

see page 1

Down Under

Robin Strange visits Townsville Aero Modellers Club, Queensland, Australia – see page 44



srfc.bmfa.org

Contents

Contents and Contact	2
Putting Digit to Keyboard, <i>Grahame Pearson</i>	3
Chairman's Report, Les Crane	
Diary dates, George Evans	
Peter Plank Memorial Fly-in, George Evans	7
Queen's Platinum Jubilee Flying Event, Robin Strange 1	
A Cautionary Tale, Alex Blok 1	14
My first SRFC barbecue evening, Paul Shrubb 1	18
Lancaster maiden! John Wase 2	20
Bored with time on your hands? John Ivory 2	<u> 22</u>
Being in the front seat, Mark Vale 2	26
Gliding Competition Report, Robin Strange 3	30
Flitfire, a small cub, George Evans 3	33
Problems with old servos, John Ivory 3	34
Slingsby Kirby Kite 1 – Part Two, Robin Strange 3	36
Aviation Quiz 4	
Aviation Quiz, answers 4	12
Guarding against grass fires, George Evans 4	43
A Model Club Down Under, Robin Strange 4	14
Progress at last! Les Crane 4	
SRFC Committee	

Cover: Les Crane with his 60" RBC Hawker Tempest V. See page 48. Photo: Grahame Pearson

Contact

Grahame Pearson, *Editor* Email: grahame.pearson.srfc@gmail.com

FlyPaper is published at the beginning of March, June, September and December. Submissions for the December issue must be submitted by 15th November.

Text for articles should either be in a Word document attachment or simply as plain text within the email message. Photos should be high-resolution JPGs.

FlyPaper back-issues may be downloaded from the SRFC website: srfc.bmfa.org If you would prefer your name not to be in the website version please notify the Editor when submitting your article.

© SRFC 2022. No part of this publication can be copied or distributed outside the club without permission of the Editor.

Putting digit to keyboard!

Your chance to be in the next issue!

As your *FlyPaper* Editor I am extremely grateful to those members who send in articles and photos for each issue; without you there would be no *FlyPaper*. However, many of the contributions are from the same members each issue. While this in itself is not a problem – far from it, I am grateful to these regular contributors – it is always nice to receive an article from someone who has not written in before.

If you have never sent in something for *FlyPaper*, or are a new SRFC member, your contribution would be especially welcome. In fact, we have one such article in this issue, from new member Paul Shrubb – thanks, Paul!

I am a regular flyer (all seasons) at Coombes. If you are a newbie it would be great to meet you and have a chat. For me, the chatting is just as enjoyable as flying. I usually turn up in a black 1985 Golf Mk2 GTI, a silver Kia Sedona (for large models) and occasionally a white 1967 Hillman Imp (for small models!). If you have any questions at all regarding how to go about submitting an article just grab me at Coombes and we can discuss; I'll be only too happy to help. (And always happy to chat about classic cars too!)

OK, articles do not need to be works of literary genius. Don't worry if your grammar, punctuation or spelling is not the best. My day job is in publishing and magazine design so I will do my best to make your article look pretty, especially if I have a photo or two!

Finally, articles do not even have to be about R/C model aircraft. This may surprise you, but as long as it is likely to interest other members and is vaguely connected with aviation that's good enough for me. Recently *FlyPaper* has included an article a motorcycle tour to two aviation museums and, in this issue, full-size gliding.

Grahame Pearson, Editor



Chairman's Report

Les Crane reports on an active summer for the club

Doesn't time fly when you are not having fun! My flying time has been very limited and has been spent improving my landings ready for my larger warbirds. A lot of work has been done since my last report and a number of activities taken place so if I overlap with other reports I apologise.

Firstly, on a damp and windy day, a few brave volunteers turned up to mow and then roll the strip. Rolling was long overdue and the result has been a much improved surface to the strip and thanks go out to those who turned up and worked very hard, you know who you are.

Rats had eaten away a small portion of the storage box and that has been rectified with a patch glued and screwed covering the hole. Some maintenance has been carried out to the toilet and the strip has had regular mowings, again thanks to those un-named volunteers.

Marc Bowden has been working hard on the training front, no easy task with the number of trainers declining and the number of new members requiring some sort of training increasing so a call goes out to any member who would like to become a club instructor to contact Marc for further info on what is required (his e-mail address is on the back page). There is a serious risk that in the not too distant future we could find it hard to provide much training at all so come on guys, let's have a few volunteers. The existing trainers do a magnificent job giving up their flying time to help others and deserve a huge round of applause.

The other Mark – Mark Vale – as well as streamlining/improving the membership/ recruitment process has turned his hand, very successfully, to barbecue chef and from my observation was kept very busy. Talking about membership, those at the AGM tasked the new Committee with improving membership numbers with particular reference to younger recruits. The Committee thought long and hard about this and, looking at the current membership, decided that younger did not really mean youngsters but anyone who could be members for a long time, especially as youngsters these days do not seem to find model flying exciting compared with computer/tablet/phone games which do not require them to leave the house! An advertisement was prepared and inserted into the BMFA website's Classified Ads page which has produced a steady stream of enquiries, some of which turned into membership. We also produced a much more detailed article on the club itself which, at the time of writing, has just appeared in the *BMFA News* magazine's *Club Corner* section.

The weather has messed about with the competitions and the club night but competitions have been run despite this, so if you fancy taking part Secretary George sends a date and time reminder round to all members. Our Competition Secretaries (Glider and Power) are always looking for new participants, and ideas to level the playing field, so that the same old names are not always at the top of the scoreboard.

Despite being breezy and a little damp at times the BMFA Record Attempt mass fly on 15th May was a great success both for the club and for the BMFA as a whole – see the report in June's *FlyPaper* (page 18). The barbecue afterwards was a social success as well.

The Queens Platinum Jubilee Flying Event on 3rd June enjoyed much better weather and if you want to see just how successful a day it was, just log on to the club website and look at the at number and variety of models flown. (See report on page 10. Ed)

The last event as I write this was the club evening on 8th July which was put back a week due to the weather but members enjoyed a great barbecue and flying with attendance and participation back to pre-COVID level.

Work has also taken place on the club's website and, if you haven't looked at it recently, you really should. Firstly the 2021 and 2022 *FlyPapers* have been added and one new member said it was those which encouraged him to join as it showed what a lot was going on and what an active club we are. Secondly, the club photo section has many more photos on it (new photos always welcome!) and a link to our new You Tube channel has been added with, currently, well over 50 videos of members' models on it (again, new videos always welcome!). Altogether the website, as it now is, is a great improvement on what it was only a few months ago and much more accurately portrays what an active club we are and what a great variety of activities take place.

On a more sombre note, we have had a small number of flyaway/lost/crashed models which probably fall within the Article 16 reporting requirements which are set out on the BMFA website, as is the avenue to do the reporting. It is not the job of the club to report such occurrences or 'force' the member to do so as the onus/

responsibility is very firmly on the individual to do so but I would remind members of this regulation which applies to all of us.

Finally, we do seem to have some good flying weather at last so enjoy what you do and be safe.

If you have not yet discovered the club's YouTube channel you are in for a pleasant experience. Just search YouTube for 'Sussex Radio Flying Club' or go to the club's website – srfc.bmfa.org – for a direct link to the channel. The videos will play on any device but the bigger the screen the better!



Diary dates 2022/2023

Secretary George Evans has some important information regarding our winter club night meetings

All, just a short note to let you know about the winter club night bookings. It may seem strange to start talking about winter in the middle of a heatwave (when this was written) but planning must go on.

The first indoor meeting will be in October and, as is traditional, will be the Autumn Auction. I'm hoping that Mr Lucas will be available and you will all be spared a repeat of the spring one with me and Les Crane performing.

Derek Woodley has agreed to talk about his previous life as a Concorde pilot in November. December will be our Christmas get-together and I'm in the process of arranging a guest speaker for the February date and then we are into the AGM and either a spring auction or another guest speaker. After that we're back outside!

OK, the Big News! Having been at Hill Barn Golf Club for a number of years we are changing venues and going back to **WORTHING LEISURE CENTRE**, **SHAFTESBURY AVENUE**, **WORTHING**, **WEST SUSSEX BN12 4ET**. This is for a couple of reasons but the main one is cost. Hill Barn Golf Club raised their prices last year and while it was a good venue in some respects it did have some limitations, auctions and other events where models were displayed were very cramped for example. The Leisure Centre is far more spacious.

Make a note of these dates for events at Worthing Leisure Centre

7th October Autumn Auction

7.30-9.30pm

Your chance to sell unwanted models and paraphernalia and to grab a bargain

4th November Derek Woodley, our ex-Concorde pilot!

7.30-9.30pm

Derek, our ex-Concorde pilot will give a highly

entertaining talk

2nd December Christmas Get-together and Party

7.30-9.30pm

Come along to our pre-Christmas get-together and party with buffet supper, raffle and prize-giving

January No meeting

3rd February TBC

7.30-9.30pm

3rd March AGM

7.30-9.30pm

Your chance to become actively involved in the running of the club. More details nearer the time

14th April Spring Auction

7.30-9.30pm

Sell unwanted models or bits and bobs and

stock up for summer flying

Peter Plank Memorial Fly-in

Saturday 10th September, Coombes, flying from 10am.

Bring along your ex-'Planky' plane if you have one

or any plane if you don't – all welcome!

We are approaching the anniversary of Peter Plank's passing to the great flying field in the sky. There will be a Memorial Fly-in on Saturday 10th September with the barbecue out for lunch time. 'Planky' was a good servant to this club for many years and held the Membership Secretary's role for probably longer than was good for him.

So if you have a 'Planky' plane then bring it along on the 10th September and remember him.

George Evans

TIMETABLE

10.00	SET UP
10.30	FLYING COMMENCES, ALL TYPES, MAX 6 IN THE AIR
12.00-12.10	PHOTO CALL FOR ALL PETER PLANK'S MODELS AND
	PILOTS
12.10-13.00	PETER PLANK MODEL FLYING
13.00-14.00	LUNCHTIME BARBECUE & GENERAL FLYING, ALL TYPES
14.00-14.30	PETER PLANK MEMORIAL GLIDER COMPETITION
	ALL TYPES WELCOME
14.30-15.00	POWER COMPETITION
	ALL TYPES WELCOME
15.00-1530	HELICOPTERS
15.30-DUSK	GENERAL FLYING, ALL TYPES
17.00	PACK UP

All above subject to weather conditions.

Any changes will be notified to you via club e-mail

NEXT PAGE – EX-PLANKY PLANES

with current owners' names (where known)



Ben Buckle Majestic Major, 120 ASP Current owner: unknown



Canard (name unknown) Current owner: Jerry Hansen



Mini Super Sixty, OS15 Current owner: Clive Upperton



Filey Flyer Current owner: Clive Upperton



Piper Cub (unknown make), electric Current owner: unknown



RCM&E Bitty gliders Current owner: George Evans



RCM&E Banjo, electric Current owner: Ken Hamer



Twin Tub, electric Current owner: Tom Gaskin



Cambrian Navion, electric Current owner: unknown



Wot 4 Foam-e, electric Current owner: Les Crane



E-Flite Cherokee, electric Current owner: unknown

Other 'Planky' models Photos not available

Avia glider Current owner: Keith Miles

Slo Poke

Current owner: Ron Prevett (See photo of model with Ron, page 19)

Sprite glider Current owner: Paul Gladstone

Jet Provost Cutlass

Ava glider Current owner: Clive Upperton

Fox glider

Current owner: Colin Lucas



Friday 3rd June Queen's Platinum Jubilee Flying Event



Robin Strange reports on this once-in-a-lifetime event

On Friday, 3rd June SRFC held its annual Fun Fly to coincide with the Queen's Platinum Jubilee. The weather was kind to us early in the day but after our lunch time barbecue the weather turned and the wind gradually built up and the blue sky became overcast. However, much fun was had with a good turnout of members and models.

Near to midday a gliding competition was held in an open category of models ranging from 2m gliders up to 3.5m. Two flew 2m gliders and three 3.5m and larger. Two rounds were held with Chris Foss taking the winning position having lost just three points over the two rounds, Robin Strange and Clive Upperton came second

and third respectively, Clive with a 2m glider.

Our helicopter compatriots demonstrated their flying skills with some impressive manoeuvres, which left most if not all fixedwing fliers wondering how a helicopter could do it and how on earth the pilot kept control.

A simple power competition was also held – see George Evans' separate report.

As the wind was getting up later in the day the planned scale competition was cancelled but there were numerous scale models in attendance and some great flying was to be seen.











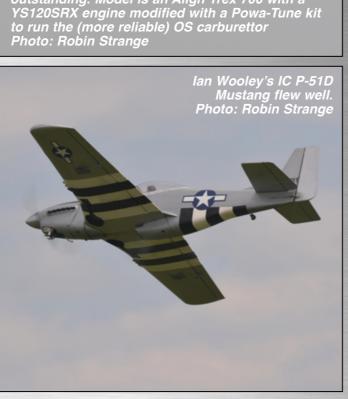




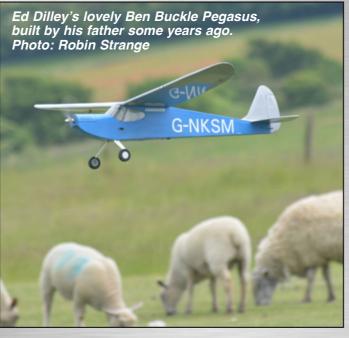
Ian Wooley's Red Arrows Hawk Photo: Grahame Pearson











George Evans reports on the Jubilee Power Competition

The power competition at the Queen's Platinum Jubilee Flying Event was a simple timed flight and spot landing. I'd placed the spot about a third of the way across the strip. Grahame Pearson gamely went first at which point we had a small mutiny where competitors wanted to go and stand out close to the spot as per gliding/carrier deck landing comps – this also meant that the timekeeper/measurer (ME!) also had stand out on the patch next to them. Bear in mind the wind was extremely gusty by now! I hadn't intended it to be that serious but the competitive juices were flowing! Grahame was then allowed a second flight under the new rules. Chris Foss was next and scored a good time and was very close to the pin, unfortunately he broke his undercarriage.

At this point we had a second attempt to change the rules saying that the aircraft must be capable of a second flight or it was disqualified. This change was resisted!

The competition progressed with some good timekeeping but less in the way of accurate spot landings. The final result was Chris Foss first (0.5m and 1 second penalties), Colin Lucas second (2m and 1 second penalties) and Dave Knott third (2m and 2 second penalties).

I hope you all enjoyed yourselves.



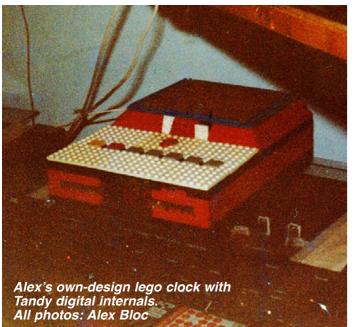


A Cautionary Tale

Let's be honest. Many of us have left a LiPo battery charging unattended. Most of us got away with it. Alex Blok did not

My first introduction to the power of the angry electron was over at a mate's house in the late 1970's or early 1980's working on a project using a car battery. I accidentally dropped a screw driver and by nothing 'short' of shocking coincidence, it landed such that the metal shaft touched the two exposed battery terminals. Woa! There was a massive bang and a flash as the screwdriver literally fused itself to the terminals and began to glow red hot, sparks flying. We instinctively used other items to knock the screwdriver off the terminals to break the circuit, whereby it landed on the carpet, starting a small fire. (Back then, most carpets were not flame resistant.) We then smothered it all with clothing, and other than a toxic smell, the potential conflagration

was contained. Phew!



My other introduction to potential difference was in 1979 or so when building my own design Lego digital alarm clock based on a Tandy Radio Shack digital clock kit. My last task on the project was to solder the wires from the mains cable to the transformer on the PCB. The young Alex suffered a blond moment and forgot to switch the power off at the socket after performing some earlier tests. Just as I went to solder the live wire to the transformer, my finger touched the handle end of the metal shaft of the soldering iron. Before you could say "" (It

was that instantaneous!), my right arm flew up in the air out of control, as if it had a life of its own. It was dark outside and the lights went out when the trip switch engaged. From downstairs, I heard "Alexander?" from my father, who was sitting in his favourite armchair reading *The Times*. His inflection of my name expressed annoyance rather than concern. Still shaking and somewhat embarrassed, I carefully walked downstairs to explain to my bemused parents what had happened. I recall the response was more "Lesson learned" than empathy! It was quite funny really, both the strange feeling as one's arm flails uncontrollably and Dad's reaction!

Fast forward a few decades. When first introduced to our hobby in 2014, having been taught about the dangers of LiPo batteries, only owning a few batteries back then I kept mine in the microwave in my bedsit overnight or in a cake tin. Despite hearing of catastrophic house destroying battery fires within our community down here in West Sussex, I had never witnessed or experienced one. However, the stories were shocking enough to make me go out and buy a high quality folding metal table

from Argos to position my charger and batteries on. It has been in my workshop for several years now to the right of my main workbench. I must have performed a good 500 or more charges on it without incident.

My main charger for several years was a superb Prophet Sport Quad 4 x 100W that I sold during lockdown with the future looking so uncertain. I retained my equally dependable HobbyKing X-100 touch-screen single-output charger that I bought in 2014 and only used at the club strip, powering it from our Nissan Leaf EV. When charging at home I am often prepping models for flight that day, my metal charging table to the right, so I'm always working alongside my charging batteries.

However...

On the early afternoon of 6th July 2022 I popped into SMC to say "Hi" and see if Paul had any interesting RTFs hanging from the ceiling to fly alongside my Wot 4 before I began building or restoring any new models. A few years ago I fell in love with the Fouga Magister after discovering it on a YouTube channel that normally focuses on contemporary US fighter jets flying the 'Star Wars' Canyon in Colorado. In one video, at least one Fouga flew past, and it



was love at first flight! A year or two ago, Ben had recommended the similar looking Lockheed T-33 as a slower jet for me to get back into EDFs with, in particular to crack my remaining EDF weak spot: landing! So after checking the Fouga out at SMC and liking the all cloud conditions easy-to-see grey and orange livery and superb 3D printed build quality, I decided to buy her.

I had the Wot 4 in the car that I had bought along to buy something for, so had no space for the Fouga! I drove home to drop off the Wot 4, and because I was going to begin setting up the Fouga on my return, I popped my Turnigy 6S 3300 battery on charge to top it up. Here is the clincher: The 6S was at 90% or more charge prior to me connecting it to the X-100 because I had charged it up earlier in the day to test the 70mm EDF on my crashed ROC Hobby Super Viper that I may rebuild or break for parts. So, the 6S only had about 10 mins max of charge time left. I had decommissioned most old or puffy batteries during lockdown. This remaining 6S had charged and worked fine when I was testing the Viper earlier in the day.

I headed back to SMC and after testing the Fouga surfaces and engaging in more mandatory banter, needing some groceries, I drove to Sainsbury's up the road at Lyon's Farm.

To be perfectly honest, during my second trip to SMC, I had totally forgotten about the charging battery. I left Sainsbury's for home a good few hours after putting the 6S on charge! My bad. My *very* bad...

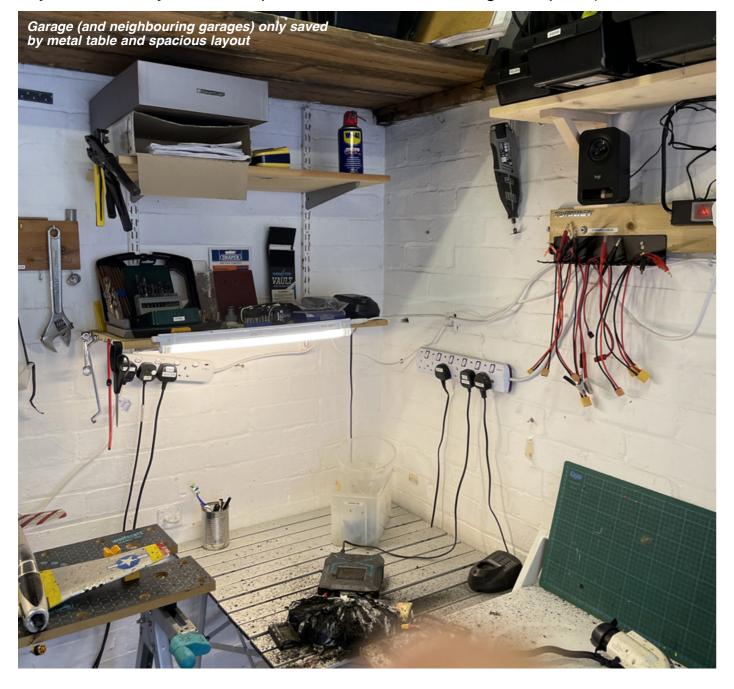
At 18:54 I opened my garage door to an awful smell and soot everywhere. What greeted me shocked me to the core. Total carnage! The 6S had clearly gone up in

flames and exploded, not just burning a few items around it, but the heat had radiated in all directions and melted the surface of my baby P51 three feet to the left and some foamboard several feet up on a shelf. My battery tester had melted and the X-100 while still operating, was melted at the front where the batteries connect.

Interestingly, everything was cool to the touch, so my guess is that the conflagration started right after I closed the garage door and self-extinguished. It was nothing short of a miracle that the flames did not set fire to other items nearby or the wooden shelving, possibly spreading to adjoining garages. This would not have gone down well with my neighbours either side who both have rather nice cars!

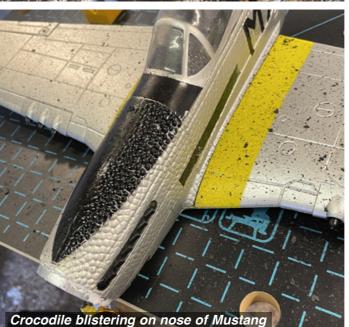
If I had just waited a few minutes, I may have caught the fire or explosion, although it did occur to me that I may have been injured if standing nearby?

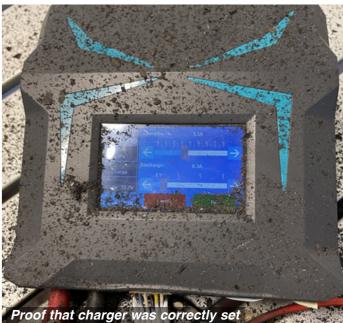
I took the accompanying photos and started my investigation right away. As can be seen in the photo, the still functioning X-100 display confirmed I had configured it correctly. However, the extreme damage to the wires, plugs and battery itself meant any further analysis was impossible. I had been using a 'Squid' (a multi-format











connector plugs) charging cable, so it's possible a pair of separate plugs had fallen against the metal surface of the charging table and shorted, or perhaps the battery was in fact damaged internally and it was just a matter of time? Or the X-100 had finally decided to call it a day and malfunction? I will never know.

The lesson learned is not to leave a battery on charge when away and I take full responsibility. The one time I errored, somehow, the planets were aligned for this to happen and it is only a miracle that things did not work out worse. So a great lesson and warning. The one upside is that my metal table stopped any local fire from spreading. The burned patch on the table will remain as a warning!

From now on, I'll be on the lookout for a metal charging cabinet as well as a new charger. I have always stored my batteries in fireproof bags in my flight toolbox.

I lost the following: HobbyKing X-100 charger, battery tester, new 3S 2200 Overlander battery (bought from SMC and still wrapped. The fire burned the plastic bag wrapping off it. Discarded as a precaution), Squid multi-connector cables.

Stay safe lads!

My first SRFC barbecue evening

New member Paul Shrubb came along to a well attended barbecue and flying evening on 5th August

Due to work/family commitments, I arrived at Coombes quite late in the afternoon. Some members were already packing up. I had a chat with my instructor, Keith Miles (who was also putting his model back into his car) before having a walk around to look at some of the models and to talk to other club members. One guy was also a new member who was also attending a club night for the first time. Like me, he hasn't finished training yet so was just there to observe.

As I was not flying, I had brought my camera with me. I quickly discovered that photographing model aircraft is not that easy. However, after watching a lovely Lancaster model flying I went to speak to the owner, and discovered it had just successfully completed its maiden flight. (Owned by John Wase. See page 20. Ed.) It really did look good in the air. I also spoke to another member who was flying his take on a 1920's airliner which he calls 'Bloody Mary'. (Owned by Les Crane. Ed)



I enjoyed watching all the models that were flying. I particularly liked the gliders with their graceful flights.

I did take along my model, a Piper Cub, though obviously lacking my Solo I couldn't fly it.

Everyone was very friendly, and I will certainly go to the next club night. Hopefully, it won't be too long before I can fly my own model.

Apologies for not remembering names. I've always been bad at that and insipient old age is making it worse!





Lancaster maiden!

John Wase's Lancaster finally takes to the skies

You may remember reading about my Avro Lancaster lockdown build in the December 2021 FlyPaper and perhaps wondering what had happened to it. Did it fly?

The Lancaster spans 72" and is built from the Tony Nijhuis plan. Electric-powered by 4 Overlanders each controlled by a 30 Amp ESC. For safety I installed a separate battery to power the receiver and another for the undercarriage. There are two 3S 2900 mAh LiPo, one for each pair of motors, by which I mean one for the inner motors and one for the outer motors – *not* the left and right motor pairs which would spell disaster in the event of a battery malfunction!

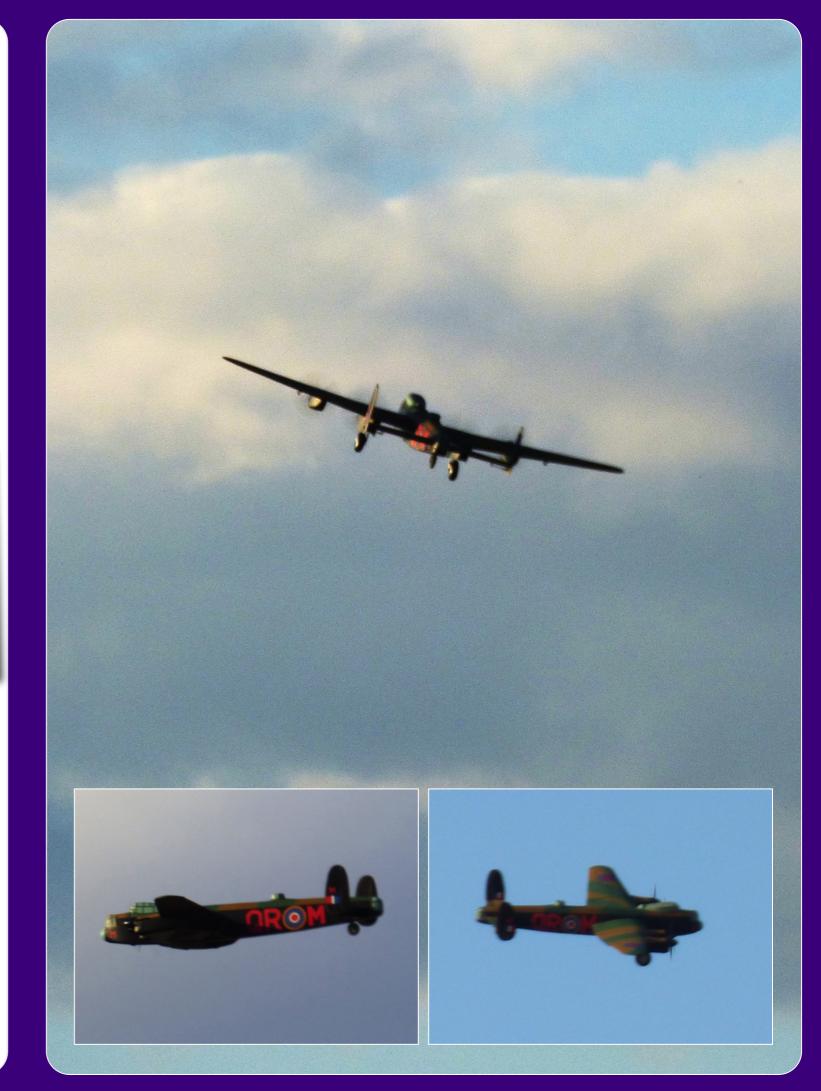
Well, at the club night on 5th August I thought it was about time I took the Lancaster up to the field and hopefully get it test flown by one of the club's experts.

It was a windy at first and while eating a burger I began thinking it would maybe return home, unflown. However, by 7pm the wind had dropped and Dave Knott kindly

agreed to test fly it for me. The maiden fight went very well. Dave was able to point out some trim issues and has kindly offered to test fly the model once I have attended to these issues and adjusted the trims.

I often wonder what would we do with out Pim Smith and Dave Knott, our very own test pilots? I guess buy more bin bags!





Bored with time on your hands?

Why not fit a pop-up motor to a slope soarer?

John Ivory did exactly that with his Alan Head-designed Blob

Well lockdown seems a long time ago and I built a number of models in my garage to pass the time. One of which was an Alan Head design from over 30 years ago which I still had the old blueprint of. (Remember blueprints?!)

Named the Blob, it was built from scrap balsa which I had in my workshop and when finished turned out to be very light compared to the ordinal design which used blue foam core with veneer covered wings with the fuselage made from sheet plywood.



After test flying it at Itford which was very successful, and making a small number of control movement corrections, the Blob stayed in the back of my shed aka hanger ever since, until one day not so long ago while looking for something to do and seeing it there, I thought to myself, "What a waste just sitting there. It would be interesting to give it an electric motor but keeping it so I could quickly change it back again."

I had just been given

some small brushless motors with 2mm output shafts so I fitted a 5"x3" propeller and ESC for a test run using a 2S 1400 mAh battery; it was just the job – not too big/heavy or over-powering.

Confidence gained with the test run I decided to go ahead with the pod...

Mk1

I decided to use the hatch cover on the plane as part of the motor mount pod which held the propeller/motor and ESC just in front of the CG. The motor mount was made from plastic tube flattened at one end to mount the motor on.

However, on its first test flight I found the plastic mount was not a good idea as it was too flexible resulting in the motor thrust angle changing as power was increased.

Mk2

The plastic motor mount was replaced with an aluminum one which overcame the changing thrust angle issue. This arrangement worked really well and was flown a number of times.





One downside was the fact having the propeller and motor on top of the wing really increased the drag which in turn reduced the glide time.

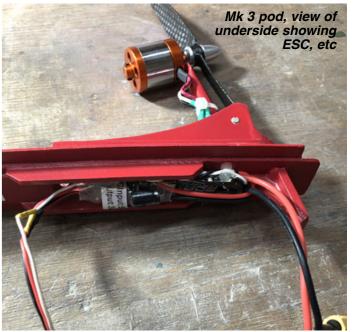
On one occasion Clive Upperton made a comment to me saying, "You need to do it like the real thing, make it folding."

Well comments like that to me is like a red rag to a bull...

Mk3

Off came the fixed motor mount pod and work started on a new one. First I constructed the motor mount using thin walled brass tube flattened at one end with a additional small plate soldered in place to hold the motor. The other end of the tube had a 3mm tube soldered at right angles to act as the axle tube. Construction of the main pod was made from balsa and painted red (to match the Blob). The BEC and ESC were







mounted on the underside allowing the battery supply and signal from the receiver to be easily connected.

Time to test-run it. I fitted the assembly to the glider and powered it on, then slowly increased the power. To my amazement the propeller rose up correctly.

Now for the real proof of the pudding, a test flight at Coombes to see if the drag had been reduced and glide time was any better. The climb out and glide were much improved and with the propeller now folded back wasn't rotating anymore.

I had a lot of fun with this project, it just shows what you can do when your bored!





Being in the front seat

Mark Vale goes gliding, 1:1 scale!

15th June 2022, 12.15pm was my scheduled time to experience something I have never done before. My wife Vanessa and son Peter had purchased a gliding experience voucher for my 61st birthday present from the Southdown Gliding Club near Storrington.

In all it took four attempts to get into the air, as the first three were blown out with high winds; it seems full-size gliding is every bit as weather dependent as R/C! In contrast, the morning of the 15th turned out to be perfect. Bright sunshine with a light breeze.

I arrived at the gliding club at the appointed time and introduced myself to the office staff. Moments later, Kevin popped into the office to find if I had arrived. Kevin is one of the instructor members of the club. Ten minutes later we travelled on a buggy across to the other side of the field to some waiting gliders and instructors.

The first job to be done before any flying is considered is to put on your parachute and carry out a pre-flight check of the glider – a DG-505 Elan – and its equipment. Before the glider can get off the ground there are several things to be done. The most obvious one is to get into the aircraft.

Being about 6' 4" and a tad over 100 kg it was a both a squeeze and reasonably close to the weight limit. It was like getting carefully into a short narrow bath and being careful not to put a foot somewhere it should not be and at the same time trying not to put any weight onto the canopy to help support you. Once I had been fitted into the glider, there were a sequence of checks and operations to be completed. These are remembered by the use of the mnemonic: **CB-SIFT-BEC**.

C-Controls Check for full and free movement.

B-Ballast Check the weight combination of pilot, pupil, water

ballast are within specification.

S-Straps Must be tight and secure.

I-Instruments Check all working and zeroed.

F-Flaps If fitted, set for take-off.

T-Trim Set for take-off

B-Brakes Air brake is closed and locked. **E-Eventualities** What to do if there is a cable break.

C-Canopy Closed and locked.



Take off – the aerotow

Strapped into the nose of the glider with the canopy locked tight, we were ready. The tow cable was connected to the nose of the glider and the tug plane slowly took up the slack. We slowly moved to the take-off position and then we accelerated down the strip. The glider started flying after just a few seconds. I was glad to be moving as I was starting to cook in that tight enclosed space with no ventilation or air flow. It is extremely important that the glider remains directly behind the tug and that it does not zoom higher or lower than the tail of the tug. We were towed to 3000 ft and at that point Kevin released the cable.



The flight

After the glider was released we were free to seek out some lift to increase the flight time. As the sea breeze had kicked in, the lift was getting a bit sparse. We could see the cloud front several miles further inland over Crawley and Gatwick but understandably we were not going in that direction. After scratching around for ten minutes, we had lost some altitude but not too much. Kevin found some lift over one of the villages between Parham and Arundel which didn't look too far away and put us into a relatively tight thermal turn. I was surprised at the angle of bank we maintained but we did indeed start to go up. He said, "Tell me when you feel sick". Well, I lasted a few minutes and I have to concede that I did indeed feel quite sick. At that point we stopped the turn and flew out several hundred feet higher.

Now it was my turn. Kevin passed control over to me. There were no surprises as I had noted his cruising flight speed around 50-60 mph and position of the stick and horizon for a good level flight as we headed in the general direction of the field. I did banking turns to left and right and a figure of eight. No loops and rolls on this occasion. As I mentioned before, lift was very sparse and we were on the losing side the whole way back. I stretched it out as much as I could with gentle low drag manoeuvres before I had to hand back control. I had about 15 minutes on the stick.

The landing

Not surprisingly, there is a precise procedure for landing a glider. We turned and approached the field from the south, slightly west of the field on a downwind leg. I cannot remember the altitude. As we made the right turn onto the base leg, another glider was taking off with its tug so adjustments were necessary to keep a good separation and then we turned again to the right for the approach. Kevin pushed the stick forward a bit and we gained speed and lost altitude in a reasonably steep glide angle. Out popped the air brakes once or twice and then as we came over the field we levelled out and the brakes were deployed again.

Touchdown

From reading the above, you might think that there was not much communication between Kevin and myself. In fact the opposite was the case. It was non-stop chatter, advice and suggestions. I had a great time.



Gliding Competition Report

Robin Strange gives a round-up of the gliding competitions to date

Since early April the club's mid-week gliding competition has been underway, though the weather has been creating quite a few problems for us. After the first week's competition which Clive kindly ran for me as I was away in Australia the weather decided that we should take a break and so we lost the last competition in April and the two dates in May and also one round in June when the wind increased significantly during the first round on the 9th June and we didn't fly the second round.

Trying to make the competition more open and competitive has been an issue for some while and we've tried a number of approaches; last year we reduced the motor run time from 30 to 20 seconds but the change didn't have the desired result. After more discussion I have introduced the use of height limiters of which there are a number of devices on the market. An opportunity occurred to purchase a number of the simpler devices from Hyperflight, which cut the motor at either a pre-determined height or after 30 seconds, whichever is reached first. The devices' choices for height are 200m, 150m and 100m. Initially I plumped for 200m but after some further thought I decided to go for the 150m limit but this may change depending on how the





competitions go. My reasoning for going for 150m was to allow less powerful models to climb to that height in the 30 seconds allowed, which was a concern if we went for the 200m. A few other tweaks have been done to the rules too such as allowing a relaunch within the 11-minute window.

So far we have used the limiters on two mid-week competition dates and the general feedback I have had is that the competitions are more competitive and not dominated by who has the most powerful motor to get to altitude quickly. In fact a powerful model can be a hinderance as you can get to 150m well inside the 30 seconds and then have to glide for 10 seconds longer unless you use the time to motor around below the 150m to find lift, which of course means that tactics have now come into the equation rather than just brute power and height!

Mark Vale is currently leading the pack followed by Clive Upperton and myself with John Ivory close behind, but with five more dates to go and a possible 8,000 points to be won as I write (22nd July) it is as yet an open competition.









Flitfire, a small cub

George Evans' Flitfire has flown at last!

I bought this kit (West Wings J3 rubber-powered, sadly no longer available) many years ago but only got around to building in it in lockdown. (See *FlyPaper*, June 2021.) When it was finished, I was looking for a different colour scheme with a bit of history. I came across a production run of Cubs from 1941 which were nicknamed Flitfires!

The run was limited to the number of States in the US at the time (48) plus one. Each was sponsored by a Piper franchise and named after the appropriate state. They were then sold and the money donated to the RAF Benevolent Society to aid the British war effort. All bore RAF markings but with US registration, most unusual. You can read more about the aircraft at en.wikipedia.org/wiki/Piper_Flitfire.

The original Flitfire was NC1776 owned by William T Piper (yes, Mr Piper!) and is in a museum in North Carolina. History aside, key for me was they were all silver. Mine is 'Indiana', NC37931. The full-size is still in flying condition! See akcaviation.com/inventory/1941-piper-j3-flitfire-cub.

My model has had three attempts at maidens the first two ending in tears and torn covering. However, just a few days before this issue of FlyPaper went 'to press' conditions were perfect and it successfully flew. It definitely needs a very calm day and potters around on quarter power and as long as you get the CG well forward it mostly flies rudder/elevator with a little aileron just to smooth it out a bit. Motor is a home-build of about 50 Watts, prop is a 5"x3", it weighs about 6 ounces and it seems to go for ever on a 450 mAh 2S LiPo.



George's Flitfire on its maiden flight. Photo: Paul Shrubb

Problems with old servos

Jerky control movement? Poor torque? A worn or slipping gear is often the culprit says John Ivory

About two years ago when I was flying my Ripmax Hawk 1500 mm electric glider in the glider competition Colin Lucas approached me and kindly informed me he had a very old Hawk which I was welcome to have for spares. True to his word, next time up he brought it along and gave it to me. Rather than hide it away for spares I felt it was worth rebuilding it.

The model was very well built but the old Solarfilm needed replacing. After a lot of fun removing the covering including trying to remove the remnants of adhesive and colour with the aid of a number of different solvents I managed to get it all clean.

It didn't take long before it was re-covered and it was time to install the receiver, ESC and servos. It was here I hit a brick wall... with the glider all set up I started to check out all the control surfaces for direction and noticed that some of the movements were intermittent. On investigation I found that the torque on most of the 9g servos was very low. I could hear the servo motors running but the output arms when lightly loaded didn't move. The easiest way to check the torque output of a servo is









to lightly hold the servo arm and apply a small pressure in each direction of the servo's movement, The servo arm should remains stationery indicating it is working correctly. Care should be taken not to overload the servo as it could lead to damaging the servo gears, motor or drive electronics, this is especially true when testing very small servos, the above method is not the panacea for testing servos as there are many other types of failure.

It was time to remove the servos from the model and take them apart.

After checking for missing teeth on all the gears I found the problem lay with the primary gear fitted to the motor – this fault applied to all the faulty servos. Over time the gear fitting had relaxed and was slipping on the motor shaft. The problem is, there is not a glue that I know of that is good to use for a plastic (nylon)-to-metal joint; I need to do a bit more research to find out if I can fix these servos.







On another occasion I was given two very good quality servos that had a similar problem, lack of torque output. Again I took them apart. The quality of the whole metal gear set were very high quality including the metal gear mounted onto the motor.

The gear on the motor had at some time slipped on the shaft reducing the close tolerance fit and making it slip even more again reducing the servo output. However, this time being a metal-to-metal fit I could use Loctite 638 which is commonly used for a permanent fix.

This experience has taught me a lesson: just because the servo moves doesn't mean it's good to use unless you check it has the correct torque output. Also that metal gear sets can be fixed but plastic (nylon) cannot – unless you know different!

Slingsby Kirby Kite 1 – Part Two

Continuing Robin Strange's new build

At the end of Part One (*FlyPaper*, March 2022) you will recall I had completed a large part of the fuselage and empennage and I was in the process of cutting out the large number of wing ribs, some 24 each side, so this article is a progress report on the build of the two mainplanes. The good news for me is that both are in their final stages of build after much hassle.

Wing build

Looking at the plan it should have been fairly straightforward but as always the devil is in the detail. According to the plan the first 14 ribs on each side should be the same profile and length but this didn't seem right as the wing root chord is significantly wider than ribs 4 to 14. Looking at the plan I couldn't see how the ribs could be the same but was I missing something? I didn't think so but I sought Clive Upperton's opinion and after an hour looking at the



plans and a coffee we decided that the three first ribs could not be the same as



the others so I went home ready to design my own root ribs. In retrospect there are many aspects of the rib contour that are missing and then have to be cut out later when it's harder to get the detail correct.

As can be seen looking at the plan the spruce trailing edge (TE) by ribs 1 to 3 has to change direction and the original designer stated 'cut the TE in order to bend it'. I did so but with a fine saw rather than a blade as suggested. As a matter of interest the designer also suggested using a knife to cut the aileron TE in the same way in order to get the same profile

but my experience of spruce is that a knife wants to follow the grain and the idea of cutting a length of spruce nearly 90 cms long didn't give me much joy so I went out and bought eight lengths of 1/8" x 1/8" spruce, steamed and bent them into shape and then glued them together.

I found a 1987 article online of an interview with the designer within which he explained how he built the wing. In essence all ribs were cut in two, the box section wing spar made and the ribs then attached to it. In the article he stated that getting the spar square was a big issue. I wasn't keen on that approach so I decided to lay the top of the spar down first and build the wing upside down using the rib stand-offs to set the required geometry. Once the top spar had the ribs attached I attached the TE and having made up some stands to set the gull angle I lifted the inner section of wing to the correct angle and glued in place the bottom part of the spar followed by

the inter rib webbing to maintain the gull.

At this point the wing was still very flexible so the leading edge (LE) and 'D' section followed. I did the top of the 'D' sheeting first and then turned it over, put it back on on the stands and glued the bottom 1/16" sheeting to create the 'D' section. The wing has a significant undercamber at the root to the rib beside the ailerons and then the section transitions to a fully symmetrical section at the

tip; to achieve this I needed a considerable amount of weight on the wing while the

glue dried to keep the TE sitting on the board as required by the rib tabs. Once dry the tabs were then removed.

The ailerons have to be created from the wing build by making the aileron LE and wing TE and then cutting them out from the wing. There is a lot of intricate work in making the wings' TE and ailerons' LEs before cutting them out and adding cross bracing within the ailerons. All good fun and a week's work for each aileron.

As the design is from the 1980's only two servos were used for the ailerons and spoilers





located in the fuselage but following normal 2000's practice I'm installing four servos, which of course have to be designed in, which isn't a big problem, just another task.

I've now mounted the wings on the fuselage and aligning them using an incidence meter borrowed from Clive. There isn't an angle defined on the plan just the general layout of the wing root at rib 1 and ribs 4 to 14 and fuselage wing pylon so I drew a line from the tailplane forward to under the wing on the plan and drew another line from the LE to the TE at rib 4 of the mainplane and with some simple trig I calculated the angle to be 4.75 degrees which allowing for error in extending the line from the tailplane forward to under the wing I assessed the design angle to be 5 degrees. The wing joiner built in to the fuselage and wings doesn't allow adjustment, perhaps a half-degree if you're lucky so getting the actual wing to 5.5 degrees was for me a success.

Next is the pylon completion and then the wing and tailplane support struts and their mountings, in metal, which need to be made and then the last of the build will be the skid which again will necessitate more metalwork. Oh! I nearly forgot, I need to make the instruments and main instrument panel and the pitot tubes. The build will then be nearly there with just the covering and finishing to do.

To be continued...





Aviation Quiz

The first part of our aviation quiz is all about NAMES, followed by some GENERAL questions.

By two anonymous SRFC members

You can Google the answers but we urge you not to

Answers on page 42

Names

- 1. What was the first name of Manfred von Richthofen's brother?
- 2. What was the surname of top scoring Battle of Britain pilot 'Ginger'?
- **3.** Can you name the pilot known as 'Dogsbody?
- 4. Who was the WW1 German ace who later became the head of the Luftwaffe?
- 5. Who was the German who flew to Britain in 1941 hoping to negotiate peace?
- **6.** What was the nickname of famous South African pilot who created the ten rules of air fighting?
- **7.** Give the nicknames of the following aircraft:

A10 Thunderbolt

P47 Thunderbolt

Fairey Swordfish

Gloster Javelin

Avro Vulcan

8. Who was the WW1 German ace who had only one arm?







- 9. Name the pilot who flew the Fairey Delta 2 at 1132mph for a new speed record.
- **10.** Who was the pilot of the Vulcan which bombed Port Stanley airfield in the Falkland Islands?
- 11. Name the pilot who flew the Spitfire on its maiden flight.
- **12.** What was the name of the mastermind who contrived the Japanese attack on Pearl Harbour?
- **13.** The Rolls-Royce Merlin is synonymous with the Spitfire but name the engine fitted to later marks of the aircraft.
- 14. Name the plane that was identified by '6 turning, 4 burning'?

General aviation

- **15.** How many Hawker Hunters flew the famous Black Arrows large formation roll and loop at Farnborough?
- **16.** Where were the V3 large calibre guns designed to fire on London situated?
- **17.** Give the names of the Japanese Air Groups:
 - a) Army Air Force.
 - b) Navy Air Force.
- **18.** What does the word *Kamikaze* mean?
- 19. The Ohka was a Japanese guided bomb but what does the word mean?
- 20. Name the four main airfields on Malta in 1941.
- 21. NAAFI vans would dispense cups of tea to pilots. What did NAAFI stand for?
- **22.** PRU (Photographic Reconnaissance Unit) Spitfires used for high-altitude were painted blue. But what colour were those used for low altitude painted?







Aviation Quiz - answers Quiz is on page 40

- 1. Lothar.
- 2. Lacey.
- 3. Douglas Bader.
- 4. Herman Göring (or Goering).
- 5. Rudolph Hess.
- 6. 'Sailor' (Malan).
- 7. A10 Thunderbolt 'Warthog'.
 P47 Thunderbolt 'Jug'.
 Fairey Swordfish 'Stringbag'.
 Gloster Javelin 'Flat Iron'.
 Avro Vulcan 'Tin Triangle'.
- 8. Ernst Udet.
- 9. Peter Twiss.
- 10. Martin Withers.
- **11.** Joseph 'Mutt' Summers.

- 12. Admiral Isoroku Yamamoto.
- **13.** Rolls-Royce Griffon.
- **14.** The Boeing B-36: 6 prop engines facing rearwards and 4 jet engines.
- **15.** 22.
- **16.** Mimoyecques, France.
- **17.** a) Sentai. b) Kokutai.
- 18. Divine Wind.
- 19. Cherry Blossom.
- **20.** Luqa, Ta 'Qali, Safi dispersal strip and Hal Far. (There was also a seaplane base at Kalafrana.)
- **21.** Navy, Army and Air Force Institute.
- **22.** Pink.







Guarding against grass fires

Recent drought conditions have prompted the club to reassess its fire equipment. George Evans reports on this 'hot topic'

Following the discovery of evidence of a LiPo/aircraft fire at Coombes we purchased equipment in the form of dry sand, a bin (with lid) to put articles that are alight in or



to put over them and beaters to deal with small grass fires (as per the recent e-mail to all club members). In addition, we have now purchased to two 2 kg fire extinguishers and fire blankets. The extinguishers are of the dry powder type and primarily are to help contain any fire. We are aware that specific extinguishers are available for LiPo fires but these are still expensive and, in our environment, containment and action to deal with any spread to surrounding dry grass are thought to be better measures.

No decision has been made on the final location of these aids but for the time being the sand, bin and beater are being left out and the extinguisher and blanket will be put in the

storage boxes but should be got out when anyone is flying.

We appreciate that this may seem an over-reaction to one event but as been visible in the press and other media the outcomes of even small fires have been disproportionate this year with many regions banning disposable barbecues.

We are under a moral obligation to protect the farmer's field from damage of any kind and with climate change increasing the risk of grass fires every summer this latest expenditure on fire-fighting equipment can be viewed as added insurance to protect our flying site at Coombes. (A similar kit has now been bought for Poling.)

As with any action where personal risk is involved you should assess if it is safe to deal with a fire and only proceeded if you feel confident in carrying out any action, in any event where you are concerned the appropriate emergency services should be called, the locations to give are both on the first aid boxes and in the storage boxes.

If a grass fire gets out of control – and anyone who has witnessed one will be aware of how quickly this can happen, and the cars head to the exit care must be taken to ensure they do not block the entrance for the fire brigade. The gate should remain open for them.

P.S. It rained the day I wrote this!



A Model Club Down Under

Robin Strange visits Townsville Aero Modellers Club, Queensland, Australia



In March I had the opportunity to visit Townsville in northern Queensland and to make personal contact with Lawrie Prest, a contact I have through a Facebook Vintage Glider group, who is a member of the Townsville Aero Modellers Club. As it happens he has built a 4.8m span Kirby Kite, which happens to be the same build that I am currently in the middle of though mine is only 1/4 scale (3.55m).

The Townsville Aero Modellers club flying site is situated some 19 km south of the town in an area to the south of the local reservoir, which a few years ago turned out to be rather unfortunate as

the rain fell rather heavily forcing the local authorities to open the flood gates and subsequently the whole area in which the club is situated was under a metre of water.

I was lucky enough to make two visits to their club field. On the first occasion I met my Facebook contact and was able to take a close look at his Kirby Kite, which he had skinned in plywood giving it a very authentic finish. The guy apprenticed as



traditional wooden boat builder in the UK and had then emigrated to Oz many years ago, still building boats the traditional way so you can well imagine the quality of his model building. On the day I was there he was flying the model by way of aero-tow launches and it made for a great sight.

The club members fly many different types of model from small to very large and a quick look at their website gives you a



good flavour: www.townsvilleaeromodellers.com.au/photos .

Slope soaring is impossible in the local area as all mountains are heavily wooded and in some places model flying is banned. The nearest slope soaring site is on Flagstaff Hill near Bowen south of Townsville (a two-and-a-half-hour drive each way). Bowen was a Catalina base during the Pacific War, the ramps of which are still in place along with a memorial to the crews that flew from there.

On my second visit just before I returned to the UK they had a weekend of competitions, something I wasn't aware of until I arrived in time to see the last competition but it was right up my street as it was a gliding comp. The competition was for a single type of model (Radians or similar) and all launched at the same time,



the first two down in each round being eliminated. When it came to the last round the two models were well in excess of 1000 feet and stuck in a thermal. After about 20 minutes one of the two, a visitor from Brisbane, graciously handed the slot to a club member, my contact, and landed. The guy who dropped out had driven up from Brisbane, a fifteen-hour drive – now that's dedication for a club event.







Progress at last!

Les Crane reports from the workshop. It's mostly – but not entirely – good news!

I may not have been able to fly much since my 'Lack of progress!' article in June's *FlyPaper* due to the weather and campervan days falling on the better days windwise but I have managed some productive time in the workshop. My flying time has been largely spent improving my landings so that I can fly my larger warbirds with a degree of hope that they will survive to fly another day without the need to rebuild the undercarriage!

I can, however, report that under the smooth skills of the resident test pilot Pim, the long awaited maiden of my 60" RBC kit-built Hawker Tempest V has taken place and it was a joy to behold. It not only looked great in the sky, it flew beautifully and Pim executed some rolls and a loop. Editor Grahame took a video which is on the club's YouTube channel and some screengrabs from the video are included here.





I have moved on with building the Hurricane. Construction has finished and I am now into the covering stage. All the control surfaces along with the rear fuselage are now covered in Solartex to replicate the fabric-covered sections of the original. The sheeted parts, i.e. the rest of the model, are to be covered with lightweight glasscloth and so far both outer wing underside sections have been glassed. I need to order the decals from Callie Graphics in the USA (callie-graphics.com). The model will be in the markings of a 1941, 242 Squadron Hurricane of which I have a photograph, the code letters of which just happen to be LE•S. Call me a poser if you wish as long as you don't have a personalised car number plate!











I have had a couple of mishaps. I won't go into the whys - age, lack of concentration, etc - but I managed to blow a 5 Amp UBEC, an AR620 Rx and three servos when doing final setting up on my 62" Tony Nijhuis Hawker Typhoon, an expensive mistake easily rectified after a significant debit card outlay, but that is now ready to maiden. Then, unbelievably, the following day while doing final setting up on the large Chris Golds Boulton Paul Defiant (see FlyPaper, December 2021 for photo of finished airframe), a stuck flap servo overheated so much it caused a short which not only killed the other flap servo, it burnt the inside of the wing and blistered the glass cloth and paint on the outside of the wing. Debit card to the rescue again. That model is also now ready to maiden. I will be very nervous for both maidens.





SRFC Committee 2022/23

Chairman Les Crane

les.crane1946@gmail.com

Secretary George Evans

georgesec.srfc@gmail.com

Treasurer Shaun Tatchell

shaun.tatchell@gmail.com

Membership Secretary Mark Vale

memsec.srfc@gmail.com

Glider Competition Secretary Robin Strange

robin.srfc@gmail.com

Power Competition Secretary John Ivory

john.ivory.srfc@gmail.com

FlyPaper Editor Grahame Pearson

grahame.pearson.srfc@gmail.com

Training Co-ordinator Marc Bowden

marcaddr-sc@yahoo.com















George

Shaun

Mark

Robin

.lohn

Grahame

Marc

Non-Committee Positions

Poling Representative (Helicopter

Rep & Field Maintenance)

Field Maintenance (Coombes)

Social Events

Website & Data

Safety Adviser

Safety Marshall 1

Safety Marshall 2 Safety Marshall 3 **VACANT***

Ken Hamer

VACANT*

Robin Strange

Dave Knott

Paul Gladstone

John Wase

VACANT*

52

^{*}If you feel you can fill a vacant position please contact the Secretary for details