MARCH 2023

Flypaper

Minimoa

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Contact

Note: from 2024 *FlyPaper* will be published at the beginning of January, April, July and October

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***FlyPaper* is published at the beginning of March, June, September 2023 and January 2024 (see above note).**
Submissions for the June issue must be submitted by 15th May.

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.

Chairman's Report

Les Crane sums up 2022 for those who missed the recent AGM

Firstly, at the time of writing I hope you all had a good Christmas and New Year. Since I became Chairman last March we have had a busy year as a club and I can say that the Committee has worked hard to achieve that. We started the year with a Queen and are ending it with a King, the end of one era and the start of another.

We held a number of special events: our part in the BMFA national world record attempt for the number of models in the air at a given time; the celebration fun fly for the Queen's Platinum Jubilee and the Peter Plank Memorial Fly-in, plus our usual club nights with barbecue.

The competition secretaries did a super job with the power and gliding competitions which were helped, no doubt, by the good summer weather and the loss of COVID restrictions, so thanks to John Ivory and Robin Strange respectively.

After concerns were raised at the 2022 AGM about member numbers and recruitment we ran a reasonably successful recruitment campaign through the BMFA with a big article on SRFC in the *BMFA News* and a specific recruitment advertisement on their website. The advertisement ran for several months and we received a number of enquiries some of which resulted in new members.

Unfortunately, due to changes in the BMFA rules, we lost a small number of trainers/examiners but did manage to recruit a couple of club instructors and we have still managed a good training regime.

The Committee has approved FPV flying at Poling and will review how it has gone in a few months.

We can only operate successfully if we have sufficient volunteers for all the activities and venues but the work always seems to fall on a small number of regulars (you know who you are and members owe you a big vote of thanks) so we could do with more people coming forward; if the work is shared around it is not an onerous commitment.

The aforementioned barbecues were very popular and the role of 'chef' has fallen to Mark Vale who with at times some help has done a great job.

One thing that was resurrected (thankfully) after several missing years was the hire of a very heavy sit-on drive roller to flatten the strip and the result was well worth the small expense making quite a difference to the quality of the surface. We will be hiring it again around the beginning of April.

We changed venues from Hill Barn Golf Club back to Worthing Leisure Centre for significant cost benefits. While not as plush, the extra space has been useful, especially on the auction night. The Christmas party went well with the food supplied being a good standard.

On a sad note the club sadly lost long-time member and long-time Membership Secretary Peter Plank after illness. His models were auctioned and many were flown on the aforementioned memorial day to him. I bought his Wot4 only to find that it was a W4 wing on a homebuilt fuselage, but it does fly well! In addition, a new club trophy

(inspired and paid for by a number of his colleagues and friends) to be given each year to the member who best portrays what is described as the Spirit of Planky has been designed and purchased.

I am aware that others have suffered bereavements or illness and they have our thoughts. It was good to welcome back Ron Privett after illness.

On a personal note, I have had a good build year with at least two completed models still to be maidened, another almost completed and several kits in the waiting list.

I thank the Committee for making my job easy and wish every member a long and happy flying summer.

A message from the Committee: the above was written while Les Crane was Chairman. We thank Les for his efforts over the past year.

Introducing your new Chairman...

We welcome Derek Woodley as SRFC's new Chairman, elected at the AGM on 3rd March

To all members of the Sussex Radio Flying Club, thank you for allowing me to be your club committee chairman.

Firstly, I would like to say thanks on behalf of all our members to Les Crane for all the work he has done for the club recently.

While I have known many of you for a long time, I don't know everyone so I thought a few words to introduce myself would be appropriate.

I am a lifelong aviation person. I've been flying radio-controlled model aircraft since 1963 and also was involved in the full-size aviation world as a pilot for 37 years.

I have been a member of the SRFC in its present form for more than 30 years, but was also involved with the predecessors of the current club back in the late 60's.

The SRFC is an excellent model flying club. We have a superb fixed-wing flying site at Coombes, plus a great rotary-wing facility at Poling. Glider fliers also benefit from the use of meadows at a farm in Ashurst.

Our sport is subject to much regulation these days, a far cry from the free and easy model flying environment of past years. It is imperative that we conform to the various rules and restrictions that regulation has placed upon us.

Fortunately, I have a very good relationship with Shoreham ATC and also with our landlord at Coombes, so I see no reason why our current arrangements for flying at Coombes should change and I believe this site is secure for the future.

It seems to me that our club functions very well in its present form and I hope we can retain the current status quo. We rely heavily on members contributing to the maintenance of our facilities and we should all appreciate this and if possible contribute in a 'club friendly' manner.

I intend the club to be managed with the lightest of touches, and with common sense, but be warned, I will not tolerate indiscretions that jeopardise its excellent reputation.

I look forward to meeting you all in due course. Happy flying!

Reportable incidents

Chairman* Les Crane reiterates the legal obligation to report any incident which potentially endangers another person

Like all clubs we get our fair share, if small in number, of incidents and accidents which must be reported, by law, by the model's pilot to either the AAIB or CAA or both.

I am aware of several over the past twelve months but do not know whether they were reported or not because the club has no part in the reporting process, the onus being that of the individual concerned.

However, as a responsible club, it is only right that we remind members from time to time of *their* (not our) obligation regarding reporting.

So what is a 'reportable incident'? In general, in model flying, we are largely, but not exclusively, talking about an occurrence which endangers – *or could have endangered* – another person. The most likely events to lead to this are models which go out of line of sight of the remote pilot or spotter (these *must* be reported) or loss of control or equipment failure in which case it is the responsibility of the remote pilot to decide if there was a chance that someone could have been endangered and, if the answer is yes, then the incident must be reported and, I emphasise, that this decision is, by law, for the remote pilot to make, the club has no part to play in making that decision.

The reporting requirement has not been established to attribute blame or liability but to learn from the occurrence, improve aviation safety and prevent recurrence.

The BMFA has a process to make reporting easy – reporting.bmfa.uk.

The *BMFA Handbook* contains advice on what should be done in the wider sense if someone is injured or worse, e.g. evidence collection, witnesses, statements, details of the model and circumstances, and more. There is one known benefit of reporting and that is that the circumstances are set down in writing while they are fresh in the memory – and you will have complied with the law.

The reporting requirements apply to all aspects of flying involved in this club. Finally, just to reaffirm, the sole responsibility for reporting or deciding if an incident should be reported belongs to the pilot alone.

**Written prior to the AGM. See note on page 4.*

AAIB Air Accidents Investigation Branch

UK Civil Aviation Authority

Diary dates

Indoor meetings at Worthing Leisure Centre

14th April **Spring Auction, 8.30-10.30pm**
Grab a bargain at the first club auction of 2023!

Indoor Flying at Worthing High School, South Farm Rd, BN14 7AR

1st April **8.00-10.00pm**
£5 to fly, £1 to spectate

Outdoor barbie 'n' fly evenings at Coombes

Club evenings:
5th May
2nd June
7th July
4th August
1st September

All are on the first Friday of the month, 6.30-10pm. Weather dependent! Come along and enjoy the company of club members and bring your models to show them off and fly. Enjoy a top quality burger or hot dog from the barbecue and a tea or coffee. (If you bring your own mug it would be appreciated). Donations welcome!

What's a little rain between friends!
Photo: Robin Strange

Power Competition dates

Power Competition Secretary John Ivory invites members to have a go this spring and summer!

Monthly competitions:	**First**	**14th April**
	Second	**12th May**
	Third	**9th June**
	Fourth	**14th July**
	Fifth	**11th August**
	Sixth	**8th September**

All are on Friday and start at 1pm at Coombes. The Power Competitions will follow the same format as run in 2022 with a small prize awarded to the winner on the day. Additional Power Competitions will be arranged for fun-day flying, barbecues, etc. As always, weather dependent!

Glider Competition dates

Glider Competition Secretary Robin Strange invites members to have a go this spring and summer!

Competitions:
13th & 27th April
11th & 25th May
8th & 22nd June
6th & 20th July
3rd, 17th & 31st August
14th September

Every second Thursday, 1pm-2pm at Coombes. The 2023 competition will run from April until mid-September.

In addition, meetings take place at Ashurst on the dates below. Come along for a day's relaxed gliding and occasional competitions. As always, weather dependent!

Gliding days (to include single model competition):
30th April
28th May
25th June
30th July
3rd September

SRFC Christmas Party & Awards

Robin Strange reports on an enjoyable festive get-together

2nd December 2022 and it's party time again for SRFC members and their spouses. In 2021 we had our party and monthly meetings at Hill Barn Golf Club but they decided to double the cost of hiring the venue hence we reverted to our previous location: Worthing Sports Centre. The venue isn't quite as nice but the amount of room available to us is much more conducive to our meetings – especially the auctions – and we made very good use of the room for our Christmas do.

Superb buffet meal. All photos: Robin Strange

Prior to the party the committee had spent a lot of time considering various options put forward by the venue for the food and I have to admit we were a little apprehensive as to what the result might be but in the event the spread of food could not be faulted in terms of quality or quantity. Whew!

A good number of club members were in attendance and I think it is fair to say that all enjoyed themselves by the amount of chatter going on.

As is usual it was the event at which the annual awards were presented for the year's competitions. Chairman Les did a great job of making the presentations for the Power and Gliding competitions and also the Builder's Trophy.

The Power competition shield went to Chris Foss for first place with John Ivory in second and Clive Upperton coming in third.

The Gliding competition was dominated this year by our Membership Secretary, Mark Vale who received the Gliding shield on his first year in the competition with Clive Upperton in second place followed by John Ivory in third place.

The Builder's Trophy this year went to Mark Vale for his 'Hot Dawg', as featured in *FlyPaper*, December 2022.

Raffle prizes – more were added after this photo was taken. Thank you to all who donated prizes

After the normal competitions had been presented Clive took centre stage as a new award had been instigated by him, Paul Gladstone and Pim Smith to remember our good friend Peter Plank who passed away last year having given the club many years of service. Clive gave the background to the award, which will be presented on

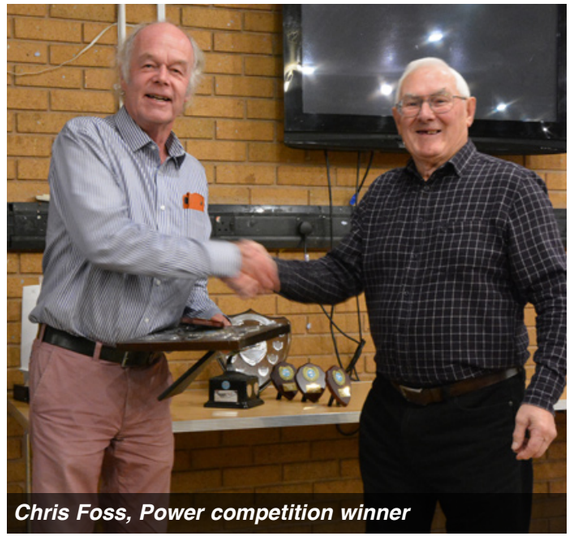
George Evans holds the bucket while Les Crane takes the first raffle ticket

an annual basis to the member who is deemed to be an altogether good club member, one who helps one and all, and assists the club where he or she can. This year the award was presented to John Ivory for his terrible jokes, his effort in maintaining the Coombes flying field and his helpfulness to one and all.

Paul then talked about a future annual award for jets/EDFs. Exact criteria are still to be decided but he showed the trophy which he had made from a Pegasus compressor fan blade mounted on a plinth, most impressive.

As usual a raffle was held and what a draw it was too with one very lucky table having ten of the winning tickets which made one wonder if the draw had been nobbled but I can assure everyone it wasn't as I helped three others empty the tickets into the bucket!

Awards table



Chris Foss, Power competition winner

John Ivory, Power competition 2nd place and Gliding competition 3rd place

Clive Upperton, Power competition 3rd place and Gliding competition 2nd place

Mark Vale, Gliding competition winner and Builder's Trophy winner

John Ivory also won the Spirit of Peter Plank Trophy

Paul Gladstone introduces future jet/EDF Trophy

Builder's competition

Mark Vale's Hot Dawg judged the winner by the committee

Thank you to all who sent in photos of your builds. As per the e-mail sent to members on 14th October we asked for photos of models completed and successfully flown since 1st January 2022. Five entries were received from just three members: **Les Crane, Mark Vale** and **Paul Gladstone.** We present all their models here.

Les Crane's Tempest V, built from the RBC kit. Photo: Robin Strange

1. Paul Gladstone's scratch built Phase 6 converted to electric. 2. Paul Gladstone's FMS Futura –a foamie but resurrected after a bad crash with scratch built fuselage front end using packing foam and covered with glass cloth and Ultracote acrylic, then whole model repainted. 3. Paul Gladstone's Hangar 9 Christen Eagle rebuilt after crash due to aileron failure. Fuselage fully rebuilt and recovered. Photos: Paul Gladstone

Mark Vale's winning Hot Dawg, built from the 1970 R/C Modeler plan, span increased by 20% to 1.2m. OS26 FS powered. See FlyPaper, December 2022. Photo: Robin Strange

Indoor Flying

"Indoor flying is a hoot!" says Robin Strange who was present at the final session of 2022. Why not try it yourself next winter?

What a night! Five SRFC members, together with three or four flyers from Worthing and Littlehampton MFC, had great fun in the sports hall of Worthing High School on the evening of the 10th December flying a variety of helicopters, a quad-copter and an assortment of fixed-wing types ranging from home designs to scale models.

Before we started we spent a little time raising the basketball net out of the way (someone was bound to hit it) and moving other equipment to give us as large a volume as possible free from obstructions.

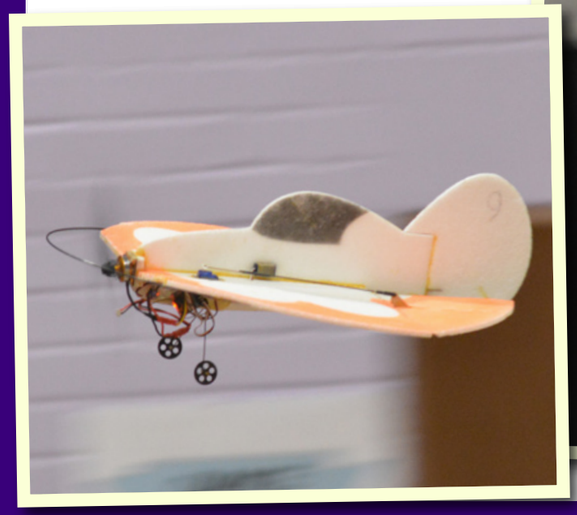
The evening was split into sessions for fixed-wing and rotary-wing types and I have to say there was far more carnage while the fixed-wing types were in the air than while the rotary-wing types were being flown.

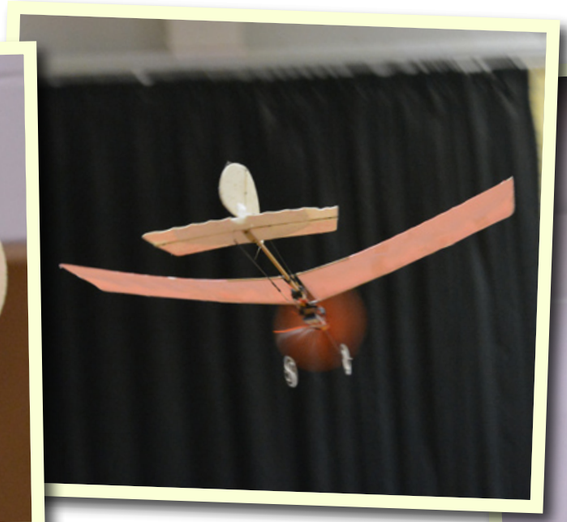
John Ivory had built an own-design model, which looked superb but some present suggested that it would fly quickly as the wing area was not huge and indoors a larger wing area is better. And so it proved. Not only was it fast but it was in need of lots of trim changes and the CG was continually moved forward during the evening's flying. In addition, his model managed to find the netting high up on the south wall but thanks to forethought learnt from previous indoor sessions a pole had been brought to recover models from such incidents. The north wall survived his model's head-on dash for freedom too.

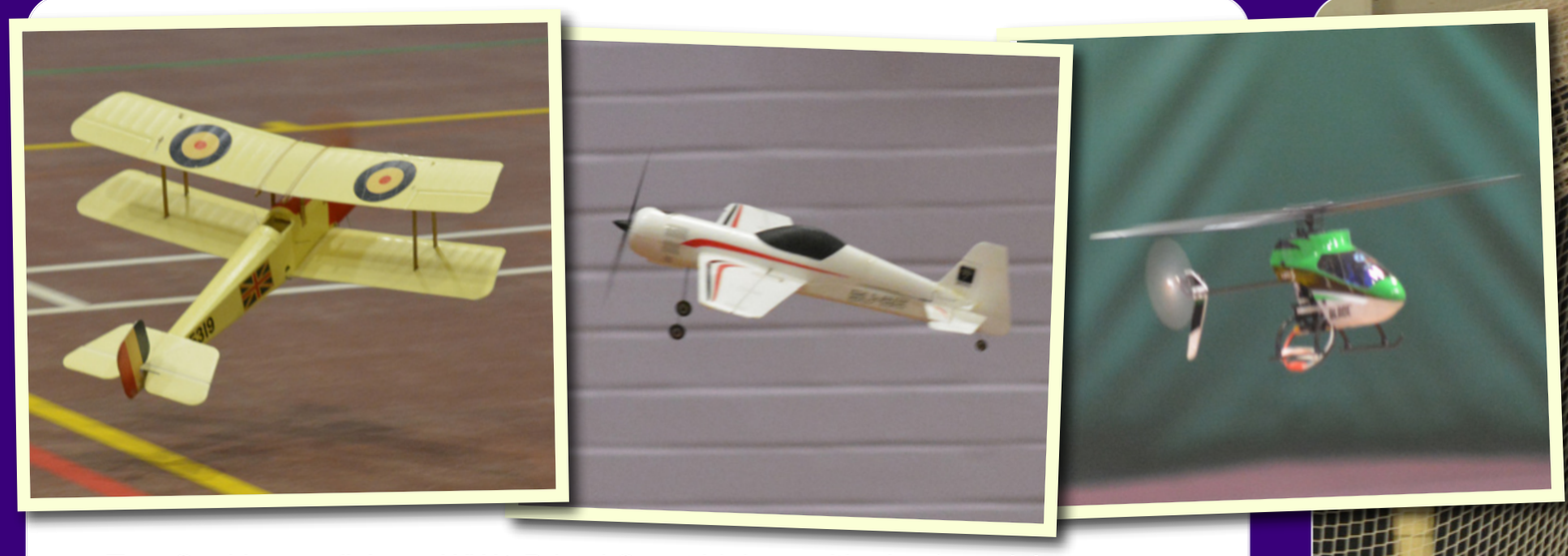
Dave Knott's Spitfire similarly proved to be a real handful, flying fast and making numerous unplanned arrivals in a variety of locations in the hall.

George Evans' home-built F-35 lookalike kept on making a mad dash across the floor of the hall in my direction and George's bags so I assume the model just wanted to go home – I didn't see it fly, perhaps I blinked. In between, George flew his Bleriot-style model around quite successfully with only the odd need to duck.

John Ivory readies his own-design model. All photos: Robin Strange







Tom Gaskin was flying a WW1 Bristol Scout biplane with nicads and that was very successfully flown around the hall and really looked the business.

A variety of odd-shaped circular wings flew well and were showing off, staying in the air (most of the time) and even performing aerobatics.

John flew his quadcopter with aplomb, showing off by doing the odd back flip thanks to a button on the Tx. In the meantime a number of rotary-wing types were being flown ranging from Dave's battle-scarred Chinook, a couple of Blade 120s (one being mine) and a 150, and a number of smaller helicopters. Last of all George flew

Dave Knott's Chinook flew well

"The net shall not have it!" John Ivory goes fishing...

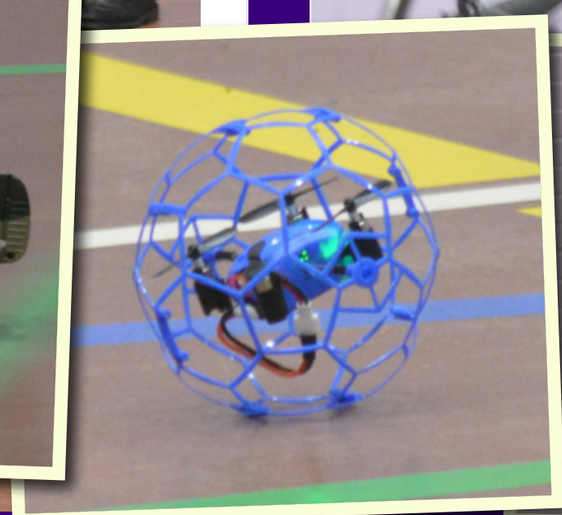
his most peculiar drone-in-a-ball (see photo below).

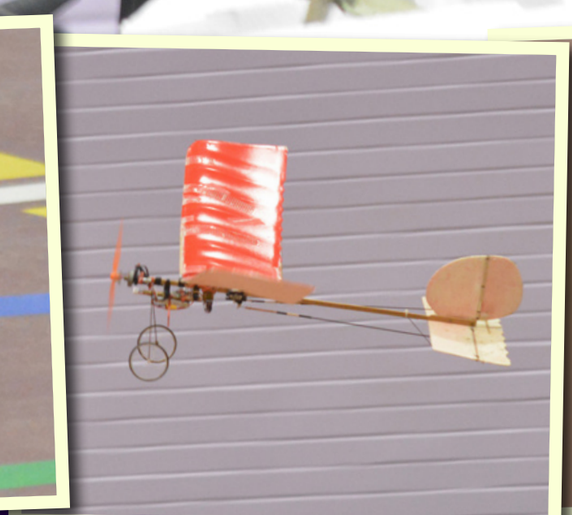
A great fun evening with no major mishaps as the walls can be rather unforgiving and no one managed to hit the ceiling.

Indoor flying is a great way to keep on flying in the winter when it's dark, windy, cold and wet outside. Thanks to Dave Knott for organising these sessions, we hope to fly again next winter – why not join us?

Tom Gaskin's Bristol Scout flew superbly; Dave Knott's Spitfire was more of a handful

Dave Knott readies his Spitfire for another sortie





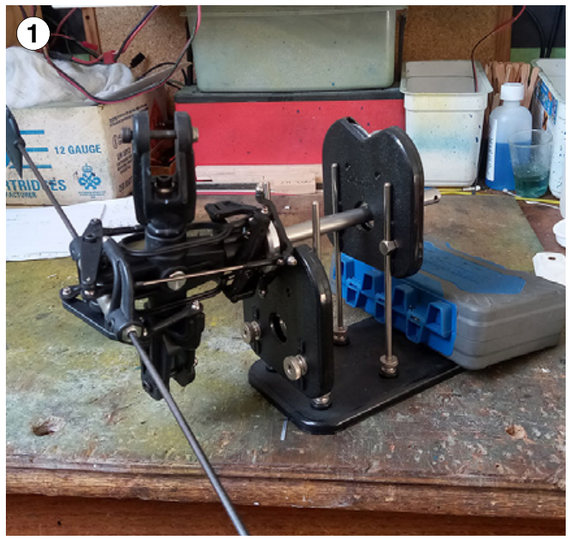
Helicopter setting up

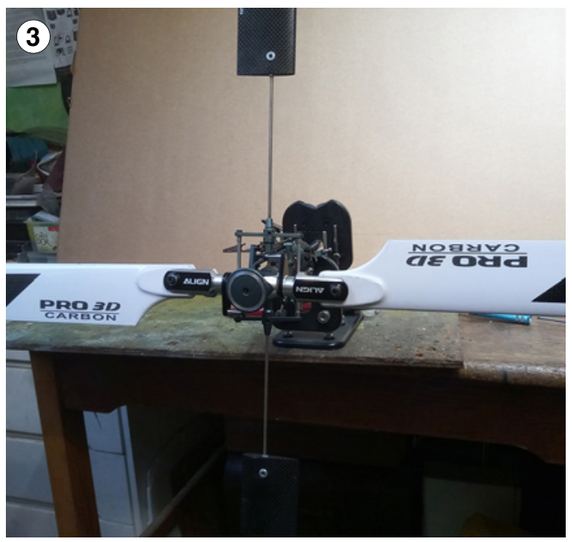
Jerry Hansen uses a Dubro prop balance and his Raptor to explain setting up a nitro heli

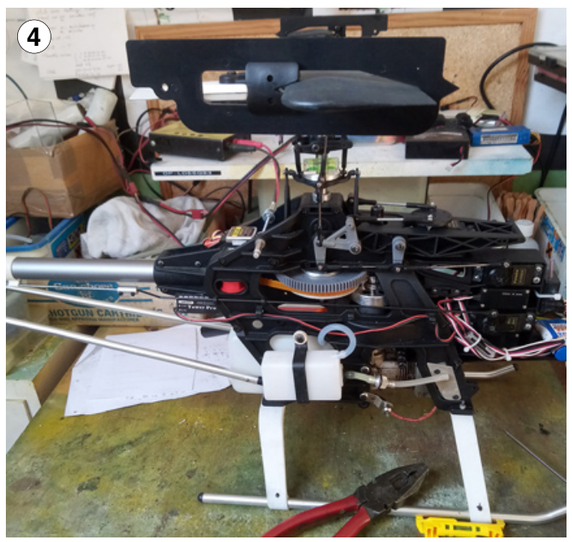
First you can interchange various helicopter parts, along with others, the Raptor has a 9mm shaft so the Align Trex 550 or 600 head will fit as will others and can be found on eBay .

If needed you can use the Logo 550 tail boom as it is 22mm diameter but will need drilling. You could also use the Trex 600 tail boom although it will need a wrap of tape to increase its 21.5mm diameter to 22mm along with a little cutting and drilling.

You can also use the Trex 550, 600 and 700 undercarriage in place of the Raptor







one along with others.

So how do you balance the head and flybar? A Dubro prop balancer can be used to adjust the flybar paddles to suit wind – in or out to balance (Photos 1 and 2). You can also fine tune the head and main blades with this method (Photo 3).

To set up the flybar paddles you can use two pitch gauges or a pair of paddle gauges (Photo 4). Adjust against a level background getting them the same and checking that the swash plate is level.

Setting up the blade pitch is easy with a blade pitch guage. Secure the fly bar, ensuring it's level, and set the pitch guage on a main blade. You can set the angle required looking at it against the fly bar, you can then set + or - to suit via the transmitter or mechanically.

Common problems

The helicopter wears away the plastic belt idler guide wheels.

The boom will be bent slightly as it exits the main frame probably due to a hard landing. Set the heli level and measure front and rear of the boom to check. You can carefully re-bend to suit or change the boom.

The heli tail glitches in flight and a fine dust is evident at the tail casing or main gear.

This will be the locking pin on the tail belt gear coming out and hitting the side of the tail casing. Strip it and Loctite the pin in place.

Sometimes the engine screams but wont pick up the clutch.

Stop it and re-start, the engine will have been running backwards or the clutch is burnt out.

If you have too much pitch on particulary 30-sized helis the engine can slow down as the pitch stops it maintaining speed (bogging down). Lowering the pitch in flight may not restore engine speed before a rapid arrival.

To resolve this re-set the pitch and re-set the engine throttle curve to suit.

Tips

- Using a header tank can help avoid running out of fuel. Check fuel loads with a close fly by now and then. Also set a timer on your Tx to suit.
- If you are starting out best to use training gear.
- To avoid an engine burn-out run it rich rather than lean. Plenty of smoke is good and remember to check the crankcase is not overly hot after flying with the four-second finger test – if it's too hot you will know!

Notes for new members

If you are new to flying at Poling the gate code is as noted on your membership card and is the same as Coombes.

When leaving and re-locking the gate, please remember to leave the lock with the numbers uppermost so they can be easily seen for the next unlocking.

And please avoid driving over the flying area as it leaves ruts.

Finally have fun!

New Gliding Competition

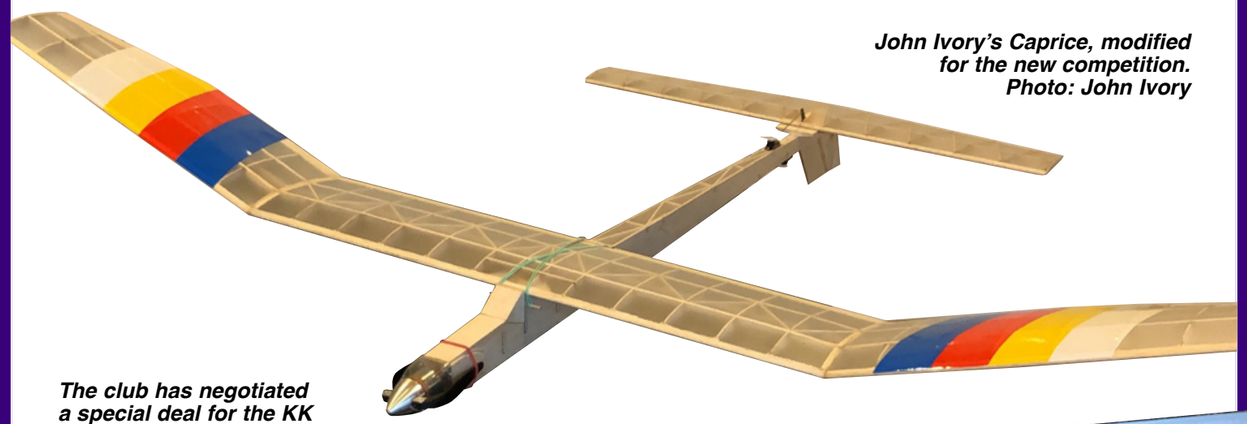
Robin Strange introduces a new single-model competition using Keil Kraft's classic glider, the Caprice. The dictionary definition of capricious is to 'show instability or sudden changes in attitude', characteristics the KK glider thankfully does not exhibit!

A new gliding competition is being created to run once a month at Ashurst as an addition to the existing mid-week competition. The format of this new competition will be much simpler than the club's existing mid-week competition with a single model type, no landing points but all models must land within the field confines. The models must be built using a common standard of motor, prop and battery cell count.

The competition itself will be based on all competitors launching together and in each round flown the first two models down will be eliminated. The remaining competitors will relaunch and once again the first two down will be eliminated. Relaunches will continue until only one is still flying and that person will be the winner.

The model will be an R/C derivative of the 51" wingspan free flight Keil Kraft Caprice (for which a deal has been negotiated with SMC) with motor, rudder and elevator/all flying tailplane modifications. The motor, prop and 2S battery have been defined after some testing of suitable components by John Ivory and Paul Gladstone. The mainplane should not be modified but the empennage may be. Anyone intending to enter the competition can contact me for more details on the required modifications.

So far a dozen people have signed up and much building is taking place across Sussex with the first competition taking place at Ashurst on 30th April – see page 7.



John Ivory's Caprice, modified for the new competition. Photo: John Ivory

The club has negotiated a special deal for the KK Caprice with SMC – yours for just £38

Clive Upperton's Caprice flying at Coombes. Photos: Grahame Pearson

Watch this flight on the SRFC YouTube channel

Robin Strange on a cold but calm January morning at Coombes having successfully test flown his eCaprice. Photo: Jonathan Halford

Flying the eCaprice

Just before this issue was 'put to bed' an opportunity arose for Robin Strange to test fly his Caprice – now named eCaprice due to its electrification!

On receipt of my Keil Kraft Caprice it sat on the bench for a few days before I started building it but it is a simple build for anyone with some experience of 'built-up' balsa structures so it didn't take too long to construct.

The biggest decision was how to modify the nose in order to install an electric motor and where to mount the battery, ESC, Rx and the two servos. I elected to mount the motor to the original F1 location but on a new F1 wide enough to take the motor mounting. I decided to position the ESC, Rx and the small 2-cell battery under the mainplane by modifying the frames while the two servos were mounted towards the rear of the fuselage; the elevator servo on top to activate an all-flying tailplane hinged on the leading edge and the rudder servo mounted upside down under the fuselage to provide a pull-pull rudder control.

The model has been covered in Hyperflight's Featherlight covering material – a material that is simply ironed on having heat activated glue on one side, no protective layer to remove. It is a very light material aimed at indoor models and lightweight models up to 2m span. The model came out at just 271g.

The opportunity arose on Saturday, 28th January to test fly the model at Coombes as the forecast wind was very low, most unusual for Coombes. Clive Upperton came with me to launch the new model and after the usual range checks had been carried out the model was launched on half throttle. Why just half throttle? Well, this is a modified free-flight design and full throttle might well have seen it try to loop, which with full power proved to be the case. Even with reasonable down and right thrust it climbed steeply so an amount of down elevator is going to be necessary.

The model flies incredibly slowly and when it's not pointing to the heavens on power the rudder, which was doubled in size from the original free-flight one, is more than responsive enough. At height I tested the de-thermal function I had incorporated via a switch and tailplane servo – with the tailplane at 45 degrees up the model floated down as intended and before too much height was lost I cancelled the de-thermal mode and the model pitched down quite aggressively but controllably and normal flight was resumed.

Landing was a piece of cake; there is absolutely no danger of damaging the fin and rudder mounted below the fuselage because the landing speed gave it an almost a vertical touch-down.

Next action is to add in down trim on power and move the CG back a tad as I had to add in quite a bit of up trim on the tailplane for the glide.

The model will not make speed merchants happy – I could walk faster than it flies but it should make for a very interesting competition. So, what are you waiting for, get building!

Spring Build Report

A damaged digit brings a temporary halt to Les Crane's builds

The club has progressed well over the last year, not as a result of my efforts as Chairman, but due to those committee members with specific responsibilities plus some members who have carried out a range of very important tasks such as instructing, examining, barbecue and sites maintenance all of whom deserve a huge vote of thanks.

There is not a lot to report on the build front for two reasons. Firstly, it has been too cold to work in my unheated workshop. Secondly, just before Christmas I bumped my thumb, not heavily but over the next few days it swelled up, turned black, blistered and then the blisters burst. The next day I had an infection from the thumb up to the elbow. I visited A&E where I was given intravenous and solid antibiotics, plus two further visits to the hospital. On the last visit – on New Year's Eve – they sent photos to the East Grinstead specialist unit who said I had to go there at 9.30am on New Year's Day where they removed the thumbnail. My arm was in a sling from that day for the next four weeks so no driving or modelling. Five nurse visits later I am on the mend, can drive and have managed some building.

Prior to the accident I managed to finish applying Oratex and decals (from Callie Graphics) to the fuselage of my Fieseler Storch. The model represents the desert scheme of the Shuttleworth Collection's Storch (photo, left). Introduced in my last *FlyPaper* report, you may recall the model was bought secondhand with much of the basic structure completed. Since recovery I have added the 'tex and decals to the wings, thus, I thought, finishing that build. However, best laid plans and all that… On fitting it all together in the garden the wings had a pronounced anhedral which was due to the large ply fillets attached to the fuselage which go into the wing box not being perpendicular to the fuselage. I took it to the club evening on 3rd February where I received a lot of helpful tips on how to correct it (plus a lot of laughter at how it currently looks – thanks chaps!) I did, however, connect all the electrics, check the controls and taxi it. More next time on how the alterations go.

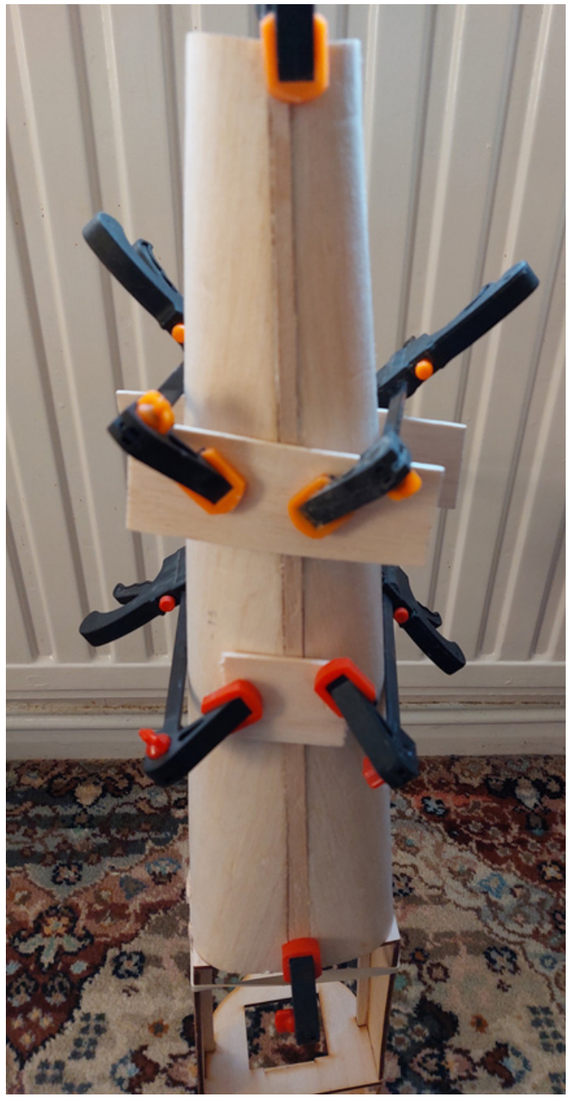
As a member of the Horsham Club I am involved in that club's winter mass build of Cambrian Fun Fighters, I am building a Mitsubishi Zero, 42" wingspan, and have so far built the wings and have started the fuselage. Not all the laser-cut parts fit accurately, as others have also found, with an insert required where fuselage sides do not meet as they should.

While not readily apparent from the photos, the Storch's wings exhibit a pronounced droop (anhedral). Photos: Les Crane

The wings are veneered foam so building them is simply a matter of gluing on leading and trailing edges, fitting and sanding wingtips and making and fitting servo control rods, not big jobs.

I have also bought plans, wood kit and laser-cut parts for a Miles Gemini (71.5" wingspan) from Sarik Models. It is without doubt the most unusually constructed model I have come across and the plans leave a lot to be desired with a lot left to the builder to work out regarding parts. To give just one example it does not use ribs in the conventional manner. Each wing has four main spars, two top and two bottom, with a sort of half rib joining the spars together like a ladder and the resulting two ladders, top and bottom, joined together to form the wing shape. However, there is no template for the spars, you have to measure the length and the depth at the root and tip and cut them out from sheet balsa. It will be an interesting build.

I hope to have more information in June's *FlyPaper* on the Zero and the Gemini, plus the Storch maiden.



Photos showing Zero progress. (That's not zero progress but progress on the Zero, you understand!) Photos: Les Crane

Boxkite

Mike Croll, fan of aviation's pioneering era, embarks on a new project, a 1910 Bristol Biplane, or 'Boxkite'

I have always been fascinated by the very early flying planes; fragile structures that would-be pilots clambered into and entrusted their lives to.

Encouraged by the fact that my Avro Triplane *(See cover photo. Ed)* actually flew, I decided, some four years ago, to have a bash at building a model of the Bristol Boxkite replica built for the 1965 film, *Those Magnificent Men in Their Flying Machines*, and at the Shuttleworth Museum.

While building the Avro Triplane I learnt of the usefulness of carbon-fibre rods, lite-ply and modern glues in building convincing models that did not need to look too bulky. The Boxkite would, however, be several steps forward in that there is very little structure to hide behind.

I found sources of 2-metre long carbon-fibre rods and decided to build a model with a 1.6m wingspan and, as near as I could make it, the same 'eyebrow' wing section. 4mm square hollow rods would form the wing struts. The wing spars would be round section tubes. The ribs and other parts were laser-cut from balsa and lite-ply by SLEC from plans I designed on my computer. The wing section was taken directly from a photo of the plane at the Shuttleworth Museum.

In covering the top wing, I stitched through the wing to hold the covering in place. Stitching, as with securing many of the joints in the wings, etc, uses dental floss and superglue! Parts of the structure are re-inforced using carbon-fibre tape.

The photo taken in my workshop shows top wing, at the back, covered. The bottom wing is still to be covered and the tail feathers are nearing completion.

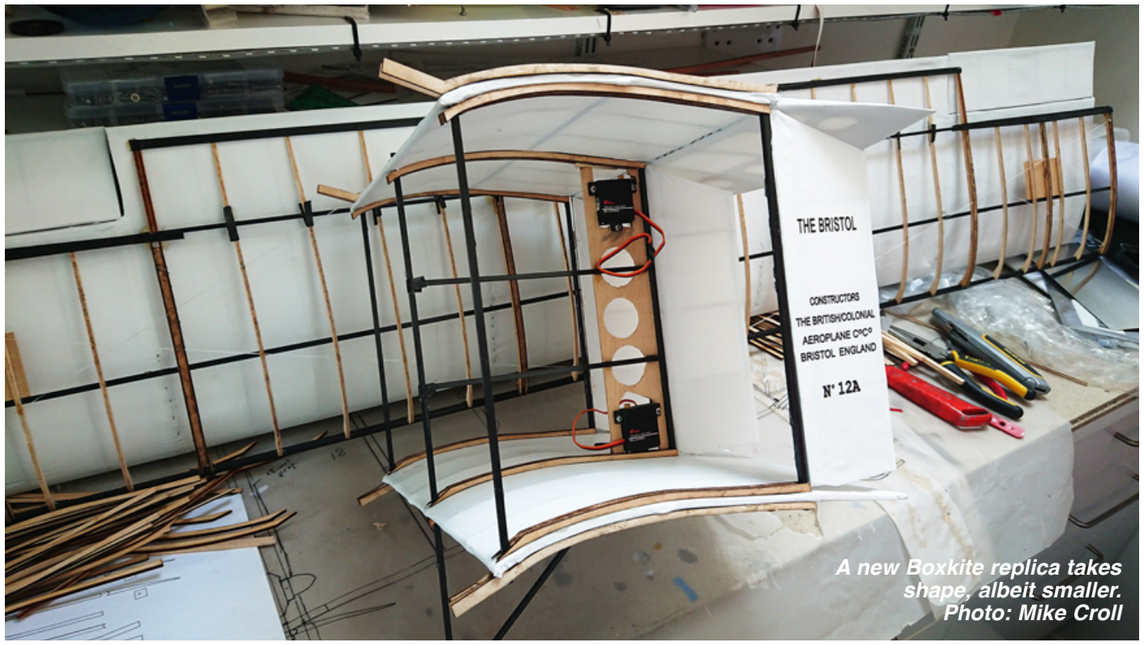
It's all relative: 1911 photo intended to contrast the new with the old

The Shuttleworth Collection's Boxkite replica. Photo: Mike Croll

I still have to get my brain around how to set the centre of gravity since the tailplane has a lifting section and the wings are very high drag. To get the weight as far forward as possible, I have extended the motor driveshaft so I can retain the original's 'pusher' configuration and get the motor as far forward as possible. I am assuming the CG would be at 25-30% chord, but I would be grateful for any guidance on this.

Another problem is probably getting it into my car! It will probably need the front to be disassembled. I have already worked out that the front wing needs to pivot on a steel bar and be fixed via substantial flanges to the front sides. On the full-size the front 'fuselage' members are very flimsy and held firmly by tensioned wires. The model may be similarly fragile so it will be a challenge as to how such an arrangement could be de-rigged for transporting.

Despite the very slow start, I do hope to have the plane on the flying field this year.



A new Boxkite replica takes shape, albeit smaller. Photo: Mike Croll

Soaring with Eagles

Motor-gliding reminiscences from Alan Lamb

World-famous gliding guru Derek Piggott once said that “As pilots we spend an awful lot of our time flying, and when we’re not flying we’re talking about flying, and when we’re not talking about it we’re thinking about flying – about the flights we have made and the flights we are planning to make”. How true this is. Indeed it suggests that flying is addictive, even a bit obsessive. It certainly takes an inordinate amount of application and sheer determination to achieve even a humble PPL never mind anything more useful – for instance, a career in aviation. The commitment required to learn any form of aviation is huge, and the thing about gliding is this – it is of no real ‘use’ to anybody. Indeed it is the purest form of flying, and it’s strictly just for fun. Undertaken purely for enjoyment and fulfillment it is, in this vital respect, also gloriously pointless to the onlooker! (“Why is that aircraft going round and round in circles?”)

That is the essential difference between sport and transport. And yet, when you consider how relatively little time is spent actually airborne it is remarkable how much satisfaction is to be had from a hobby spent enjoying the freedom of the skies. As the great man says, it is a totally immersive activity. Sport aviation is full of ‘two-pipe problems’ to ponder on wet days as well as the thrills and spills that can be relived and savoured again and again. To do it safely requires total concentration to the exclusion of all else, and a sizeable commitment of time and energy. A bit like model flying when you think about it.

In a ‘total aviation’ sort of way, not just aeroplanes in all their variety but birds too become things of fascination once you start to notice them. The latest wing designs in use on commercial airliners resemble more and more the natural curve and sweep of a bird’s wing, especially that of the soaring species such as kites or eagles. Yes, we are still learning from our feathered friends but now I read that they, in their turn, are learning from us! Model flyers being dive-bombed by angry birds report that an hour or so after pulling off a few steep dives and rolls to escape their attentions, they observe the birds doing axial rolls and suddenly diving at speed. They suggest the birds had just learned this behaviour from them, R/C flyers! If it’s true this is cool stuff. For years glider pilots and model flyers have used the tell-tale signs of bird activity to find the best thermals, but I am pretty sure not many of them will have had the first-hand bird encounter I’m about to recall.

I was flying in Spain with my instructor Ken Barton in his (then) Grob 109B in the mountains just inland from Alicante from a little strip called Muchamiel. It was extremely hot and we had left one ridge to cross a wide stretch of desert for another location where we could again soar the anabatic wind. We were stooging along at 5000 feet, taking lots of fluids and enjoying the amazing views, when suddenly there was a great whoosh from under our seats. We had hit an almighty thermal that sent the vario off the clock. With the needle stuck on plus ten and the audio screaming at us we were now going upwards at more than a thousand feet per minute. Almost as one we both cranked the stick over to get the aircraft turning as soon as possible. We had completed less than one full orbit when, as I looked out to my left, I saw something truly awesome.

A huge golden eagle was flying straight towards us and joining the same thermal at exactly our height. We could not believe our eyes. With a wingspan of well over two metres this magnificent bird had taken up position less than a wing-span away from us (12-15 metres) and was thermalling away effortlessly, as they do, and steadily climbing skyward with us, just off our wing-tip. The feeling was unforgettable. I kept my eye on him and he kept his eye on me the whole time as we worked the rising column of air, all the time keeping a lookout out for each other on opposite sides of the circle.

Sometimes he would be a bit above us, other times a bit below, as we both worked the pants off this incredible thermal. Constantly he would keep turning his head towards us, adjusting his position, observing our progress, staying just off the wing tip. Things stayed that way as we climbed all the way up to 10,000 feet which arrived in less than five minutes, and when the thermal eventually fizzled out and lost its identity, as they do, the eagle looked one last time and then headed off in a straight line into the distance. We picked up our heading and did the same, enjoying the quiet as well as the view. Eventually, some miles away, we arrived back at 5000 feet where we had first met up with the golden eagle.

By the end of that day, I felt just a little bit more like a bird. Part of me still believes that eagle was following me… I was there first, and already in a left-hand turn!

Inside the cabin (photo, above) the G109B is a proper comfy aeroplane which makes it a great side-by-side tourer (this is basically what my son James, on his mum’s lap, is trying to indicate!)… …but the wingspan of 15 metres tells you it is also a proper glider. Leaning on the wing root of our lovely Grob (photo, below) is my erstwhile syndicate partner Peter Holloway, latterly of Feiseler Storch/Shuttleworth Collection notoriety. Photos: Alan Lamb

Slingsby Kirby Kite 1 – Part Three

Robin Strange's new build – winter sees the airframe finished!

At the end of Part Two (*FlyPaper*, September 2022) I finished by saying that *"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 metal work. 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."*

It has taken me rather longer than I anticipated to get as far as I have for many reasons, not least of which is the time I now devote to grandparent duties every other week.

The good news for me at least is that I have now completed 99% of the build and I'm now literally on the finishing straight with just painting, controls and radio set-up to do, then flying hopefully.

Since I completed the wings I have been working on the aileron servo installations, the spoilers and their servos, wiring looms to the servos in the wings, nose and tail skids, the mainplane and tailplane support struts, the wing retention, centre section cover and wiring. It's a longish list but doesn't sound much when I write it but there has been a lot of work involved, in the nose skid especially.

'Nose skid' (Photo 1) sounds simple and in some ways it is – a simple structure but one which is complicated by the mounting arrangement. The rear mount comprises a bracket fixed to the fuselage which holds a rubber tube, the bottom of which is held by another bracket attached to the skid. The skid is made of three sections of plywood, the bottom two of which sandwich the aforementioned bottom bracket with a third sheet of plywood running from the front to just ahead of the rear bracket.

The upper bracket (Photo 2) is made in one piece but is complex in shape in that it is one single piece going across the bottom of the fuselage, then having a bend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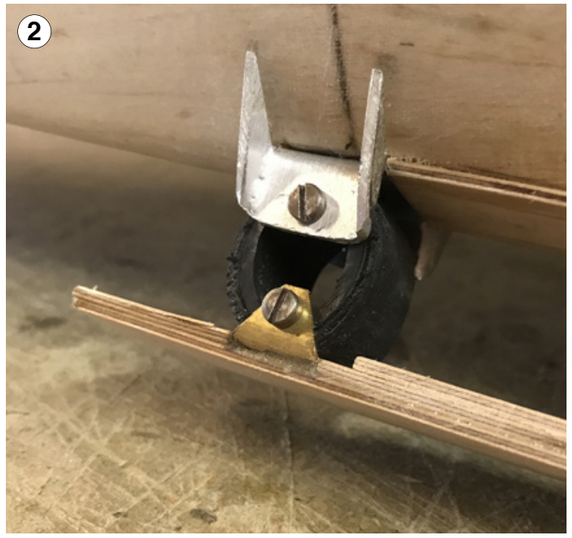
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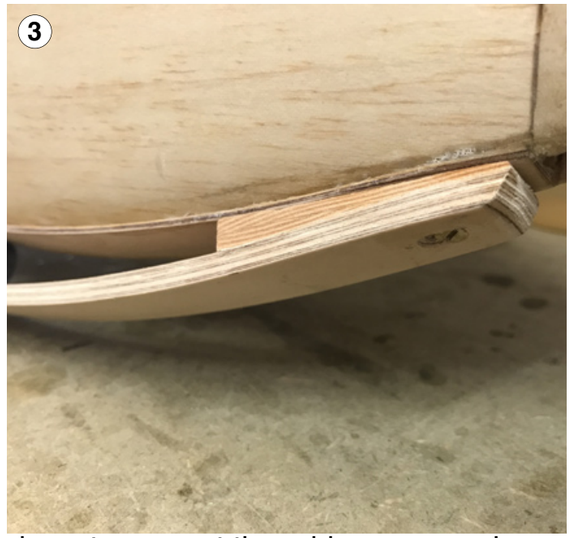
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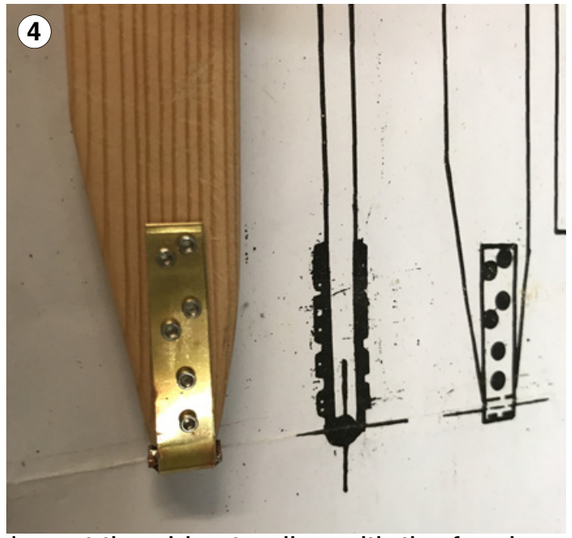
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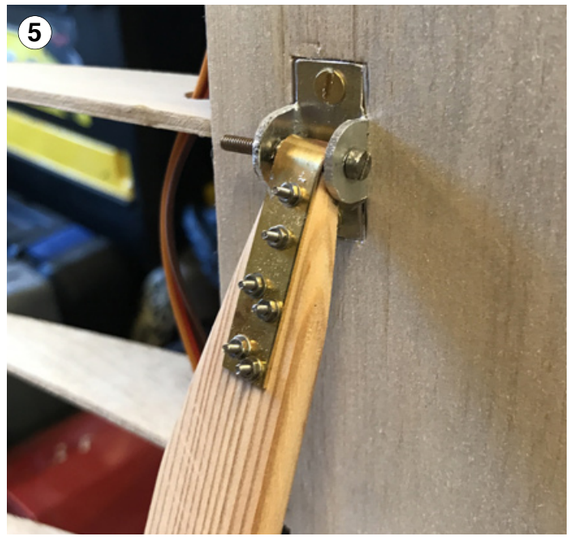
down to support the rubber suspension and up at the sides to align with the fuselage side. I'm sure people who design packaging would be familiar with how to cut a single piece and where to put the bends but it took me a bit of experimentation with paper templates to get it right; perhaps I'm just slow.

The front of the skid (Photo 3) is much simpler with the three plywood pieces bonded together and mounted with a wedge to the keel just behind the aerotow aperture.

Next came the wing support struts. These were cut from 1/4" thick pine sheet to the required shape, the length being adjusted to align with the wing mounting brackets. At each end of the strut is a brass bracket with a tube inserted into the end of the plate which is bent to go around the wood (Photos 4-7), all secured with six very small 1.6mm nuts and bolts.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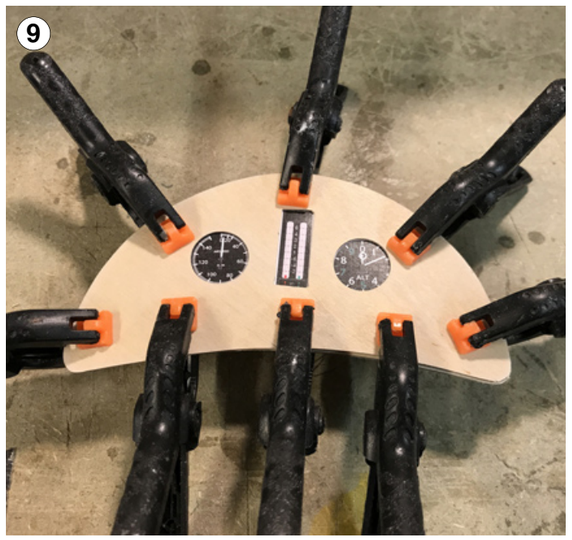
The tailplane also has support struts (Photo 8) but they are much simpler in design. The strut has a 20 gauge wire run from top to bottom along the front edge of the strut and attaches to the tailplane with a simple loop onto another loop fixed to the tailplane which allows the strut to disengage at the bottom and swing on the tailplane without being lost. The bottom attachment uses a simple clothing press stud (or 'popper') pinched from my wife's goody box so landing on rough ground will not, hopefully, damage the model's tailplane struts.

The tail skid has a hardwood wedge attached to the fuselage on to which is screwed a 1/4" wide strip of brass, again covered by a simple fairing.

Next I made the instrument panel (Photos 9 & 10) for which there was little information on the plan, in fact none. A Google search provided a couple of sources,



one of which showed the original and another a more modern variant with a modern VSI; I've gone for the original strip instrument in the centre. I found a good source of images for the actual instruments with helpful information about the scaling required for a variety of scales, 1/4 in my instance.

The pitôt tube (Photo 11) was next in my list of things to do and some wire bending, tube bashing and soldering had it done, I just need to mount it on the front at the end of the build.

I had left the wiring of the wing servos till last (ish) but that is now done. I've used two Multiplex connectors with a flying lead in each wing and a fixed connector mounted on the central wing pylon (Photo 12), all fairly simple stuff.

The final stage of the building was attaching more press studs pinched from you know where to secure the plywood cover that goes over the top of the wing pylon mount (Photo 13).

For covering I have gone for doped nylon on the wings, tailplane and rudder (Photos 14 & 15). I have applied lightweight glasscloth on the lower half of the fuselage with resin and on the top half I used Bucks Composites' Single-Part Coating System to fix lightweight glasscloth. I've done this to provide some 'ding' resistance to the balsa planking of the fuselage as slopes can be pretty rough places to fly from and land on.

A handy jump leads tip

'Don't get stranded at the field with a flat car battery!' says Jerry Hansen

Have you ever needed jump leads and not had them with you? Perhaps you charged your LiPo batteries at the field and flattened your car battery. If so this will handy gadget will get you going…

You can get a set of these on eBay or Amazon for around £15, with a suitable LiPo it will start almost any car or even a diesel van.

The set-up in the photo has diodes to prevent charging from the car alternator. You can just put crocodile clips on a 4S LiPo and disconnect as soon as the engine starts.

Chuck in the back of your car or toolbox. Just be sure to disconnect LiPo from the leads to avoid risk of a spanner or screwdriver coming into contact with crocodile clips.

SRFC MoU update

Derek Woodley reports: SRFC MoU with Shoreham ATSU agreed

All club members should be aware of what this actually means. It gives us permission to fly our model aircraft at our Coombes site with the following restrictions:

1) We may fly within a circle of one quarter of a nautical mile radius from our strip.
2) Only 'conventional' models may be flown (no drones or FPV models).
3) We may fly any model that weighs 15kg or less up to a height of 400 feet.
4) We may fly model gliders that weigh 2kg or less above 400 feet to a maximum height of 900 feet providing Shoreham ATC have been informed on the day.
5) Clear line visual contact with the model is maintained by the pilot at all times.
6) We may only fly in daylight hours.
7) A continuous good look-out for conflicting full-size aircraft is maintained.
8) In the event of a 'Fly away' Shoreham ATC are to be informed ASAP.

This agreement gives us permission (not a right) to operate models in this airspace.

Full size pilots retain the right to fly over our strip at any height at their discretion.

It is based on a see-and-be-seen environment that allows us to be able to take avoiding action to avoid collisions in the air.

Only the Article 16 agreement reached between the CAA and the BMFA has enabled this MoU to be concluded. It is therefore a requirement that anyone flying at Coombes is a fully paid-up BMFA member and holds a valid RCC or BMFA Achievement qualification and has been issued with an Operator ID.

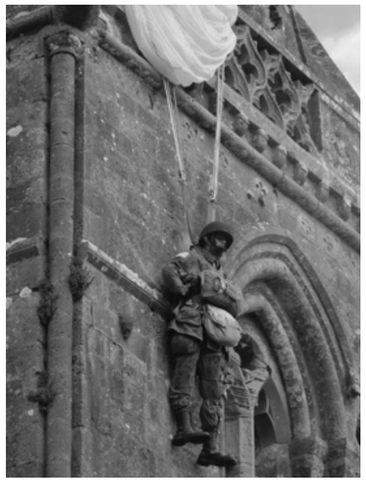
WW2/D Day Quiz

By two anonymous SRFC members

You can Google the answers but we urge you not to

Answers on page 42

1. Where on the French coast were the two Mulberry Harbours assembled?
2. In which French town did an American paratrooper get caught up on the church tower?
3. What was his name?
4. What are the names of the two bridges captured by British paratroops in the early hours of D Day?
5. Name the five D Day assault beaches.
6. What did troops jokingly say the letters JEEP stood for?
7. What was known as a deuce and a half?
8. By what nickname was the US 1st Infantry Division known?
9. What was known as the ‘Screaming Eagles’?



10. Who was the Scottish aristocrat (pictured below) who led the 1st Special Services Brigade ashore on D Day?
11. He had a personal piper, what was his name?
12. What do the initials P.L.U.T.O. stand for?
13. What is a DUKW, populalrly pronounced ‘duck’?
14. What do those initials stand for?
15. What was the M4 medium tank more commonly called?
16. What was the main difference between a standard M4 tank and the ‘Firefly' variation
17. What was the name of the classic 1962 film about D Day starring John Wayne?
18. Bad weather over the Channel delayed D Day. What was the original planned date for the invasion?
19. Who was the Supreme Allied Commander of D Day?
20. What was the operation name given to D Day?
21. All allied aircraft wore black and white ‘invasion stripes’. What was the official width of these stripes and why?
22. What does the ‘D’ in D Day stand for?

WW2/D Day Quiz – answers

Quiz is on page 40

1. Omaha Beach, Arromanche.

2. St. Mere Eglise.

3. John Marvin Steele.

4. Pegasus Bridge, Ranville Bridge.

5. Utah, Omaha, Gold, Juno, Sword.

6. Just Enough Essential Parts.

7. The M35 2.5 ton cargo truck.

8. The Big Red One.

9. The US 101st Airborne Division.

10. Brigadier The Right Honourable Lord Lovat

11. William 'Bill' Millin.

12. Pipe Line Under The Ocean.

13. A six-wheel amphibious vehicle.

14. D – 1942 production series;
U – utility; K – front-wheel-drive;
W – tandem rear axles, both driven

15. The Sherman tank.

16. The main armament. The basic Sherman had a 75mm gun whereas the Firefly had a 17-pounder and was the only tank in the British army able to reliably penetrate the front armour of German Panther and Tiger tanks at normal combat range in Normandy.

17. *The Longest Day*.

18. 5th June 1944.

19. General Dwight Eisenhower.

20. Operation Overlord.

21. 18". The stripes were applied in haste immediately before the invasion; 18" is the width of a standard RAF broom though thankfully this was rarely used!

22. Nothing. 'D Day' was an Army designation used to indicate the start date for specific field operations; it's merely an alliterative placeholder just like 'H Hour'.

A triplane re-covered

Mike Croll's Flair Baronette is now re-covered and ready to take to the skies once again

December's *FlyPaper* included the tale of Mike Croll's Flair Baronette (the name the company gave to the smaller version of their Fokker Triplane) which, after 35 years, suddenly began to fly in a very strange manner when its brittle Solarfilm covering began to peel off the ailerons and elevator in mid-flight!

The model has now been fully re-covered and Mike has sent in these pictures to *FlyPaper*. While the old covering was removed, the opportunity was taken to renew some of the structure where epoxy joints had let go. The model was I/C for the first 20 years of its life so some fuel-soaked wood was also renewed,

Looking good, Mike!

Minimoa build

Robin Strange has recently completed his build of a 56" wingspan version of this most elegant of classic gliders, the Minimoa

In December 2021 my wife bought me a Tony Ray Aeromodels (tonyrayaeromodels.co.uk) Minimoa model kit. Previously Tony Ray Aeromodels had specialised in small models primarily for indoor flying. Tony's 1/12 Minimoa is one of his big models with a wingspan of 56", though that is small for me. He's now gone mad and sells a 1/6 scale (2.8m) version!

The Göppingen Gö 3 Minimoa was a single-seat sailplane produced in pre-war Germany. It was designed by Martin Schempp and Wolf Hirth and was produced the year after their first glider, the Göppingen Gö 1. It first flew in 1935. As the Gö 3 was a smaller version of the Gö 1 it was called *Mini*moa as a diminutive.

The model kit is really well designed and manufactured. It uses laser-cut parts throughout with plywood for the fuselage frames and important parts of the wings, the remainder is lightweight balsa and care is needed when handling the sheets.

The plan comes as a blueprint with instructions that have to be downloaded as a PDF with lots of photos and text where necessary. It would take a lot of paper to print them out in full though I found it necessary on many occasions to zoom in to see the detail.

The parts are best dry fitted together and in most cases I found they just fitted together though in a few instances I had to open some slots out with light sanding. Beware though! At 1/12th scale the parts are small and delicate – all ribs, including the tailplanes and elevators have lightening holes in them and it is very easy to break something inadvertently.

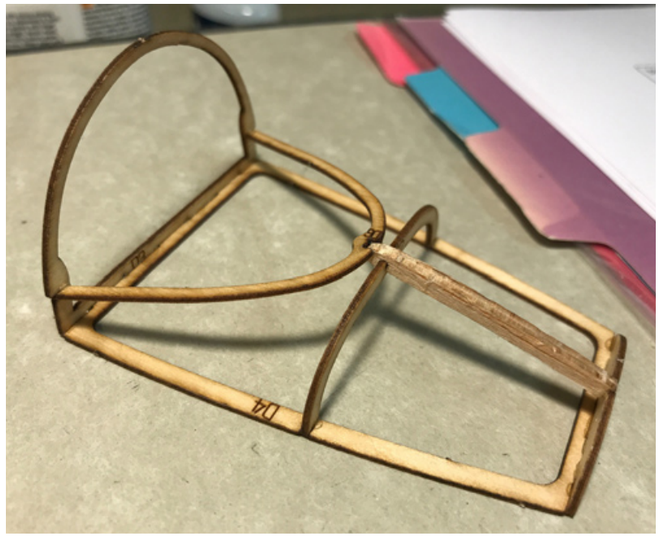
All photos: Robin Strange

The build started with the rudder, the front of which is sheeted with 1mm balsa. Next came the tailplane and elevators. So far I hadn't had too many problems, the parts fitted together well and they had been fairly easy to detach from the laser-cut sheets.

Next came the fuselage and this proved to be more of a challenge. It is built one side at a time on the plan and then joined together, a bit like the old Keil Kraft Minimoa. The frames are all laser-cut plywood of good quality but they were delicate though the strength came once it was all together and sheeted.

Sheeting the model was relatively straightforward so long as the balsa was wetted or steamed on the correct side before bending. The sheeting had only to be released from the laser-cut sheets and were of the correct shape for immediate fitment. The use of a lot of masking tape was the order of the day.

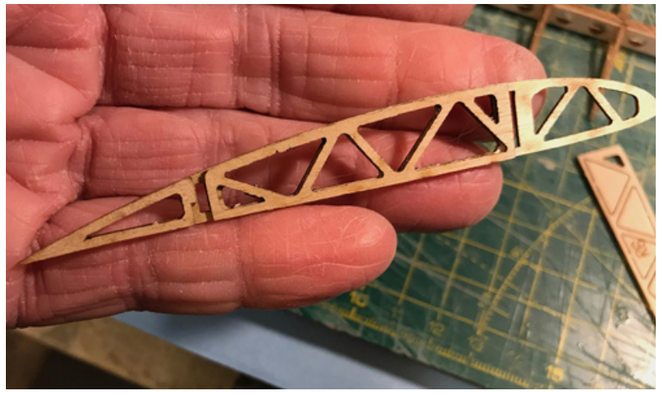
At this stage keeping the fuselage straight and true was one of the biggest challenges as it is such a lightweight structure and easily distorted.

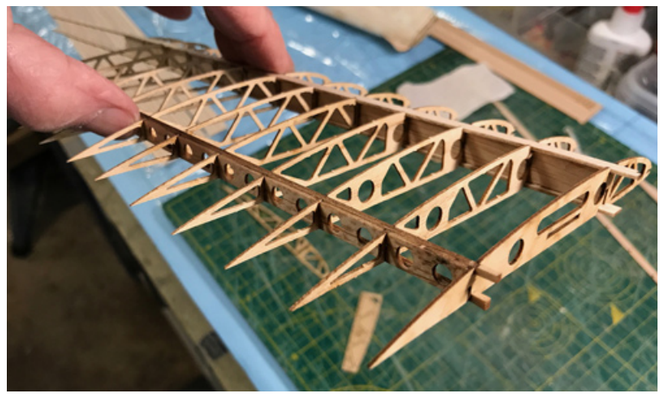


Next came the cockpit canopy and access hatch which is where a lot of fun started – or was it cursing? Seven pieces of plywood are used to make up the frame, which then has to be planked with balsa. Holding everything in place while glueing it was a nightmare.

The fuselage was completed by planking the nose area forward of the wing mountings, which again needed steaming or water in order to go around rather tight bends.

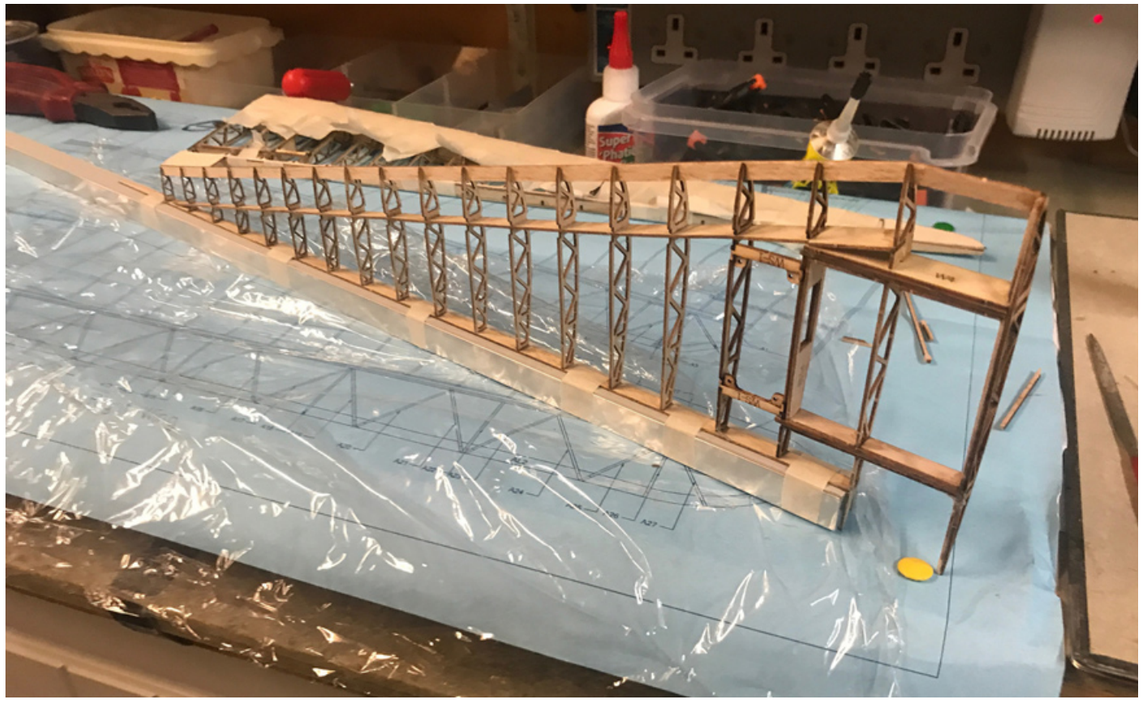
Each wing is built in two parts, the inner section to the gull break and the outer section including the aileron before all are joined. The process was relatively straight forward but you need a *very* delicate touch. I found that removing each rib from the laser cut sheet needed a great deal of care. Each rib has weight reducing holes that need to be opened up and with bitter experience I found it best to open up the lightening holes first before finally removing each rib from the sheets. Even the aileron ribs have been lightened just to add to the fun. Care was a necessity throughout the wing build and it was so easy, as I found out many times, to damage a rib while doing something else.





Keeping the outer wing trailing edge (TE) straight during the build was another challenge so I resorted to taping the TE to my trusty SLEC balsa stripper straight edge.

The model was covered in



Featherlight from Hyperflight, which is designed for use on indoor and lightweight models up to 2m wingspan. John Ivory had used this before and warned me that the application temperatures quoted by Hyperflight are far too high; John's advice supported by reviews on the Hyperflight website. The material will go around tight bends and I was able to cover the fuselage in one piece even going around the nose.

To finish the model off I created some decals as can be seen in the photos.

Robin with his finished Minimoa at Coombes. Photos: Jonathan Halford

Flying the 1/12th scale Minimoa

An unexpected calm day in January enabled Robin Strange to test fly his Minimoa

The opportunity arose on Saturday, 28th January to fly both my eCaprice and little Minimoa at Coombes as the forecast wind was very low, most unusual for our site atop the South Downs. For the Minimoa this was just to be a range check and test glide as it is unpowered and for this Clive Upperton once again did the honours.

After the successful range check we grabbed an opportunity between powered flying to use the strip for the tests as the rough areas outside didn't look too inviting and the strip is in fine fettle.

Clive gave the model a good straight and level heave-ho and off she went with a very gentle turn to the left requiring a few clicks on the aileron trim over a couple of test flights to eradicate the turn and a little up trim on the elevators to maximise the flight length. The short flight was almost a non-event. On landing it was a joy to see the model run along the ground on its single wheel before dropping a wing and coming to a rest.

The only excitement occurred when the port wing clipped Clive's hat on launch

Clive Upperton braved the cold to help out with the test flights

causing the model to make a dash towards the ground to his left, which was hastily corrected, bringing the Minimoa back under control before *terra firma* intercepted the model's trajectory.

My next actions are to fly it off a slope when the conditions are right and I'm also thinking of using an aerotow launch at Coombes using a Wot4 as a tug and a simple Velcro attachment on the nose of the Minimoa to pull it aloft. Watch this space.

WhatsApp groups

Chairman* Les Crane explains how joining a WhatsApp group can help you get the best from your SRFC membership

What is the biggest unknown for new or existing members? Simple, knowing when is the best time to go flying so that you don't arrive at the field and find yourself on your own. That can be demoralising but is easily avoided. Just join and be active in a WhatsApp group.

The club has three groups at the moment and all members are welcome to join one or more to suit their flying taste and time availability. While they were originally set up to find out who is flying when and where, their use has widened considerably and now encompass almost any flying related issue, e.g. a mass build as undertaken by the glider group this winter which included advice, photos, discussion on problems, etc, or what engine/power train to put in a model, the weather forecast for a particular day/event and even birthday greetings or get well soon message to a member. The groups are informal, sociable and not without humour! Just choose the group(s) that suit your needs best and give your mobile number:

Coombes Flyers. This group is used predominantly (but not exclusively) by those who fly in the morning, lunch time and early afternoon, fixed-wing power and e-gliders. To join e-mail Robin Strange: robin.srfc@gmail.com.

Flying Today? This group comprises (again not exclusively) those who fly in the afternoon and evening, fixed-wing power and e-gliders – normally, therefore, from the south or west side. To join e-mail Grahame Pearson: grahame.pearson.srfc@gmail.com.

SRFC Gliders. The name gives it away. Unlike the other two groups, the glider section has two club sites (Coombes and Ashurst) plus a number of other venues, some close, e.g. Mill Hill, Beeding Hill or Chantry Hill and others further away, e.g. Itford Hill, Firle Beacon or BoPeep. Thus, being in this group also lets you know where they will be flying on a particular day as well as who is going. To join e-mail Robin Strange: robin.srfc@gmail.com.

If you prefer, e-mail me and I will pass on your details: les.crane1946@gmail.com.

At the moment I am not aware of an SRFC Helicopter WhatsApp group but if one exists I will circulate details.

The Committee is aware that over the years the flying emphasis has changed from mainly weekend flying to weekday flying so if there are members who would like a weekend group to be formed let us know.

It is the club's firm intention that new members are made to feel welcome and inclusive from Day One and, apart from attending our indoor and outdoor meetings, there is no better way of becoming involved than joining and contributing to one of the WhatsApp groups. Apart from knowing who is flying, where and when, the groups provide a whole raft of support, help and encouragement – plus the usual ribbing if like me you suffer a senior moment when building or flying!

**Written prior to the AGM. See note on page 4.*

SRFC Committee 2023/24

Chairman	**Derek Woodley** **chairman.srfc@gmail.com**
Secretary	**George Evans** **srfcsec.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**
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Training Co-ordinator	**Mark Vale** **memsec.srfc@gmail.com**


Derek


George


Shaun


Mark


Robin


John


Grahame

Non-Committee Positions

Poling Representative (Helicopter Rep & Field Maintenance)	**VACANT***
Field Maintenance (Coombes)	**Ken Hamer**
Social Events	**VACANT***
Website & Data	**Robin Strange**
Safety Adviser	**Dave Knott**
Safety Marshall 1	**Paul Gladstone**
Safety Marshall 2	**John Wase**
Safety Marshall 3	**VACANT***

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