Newsletter

No.27: August 2022

KRMFC current committee members are:

Tom Wilson – Chairman

Neil Grayson – Secretary

Mike Hill – Treasurer

Bill McDiarmid – Committee Member

Jim Walsh – Committee Member

Billy Wilkie – Committee Member

Bob Gadd – Honorary Committee Member

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

Glow Fuel for Sale

The club still has a stock of fuel for sale. 20% nitro is £32 a gallon and 5% is £24 a gallon. Please note that the containers are full gallons and not 4.5 litre cans. See/contact Tom Wilson or Mike Hill if you want to make a purchase.

Drone Racing Events at KRMFC

After negotiations with the Fife FPV Racing Club it has been decided to hire out our site to them during the dates above. The format will be the same as last year in that they will set up on Friday afternoon/evening, race on Saturday and then have it all cleared up in time for our Sunday flying. It will generate much needed income for the club and there is potential to attract some new members.

Needless to say we will not be able to fly ourselves during their racing events but they are happy for us to attend and spectate.

The 25th June event was unfortunately cancelled due to internal issues within Fife Racing but the 30th July event went ahead. It was a bit wet and windy to start with but it cleared up in the afternoon. Calum Maxwell the event organiser thanked Tom for the use of the field and said it was a great success and they are all looking forward to the next one on 27th August. Have a look at their Facebook page at: Fife FPV | Facebook Anyone interested in joining them next year?

Upcoming Events Around Scotland In August

Seaplanes Scotland

Saturday and Sunday 13th and 14th August. Model seaplanes will be at Kirkgate Park, Kinross, 10am – 4pm both Days.

Hosted by KRMFC

Set-up assistance is requested on Friday 12th August between 4pm – 6pm to put up temporary fencing in the park.

Assistance is also required both days to help run the event.

Contact Bill McDiarmid with any offers of help.

BillMcDiarmd68@gmail.com

‘Departures 2’ *by Ian McLuckie*

In an article entitled ‘Departures’ in last month’s Newsletter, we discussed RC-aeroplanes which ‘escape’ from their pilot. This month, we take it a stage further.

There I was standing in the pilot box staring at the sky, nursing my trusty Spektrum DX6e surrounded by silence, just silence, in the gentle breeze. Yes, behind me the helicopter pilots were gathered round their bench quietly talking about the up/down link gudgeon grub screw squash plate pin with the 5/16-inch Jesus nut, *I think*, but where was the noise of my aeroplane?

I glanced across the field at the stile Neil had recently fixed, only to see a large hare hop up on it from the other side, and stare at me. It seemed to nod to me, then jumped down and quickly ran along the runway. I convinced myself it was flapping its big ears trying to take off. It suddenly stopped, looked back at me, nibbled some grass, and shot off into the undergrowth, but where was my aeroplane?

Then I was suddenly distracted by a skylark singing high overhead. My mind wandered to the 400-foot rule, how did it get permission? It finally sunk in that my aeroplane was lost. It had departed. The antithesis of psychosis sunk in, this was real, a stark realisation that the aeroplane had gone.

In the last Newsletter I proposed a potential new medical term namely - *post departure bereavement stress syndrome* (PDBSS) for this psychological state of mind, the empty bewildering disbelief that such a thing could happen. How could my aeroplane decide that the grass was greener on the other side of the fence? Maybe it had been in touch with the hare which had the same idea. After all the hare gave me a strange look when it sat on top of the stile, as if to say - ‘*the grass is definitely greener on your side of the fence mate!*’

So, there is a profound need to track the aeroplane, maybe not for highly skilled club pilots but for novices such as myself. It is a technological question with an easy objective … ‘the aeroplane must announce its geographical position continuously, or on demand, at whatever range when required’…a tall order.

At first glance it sounds like we need a biostatic radar system with forefront tracking and situational awareness capability…I have a funny feeling that is not going to happen; we will set that aside.

So, what to do? Last time I mentioned various commercially available systems for ‘rc-aero’ enthusiasts such as: -

a) Loss of radio signal, or out or range parachute deployment, or smoke deployment. You have already thought of three ‘ifs and buts’. It would be sure to deploy just at the wrong time, so not a real starter.

b) If they can track a lion in Africa, surely tracking an RC aeroplane would be easy. Well, the lion has to carry a large piece of kit round its neck probably heavier than our aeroplanes, and you need a very sensitive receiver and antennae to take with you as you wander around the countryside waving it in the air; perhaps with only a mile or two range. Not practical for us. But, there are smaller VHF/UHF units available on the market technically similar with, of course, commensurate shorter range and smaller bulk. I have been tempted.

c) Air tags have been mentioned working with Bluetooth. They need a smartphone or device to be within about 50 feet or so. Limited use, certainly if your aeroplane is at the top of a 100 ft tree hidden by foliage. Useful, but too limited.

d) Noise making units are available, useful in thick undergrowth but you need to have good ears to hear it and there is a range problem.

There will be other systems which spring to mind and of course there is the telemetry system on many of our transmitters which can provide signal strength and some limited direction. And now, 'on board' electronics to bring your aeroplane home, wonderful stuff, or is it? I don't know. You have already thought of three things that could go wrong!

How did I crack this problem? It is quite simple. I went to a local car accessories shop and bought a car tracker. Not one with big magnets to stick under car bodies as you see 'in the movies' with limited battery capacity etc. but a small device 50 x 50 x 16 mm weighing 49 grams, permanently wired into the car's 12-volt system via a USB connection. The cost of the unit could be justified to protect/ track your car if you needed an excuse, but it was really bought for my Bixler 3. At the airfield I unplug the tracker from the car and secure it in the nose of the aeroplane (after removing some lead). It has a 72-hour on-board rechargeable battery, just the job. When finished flying, I plug it back into the car.

How does it work? Using your smartphone, you send it a coded text message and it sends back a text message with longitude and latitude data of its position. Your smartphone automatically plots a red dot on a google map showing the tracker unit's location. Range is UK wide, accurate to about 10 metres. It comes with 'apps' that continually trace its position, emergency transmission facilities, 'go to sleep' instructions and a host of other software goodies, none of which I use. For me, if the aeroplane disappears, I know where it is within about 30 seconds…or, of course, where my car is.

I am not very good at flying aeroplanes but at least I know where my aeroplane is, so the psychosis is eliminated.

The hare attempting to fly? It was kidding itself on - it's been watching too much 'RC-aero' activity.

On your smartphone the red dot shows the tracker's location

Wren 160 Repair *by Lindsay Dickie*

As I stated in my previous article, the Wren 160 turbine I have has suffered from a starting issue from way before I acquired it – the emails Harry sent me from Mike Murphy go back a number of years and all referred to tweaks on the electronic control unit. Apparently, the engine had been sent back to Wren as well and they could find nothing mechanically wrong with it. As I said in my G91 article a few months ago, I have a reasonably well equipped home workshop and have stripped and rebuilt a good few turbines over the years from JPX T-240/T-250 propane engines through KJ66 and the Wren 54 Mk4 kit I built. As such I don't really have any fear of dismantling the Wren for a look and see what's likely wrong with it. Having thought about it, the most likely fault is the clearance between the turbine blades and the housing they run in. Fairly obviously this needs to be quite tight to prevent unacceptable losses but must not be so tight that the blades don't have enough clearance to allow for the rotational forces and expansion with temperature. As the seizure occurs during the initial fuel ramp when the main fuel supply starts, the turbine wheel starts heating up quickly – very quickly in fact and also expands due to its increasing temperature. At this point the turbine housing is likely to be still cold or not much hotter than ambient. We also have about 20K rpm in the turbine wheel too – all of this is conspiring against us to close the gap between the turbine blades and the housing. As there is relatively little energy in the rotor at relatively low rpm, then any rub will cause the engine to slow down and the ECU to cut the fuel – as it does….

So once the engine is out the model, its off with the exhaust nozzle and out with the feeler gauges. At this point I'll point out a lot of my equipment is imperial as its mostly handed down from relatives and friends, so I'll use imperial units for this part… After a couple of minutes of measuring we have a clearance of 0.004" or four thou around most of the turbine and a minimum in one spot of 3 thou. That's about the thickness of a standard piece of paper. This seems pretty tight to me and I think we are on the right path to find the smoking gun. I mentioned earlier about the KJ 66 and Wren 54 – I have the drawings for these engines and a quick look in my library identifies that the Wren 54 has a specified clearance of 0.2 mm = 0.0078" or roughly twice what we have here and its quite a bit smaller than the 160.

Nozzle Removed

Checking Clearance

Interesting. A quick check on another couple of engines in my collection and both the Jetcat P120 and AMT Pegasus are at about 8 thou clearance and these are both about the same diameter as the Wren 160. Ok it's time to strip this thing down for a look. The construction of this Wren 160 is very similar to the kit built 54 Mk 4 I built several years ago. Having reminded myself of some of the things to look out for I started by marking the location of the turbine and compressor relative to each other as this is critical to getting the balance correct on reassembly. The compressor nut was then removed, bearing in mind it's a left hand thread and using my small torque wrench to figure out its breakaway torque for rebuilding. A bit of heating from the heat gun is required to expand the compressor as it's a very close fit on the shaft and we then have the full turbine, shaft and rear bearing comes out the

back of the engine. Not surprisingly the initial examination of the turbine shows a small shiny spot on all the blades where its fouled the housing. A close inspection of the housing does not really show much other than one small discoloured area but nothing shiny. So, my thought is that the fault is fairly obviously insufficient clearance between the turbine and the housing – but which is at fault? Unfortunately, I don't have an answer as I don't have the drawings to tell me – even if I did, it's not that easy to measure… Why I hear you asking – just measure the bits and figure it out? Well, here's a question for you – how do you measure the diameter of a cylinder? Easy - use a calliper or a micro meter if you have one. Yip that's fine – however the turbine doesn't have an even number of blades, which makes that impossible as there is no "true diameter" to measure!

Shiny Spot

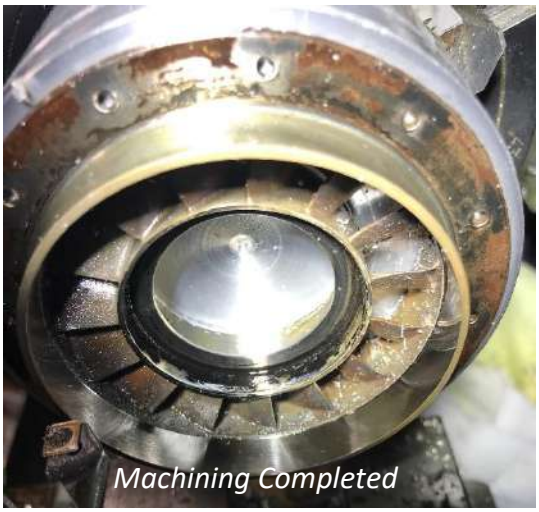
Similarly, the housing isn't that easy either as your internal calliper measurement is difficult to do too, and there is zero guarantee its perfectly round – see later on… In a production situation, you would have "Go" and "No go" gauges to show when you are in tolerance but not in this case…. As it happens, it doesn't matter which is wrong, only the fact their relative sizes are wrong. So, which do I fix? Easy – as I have no access to a balancer, I'm not touching the turbine wheel with a barge pole – so the housing is it. Next question – how do I machine it? Well, that's a very interesting question. Both the housing and the turbine wheel are castings. Back in the day when I built the kit MW54, I had the turbine casting PMI'd (Positive Material Identification) to determine what it's made from – it was Inconel 625, a high Nickel / Chrome alloy for high temperature strength, much as would be expected. I didn't check the housing at that time, but I'd expect a similar material. Unfortunately, I don't have access to the PMI equipment now, so I'm assuming the same material for the 160 housing. After a quick drag of a file across a non-critical area, I'm pleased to see it's not as hard as I thought it might be and I'm encouraged that my normal tipped turning tools will work…..

Now the next question is how to hold it for machining. This is a perpetual question in model engineering and is ultimately one of the most critical areas of machining to ensure a successful outcome. A quick and dirty solution is to simply stick it in a three jaw self-centring chuck as it's a circular item, isn't it? Well, no that's not a good idea as the jaws are likely to distort the casting and the chances of it running true aren't very high. Second option is a 4 jaw independent chuck as it's got more adjustment – well its also got the same distortion issues as the 3 jaw…. So, the most satisfactory solution to this question is to make a fixture as we call it – to you guys its known as a big chunk of round aluminium bar with a recess machined into it. After a few days of waiting, the chunk of round bar arrives and its setup in the 3 jaw chuck for machining the recesses, which are duly done with the bore size a gnats tadger under the O/D of the surface of the housing I'm using to mount it with. The idea here is that it will end up concentric with the area I want to machine – assuming its concentric to begin with that is. The housing is then chucked in the freezer overnight to shrink it down a bit. Come the next day

Machined Fixture

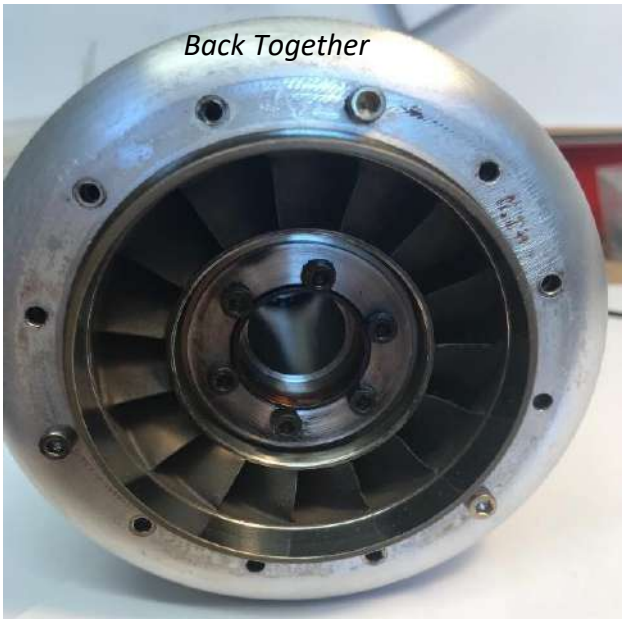
and the housing is safely installed into the fixture with the tailstock being used to apply some light pressure whilst it warms up. And then, the moment of truth – is it true or not. A Dial Test Indicator test shows the answer. Well, you're probably not surprised to hear that the answer is no – it's not. Bugger! Oh well plan B is to change to the 4 jaw chuck and spend some time with minute adjustments to get it as true as I can get it. In the end it becomes obvious that the housing area where the turbine runs is not circular at all – it has 4 distinct low spots – this has been previously machined in a 4 jaw chuck! After a bit of messing about I finally have the 4 spots which I believe were the jaw locations dialled in and its time to leave it alone for a bit of thinking time…

After some overnight contemplation, I'm convinced I've got it as true as I can and its time to commit – boring bar time. To give this the best chance of success, I'm using a new insert in the bar and turning the housing quite slowly with WD40 lubricant and light hand feed. I'm also only cutting off ¼ of a thou per pass giving a change in diameter of half a thou per pass. Bear in mind the piece of paper comment earlier and you will see how little I'm removing here. I bought myself digital readouts for my Myford lathe a couple of years ago and they are proving invaluable for precision work like this…. After a couple of passes to clean up the bore, it's time to check the sizes as I won't get a second chance at this if I get it wrong. Using the turbine wheel and feeler gauges as a bore gauge, I finally settle on a total clearance of about 14 thou. I'm keeping it slightly tighter than the other engines to allow myself a second bite at the cherry if I need it. So, there we are, machining done and I've removed approximately 4 thousands of an inch all around and it's taken half an hour of actual machining time out of probably half a day's total messing about time. Time to see if it's OK or have I scrapped the engine! First item of business is to get the housing out of the fixture. My wife is not about so the oven is set to 150 degrees and the whole lot is stuck in there for an hour or so. On removal, the housing is relatively easily removed – phew…. Once cooled and washed to remove all the swarf, its mounted onto the spigot of the shaft tunnel and the turbine complete with shaft is refitted. I removed the combustion chamber to remove any influence it may have on the housing for this test fit. Following this, another round of feeler gauge checks confirms a clearance all-around of between 6 and 7 thou – about what I was aiming for, so I'm happy. As they say in the Haynes manuals, reassembly is the reverse of dismantling, ensuring I get the turbine and compressor lined up properly. Has all this work been



Machining Completed

Core Test Fit



Back Together

successful? Time will tell as at this point, I haven't run it again yet. Fingers crossed I have a fixed engine which will move the Lightning one step closer to the air again…

More Pictures…..

Ready for Outer Casing

Core Rebuilt for Testing

CNC Compressor

Spacer Fitted for Test

Mascot Repairs *by Neil Grayson*

Finally the Mascot is repaired. It hasn't been easy and it has taken a couple of months. Once I finally got it down the field for a test flight after constant strong winds, Covid, flu and a 10 day holiday in Yorkshire it wouldn't fly. It raced down the runway, took off, climbed steeply and dived to the left. The second flight was just the same even with some right trim on the ailerons. This time however the wing bolt plate came loose so flying was stopped.

After some research and advice from George Robertson I moved the engine forward 1 centimetre and the flight battery closer to the firewall and added 10 grams of lead to the fuel tank compartment.

The next flight showed a great deal of improvement but on take-off it still tended to twist to the left. 5 grams of lead was added to the tip of the right wing and the next flight was again improved but still tended to climb steeply at full throttle. A small amount of down trim was added to the elevator and finally it flies perfectly!

I really must learn how to build a fuselage straight and true, it would save an awful lot of time with trimming and adjustments. Perhaps a SLEC jig would be useful. The fuselage has a distinct twist in it where it has been rebuilt but I don't care – it flies!

Mobile Phones and Transmitters – a good idea? by *Neil Grayson*

Recently I have been hearing reports about a potential issue with having mobile phones on the flight line. We all do it, with a mobile phone in your pocket within a metre of your transmitter whilst you are flying your latest creation.

Apparently the issue isn't interference between a 2.4Ghz, frequency hopping transmitter and a mobile phone. No, it is the strong bursts of RF energy that mobile phones emit when they are activated by an incoming call or even a text message. The further the phone is from the mobile mast the stronger the signal the phone will emit.

There is evidence to suggest that the strong pulse of RF can scramble the software that your transmitter is using. Obviously, if it is controlling your plane at the time, it can cause a disaster. Registers can be corrupted and memory can potentially be erased. This means that servos could reverse direction or stop moving completely.

We have all had incidences where a plane or a helicopter has done something which was unexpected, whether that is just an unexpected turn or a disastrous crash, often it is impossible to tell what went wrong. Could it be your mobile phone receiving a text or phone call?

There is no solid evidence that mobile phones can cause issues with radio control gear as so far it hasn't been rigorously and scientifically tested. Most clubs will have had instances of mysterious glitches and unexplained crashes so why take the chance.

Of course the receiver in your plane could also be affected as it has memory registers the same as your transmitter. When you are carrying it to the runway it will be very close to your mobile phone in your pocket.

Remember the inverse square law which radio signal strength obeys. If the distance from the source is halved the signal is four times stronger. If it is three times closer it is nine times stronger. Either keep your phone in the car or put it in 'Airplane Mode'.

For more information see the article in the June 2022 edition of the BMFA News which covers the subject in much greater detail than I ever could. It starts on page 28.

For Sale

Hangar 9, 40 size floats complete with Spectrum Micro A4010 digital servo for brass rudder. Lightweight wood floats have fibreglass skin applied to the bottom.

Factory built and covered with genuine Hanger 9 UltraCote (silver) with all necessary mountings. Pre-bent and assembled chrome finished wire struts, and a rudder spares kit.

Fixed price £85.00 Bargain.

Contact Robert Boyd on: 01506 822066

Activity at the Field - June

Thursday 2nd June

Paul Wasik was flying today with his Flair Magnattila powered by a Thunder Tigre 54 four stroke. He was using a 35Mhz set which had a very long aerial. YouTube video at **https://youtu.be/QYyAAp0OjwY**

Paul and his Magnattila

Engine buried next to the fuel tank. Silencer circled!

Douglas Gilmour had a disaster with his low wing plane when he lost control of it on a turn. The aircraft was a Seagull Low Wing 40 powered by an OS max 46. Douglas is still not sure whether the crash was due to a radio glitch, or a simple case of brain failure! All he knows is that he was flying a low level pass at speed when suddenly the model nose-dived with a high power setting into grass which was soft and muddy due to recent rain. The fuselage was in small pieces but the wing was relatively intact with one side virtually undamaged and only the leading edge and section forward of the main spar destroyed on the other side. The radio was undamaged apart from the rudder/nose wheel servo wrecked with stripped gears and the elevator servo twitching and unserviceable. The engine was totally buried in the mud (you can see the end of the silencer sticking out in the photo) and had to be dug out with a spade by Neil and Douglas.

Douglas has now cleaned the engine thoroughly and bench tested it and it started and ran perfectly! He is now in the process of repairing the wing and he is about to order a new fuselage, so it should be back in the air soon!

Saturday 4th June

Annoying wind from the South East. Stronger than expected and cool but sunny day.

A good turnout with Neil Grayson, Craig McVeigh, Mike Hill, Tom Wilson, Tom Roberts, Billy Hatley. Tom Wilson was flying a large fixed wing plane instead of his standard helicopter. Douglas Gilmour had recovered from his crash on the previous Thursday and was flying his Esquire 80's high wing plane, he only flew it once as it was hard to control in the stiff wind. A potential new member, Craig Scott appeared with an FPV plane which he flew a number of times.

Sunday 5th June

A great picture of our second youngest and only female member, Anna Mitchell. Today she had her first maiden flight with a nice electric Cub. She had three or four more flights and landed on the runway every time.

Anna Mitchell and her Cub.

Monday 6th June

Mike Hill had a mishap with the maiden of his Hurricane. It is best if he describes the flight in his own words: *'It was windy, but the plane was slow to turn then snapped over, final disaster was that I thought it*

Mike Hill's Hurricane

was knife edge on the final turn but it had gone to 270 degrees so I just knew I had lost it. I killed the engine before it went in but it was still only good for matchsticks' It is in the bin! There is a rumour that there is a video of the final flight but this can't be confirmed. Luckily Tom Wilson was present to witness the maiden flight and subsequent crash so he was able to offer his customary sympathy and support. (Yeah right!).

Wednesday 15th June

The field was quite busy today but there was a fair bit of wind. Ian McLuckie flew his Kingfisher straight up into the sky and straight down into the ground, not a great start! A new propeller and spinner are required but apparently those items are back order only with no arrival date. The Bixler was fine but the elevator hinge is wearing through so that needs some attention. Douglas Gilmour put his 72 inch Cub together which caused quite a bit of interest at the field, but he decided not to fly it due to the wind.

Activity at the Field - July

Tuesday 19th July

29C, cloudy with no wind. Insects everywhere (shorts NOT a good idea!).

Neil Grayson arrived around 09:30 to take advantage of the cooler weather. He flew his Apprentice, practising inverted flight along the runway with no disasters. The repaired Mascot was trimmed and finally it flew well with quite a bit of down elevator trimmed in and 5g of weight in the right wing tip. It definitely

flies better now that the engine and the battery pack have been moved forward. Many thanks to George Robertson for his advice.

Later in the day Paul Wasik arrived at the field, sensibly wearing long trousers to keep the insects off whilst flying. He flew his immaculate Precedent Fun Fly for the first time which flew extremely fast, even on half throttle with an Enya 45 SS 2 stroke. Paul even tried a couple of aerobatic manoeuvres. The model is now available again from SLEC but with a built up balsa wing instead of like Paul's original, which has a foam veneer wing. Paul bought his Fun Fly from Scoonie Hobbies back in 2001 but the design comes from 1994.

Paul Wasik's Precedent Fun Fly

Wednesday 20th July

Very hot day again with little wind.

Derek Grater was at the field today with his florescent pink plane. The plane is a Kyosho Calmato which had wood like hard cheese and last year broke in half. Derek rebuilt the fuselage with good solid wood and

Jim Walsh taking Derek Grater's pink Calmato for a walk.

resin and had to add lot of lead to the nose to get the C of G correct. The engine is the OS GGT15 petrol fuelled glow plug which didn't like the new petrol, so he is now using the E5 at great expense. An onboard glow driver was fitted. Including 2 flights and bench time adjusting the motor it only used 136mAh from the receiver battery. The lead is so Derek can tow his plane from the flight line (or someone else can do it) rather than bending to carry it back.

Thursday 21st July

A warm overcast day with very little wind. Charles Malcolm was at the field first today with two autogyros his normal large autogyro and a smaller one that he had found in his shed. The small autogyro flew but was rather unstable and over sensitive to the controls. Charles was experimenting with a hatch on his large autogyro which he had set up on his transmitter so that it opened in flight and dropped two parachutists. Once in the air with Neil and Ian as spotters, the hatch opened with no problems but the parachutists refused to jump. The second attempt with just one parachutist also failed as the parachute got stuck in the opening of the hatch. A small lump of lead was attached to the parachutist on the final attempt and the parachutist jumped at last, unfortunately the parachute failed to exit the hatch and he was left dangling. Charles will have a rethink and redesign the hatch to remove any obstacles preventing the parachute from coming out.

Ian McLuckie was attempting to maiden his Cub today. It now has an OS 62 Four Stroke instead of the electric power train that was fitted previously. Charles had a good look at how the controls were set up, checked the alignment of the wings and tailplane and adjusted the throws on the ailerons which seemed a bit generous. The elevator and the rudder were moving in the opposite direction so this was corrected as well. It then appeared that the transmitter wasn’t bound to the correct model in the transmitter memory. Finally Charles was happy.

The engine was started and with trepidation Ian, Charles and Neil walked to the runway. A quick check on the wind direction and Charles applied full throttle and the Cub raced down the runway. Unfortunately as soon as it left the ground it climbed sharply and dived to the left. On the second attempt Charles got the plane higher above the ground but this time it cartwheeled to the left again and sustained some damage to the wingtip and fuselage. Easily fixable but it was suggested that some downthrust be built into the engine mount and the engine moved forward slightly. Ian assures us that the Cub will return in the near future and will fly like a dream.

David Tabb appeared at the field later in the afternoon with a large Pilot Extra 330 Plane which he bought as an ARTF kit. It is powered by a Saito 40cc four stroke. It was a bit too large for a bench so David staked it to the ground with a strap round the tailplane and started the engine. It flew superbly with David doing some basic aerobatics. It will be interesting to see it fly once David has got a feel for it and starts putting it through its paces.

Wednesday 27th July

Attendance at the field started off slow for a Wednesday with just Charles Malcolm at the field when Neil Grayson arrived at 10:40. Around midday the field started to get much busier with Derek Grater, Jim McGouldrick, Paul McDaid, Ian McLuckie, Ross Binnie and Alan Veitch arriving. Mike flew his Tiger Moth biplane which flew well, he also flew his helicopter successfully and everything went back into his car in one piece!

Derek Grater flew his Calmato but there didn't seem to be much difference in thrust between half throttle and full throttle. Much tweaking and a change of prop from a 3 blade 13X6 to a 3 blade 13X8 and it flew much better. Ian flew his new Kingfisher under the expert eye and instruction of Alan accomplishing a take-off and landing with no major mishap.

Ian and his Kingfisher after a successful solo

Charles tried his parachute again from his Autogyro after moving the hatch catch but still it wouldn't deploy but it did come out further. Suggestions are a tube to reduce resistance inside the hatch or a spring assist.

Neil and Mike cut the grass for Saturday's drone racing.

Newsletter Feedback and Contributions

Please let Neil know of anything you would like to see included in the Newsletter. Also, any feedback is much appreciated. If anything interesting happens whilst you are there send me an email (with pictures) for the Activities at the Field section. Articles are always needed and are a very popular read. Members are interested in how you got into the hobby, what planes you have owned, technical expertise etc...

Normally, I aim to publish the Newsletter around the 1st of each month. The Email address for articles is: neilgrayson@sky.com

Web Links and Shops

(Any suggestions of other shops you have used let me know)

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 Balsa Cabin - www.balsacabin.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.

Hobby King - hobbyking.com/

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 suppliers 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 a laser cutting service and CNC milling service.

Stay well and safe. Good flying!