

GLIDEPATH



The Journal of Wessex Soaring Association. May 2020
BMFA Club No 2759

From the Editor

I had thought that as the lockdown went on there would be a shortage of articles for Glidepath, but this month's edition is I think the largest I have either put together. It seems that most people have more time on their hands and so have used some of it to put pen to paper, or rather finger to keyboard, and produced an article.

Many of these articles concern models that they have been building; sometimes a bit different to the types they normally make. The most detailed article is from Dave Camp, my predecessor as Glidepath editor, who describes his first forays into building e-soarers.

Hopefully we will be able to return to our flying sites soon. It seems to me that when the lockdown is eased the first additional activities that we take part in, should be those which present the minimum risk of re-increasing the spread of virus. When I think of all the things I would normally do, that I am not doing now, a WSA flying event would seem to be the one which has the lowest risk of additional virus spreading.

From the Chair

Hi all, I hope everyone is keeping well and busy, thanks to Frank we now have multiple options of things to do and watch. My elder son is interested in drawing, amongst other things, so I have been trying to gently encourage him to look in at Frank's lessons.

I am by no means an expert on these things, but it would seem to me that when restrictions on movements are relaxed that our outdoor, personally distanced flying activities may be allowed sooner rather than later. That is my hope anyway.

I have been busy with all sorts of projects, I am not sure I will have time to work again when we are allowed! I have been building a plane, more in another article, and I have ideas for two other building/alteration projects, plus I have been pursuing some musical ideas as well.

I hope you chaps are keeping a positive outlook as best you can, with luck next month's "From the Chair" may include a maiden.

Slopeside by Pete Carpenter

What we believe to be the situation on each slope is as described below, however it is not always possible to contact every landowner each month and we have no wish to pester them. For Sallowcliffe and OXO please take extra care when parking, and do not drive down past the brow of the track in wet conditions or you may get stuck. If in doubt, walk onto the field and track first to check! Please use your own common sense and apply the countryside rules. Therefore if things look different at a site, particularly if it involves crops or livestock, please do not enter and contact me on pete.carpenter12@gmail.com or 01722 328728.

- 1) Winklebury (W to NE wind) - Available.
- 2) Norrington Down (S to SW wind) - Available.
- 3) Donkey Valley (SE wind) - Available.
- 4) Swallowcliffe (NW to NNE wind) - Available. No access into the field, fly from the slope side of the fence.
- 5) Quarry (W to WNW wind) - Available. Access to the slope must be via the Stony Down / Berwick St John route only. Launching and landing from the slope face is OK, but the slope is perfectly flyable from the Berwick St John field. You may encounter some paragliders as they also have permission from the farmer to fly there. In this case it is best to have a friendly chat with them and see if you can agree separate airspaces for models and paragliders.
- 6) Oxo (WNW to NW wind) - Available.
- 7) Horses/Barbara's Field (WNW to NW wind):- Available.
- 8) Daltons 1&2 (NW to NNW wind) - Available.
- 9) Crockerton (NW to NNW wind) - Available subject to rules in slope guide.
- 10) Death Valley (SW wind) - Available till end of June.
- 11) Berwick St John (SW wind), Stony Down (ESE to SE wind) - Available. Code on gate padlock is 5823 . Please do not over fly the parked cars on your landing approach at Stony Down.
- 12) East Bowl (NEE to E wind) - Available. There is a gate with a keycode, which is 7850. The shepherd is Mr.Fletcher (red Toyota pick-up) and he has asked that anyone parking on the track put a little note on the dashboard of their car, letting him know that they are a WSA member.

There are also a number of public slope sites, particularly in the Purbecks that anybody can fly from. A list of these is maintained on [Christchurch Club's website](#) so please have a look there for details.

Flat Field Update

If you are the first to arrive at Chalbury go to the green box in the farm yard.

1. The field number is shown on the small plate on the box front . LEAVE THAT WHERE IT IS.
2. Remove the large red plate from inside the box and place it on the box front. It indicates the WSA are on site.
3. Also take the required equipment out of the box and to the flying field, i.e peg board, bungees etc.
4. If it is an event where you are expecting a large number of people take the corresponding field number out of the box and place it on the fence hook at the road entrance to the drive. There is no need to put the number on the hook if you are flying there alone or with just a few other people
5. The last to leave the site, ensure everything is replaced in the box, including the red plate and number on hook if used, but LEAVING THE FIELD NUMBER INDICATOR ON THE BOX FRONT.

Be aware of the field condition, e.g. after rain. Do NOT leave wheel spin marks. If in doubt, park off the lane outside the field. Leave space for farm traffic.

Be aware of footpaths across the fields, Do not launch if walkers are on the paths. Do not launch if horse riders are nearby.

No low flying over power lines. **No flying over farm buildings and the cottage, AT ANY HEIGHT, or immediately upwind of the farm complex.**

Fly SAFELY at all times. Especially launching and landing. Do not launch over cars and do not approach a landing over other flyers, fly a proper circuit.

Report any problems to the flat field rep, Doug Bowmann.

Electrickerby by David Camp

Current experience – not necessarily conversion, but acceptance.

Well I suspect the majority of WSA members will read that line above and be baffled and maybe some as it being cryptic. This will lead into a couple of kit reviews of flat field soarers with electric motors, but maybe a little bit of introduction and background might go some way to explain why it took 7 years to build a fairly simple flat field soarer and present some sort of review. Best to leave aside that the main subject is now unobtainable (!), but you will find connection with Alan Butterworth's review of the 'Andreas' design in the April Glidepath.

So the background, I have been a WSA member since the second year of formation. Yes, quite a few years ago now and certainly with a lot more grey hair, mine of course, although maybe also afflicting a higher percentage of the members compared to back in the 80s. I cut my teeth on simple 2-channel soaring at Knighton Farm and occasionally on the slopes using McGregor 27MHz RC and a design called the 'Orange Box'; a free plan for a nominal 2m (72" in those days!) all balsa design. All our flying was using bungee launch, but hand-towing became a more common method of launching as several of us progressed to larger models. It was still 2/3 function (RES) as ailerons were rare and flaps almost unheard of. There was BARCS type duration competition although for the majority of us it was all about the regular Sunday morning flying. We only had about half a dozen regulars on the flat and maybe the same number on the slopes. Is it me or did we have a lot more better weather in those days? Perhaps it is just these rose tinted glasses.

Of course things changed and model performance certainly developed, with fully moulded (£££) machines appearing and winch launching becoming popular. My interests moved more towards scale gliders which typically means slope soaring, but I have retained enthusiasm for flat field flying. I guess partly because our sites have been closer to Wimborne/Poole making a couple of hours flying in free time practical. Yes, flat field flying with ¼ scale model using a winch is possible but it really does need a large field, and I have to say from experience that any mishap is rather traumatic and rarely a quick repair job. However I am getting side-tracked; who said rambling.

Well back to electric power then, I think it was circa 2008 when WSA made the move to include electric power for launching on the flat field; we had been strictly 'non-powered' flight up to that time. Those members around at that time will know I was very much against that change, to me the 'purity' of launching on the flat by bungee, winch or hand was very much part of the overall challenge and satisfaction. So I switched to only slope flying for a year or so, but did still hanker for flat field flying. Now that coincided by seeing in the 'Aufwind' German Model magazine frequent mention of designs from 'Höllein', a German model shop. The designs typically feature mainly built up wooden structures, laser cut and looking to combine good performance without being fully moulded (expensive!) with the building factor an important bonus for me. I chose the Climax Evolution, 2.5m (100") span with flaps and ailerons; the specification gave an all up weight that I reckoned would give a very practical and good performance from a bungee launch. I made my purchase; they have an 'English' option on the web site and within a week the kit duly arrived. I even made a start on the building but then a combination of work and family issues came along that needed priority, so the part started kit was put aside, for just a while. That 'while' turned into several years...

Ok, we are getting to the start of kit reviews (yes, plural). Fast forward to 2018, just ten years, a tiny 'while', I had not stopped RC soaring, a few visits a year to the slopes gave relaxation and could be fitted in amongst the other things taking up most of my time. For a while I had been reading Glidepath, for which Roger really has been doing a great job, and I had the impression that at Chalbury we no longer enjoyed the access to so many good sized fields as in the earlier days. So to me that made the possibility of winch or bungee launching less practical and it was clear that almost all flying at Chalbury was with electric launching. Let us face it, combining bungee/winch/electric launching is not all that practical, even less so in a smaller field. I had also been having a good friend giving regular nudges 'you really should try electric launching on the flat'; you know where this is leading.

So the leap of a sort was taken into the unknown. I had the Climax Evolution and I remembered that this was also offered with an electric power option as a separate kit. A check on the Höllein web site showed this was discontinued. I know the experts out there would have no problem sorting out what was required as a power setup, but I wanted something close to a guaranteed workable solution. Having seen some of the prices of motors etc I was not prepared to get into a situation of needing, say three tries, and none of this looked to be all that cheap. For starters I was unclear on what the final weight would be, but even more unknown just what sort of thrust was required to zip up to height similar to a bungee, or better still a winch launch. What to do?

Good old Internet and Höllein to the rescue. I found a short video clip of someone in the UK flying an electric 'Climax Evolution' which looked OK. Then on the Höllein web site I stumbled across a

package they were still offering , a motor/prop/speed controller combination specifically for the Climax Evolution. No plans, but modification should not be so hard. Also my eye was caught by a small design called 'Innovation' , eye-catchingly subtitled ' your low priced ticket into the eagle's paradise' ; perhaps a bit too much marketing speak. However, maybe this would give me a quick build and a relatively cheap introduction to 'electrickery' without the headache of working out little things like prop/motor combinations because it could be bought with their recommended set up. Oh the ease at which a click or two can be made with the help of a good old plastic card!

So how has it gone? The 'Innovation' was a pleasure to build it is all wood, very therapeutic when it comes to building, for me at least. Quite a quick process, so within a month I was headed to Chalbury mid-week in August 2018 with the completed model along with one of my old 'Chuckies' on a nice sunny day. I was accompanied by Stephen Dry (the one who had been nudging me along, but was possibly a little surprised I had actually taken the leap). Also I guess I needed a witness! The outcome was not bad; I will give a bit more detail separately in the mini-review to follow. It was not the same as a chuckie off a mini bungee, that was more satisfying, but the Innovation is smaller and not supposed to be an equivalent. We only had the small narrow field (11 maybe?) available and I have to say that did sort of reinforce my view that the days of bungee & winching at Chalbury on a routine basis are over. Suffice to say I was sufficiently motivated to really push on to complete the Climax Evolution conversion to have a more realistic idea of electric power launching, and that has been enjoyable. I had only a handful of flights over 2018/19 but I can see that on the flat I am unlikely to be bungee or winch launching now.

The link to Alan Butterworth's April Glidepath article, well I have also bought an 'Andreas' 2M design from Höllein. Now would you believe I started building it in late 2018 but a home move in 2019 saw it packed away. Hopefully I will complete it this year and not wait another ten! Oh and I have also got a Höllein 'Inside F5J' waiting , not because of any desire to compete but for the expected performance gain and giving some more balsa construction therapy. I have to confess there have also been a couple of flat field electric kit purchases so when can I get a workshop built they can join the queue along with the scale gliders. Maybe this year..?

Finally then, is this a 'conversion'? Well each to their own, I still think the satisfaction that a 20-minute flat field thermal flight from a bungee launch would be greater than that from the same flight time that resulted from an electric launch. However I have to admit there is the convenience, not lugging a winch or pulling bungees back, so there will possibly be more flying done. Given that I have flexed the credit card a bit more, it is obvious that I will be continuing to go to Chalbury for some time to come. Maybe I will even bump into some of you at Chalbury during the coming years (assuming we get out of this lockdown before too long).

Kit Review – Höllein 'Innovation'

The Höllein 'Innovation' is a built up all balsa construction, approx. 1.2m span. Priced currently at 50 Euros. Mind you the 'electrickery' more than doubles that if the recommended setup is used, i.e. motor/speed controller/prop assembly. Then add a LIPO battery and a couple of micro servos.

The wood parts are all laser cut and I have to say the balsa quality is superb, something I have noticed as typical with German kits. I do not know why we seem to lack that with UK produced kits, not there are many these days.

There is a full size plan, very clear and in colour (not essential, but can aid clarity), pushrods, control horns, well everything bar covering and glue. Here is a picture from about 60% through the building process, I got rather enthusiastic and progressed quite a way before thinking about a possible Glidepath article! There is also a 16-page English set of instructions with many photos.



The wing is a fully sheeted built up structure with full depth spar. Clever use of tabs on the spar and ribs locks everything together. The wing is a one-piece affair with a flat centre section, the tips are glued on with a short ply dihedral brace that sockets in and the angle of the facing ribs is set using the provided guide. Finally for the wing, in a typical 'Höllein' design there are tip pieces adding an extra bit of dihedral.

The fuselage is a simple box structure, but I think well engineered with appropriate doublers and longerons, plus formers and servo tray all locking together nicely. Elevator and rudder pushrods are approx. 1mm wire running in small diameter plastic outers. For me the new bit was the motor mounting and the realisation that the term 'out-runner' meant there is this lump spinning around. Now the advantage of using the Höllein recommended motor was found; the nose block had been bored out to exactly the right diameter with the required groove to run the 3 motor leads back inside – the motor being secured to a circular ply former cyanoed to the front. Finally the front hatch is a combination of a small strong magnet and a couple of tongues locating at the opposite end. The wing is secured with a nylon bolt at the rear and a peg at the front keying into the main fuselage former.

Weight needed to be kept low so I used the recommended 'Oralite' covering, coloured but minimally so, which means that some of the structural tabs etc. can be seen. For the radio and other bits, it is of course a small model so I used a pair of Graupner C1041 micro servos hanging around from my past enthusiasm for hand launch designs. The specified battery is a 350mAh 3S 25C LIPO (see how it almost seems like I know what I'm doing!), but I could not get one quickly in the UK, so I used a similar physical sized (but heavier) 450mAh 35C battery from Overlander. The recommended Roxxy speed controller/BEC squeezed in on its side just ahead of the leading edge. For the receiver I am still happily using 35MHz Multiplex gear, so there is plenty of receiver choice available (well from my stock, not from shops!). Space is tight but I fitted a Schulze 4/5 channel receiver in, unfortunately it is crystal controlled (I use synthesized versions in almost everything else) so I am stuck with one frequency, but I doubt that will be a problem these days! All up weight was a bit higher than the stated 250g (8.8oz) as mine came out at 280g (9.9oz). Tolerable, although from past chuckie experience I would have been targeting the same weight for a bigger span/area.

Here is a photo of the completed parts prior to covering –



Flying was pretty good I guess. In terms of the launch it is a small model so I was working on reaching a similar altitude as from Chuckies off a mini-bungee. Now Höllein had 2 motor recommendations, I went for the basic 'tame' version with recommended 10 – 15 second motor run. I found 20 seconds was pretty good. The alternate motor would give 3 – 6 second motor runs to get to the same height. The motors are identical size, so I will maybe swap at some point but of course nothing is free, so no doubt more power means increased battery consumption. Having said that, I have invested in an Overlander battery capacity checker (more expense) and from the flying sessions I have had so far, after a half a dozen or so launches there has been 75% battery capacity remaining. As for flight times well of course thermal assistance is needed, the glide is not as good as a 'chuckie' but it is a smaller model so less efficient. It is very agile and easy to whip around in tight circles if required. I found it better to use reduced throws in general flight to avoid over controlling, but full throws better near the ground.

Conclusion. Well it served its purpose of helping me understand a bit about 'electricrery' and more importantly helped give my enthusiasm a bit of a kick and also give some relaxation during building. Being so small I guess I will be chucking it in the back of the car on most trips to Chalbury. Is it a model for the majority taking their flat field flying more seriously and competitively? Probably not. Mind you I am wondering about either adapting it for one of my hand launch wings or using the power set up in an own design hand launch. It is just the pesky Lipo batteries are so huge compared to 800mAh 'Eneloop NiMH', but my reading of the nature of electric motors is that they will need more than an Eneloop to handle the current drain, no matter how short.



Electrickery used in the Innovation was;

Motor – Multiplex Roxxy BL 1820/16 1650 kv

Prop Graupner CAM 4.7 x 2.4” with 26mm spinner

Speed controller – Roxxy BL 810 – 10A

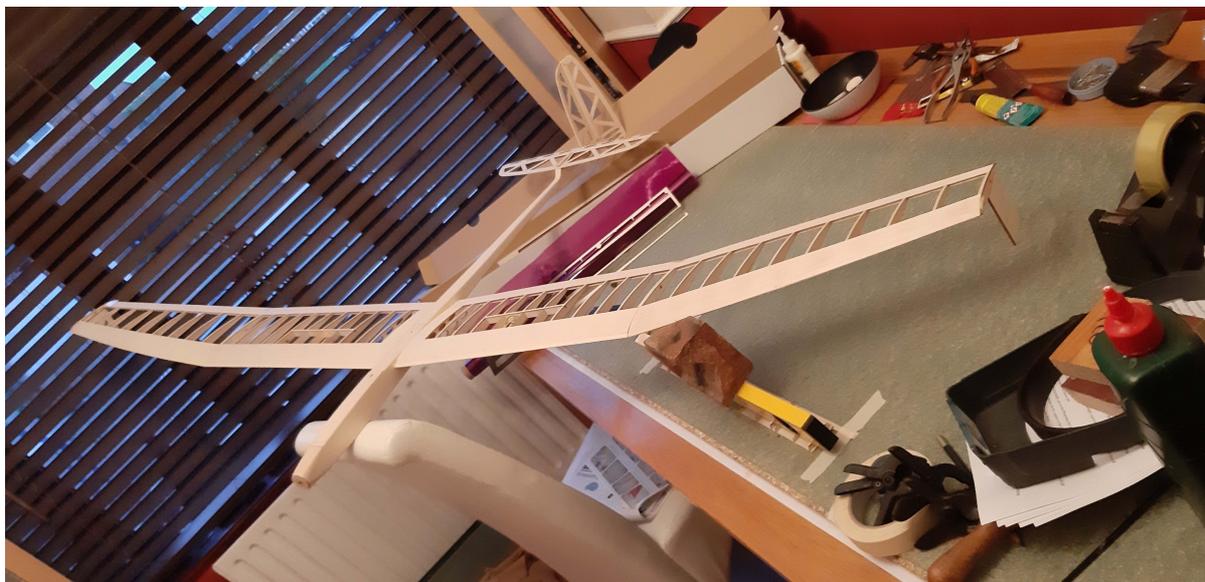
Battery – 3S 450mAh Overlander

AndREaS by Martin Burr

The eagle eyed among you will recognise the name,yes it is another of Alan’s planes from last month. I have been wanting to build another plane for ages, the last one I built from a kit was about 25yrs ago, yep really 25yrs ago. I remember enjoying the process but also that it was very time consuming. I have “built” and repaired mouldies and repaired a few traditional built planes over the years, but none from “scratch” for quite a quarter-century.

Well, with current events I thought I would give it a go. This plane is a 2m R.E.S. electric launch glider made and designed in Germany; it is easily ordered direct from Germany and delivered via DHL in a couple of days. I also ordered a couple of rolls of light weight covering, and including post it came to about £160. Alan sent me the translated instructions and once I sussed out that the numbers in the text referred to the pictures on the German instructions included in the kit, I was off and running. The kit, as Alan says, goes together pretty well from laser cut parts; there are a few bits that need fettling and I think the leading and trailing edge sheeting could do with being a fraction oversize so it can be sanded back neatly.

There were some rather nice bits of assembly, one of which is how the wing panel dihedral is achieved. I thought this was rather neat, the last rib is made from plywood, and has an extension panel underneath. You position the inner panel flat on the board and weight it, the tip is elevated to the correct angle and incidence in one go, then all you need do is clamp and glue. As I write the plane is ready to cover, and I am not sure how much longer I can put it off, I have enough servos and a motor in mind to use from other planes, so I should be able to get it ready for flight fairly soon.



I mentioned earlier that I have not built anything like this in 25yrs, well that is true, and I still have the plane I built, a Sirocco T tail by Roy Pitts. All this modelling activity has spurred me on, so when the Andreas is off the building board I will get the old girl down and check her over with a view to an electric conversion.

A Different Approach to Model Flying by Bill Ebdon

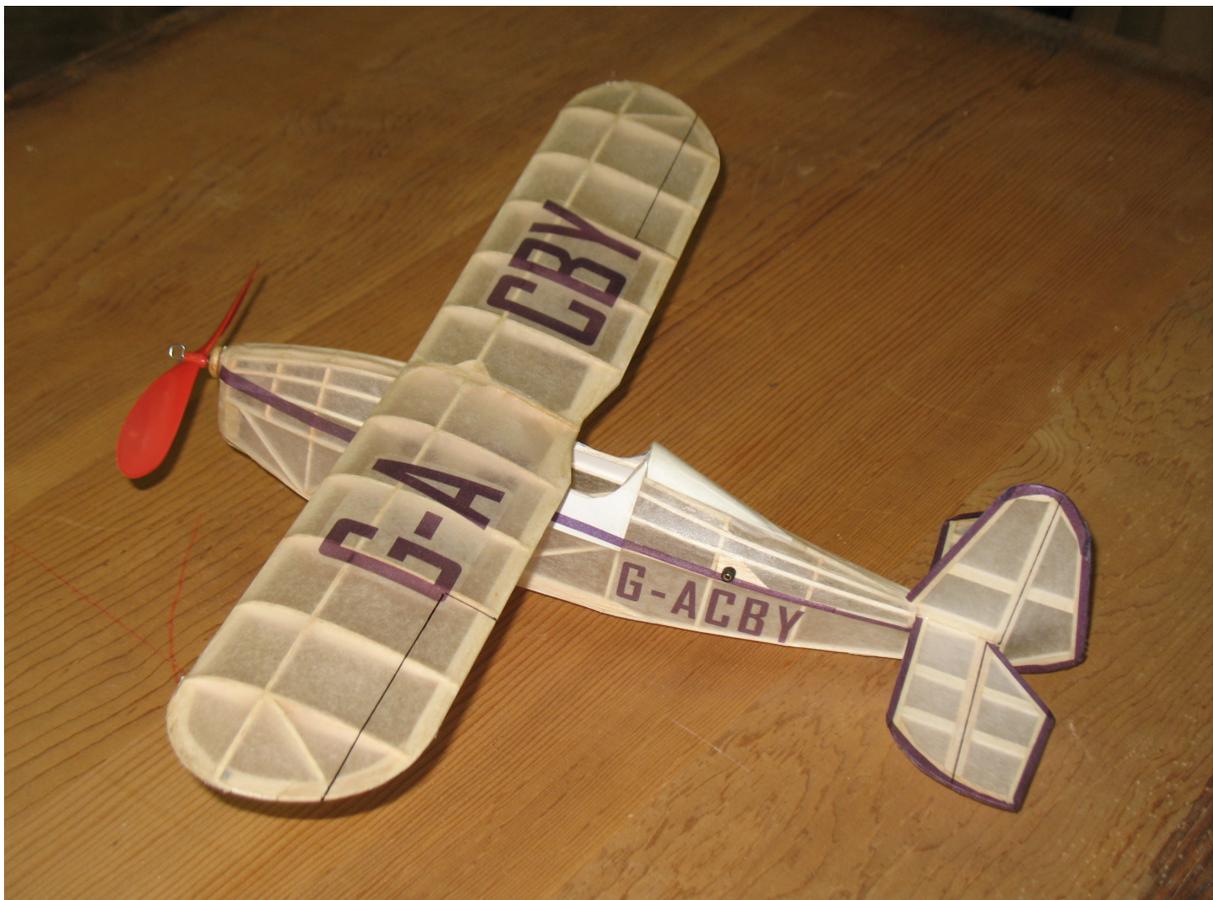
Here is a suggestion if you are looking for some modelling inspiration and you probably have time on your hands. All it takes is a small amount of balsa sheet and a few other bits plus some patience and very careful handling.

I got interested in scale free flight rubber powered models some years ago inspired by two people who are brilliant modellers and have great websites/YouTube channels. Firstly Mike Stuart who has a website called [ffscale](#) which is extremely comprehensive, covering construction of scale rubber powered and Rapier jet models from the basics through competition reports with photographs and numerous videos. He is a superb modeller who designs most of his own planes and is really inspirational.

Initially I just read all his content then I downloaded some plans from [Outerzone](#) (a free plans website which is highly recommended) and followed his build log of a Veron Comper Swift. It worked out really well and flies quite reliably outside for 30 – 40 seconds. One of the good things about these models is they weigh so little that they do not break when they come down. They are more likely to be crushed just handling them.

You need to build yourself a simple stooge to hold the plane by the rubber motor anchor tube at the rear whilst you stretch wind it. You can get rubber, propellers, winders etc. from Mike Woodhouse at [Free Flight Supplies](#) or from [Sams Models](#) all at very reasonable prices. Guidance on these things can also be had from [Hip Pocket Aeronautics](#) which is a very active forum and plan gallery.

Since that time I have built a Veron Bebe Jodel and a Veron Tiger Moth plus a Percival Provost and they have flown with descending levels of success. The Jodel was very good but the Provost had room for improvement. Still if they do not fly well you do not have to go far to retrieve them. My project at the moment is a PZLP8 II a Polish gull-wing fighter which is progressing but I have no idea when it might fly of course.



Which brings me to the other inspirational modeller, Tom Hallman who has a YouTube channel called [Maxfliart](#) . Here he has filmed numerous builds of his models, all own designs with the most exquisite construction and covering details. He also specialises in filming the complete trimming journey for quite a few of them and this is very instructive. He is a member of the Flying Aces Club in the USA and so covers the models of many other members at their get-togethers, including Mike Stuart's.

So there you are, something to try to get you off in a different direction. In fact when you do get the chance to fly your creation you will be watching the weather for almost zero wind or you will find yourself off in any direction to find the thing. Oh and another thing my models all come in at around 35 – 50 grammes so no CAA number required.

Electronics Through the Ages by Rob Newbury

With lockdown I suspect that there will be few reports from the slope sides so I thought I would send my own musings about some RC related memories to Glidepath. I remember being very excited in a Southampton model shop on my 14th birthday where I was with my Dad who helped me to choose a Veron Impala glider as my birthday present and my first proper RC kit. This was the early 1970's and I had become very interested in electronics, particularly for controlling things and RC planes seemed the ultimate. So the Impala kit once completed would be the vehicle for my home built transistor receiver which in turn would be controlled from my home made valve transmitter with an actuator in the glider driven by an elastic band that stored energy to rotate a cam gear released by a solenoid to control the rudder on each press of the key switch at the transmitter.

To be honest I do not recall ever flying the Impala though I must have done so. Electronics went on to be my career and to this day I could bore you to death with the technicalities of my valve transmitter and germanium transistor receiver. Having valves in the transmitter made it heavy because of the batteries (one 1.5V heater and one 90V HV battery), but meant more Radio Frequency (RF) power than could easily be obtained from transistors in those days, so in theory gave better range. The receiver on the other hand was powered from a PP3 9V battery which was fine for gliders and often the battery was used as nose weight for balance. The transmitter as well as transmitting on the desired 27MHz also belched out power on the harmonics at 54MHz, 108MHz, 135MHz etc. One of these harmonic overtones aligned with the old VHF television frequencies and a great prank for a 14 year old and his mates was to look through the lounge window of some adult contentedly watching TV. We would key up the transmitter to see the TV screen inside the house break down in a multitude of black lines accompanied by a loud squeal on the sound. Usually the occupants would get up from their comfortable position on the sofa and bang the top of the TV at which point we would stop keying the transmitter and the TV signal would come clear again. The poor adult would sit down and make themselves comfortable once more and then we would start it all up again, kids eh! A practice that would be illegal now and probably was then also!

So that leads me to the next bit of 70's RC technology. I had a friend with a better Saturday job than me and with the extra money he made, he built himself a beautiful Ben Buckle Super 60. My friend was a good model maker and he finished the wings & fuselage in mauve Solarfilm which was a new product back then and mauve was a very 1970's trendy colour too. He equipped his plane with a brand new OSMAX engine and purchased a two channel MacGregor radio control. It really was a lovely model. So came the maiden flight day and we trotted off to the Downs near our homes with plenty of open space to fly from. The motor was started, the radio checked and the plane launched. It took to the sky in perfect flight, my friend keyed the rudder control on his transmitter in order to bring the plane back round but only to discover that on that day Wee MacGregor **was definitely not** in control and the plane carried on going in a dead straight line until it was out of site. Despite many hours scouring the country side on our bikes and on foot this lovely plane was never found. Even though a pre-flight radio test was done something had gone wrong. Unfortunately during the 1970's British product reliability tumbled which may or may not have been the reason for the radio failure and it must be said that after this time Japanese radios seemed to take over on the RC scene.



As an aside to this story, some years later I was working for Plessey who were one of our great electronics equipment designers and makers but sadly no longer with us. I was working on sonar devices which are deployed from aircraft and dropped into the sea by parachute. These devices listen for submarines and then send the signals back to the aircraft by radio. One of my colleagues had heard that MacGregor Industries were looking to team with others in industry and that they were keen for us to use their radios in our sonar buoys. So my colleague was deployed to visit MacGregor Industries where he found a garden shed enterprise which was felt not to be up to Plessey's professional standards. Actually I think that some of the best ideas often come from garden sheds but unfortunately this particular alliance was not to be. MacGregor industries are still in existence and as far as I can make out became the UK distributor for RC products from the Japan Remote Control Company (JR) whose products I am pleased to say have proved over the years to be most reliable.

The Remainers by Mark Deverell

Like most of us, I have had plenty of time on my hands, cars been washed, polished, hoovered and cleaned. The gardens been tidied, pruned and grass cut three times already and there lays the problem, I have ended up doing the same jobs, the house has been cleaned every few days, I need to do something else! No more morning TV, no more videos or iPlayer, F1 is not happening so work is called for.

I am currently finishing off a repair but thought I would build something that would get used a lot. I live with slopes all around me and like to have gliders that I can take out at short notice and are quick to set up. Going to my local slopes, flying for an hour or two and then getting on with jobs is a delight for me. I have brought a Pazzaz E from Phoenix Models over at Newton Abbot. Stan Yeo has been designing his own breed of models for a good many years, he has been updating many of them to use only PVA glue and suitable for cutting on his own workshop machines; I like to support our model shops and see them keep trading. They are easy to build and fly with precision and are suited to smaller slopes, just what the doctor ordered! This version is a MK11 one with an electric motor, 1600mm span with 270W of whizz. It is made of ply and balsa mixed up with PVA glue and a few hours of light sweat, no tears.

I started looking around a couple of weeks ago and decided what I could build and finish within our remaining time left at home, finish was the word that attracted me to this size of build. A bit of guesswork as to when we will fly again but better to finish than not. In the first few hours I have deciphered the instructions, laid out the parts and completed the two sides of the box section fuselage. I have decided to finish the glider in whatever film covering I have left, so watch this space.

With an eye on doing something I even finished insulating the back wall of the shed and boarding it from 13 years ago, cleaned inside, sanded and painted the door, frame, windows etc etc, oh it is all go go go here! No more slinking past the shed on my way down the garden and giving it a good ignoring. I now also have a new fireproof box to put my LiPo batteries in, just short of forty of them. I noticed that some of them have started puffing up after being charged and not used and it is no surprise to find that the problems lie with the cheapest ones. My Overlander batteries are all in good condition despite my erratic charge and use of them, they are now all at 3.8v per cell. I will leave you to guess the brand that has not survived well.

Long EZ Slope Soarer by Frank Bayes

Below is a photo of the progress with my 3D printed Bert Rutan Long EZ slope soarer. Wingspan is 38" and the all up the wing loading will be a bit high, at 19oz/sq ft, so looking forward to a good breeze. I originally found a tiny model to 3D print on www.thingiverse.com which I enlarged in the software. I have covered it in fine woven fibreglass cloth and I managed to get a carbon tube inside the rather vulnerable canard wing. Next job is to cut out the wings for the servos and hinge the elevons, which I might make out of balsa actually. The canard will not be operational so hope it works with just elevons.

I also found the following ton RC Groups from a full size Long EZ Pilot.

<https://www.rcgroups.com/forums/showthread.php?492085-The-S-1-Canard-Sport-Slope-Sailplane>

"Rutan's revival of the canard was to make a spin-resistant and stall-resistant design. He did this by designing the planes to ensure that the canard would always reach its critical angle of attack before the main wing did. This would effectively drop the nose and immediately lower the angle of attack of the main wing - preventing departure from controlled flight.

Now, it turns out that if you do not have the right incidence set up, or you overload the tail of the plane (extreme aft CG), then sometimes you can pull the nose up fast enough to stall both the canard and the main wing. In this case, the weight in the rear of the plane causes it to "deep stall" - essentially falling tail-first in a stable configuration (i.e. it wants to stay that way, and with the air going backwards over the controls you do not have much authority to correct it). A sharp yaw input at the moment of stall is about the only way to stop the deep stall from fully developing; but its a tricky manourve "

I will have to carefully check the incidence of the canard. When we were indoor flying I once made a round the pole canard model of the Gee Bee Ascender, and it is the most stable of all the models I have. That is another model I would like to make with electric power.



Items for Sale by Nigel Bennett

I have the following articles for sale. If you are interested in an of them please contact me at nigelcbennett@gmail.com

E Flight Opterra 2m flying wing. Complete with travel box, motor, pusher prop, esc, servos, batteries. A great, easy to fly sedate slope soarer.

Perfect for on board filming. £75.

Hot wire foam cutting kit. Perfect for foam cored wing panels. £10

Numerous magazines, Silent Flight, Soaring, (USA full size), QFI, Quiet Electric Flight, and more. Free.

Capping Strips by Richard Docketty

Members looking for a quick way of producing lots of wing rib capping strips might consider this solution from a friend of mine. Hopefully the attached pictures show its simplicity itself to make and use, as all you need is three pieces of plywood: a base plate, a strip matching the thickness of the balsa capping and a top cutting guide strip. No more need to measure each balsa sheet and hope the ruler doesn't move during cutting. Just slot the sheet into the groove and cut. Simple



Issues with Solarfilm by Tony Harris

I did not see it coming. My 3.7m tangent glider has concave under surfaces to the wing flaps and ailerons. This is to give greater lift and less stall at greater angles of attack at certain low air speeds; if that is I remember my reading of Martin Presnell's Book Aerofoils for model engineers.

They are obeche veneer over carbon fibre reinforcement on foam: so I have to be very careful in not allowing conducted heat to build up in the filming process Sun radiation may cause this too, so I will have to keep the finished wings in reflective covers when in the field. Having covered these units fairly nicely (for me), I note the film has stretched off the concave in the hot shrinking stage, leaving optically flat floating film. The aerofoil is therefore no longer concave on its aft underside.

Does anybody have any ideas how I get myself out of that fix, please? I am hoping I do not have to cut along their length then iron on an over-panel of film.

Calendar (WSA events in bold (or should that be on hold))

Sorry but the crystal ball is still rather foggy

Contacts

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