The Flightline

Volume 34,Issue8 Newsletter of the Propstoppers RC Club AMA 1042 August 2004

Editorial; Surrounded by Choice

One of the wonderful aspects of our hobby is choice. There are so many different ways to enjoy model airplanes. During my travels to visit mum in England I beat a hasty path to the local WH Smiths, the excellent news and bookstore, and buy the UK aeromodeling (UK spelling) magazines. Although most of the things I read are similar to our US pursuits there is one area that is different; large model airplanes and the meetings that feature and demonstrate these models.

The Large Model Association is the UK special interest group that fosters these endeavors, they have arranged the legal aspects of building and flying such models and they sponsor or coordinate the various meetings;
http://www.largemodelassociation.com/

How large is large? Well some of these models weigh in the order of 200 pounds and span 20 feet or more. Half-scale WWI airplanes are common.

The first and most important aspect of these models is the arrangement made with the UK Civil Aviation Authority, CAA, the Government organization, like our FAA, charged with keeping the airspace and its users safe for the general public. Of special interest to me is that these are the same people I hosted twenty-five years ago when we certified the Chinook for operation by British Airways to the oil fields in the North Sea, but I digress.

In fact their scheme is quite similar to the arrangement made by the FAA with the EAA for certification of home-built airplanes. In both cases the National authority negotiates some rules that are implemented and certified by the modeling/homebuilt organization.

The first part of the process, an inspection, involves an appointed inspector overseeing the construction of the model. Upon satisfactory completion of this a Certificate of Design and Construction is issued. The model owner can then apply to the CAA for an "Exemption to Test" that allows the model to be flown in private for test purposes only. Following satisfactory completion of the flight test program the CAA may issue an "Exemption to Operate". At this point the model is cleared for the named pilot to demonstrate the model at public meetings. Flight by another pilot requires a second test program and issue of a supplementary Exemption to Operate.

Sounds like a lot of rigermerole? Well imagine the impact on the public and our hobby if one of these beauties gets away from you and into the spectators. Better show you did due diligence as the lawyers say.

Whew! Having got that out of the way, let's look at what we mean by Large Model Airplane. The picture below and on the cover is of an eight-turbine B-52 in test. Powered by the Wren turbines I recently showed you being tested by my British RC friend. This model spans 23 feet and weighs 330 pounds. I believe the model has some sponsorship from Wren Turbines and Wren maintain a news log to keep the public up to date with the model's operation;
http://www.wren-turbines.com/ Earlier videos of the test flights were so popular that Wren couldn't support the server time necessary to allow us all to view them. Fortunately someone has put them on a web site for you to view:
http://www.mcgirt.net/RC/VIDEOS/Giant_B52/

The B-52 has completed its flight trials and will be demonstrated at one of the LMA meetings held at Cosford, the RAF Museum's airfield in the West of England.

Continued on page 3

Agenda for August 3rd Meeting
Sleighton Field, 7:00 pm

- Approval of July meeting minutes
- Membership Report
- Finance Report
- Discuss Walt Bryan Memorial Fun Fly plans
- Show and Tell

Bring your plane to fly before and after the meeting.

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Calendar of Events

Club Meetings

Regular Meeting 7:00 pm
Tuesday 3rd August
Sleighton Field

Tuesday Breakfast Meeting
The Country Deli, Rt. 352 Glenn Mills
9 till 10 am. Just show up.
Flying afterwards, weather permitting

Flying Events

Walt Bryan Memorial Electric Fun Fly
Saturday 7th August, Sleighton Field.

Thursday Evenings at Moore Field
Join us for relaxed evening flying. Bring your supper and kids. Let's make this a family affair.
5 pm till dusk every Thursday, weather permitting.

Regular Club Flying

At Moore and Sleighton Fields

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

(Electrics 10am till Dusk)

Propstoppers RC Club of Delaware County, Pennsylvania. Club Officers

President Keith Watson
(610)-543-5050 kwwatson@comcast.net

Vice President Dick Seiwell Reslawns@aol.com
(610) 566-2698

Secretary Richard Bartkowski
(610) 566-3950 rbartkowski@comcast.net

Treasurer Al Gurewicz (610)-494-8759

Membership Chairman Ray Wopatek
(610) 626-0732 raywop@iuno.com

Field Marshall Al Tamburro
(610) 353-0556 kaosal@webtv.net

Newsletter Editor Dave Harding
(610)-872-1457 davejean1@comcast.net
4948 Jefferson Drive, Brookhaven, PA, 19015

Webmaster Bob Kuhn
(610) 361-0999 kuhnr1600@kuhnfamily.com

Propstoppers Web Site; www.propstoppers.org
Check the web site for back issues of the newsletter, pictures of club events and the calendar of future events.

The President's Message

Dear Fellow Propstoppers,

Join us August 3rd at 7:00pm outdoors at Sleighton Field for our monthly club meeting. If you haven't attended an outdoor meeting this will be the last for this season. Come see what you have been missing and bring a plane to fly before and after the meeting.

Also, would someone please bring a digital camera and take some pictures during the meeting and the flying. It is always nice to record our activities in the newsletter and this month both Dave Harding and Dick Bartkowski will be away upholding the Propstopper's honor at the AMA Electric Nationals in Muncie.

Vice-President Dick Seiwell is planning to bring his tractor to finish cutting the overgrown portion around the field. Maybe you would like a turn at driving the tractor….That is, if Bob Crowell will share!

Bring your planes for show and tell and flying after the meeting.

We will be discussing plans for the Annual Walt Bryant Electric Fun fly August 7th. Please plan on joining us for a fun day with Propstoppers and our guests. This is usually a really interesting meeting as the scope of electric airplanes is expanding and maturing so rapidly. We will also need some help to run the meet so if you can volunteer for maybe an hour on the transmitter impound etc. we will all appreciate it.

Our September meeting will be indoors at the Marple-Newtown Library at 7:30pm so add that to your calendar as a reminder for next month.

Keith Watson, President

Minutes of the Meeting, July 6th, 2004 at Sleighton Field

Vice President Dick Seiwell called the meeting to order at 7:00 p.m..

The roll call by membership chairman: Ray Wopatek showed 23 members and 1 guest present.

The minutes of the June meeting as published were accepted by the membership.

The treasurer's report will be given at next month's meeting. Al Gurewicz is on vacation.

Old Business:

Keith Watson reminded that anyone with receipts from the club picnic should turn them in to Al Gurewicz for reimbursement.

The gate at Sleighton field MUST be locked when entering and exiting every time per Sleighton Site Security.

Logo Club Shirts: Still working on these.

A first aid kit & fire extinguisher are available in the lock box at Sleighton field and is accessible by the field key. If the first aid kit or fire extinguisher is used please tell a board member so that it can be replenished.

Also in the event of rain for our outdoor summer meetings will be the rescheduled to the following Thursday.

New Business:

The club was informed that there are now 2 locks on the gate at Sleighton field. Each lock is to be locked to the other lock (Lock to Lock) so that either lock can release the chain. The function of the combo lock was explained at the meeting and the combination will not be published for security reasons. Your field key will still work.

Team USA F5B asked the club (via email) for a donation for their trip to York England.

The club voted in favor of a $50 donation.

Adjournment of the business meeting and beginning of flying took place at 7:45 p.m.

Rusty Neithammer

Editorial, continued from page 1. A similarly large model at 19-feet span is the C-17 1/9th scale jet by Colin Straus .

The construction of this model began with the development of CAD plans from which many of the parts, in balsa and ply, were laser cut. Just like today's real airplanes, CAD and CAM (computer aided manufacturing, for which laser cutting certainly qualifies) makes things much faster, easier and more accurate because the parts fit perfectly. Also, jig and assembly tabs and slots may be included so the parts simply snap together before gluing for a perfect assembly without the use of jigs. Also like the real ones, these guys were able to use the CAD subassembly "drawings" to allow fit checks with the workshop and transport vehicle, a modest van;
http://homepage.eircom.net/~skycam/C-17A_Globemaster_III/

In the real world nowadays the industry does "virtual manufacturing" to accomplish such checks. Interestingly enough, the real C-17, which had its roots in a Department of Defense large transport research program awarded to Douglass in the early 1970's, has little in the way of CAD and CAM. Indeed, the editor was appalled to see mechanics hand drilling the critical wing-join boltholes during a tour of the manufacturing facility in Long Beach a few years ago. Boeing technology was, then, two generations ahead, with wing skins being machined with integral stringers on CNC machines and automated riveting to achieve a completely smooth surface, but I digress, again!

Of course the large models come in all types and size, indeed perhaps some of the most impressive are WWI types where there are a number of half-scale models. This Fokker Triplane is a good example. It has completed the inspection and initial flight trials but is not being demonstrated as of this writing.

And here is another, an Avro 504k.

And another Avro, this one a half scale Triplane.

Here is a between the wars fighter, a Bristol Bulldog.

WWII models are also well represented. Here is a good-sized B-24, Liberator, as it was known in the UK.

And here is a somewhat different WWII era machine; a Hughs Spruce Goose with six geared speed 600 electric can-motors on 40 NiCad cells!

Now we could probably build something like this as a club project! Wonder how it takes off, skidding on wet grass?

Here is another WWII type, a Vickers Wellington twin engined bomber with a Beaufighter (or Blenheim? Sorry Mick!) in the background.

The Brits must really like big jets, here is an Me-262.

And a more modern jets, this one a Hanley Page Victor bomber.

This is a half-scale DeHavilland DH-88 Comet, the 1934 England - Australia race winner.

So, start planning, we would like to see your large airplane soon.

Dave Harding

Meet Member Rick Grothmann and Learn About His First Flight

I've always been interesting in mechanical things ... do my own car work .... Flying fascinates me ... as a kid I read the magazines but didn't have the opportunity to get a plane as I grew up in the Philippines, my parents were missionaries. I like doing things with my hands ... like the building part as much as the flying part. After I got married, got the wife a horse so it was only fair I had the chance to dabble in a hobby :-) so started into R/C planes at that point ... before kids and before house I built about a half a dozen kits ... flew at Valley Forge for a number of years ... then took a break due to a number of things - gave my planes to a missionary friend who had a son that was showing interest in flying (he's now finishing up flight school) ... and got back into it when Paul started showing interest. It took very little encouragement :-). Given the limited time I have at this point I've leaned towards the ARFs to get in the air with something fairly quickly.

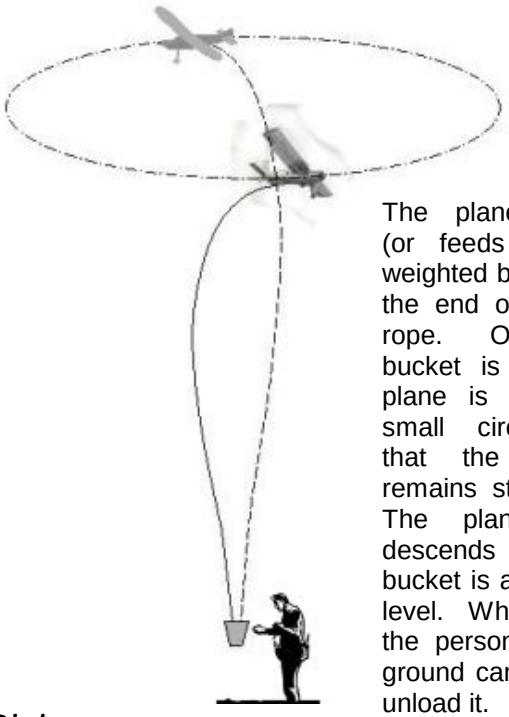
Paul just got another plane - one of the 3D foam types that we're putting together now ... will have something for show-n-tell hopefully next meeting.

First flight that I remember was in a DC3 - went from the island of Luzon (where we were living) to visit friends on the island of Mindanoa - I thought it was 'high tech' at the time.

Friends of ours that were missionary pilots were flying Helio Couriers (they still do) - the STOL characteristics and reliability were what they needed for the jungle landings and take-offs ... I've seen them lift off in about 30 feet; they have a unique flap gizmo on the front of the wings that drop down when the plane is coming in at a given angle. *(Handley Page automatic slats ~ Ed.)*

The most impressive situation I remember was up in the northern part of the island of Luzon (where the rice paddies are carved into the sides of the mountains - referred to as the 'head hunting region' since tribal warfare, and other practices of primitive peoples were still common place then) ... given the terrain, the runway was carved into the side of the mountain. Since they couldn't get a straight stretch long enough, there was a turn in the middle of it. Landings were one-shot deals ... about the time your wheels settled on the ground you were making a turn. Take-offs were the same ... you'd be going downhill, make your turn ... then have to get in the air before the end of the runway - which had quite a drop right at the end!

In the 'early days', they'd have a bucket with them with a handset so while flying in a tight circle they would lower the bucket so they could talk to the person on the ground when they couldn't land for some reason, or were getting information from a missionary that wasn't near a runway.



The plane drops (or feeds out) a weighted bucket on the end of a long rope. Once the bucket is out the plane is flown in small circles so that the bucket remains stationary. The plane then descends till the bucket is at ground level. Whereupon, the person on the ground can load or unload it.

Rick

The International Bognor Birdman Competition

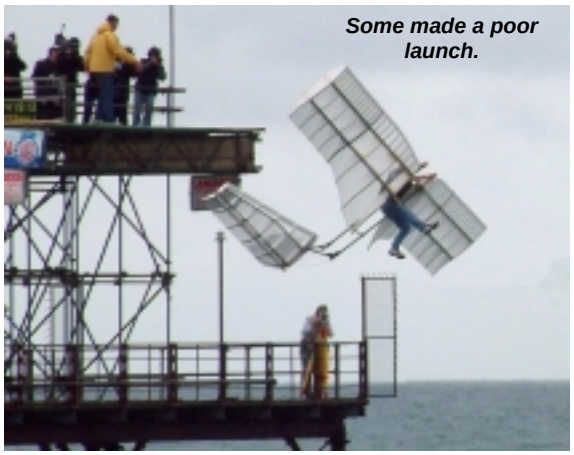
Although my last trip to the UK did not involve any modeling activity I did attend and record an aviation event of note; The Birdman Competition.

Bognor Regis is a South Coast seaside resort that was developed in the Victorian era. This means that it has a quaint pleasure pier. Each July Bognor hosts this charity competition. The object is to fly off the pier, traveling as far as you can before entering the water. There are several classes and a grand prize for the first person who can travel over 100 meters. Other classes involve funky dress or objects, such as a cow, a phone booth etc.

The machine below was built over a period of several months by Students from a technical college. It featured a bicycle frame complete with two wheels and normal pedal power, but the chain was also connected to a pusher propeller. The idea was to power the launch with the wheels and the flight with the propeller. Unfortunately, they forgot that the front wheel would fall off the launching ramp before the craft was airborne. This caused the inevitable pitch down with flight consequences shown below.

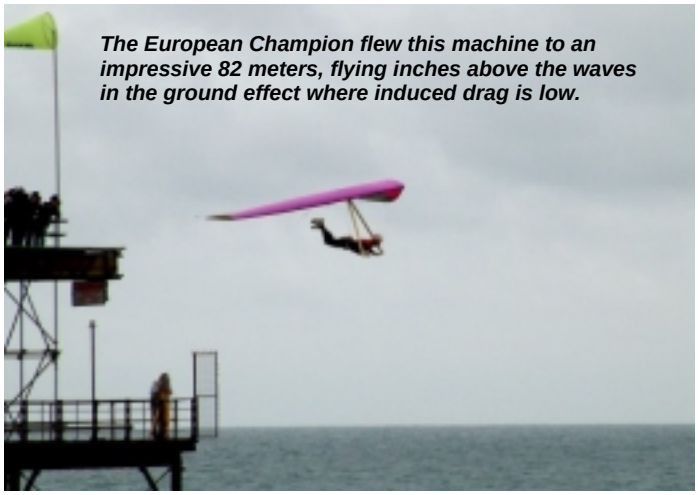
Of course, you end up in the water! Here is a magnificent purpose-built ultra-light being delivered to the beach after its less than successful flight.

Some made a fair launch and short flight.



Some made a poor launch.

Genuine hang glider pilots flying their familiar machines made the most impressive flights.



The European Champion flew this machine to an impressive 82 meters, flying inches above the waves in the ground effect where induced drag is low.

All in all, a fun event, run on a typical British summer day; 60 degrees and drizzle! Take your vacation and compete next year?

Dave Harding

Around the Newsletters

SAGE SAFETY SAYINGS ABOUT PROPELLERS

By VIC BUNZE From Flight Lines, The Spirits of St. Louis RC Flying Club Inc.

Propellers! Those cute things spinning on the front of the airplane. They put food processors to shame. Those whirling beauties can do a number on you, and if you are alone at the time, there is a danger of passing out or worse.

Here are some tips. An entire class of accidents can be avoided by properly restraining your airplane. It's best to have someone hold the airplane. Short of that, get a restraining gizmo from your local hobby shop.

Why? One way an accident can occur is because the transmitter is sitting on the ground. You are cranking away to start the engine and the throttle is set on low, as it should be. The engine starts and Murphy strikes! The transmitter falls over and the throttle goes to "full on." The airplane lunges forward and gets you. It happens.

Another variation is the airplane is new and the throttle is reversed. You think it's on low but it's wide open. When the engine is cowled, you cannot see inside.

When the airplane is restrained by the elevator, it is possible that the thrust is so great that the tails pulls loose and the rest of the airplane comes at you. That's why I prefer to have someone hold onto the aircraft, with fingers wrapped around the leading edge of the wing. This is a must when working with large gas engines with enough power to pull stumps out of the ground. Don't count on the tail to hold that airplane in place when an eight horsepower engine swinging a 26-inch propeller is pulling it. Use a helper.

What else? Propellers come loose and fly into space. Backfiring four-stroke engines are known for throwing propellers, especially when too lean. Don't throttle up until the area in front of the propeller is clear. Keep people from standing in line with the propeller arc. When you throttle up, you need to be behind the airplane and others should be behind you.

APC propellers are a wonder of efficiency. They really cut through the air and perform. They are also very nasty if you get in the way. They have sharp edges and are stiff and strong. They won't break away like a wooden propeller.

Sometimes you just put your hand into the propeller. How? You could be fiddling with a needle valve or something and you touch a hot muffler. Bingo! You jerk your hand back and your fingers hit the propeller.

Be safe and fly like you mean it—often and with proper care, abandon, and élan.

USING A TIMER CAN IMPROVE BATTERY LIFE

By RED SCHOLEFIELD

This article originally appeared on Red Scholefield's Web site, www.rcbatteryclinic.com.

One of the failure modes in Ni-Cd cells is shorting. While many things can contribute to shorting, one of the significant problems is cadmium migration through the separator where it forms a conductive bridge, ultimately shorting the cell.

Cadmium migration is a function of the time the charge current is flowing through the battery and less a function of the level of current. Therefore, we have found that high pulses of charge current to maintain the charge state are better than a steady low rate (trickle) current. This is difficult to quantify as many other factors contribute to the life equation, but improvements in battery life of 10-20% by pulse charging versus trickle are not unrealistic.

We have found that sustaining a pack at the fully charged state by way of pulsing the charge is better than a continuous trickle charge. Some charges employ this technique. You can do essentially the same thing at a low cost using the following instructions.

Simply connect your regular wall module charger that came with your system to an appliance timer. Intermatic makes a good unit for around $5. Set the trigger pins on the timer so that it is on for one hour each day. When you return from a flying session, turn the timer wheel so the on/off triggers come up in 14-16 hours. Then turn the timer knob on. This will give your pack a full charge and then a sustaining charge for one hour a day. The battery can be left in this manner for a long time between flights and can be maintained at a fully charged state with minimal overcharge.

If you only fly a couple of flights, you can just set the timer so you get six or eight hours before you go into the one hour per day mode. If we assume a normal two-hour flight time for a system and you only fly 20 minutes, then the charge you need to return is 20/120 times 16 hours, or about three hours.

Know what your system consumes in the way of energy per minute of flight. This can be determine by first charging a pack and then discharging it on a cycler to see how much capacity is has when fully charged. Then, recharge and go fly. Record your system on time and immediately discharge the pack when you return home. This will tell you how much capacity you have left. Let's say you fly for 40 minutes, and when you discharge the pack you get 390 mAh. From your initial discharge from a fully charged pack, you got 585 mAh. This means that you discharged 195 mAh in the 40 minutes you flew, or about 5 mAh per minute. From this information, you know that your pack is good for 116 minutes of flight time under the actual flight loads. Now, you don't want to take it this close, so give yourself (and your airplane) some margin of safety, about 25%. This sets your safe flight time to 75% of 116 minutes, or approximately one hour and 27 minutes.

Do this for each of your airplanes. Also, you should do this for your transmitter at least once to accurately characterize its "flight time." The system usage will vary, depending on your flying style, the size of the airplane, and the number of servos used.

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Dave Harding – Editor
4948 Jefferson Drive
Brookhaven, Pa. 19015
610-872-1457

Propstoppers R.C. M.A.C

The British Large Model Association fosters the building and demonstration flight of very large model aircraft. This B-52 spans 20 feet and is powered by eight Wren gas turbines, right.

AMA Education Notice

Dear AMA Member:

A major focus of the AMA Education Committee is promoting aerospace education activities across the country through school-based curricular and extra-curricular activities. We are looking for AMA members who currently are or have been classroom teachers. If you have experiences to share, and are interested in assisting the Education Committee by participating in an on-line exchange of activities and ideas, we would like to hear from you.
Please send your name, telephone number, email and home addresses to Jack Frost, AMA Education Coordinator, at education@modelaircraft.org.

From AMA via e-mail

For Sale
GWS Tiger Moth 400 ARF (Kit)?

Span 38 inches
Area 425 sq. inches
Weight ~ 19 ounces
Motor with gearbox and propeller included.
$65

Call Ed. Goretzka
(610) 436-6559

Check out information and movies of the model at;
http://www.gws.com.tw/english/product/airfly/tm400