



The Flightline



Volume 47, Issue 1 Newsletter of the Propstoppers RC Club AMA 1042 January 2017



President's Message

What a great meeting / indoor picnic! And over 30 members attending. We even managed to include some interesting Show&Tells.

See you at the January meeting.

Happy New Year and great flying.

Dick Seiwell, President

*Agenda for January 10th 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

Minutes of the Propstoppers Model Airplane Club

**December 13, 2016 at the Christian Academy meeting room
For the annual holiday meeting and party**

The meeting was called to order at 6:55 pm by President Dick Seiwell

Minutes of the October meeting as published were approved
Treasurer's report was omitted

There were 31 members present

Old Business:

President Seiwell plans to cut a path around Christian academy field in the high grass so that the flyers can get in to retrieve a plane.

Show and Tell:

Larry Woodward showed his foam board scratch built P - 50 Mustang with electric power pod for propulsion. He discussed the construction and minimal cost to build. (*article below Ed.*)

Al Tamburo showed his Nobler control line plane painted in Navy markings. It has a Fox 35 engine.

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Brookhaven Gym Indoor Program 2016/17

6:30 till 9:00

Jan 14th 2017

Feb 18th 2017

Mar 18th 2017



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; 10th January 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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Ken Merlino joined in with his Messerschmitt BF 109 marked Nobler also control line. He said that Nobler is the most popular stunt control line plane but there are a large number of markings available.

Duane Myers showed a 3D printed fuselage and tail section that he built. He got the design files from the Czech engineer for \$20.00



He used PLA plastic and it seems very strong.

The meeting was adjourned at 7:40 PM so that all members could enjoy the hoagies, desserts and snacks that were available.

Another Great Indoor Picnic, Christmas Party

President Dick Seiwel aka Santa, welcomes the members. Plenty of food, maybe 32 or 35 members enjoying good company it was another success. Maybe we should have more meetings organized this way as it does allow much more time to socialize.





Poor Richard's (Larry's) Guide to RC Aircraft.

By Larry Woodward.

Growing up in the thrifty culture of Yankee New England and then settling in the land of Ben Franklin's "A penny saved is a penny earned," I have come to view the quest for the least cost as a true art form. Put another way, I am just really "cheap." So, when I became addicted to RC aircraft it was only logical that I would gravitate to scratch building. And, the motherland of cheap scratch building has to be Flitest.

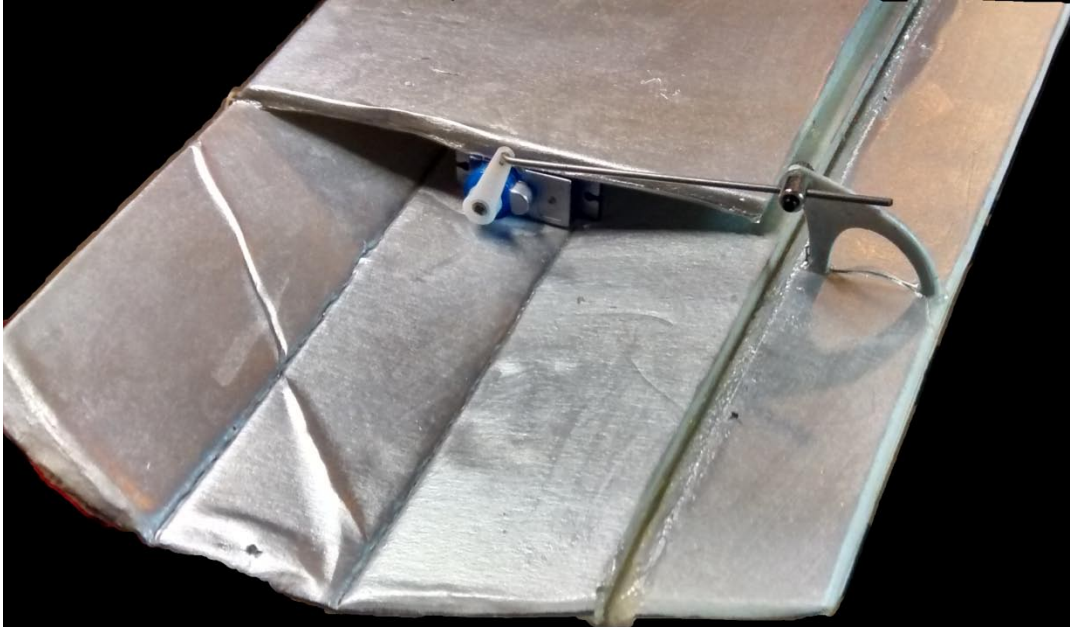
So, here is a little lesson in how to approach producing a very sweet aircraft at absolute rock bottom cost. My example is the Flitest (FT) P-51 Mustang that I presented at our December meeting.



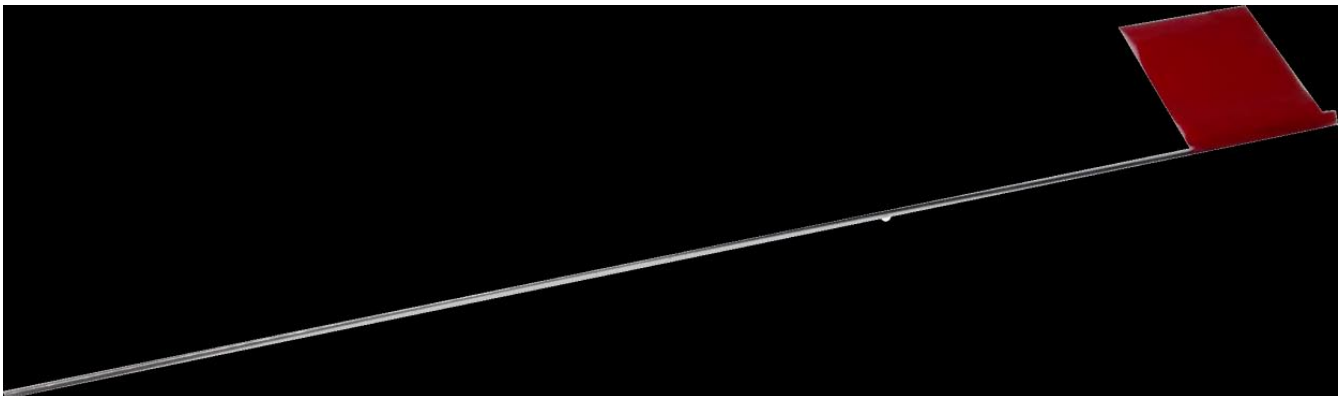
It all starts with tried and true FT designs and construction methods. Download free plans from the web site at <http://flitetest.com/articles/ft-mustang-build>. Pick up a few sheets of Adams Ready Board at the Dollar Tree Store for \$1.00 each and cut out the parts. Follow the excellent build videos from FT and put them together with hot glue, BBQ skewers, popsicle sticks and packaging tape. In a couple nights you will have a strong and light weight air frame.

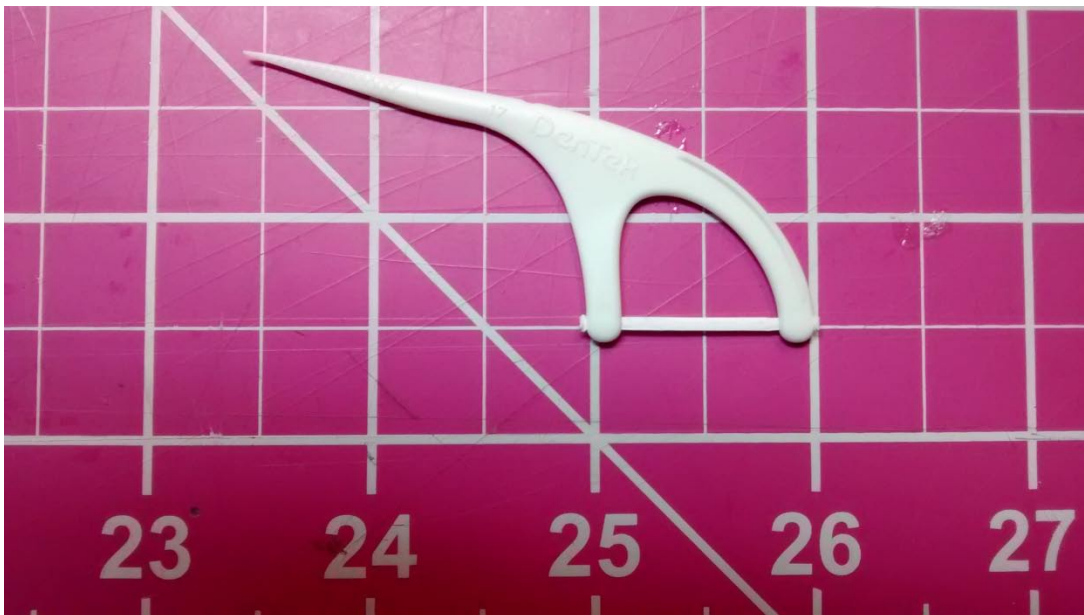
Now comes the "creative" part. So far the bulk air frame is a three dollar investment. now how much more can I save in the details needed to get it into a functional flying aircraft. For the non-believer the three dollar air frame would be triumph enough, but for the true convert, the goal is to eliminate every penny possible. The devil is in the details.

Control surfaces are a great start. Instead of going to the LHS for "expensive" Du-Bro control horns and linkages, make your own components from locally sourced materials.

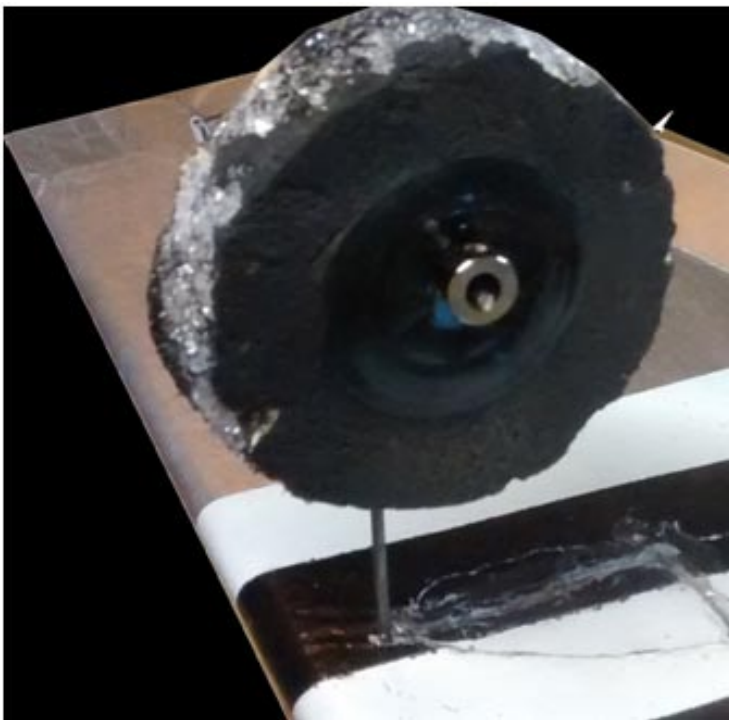


This control horn is cut from a simple dental floss pick and the control rod is a section of wire from cheap landscape marker flagging from Home Depot.





Wheels are another opportunity to show creativity. In this case the basic form is cut from EPS foam for floral displays from Michael's and the center hub is a plastic milk bottle top. The wire here is also from home Depot, but is a slightly thicker gauge than the flag wire. This type is used to support insulation batting under floor structures.



Finally, there are the electronics. This is one area where my skills and creativity are limited. I am aware that there was a day when winding your own motors etc. was not only thrifty, but necessary. However, the availability of ridiculously cheap electronic components today makes that something only for those interested in the challenge itself. With a certain sense of guilt regarding international trade deficits, I am an occasional user of Hobbyking when it comes to manufactured components.

In this plane I used my favorite motor option, the HK 3007 Donkey motor with 20A ESC combo. https://hobbyking.com/en_us/hobbykingtm-donkey-st3007-1100kv-brushless-power-system-combo.html. This is a great motor for basic park flyers. This no frills combo is capable of delivering 250 watts of power in a very robust package. Add some Turnigy 9g servos and an Orange receiver and you will easily keep your electronics cost under \$40.00.

And to help even further, the FT designs include the provision for a "swappable" power pod that contains all the electronics, except servos, so the entire unit can be moved between different air frames.

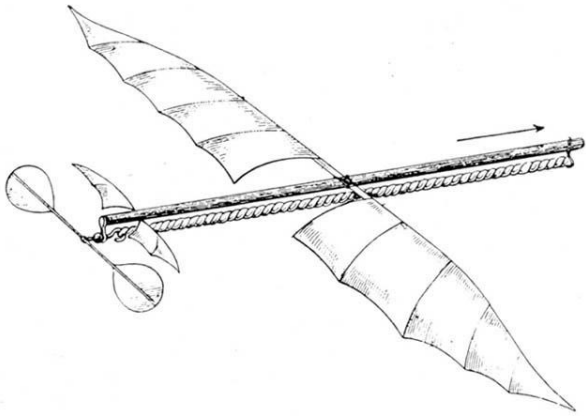
So there you have it. Anyone who is worried about the cost of getting into the hobby need not be concerned. And even if cost is not a real problem, addressing the challenge of "making due" with the least cost solution can be its own reward.

See you at the field.

Larry Woodward

Toys to the Future Sticks and Tissue to Electric Powered VTOL Aircraft

Development of successful model airplanes has progressed from **Alphonse Pénaud's** Planophore which flew in Paris in 1871. This led to more rubber powered models. Also here is editor Dave Harding with his winning Planophore at the Southwest Regionals in 2015.



The most successful configuration of rubber powered models from the beginning of the century right up to the mid 1930s was the Twin Pusher shown here. The flyer on the left is Carl Goldberg who went on to design a whole raft of successful airplanes through the 1930s, 40s and 50s.

The heading picture on the next page is the famous Hawker Aircraft designer Sidney Camm, later Sir Sidney Camm. Also Sir Sidney making



Picture Copyright Nancy Kapitanoff, 2006

the "Best Apprentice of 1960 award.



In the 1920's and 30's Sydney Camm designed for Hawker a series of biplanes that were elegant expressions of the biplane format. These were the Audax, Fury and Hart. The RAF bought 624 in 1932-33. Prior to WWII these had been relegated to air training as the Hurricanes had pushed them out of use.



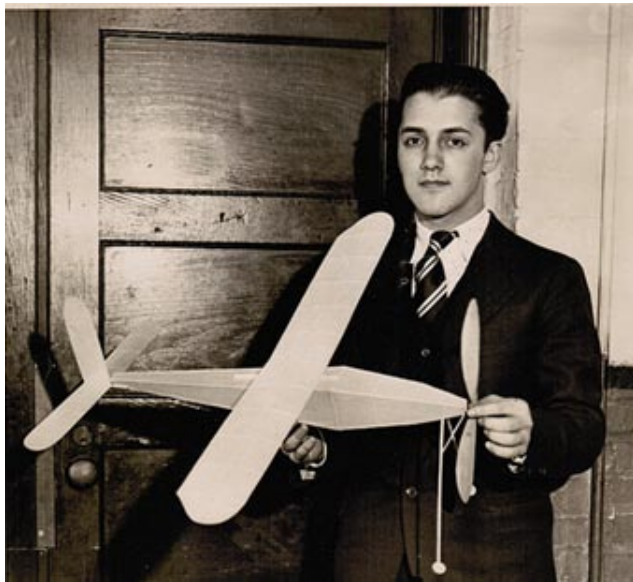
He then went on to design a range of jet fighters leading up to the Hunter. Following that in 1959 he designed the VTOL jet fighter P1127 which was developed into the USMC AV-8



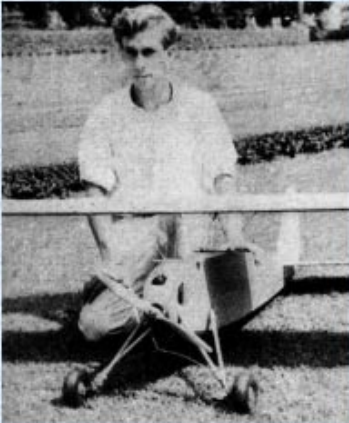



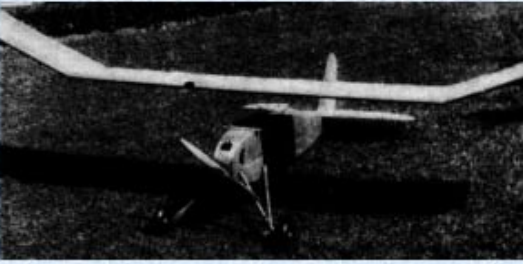
A very distinct relationship between model airplanes and the most advanced airplanes of the day
We still fly Twin Pushers in SAM competition. These are the competitors from last year's SAM Champs.



Here is Carl Goldberg with the configuration of rubber powered models which eventually displaces the Twin Pusher as the performance was much superior. The next pictures, also from the SAM Champs where we fly these airplanes too



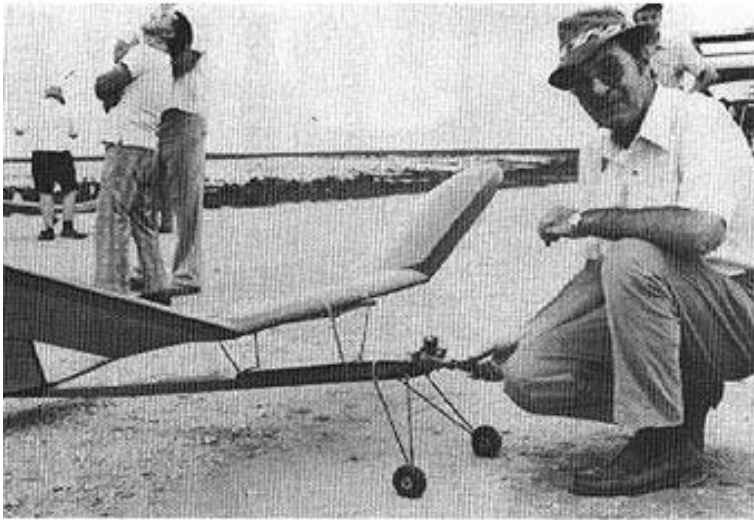
Prior to the early 1930s, gasoline-powered models were practically unknown. Then two young men from Philadelphia changed everything. Bill Brown designed the first practical model airplane engine; Max Bassett showed everyone how to fly with this kind of power. The rest is history. Initially his gas powered model flew against the rubber powered models but when he beat them convincingly separate classes were established for gas and rubber power.

 <p>Maxwell Bassett.</p>	 <p>Nose details and motor mount arrangement.</p>	 <p>Maxwell Bassett and 1937 trophies.</p>
 <p>America's most famous gas model in flight.</p>	 <p>The model has by its many convincing victories established the superiority of Bassett designs.</p>	

Here is Bill Brown's Brown Jr. engine;

Remember, all these models up to this time were free flight. But RC was on the horizon and here is Chet Lanzo's Stick also powered by a Brown Jr.





The old master himself, Chet Lanzo, placed in RC Assist with his own "Lanzo Stick." Wire-braced center section struts distinguished it.



And here is our Dick Bartkowski also with another version of the Lanzo Stick competing in Europe.

Of course both models, engines and radio controls were improved continuously over the subsequent seventy years but many of them are still the same basic configuration. Here is Carl Goldberg's very popular Falcon from 1962



JETS

Engine powered ducted fans were built in the 1960s to allow modelers to build scale models of real jet airplanes.

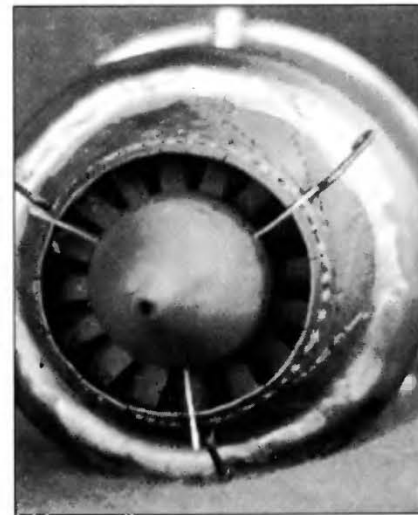
Although they worked and some worked well they were very difficult to build and operate, requiring very high speed engines. Starting was a particular difficulty.

However one very bright and determined German, Kurt Schreckling built a real jet using an automobile turbo charger turbine and a home made plywood compressor.

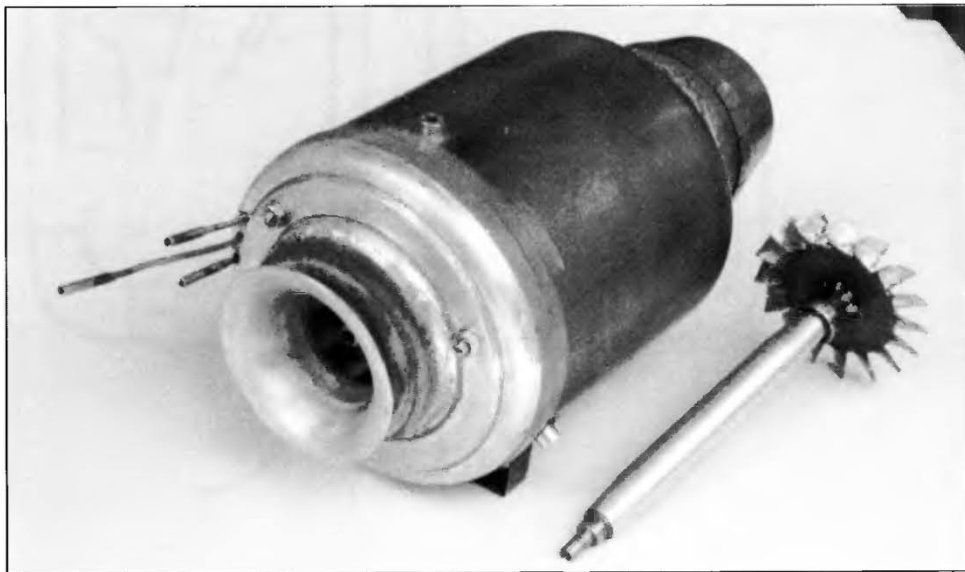
Kurt's work is described in detail in his book "Gas Turbines for Model Aircraft"

It started the whole industry in commercial model jets and the exciting models they made possible.





The "FD 3/64" in its latest state of development. The only difference in the compressor wheel compared with the first experimental version is its carbon fibre reinforcement. The turbine wheel is also thicker. Static thrust can be optimised by adjusting the annular jet.



But more was yet to come. The development of all the elements of efficient light weight electric power opened yet another avenue of development; Electric Ducted Fans or EDF.

Here are two early adopters at the Mid Winter Electrics meet in San Diego in about 2002. These high powered models were FAST



Now for the fun part. The World of Advanced VTOL aircraft is beginning to work on scaling up EDFs for use in a variety of novel configurations. Here are some of them reported in the Journal of the American Helicopter Society.

This is the LightningStrike configuration being developed by Aurora Flight Sciences;
<http://www.aurora.aero/lightningstrike/>
http://www.aurora.aero/wp-content/uploads/2016/07/LightningStrike_brochure.pdf



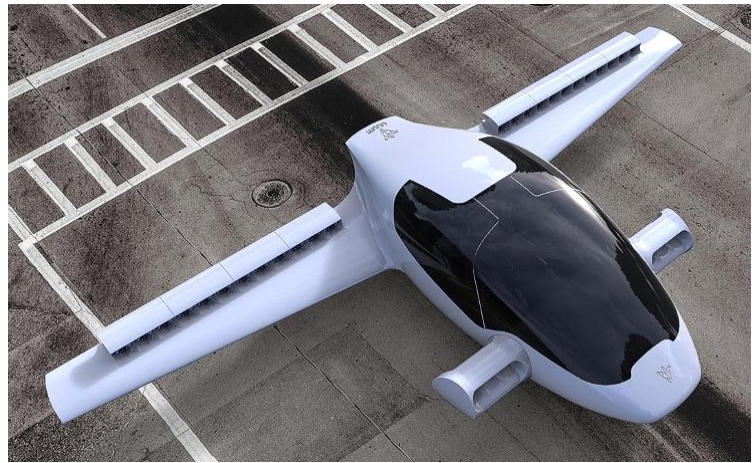
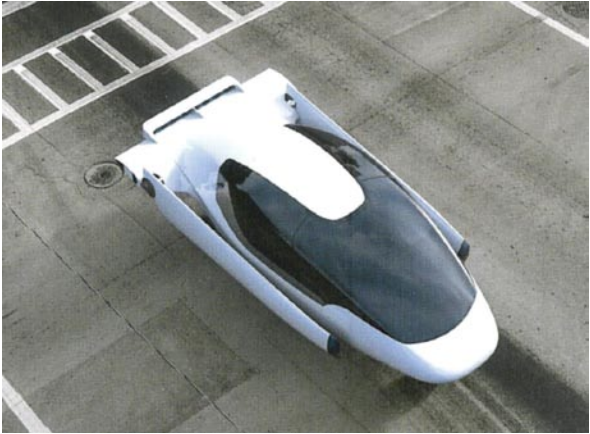
Here is the subscale vehicle development model SDV in testing at the Naval Air Station Patuxent River, MD.





Here is another, the Ilium Jet VTOL and Roadable. <http://ccea.mx/tecnologia/lilium-promete-un-jet-electrico-para-2018/>





Not all of these new electric powered airplanes use ducted fans, some just employ a multiplicity of electric driven propellers. This is the Advanced Aircraft Company's Greased Lightning development for the Defense Advanced Projects Agency, DARPA.





What a blast, doing this for a living! (Oh, wait, I did. Ed)

Pretty pictures of future vision too;



Here is a picture of their test article.



And then there is the Dark Side, even more and bigger Quads, well, what is Latin for eighteen?



So the conclusion is, model airplanes were perfected 32 years before the Wright brothers flew and now the Big Guys are still borrowing our technology. What next?

Dave

The Sticks and Tissue Construction Method; 1948

Basic structure is a steel tube truss. Aerodynamic shaping adds stick stringers, often pine wood, covered with tissue.... well, canvas actually.



Piasecki HRP-1, built right here in Morton Pa.

What you need to know about NOTAMs and TFRs



NOTAMs and TFRs are important, but sometimes misunderstood, notifications about flight conditions and areas where we shouldn't be flying. AMA Government Affairs and Public Relations representative Tyler Dobbs talks about what you should know regarding NOTAMs and TFRs, and why there has been a recent increase in the frequency of these important notices.

<https://www.youtube.com/watch?v=RnGdGe5EdQQ&feature=youtu.be&t=5m51s>

Membership Renewal For 2017

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

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