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Photo: Grahame Pearson

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FlyPaper is published at the beginning of March, June, September 2023 and January 2024 (see above note).

Submissions for the September issue must be submitted by 15th August.

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.

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From your Chairman

Derek Woodley reports on recent activity

First I would like to welcome all those new members who have recently joined our club. I do hope you have been made to feel welcome and are enjoying the brilliant flying facilities we are able to offer.

The Coombes strip has been rolled and cut short recently and now, thanks to our excellent 'Mowing team', has an excellent surface. If you are able to spare a little time to help with the mowing it would be greatly appreciated.

Those that fly at Poling also should also remember to lend a hand with the site maintenance, especially grass mowing, whenever possible.

Sadly the weather in April had not been so conducive to model flying and our planned Glider and Power Competitions were cancelled as a result.

However, the monthly glider get together at Ashurst on the last day of April was able to go ahead and those attending were able to enjoy a full day of friendly flying. The 'for fun' competition with the Keil Kraft Caprice gliders was a great success and thanks must go to Robin Strange for organising the day so successfully.

Please do look at our website for the dates of the various competitions and events

that are planned for this year.

The first of our summer evening club evenings took place at Coombes on 5th May and fortunately the weather was good with the wind falling light by the evening. The turnout was excellent; I counted over 30 parked cars, and we enjoyed a lot of varied flying.

Thanks go to George Evans and Mark Vale who did a superb job cooking burgers and sausages on the barbecue and a good time was had by all.



I would draw to your attention our Annual Fun-Fly day which this year will be held on Saturday 5th August. This is a general all-day get-together for members and families and will include flying slots for all the various model flying disciplines.

Enough from me for the time being, we will keep you up to date by e-mail with relevant club matters, remember to check your spam folders!

Happy flying!

Note: from 2024 FlyPaper will be

published at the beginning of

January, April, July and October

Diary dates

Outdoor barbie 'n' fly evenings at Coombes

Club evenings: 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!

Summer Fun-Fly

5th August Our annual get-together. 5th August is a Saturday,

keeping the Sunday in reserve should the weather

decide to muck us about.

The day will include:

Gliding and Power competitions

Helicopters Vintage fliers Warbirds

More TBC (watch out for e-mails nearer the date)

The monthly club night is on the Friday evening before the event and will be used to set-up the field for the Fun-Fly event.

A barbecue, tea, coffee and usual chit-chat will be laid on.

Members' families are warmly invited.

Outing to Gliding Heritage Centre at Lasham Airfield, Hants.

16th August Interested? Email Roger Strange: robin.srfc@gmail.com

Peter Plank Memorial Day

9th Sept 16th September if weather poor on 9th.

Following the huge success of last year's event in celebration of long-standing SRFC member, the late Peter Plank, we are repeating the event. It may even become an annual event. Flying is primarily for ex-'Planky' models.

Power Competition dates

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

Monthly competitions: Third 9th June

Fourth 14th July
Fifth 11th August
Sixth 8th September

All are on Friday and start at 1pm at Coombes. Some have already taken place but don't let that deter you from having a go. 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 summer!

Competitions: 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 25th June (to include single model 30th July competition): 3rd September

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The Plane on the Cover

Mark Vale's Black Horse Focke-Wulf Fw-190

'Stills' taken from Grahame Pearson's video of Mark's Fw-190 flying at Coombes, 19th March 2023. Model is 70" wingspan and powered by a Laser 150 4-stroke engine. View the video on the SRFC YouTube channel.









Gliding – the year so far...

Robin Strange reports on gliding at Ashurst and Coombes

Up until now the weather has been winning as the first two mid-week competitions were rained/blown off, though we did manage a day of gliding at Ashurst for our

April meeting.



The weather on 30th April at Ashurst had its moments with massive lift one minute and nothing the next. Nevertheless, we held the first of our 'single type' competitions using our modified Keil Kraft Caprices (a sudden and usually silly wish to have or do something) which took to the air in relatively light wind conditions. Eight of us took part and after a number of rounds the winner was Mark Vale. We then had a

further two fly-offs and in each Derek Woodley was the last man in the air – well done to both.

During the 'single type' competition fly-offs the most obvious thing was the vastly different climb performance of the models even though the power train was identical.

A moment of light relief, for some, occurred when Colin Lucas's model decided to clap wings – the detached wing landed on *terra firma* while the fuselage, tailplane and one remaining wing panel landed in a very thick hawthorn hedge. Colin concluded that putting a heavy LiPo in the model was the probable cause of the failure as his model was far heavier, thanks to the battery, than anyone else's. George came to the rescue with his Land Rover, allowing him to stand on the bonnet and to try retrieve the fuselage with some success. Unfortunately the tailplane split in two and fell to the bottom of the hedge with a wing panel. David King was the hero of the moment by using a mat to give some protection and leant in towards the centre of the bush to get







hold of the fuselage which George had dislodged. He then crawled in at the bottom to recover the wing panel and part tailplane. A little blood was spilt through his escapades in the hedge but he was still smiling at the end of the day.

As we had lost two mid-week competition days we had an informal competition with Colin adjudicating as he hadn't brought a suitable glider. Good fun was had by one and all.

Mark brought along his Microaces Albatros D.V and gave it its maiden flight, the video of which can be seen on our YouTube video channel. (See separate article on this model, page 18. Ed)

Clive Upperton brought along his little Veron Tru-Flight Aeronca Champion, which he flew successfully.

On the 11th May we managed to hold our first mid-week competition at Coombes in good conditions but with quite varied lift. We held our two rounds with a total of six





people taking part. Overall Mark Vale is leading the way with George Evans coming a close second and me third with 102 points out of 2000 awarded covering the three of us so all to fly for.

All in all we had a great day at Ashurst and good gliding at Coombes for our first mid-week competition at the latter.

And now for something different, I am planning a visit to the Gliding Heritage Centre based at Lasham airfield in Hampshire for the 16th August. If you are interested in joining us please let me know by e-mail: robin.srfc@gmail.com.



Around the World in Eight Hours

The BMFA are holding a nationwide Around the World in Eight Hours Charity Distance Challenge. George Evans explains...

Building on the successful world record last year of the most model planes in the air at a single time (3109 models at 263 clubs) the BMFA are promoting another record attempt this year. Held in the first week of July, and coinciding with our July Glider competition and July barbecue 'n' fly evening dates, the BMFA are going for a new record. They are looking to get enough aircraft flying as far as possible in eight hours so that, when all the member clubs' totals are added together, participating models will have flown around the world – that's 24,901 miles or 40,075 kilometres!

This is not as crazy as it sounds. The numbers say if 200 clubs participate, and each club does 800 laps of 250 metres, then over the eight hours the record will be achieved. That's 100 laps per hour so if we fly, say, five planes at a time we only need to do 20 laps each in the hour to reach the 800 laps in eight hours. This is a more difficult challenge than the previous attempt but is not un-realistic.

By some coincidence our patch at Coombes is about 70 metres square which, if we fly a normal circuit, gives us about 250 metres per circuit.

Even though the weather last year was poor for the record attempt I think all those who turned up enjoyed themselves. Therefore, we thought that, as a club, we would support the BMFA's record attempt again this year.

The plan is to incorporate this into the afternoon of the July Glider competition on 6th July (after the competition) and also on the July club evening the next day (7th July), splitting it four hours each day.

Chairman Derek has agreed to be the official recorder for the club. The organisation should be quite light, with just a small team of lap counters to record how many laps were done and the name of the person who did them. As all you need to do is circuits so there is no reason why people undergoing training shouldn't be able to participate as well.

The BMFA have also arranged this so that it can be a sponsored event so that money can be made for a local charity(s).

So charge up your batteries and get ready to fly around the world!

More details will be sent via e-mail closer to the date but keep the 6th and/or 7th July free. See bmfa.org/2023-distance.



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First outdoor club evening of 2023

Good weather drew the crowds on 5th May. Robin Strange reports

Postponed from April due to poor weather, our first outdoor club evening of 2023 took place at Coombes on 5th May. We had good weather with light winds and some sun, so someone must have been praying to the weather gods, though it did get quite chilly towards the end of the evening.

With the favourable conditions we had a good turnout with over 30 cars lined up. The barbecue was lit by Mark Vale, assisted by George Evans, and a variety of burgers and sausages were consumed. The world was of course put to rights while the food was consumed supported by numerous cups of tea and coffee – there was even some flying. Let's hope that future summer club nights are equally well supported by the weather and club members.



Barbecue Meisters Mark and George in action – thanks guys



The assembled hungry masses getting stuck in

















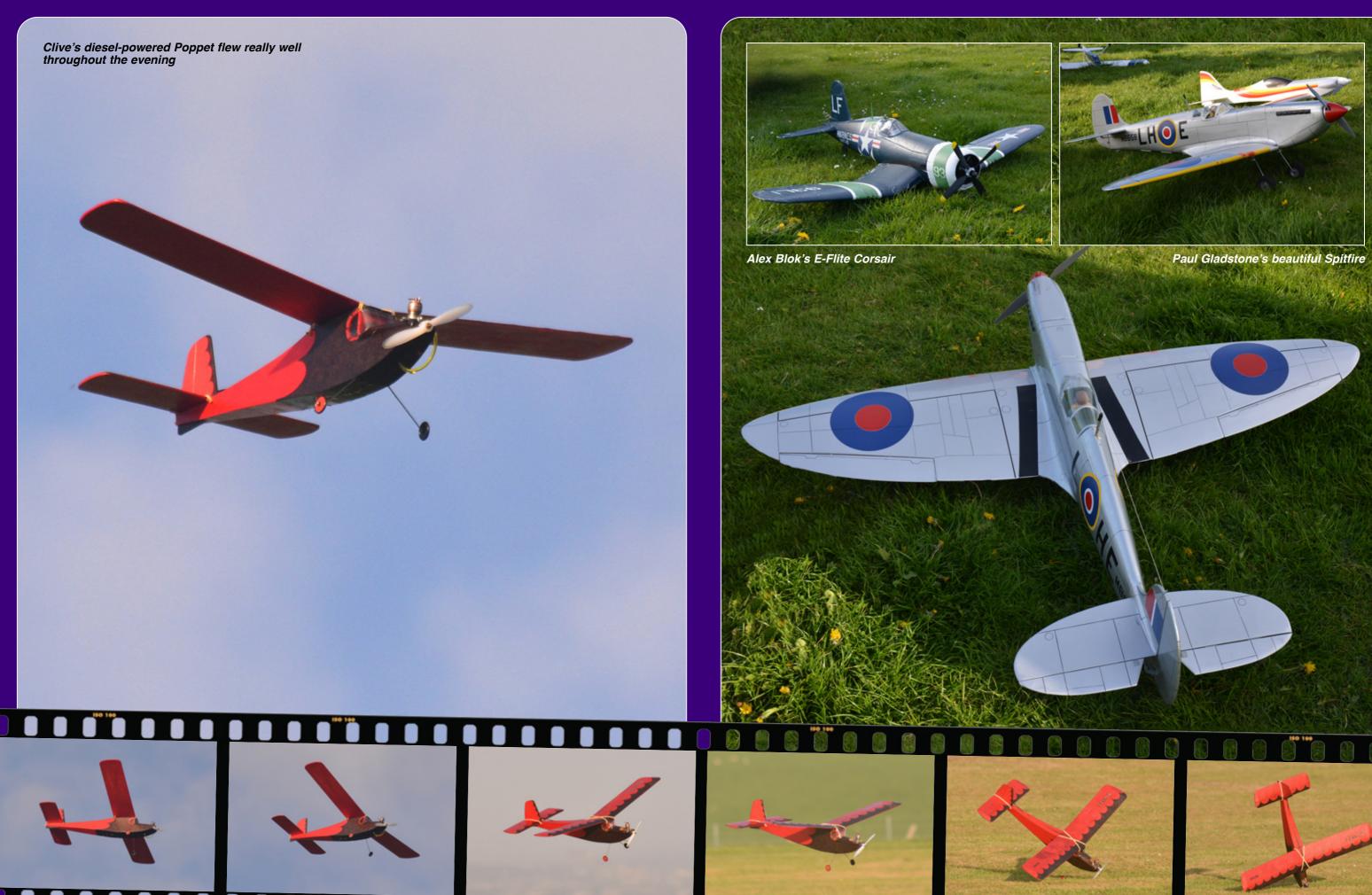






Paul Gladstone's Beechcraft Texan II doing its thing





Which one do I choose?

Mark Vale was spoilt for choice with so many exquisite little models available from Microaces but plumped for the Albatros D.V

Microaces is a company that produces impressive scale miniature radio control aircraft. These aircraft are modelled after real-life planes and are designed to be incredibly accurate and detailed. They are made with high-quality materials and feature intricate designs that capture the essence of the original aircraft. What sets Microaces apart is their focus on authenticity and attention to detail which makes their models stand out from the rest. Whether you are a seasoned pro or a beginner, Microaces offers a range of options that are sure to impress.

In August 2022 I took a trip with three other SRFC members to the Popham model show at Popham airfield, near Winchester, Hampshire.

Of all the different manufacturer stalls that were set out, the only one I have a distinct memory of was the Microaces stall. I was intrigued by these miniature, accurate scale models. At first sight of them I thought they were just static ornaments until I clocked a transmitter on the table and realised they were R/C models.

I am one of those fortunate people burdened in life with a slight case of compulsive model buyer disorder – CMBD – and it was all I could do to resist purchasing one right there and then. I had a problem though, which one would I choose as all were very good and pretty to look at.

To appreciate my dilemma you may wish to pause at this point and visit microaces.myshopify.com . You will see there are four different series of models to choose from: the Tutor stand-off scale series, the Aero series, Master series and Twin stand off scale series. There are currently 36 different models to choose from!

The three-channel Tutor stand-off scale series are relatively quick and easy to build and fly and some of them can also be considered as trainers.

The three-channel Aero series at 1/24 scale introduces you to a more complicated build with great scale detail.

The Master series is a step up in detail and size. Models are 1/20 scale giving room inside for four channels.

The Twin series are stand-off scale and, as the name suggests, are twin-engined machines. Depending on which one is built it may require five- or six-channel radio.

Miniature lightweight receivers to suit Spektrum, Frsky and Futaba are available through Microaces, some with gyro stability as an option. Miniature servos are of course available as are motors, ESCs and propellers. Everything you need.

Very quickly I picked the Albatros D.V - in 'Iron Eagle' markings from the Master series as the one I would like to build. (That's pronounced Albatros D *five*, by the way; it's a Roman numeral 5.)

I put a plan into action to get my hands on a kit, plus a miniature FrSky receiver and three servos. The receiver for the Albatros has a Brushless ESC built into it.

The plan came into fruition on the morning of 25th December 2022!

I started building at the beginning of March 2023.

The Build

The vast majority of the parts are laser-cut, whether they are made from foam, Depron, Tyvek or plastic. Tyvek is a sort of synthetic paper onto which is printed the incredible detail. There are also a few laser-cut wooden parts included for the engine mount, undercarriage mounting and fuselage access hatch. There are a lot of bits in this kit – small fiddly easily mislaid bits. In the kit you are also supplied with some lengths of very fine carbon-fibre in flat section, rod and tube form, and a sheet of detailing stickers. In some places that require a bit more rigidity the carbon-fibre section is often glued to a plastic part and then the stickers are used to cover it over.

Fuselage

The fuselage structure is made from foam parts that are carefully removed from thin sheets of laser-cut foam and then glued together. Throughout I used the recommended glue for construction: Foam To Foam made by Deluxe Materials.

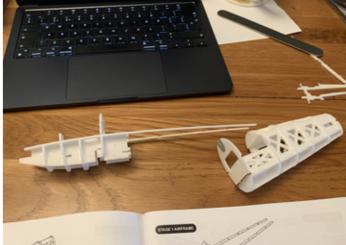
The structure at this stage is very flexible and soft and it is not until the Tyvek outer covering is glued in place that the structure gains its rigidity.

Even at this early stage in the build I was impressed with the kit. It is extremely well thought out and the quality of all the parts is excellent. Even side thrust for the motor is built into the construction with slight differences in the laser cut of the foam parts where those pieces are sandwiched together.

I followed the construction closely with the Microaces YouTube video that takes



Depron fuselage parts fragile until 'Tyvek' printed covering added which adds strength and realism. Photos: Mark Vale





you through the entire construction of the model start to finish. If you want to build one of these models, I would absolutely recommend to make use of the constructional videos, as although you can do the build by following the paper instructions alone mistakes are easy to make and you would miss out on a lot of building advice and tricks.

Wings

After the fuselage, the bottom wing is constructed next and it is fairly straightforward. You have to fit pieces of plastic tube resembling small straws in both wings. These



tubes carry the cables and cords which operate the ailerons. The ailerons are operated with a closed-loop (aka pull-pull) system which runs along the bottom of both wing panels to the outer cabanes and then turn through 90 degrees up to the aileron bellcranks in the top wing, all very ingenious. The servo for the ailerons is mounted (buried!) in the bottom of the

fuselage. It is important that the servo is tested and centred before being hidden away!

The upper and lower wings are mainly made from very thin Depron foam. The edges are carefully chamfered so that when folded over the spar to make the wing section the edges come very nicely together.

What threw me for a while was that the wing spars are made from that same soft squidgy foam the fuselage is made from and are not much more than 1/8" thick. The spars are about as rigid as a piece of chewing gum. That is until the spars were glued into the wing and the wing then folded at the leading edge. OK, I thought, this might actually work.

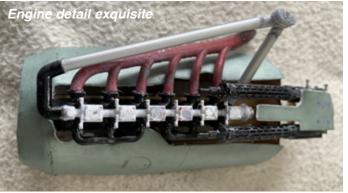
Well it nearly did... the next day I discovered that I had fitted the spar for the top wing the wrong way round, actually quite an easy mistake to make. This meant that the spar did not locate in the notches in the top of the cabane struts mounting plates. I e-mailed Jon Porter of Micoaces fessing up to my mistake, thinking he would find it amusing and charge a packet for another set of laser-cut sheets. He in turn owned up to doing the same thing three or four times himself. Anyway, a very reasonable £25 later I had a new wing rescue kit of parts.

Rigging

The most fiddly part of the construction is the rigging and the miniature plastic rigging anchor parts. All these tiny parts are made from laser-cut plastic sheet and often have to be folded over and glued together with minuscule holes lining up so that the rigging cord can pass through. You are supplied with a rigging tool in the kit, without this it would be impossible to thread the rigging through the holes. I was most surprised the tool itself fitted through







the holes as I was sure the holes would be destroyed and torn apart by the tool. The plastic is surprisingly tough though and all was well.

Flying

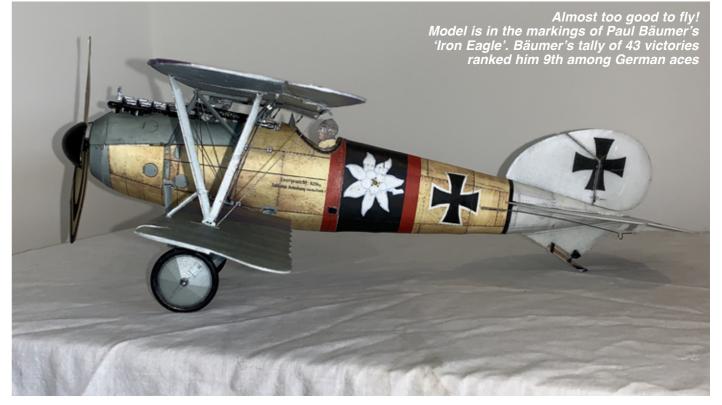
I completed the build around the beginning of April. All the rigging was tight, the servos and push rods fitted, the ailerons rigged and the motor turned the correct way.

The CG was about right so it was time for it to fly. The maiden flight was done at Ashurst. I reasoned the grass was long and that would help with when the

inevitable happened. It was a bit breezy which is not ideal for a model of this size but I gave it a go anyway.

The Albatros flew quite well but was a handful as it was tossed around in the breeze. The flight lasted until the push-on propeller span off and then gravity took over. You can watch the video of the maiden flight on the SRFC YouTube channel.











Mustang R.I.P.

Before and after photos of Mark Snow's Mustang crash

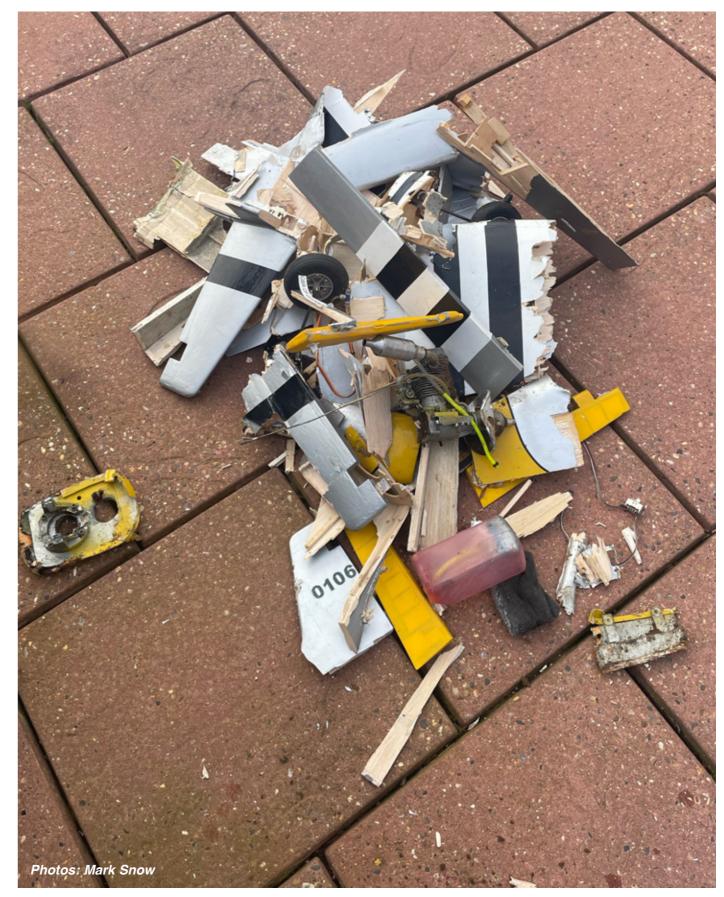
Mark Snow's Mustang met its end on 16th April. The plane took off on its maiden flight piloted by Dave Knott and was flying beautifully when suddenly all control was lost and the model crashed some distance away in a neighbouring field. It was eventually found though the engine took some time to extract from the soil, being buried



several inches down.

Although no obvious cause could be found Mark Snow suspects his transmitter may be to blame as has had three models go down, all with sudden loss of control.

Refusing offers of T-Cut to polish out the scratches, Mark said, "These things happen, as we know." Oh, yes, we all know only too well...



Power model group build

In memory of the late Peter Plank – 'Planky' – George Evans announces a one-design power model group build

Following the recent successful group mass build of an electric glider (the KK Caprice) a group of club members have found a plane suitable (i.e. cheap, quick and easy to build, big fun factor) for power flyers; it also has a suitable name for one of the planned club events.

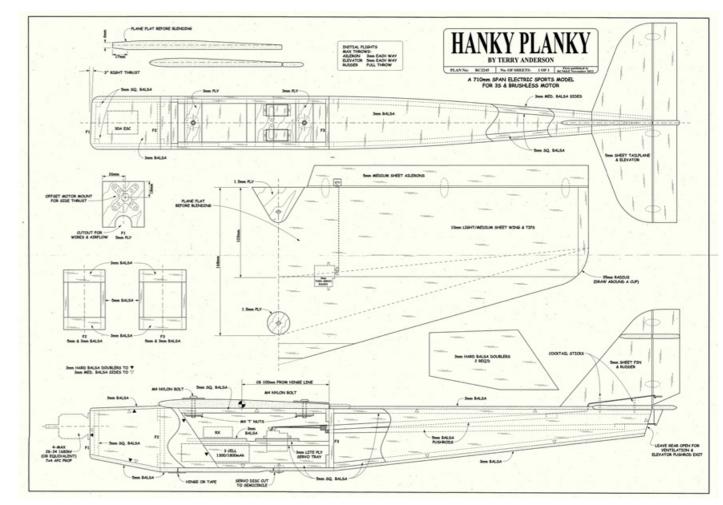
It's the Hanky Planky!

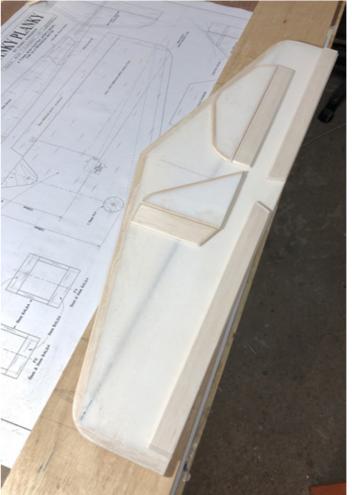
Hanky Planky is a basic design weighing about a pound without the battery (450g) and with about 200 Watts of power.

At least five are currently being built and depending how many get built we'll have at least a couple of low-key fun competitions to try them out, see the *Wacky Races* link at the end of this article.

The plan was featured in the November 2022 issue of *RCM&E*. Designed by Terry Anderson the model has sparked a number of mass builds in other clubs, perhaps most notably the Bury St Edmonds club. Links to their blog and other details including some competition ideas and rules are, again, at the end.







The build options are balsa or Depron or hybrids of the two. A quick look at the build logs shows it's easily possible to build the plane in a weekend. The plan is available from *RCM&E*.

The original motor is not available at the moment but Overlander (link below) have a suitable motor: a Thumper 2830 1300kV (210W) which is an equivalent and also cheaper than the original option, cost is just under £20.



Spar is 5mm carbon tube (available from Bucks Composites in Lancing or SMC (links below).

Alternatively Ron Gray from the Bury St Edmonds club is producing a short Depron kit (including Depron, spar and motor but no balsa or radio) for £33 (correct when e-mail originally went out to members in mid-March).

I think we should keep as close as possible to the basic plan outline and motor/power train so that any competition that comes out of this will be reasonably fair.

We also have a WhatsApp group for those interested in the build, contact me if you want to be included – my e-mail address is on the back page.

Links

RCM&E: www.modelflying.co.uk/november-2022

Forum article: forums.modelflying.co.uk/index.php?/topic/51810-hanky-planky-foamy-woamy/&tab=comments#comment-940915

Ron Grey's competition page: bmfc.bmfa.org/hanky-planky-2023-club-competition-steed **Overlander Motor:** www.overlander.co.uk/rc-motors/outrunners/2830-09-1300kv-tornado-thumper-v3-brushless-outrunner-motor.html

Carbon spars: www.bucks-composites.com/products/carbon-fibre-pultruded-hollow-round-tube-1-metre-long

or www.sussex-model-centre.co.uk/products/carbon-fibre-round-tube-5-0mm-x-4-0mm-x-1m?_pos=5&_sid=16ced73e3&_ss=r

Depron: www.diy.com/departments/vitrex-classic-5mm-foam-laminate-solid-wood-flooring-underlay-panels-pack-of-19/5011204608997_BQ.prd

(You may find it easier to refer to the e-mail sent to all members on 14th March entitled *SRFC Power one design build and fly* plane which has clickable links.)











Safety: it's a mind-set

More gliding reminiscences from Alan Lamb

How many pilots have you heard pretending they could never understand why anybody would voluntarily jump out of a perfectly good aeroplane? These days sky divers do it for fun and keep a log of such jumps, but it is easy to forget that parachutes were once used in anger by many a pilot, as a routine thing, if they were lucky. My father was in the RAF and as a small boy I asked him, as we all did, "What did you do in the war, Daddy?" He explained that he had been "on Safety Equipment". It transpired that he spent most of his service packing parachutes. "Every time I packed a parachute somebody's life depended on it". He was an intense perfectionist all his life and this had clearly been spotted very early on by the RAF. I probably owe my OCD to him! I certainly do owe him a very good instinct for self-preservation in hazardous situations and how to be alert to danger. Every time I catch one of my sons with a blade or a power-tool in his hand, I hear my father's words and cannot help myself. "Both hands behind the cutting edge!"

Back to parachutes. One season we had a new CFI (Chief Flying Instructor) at the gliding club and one of his new rules was that everybody, not just the single-seater pilots, but everybody without exception, must wear a parachute on every flight. At first this amazed everybody and even rubbed a few members (and instructors) up the wrong way because of its zero tolerance of dissent. But all obliged, even if some of them only grudgingly. To cut a long story short, by the end of that season four lives had been saved in two separate incidents, both involving two-seaters. How very true it is that all human progress depends upon somebody being unreasonable.

The first incident involved two friends, both instructors, out for a pleasure flight on a sunny day in a Caproni. This early glass-fibre glider is distinctive for its side-by-side format, with a wide, clear Perspex canopy. That said, the type is considered to be a vintage glider. You would have thought that a couple of instructors could come to no harm in such an aircraft, but that afternoon in a moment of laddish over-exuberance one of them exceeded the VNE (velocity never exceed) in a loop and pulled the wings off it causing it to break up in flight while at 2000 feet over Evesham. They knew the drill, un-buckled their harnesses and went for the canopy release. No dice. This was jammed and would neither open nor eject. And here is where the side-by-side format saved them. Together, using their combined strength they were able to kick out the canopy and throw themselves over the side. And all of this while tumbling through the air with no wings! Amazingly, both were able to pull their 'chutes open and both touched down within four seconds of the canopy deploying to arrest their fall, one in the back garden and one in the front of the same house! Even after their safe landing a falling wing landed two metres away.

The second incident was even more amazing, a true 'act of God'. One experienced instructor was taking an 'ab initio' student up for his first flight. The lad was 19 and turned out to be a remarkable young man. As luck would have it their K21 was struck



by lightening at 2000 feet above Dunstable on a sunny but thundery afternoon. The strike caused total structural failure of the aircraft, breaking the main spar and causing the wings to fall away in several pieces. The loud impact also knocked the instructor in the back seat momentarily unconscious.

The young man in the front quickly realised there was no answer coming from the back seat and went about evacuating himself from the glider, can you believe! Somehow, he had paid enough attention to the instructor's safety briefing before the flight and knew what to do. (After all, there is no point in having a parachute, or a fire extinguisher, or life raft or anything else if you don't know how to use it.) Incredibly and without any assistance from behind he kept calm enough to remember the sequence he had only just learned: release his harness, release the canopy, eject the canopy, roll himself over the side of the cockpit and then release his parachute and float down to earth, again with just seconds to enjoy the view. Meanwhile, the instructor came to, wondering for a moment why his front seat was empty! "Where has my pupil gone?" He quickly computed that his pupil had jumped ship and thought it prudent he should do the same and threw himself out of the glider, pulling the 'chute instinctively before floating for a few seconds, dazed and confused. Upon landing safely neither of them could explain what had just happened to them. One minute they were silently gliding along when suddenly there was a very loud bang... and then they were falling to earth. Everything else just fell into place through a combination of training and instinct.

True stories and remarkable both, not just for the obvious joy and relief at the successful deployment of all four parachutes, used in anger (and correctly packed!) but also for what we can learn from them. About the first tale one can only say that sometimes we need saving from ourselves, and while it might be a cheap shot to point out that two instructors should have known better than to exceed VNE, there



are times when our judgment lets us down and we do things we wish we hadn't. The trick is to survive, and this is where the second story is so uplifting. The young pupil showed a remarkable survival instinct and took responsibility for his own safety by paying attention to every part of the entire safety briefing as if his life depended on it, which indeed it did, and he lives to tell the tale, as do all four.

So, having touched upon the human frailty of the instructor species, I have to end with a story so ridiculous you will think I have made it up, but believe me, this is not so. We were on a club expedition to Aboyne airfield, on Deeside with a number of club gliders among the private owners, and a handful of club instructors too. An experienced pilot took off alone in a K21 one afternoon and disappeared up into the strong wave. The way he told it later, he was up at around 18,000 feet when suddenly it was "Goodnight Vienna!" - his words, not mine. He knew that he was passing out and instinctively grabbed full airbrake and hung on for grim death while trying to force breath into his lungs and figure out what was happening to him. All he could do was hang on to the brake and try to keep the wings level until he had shed a few thousand feet. As his senses returned he looked at the oxygen tap to find he had inadvertently moved it in the wrong direction. He had moved it from the halfway position (at the 'MIX' setting, giving only 50% oxygen flow) to OFF instead of full ON. He had set it to 'MIX' at 10,000ft and this mistake happened at 15,000ft when he needed to switch it to full oxygen. Having literally caught his breath, it was at this point that his problems really began. Unforgivably, he had taken off with no map, and now had no idea where he was. He was lucky to return at all. And this is the part I could not have made up. Not only was this pilot a full-time salaried instructor, but also the club Safety Officer. ("Don't tell him, Pike!")

Some good, some bad...

... some nothing at all! Les Crane elaborates in his latest build report

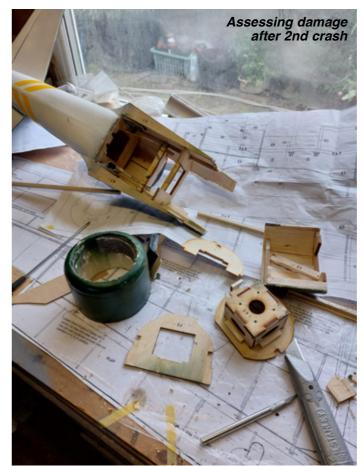
A short report this time. I have now corrected the awful anhedral on the Fieseler Storch mentioned in my last report (*FlyPaper*, March, page 26), attached the front slats and balanced it ready to maiden but at the time of writing have not done so.

However, with the Cambrian Fun Fighters Zero the news is bad and worse! I finished the build and was left with balancing. I was not happy with the CG as per the plan but decided I had to go with it despite it seeming too far forward. Having done so it felt far too nose heavy but I decided to maiden it as that was where the designer said it should balance. The hand-launch flight was short, the model seeming too heavy to fly and hitting the ground flatly after about 20 yards causing damage to the motor mount.

Back home with damage repaired I set the CG about 10mm further back and changed from a 3S to a 4S battery.

After some discussion about balance at the field, the battery was moved back and the model went away sprightly but on levelling off and turning it went into a spiral dive from which it did not recover, the consensus being that it had been tail heavy. The damage was substantial but repairable and I have since repaired it but have not tried to fly it. I am not confident as it is a heavy model, I think the kit should require sheeting







in 1/16" not 3/32". Also I have reverted to the 3S 2900 but it still comes out at 3.5 lb despite only being 42" span.



You may not know that my Fw-190 had a close encounter of the *terra firma* kind in March. Initially I thought it was too bad to repair but it was a lovely model and flew well so I decided to get a plan and new cowl from Tony Nijhuis and give it a go. Six weeks later and after a lot of surgery we are ready to fly again. It has not been maidened at the time of writing.





I am now concentrating on the Miles Gemini, a 71.5" wingspan twin-engine, twin-rudder 1940s light aircraft. The wing construction is different to the normal rib and spar approach. With this you build two 'ladders' and then join them to make a sort of rib shaped wing. To that you add the front D-shaped leading edge, the rear part of the wing and the aileron, plus the nacelle. Having built two opposite wings you join them together and build onto that the front fuselage. The rear fuselage is built separately and joined to the front when preparing to fly, the method of attachment was defeating me despite much checking of the plans but as I build the model in sections it is slowly





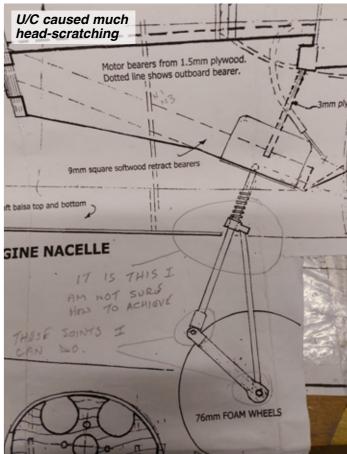
starting to become clear – the plans are not very clear on this point. This is not a normal situation where the wings are attached to the fuselage, here the rear fuselage attaches to the front fuselage/wing assembly. I have built the two main wing panels and top sheeted them, leaving the lower sheeting until after servos are installed and engine nacelles built. I have built the front fuselage framework and the rear fuselage framework and now



the tricky part is to come, sorting out the joining mechanism, fitting it to the rear fuselage and also to the front fuselage at the same time as joining the two wings together and glueing the front fuselage onto the wings. If it sounds confusing that is because I am confused.

One of the next jobs is to fit the nacelles, motors and undercarriage. The U/C is raked forward and is then cranked backwards as you sometimes get with a nosewheel. It is also sprung with a trailing link and I have asked for help on how to achieve this. A worry is that if I bend or cut the main leg to achieve the backwards angle I will, effectively, ruin the leg for any other model if it doesn't work out! Hey ho, await the next exciting (?) instalment.





Retro Radio Control

Derek Woodley dusts off his early R/C equipment, still going strong today!

In recent years I and a number of my modeller friends have developed an interest in retro R/C, both old model designs and old radio systems, fuelled in part by articles in *RCM&E* by Shaun Garrity and Phil Green. Perhaps we are reliving our youth!

To go back to the beginning...

I started flying radio controlled model aircraft in 1964 when, aged 16, I moved from control-line combat models to the challenge of single-channel radio.

I used to cycle from Worthing to a field near to Findon, with a model tied on my back, and soon picked up the art of 'button pushing' to control rudder and successfully fly these simple aircraft.

Incidentally Roy Scott – founder of Micro Mold and later Sussex Model Centre – appeared from time to time at the Findon field also attempting to fly single-channel.

At that time Harry Brooks, who lived in Hove and had become joint R/C World Champion in 1962, was the local R/C 'ace' and had started to import American F&M multi-channel equipment that used ten separate channels (hence the name) that gave control of aileron, elevator, rudder, motor and elevator trim.

I was very fortunate to be invited to fly my single-channel models with a group of Harry's friends who called themselves 'The Southern Multi Fliers' and were all using

the imported 'multi gear'.

Harry took pity on me struggling with singlechannel and agreed to sell me an early set of F&M multi-gear that had become outdated due to its valve-based transmitter technology. It had been superseded by newer transistor-based equipment.

Technology moved on apace in the R/C world during the '60s, and by 1969 multi-channel switch-based gear was replaced with the proportional control system that we are all familiar with today.

So how did all this old equipment work?

The early **single-channel** transmitters (see photo, right) operated on 27 MHz and merely emitted an AM tone each time a button was pressed. (The transmitter in the photo has been modified to operate on the modern 2.4 GHz frequency but in terms of operation and visual appearance it is historically accurate.)

If a speaker were to be connected to the receiver it would sound a musical note (e.g. middle C) each time the button was pressed.







This tone output from the receiver was used to operate a rubber band-powered relay-type device called an **escapement** (photo, left) that enabled movement of the rudder.

The development and introduction of **multi-channel** equipment around 1960 was a huge step forward. By using spring-loaded switches up to ten separate 'tones' could be transmitted enabling ten separate commands to be issued. (Up elevator,

down elevator, right rudder, left rudder, etc.)

The transmitter pictured below is my valve technology ten channel F&M unit, also on 27mhz, manufactured in Albuquerque, USA in 1960.

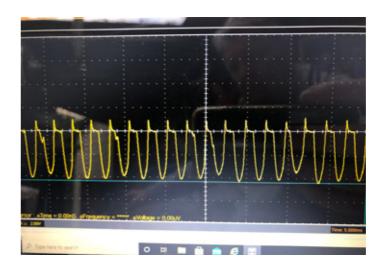
I had stored this old multi-channel equipment for many years and over the COVID lockdown period decided to renovate and restore it back to working condition.

Being valve based, the transmitter required a 120 Volt DC power supply for the main HT circuit plus a separate 1.5 Volt supply for the valve heaters.

Since the '70s it has been impossible to obtain suitable high-voltage batteries, but the advent of 'Buck' step up/down electronic voltage converters provided a method of generating the required high voltages that would allow me to get the old equipment







working again.

Numerous components needed replacing to get this transmitter working well during the restoration. All the capacitors, some of the valves and much wiring was renewed, but the result has been worth it as it now is reliable, temperature stable, and powerful.

The valves used are American and in their time (the '50s) were fairly high tech and able to produce the frequency of

27mHz which is towards the top end of the High Frequency waveband.

The AM wave form of a tone as transmitted is shown above.

I was lucky to find someone in The Netherlands who had a stock of ex-military valves that matched the type I needed to replace.

The new Buck power supply components needed for the 120 Volt and 1.5 Volt circuits are visible at the bottom of the case and are powered by 3S LiPo batteries.

The multi-channel receiver (which was transistorised) also needed restoration. Again the capacitors were replaced and then the unit re-tuned to match the transmitter. It incorporated a reed bank (see photos below) – the various reeds vibrate in sympathy with the audio tones received from the transmitter. A sort of mechanical de-coder!





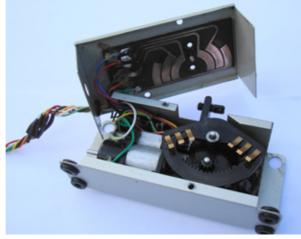
The vibrating reed touched a contact screw that would enable an electrical signal to be passed to a servo. The servo would run hard over all the time that the tone was received and return to a neutral position when the tone ceased. Control of the model was achieved by pulsing the switches thereby causing the servos to flick the control surfaces to less than full deflection.

The servos of the day were again American, designed and manufactured by Howard Bonner who himself was a trail-blazer of radio control in the 1950s and '60s. The electric motors used were unique to these servos and commissioned specially by Mr Bonner.

Below are pictures of a Bonner servo. The first photo illustrates the huge size (3" x 2" x 1") of the servo compared to a modern Ripmax SD200. Note also the size of the motor! It ran on 2.4 Volts.

The operation of the servo relied on many wiper contacts as can be seen in the second photo. Originally they were operated by relays, but servo amplifiers to drive the motor became available by 1961 and Harry Brooks sold kits of electronic components to construct these amplifiers. The servos were either self-neutralising as



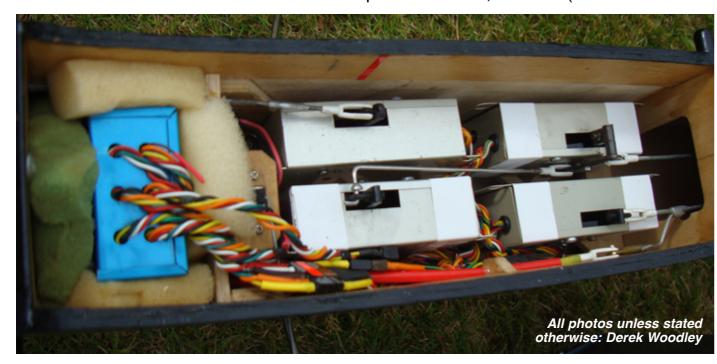


used on rudder or non-neutralising so they could be 'inched' forward and backwards for use with throttle or elevator trim.

The key to successful and reliable R/C flying was to regularly clean the contacts in the transmitter switches, the reed bank contacts and the servo wipers. Also the armature in the servo motors needed to be cleaned from time to time. Many hours were spent between flying sessions cleaning contacts!

The installation in a model was also fairly critical as vibration could play havoc with all these electrical contact weak points.

The photo below shows a typical installation of Multi-channel equipment. The Receiver is blue and the four servos operate throttle, rudder (and nose wheel



steering), elevator and elevator trim. The elevator and elevator trim were linked mechanically. The aileron servo is mounted in the wing. Notice the foam rubber surrounding the receiver to dampen vibration from the engine that might affect the reed bank. The orientation of the reed bank was arranged to be at 90° to the direction of piston travel in the engine – that's how sensitive it is! All this radio equipment weighed about 500 grams and the engine another 500 grams so models had to be built light to keep the overall weight down!

A 7.2 Volt rechargeable NiCad battery (itself a newish invention in those days) powered the airborne equipment and, being heavy, was always mounted ahead of the receiver to minimise damage to the expensive receiver in the event of a crash.



Here are some pictures of a Carl Goldberg Senior Falcon model I built a number of years ago and flew using the old ten-channel equipment. It is a typical multi-channel aerobatic model of the '60s. At the time this model was built I hadn't discovered the Buck step up/down voltage converters so power came from many 9 Volt dry cell batteries linked together to produce the 120 Volt HT needed! Not the

most reliable of arrangements, so I didn't use it for long!

Power was supplied by an old but original Merco 61 glow motor, which ran superbly.





And here are some more pictures of my single-channel Pal Joey model that you may have spotted at Coombes recently. I am flying it using the old 'push-button' type transmitter that's converted to operate on 2.4 GHz and using modern airborne equipment (receiver and servo) but retaining rudder-only control! Great fun, simple, inexpensive, something different and quite a challenge.

If you want to have a go at updating old proportional equipment to 2.4 GHz it's not that daunting. The only change required is to substitute the existing 27 or 35 RF transmitting section of the transmitter with a 2.4 GHz module. If you Google 'FrSky DIY module' or 'Lemon DIY module" you will see what is available. The FrSky will need a FrSky receiver and the Lemon will need a Spektrum receiver.

The difference with single-channel or reed gear is the need for an emulator that will mimic the tone generation system in a way a modern receiver can interpret. This is what the Phil Green emulators did. These are linked to the DIY 2.4 GHz modules to transmit in a way a modern receiver can use.

However, the world has moved on and it is now possible to use an Arduino mini-computer board to replace the emulators of Phil Green using some software that Phil has developed in the last few years. All or most of this is covered in his website: singlechannel.co.uk .

So, if I have inspired you, why not give retro radio a go!







Helicopter setting up

Some more tips on setting up your heli from Jerry Hansen

With the older flybar helicopters you tend to get quite a lot of play in the servo to swash plate set up, this gives a centring problem with the swash plate that in turn requires lots of small inputs to keep the helicopter stable in one place.

Have a look at the servos for wear and poor centring. A ball bearing servo helps with this as will a digital servo. Also look at the linkage for wear or slop and try and

reduce it.

Other than that just have fun with what you have.

Does size matter? That depends on what you want. The bigger the better, anything over a 50-size engine will drink lots of fuel, I have 50- and 30-sized Raptors — both loop and roll and fly OK although the 30-size uses a lot less fuel.

I often find spare



Jerry Hansen's 700-size Cobra scale helicopter with a 38cc petrol engine.

All photos: Jerry Hansen



parts on eBay. I recently found carbon-fibre tube at a reasonable price that I use for tail booms, suitably cut to size and drilled. 22mm diameter they are a ideal for 50- or 30-sized helicopters.

Poling matters

We have two helicopter trainers and others that are happy to help if needed, just ask.

With it being the start of the season it is worth a reminder on a couple of things:

 When driving down the farm track please avoid leaving a large dust cloud behind you as the farmer and the locals don't like it.

- Jerry Hansen's 50-size Raptor
- Leave the farm track gate as you find it, open or closed. If you don't know the code just ask.
- With the new housing estate quite close it would be better not to fly too far south of the hedge to avoid any noise issues.
- We do our own mowing and maintenance items, if you would like to help you will be most welcome.

Remember, helicopter flying is about having fun and going home with a smile on your face rather than a bag of bits.



Visit to Old Warden

A trio of vintage modellers – Derek Woodley, Clive Upperton and Colin Lucas – enjoyed a day of single-channel flying

On Sunday 14th May three SRFC club members attended the ModelAir Mayfly event at Old Warden in Bedfordshire.

This is a weekend heavily supported by SAM 35 (Society for Aeromodellers) which is an organisation that promotes and encourages the building and flying of traditional balsa models. Some say SAM stands for Society of Ancient Modellers! They cover all the various aeromodelling interests including control line (remember those?), free flight, rubber powered and traditionally built radio control aircraft.

Various areas of the large grass airfield of the Shuttleworth Trust are devoted to the different disciplines and one concession to the modern world is the use of singlechannel radios operating rudder in the free flight arena to avoid losing models beyond the airfield's boundary. Over the years this has encouraged single-channel models of







all sorts to be flown in the free flight area, the only restriction being an imposition of a maximum of 0.8cc engine size.

So, the three of us that journeyed to Old Warden went armed with our singlechannel diesel-powered aircraft.

The weather was perfect, very light wind, blue sky and warm sunshine and we enjoyed a great day out with lots of flying.

There is lots to see at these ModelAir festivals and, to be honest, one could spend a whole day wandering around the airfield just observing the beautiful traditionally build models in all the various disciplines. There were a small number of stalls

in place selling modelling bric-a-brac and Colin couldn't resist the bargain of a control line stunt model, see photo!

Because I went armed with, and intended to fly, my single-channel models I did not have time to see all that was there so the photos do not really do justice to the day but hopefully give a taste of the activities that Clive, Colin and I enjoyed.







A Little Nostalgia – Part One

Robin Strange revisits his youth with a sprinkling of Black Magic!



Back in the 1960s I built a 60" wingspan Black Magic using three-channel radio gear from Flight Link Control. The transmitter was balanced on the arm, the left hand was used to control the throttle via two push buttons and the ailerons or rudder and elevator were controlled using the single stick. I don't have a picture of the receiver or the servos but let's just say the receiver was big. The transmitter case was anodised metal and inside were a number of valves and with its

large battery was quite heavy. 27 MHz of course was par for the course at the time.

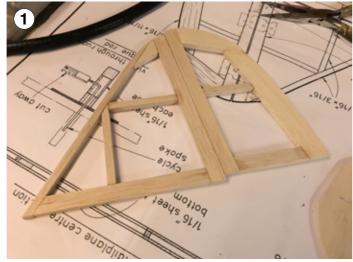
But back to the Black Magic. This vintage model is a classic design by Fred Hempsall from 1947 so it was quite an old design when I built it originally.

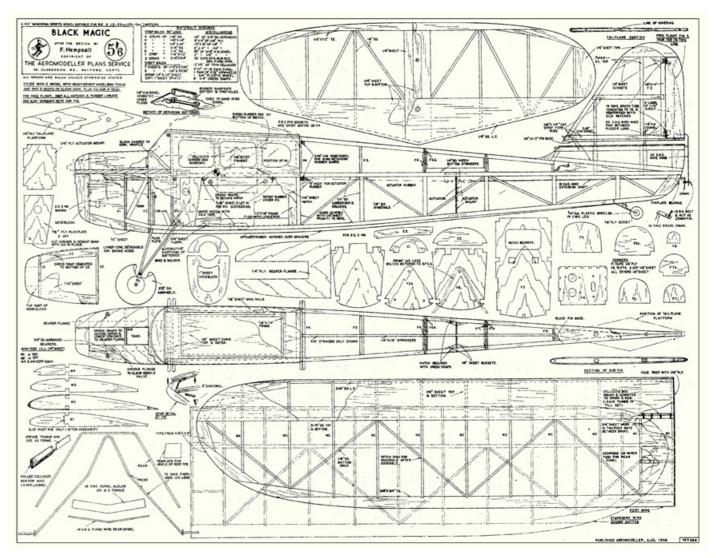
At first I downloaded a CAD-created version of the plan from the fantastic Outerzone website (outerzone.co.uk) and printed it off to create a fullsize plan and then, before I started building, Paul Gladstone was asked by SMC to look at a Flair kit of the very same model and asked if anyone was interested in it, so guess what, I bought it.

The original owner of the kit had started the build and a number of items were missing but nothing that could not easily be made, or so I thought... A number of ribs were missing and I

thought, "No problem, I can create them using the Outerzone plan." Wrong. The CAD version is about 95% of the size of the Flair kit - good for reference especially as the CAD version is for electric power but no good for making replacement items for a Flair kit. Anyway,

no problem as most of the ribs are the same anyway. (I suspect the CAD plan is accurate but the 5% size error crept in when printing it – printing at 100% rarely is exactly 100%! A small enlargement is

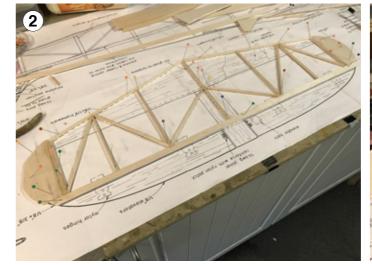




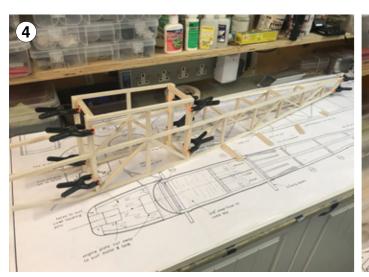
often needed when for S/S – same size – printing. Ed.)

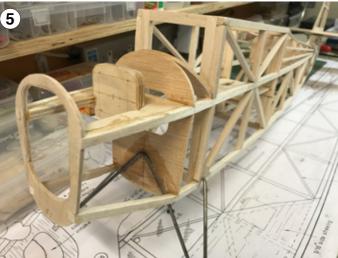
I started with the fin and rudder (Photo 1) and went on to build the tailplane as well (Photo 2) as they all form a single assembly which is mounted on to the rear fuselage when you're going to go and fly, being held on by rubber bands. The structure is very simple so there is little to worry about during the build other than ensuring the fin is perpendicular to the tailplane when it's glued on (Photo 3).

The rudder control is via a torque rod which is fitted to the rudder in build and is fed through the tailplane mounting when the assembly is fitted to the fuselage.



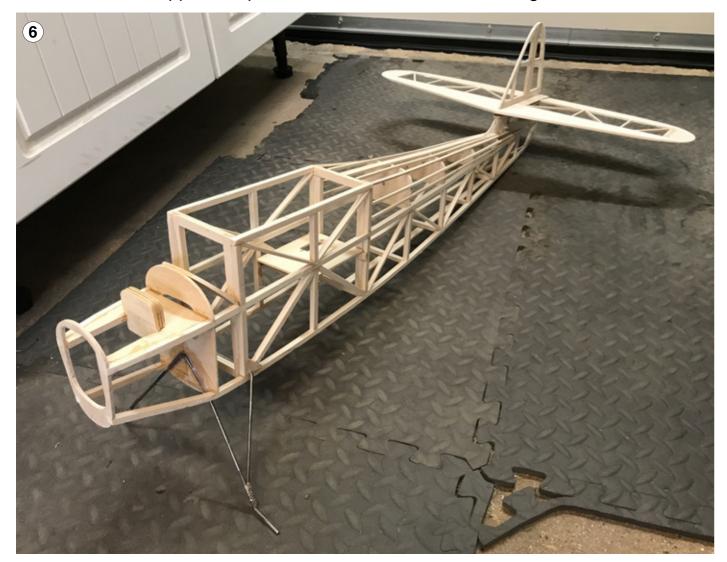






The fuselage build is again straightforward as long as everything is kept square (Photo 4). The fuselage forward of the cabin bends in quite a lot and care needs to be taken to ensure both sides bend in by the same amount, which means checking the wood used is similar in strength. The Flair kit was designed for either a glow or diesel motor and comes with a 1/4" thick ply mounting plate for the motor. As I planned to use an electric motor I modified the ply plate considerably to add an electric motor mounting (Photo 5).

The U/C was supplied as part of the kit and needed mounting to one of the forward





frames using the traditional method of drilling holes around the wire and sewing it on to the frame and then applying either epoxy or glass resin to fix in place – I used epoxy. The U/C legs were bound with wire and soldered (Photo 6).

For some reason I didn't take any photos of the wing in build so all I have is a photo of the covered wing (Photo 7) but it's a straightforward entirely traditional structure using 1/4" square upper and lower spars joined by 1/16" vertical grain

webbing in between the ribs and spars. The Flair ribs were a good fit on the spars which made making the wing easy. Forward of the spars the wing is covered in 1/16" balsa planking to the LE. Typical of the era, and being designed as a stable free-flight model, it has a significant dihedral amounting to 5" at each wing tip and two ply supports between ribs R1 and R3 in each wing.

That's as far as I have got so far. The model is covered (Photo 8) and may well be finished by the time you read this. Part Two will see the canopy and radio installation done and also flying impressions and, hopefully, photos of it in flight.



Naval Quiz (just for a change!)

By two anonymous SRFC members

You can Google the answers but we urge you not to

Answers on page 56

- 1. What was the German navy called in 1939-45?
- 2. Who was head of the U-boat fleet 1939-45?
- 3. What does the U in U-boat stand for?
- 4. Where were the five main U-boat bases in western France?
- 5. What were a group of U-boats hunting together called?
- **6.** What did the U-boat captains call their early period of success?
- 7. a What was the name of the battleship sunk in Scapa Flow in 1939?
 - b What was the number of the U-boat which sank it?
 - c What was the U-boat captain's name?
- 8. Name the three British cruisers involved in the Battle of the River Plate.
- 9. Name the German cruiser sunk in that battle.
- **10.** Name the heavy cruiser that accompanied the Bismarck on her maiden combat voyage.
- 11. Name the battleship, pride of the Royal Navy, sunk by the Bismarck.
- 12. Name the pilot whose torpedo crippled the Bismarck leading to her sinking.





- 13. What aircraft was he flying?
- **14.** Name the oil tanker which survived the notorious 'Operation Pedestal' convoy to Malta.
- 15. What was the convoy number?
- **16.** Name the American aircraft carrier which twice carried Spitfires to Malta.
- 17. What was the major destination port in Russia for convoys carrying war supplies?
- 18. What calibre are the battleship guns outside London's Imperial War Museum?
- 19. What was the first jet to land on an aircraft carrier on 3rd December 1945?
- 20. Who was the pilot?
- **21.** What date did the Royal Naval Air Service and Royal Flying Corps unite to become the Royal Air Force?
- 22. What was the 'Wavy Navy'?
- 23. What Royal Navy rank is the equivalent to a private in the army?
- 24. What was the largest sea battle of WW1?
- 25. When was it fought?
- **26.** What is the Royal Navy's flag called?
- **27.** It is well known that the Victoria Cross has a crimson ribbon; early VCs awarded to Royal Navy recipients had a different colour ribbon. What colour was it?
- 27. What date did it change to crimson for all?





Naval Quiz – answers

Quiz is on page 54

- 1. Kriegsmarine.
- 2. Admiral Karl Doenitz (or Dönitz).
- **3.** Unterseebooten (Literally: under the sea boat).
- **4.** Lorient, St Nazaire, Bordeaux, Brest, La Rochelle.
- **5.** Wolf pack.
- 6. The Happy Time.
- a HMS Royal Oak,
 b U47.
 - c Günther Prien.
- **8.** HMS Ajax, HMS Achillies, HMS Exeter.
- 9. Admiral Graf Spee.
- 10. Prinz Eugen.
- 11. HMS Hood.
- 12. Lt. Cdr. John 'Jock' Moffat.
- 13. Fairey Swordfish.
- **14.** Ohio.

- **15.** PQ17.
- 16. USS Wasp.
- 17. Murmansk.
- **18.** 15".
- 19. de Havilland Vampire.
- 20. Lt Cdr. Eric 'Winkle' Brown
- 21. 1st April 1918.
- 22. Royal Navy reserve officers. (They wore 'wavy' rank braid on their sleeves whereas regular navy officers wore straight braid.)
- 23. Able seaman.
- 24. The Battle of Jutland.
- 25. 31st May-1st June 1916.
- 26. The White Ensign.
- 27. Navy blue.
- **27.** 1st April 1918 (to coincide with the forming of the RAF).







SRFC videos online

We now have over 90 videos for you to watch!

If you have not yet discovered the club's YouTube channel you are in for treat. Just search YouTube for 'Sussex Radio Flying Club (SRFC)' 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.

Tip: Consider 'subscribing' to the channel – once on the SRFC page hit the 'Subscribe' button. Subscribed channels are those you visit frequently and saves you from having to search each visit (a bit like Favourites or Bookmarks on your web browser). Additionally, if you click the 'bell' icon you will be notified via your smartphone whenever a new SRFC video is uploaded. A message will pop up on your phone's screen together with a 'ping' but you can easily turn off the 'ping' if you find it irritating or obtrusive and just retain the visual notification.



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Mark



Robin



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Rep & Field Maintenance)

Field Maintenance (Coombes)

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Safety Marshall 2

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VACANT*

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VACANT*

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Dave Knott

Paul Gladstone

John Wase

VACANT*

58 **JUNE 2023**

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