

Newsletter

June 2018

It's been quite a month for the Club. Not only has the the summer actually performed like a real summer - it can be forgiven for that little storm - a mere blip, but the Club managed to choose one of the calmest (and warmest) days to celebrate it's 60th year.

I couldn't attend due to circumstances at home and from the video footage I've seen posted on Facebook and the excellent photos provided by Chris Vernon, I missed a really good day out.

Our static display at the Cleveleys Classic Car Show was great and to all you guys who organised it, I have to say that you did a great job. Mark had borrowed a really nice large gazebo which kept us cool and protected the models throughout the day. The BMFA flight simulator proved very popular with the public and was being enjoyed pretty well all day. Did we actually get any new members from promoting the Club at the show, only time will tell.



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Pictures from the Cleveleys Classic Car Show



Children were fascinated with Jake's 'Beast'



Always said that Jason was a babe magnet.

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*Justin's lovely
Pitts*

Well done to all you members who took part and made this happen. A special mention to Steve Warburton who liaised with the BMFA to obtain the flight sim - he even towed it back to his home and subsequently arranged for it's collection. Thanks also to Geoff who sold all the raffle tickets throughout the day and of course to John Prothero for organising such a great position for us. It was a great day and really good company.



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A VIEW FROM THE HEDGE. (By Will Sparrow)



As all true aviators know, flying can, at times, be a risky business. If you are out for a walk and you get a stone in your shoe you can always stop, deal with it and go merrily on your way. If you run out of petrol whilst driving about in those car contraptions that you all seem to love, you can call for help and go merrily on your way. Aviation is not like that. If something breaks, malfunctions, you run out of fuel or the motor/engine stops for some unknown reason then you can be in deep trouble. As a long-term observer of you modellers and your practices I've noticed that most of your mishaps are a result of problems in the power department and, with the trend to larger and heavier models, unscheduled arrivals, especially in the rough, can result in severe damage.

There are all sorts of sayings that have become part of the folklore surrounding your pastime: "the most useless things in flying are the amount of runway behind you and the amount of sky above you". Another old adage that we birds (and you modellers, I expect) have drummed into us is that height and speed are your friends and, if you run out of both of these commodities, then you have a real problem on your hands.

You may have noticed that there is a trend, amongst some of your members, to indulge in a form of flying called Prop Hanging, where the model hangs vertically, its weight being supported, not by the lift produced by its wings, but by the thrust produced by the propeller. It is a manoeuvre requiring great skill and gains more oohs and aahs if done at very low level. I bet that you can see what's coming next...

Towards the end of May, on a beautiful day, I was on my viewing twig observing a large, petrol-powered aerobatic model doing a bit of prop hanging at low level when, all of a sudden, the engine stopped. The model, realising that it had had neither speed nor height, said a quick prayer (in Chinese?), dropped its nose and plummeted to the ground, sustaining some damage. What followed next left us watchers in the hedge shocked and speechless; the folk in the pits went very quiet too. The owner vented his frustration on the model: the model was reduced to matchwood. A sad day for all.

The recent spate of good weather has brought you all out in droves to enjoy what might be the only touch of summer of 2018! Lots of flying has taken place; I've seen a few new models take to the skies and a few older ones come out to savour the spring air. That elegant glider that first ventured out a few weeks back continues to use the conditions to search for that elusive perfect trim. A large-scale electric twin has made its first appearance since the end of last year and a new, large Pitts Special has had its maiden flight. There has been a rumour doing the rounds in the hedge, for what seems like years (it has been years! WOO), that there was a rather tasty EDF jet that was



A View from the Hedge Continued/...

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gathering dust, waiting for the perfect conditions to feel air under its wings. You can imagine my joy when, at long last, it finally graced the pits with its presence. The model flew very well and sounded just like a jet should ... until it ran out of electricity (I'm told that these electric jets are voracious current gobblers). The owner, inspecting the wreckage, declared himself to have forsaken electricity for good. I believe that the remains have been acquired by a new owner, so I can look forward to seeing this lovely model back in its natural environment sometime soon.

Activity on the field of late has not been restricted just to club members. Sunday, 20th May saw the club host a Fly In. Last year you ran one of these events, the weather was awful and only one man and a dog turned up (and the dog went home early!). This year things were very different; the weather was perfect, warm, and with a light wind. Right from the start it was obvious that the day was going to be a great success and it wasn't long before the pits were filling up with lots of interesting models. The day was a twig-sitter's delight. Who could forget that truly magnificent Fokker D6 which not only looked right, flew beautifully, at just the right speed, but sounded superb with its three-cylinder, four-stroke radial (a glow, unusually) burbling away. At the other end of the spectrum sat a large EDF Vulcan. This model had a single, large EDF unit and used four batteries – big ones – per flight. Only purists would have noticed that four engines were not used: in flight, it looked like a Vulcan and the jet noise was most convincing. As one who appreciates such things, both these models were flown in a scale-like manner with realistic pitch and roll rates and appropriate manoeuvres: poetry in motion!

The following week saw the field experience a change of pace – Drone Racing. The club was hosting a drone racing group who turned up very early to set up their racing course of hoops, gates and what looked like, to my jaundiced eye, a sort of climbing frame of plumbing fittings! I'd not seen this sort of thing before, so it was a bit of an eye-opener to view these contraptions whizzing around the course at high speed, colliding with the obstacles, each other and the ground. The interest, for those participating, is all in the competitive racing via the FPV goggles. Drone racing is not a spectator sport; all the drones look the same and dart about so quickly that it is difficult for an external watcher to keep track. One or two of your members had a look at the view through a pair of the goggles; one emerged from the experience looking dizzy whilst another looked as if he was about to be sick! It was not surprising to see the actual racers all sitting down as they operated their quads.

Hopefully, we can all look forward to the summer we have all been promising ourselves for the last umpteen years. I expect that you will all take every opportunity to get out and practise your art and, while you are at it, please, for my sake, remember that height and speed are your friends...

WS

60th Year Club Celebrations

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Article & Pics by Chris Vernon

So the 60th club anniversary flying event took place on the 24th June amazingly for a Blackpool do, the sun was out, and boy was it hot. At 9;45am when I arrived the sun was already beating down, first job sun cream on and Jungle Juice on to deal with the horse flies!!!

I have to say the flying field and car park was in top notch condition - thanks must go the committee for getting it ready.



By 10;30 there was a good turn out with interesting models in the pits, talking of Pitts Justin spent the first few hours of the day trying to start his petrol engine in his Pitts special, the offer from me of a loan some lipo's perhaps did not help his now sweaty frustrating situation, I was only trying to help !!!!

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The flying got under way with big Dave flying his jet, unfortunately he had a 'should I or should I not' moment on his landing which resulted in a venture into the grass at the end of strip causing nose leg damage.

Swiftly behind this was Mark Conlon flying his piece of roof tile disguised as a little Ultimate foam biplane, all was going well until the battery pack decided it was time to return to the pits before the plane, this meant it became a tad tail heavy and then went into some amazing manoeuvres downwards towards terra firma, the battery hatch cover floated down some time after the main event, nothing a bit of glue will not cure.

Justin put the Pitts to one side and eventually saw sense and got an electric powered pattern ship out and took it through his paces.

John Prothero brought with him some very old vintage control line models and during a gap in proceedings it was time for a bit of fun. John had already asked me to be his pit man for this 'bit of fun', John Higgins had



already declined the offer due to his summer 'cricket' outfit which had to be returned home in pristine condition. So muggins here stepped up to the mark and stupidly fuelled the model and held it while JP flicked away to start the oil burner of a motor. Within seconds it brought memories with the smell of the fuel and the exhaust residue streaming itself all over my shirt, shorts, legs, arms and shoes, no more horse flies for me !!!

Anyhow I have to say JP flew the planes beautifully as did John Higgins. The highlight of the experience was 'finger John' being invited to have a go. It did not go exactly to plan and ended up with the two Johns ballroom dancing in the centre of the flying circle with 'finger John' eventually falling over. I am lead to believe



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that Jason has some video footage of the event. It was a really good experience that everybody enjoyed and thanks must go to JP for putting on the display. The bill for cleaning my clothes is in the post John.

Jason put on a great BBQ with sausages and burgers, cooked to perfection as the norm, if anybody was ill after I have written this tough !!!

Talking of Jason he flew his jet complete with smoke system absolutely flawlessly, smooth routine, smoke on, smoke off at the appropriate times, great to watch.

A few more highlights of the day. Harold Dowbekin telling everybody about his fantastic new spring arrangement on the Piper Cub undercarriage, well it did not survive the first dead stick arrival, it sprung off never to be seen again and the undercarriage looked like it was trying to get into the cockpit !!!!. Finger John going home with a bin bag model again unfortunately, deadstick and high 'G' turns do not combine. A lovely E Flite Carbon Cub which reversed back towards the pits, very clever use of speed controller from a car. Justin's Pitts did eventually fly however, half the fuselage covering came adrift mid-flight.



It was a great day with great weather, great models.

Chris V



Batteries

June 2018

Article by Brian Holdsworth

Temperature can have a significant effect upon battery performance, and storage/usage at ambient temperatures of 10 to 30 degrees Centigrade is preferable. A shed or garage is likely to have extreme temperature variations between freezing in winter and cooking in summer; any damp is liable to provoke corrosion, especially with condensation on the connectors. A battery in full sun under a window, especially in a car, can become very hot.

All chemistries perform poorly at low temperatures. Of the commonly used types, lead-acid generally copes best, which is why it is used for vehicle batteries etc. Early electric flight using NiCad's with brushed motors often needed batteries to be warmed to achieve sufficient performance at the cost of shortened life - the common practice of peak charging at 3C immediately before flight produced a temporarily higher voltage with considerable warming improving performance enough for success. NiMH's perform poorly in cold weather, which can cause problems for radio equipment in winter. Similarly, LiPo flight batteries may benefit from warming in very cold weather, keeping within limits - for most users, the benefits would not be worth the complexity.

Charging is best performed at room temperature, with sufficient time allowed for the battery to reach ambient as appropriate. Low temperatures slow the chemical reactions and charging of some chemistries may not be possible below freezing. Similarly, high temperatures produce more vigorous reactions, which may lead to thermal runaway. Both can produce unwanted reactions which have the effect of reducing capacity and increasing ESR.

All types demonstrate reduced performance after a prolonged period of inactivity (several months). NiMH's can benefit from one or two discharge/charge cycles, which would also show any age deterioration in capacity or excessive self-discharge. LiPo's may also show reduced performance, but usually recover within a few cycles. Cycling a LiPo on a charger would provide little benefit since the discharger currents available are much lower than those typically used. Adequate margins or a few slightly shorter flights should avoid excessive discharge.

If maximum power is needed from a LiPo, such as in pylon racing, some improvement may be achieved by "running in". Relatively gentle usage for the first few cycles can optimise the chemistry to allow a few cycles at peak, after which the performance would collapse, so that such techniques are only for the dedicated racer with deep pockets or sponsorship!



Batteries Continued

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Article by Brian Holdsworth

Lead-acid batteries contain enough metal to be worth recovering and provision should be available at recycling centres. Some dry and NiMH batteries are refurbished and supermarkets etc. may have suitable collection points. The only recyclable material in a LiPo is the metal in any attached wiring and connectors and they are generally excluded from collection points.

Before disposal, batteries of all types should be discharged to avoid their potential, if shorted, for starting a fire by sparking or over-heating. Rubbish tips are often flammable due to paper, cardboard etc. together with methane from the decay of organic matter. This is particularly applicable for large LiPo's with their considerable stored energy and consequential fire potential.

Some suggest discharging a LiPo by immersing it in a salt solution, which is likely to take months! Similarly, using a light bulb could take several days due to the low current, especially towards the end. Also, it is difficult to determine when it is fully discharged. A dangerous BMFA recommendation (now withdrawn) was to cut into the battery under water with a knife. This shorts it out with the resultant heat causing spitting of hot/boiling water which is obviously hazardous and several incidents have been reported. If this was recommended in America, the lawyers could be busy! Releasing lithium into the sewers can interfere with leak detection since some industries add lithium salts to stored hazardous liquids to aid detection of any spills.

An effective technique is to use the discharge option available in most multi-chemistry chargers - it will be quicker if the battery has been used! For convenience, select the otherwise unused NiCad battery type and set the discharge current to the maximum (typically 1 amp) - the actual value will usually be lower until the voltage drops. Set the cut-off voltage to the lowest value supported (typically 0.1 volts). The first discharge cycle is likely to timeout (typically 120 minutes) before the battery voltage drops below its normal minimum value (~3 volts per cell). Repeat as required until the voltage drops to the termination value. This may take several cycles, since the discharge current is likely to be reduced by the charger at low voltages. It will be observed that the battery can recover significantly after each cycle; its voltage then drops rapidly to the previous level under discharge. When fully discharged, short the balance connector with a length of wire between its end connectors and leave for several hours to ensure complete discharge before discarding in household refuse; preferably cut off the wiring and connectors which



Batteries Continued

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Article by Brian Holdsworth

can be discarded under "Small Electricals" etc. at a recycling centre.

Until recently, airlines permitted the carriage, in hand luggage, of a large quantity of LiPo's since they were regarded as non-hazardous. As for all power sources if shorted, they have the potential to start fires via sparks or over-heating of the wiring etc. and the increasing terrorist threat has provoked tightened security restrictions. Under specific conditions, generally associated with over-charging and consequent gross over-voltage of one or more cells, a LiPo may ignite as a flare (not a fire as such) with consequential heat and smoke. Seeking publicity from videos, there must have been many failed attempts to provoke this condition! As oxygen would be released internally, it cannot be extinguished. For all fires associated with electricity or chemicals, water is generally a poor extinguisher choice but a "LiPo Extinguisher" is merely CO2 or powder intended to extinguish any consequential fires - not the LiPo! Most examples of LiPo "fires" seen were the result of short circuits and so actually the plastic casing and wiring insulation burning. One deliberately induced ignition showed the destruction of the cell with the adjacent cells intact, suggesting that the generated heat was insufficient to ignite their plastic casing or chemicals.

Concentrating heat is an effective way to increase the chances of starting a fire. For example, gunpowder ignited in a shallow dish produces a flash and smoke but the heat is dispersed. If confined in a tube, sealed at one end, a jet of hot, bright gas is produced - often described as a firework. Sealing both ends produces a banger, becoming a bomb for larger sizes.

LiPo Sacks are claimed to contain a LiPo fire, which would seem to breach the Trade Descriptions Act! In the unlikely event of such a fire, all these can do is to concentrate the generated hot gases into two jets from the flap sides increasing the likelihood of igniting surrounding items. Such sacks are designed to protect important documents such as passports, certificates etc. from external heat such as a house fire, which is a very different situation - fire protection is an example of asymmetric functionality.

The advice suggesting storage in a metal container is even worse! In addition to being a mechanism for shorting inadequately shielded connectors, containing a source of heat increases the internal pressure until something gives, producing a bomb! The plastic foam often used as a lining is flammable, releasing toxic gases. BMFA have changed some of



Batteries Continued

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Article by Brian Holdsworth

their advice, with little publicity, but retain their recommendation for metal containers with a hole (about 2mm diameter) added to relieve the pressure, producing a concentrated hot jet with a significant probability of igniting any surrounding items.

The Curse of the Little Screen

Recent data indicates that the average British person glances at their mobile phone up to 150 times per day. Children are spending many hours per day (and many hours at night) glued to their screens and society is noticing the impact of online games and social media with increased rates of anxiety and, in some cases, mental illness becoming apparent. Cyber bullying is much more common than one might think and children stress themselves out by looking at the great times being had by people they know, at the party they were not invited to...

I'm sure that we have all read or heard similar comments without the comments registering. We read it but we don't really believe it. Over the last couple of days I have come to believe all that has been said regarding this national addiction. The other day I was playing golf – okay, I know that I should have been out model flying but what the hell! There was a chap in front of me on the course who for the whole time when he was not actually striking the ball was staring at his mobile phone as he walked from tee to green. This individual must have been a visitor and thus ignorant of the rule prohibiting the use of mobile phones on the course. The Sunday of the same week we went to Weston Park. We pitched our chairs to watch the action. The bloke sitting next to me – a middle aged sort, not some spotty yooof – spent a good couple of hours staring into his mobile phone. He never looked up and saw none of the model flying that he had paid to see. What a waste!

John Higgins



Club Instructors

June 2018

**Jason Reid, John Higgins, Chris Vernon, Mark Conlin,
Brian Holdsworth, Jim Sheldon, Paul Cusworth, Andy Harrison,
Justin Goldstone & John Prothero.**

Evening Flying at the Field

Evening flying at the field commenced from Tuesday 1st May through till 30th September to Tuesday, Wednesday and Thursday evenings till 9pm. Wednesday evenings remain as Training

Upcoming Events/Shows

July 7th - 8th Cosford Large Model Airshow

Sunday 2nd September Competition for the Aero Show and Scale Model Trophies

August 11th - 12th Elvington Large Model Airshow

September 1st - 2nd Much Marcle Large Model Airshow

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In Conclusion

I finally finished the Veron Deacon but too late I have found that the balsa fuselage is rather frail - I believe it may have been built many years ago because I've had many of the joints failing - I simply re-glued them and then covered the model. Since then I've found that some of the balsa itself is very fragile. Anyway, I've put the C of G where the plan shows but to be honest, I feel that it is shown far too far back. I'll find some long grass, a calm day and test glide it before risking powered flight. It's been one of those projects 'one step forward, two steps back' but it should look really pretty in the air.

I leave you with more of the excellent photos taken by Chris Vernon at the 60th Year Celebrations and thank all of you once more for your much needed contributions to this newsletter. Thanks guys, it is you who make this newsletter interesting.



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