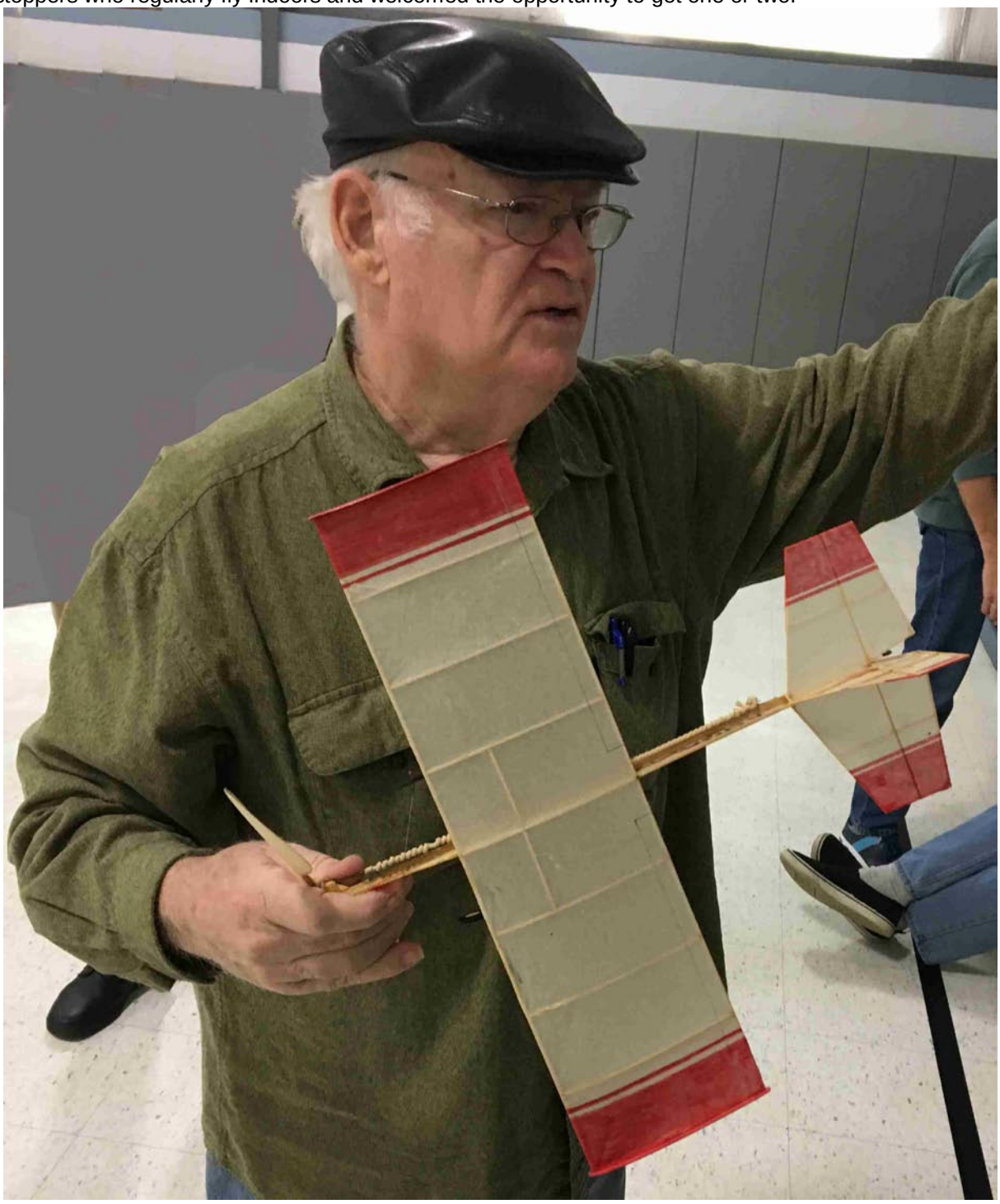
## Newt Bollinger's Indoor Rubber Powered Models

In years past when we regularly flew indoors at the Tinicum School a couple of fellow modelers from Delaware flew with us. One of them, Newt Bollinger enjoyed building small very lightweight balsa and tissue rubber powered models. He has decided to exit active flying and since we had hosted him to fly with us he generously offered his fleet to our members. Chuck Kime organized the pickup and at the last Brookhaven Indoor he ran a raffle to provide them to Propstoppers who would fly them. There were about twenty models and seven Propstoppers who regularly fly indoors and welcomed the opportunity to get one or two.



Now building one of these beauties is a real challenge as in order to keep the weight as low as possible they are constructed from lightweight 1/16 inch square stick and covered with very lightweight tissue. Our members familiar with flying foam models are learning new skills in how to simply hold a model while winding the rubber motor. Questions are being asked on how to repair such delicate structures.

The goal when flying these beauties is to have the longest flight while not hitting the ceiling or the walls. Sounds easy at first but it is actually a very difficult skill to master. The reason lies with the rubber power. Obviously winding the rubber motor stores the energy which then turns the propeller. The amount of energy stored depends on the volume or weight of rubber. But it is more complicated than that.

The motor is usually made from several strands of standard size rubber which is knotted together into a skein of a given length. For a given amount of rubber you can make a short motor with many strands or a long motor with few strands. So what you might say, well the more strands the more torque which will turn the prop faster and produce more thrust.

But making the same motor longer with fewer strands the prop turns slower with less thrust, but it runs longer.

Now there is one more factor which affects the flying pattern, the torque to the prop is reacted by the airplane rolling and turning in the opposite direction. Since the objective is to make the model turn within the flying site walls this has to be accommodated along with tuning the model's wing/tail etc. to get the turn you want.

But one last thing to accommodate; the rubber motor will produce a burst of high torque at the beginning of the run, then a long steady torque then finally it will steadily slow down. All these things affect the rate of climb, the height reached and the turning radius during the flight.

All in all quite a challenge to get that perfect flight

Of course when we fly indoors we fly all kinds of airplanes. At the last Brookhaven indoor Chris Maruzzi and his brother Rich flew a variety of planes and quads.

Rich flew up a storm with this remarkable quad and his FPV unit.

We have one more regular Saturday indoor remaining in the season on March 18th.

Now we guys who are retired have abundant opportunity to fly there following our regular Tuesday breakfast at Tom Jones restaurant nearby.

**Chuck Kime**

# Why the Military Is Investing in Paper Airplanes

## Disposable drones could save lives—and money

This paper plane could one day change the way the U.S. military handles one-way supply missions.

By Erin Blakemore

In the midst of disaster, small items like batteries or medical supplies can be a matter of life or death. But what is the safest and most cost-effective way to deliver those items? The U.S. military is investing resources into answering that question. Along the way, they've come up with an unexpected way to pull off dangerous, one-way resupply missions; it's a solution that involves, of all things, paper airplanes.

As *IEEE Spectrum*'s Evan Ackerman reports, the Defense Advanced Research Projects Agency has a new program devoted to creating disposable—and perhaps paper—drones. The DARPA program is called ICARUS (short for Inbound, Controllable, Air-Releasable, Unrecoverable Systems), and it's aimed at creating what the agency calls "vanishing air vehicles that can make precise deliveries of critical supplies and then vaporize into thin air."

If paper airplanes don't exactly seem to fit that bill, think again. Otherlab, a San Francisco-based group that specializes in using unusual materials to create unexpected machines, has received DARPA funding for a drone called APSARA (Aerial Platform Supporting Autonomous Resupply/Actions).

Behind this lengthy acronym is a concept that's actually kind of ingenious. APSARA drones are mainly cardboard and packing tape with a few very simple hardware elements like a battery and GPS system. The tiny package of electronics helps steer the paper plane toward its target. Once they drop their payload (about 2.20 pounds for a 3.3-foot drone) they eventually disintegrate. Ackerman notes that DARPA is funding a separate program—with a separate acronym, of course—that will hopefully develop electronics that disappear or degrade just like the disposable drone.

The drones even have a tasty twist: they'll eventually be made from mushrooms. As Tim Wright notes for Smithsonian's *Air & Space*, the drones won't be cardboard forever. Rather, Otherlab intends to eventually make them from mycelium—the mushroom's filamentous offshoots that acts a bit like roots. It's a renewable resource, and one that Otherlab hopes will make the drone disappear even more rapidly once its work is done.

Paper airplanes? Mushroom messengers? It's all part of a day's work for DARPA, which already has plans for everything from fairy tale-inspired drone swarms to self-steering bullets. The projects may seem futuristic—even esoteric. But they're all built with safety in mind. Whether or not cardboard or mushroom drones ever make it to the battlefield, the future of warfare is shaping up to be strange indeed.

http://www.smithsonianmag.com/smart-news/why-military-investing-paper-airplanes-180962033/?utm_source=smithsoniandaily&utm_medium=email&utm_campaign=20170206-daily-responsive&spMailingID=27775258&spUserID=NzQwNDUzNjQ0ODUS1&spJobID=981077813&spReportId=OTgxMDc3ODEzS0

**A list of NASA's aircraft slide show - quite amazing!**
*https://en.wikipedia.org/wiki/List_of_**NASA**_aircraft*

# Pedro's Flight of the Phoenix


Last month we reported on Pedro Navaro's experience in building and flying a twin motor Bronco. What an inspiring activity.

Well, like so many such adventures Pedro's Bronco ended differently.

Inspired by the movie "The Flight of the Phoenix" Pedro replicated the accomplishment, but without the help of Jimmy Stewart or Hardy Kruger. Here is the movie of his transformation;

https://drive.google.com/file/d/0B65EUjJ0LT5KV05aRk1FT2tDeHc/view?usp=sharing

# How Many Airplanes of Each Type Were Built in WWII?

***From Duration Times newsletter of SAM 1788 Australia***

Absolutely amazing (American) World War 2 statistics and photos. It has always been known that aircrew had the highest fatality rate but the loss rate (and cost of war) detailed below is absolutely horrific.

If you live for facts and statistics, this is just for you...

No matter how one looks at it, these are incredible statistics. Aside from the figures on aircraft, consider this statement from the article: On average 6600 American service men died per MONTH during WWII (about 220 a day).

Most Americans who were not adults during WWII have no understanding of the magnitude of it. This listing of some of the aircraft facts gives a bit of insight to it.

- 276,000 aircraft manufactured in the US.
- 43,000 planes lost overseas, including 23,000 in combat.

14,000 lost in the continental U.S.

The US civilian population maintained a dedicated effort for four years, many working long hours seven days per week and often also volunteering for other work. WWII was the largest human effort in history.

WWII Most Produced COMBAT AIRCRAFT

Ilyushin IL-2 Sturmovik 36,183

Yakolev Yak-1,-3,-7, -9 31,000+

Messerschmitt Bf-109 30,480

Focke-Wulf Fw-190 29,001

Supermarine Spitfire/Seafire 20,351

Convair B-24/PB4Y Liberator/Privateer 18,482


Republic P-47 Thunderbolt 15,686


North American P-51 Mustang 15,875


Junkers Ju-88 15,000

Hawker Hurricane 14,533

Curtiss P-40 Warhawk 13,738

Boeing B-17 Flying Fortress 12,731

Vought F4U Corsair 12,571


Grumman F6F Hellcat 12,275

Petlyakov Pe-2 11,400

Lockheed P-38 Lightning 10,037

Mitsubishi A6M Zero 10,449


North American B-25 Mitchell 9,984

Left: Lavochkin LaGG-5 9,920

Note: The LaGG-5 was produced with both water-cooled (left) and air-cooled (next page) engines.

Lavochkin LaGG-5


Grumman TBM Avenger 9,837


Bell P-39 Aircobra 9,584


Nakajima Ki-43 Oscar 5,919

DeHavilland Mosquito 7,780

Avro Lancaster 7,377

## Membership Chairman Ray Wopatek Update

Long time Membership Chair Ray has been dealing with some health issues recently. His body has been retaining fluids, lots of fluids. So Ray spent some time in hospital getting this sorted. I spoke with him on Friday evening at home. Ray says he has lost 40 pounds of fluids and is now at his lowest weight since High School. He sounds well although he is suffering from all kinds of pains etc. but expects to recover. We may see him at the monthly meeting.

But to indicate how well he feels as we spoke he asked me to remind the membership that Junior Members also have to have and show an AMA card for membership.

Hang in Ray and hope we will see you soon.

Dave Harding

# Membership Renewal For 2017

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

***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