Newsletter

No.37: April 2024

Welcome to your Newsletter

In this edition: entertaining and informative articles from members, a larger than usual update from the flying field for February and March and events coming up for 2024.

Please let me know of anything you would like to see included in forthcoming newsletters. All feedback and contributions are welcomed. Remember to play your part and if anything, interesting (or even better, funny) happens whilst you are visiting the flying field then drop me an email (with pictures) for the Activities at the Field section.

Members are particularly interested in how you got into the hobby, what planes you have owned, technical expertise etc...

Send any newsletter related matters and articles to me at: neilgrayson@sky.com

Upcoming Events at KRMFC

Maintenance Days

As discussed at the AGM it is now planned to hold a Club maintenance weekend over 20th – 21st April. We will use either both days or just one depending on the weather and progress made.

Maintenance days provide a valuable and practical way for all members to contribute to the strength of our Club. The more members who come along to help out and join in the fun (!), the quicker we'll have everything finished and looking good for all our flying days in the coming summer season.

Soup and rolls will be provided for all those helping out.

Jobs to be completed include, but are not necessarily limited to:

- replacing some of the pilot boxes;

- painting the model stands, fencing, windsock hut and stiles;
- scraping and painting the mower container;
- moving the windsock back to the hut.

Although you are welcome to just turn up on the day, it would be useful for catering and job allocation purposes to have an idea beforehand of who will definitely be coming along and of any preferences for jobs, etc. Please contact Neil Grayson.

Open Days

Also as discussed and agreed at the AGM, we will hold two Open weekends over 18th – 19th May and 10th – 11th August.

The actual Open days over each weekend will be weather dependent. Help will be required with the organisation of these events and suggestions of what could be included on these days would be appreciated. Balbedie Club is also hosting a biplane open day on 11th August and as both clubs are quite close together then flyers could visit both events on the day.

Here's to some glorious flying weather this year and to lots of activity at the our flying field.

Training

As mentioned at the AGM, the Club is looking for volunteers to help out with training new and inexperienced members. At the end of the meeting, Richard Blanski kindly volunteered his services.

Currently, Neil Gourlay has been buddy training with our junior member Rohan and Neil Grayson also does some buddy training with his Eflite Apprentice.

If members want to request any type of training or to work towards their Bronze/A awards then contact the committee so that this can be organised to suit individual needs.

Upcoming Events in Scotland

The UK Youth Rocketry Challenge (UKROC) Scotland Regional Final will be held at KRMFC on Tuesday 23rd April 2024.

Member Articles

Telemetry Musings 2 - *by Ian McLuckie*

In the last newsletter we looked at the Flight Log screen found on most Spektrum transmitters. Other makers have a similar page, Taranis do it very well. Spektrum could have chosen a better page title because the page, or screen, has nothing to do with flight. It is solely for monitoring the radio system whether the aeroplane flies or not. It can even help with a ground range test.

They say Spektrum made the system for their own testing but decided to share it with the rest of us. I am beginning to use it now that I have some idea as to how it works. But there are some bits that are still a mystery, and I can't find a Spectrum pamphlet or publication to help. So, it is 'do it yourself' time again, with no guarantee of being correct.

Figure 1 Screen of Flight Log

Last time we got to grips with the 'F', 'H', 'ABLR' logs, see Fig 1. But that left the rest of the screen to demystify.

First, there is this '**-dBm'** thing on the screen which reports signal strength. That is the strength of the signal being received (RSSI) at the aeroplane, sent back to the transmitter by telemetry.

You will remember from school that 'dB' is short for decibels i.e. a decimal of a 'Bell', named after Sir Alexandar Bell from Edinburgh who invented the telephone. So, what is a Bell, or Bel, as it is now known? I needed to look that up… is that not for sound measurements I hear you say? Is it not a coincidence that his name was 'Bell' and we use it to measure sound, great stuff.

But there is no such physical thing as a Bel. A Bel is a ratio. For us, the signal is 'ratioed' against I milliwatt (mW) of power or 0dBm. That is what the 'm' stands for. The 'd' is for decimal (a tenth) and the whole thing is wrapped up in logarithms invented by John Napier from Edinburgh. If you want to dive into the equations, I recommend paracetamol to start with…because it gets worse.

All this does not help much when standing in the field. Knowing that a Bel is a contrived unit does nothing for me. When I look at the screen, I see things like -83dBm. What is it?

To start with why is it negative? That's easy. When the gain is negative the signal at the receiver is smaller than that transmitted. An amplifier would have a positive gain. Why the logarithmic scale? Well, as I said, everything is based on 0 dBm taken as 1 milliwatt and ratioed from that base. If you did not use the logarithmic scale, you would be dealing with values such as 0.000001 milliwatts whereas with logs the same value is -60 dBm. Too many zeros to handle hence the use of dBm. I've checked all these zeros with Kev S. He is an ex-Chartered Electronics Engineer so hopefully we are in the right ballpark.

dBm	Bars	signal
Better than -40	6	excellent
-40 to -50	5	very good
-50 to -60	4	good
-60 to -70	3	average
-70 to -85	2	low
-85 to -100	1	very low
-100 and lower	0	no signal

Figure 2 Signal strength (RSSI)

The more negative the dBm, the weaker the signal being received. It seems strange but the closer the reading is to '0' the stronger is the received signal. You will need to think about that… it's not intuitive and you may now need to move up to Ibuprofen. We never have time to read this data (aural is good if

you have it) whilst flying. For a range check it is valuable. Fig 2 is a table to help get a feel for the numbers along with the little bar symbols at the top lefthand side on the screen.

Some say all this is good for locating a lost aeroplane. That has potential but only as long as the onboard battery has sufficient power.

Anyway, two newsletters ago we discussed aerials and their polarity. Now polarity comes into its own… and now is the time for something stronger than Ibuprofen. Tim K recommends Speckled Hen! I'll go with that.

Suppose the aeroplane is down, far away in a corn field but you managed to get a rough bearing on it, not uncommon. If you hold your transmitter flat with the aerial horizontal, 'pointing' to the last known position and swing it slowly side to side you should find the *weakest* telemetry signal say -100dBm because of the polarization of the wave, the aerial will be pointing to the aeroplane. You need to turn the aerial sideways (or turn the transmitter sideways if your aerial is fixed) to get the maximum RSSI. That is not intuitive, it seems odd. That way, you are looking for the strongest signal i.e. something approaching zero but you will never get zero (-0dBm). If you don't do that, you may be in corn field for some time! You can also use the 6-bar diagram but that is much less sensitive. Remember these readings are logarithmic which means that a 3dBm shift is a halving or doubling of the signal strength.

Does it work? Well sometimes, it can be a bit flaky. As you move towards an aeroplane which has a reasonable strong signal, the system floods. If you are too far away the RSSI indication is vulnerable to radio frequency noise and reflections. The steel Club Hut might be a good reflector so it may sometimes be difficult to spot the null point. You can chase the null point or the strongest signal, it is basically the same thing. Some YouTubers claim good results but it can't replace an 'SMS' tracker or your GPS telemetry. It is worth a try though, it might save the day and if you don't find the aeroplane, you had a great walk along the tractor marks in the corn field. I have the tee shirt.

On some Spektrum's and others, you can use 'signal percentage' (RSSI by %) which is a reading of a relative value instead of -dBm, but these, and others, are set by the manufacture and we don't know what the base line is, they are mainly indicative but easier to read.

During flight, some transmitters allow aural readout of the -dBm, and alarm levels can be set, say at -75dBm. Some can download all your readings to your SD card and these can be set up as a chart via a TLM file such as Fig 3. The graph shows signal loss 4 times which could have resulted in a failsafe activation.

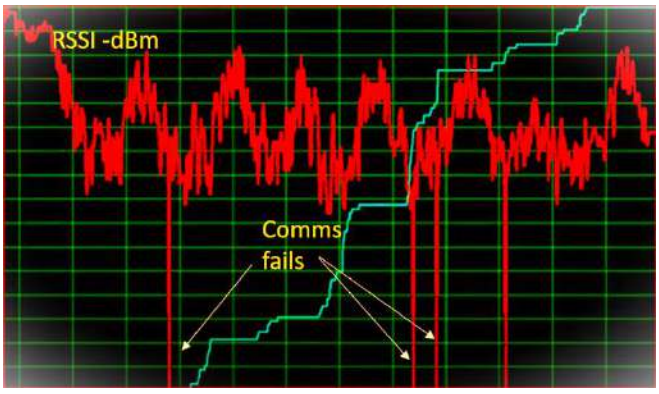


Figure 3 Graph of RSSI as the aeroplane flies.

That's the Spektrum Flight Log and RSSI business fully demystified. I am not sure I will do much with it, I think I am quite happy to quietly fly my aeroplane then, at a later date, check out this Speckled Hen stuff.

YouTube videos: -

1 *#Lesson Learned How to Monitor Analyze #RSSI Signal Integrity by…'8HrToGo'*

2 *Avoid fail safes with RSSI dBm (LQ is not enough) … by 'Joshua Bardwell'*

3 RC Quick tips finding your lost model (RSSI) Method… by 'Painless 360'.

First Attempt at 3D Printing a Plane *by Kevin Scott* Part 2

Eclipson Files

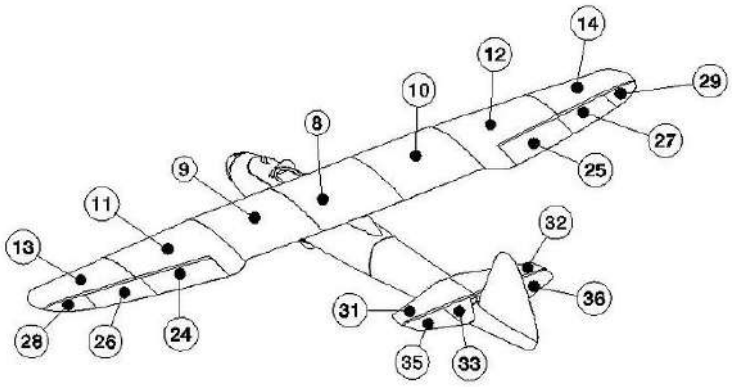
When you purchase something on the Eclipson website (and you need to go through the purchase process even when it is free) you get a link to a zip file that you then download. The zip file has a collection of different files in it. It has the following:

- STL designs for the plane. As described earlier, these or not for printing directly but can be loaded into your slicer and you can tweak the print parameters.
- Gcode files for printing. These come in several types, there are PLA based files, LW-PLA files and TPU files.

You also get a drawing file showing how the parts should be assembled, there is also a video on their website showing the assembly process.

The Go Wolf

The Go Wolf that I chose to build is one of the easier planes to build on the Eclipson website, it has a total of 47 parts, but two of those are 3D graphics (like decals) that I didn't use and another couple are for the undercarriage wheel that I didn't use either. So, in total I ended up printing 43 parts. The main parts of the airframe are shown below.



Each of the wing and fuselage sections took on average around 2hrs to print. Do remember with more modern 3D printers than mine this time will be reduced as they can print at faster speeds than mine.

The wing has three pieces of carbon fibre rod in it, one in each of the outer wing parts and one across the middle. All three rods are less than 500mm long, which seems to be the standard length that these are supplied in.

My design objective for building this was to do it entirely in PLA. My reason for that was I already had the PLA and was familiar with how it printed, this was really a quick and dirty attempt to see what I could get. To make matters worse, the PLA had been sitting around for four years and this tends to make it brittle but I pressed on anyway – it didn't turn out to be much of a problem.

Eclipson said that printing entirely in PLA would give a take-off weight of 950g and a stall speed of 32km/hr (20mph) so it isn't a slow flying plane, we are certainly not talking a foamy here! Part of my thinking

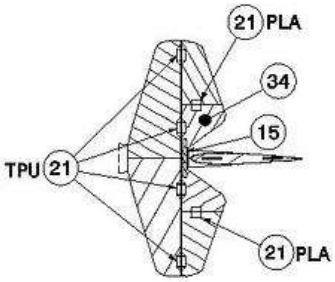
though was that I also own the Arising Star and it has the same wing loading as this (55g/dm^2) and is 2.6kg so I could learn my craft on the Go Wolf before moving to the Arising Star.

Changes to Plan

As I have outlined already, I didn't stick entirely to the Eclipson plans, the places where I did my own thing are listed below.

TPU was a no-no

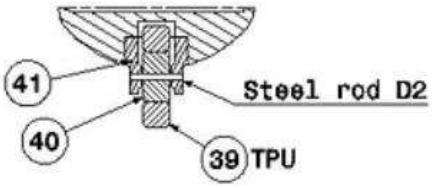
I didn't want to use TPU as I thought it would be difficult for my printer to print so I needed to work around a couple of parts that were supposed to be made with it.



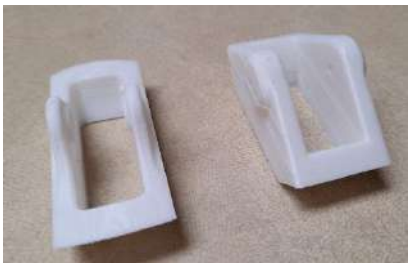
The first of those was the hinges – the control surfaces get printed with a 1.5mm slot in them with the idea that a TPU flexible hinge is used in each of them. The elevator setup can be seen in the drawing alongside.

What I did instead was to use the very thin mylar "furry" hinges, but as these are so thin, I needed to bulk them out by using a small 3D printed spacer. This worked well enough but was quite time consuming to fit.

The second of these was the undercarriage wheel – the centre of the wheel gets printed in PLA and the outside gets printed in TPU, so it has the flexibility of a real tyre. In my case, I wanted to use an off the shelf part which I had already bought from AliExpress.



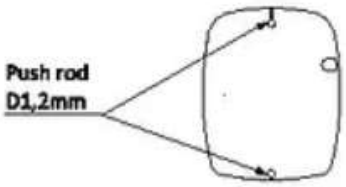
It was a little bit wider than the TPU version so I used my CAD program to design a new one for the wheel I wanted to use. I also strengthened up the area round the steel rod so it was better able to take a hard landing (of which I expect to give it many!). The original part can be seen on the left and the new part on the right in the picture alongside.



Steel Rod was replaced with Carbon Fibre

The design asks for a 1.2mm steel rod to be run the length of the fuselage along the top and the bottom, to strengthen it up, in particular against forces that the elevator might generate.

I chose instead to use 1mm carbon fibre rod for this, it saved 10grams and seemed just as strong (if not as cheap!).



High Viscosity Glue Used

The design asks for medium viscosity glue to be used. I was worried that it would grab too quickly in some areas so instead I went for a high viscosity glue. This has a slower drying time and allows more opportunity to position parts and adjust them if required. There is also less chance of getting your fingers stuck to the workpiece! You can always speed up the drying by using an accelerator if needed. I used Everbuild Superglue HV and you can get 50g of it for less than £5 from Toolstation!

Strengthening of key Areas

The tabs that the ailerons are controlled by is about two millimetres wide and is reasonably strong. However, if 3D material is going to break anywhere it is between the layers so there is an inherent weak

point in the aileron just next to the tab. To try and de-risk this as much as possible, I applied a large fillet of superglue in the corner between the tab and the rest of the aileron.

Another weak area to my mind is the servo mounting plates underneath each wing. The plate is mounted to the wing using 2mm diameter self-tapping screws but they are screwing into the thin wall of the wing and don't seem to get a very good purchase. After a flight or two to check the servo arm position is correct, I think I will be adding some dabs of CA glue under the plate to ensure it stays put.

Spinner Won't Print

If you try and print the spinner directly from the gcode (at least the PLA version) it doesn't work. The coordinates in the file seem all mixed up and it tries to print everything at the back edge of the printer bed; needless to say, this doesn't end well!

The solution to this is to load the relevant stl files into your slicer and generate the gcode yourself. I can also give you the gcode if that would help.

The Build

Printing

In general, the printing process went without any great issue. The only thing to bear in mind is that the brims at the bottom of the prints can be difficult to clean up. In particular, be careful trying to sand them off because if you sand at right angles to the print layers, there is a danger you will cause a split.

The approach I took was to trim the brim using scissors, and leave the last millimetre or so if it is difficult to get at. Once the individual parts are glued together, then sand the remaining part of the brim down.

The picture shows the four main fuselage sections after printing, note the part on the left still has the brim attached.

Assembly

Generally everything went together quite easily, although the high viscosity glue certainly helped.

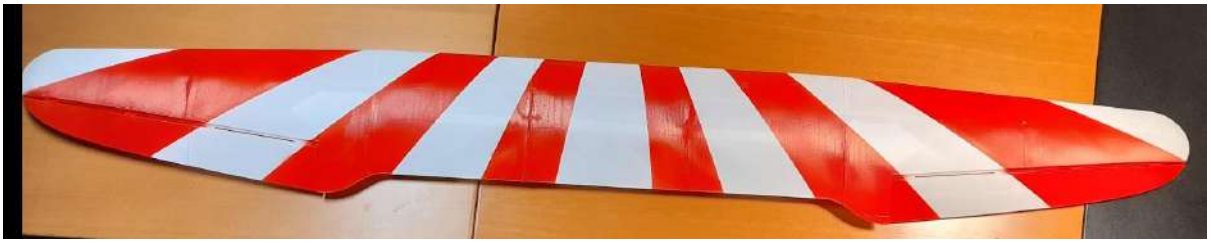
I chose not to glue the carbon fibre rods into the wing, my thinking was they are the most expensive part and when gravity finally wins the battle, I can reuse them on the rebuild!

The fuselage required extra alignment tabs to be inserted on some of the sections before joining them, you really need to let them dry in situ on one part before joining them to the next. If you don't, they have the risk of getting pushed backwards and just rattling about inside the fuselage. Don't ask me how I know this!

Painting

As I have an interest in scale modelling (Airfix etc) I already had an airbrush and a number of acrylic paints so that was the way to go when painting this. When I would paint a scale model, I would normally paint a primer on first but a test sample on a spare piece of PLA showed that the paint seemed to adhere well without it so that is the way I went.

The painted wing can be seen below. As I am still a novice flyer, I wanted the surfaces to be as visible as possible!



Details

Masses

The take-off weight of the plane looks to be around 800g, which is a little bit less than the Eclipson estimate of 950g. I can't think of any good reason for this, I just built it from the plans but it's all good news!

The battery is a 3S and a watt meter on the motor shows it is generating 170W when fully powered. That gives a power to weight ratio of 81Watts per pound, so a comfortable enough power level, but there won't really be any aerobatics getting performed!

Costs

Below I have listed the main costs that are unique to this plane – not including things like servos, push rods etc:

- Carbon fibre rod – 5 x 6mm x 500mm length = £19.99 (although only three used here = £11.99).
- Carbon fibre tube – 5 x 1mm x 1000mm length = £7.75 (although only one used here = £1.55)
- PLA filament – around 600grams = £8.40
- Superglue – around 20 grams = £2
- Acrylic paint – around 10 grams = £1
- 1.5-inch undercarriage wheel = £0.80
- **TOTAL (to build first one) = £25.74**

My hope is that when this plane meets a gravity induced end, I will be able to reuse the carbon fibre rods (and all the electronics), so the cost of any future builds (using PLA again) will be **£13.75.**

Conclusion

I have always enjoyed building with my 3D printer, there is a certain fascination watching plastic being formed into unique shapes (yes, I know I need to get out more!). This project has allowed me to create a plane at very minimal cost and even less cost should (when!) I need to rebuild it. There is some wear and tear on the 3D printer that needs to be taken into account as well but if you have a 3D printer it is only useful when it is printing, the clue is in the name so I would say go for it!

Update: See “Activity at the Field” below for the latest (and last) instalment of the Go Wolf

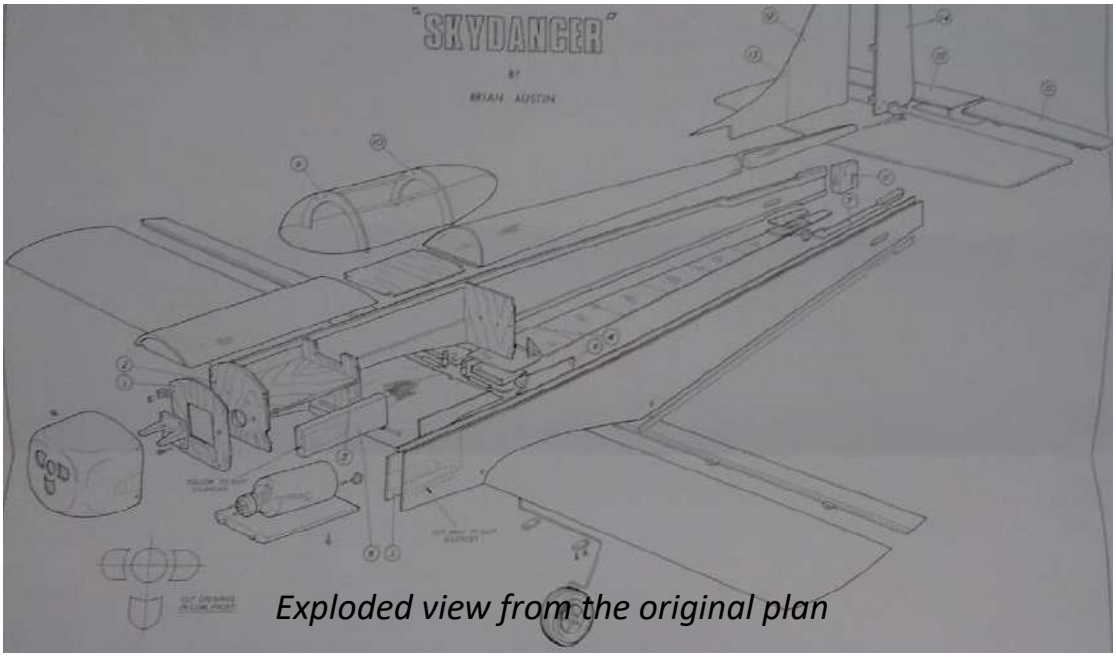
A message from Stuart Houston...

“It is a hobby of mine to collect and restore old engines. If anyone is looking to buy or sell engines or to have engines overhauled (bearings changed etc) then I am happy to discuss the work required. I am also prepared to make them offers for buying or selling old unwanted engines.” Stuart’s Email Address is: flightsoffancy356@gmail.com

New Build. PB Skydancer – *By Mike Hill*

Mike Hill sent me details and pictures of his new build a 1219mm (48”) wingspan PB Saturn Skydancer. It is built from a kit, powered by an OS LA 40 engine and he will get it down the field soon for its maiden flight. The only deviation from the plan was to install mini servos externally at the tail for rudder and elevator. He was a bit worried about the C of G with the extra weight at the tail with the mini servos but it came out nose heavy in the end. Moving the engine back on its mount then made it tail heavy. The solution was to move the battery from under the engine and it now balances OK.

Mike’s PB Skydancer



Exploded view from the original plan

Activity at the Field – February

Wednesday 7th February

Tim Knowles visited the field in the morning today but after heavy rain for the past few days the south field was rather muddy, and of course he came down in the wettest and deepest part. By 6pm everything, including his clothes were hosed down, cleaned and drying! He reported that the mud bath didn't improve the condition of the skin on his knees.

Tim knee deep in the mud

Neil Grayson was at the field briefly in the late afternoon to test fly his Rookie. Unfortunately, it lasted for about 15 seconds as it took off, climbed and went into a steep left-hand dive. The left wing snapping off again! Back to the drawing board.

Sunday 11th February

A fair bit of activity at the field today. Billie Wilkie successfully maidened his brand-new helicopter. Neil Gourlay helped young Rowan to fly his Cessna foamie. Charles Malcolm flew his new electric autogyro. Bill McDiarmid set up a wireless buddy-box system and then Rowan flew Bill's Tundra on that. Neil Gourlay flew his 'old faithful' helicopter.

Saturday 24th February

Just Neil Grayson and Kevin Scott at the field today. It was the second flight of his 3D printed Go Wolf after repairing the slight damage to the left wing from the previous flight. With Neil at the controls using a Futaba Skysport 6 35Mhz transmitter. It completed a couple of circuit at the right end of the runway to avoid the bright sunlight but then it seemed to lose control, spiralling to the left into the north field near the JCB digger and hitting the thick mud quite heavily. That version of the Go Wolf has been put in the bucket but Kevin says he will make a new one in the future as it is so cheap to make.


Kevin and his broken Go Wolf


The front end


In the bucket

Sunday 25th February

Another fairly busy Sunday with our junior members Anna and Rohan present. Other members flying were Tom Roberts, Billy Wilkie, Gordon Frost and Neil Gourlay. There was a fleeting visit from Mike Hill to open


A busy helicopter bench

the container for fuel and even Bob Gadd put in a brief appearance. Rohan managed to do two take offs of his plane with Neil buddy boxing him with his three successful flights. Anna practiced her skills of flying slowly but still in control. It was just the usual mayhem from the helicopters, including Neil trying to hover his new model albeit with it shaking about like a bee high on honey! All in all, a good day was had.

Monday 26th February

In the late morning and early afternoon Neil Grayson and Bill McDiarmid were at the field. New flew his electric Rookie successfully at last after trying to get the C of G correct and fixing the wing twice where it had snapped off. In the end after advice from Kevin Scott the motor was moved forward by 2 cm so that the C of G didn't shift back in a climb. It certainly has more power than with the Cox Baby Bee but the 2S LiPo runs out very quickly if the power is left on too long.

Electric Rookie glider. Success at last!

Bill ran his 4-stroke engine in his Scanner low wing model and attempted a take-off but there didn't seem to be enough power as he ran out of runway before it became airborne. Luckily, he managed to stop it before it hit the fence at the end.

Bill's Scanner that refused to leave the ground

Tuesday 27th February

Tim Knowles was at the field later in the afternoon today, below is his report:

"I took my V tail electric glider to the field today and thought I had set it up to fly. Nope! I'd only put in the very first bits of setting it up e.g. V tail and four wing servos.

So, I ploughed on dialling in the settings and doing some check flights. I swapped over rudder and elevator leads in the receiver, reversing one if those servos, changing 'A' V tail to 'B' V tail. After more hand launches plodding up and down the field eventually, I thought I'd got it right when after 3 hand launches, I had got the rudder throws the wrong way round!

To correct a dive in the turn I put some differential in on the ailerons and rudder movement.

Some further check flights were done for landing with crow breaking mixing in elevator and check flights with two thermal modes mixing in elevator.

In the end I had an absolutely fantastic afternoon...thankfully on my own...in brilliant check flight weather in a fantastic setting.

My final flight landed as the sun was just dipping below the horizon and for me, not too far away from the mark"

Activity at the Field – March

Wednesday 6th March

Neil Grayson arrived and chatted with Derek Grater who said that he hadn't visited the field since October the previous year as he rarely flies in the winter months. He had come down to the field to fly his drone but he felt that it was a little too windy. Neil flew his Boomerang once but it was a bit breezy and very cold.

Neil was packing up his Boomerang and preparing to leave when Tim Knowles arrived. Tim said it was his second visit to the field that day as he had been there at 8am when the wind was much lighter and that he had met up with Bill McDiarmid briefly who had one flight with his foamie then went home. He set up his large glider and then took off almost vertically. Neil left Tim at the field on his own practicing spot landing with his glider.

Saturday 17th March

Quite a busy day at the field today with light winds initially which picked up as the day went on and shifted from the SE to the East. Neil Grayson, Ian McLuckie, Charles Malcolm, Kevin Scott and Douglas Fulton in attendance.

Both Ian and Charles were there with Gyrocopters. Ian's was there for a maiden flight but initially the left-hand servo on the thingamajig refused to move. After checking the cabling and reseating the servo lead into the receiver it all started working again. Charles was in the pilot's seat and after a few initial hops along the runway (diagonally due to the crosswind) he took off, completed a couple of circuits and landed safely. It will be interesting to see if Ian flies it again once the weather improves.

Ian's new creation – preflight checks

Unfortunately, Charles's flight with his own Gyrocopter didn't go as smoothly and it stalled to the left from height and collided with the ground. There was some damage but he says it is easily repairable.

Douglas Fulton was trying to get the Irvine 46 running on his Boomerang but it refused to run at all and he gave up and flew his foamie Wot 4 instead.

Douglas and his troublesome engine

Neil and Kevin were buddy flying Neil's old and tatty Eflite Apprentice. The first two flights went well with Kevin improving on flying circuits with some good control and rectangular laps. Unfortunately, on the third flight the Apprentice came down heavily front first under full power in the South field. The left wing had snapped completely and the right wing had a split close to the fuselage. Also, the elevator hinges had come out and the back of the fuselage had come off. The motor and firewall had also broken off and the cowl had shattered into very small pieces. Neil and Kevin are pleased to announce however that the Apprentice is now almost repaired and the buddy flying will commence again once the weather picks up.

Neil's Apprentice in a sorry state

Neil had one flight with his electric Rookie, practicing using as little power as possible to gain height then gliding for as long as possible.

Sunday 18th March

Tom Roberts, Billy Wilkie and Neil Gourlay flying today. It was a drizzly day and Tom was so desperate to get into the air he got Billy Wilkie to hold an umbrella to protect him and his transmitter from the light rain.

Keeping things dry!


Weather doesn't stop Tom from flying!

Tom Roberts had to perform an autorotation landing into the long grass near the burn after his engine cut due to the mid-range needle completely falling out of the carburettor. An excellent landing as there was no damage at all.


Tom's helicopter after his engine cut out

It was a sad day for Tom's £50er (I presume that is what it cost). It was not even in the air above two feet when it dived hard right (with no left aileron correction from Tom) and bang! the ground jumped up and smacked into the plane. Unfortunately, it suffered a lot more damage than his helicopter did previously.

Rohan appeared with his grandad briefly but the weather really wasn't the best, so they called it a day after a chat and headed home. Members were dodging the heavy drizzle waiting for a 2-minute break in the weather to nab a flight with their helicopters. Even though a good day and fair few flights were had.

Sunday 24th March

Douglas Fulton and Tim Knowles at the field in the afternoon today. Douglas described the day as "no wind, sunny, warm, no bugs and the best day since last summer" Where was everyone?

Tim, presumably flying his glider and just about to head back to the safety of the pilots' box

Web Links and Shops

Some useful links below. If you can suggest any other shops or websites, please send me the details.

Model Shop Leeds - www.modelshopleeds.co.uk/

Wheelspin Models - wheelspinmodels.co.uk. Free postage for orders over £100

Sussex Model Centre - www.sussex-model-centre.co.uk

The Vintage Model Company - www.vintagemodelcompany.com

Kings Lynn Model Shop - www.kingslynnmodelshop.co.uk

Scoonies - www.scoonie-hobbies.co.uk. Don't bother with the website. Visit the shop in Kirkcaldy.
87 St Clair St, Kirkcaldy KY1 2NW. Tel No: 01592 651792

Dens Model Supplies - www.densmodelsupplies.co.uk. Excellent for spares for vintage Cox engines.

WestonUK – www.westonuk.co.uk Good value fuel in large quantities. Over 20 Litres (4 Gallons) gives you free postage.

ACCU – www.accu.co.uk. Excellent for bolts, screws and washers. Will take requests for bespoke items.

RCM&E - RCM&E Home Page. The website of the best aeromodelling magazine. If you have a question the forum is bound to have an answer.

RC Thoughts - https://www.rc-thoughts.com/ Finnish website of Tero Salminen. Phoenix Simulator Downloads and updates.

RC World - www.rcworld.co.uk. Located in South Wales between Cardiff and Newport. Stock values on each product are displayed which reflect what are physically in stock, not held at a supplier's warehouse. Derek Grater has used and recommends.

Carbon Copy - Carbon Copy (carboncopyuk.com). Located in Stevenage. A wide selection of Carbon and Fibreglass parts. Ideal for undercarriages, cowlings and canopies.

Just Engines - https://www.justengines.co.uk/. Located in Shaftesbury, Dorset. A wide range of engines and spares. If you can't find what you want on the website send them an email or call.

SLEC Manufacturing (Sun Lane Engineer Company) - SLEC UK Ltd. A good range of accessories but also a large range of balsa and hardwoods. Also available is a laser cutting and CNC milling service.

Component Shop - Home page (componentshop.co.uk). Based in North Wales. A great range of batteries, leads and electronics.

Flight Plan Models - Flight Plan Models Online UK. Based in Tamworth. Bespoke RC Plane Accessories. I find them a little overpriced but they have interesting stuff.

4-Max – 4-Max Home. The Fixed Wing Electric Flight Specialists. They will advise you what electric motor to use when converting from IC to electric.

Here's a link to the glider field weather station data at Portmoak gliding club which is just a few miles east of our field. It gives a lot of information. ***Portmoak Weather Station***

Who's Who

KRMFC current committee members are:

Tom Wilson – Chairman

Neil Gourlay – Deputy Chairman

Neil Grayson – Secretary

Mike Hill – Treasurer

Bill McDiarmid – Committee Member

Jim Walsh – Committee Member

Bob Gadd – Honorary Committee Member

If you intend rejoining KRMFC this coming year then membership fees are now overdue. BMFA/SAA membership also needs renewing.

A membership application form can be found here.

Contacting the Committee

An email address has been created for members to contact the Committee about Club matters. If you have any questions, suggestions or general comments, then please send them to the following email address:

KRMFCcommittee@gmail.com

HOT OFF THE PRESS

Reserved Parking Spaces for Committee members

During a recent committee meeting there was a discussion held about the possibility of creating reserved parking spaces for the Club Chairman, Deputy Chairman, Treasurer and Secretary. This would consist of four hard standings being created with a sign showing the incumbent's name and office with distinct white markings on the ground. A fine of £10 would be applied to any member parking in a reserved space, doubling for repeat offenders.

It was agreed unanimously by the committee to go ahead with this plan in the sure knowledge that members would wholeheartedly support this innovative use of club funds. The local company of Flora Pilo has already been approached to create the hard standings and will commence works on 1 April. 😊