# GLIDEPATH

The Journal of Wessex Soaring Association. May 2022

## From the Editor

Approaching the deadline for articles I was beginning to wonder whether there would be a Glidepath this month, as the only article I had was one from Martin on his new 4 way battery charger. Fortunately Dave Camp came to rescue once again sending me two articles. The first is an account of building a model for new 2m electric launch RES class and the second is a collection of reports on interesting developements he found looking while looking through various German language publications. Many thanks for your input, Dave.

## From the Chair

Hi all, not much to report this month, however I have been warned about a problem with a product.

An Overlander receiver pack, supplied from new, was found to be connected backwards at the battery terminals ! The plug was correctly wired. Unfortunately this was only discovered after connecting and damaging the Rx etc. Always a good idea to check everything out when you get it.

### Plans for 2022

**Slope fly-ins** will continue as the first Sat/Sun with the second Sat/Sun in the month as fall back.

**The E Soaring series** will start on May 22nd, I will do the usual reminders beforehand. Same rules as usual, hopefully the weather will be kind.

### "Winter" Warmer

With Covid cases now decreasing and hopefully continuing to do so, it looks like it MAY be possible to hold something later in the year (Summer/Autumn) so watch this space !

## Slopeside by Pete Carpenter

As far as I am aware there is no change regarding the Oxo/Swallowcliffe situation. There is also still no change with Stoney Down so for the time being we can continue there as we have done. The situation regarding the other slopes is shown below. 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 but have to park on track
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 but have to park on track

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 to mid August
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 form. A list of these is maintained on Christchurch Club's website so please have a look there for details.

## Flat Field Update

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1. The field number to be used is determined by the farmer to suit his activities and is liable to change periodically.
2. The current chosen field is shown by the number on the hook located on the front of the club (green) cupboard in the yard opposite the Farm House. **Leave this where it is.** NB, after a period of strong winds the number may be blown off its hook and might then be found nearby on the ground.
3. The location of the fields is shown on the numbered map to be found in the club cupboard.
4. If you are the first to arrive, take out the red sign from inside the cupboard which reads (WSA ON SITE) and slip this into the grooved slot on the front of the club cupboard.
5. On competition days take out the required equipment; tapes, cones etc. and take to the flying field.
6. After the flying is finished return any used equipment to the club cupboard and remove the "WSA ON SITE" red notice and put back in the cupboard.

**Ensure that the field number remains where it is, hooked to the front of the club cupboard.**

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.

## AndREaS – Elektro by Dave Camp

The AndREaS Elektro is a 2m design coming from Germany, aimed at the electric launch 2m RES (Rudder, Elevator, Spoiler) class of model that has been proving very popular and has significantly lower cost than an all out F5J, all moulded or high tech built up with composite that use flaps and ailerons and have wingspans 3.5m plus. I gather that the use of carbon fibre is very restricted within the designs, but in some cases carbon tube spars are allowed; typically though the designs are all wood. *It occurs to me that my electrified Gentle Lady meets all the requirement of this class (assuming a spoiler is optional) so clearly it was obviously a model ahead of its time, Ed.*

I know this is not a new design within WSA as I think there are at least 2 others out there. Alan Butterworth put an article on his in the April 2020 Glidepath and Martin Burr followed with his review in

May 2020,  so I am only 2 years behind! I bought mine in the same way as Martin and Alan , i.e. direct from Höllein model shop in Germany.  I have used them several times over the past years as they stock items I have not found in the UK. The AndREaS used to be available from Hyperflight in the UK, but it is not currently listed. I bought mine back in 2019 and took the option of getting the whole package as recommended by Höllein which included kit, motor, prop, spinner and ESC . Taking the 'tuned up' option was not so cheap, but still way less when comparing to a fully moulded F5J type of model. This option uses the Hacker A10-7L motor with 1:4.1 gearbox, 12x10 prop and Hacker X-12 ESC. I actually started building this in 2019, but after completing the fuselage sides all was packed away as I moved house. I picked it up again in late March and finished it April.

As reported by Martin and  Alan the build is straightforward, the plan is very clear and there are basic English instructions available that just need a bit of thought (shades of Google translate used I think) and cross-reference to the stepwise photo instructions that go along with the German text. The wood quality and laser cutting is superb. I agree with Martin that it may have been better if the wing sheeting was 1.5mm instead of 1mm  and yes, I carefully added a few splits and cracks with careless handling during the build. A few novel (to me) items were the magnet retention of the wings and clever jigging for getting the tip panel dihedral. Overall the construction does almost clip together in places, so care is needed not to apply too much glue as excess glue will interfere with parts that slotted in place. I used Cascarez aliphatic type glue for most of the construction but also made use of thin cyano with some assemblies, as recommended in the instructions


There were a couple of areas I found tricky, the spoiler setup which as Martin found the design is fiddly. I persevered and it is fine, indeed once finished I found the final setup with screwing the servo fixing plate in place was very clever as it allows fine adjustment to ensure closure. I did fail to make the final 'Z' bend on the wire for the spoiler horn, instead leaving the wire over-length for now. I may try and solder a keeper on in the future. The other area is that I could not follow exactly was the motor/ESC/servo installation shown on the plan. I had to put the elevator servo behind the wing joiners with an elongated access hatch. This may well be my inexperience dealing with electric setup but I am wary of enclosing the ESC without a decent airspace around it. I have used a MPX 5 channel 'Lite' RX  and I have not quite worked out where I would put a height limiting switch, but I am not thinking of competition use for now. I reckon that the fuselage could be 10mm or so wider in the nose

section and installation would be easier. For the ‘tuned’ setup the battery is specified as a 450mAh 3S, with the non-tuned alternate (standard motor) using an 800mAh 3S for power. Well I have used an Overlander 850mAh 3S pack and that has only given a slight nose-heaviness. If I had used a 450 mAh pack then I would need some lead up front and I would rather have extra battery capacity. I do need to use a few grams of lead near the tail end to balance, but I can live with that. The all up weight is 640g (1lb 7 oz. in old money). The plan states around 550g, so I am not that far out. I have used Profilm ‘Oralight’ covering for the flying surfaces with standard ‘Oracover’ on the fuselage.

I have only had a few flights so far and I do need to work on control throws. I started with quite a bit more than given on the plan; probably a throw-back to my last experience with 2m designs that really needed a lot of rudder and also underestimating the elevator control authority. However first impressions are good, there is a sort of bouncy feel to the glide and it is certainly not overweight at 640g. My launches need work, under full power the climb is very steep and I would say that a few degrees of additional down-thrust would not go amiss but too late for that now; so I may mix in some elevator compensation or given non-competitive flying just use reduced power. I am just working on a 30-second timer set on the TX from power start up. I have a feeling that light winds will be better, well I have no space for any ballast of significance. It could well be a nice summer evening calm conditions soarer (remember summer evenings?)

So all in all I would recommend the AndREaS, it is a rewarding build. If anyone is wondering about the name, I see it is a play on the designer’s name, Andreas Decker along with the competition class ‘RES’.

**POWER Quad Charger** by Martin Burr

Recently I decided that I needed to update my charging arrangements, I had been using a parallel balance board to charge multiple batteries of the same type. For the competition days I use 2x3s 1800mAh and 2x3s 500mAh; the 1800s are quite old but still perform OK.

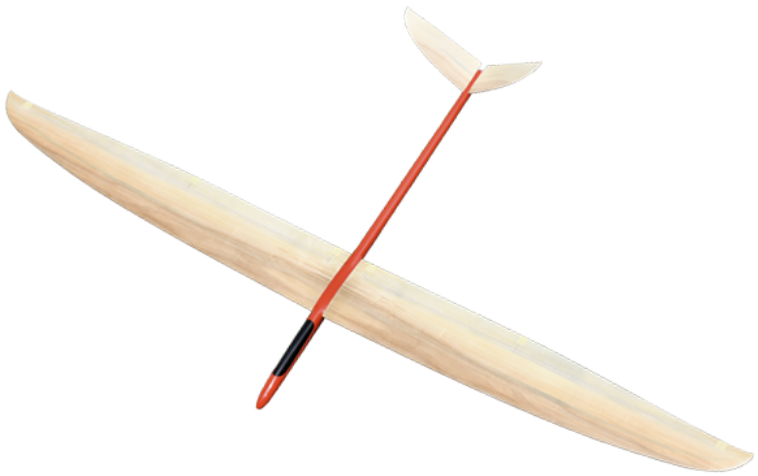
I noticed that the individual cell voltages were starting to wander a bit, so I thought that it would be better if they were individually charged and balanced. After a bit of research I found a charger that does what I wanted, it is basically 4x100W chargers in one unit. Each of the 4 chargers is fully featured, completely independent of the others and looks after one “channel”. For example should you wish you could charge a Lipo on channel 1, charge a Ni-MH on channel 2, storage charge a Lipo on channel 3 and check cell internal resistance on channel 4 !

This means I can individually balance charge all of my flying batteries in one go. The final balanced voltages seem much closer now (within 0.01v). This also means that it is easier to keep an eye on things as I have a much shorter overall charge time to monitor. My unit was a factory reconditioned unit from 4 Max models at a discounted price of £135, usual price £180. Not cheap, but hopefully a good investment as looking after Lipos is an ongoing challenge .

## From the Continent by Dave Camp

I spotted this in the May/June Aufwind magazine, a 3 metre design of F3F/F3B type but not fully moulded, so perhaps more affordable? The model is from a Swiss based supplier/manufacturer. From what I can gather it uses an epoxy/glass/carbon fibre fuselage with foam cored wings and tail surfaces that are skinned with poplar veneer, a practice that has been used by the Art Hobby manufacturer. I am not sure what advantages Poplar veneer has , but I guess it is easier to handle than Obechi and will have a harder surface finish than balsa which is also very variable in density. It looks like glass and carbon is also used to give additional structure under the surface skins.

Basic details are span 3m, length 1.475m, weight ca 2.4kg and airfoil S6062 (8%). Price is in the region SFr 770 (ca £630). Further details can be found at www.love2fly.ch from where I have lifted the following photo.



I also found in the  Aufwind adverts  one for the Fritz flying wing, which is **a**vailable from Podivin Composite Modellbau ( www.pcm.at ) which is an Austrian manufacturer.

It is an all composite true flying wing with no vertical surfaces, 1.5m span and about 500g flying weight. I reckon this could be a prime candidate for giving a challenge with visual orientation during flight. At 490 odd Euros (without any tax) I think that could be an expensive challenge; indeed I can almost imagine someone mistaking it for a boomerang!


Finally we see increasing use of electric power across the board, including full-size size gliding. I spotted this from Pipistrel Aircraft, the Taurus Electro which is a side by side 2 seater of just 15m span. The electric motor is a pop-up arrangement running off of 20Ah/4.75kWh Lipo batteries. The best glide angle is 1:41. There is even an option of a trailer that incorporates solar panels to charge the aircraft batteries while stored. There is no 3-view on the web site, but I have lifted an image.

## Calendar

Sun 22nd May  E Soaring, Round 1
4th/5th June Slope Fly-in
Sun 19th June  E Soaring, Round 2
2nd/3rd July Slope Fly-in
Sun 17th July  E Soaring, Round 3
6th/7th Aug Slope Fly-in
Sun 14th Aug Limbo event
Sun 21th Aug  E Soaring, Round 4
3rd/4th Sept Slope Fly-in
Sun 18th Sept E Soaring, Round 5

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