



The Flightline



Volume 49, Issue 1 Newsletter of the Propstoppers RC Club AMA 1042 January 2019



President's Message

I hope all of you have had a Happy and Joyous holiday season,--- AND are beginning a good, and healthy, 2019!

It looks like we are going to start the Indoor Season on a good note. We have had fair turnouts, especially with our Indoor rubber models. The opportunity of getting some fabulous Indoor models from Newt Bollinger has inspired several builders to start on their own designs.

When I get a few more pilots I will post a schedule as in the past. The more pilots and different types of aircraft that turn out, the more events we can schedule.

Attention--Attention--Attention !!!!! NOW is the time to PAY YOUR DUES! I will even say please, don't make me beg

Any pilots that are still flying outdoors, please use caution entering, or leaving, the fields. THERE ARE A FEW NASTY HOLES! EVEN 4-WHEEL DRIVE CAN BOG DOWN. YES!!!

I want to thank all the members that brought GOODIES to the holiday party!!!!

Chuck Kime
President

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Agenda for January 8th Meeting At

Gateway Church Meeting Room
7:00 pm till 8:30

1. Call to Order and Roll Call
2. Approval of minutes
3. Treasurer's Report
4. Old Business:
5. New Business:
6. Show and Tell:
7. Adjournment

Minutes of the Propstoppers Model Airplane Club

Taken by Dick Bartkowski, Secretary

December 11, 2018 at the Gateway Community Church meeting room

Call to order took place at 7:08 PM by the President Elect, Chuck Kime.

Minutes of the November meeting as published were approved by the membership.

Roll call by Membership Chairman Ray Wopatek showed 20 members were present.

Treasurer's report was presented by Pete Oetinger.

Special Award:

Club President Chuck Kime presented a plaque to retiring President Dick Seiwel inducting him as President Emeritus in recognition of his 15 years of service to the club. Over that time, he obtained and maintained many fields for the club's use and showed exemplary leadership as he successfully monitored and supervised club activity.

Annual Holiday Party

Picnic: At 7:20 PM the meeting was suspended for snacks and informal discussion.

Adjournment took place at 8:30 PM.



Chuck Kime congratulates retiring President Dick Seiwel on receiving honorary title of President Emeritus

Propstoppers RC Club of Delaware County, Pennsylvania.

Club Officers

President Chuck Kime (610) 833-5256	chuxtruk@yahoo.com
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Propstoppers Web Site; www.propstoppers.org

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2018/19 Indoor Flying at the Brookhaven Gym

Saturdays 6:30-9:00 pm.

Jan. 12, Feb. 16, Mar. 23, Apr. 13

Flying after Tuesday Breakfast 10.00am

Calendar of Events

Club Meetings

Monthly Meetings
Second Tuesday of the month.
Gateway Community Church. Doors open at 7:00

Gateway Church Meeting 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.
Flying Indoors in winter at the Brookhaven Gym 10:00-11:00 (subject to availability of the gym).

Regular Club Flying

At Old Christian Academy Field (Gateway Community Church); 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.

2019 DUES ARE NOW REQUIRED

Membership renewal for 2019 is now required. You can renew by mail or at the club meeting

Bring cash or check and your AMA card.

Dues are \$60.

To renew by mail, 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 Chairman

Editor's Note

Apologies to Andy Peterson:

In my Notes regarding the article about Boeing rotor craft history in the November Flightline, I neglected to include Andy Peterson in the list of current and former Propstoppers who have work history with Boeing. Andy was indeed among the members who were participants in the formative history of rotor craft development during the last half of the 20th Century.

Andy started at VERTOL (forerunner of Boeing Helicopters) in June 1956. He worked in Aerodynamics and Propulsion Technologies developing new engine installations for the H-21, 107, CH-46, CH-47, V-22, helicopters and then spent three years as an Air Force Officer on active duty. Andy returned to VERTOL in 1960 just before it became Boeing and Continued in Technology jobs until his retirement in September 2014.

Next time you run across Andy, ask him what it feels like to be part of aviation history.

Pedro Navarro Joins the Executive Committee as VP:

With Chuck Kime stepping in as President, the VP position was open for nomination at the October meeting. With only a modicum of arm twisting and group pressure, Pedro Navarro agreed to step into the slot with good humor and honest commitment. We all owe Pedro a vote of thanks for volunteering. He will take the position under our new Bylaws which include expanded duties and responsibilities for the VP position.

For those of you who do not know Pedro well, he has been a member for only a few years, but in that time he has put us all to shame with his commitment to flying and his rapid growth as a pilot. It is a rare day, any time of the year, that you will not find Pedro at Elwyn with a few foamies. Everyone has remarked at how rapidly he has developed from a rank beginner to a capable pilot.

Pedro has also managed to marry his joy in RC flying with his interest in videography. It is rare that he does not have at least one, if not several, cameras recording almost every flight. After a day of flying you are likely to find him up late that night editing the video and adding a coordinated musical sound track to make the most beautiful flight videos. He explains that the reason he prefers, like many of us, to fly in the late afternoon is less about the lower winds and more about the dramatic lighting.

Beginning with this issue of Flightline, I will be ending each issue with a sample of Pedro's flight video talent. We hope you enjoy the show.

Drexel's Fall Class of Engineering Students Conducts Final Exam Flights at Elwyn Field

Propstoppers come out on a cold and windy Saturday to support the latest Aeronautical Engineering class of Drexel students

By Larry Woodward



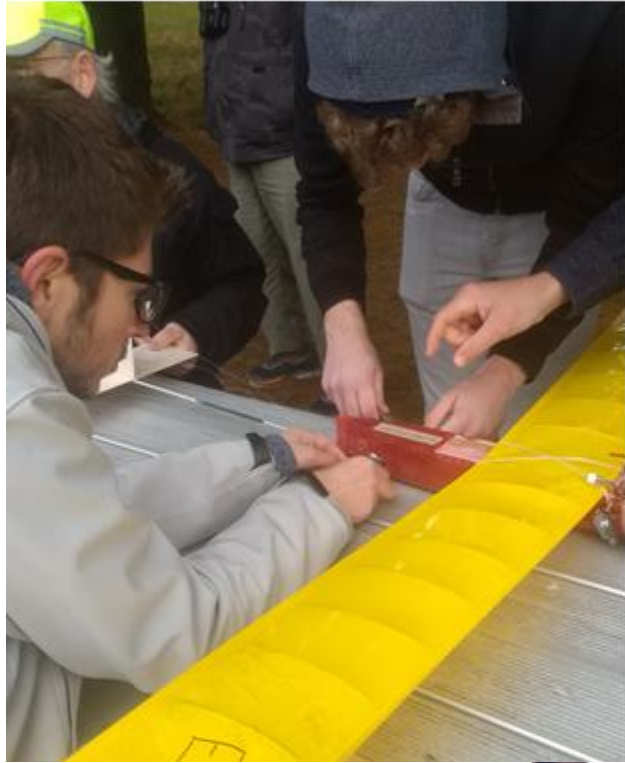
On a cold and windy Saturday in mid-November, nine teams of students from Professor Ajmal Yousuff's Aeronautical Engineering class at Drexel made their way to Elwyn Field for the climax of their Fall semester design project.

Supported by Dave Harding and Chuck Kime throughout the semester, Professor Yousuff and the students went through the process of calculating and building a unique wing design to be mounted on one of four standardized test fuselages provided by Dave and Chuck.

The standard tail section must first be connected to the pull-pull servo controls and adjusted for neutral trim. The cold weather did not make for nimble fingers and for most of the students this was their first introduction to the intricacies of RC control.

Fortunately, In addition to Chuck and Dave, a half dozen veteran Propstoppers were on hand to give each team a little friendly guidance and support.





Dave's "full service" field box provided all the critical components for nearly every contingency.

(Professor Yousuff confers with a student team preparing their aircraft.)



(Dave Harding makes a final check of the control systems before turning the sticks over to Designated Test Pilot, Al Tamboro.)



As you can see from these photos, it was a long day of great stress for the students, who had so much riding on the day's results. It was so encouraging to see the Elwyn Field put to such serious purpose. We should all take a lesson from these dedicated students. What an asset they would be as members of the club!

[Click here to see a video composite of several of the final test flights.](#)



Millennium Falcon is Getting a Little Closer to Science and Further from Fiction!

This article from Popular Science ushers in a new technology that conjures up images of the Falcon's famous "Hyper Drive."

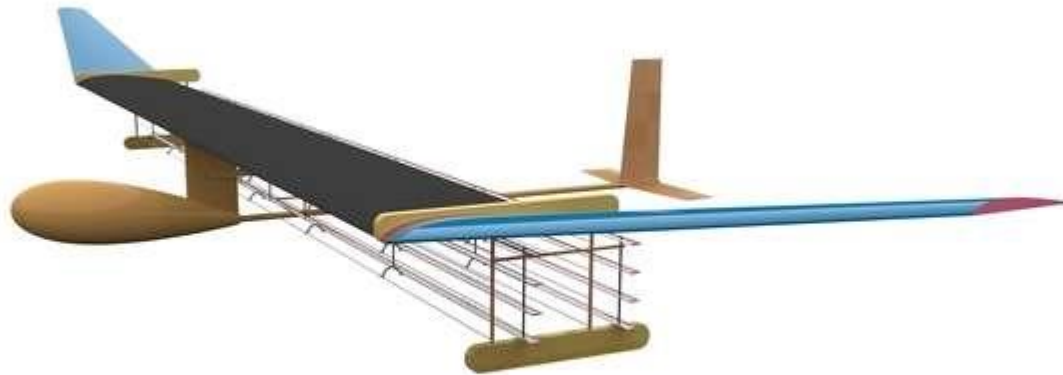


This new 'ion drive' airplane flew straight out of science fiction

The quiet propulsion system has no moving parts.

By [Rob Verger](#)

Popular Science November 21, 2018



A rendering of the plane. The propulsion system consists of electrodes under the wings.

MIT

Hop in an airplane today, and it will get the thrust it needs to fly through the air either from a propeller or a jet engine. Both methods require moving parts—a propeller spins, and a jet engine has a fan inside. And as such, they are loud. That’s been status quo since Kitty Hawk.

But now aeronautics experts at MIT have flown a radically different type of plane that is thrust through the air using just electricity and the movement of ions, a type of silent drive without moving parts out of science fiction.

The researchers flew the airplane a total of ten times at an indoor track at MIT. It weighs a little over 5 pounds, has a wingspan of about 16 feet, and flew about 230 feet on its longest flight—roughly twice the [wingspan](#) of a Boeing 737—before smacking into the gym’s wall. Its speed is about 11 mph. The technology powering the plane is called electro-aerodynamic propulsion.

“What we achieved was the first ever sustained flight of an airplane that is propelled by electro-aerodynamic propulsion, and that’s also, by many definitions, the first ever solid-state flight, meaning no moving parts,” Steven Barrett, a professor of aeronautics and astronautics at MIT, said in a video about the plane.

Here’s how the tech works—which could someday be used to create drones, or even bigger craft, with solid-state propulsion systems.



A time lapse image of the craft in flight in an MIT gym.

[Click here to see Utube video of the maiden flight.](#)

MIT

The key components are electrodes under the wing that run horizontally. There are many of them, but to understand how the airplane flies, you only need to consider the relationship between two. One electrode is thin, like a wire, and thanks to a battery and power converter onboard the plane, that electrode is charged to a whopping 20,000 volts of electricity. Behind that thin electrode, and more towards the back of the plane, is another one—it looks like a tiny wing. That second electrode is charged with negative 20,000 volts, creating a difference of 40,000 volts.

Just like you wouldn't want to touch a propeller, you shouldn't reach for these electrodes, either. "It could be pretty dangerous," says Barrett, who is also the senior author on a new study in the journal [Nature](#) describing the aircraft. "We're talking quite a lot of power."

Those two electrodes can help make the plane fly because the first one, charged to 20,000 volts, spurs nearby nitrogen molecules to lose an electron and become positively charged. The positive nitrogen ions are then attracted to the second electrode, which has a negative charge. The magic happens while a nitrogen ion is traveling between the electrodes, because it bumps into regular air molecules. "And on each collision it transfers energies to those molecules, and creates a wind of neutral air," Barrett says. Presto: an airplane powered by ions.

If you're wondering what happens to the sad nitrogen molecules that lose an electron when they hit the first electrode, don't worry: they regain them once they hit the second one, becoming neutral again. "And then it continues on its way as though it had never been involved in the process in the first place," Barrett says.

In the future, Barrett says they'd like to take those electrodes and bake them into the skin of a next-gen aircraft, so there would be no need for the external ones on this prototype. Not only that, he says that the ion drive could even be used to steer the plane going forward, so it wouldn't need traditional control surfaces, like a rudder or elevator, which is the part of the smaller wing at the back of a plane that control's a craft's pitch. That way the solid-state engines would not only propel the plane, it would control its direction.

It's early days for this technology, though. The *Nature* paper points out that designs like this one are "not yet competitive against conventional airplanes at similar scale in metrics such as range, endurance, and payload capacity."

Still, Barrett says the ion drive could power miniature drones, or other craft built on the same general scale as the prototype they already flew. "I do hope that we can develop this towards larger aircraft that maybe even eventually could carry passengers," he says.

Modified Clothes Pins for Model Building

By Larry Woodward

I am always on the lookout for useful clamps and holding tools for use in building models. I have a fair collection of sizes and types acquired over the years, but am not really happy with most of them. My first requirement is that they be cheap and easily obtained, then I look for certain performance characteristics.

First they should be light, especially for stick and tissue projects. Next they should have a reasonably precise hold with sufficient, but gentle, pressure. Finally, I like them to have a reasonably deep throat capable of reaching far enough into the work.

For a long time I have kept a box of old time wooden clothes pins in my work area thinking they would come in handy for clamping. They meet the first of my performance criteria, but fall short on the other two because they were designed for a particular type of work. The clamping surfaces are shaped to surround the clothes line and are anything but precise, and they have a relatively short reach.



One time I was struggling with a job that required a clamp with a long reach. I noticed my supply of popsicle sticks on the bench and came up with a simple adaptation by gluing the sticks to the clothes pin and adding small pressure pads at the ends. These turned out to be surprisingly

successful, especially for problems like reaching deep into a fuselage or over a wing edge. But, they were too long for other work and lacked a strong precision grip.

Sometime later, I am again looking at the clothes pins and realized that the non-clamping end of the pins had very smooth and precise tips. Could they be reversed? Sure enough, with a little manipulation the wooden sides can be reversed in the spring, making a very useful clamp with a simple, deep and precise closure. Eureka!



To modify a clothes pin, simply grasp one leg of the spring with a pair of pliers (figure 1.)and lift it enough to remove one leg. (Figure 2.) Then remove the other leg.

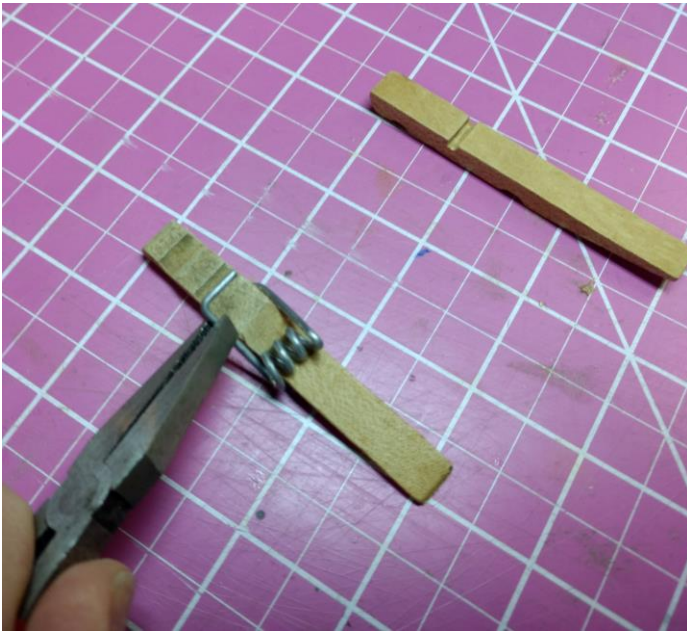


Figure 2.

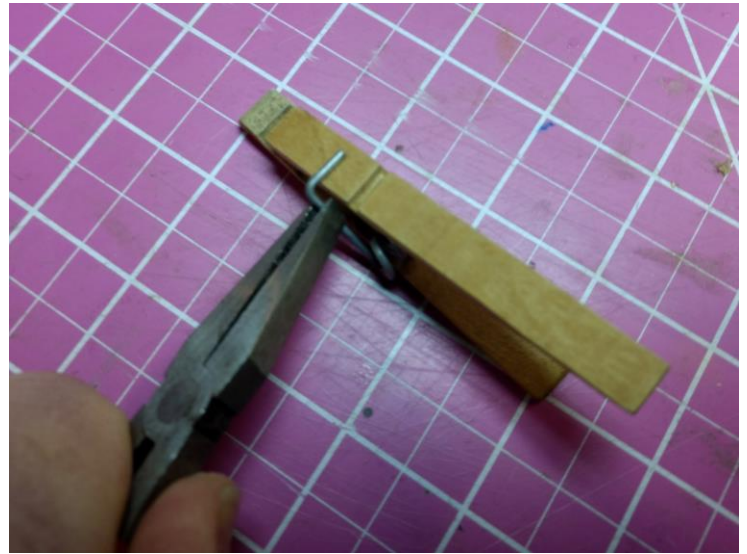


Figure. 1.



Figure 3.

Now turn over and reverse both legs end for end. (Figure 3.)

Reassemble the spring. (Figure 4.)

A piece of cake!



Figure 4.

Now do about 20 more and you will never be short of clamps again.



I found some “mini” clothes pins for use when travelling. They are marvelous for small building problems when modified.



I like to “dress” the clamping area with an emery board to give it a really precise closure.



Sometimes I find it useful to place a little piece of tape over the clamping surfaces to release any glue from sticking the clamp to the work.

Happy building!

Larry

A Moment in Flight:

Flight Video by Pedro Navarro

Making RC model flight video interesting can be difficult once the novelty of basic flight wears off. Too often the memorable ones involve a spectacular crash. But if the sky, the clouds, the light, all come together with music to bring the movement into harmony with our better side, then we might strive to express the joy we all feel when taking flight.



[Click here to see this month's Moment in Flight.](#)

