

The Flightline

Volume 31, Issue 1

Newsletter of the Propstoppers RC Club

AMA 1042

January 2001

Editorial - The Aviation Gene

I am sitting in my "editor's chair" contemplating my latest kit, thinking what a good life this has been, when my mind wanders back along my aviation journey. It occurs to me that there must be an Aviation Gene. I know that the human genome has been almost completely mapped and I predict they will find just such a gene when they sort it all out. Why do I think so? Well there must be something, which drives people into such singular pursuits.

My earliest aviation memories were the sights and sounds of airplanes in WWII. We lived just North of London, after being bombed-out of our house in the Surrey Docks region.

One such clear memory was the sky filled endlessly with airplanes towing gliders, probably on their way to Arnhem. There were, in my memory, smaller transports towing single gliders and larger ones towing two, side by side.



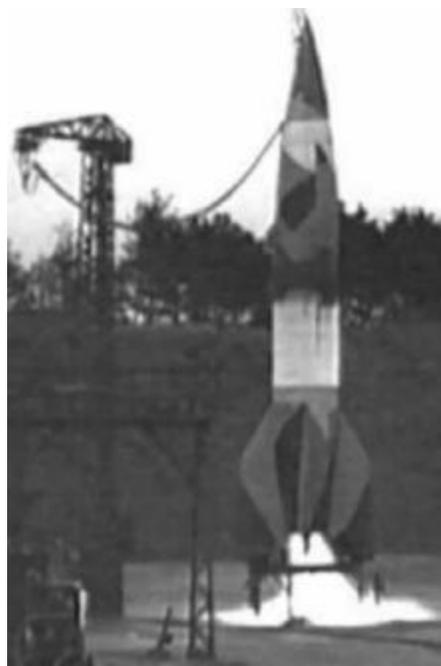
A Lancaster towing a Hansa with invasion markings. I couldn't find an Arnhem picture

The sounds of airplanes were always with us so when the V1 menace reared its ugly head the entire population instantly learned to distinguish that obscene sound. You had to, because if the sound suddenly stopped it was "everybody down, under the table" sheltering from the expected impact. Not listening made you vulnerable.



The V-2 Terror Weapon

Of course you couldn't hear the V2 and one of those landed about a half a mile from our house. It broke every window in the area, destroyed five houses and killed one of my grade-school classmates. My cousin and I were in a one-story store about 200 yards from the impact. The place collapsed on us but we were OK. After all, this was the *normal* life a small kid lived in those times. My mother stood with my brother in a stroller outside a shop widow. The blast took the glass into the store! Yes this too is part of aviation, let's not forget that the war machine has been the engine driving it.



A V-2 Launch



Werner VonBraun accompanied by his sponsor contemplates his latest success.

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Calendar of Events

Flying Events

Saturday 30th December
Final Dallett Field Fun Fly
10am till they throw us out!

Sunday 1st January, Fun Fly at the Chester
County Field
See article inside for directions

Club Meeting

Tuesday 2nd January 2001
Marple Newtown Library 7:30 p.m.

Club Meeting and Annual Club Auction

Tuesday 6th February 2001
Marple Newtown Library 7:30 p.m.

Regular Club Flying

At Dallett Field till 30th Dec.
At Moore Field

Every Saturday and Sunday weather permitting

Daily	10 am til Dusk
Saturday	10 am til Dusk
Sunday	12 p.m. till Dusk

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The President's Message

Mike Black

Dear Fellow Propstoppers

The club officers, Chris Catania, and Chuck Klysynski, and Al Tamburro met on Sunday, December 10 and traveled to our tentative flying site.

The field recommended by the staff at Sleighton Farms is flyable, but very narrow. There is not much room to fly directly away from the flight line. We walked around the property and found a site that is much better suited to our needs. Chris volunteered to talk to the staff and the farmer renting that land. So, we are in a hold mode. I will send out an e-mail as soon as I hear anything.

We then traveled to the Delaware County Prison property site. There are some wide-open spaces, but there are also some homes in the area.

The group agreed that the Sleighton Farm property holds more promise.

We have been invited to the Chester County Club for a New Year's Day fly in. Please see the letter of invitation in the newsletter.

I took the liberty to invite their club members to our Saturday, December 30 close the field fun fly at Dallett Field. I also included a challenge that is that between the memberships of the clubs that we keep four planes in the sky from 10 AM through one-half hour prior to sundown on that date. Who's up for that???

The officers wish all club members and their families the Happiest of Holiday Seasons and a Happy and Healthy New Year.

At the January 2, 2001, meeting we must make our preparations for our Annual Auction in February. Start looking for those old kits and models, dust them off, shine them up and sell, sell, sell. Hope to see you at one or both of the fun flies.

Hope to see you at the fields.

Mike 



December 5th, 2000 Meeting Minutes

Russell Neithammer

The meeting was called to order at 7:30 PM at Marple Library by vice president **Dick Siewell**.

Membership Chairman **Ray Wopatek** read the roll call - there were 29 members and 1 guest present.

The minutes of the October 2000 meeting were approved as published in the December newsletter, by the membership.

Treasurer **Al Gurewicz** gave the treasurer's report with income of \$793.00, expenses of \$147.98 and a new balance of \$2112.43 reported.

A letter from Thornbury Township was read by Secretary Rusty Neithammer. The letter praises the club for it's family oriented activities, willingness to participate in township activities, etc. This letter had been requested from the township to assist the club in securing a new field.

Thanks to all of the club members who participated in the dismantling of the structure at Dallet/Squire Cheyney field, and especially to **Mike DiDomenico** for storing the materials on his property, and to **Dave Harding** for bringing his RV and cooking lunch. A close out fly-in for Dallet/Squire Cheyney is planned for Sunday, December 31. Note that, after sundown on the 31, the field is off limits for flying.

Old Business

New field selection chairman **Chris Catania** had the following news to report:

Discussions with **Randy Bates** at Arsapha Farm have had the result that we will not be able to use this site for a number of reasons.

A letter has been sent to Delaware County Council Chairman **John McFadden**, requesting permission to use a section of the land on which the Delaware County Prison is located. Initial response from the county council has been positive, although one council member did ask about whether or not there had been a noise issue resulting from previous use of prison land by another RC club. Chris replied that this was true, but that, our engines are now better muffled, and the land we are seeking permission to use is in a more remote location than the land previously used for flying.

The Sleighton School (located near the Delco Penn State campus) has been approached regarding use of their land for flying. The management has

responded positively, and has offered a parcel for our use, that appeared to Chris to be an excellent site. Propstoppers board members will visit the site this Sunday to confirm its suitability. We may be able to use this site for little or no charge, in return for providing RC activities of some sort to the school.

Changes at Moore Field: In order to make flying easier at Moore, and to help prevent planes from overflying the residential areas, the runway has been re-oriented and widened. Even the larger planes will be able to fly there most of the time, except under very adverse wind conditions. Pilots who have not flown at Moore before should make their first flights there with help from someone who is familiar with Moore field.

Hats, same style as before (orange and white) are available for purchase by the membership at \$6.00 each. See Al Gurewicz if interested.

New Business

President **Mike Black** had e-zone catalogs to pass out.

Appointments: President **Mike Black** made the following appointments for the year 2001:

Membership Chairman:	Ray Wopatek
Field Marshall:	Al Tamburro
Safety Officer:	Jesse Davis
Coffee Chairman:	Bob Crowell (Thanks Bob!)
50-50 Chairman:	Al Tamburro

Additional keys have been made for the lock at Moore Field. See **Ray Wopatek** if you need one. The lock has not been changed, so members who already have a key should continue to use the same key.

Send classified ads for sale items or items wanted, to newsletter editor **Dave Harding**, for free publication in the newsletter.

Break

The 50-50 winner was **Monica Shellhase**.

Show and Tell

Rusty Neithammer showed some homemade decals. One method uses Chartpack (stickyback) clear self-adhesive Mylar; available from the local art supply store. This material is imprintable using a Xerox machine or a laser printer, and is supposedly fuelproof with no additional protection. Another method uses waterslide decal sheets from MicroMark.com. These are

Continued on page 4

imprintable using an inkjet printer (laser/Xerox type is also available). These require a fixative and clear coat spray, such as clear Lustercoat, for fuelproofing.

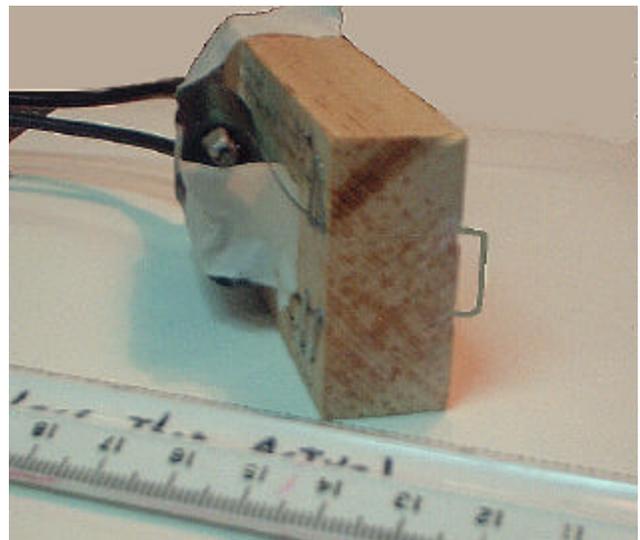
Dick Bartkowski demonstrated foam wing core cutting.

The foam used is pink foam building insulation from Home Depot, about 1.5 lb./cu. ft. Dick made a bow from scrap lumber, which has a tensioning adjustment for the cutting wire. The wire is .020" music wire. An RC battery charger is used for the power supply, set to about 5.5 amperes.

Cutting guides must be made and carefully positioned on the ends of the foam slab.



Grooves for spars, etc. are best made after the initial cut. Dick has used a homemade fixture with a short loop of music wire bent to the shape of the desired groove, powered by the same battery charger, to cut spar grooves.



(Dick will write a "how to" article on his work in a future edition - Ed.)

The meeting was adjourned by Vice President **Dick Siewell** at 9:00 PM.

Rusty 

Editorial - The Aviation Gene *continued from page 1.*

After the war it seemed like aviation innovation blossomed and I was somewhere in the middle of it. DeHavilland was at Hatfield, about ten miles to the north. Handley Page was at Radlet, also about ten miles only west. We had model airplane meets there in the early 50's. Vickers was about fifteen miles southwest at Weighbridge, within the old Brooklands car racetrack and Hawker's was in Kingston upon Thames just east of Vickers.

I got the model airplane bug in the late 40's about the time I attended Enfield Grammar School (founded 1553). Enfield is the location of the famous arsenal, you know the Enfield rifle but you probably don't know the ADEN 30mm cannon, which was so effective in the Hawker Hunter and surprisingly, the round from this cannon is currently used in the Boeing Apache helicopter! Enfield also had an excellent model airplane club in which my early ideas flourished.



The Hawker Hunter

I joined Hawker Aircraft (not Hawker Sidley!) as an aircraft trade apprentice in the summer of 1955. Yep, I have been working in the industry full time for 45 years! The apprenticeship program in the UK at that time had its roots in the medieval crafts. You pledged to work for a company for five years, at very modest pay, and they pledged to teach you a trade. You moved from shop to shop and office until you learned the whole business. I probably made a good part of a Hunter during that time and then designed and built the fuel test part of the P1127 structural test rig. The P1127 you remember was the prototype for the Harrier.

This was a time of vibrant aviation development as the British companies vied to produce the next generation jet fighters. During the course of exploring the design features necessary to fly at supersonic speed, each manufacturer engaged in frantic development. In 1953 Hawker and Supermarine fought a continuing duel for the World's Speed record. Both had learned that swept wings were more conducive to managing the aerodynamic effects of critical Mach number flight and they rapidly developed swept variants of their fighter candidates.



Hawker 1052 with straight tail clean wing and armpit exhausts.



Hawker 1081 Hunter forebear with aft fuselage exhaust and wing fences. Wing aerodynamics was a real challenge approaching Mach 1.



Supermarine Swift held the World Speed record briefly.

Following my apprenticeship I sailed to the New World to seek my fortune, ending up at Boeing Vertol in 1962, but I digress.

Where I was really headed was the thoughts from my new kit. An IFO, or Indoor Flying Object.

The IFO is one of those rare models which includes its designer's name in the advertisements;

"Dan Kreigh's IFO!"

Dan is my colleague and friend, we have worked together over a ten-year span and even flown models together. Dan works for Burt Rutan's Scaled Composites Inc. Like all Scaled employees (but employee does not properly describe those who work at Scaled), Dan does everything. He designs analyses and builds things and he is one of their ace model pilots. Oh,

yes, to work at Scaled you have to build and fly your own 1:1 airplane as well; Dan's is a Long EZ.

Now the reason that this all fits together is that I am in the aviation R&D business and we get our work done at the most efficient place.

Burt Rutan's operation is the most productive airplane factory in the World. In the last twenty years they have designed and built and flown over thirty different airplanes.



An early part of Rutan's fleet.

The place just seethes aviation. It is located on the airport in Mojave California where there is a whole community of aviation buffs. They say that sooner or later, every airplane type will land at Mojave.

One day I took my Vertol friend and fellow Brit, Pete Dixon, on a stroll down the flight line. Good Lord, he exclaimed, that is a Gloucester Meteor Night Fighter, we only made a few of them!

I also had a similar moment as I rounded a hanger only to walk smack into; you guessed it, a Hunter. In fact, an avid collector who houses his airplanes at Mojave has two of them. A single-seater Mk 3 and a two seat trainer. He flies them regularly.

The Santa Monica Museum of Flight also has a maintenance facility at Mojave. They operate a fleet of about twenty WWII warbirds including Spitfire, Sea Fury, P-51, Zero, Yak-3, P-47 and so forth. All of them are kept in flying condition and regularly operate out of Mojave. They also operate Dago Red the world speed record holding P-51 based unlimited racer.



Dago Red, World Speed Record Holder.

You know that Merlin-sound that I learned so long ago is still instantly recognizable. The first time I heard it in California, just south of Mojave (at the Willow Springs car race track actually) I had this eerie feeling and I didn't know why. When I looked up I saw a Hurricane flying over. That was weird, so wrong in time and place. But that was before I discovered Mojave and its secrets.

I took a Boeing team to Mojave for a while and enjoyed walking the flight line with my engineers studying aspects of airplane design in its many forms.

Among the interesting operations on the Mojave flight line are the GE test center and the National Test Pilots School. GE flies two special test airplanes, an early Boeing 720 and a 747. They each have a special instrumented pylon for the number 3 engine. This is where they mount the test engines for flight development. While we were there the 747 was equipped with the GE90 engine for the Boeing 777. It is so much larger than the normal 747 engine that it had only about a foot of ground clearance at rest.

The National Test Pilots School has a vast array of flightworthy airplanes on which to train their students. The most striking is their fleet of Saab Viggen, which they traded the Danish Air Force for student pilot training. This arrow-like Mach 1.4 airplane is quite a sight in the clear California sky. Of course, the students routinely slip over the "sound barrier" during their lessons. In fact, the **Ba-Boom** sound that continually shake you come not only from Mojave operation but also from Edwards Airforce Base, their neighbor. SR-71, F117, B-2 anyone? Another connection with my youth and early aviation developments!

The Brits performed their fighter development all over the place and the sonic boom was a regular part of my "upbringing".

The Scaled Composites crowd includes many aeromodellers. On occasion, a notice appears on the men's room wall. *"Next Thursday, Canon Court 5:30 be there"* This is the call to slope combat, Scaled style.

Mojave is at the eastern end of the Techachapi corridor, the notch formed south of the Sierra Nevada and north of the Tehachapi ranges. It runs west-east from the 800-foot above sea level San Joaquin valley to the 2500 foot high-desert of Mojave. The result of this geography is the almost constant high westerly winds. I experienced a 100-mph wind gust while gassing my car in Mojave.

Mojave, or rather Techachapi (where I lived), twenty miles east, is ideal for slope soaring as not only does it have the requisite wind but it also has an abundance of hills with slopes facing the right way. You can almost guarantee good slope flying conditions here. When I attended the slope combat session there were over a dozen Scaled pilots with a variety of innovative, specially designed combat planes. Every pilot was an expert (except me, I died a quickly!).

But wait, I really did start this reverie while examining my new IFO kit. The IFO consists of a perimeter framework of carbon rods covered by a transparent film. That's it!



Dan Kreigh's IFO, subject of my next model.

I expect that the original carbon rods were from Scaled's stock. Burt believes that his employees should be encouraged to use the tools and materials of his company on their private projects. The carbon rod material is particularly interesting. You see the strength of composite parts and the material systems from which they are made, depend on the way in which the fibers and resin are compacted and cured. What you want is just enough resin to coat the fibers and you want the fibers to be straight and tightly compacted. This is why we make most of our parts in high-pressure autoclaves. A continuous pultrusion process makes these rods where the fiber bundle is wetted with resin then pulled through a heated orifice. In this process the material is highly compressed and heated while under tension. The result is a very high quality rod with strength and stiffness properties significantly higher than normally constructed wing spars.

The carbon rods, which Dan uses in the IFO, are made for applications like suspension elements for high voltage conductors. Carbon has higher strength and stiffness than the materials used for electrical conductors so they are sometimes re-inforced by carbon or glass rods.

Burt Rutan thought that he could make particularly strong and stiff wing spars by using these high quality rods instead of or in addition to, the usual carbon fiber or roving. As I recall he did not achieve sufficient improvement for this to be an attractive process. He probably had a large surplus at the end of the project and this would not be the first design that grew out of available materials. Is that how it happened Dan?

Now what was I going to do when I opened this box? Oops, sorry guys, guess I got carried away!

Dave Harding 

Two-Day Freeze Fly Weekend 30th December and 1st January

Gentlemen,

I took the liberty of inviting the Chester County club to our close the field fun fly on Sat. Dec. 30. I hope no one minds. I didn't figure that the extra noise would bother any of you. Maybe we can change the rules for that one occasion to allow any and all planes in the air at any given time as long as each pilot has a pin. JUST KIDDING - sometimes it's almost a shame that safety has to come first. We could however try to have 4 fuel powered planes in the air from 10 AM to sundown. Now there is a real challenge for you have a great weekend.

Mike

Chester County RC Club

Members, Students, and Friends,
Don't forget to join us at the field at 10:00 AM (or when ever the hang-over allows) January one for our annual freeze fly. Last year we were all out in T-shirts. Let's hope for that again.

Frank Conforti has offered to bring a barrel for a fire. Does anyone else have one? I would like at least three volunteers and then maybe at least one will show up :-)
For the rest of you with fireplaces, please bring a couple pieces of wood for the fire.

I have also invited the Prop Stoppers to the event. They will no longer have the use of their field after Dec. 31st. They should be up and running on a new field by spring, let's hope. But for now let's have them join us to make a day of it. Please welcome them when you see them.

Douglas Lack
AMA #26780

Directions to the CCRC Field

- "Take West Chester Pike into WestChester. From left lane go straight through town on Gay St.
- Back in the right lane again straight until you DEADEND on Bradford Ave.
- Turn RIGHT and go to the next DEADEND. This will be 162.
- Turn LEFT on 162 and go through Marshalton, noticing the only church on the left (where CCRC holds its meeting the 1st Thursday each month), and follow 162 as it bears right leaving town.
- About another mile bear left on 162. DISREGARD the 162 Detour signs, as the road is open well past the field, which is about a mile on the right.

Dress warm guys as it will probably be colder than a witches breath." DEL

Dave Harding – Editor
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Propstoppers R.C. M.A.C

You must make your 2001 dues payment before the February meeting to get the \$55 rate. After that time membership will be \$60.

If you have an item for sale please call or e-mail me so I can include it in the newsletter.

Dave Harding
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