

JUNE 2021

# Flypaper



**JOHN IVORY'S  
MICRO WOT 4**

*See page 12*

**GOING SOLO?**  
UPDATED TEST EXPLAINED  
*See page 7*



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Cover: John Ivory with his diminutive Micro Wot 4. See page 12. Photo: Grahame Pearson

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*Flypaper* is published at the beginning of March, June, September and December.

**Submissions for the September issue should 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.

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# Chairman's Chat

*Ben De Vizio looks forward to a spectacular summer's flying*

Before I start my first *Chairman's Chat*, I would first like to thank not only the club's previous Chairman, **Keith Miles**, for his dedication going back over the last three years but also members of the previous committee that I worked with. Without your selfless work ethic, I am sure the club would not be in such a strong position both in terms of membership and finances.

While I have served on the committee for two of the last three years, the role of Chairman will be my toughest yet. I hope through the coming year I can do the position justice and continue to ensure SRFC goes from strength to strength.

Lockdown over the past year for members has been exceedingly hard, but being typically British, many members have taken this in their stride and created some spectacular '**Lockdown Builds**'. Now, as the weather improves (hopefully!), many of you will soon maiden your creations in the coming months and may even send a build log in to appear in the next issue of *Flypaper*, as some of you have already done for this issue.

With Lockdown finally lifting, club events and gatherings are once again on the table. The first to resume is the weekly **Gliding Competition**. This saw a bumper attendance and went incredibly well, despite inclement weather (see page 5). Other club events that are being prepared include:

- **Fun-fly Competitions** every month throughout the summer (see page 6)
- '**Maiden Day**' for Lockdown Builds
- **Club Evenings** on the 1st Friday of each month at Coombes
- **Fun Fly Weekend** taking place on 24th-25th July. Mindful of potential COVID-19 restrictions there will be no bouncy castle, etc, this year. However, this has allowed us to be more flexible. To this end, if weather is unflyable we have set a reserve date of the 7th-8th August
- **Scale 'Flying Only' Competition** sometime in the summer, most likely as part of the Fun Fly Weekend (see page 6)

Further details of the above will be e-mailed to all members in good time.

While it will once again be fantastic to see all members socialising like years gone by, all events remain subject to government restrictions easing, and the larger events will only take place after the **21st June Easing of Restrictions** if all goes to plan. In light of this I ask all members to keep an eye out for e-mail updates.

So, for me it's now back to University deadlines at least until the end of May. I wish every member good health and good weather to get some flying in; I'm certain we all deserve at least that after the last year.

**Benedetto De Vizio**, *SRFC Chairman*

# The Money Programme – May 2021

**Treasurer and Membership Secretary Tom Gaskin**

Not a lot to talk about this time around. The weather has been rather unkind to us weekend flyers, so I'm still waiting to get a decent 'aviation fix'. Social distancing considerations have impacted our social calendar, and also our training regime, so it does mean that we have more money in the bank than usual at this time of year! I have recently paid the farmers their dues for field rental, so all is tidy from my point of view.

Membership stands at 125, with 19 members from last year still to rejoin. The 'lockdown' has generated quite a lot of extra interest in our club, but sadly they are all people who would need training, so they have been put on hold until the training situation improves. Listening to Ben, all clubs in our area are suffering in the same way, so we just have to 'keep calm, and carry on'...

Stay safe and see you at one of the fields soon.

Looking forward to those lazy, (not too) hazy, days of summer.



*...and what better way to enjoy said lazy, hazy summer evening than with a vintage model? Dave Banting's 1947 Great News  
Photo: Grahame Pearson*

# Gliding Takes Off in Style

**Gliding Competition Secretary Robin Strange reports an enthusiastic return to the skies post-lockdown**

The weather hasn't been the kindest to us so far for flat field thermal soaring this spring but for those of us that also go to the slopes it hasn't been too bad and in between showers we have been able to start the 2021 gliding competition.

We have been using Ashurst to give the power guys more space at Coombes and as the weather has been quite dry this spring we've been able to go into the fields at Ashurst in the knowledge that we were unlikely to get bogged down. Visits have been made to a number of slopes in Sussex from Beeding Hill in West Sussex to Bopeep, Firle Beacon and Itford Hill in East Sussex. Our visit to Firle Beacon was rather more exciting than expected as our cars were blocked in by the police awaiting the arrival of the bomb squad to look at a suspicious object, which turned out to be a false alarm.

Our annual competition began on the 13th May at Coombes, a little later than normal thanks to COVID-19, and we had a great turn out with nine participants and with a few notable absentees I'm hoping for a good season. We did have to pause the competition after three of the four flights to allow a rain shower to pass over us so we all dived into our cars and after a cuppa we resumed in increasingly windy conditions.

The main take-away from all this was that we had a great time and I look forward to the next round in two weeks time.

**Flat field thermal soaring at Ashurst  
Photo: Robin Strange**



*Robin's Chris Foss Phase 5 landing at Bopeep with full flaps deployed*

# Power Competitions 2021

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

This year I am arranging four power competitions. Any SRFC member can take part regardless of flying skill. In addition there will be additional competitions will take place on barbecue evenings and also on the Fun Fly Weekend including a Scale 'Flying Only' competition. Flying Only means that there is no static judging – the emphasis is on flying your scale model in a manner appropriate to the full-size.

To make it more interesting I will donate a prize to the overall winner for each event, I hope this will encourage those that normally don't take part.

Here are the competition dates, all to take place at Coombes at 1pm:

**Monthly competitions:** First 11th June  
Second 9th July  
Third 13th August  
Fourth 10th September

**Additional events:** Fun Fly Weekend 25th/26th July  
(includes Scale 'Flying Only' Competition,  
time to be decided)

**Barbecue evenings, dates to be decided**

Weather plays a large part in our sport and if it is necessary to cancel an event I will try to move it to the following week, informing all by e-mail.

If you have any questions regarding competitions e-mail: [john.ivory.srfc@gmail.com](mailto:john.ivory.srfc@gmail.com).



*Non-socially distanced take-off!  
SRFC Barbecue and Competition Evening, June 2017.  
Dust off that Wot 4 for the first competition on 11th June*

# Training

**Fixed Wing Training Co-ordinator Ben De Vizio presents his Quarterly Training Update**

By the time this *Flypaper* lands in your Inbox we will already be finishing the second quarter of the year, and all being well training will hopefully be going full steam ahead.

At the time of writing an extra manoeuvre has been added to the club's **Solo test**: the **Figure of 8**. The reason for adding this manoeuvre into the routine is that it allows the trainee to become practised in flying his aircraft in varying directions and orientations. Over the last few years instructors and I have noticed that those that have passed their Solo were not as sharp as we may have hoped on orientation and in situations when a sudden need to change direction is called for. We hope by implementing the Figure of 8 manoeuvre there will be an improvement in the overall airmanship of those going through the training program.

Please rest assured SRFC's examiners are *not* looking for the same precision with the Figure of 8 as required in the BMFA 'A' test. The Solo test is primarily concerned with *safety and basic competence*. However, once the Solo is passed it is hoped the member will practise for his 'A' and in so doing, further improve his standard of flying.

An additional supplementary manoeuvre that *won't be tested but will be taught* will be the **Controlled Stall**. The reason for introducing this manoeuvre is to give trainees the ability to, a), experience a stall and, b), have the chance to practise recovering from one – without crashing their model! (When questioned, very few pilots – and not just *ab initio* ones! – knew how to deal with a stall. Do you?) This training again is just to build the confidence and ability of trainees so that when they do go Solo, they are ready for anything! When learning full-size, recovering from a stall is one of the first lessons to be taught so why not with an R/C model?

The last change to the Solo test is in the **Questions** part of the test, which have been updated with the latest changes in regulations, and now contain four categories, to which three questions must be answered correctly. (Reduced to two categories if the trainee holds a BMFA RCC Certificate.)

As the year progresses, we hope that we can ramp up the pace of training and get through our backlog of those waiting to go Solo. Once again I ask members to be patient with the training team as we are all volunteers who give up our time (including *flying* time!) to get you Solo.

To those asking about **'A' and 'B' training** there will be no formal training at present until the Solo backlog is cleared, though I'm sure if you see an instructor at Coombes he will be happy to give you advice where needed.

If you have any questions feel free to e-mail me at [benedetto.srfc@gmail.com](mailto:benedetto.srfc@gmail.com).

# Les's Lockdown Builds

*It's business as usual for Les Crane during lockdown!*

You have seen in previous *Newsletters* the Tiger Moth that I was building when the first lockdown started – finished and maiden over the summer, and the progress I had made on the 62" Tony Nijhuis Hawker Typhoon 1b. In the background I also had a built but not finished 60" RBC Hawker Tempest V. I have now finished both since the summer and during the third lockdown.

The Typhoon has now been covered in lightweight glasscloth from Bucks-composites in Lancing (bucks-composites.com), grey primed using Halfords rattle can primer and airbrushed with 1945 camo colours by Tamiya (acrylic). Sadly my airbrushing skills need some work! It has been painted in the markings of RB396, XP-W of 174 squadron, the main mount of Canadian Frank Johnson, the full-size being the subject of a restoration to flying condition by the Hawker Typhoon Preservation Group based in Uckfield. The name on the nose is that of Frank's then girlfriend, later wife, *Sheila*. The decals are by Callie Graphics in the USA and are superb (callie-graphics.com). It is powered by a 595 kV motor, 80 Amp ESC and 5S battery. The short nose required the lead from two church roofs to balance.

The Tempest was at the painting stage having already been covered in glasscloth, again from Bucks. As an aside, those of you who have not used glasscloth – and I know many of you have – do not be put off. I was very apprehensive but then very surprised at how easy it was to use. I finished the tempest in the 1944 camo colours



*Model represents Typhoon flown by Frank Johnson. Shot down on 1st April 1945 it is now being restored by the Hawker Typhoon Preservation Group (hawker-typhoon.com)*



*Wing shape of later Tempest (right) very different to Typhoon*



*Typhoon (foreground) has very short nose, necessitating huge amounts of lead on model. Note the Free French Cross of Lorraine on the nose of Pierre Clostermann's Tempest*



*Pretty maids all in a row:  
Tony Nijhuis Aerovan joins the  
queue of models waiting to be maiden*

and the markings (again by Callie) of the well known French pilot, Pierre Clostermann. If you haven't read his book, *The Big Show*, it is a compelling read about his experiences with the Free French squadrons during the war. His markings, again from Callie, represent his third Tempest, JF-E, named *Le Grand Charles*. The model is powered by a 500 kV motor, 60 Amp ESC and 5S battery.

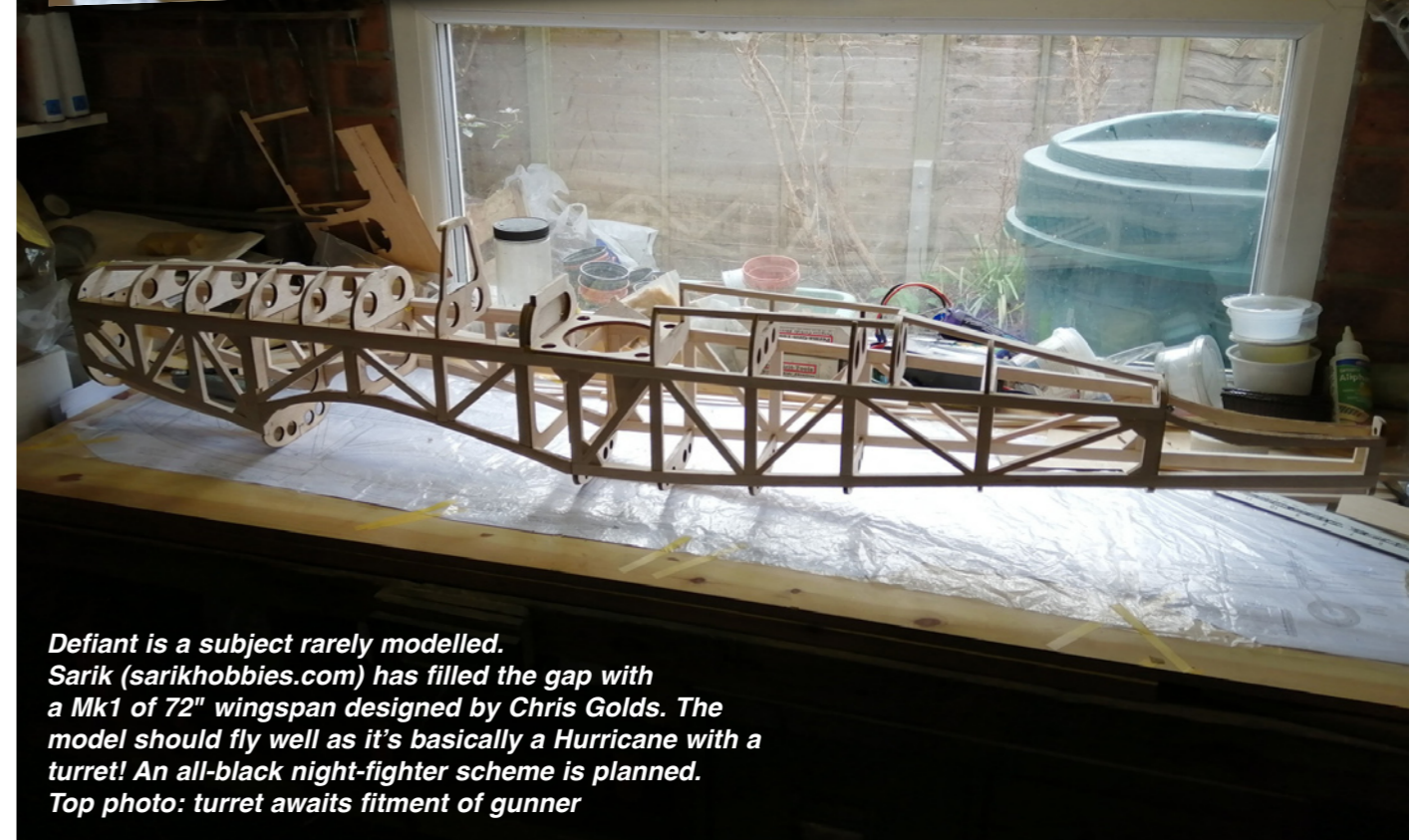
Both the Typhoon and Tempest are traditional builds and not overly complex for someone with a few builds under their belt.

After finishing those two, and unable to visit SMC due to the lockdown, I decided to make a model from the contents of my scrap and spares boxes. Years ago I finished building a part-built twin-engine Tony Nijhuis Aerovan which I won in a club auction. It flew nicely but met its demise due to pilot error when it tip stalled in a turn. I still had the plan and the original power train and enough balsa in my scrap box to build a new airframe and did so in seven weeks starting in January, which shows what a quick and easy build it was. It is powered by two 2200 kV inrunners, 2 x 40 Amp ESCs using a single 3S 3700 mAh battery and, along with the Typhoon and Tempest, awaits a maiden.

So, what next? Before Christmas, spooked by the worrying balsa shortage, I decided to buy several kits before they were either unavailable or became even more expensive. I really fancied a Gloster Gladiator, a DHC Chipmunk and a Spitfire so, being unable to decide, I bought all three kits from Sarik but before starting to build the Gladiator I decided I just *had* to have a Boulton Paul Defiant! However, Sarik did not sell a strip and sheet woodpack for their Defiant kit. I explained that with the expected balsa shortage it was not worth buying the kit. They said that they would

get their expert to work out what was needed and that I should ring back in a week, which I did. To my delight they were able to supply a full kit including the woodpack which I think is great service. When it arrived there was a sheet missing from the laser-cut parts pack and when I rang them on a Thursday they were very apologetic and I received it the following Monday, i.e. just four days later including a weekend. Again, very good customer service from Sarik.

The model is 72" wingspan and at the time of writing (March) I have built the basic fuselage and a (manually) rotating turret with elevating guns, plus retractable fairings, and also the fin and rudder.



*Defiant is a subject rarely modelled.  
Sarik (sarikhobbies.com) has filled the gap with  
a Mk1 of 72" wingspan designed by Chris Golds. The  
model should fly well as it's basically a Hurricane with a  
turret! An all-black night-fighter scheme is planned.  
Top photo: turret awaits fitment of gunner*

# And you thought the Mini Wot 4 was small...

## John Ivory's 22" 205g Micro Wot 4

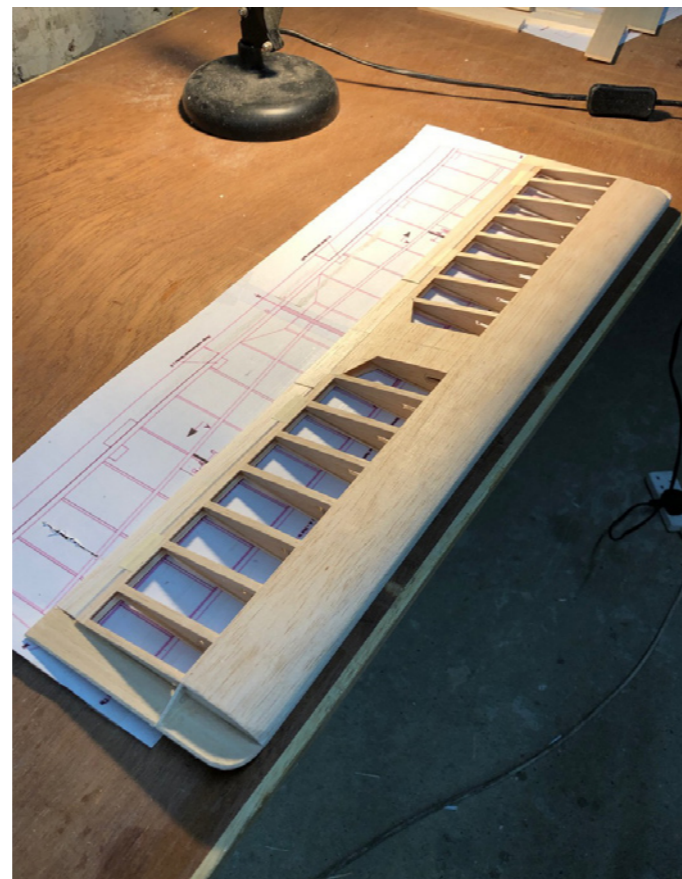
Now we can go flying at Coombes again I saw Dave Knot flying a Mini Wot 4 (26.4" wingspan). As I have a penchant for small models I asked him if they were still available as I would love one. He suggested I try SMC. Well, I checked the next day and was informed that they were no longer manufactured. Next stop was to check online to see if any other model shops had any. No joy. You guessed it, I would make my own...

I found an outline drawing of the Wot 4 on a website which I downloaded. After printing out a reduced version (22" wingspan) onto sheets of A4 paper and sticking the sheets together it was time to start the construction.

Wing ribs were cut from 1/16" sheet, leading edge was 3/8"x1/4", trailing edge 1/8"x1/4" and spars were from 0.5x4mm carbon fibre faced with 1/16" balsa.

After the basic wing construction was finished the next job was to sheet the front of the wing, top and bottom, with 1/32" balsa, add rib caps and wing tips. Last was to add two aileron servo mounts.

The construction of the fuselage was quite simple, being square section, only tapering to a more round section at the front. To add strength to the 1/16" sheet fuselage sides 1/32" balsa doublers were added to the front section with the grain at right angles.



Both top and bottom of the fuselage were sheeted with 1/16" and 1/32" balsa, the front top section using 1/4". To finish off the fuselage a servo tray, control rods, wing and motor mounts were added.

Making the tailplane and fin was also straightforward using 1/8" balsa sheet but to reduce the possibility of warping a leading edge cross-grain section was added to both.

Aluminum was used to make the undercarriage and once completed it was time to cover the model. I decided to use white polyester film from Hobbyking.

Last but not least was to add the decals from printable transfer paper. To ensure the model looked like a Wot 4 the scheme closely matches the current scheme of the



model's larger siblings. That just left the name decal to do. Being smaller than a Mini Wot 4 it had to be a *Micro* Wot 4!

After radio, ESC, motor and 2S 350mAh battery were installed and tested, and the CG position checked, it was time to fly it.

On a sunny day with light winds and with Clive Upperton checking I had not forgotten anything in the set-up we decided on a hand launch for the first flight. With a nod from me Clive launched the Micro Wot 4. Off it went – two clicks of down trim and it was flying like a, well, like a Wot 4.

What a fantastic design from Chris Foss, a great flying plane in *any* size.



*Main photo: On finals, this could be any Wot 4  
Above: It's only when you compare it to a normal Wot 4 (John's 1200mm Wot 4 ARTF) you realise just how small the Micro Wot 4 is.  
Photos, this page: Grahame Pearson*



## Flitfire

### *George Evans models a little known subject*

I have made several builds over various lockdowns: a GWS Islander (with parachute drop), a very small Concorde (flies, but requires bicycle clips), an Adrian Brittan Spitfire (modelled on TA805 which is already undergoing a rebuild) and I finally finished the structure and painting of my Sea Fury. Those who know me will not be surprised to learn these are all small models.

In the third and hopefully final lockdown I saw pictures of John Ivory's lovely little Hornet in the March *Newsletter* and decided to build a balsa kit I've had sitting in my garage for a number of years – a West Wings J3 Cub (sadly no longer in production). Designed for rubber-powered free flight it struck me the model would be perfect for modifying to miniature R/C and electric power.

While I think yellow Cubs look good, and military L4 Grasshopper Cubs have earned their camo, I was looking for a different colour scheme with a bit of history. I came across a production run of Cubs from 1941 which were nicknamed Flitfires!

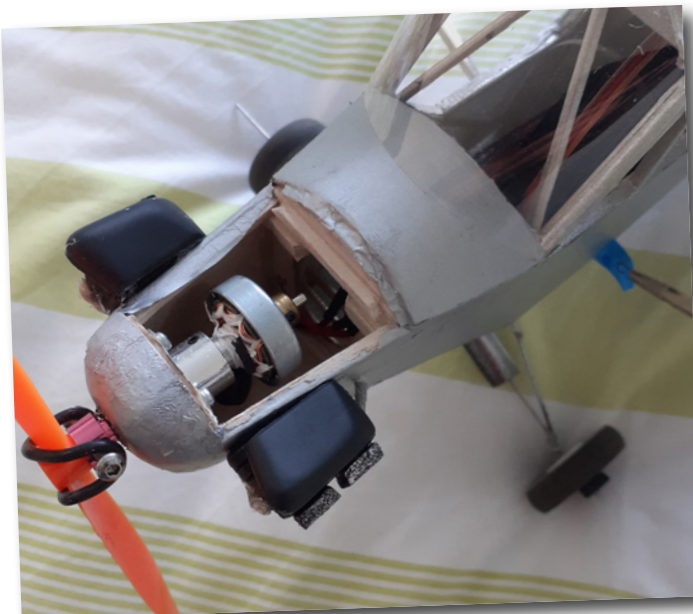
The run was limited to the number of States in the US at the time (48) plus one. Each was sponsored by a Piper franchise and named after the appropriate state. They were then sold and the money donated to the RAF Benevolent Society to aid the British war effort. All bore RAF markings. You can read more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

The original Flitfire was NC1776 owned by William T Piper (yes Mr Piper!) and is in a museum in North Carolina. History aside, key for me was they were all silver – I

**Full-size: silver makes a change from the ubiquitous Cub yellow**







had some silver Litespan begging to be put to good use.

The build started on the wings which involved beefing up the spars slightly by using split bamboo barbecue skewers in place of the kit's 1/16" balsa. Fortunately, the ribs were in the right place for adding near-scale ailerons. I also decided to make the wings in one piece and removable so had to come up with a way to do that. Having built lots of Keil Kraft kits in my youth I never liked the sectional way the wingtips, tail and vertical stab were made and prefer to laminate three or four 1/16" or

thinner strips of balsa to the correct profile over the plan. To me these both look better and are also stronger.

The build of the fuselage and tailplane were started; the elevator and rudder were made separate and attached using sewn hinges. The fuselage was also strengthened with bamboo but initially built almost as per the plan but with localised reinforcing.

I had been pondering over where to put a hatch to be able to change the battery and while looking at some photos of a real Flitfire the answer was staring me in the face: put a near-scale door on it! So now it has a big hole in the side with drop-down door and lift-up window! Of course, with that gaping hole in side I now had to think about further strengthening (more bamboo) and some cockpit interior as well. Hmm, the original airframe weight of 2.75 to 3.5oz was not just creeping up but roaring ahead to 5.75oz plus. Once lightweight servos, receiver and 450mAh two-cell lipo

**Model nears completion (You are going to paint that prop, aren't you, George?! Ed)**



were added it tipped the scales at 7.5oz!  
I wanted to turn a scale-ish prop (5-6.5") and thought I'd need 40-50 watts of power. Nothing I saw fitted what I wanted or gave



me the options if I'd got anything wrong, so I decided to make my own motor from an old CD rom, eight magnets, some 28swg wire with 18 turns per pole. Tested on a 6x3" prop I get 49 Watts, 45W on 5x4.3" and 40W on a 5x3".

And that's where I've got to, it remains to get the interior, pilot and glazing on and then get the markings done. I'm going for 'Indiana', NC37931. The full-size is still in flying condition! See [akcaviation.com/inventory/1941-piper-j3-flitfire-cub](http://akcaviation.com/inventory/1941-piper-j3-flitfire-cub).

As I write the lockdown has yet to be lifted. Then will come the first flight. It will most definitely be a plane for calm summer evenings, but I think I'll get some practice in on something predictable and forgiving first – now where did I plant that Concorde?

I have included some pics of my model – please don't look at the covering on the wings too closely, not my best job ever!

**Flitfire must be unique in having RAF roundel on one wing and an American serial number on the other!**



# Mustangs now and then

## *Dave Knott's latest Mustang... 35 years after his first!*

As a fan of Mustangs Editor Grahame was excited to see Dave Knott at Coombes in April with his new creation.

The model had ignominiously spent the last 20 years as loft insulation but faced with occupying himself during lockdown Dave decided to build it.

The 72" model is a Pica 1/6 scale Mustang P-51D (bubble canopy), powered by a Laser 150 4-stroke engine. Compared to Dave's well-known Hurricanes the Mustang is not 100% accurate scale, nor is it finished to World Championship standard (you can only achieve so much in one lockdown!) but Dave says that he built it as per the kit as modifying it to his liking would have resulted in very little of the kit remaining!

The model is epoxy/glass covered. Ready to fly it needed around 1 lb of lead to get the correct CG.

No Mustang is complete without some nose art and Dave's will soon bear the legend, 'Covid 19 Special'!

Sadly, fuel plumbing issues prevented flight that day but Dave assured Grahame that it would soon be flying.



Photo: Grahame Pearson

Dave's earlier Mustang depicts a P-51B (note the earlier cockpit) and was built some 35 years ago from, if Dave's memory serves, the Top Flite kit. Wingspan was 63" and power was provided by a Webra 10cc 2-stroke.

Dave says the model flew really well but the retracts were not very good and the model was a bit wobbly on the ground. Built before sequencers were available the undercarriage doors had to be opened before lowering the wheels. Dave remarked there are a set of doors somewhere on the South Downs...

The model was sold some years ago to another SRFC club member.



# Moonglow

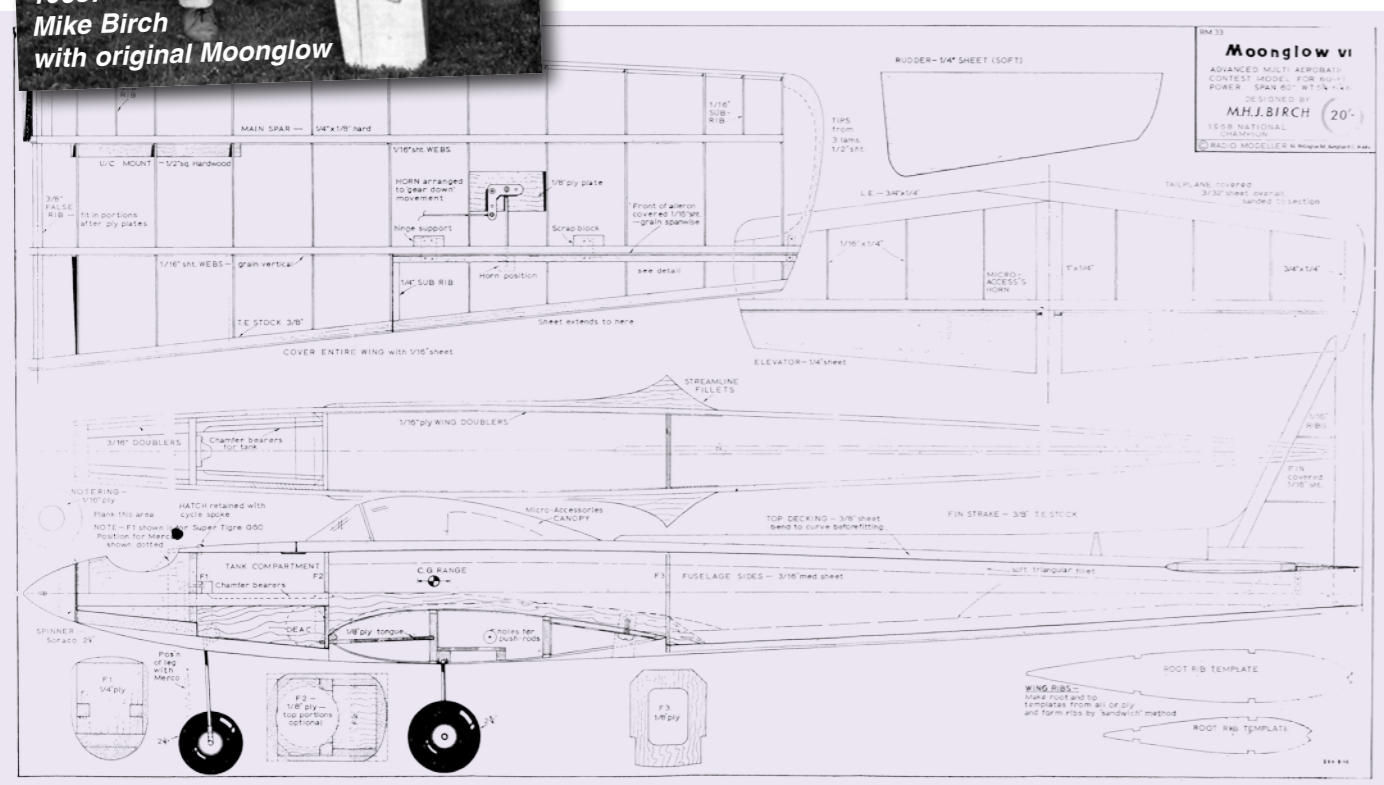
*Ivan Thomas builds a classic – twice!*



1968:  
Mike Birch  
with original Moonglow

In the 1968 issue of *Radio Modeller* there was a plan and write-up of Mike Birch's Moonglow, an F3A model at 60" wingspan powered by one of the new breed of .61 cu.in. (10cc) two-stroke glow engines.

About four years later I bought a plan of the Moonglow priced at 20/- (£1). Of course, in those days this required tracing of all shaped parts on to balsa sheet. The wing is tapered so wing ribs were created by the sandwich method – quite a new technique at the time. The build went well producing a pretty model with performance to



match. The lovely flying continued for many years until I tried to fly through an oak tree which spelt the end of a great model.

Fast forward to 2018 when I was looking for a project. I thought it might be nice to revisit the Moonglow. First problem was where to obtain a plan. Remembering the Outerzone free online plans service ([outerzone.co.uk](http://outerzone.co.uk)) I was delighted to discover Moonglow was listed. I downloaded the plan and printed an A4 copy on my home printer. This I took to a high street print bureau and had it enlarged. Instead of the original 60" the enlargement turned out to be 66" – no big deal. Power was to be a Super Tigre 61 which I had. The build went well with no issues. I decided to cover the



Ben gives moral support



An old design  
but flies as if on rails

airframe with Oracover using what I had in stock. By the end of the autumn it was ready to maiden. Pim was unavailable so I had to do it myself. Ben agreed to stand with me just in case I got in a pickle and Grahame was there to record it all on video – for better or worse! I took off and flew the plane for a while and then handed the transmitter to Ben to see what he thought. He was impressed and flew it in his usual style, rounding off the flight with a beautiful landing.



*On finals for a perfect landing*

Over the winter I added a canopy and a bit more decorative trim, also an Irvine carb which has improved starting and running. As I write this (March 2021) the third lockdown has yet to be lifted but I look forward to flying my Moonglow over the coming months.



*Super Tigre 61 started first flick  
Photos: Grahame Pearson*

## Miniature 'Meatbox'

*John Ivory's latest: a 22" ducted fan Gloster Meteor*

"What do you build next, now you've built a shed to store the ever-growing number of model planes?" That was the question I recently asked myself. Well, with the success of building Hawker Fury, De Havilland 103 Hornet and the F82 Mustang (the twin-fuselage oddity featured in the last *Newsletter*) built in the second lockdown, all around 22" wingspan. Now well into the third lockdown I felt it was time for a twin ducted fan plane...

Searching online at what was available I came across a plan for a 40" wingspan control line Meteor intended for a pair of .30 cu in glow engines. It looked great so my mind was made up. A 22" wingspan R/C Meteor it would be, provided I could find suitable fans for it. I quickly found that I could easily obtain 30mm fans running on a 2S battery and from the data sheet it stated the thrust was over 200g at 20A each at full power. Next was to see what ESCs were available. They would have to be very small and light. I found some rated at 30A that would do the job with a good safety margin but would require an external BEC to power the ESCs, servos and receiver. The last job was to select a 2S battery that was again not too large and heavy; I decided to use an 1800mAh 2S 50C lipo which would give a full-power run time of about 90 seconds. Obviously duration would be longer than that; I only planned to use full power for take-off. It was time to order the parts but before doing so I calculated the theoretical overall weight of the model. I estimated it would come out at around 390g – a little heavy for its size but not too excessive. The project was on!

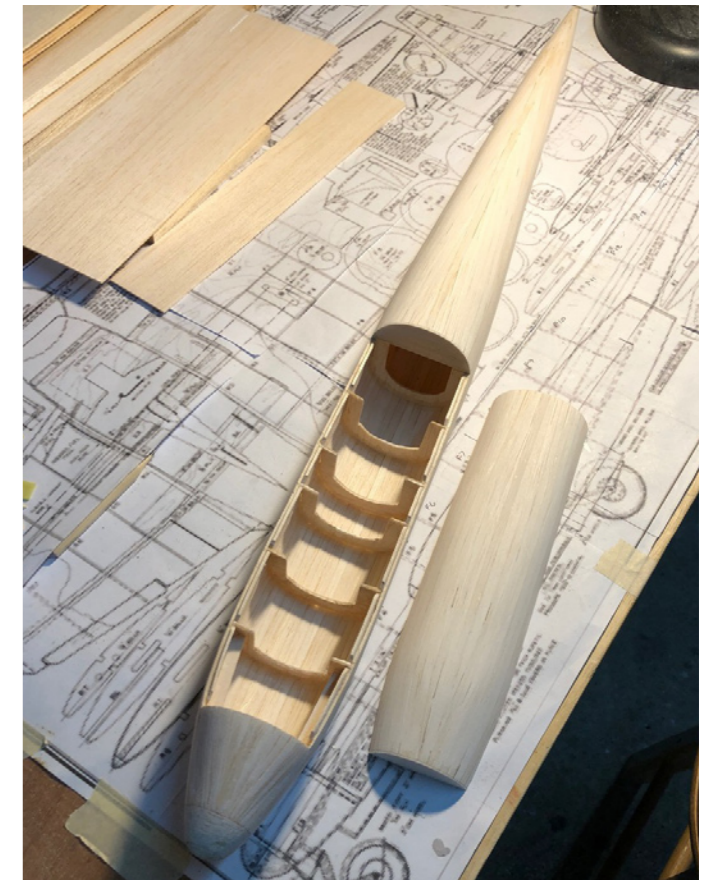
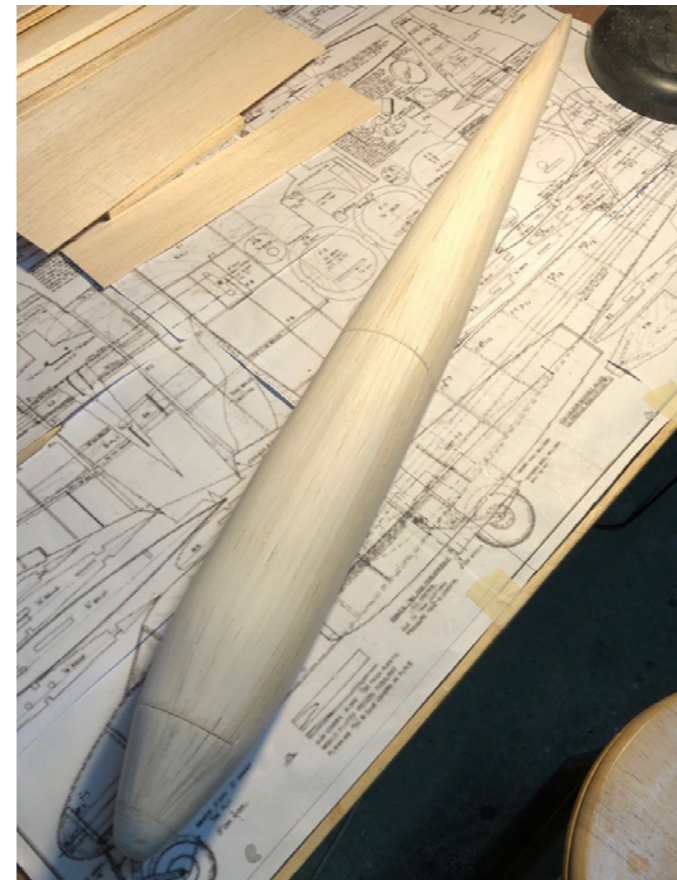
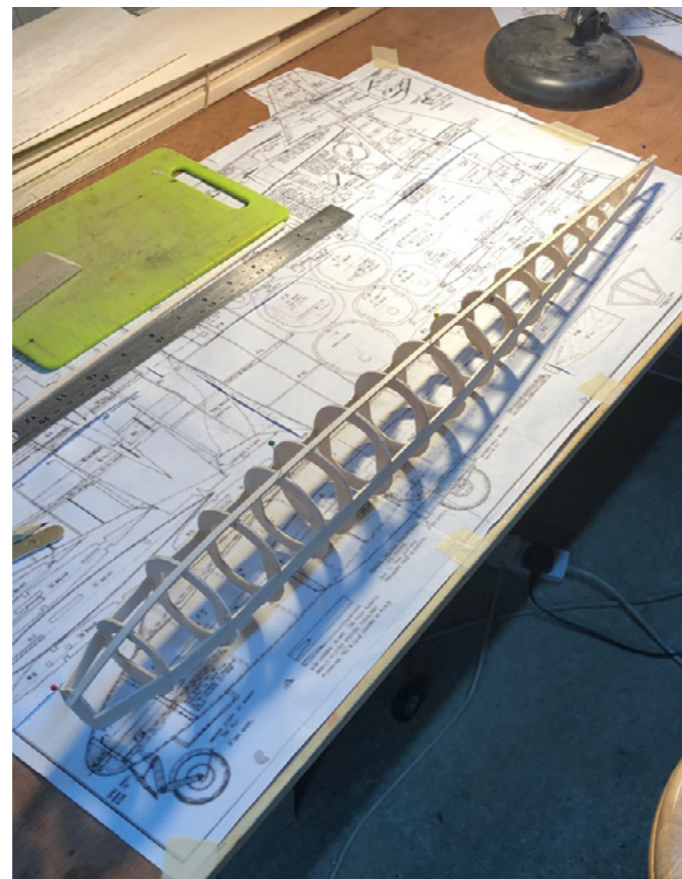
After downloading and reducing the plan to give 22" wingspan, printing on A4 paper and sticking all the sections together it was time to start the build. I decided to start with the most difficult job: the two ducted fan nacelles. These needed to be very light so I decided to make them out of foam, edged with balsa and covered with 17g/m glasscloth.





I first shaped the foam blocks using a drill and drill stand clamped in a vice, in effect a lathe. Then, using a hot wire foam cutter, I carefully cut each nacelle in half length-wise and then cut the nacelle where the fan was going to mount. Using plywood templates at each end I hot wire cut the two cylindrical internal cavities. Foam-safe CA was used to join the two halves back together having first faced the mating faces and ends with balsa.

Next was to build the fuselage. When making fuselage formers for small planes I have found two laminations of 1/32" balsa sheet with the grains at 90 degrees to each other gives the formers much better strength when cutting out.



The fuselage consisted of two 1/16" x 3/8" balsa longerons and numerous formers, with two further 1/16" x 1/8" longerons top and bottom to strengthen the assembly. Checking that the fuselage was straight and free from twists I started to plank it with 1/16" x 3/16" balsa strips. Once planked I marked and cut out the hatch.

Now it was time to start work on the flying surfaces. The tailplane and fin were quite straightforward using 3/32"x 1/4" balsa strip,

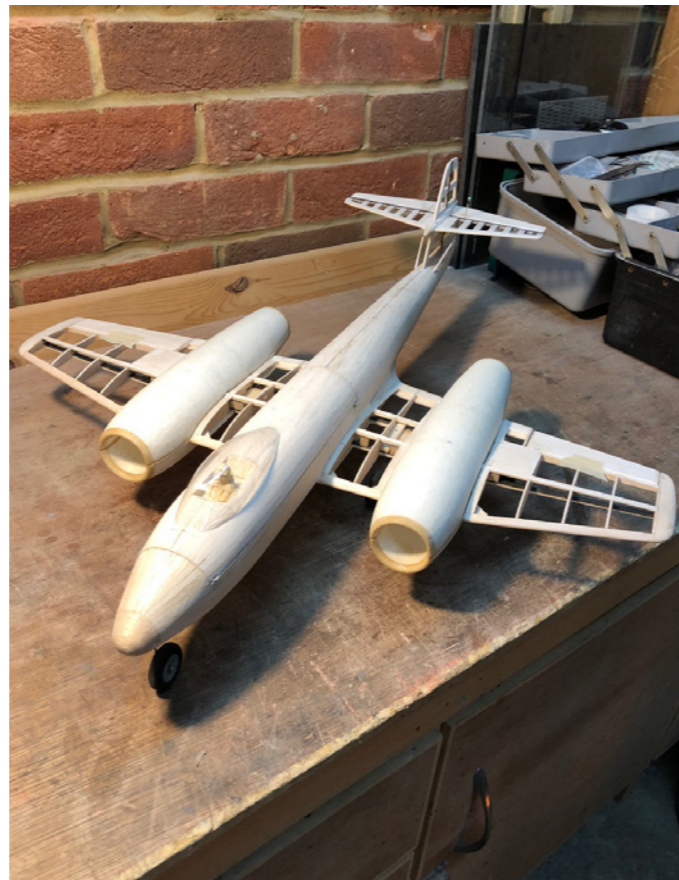
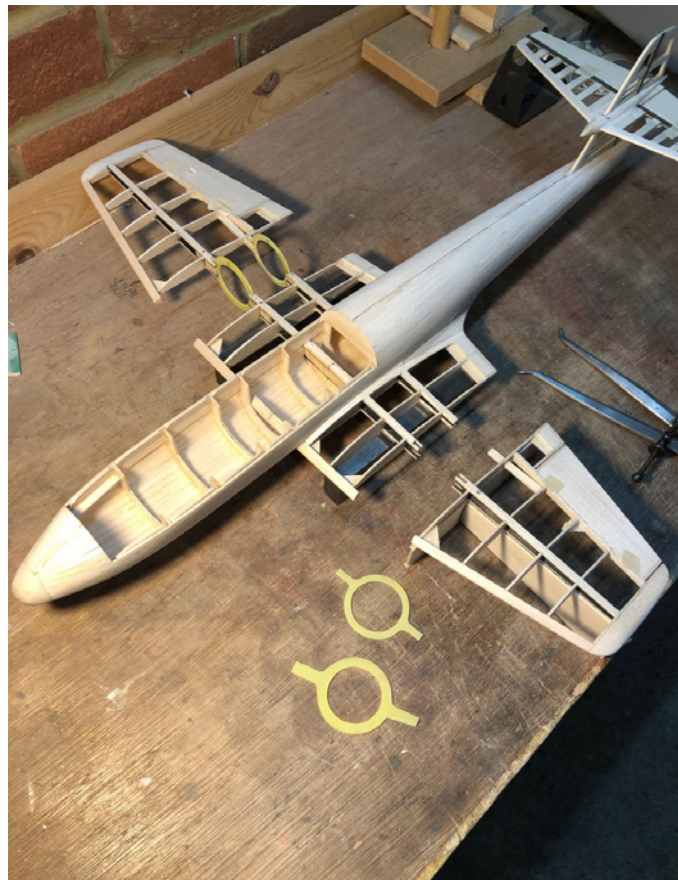


reinforcing the spars with 0.5 x 5mm carbon-fibre strips. The wing of course needed to be made in four sections to incorporate the fan nacelles.

After construction of the wing components it was time to fit the centre sections to the fuselage ensuring they were correctly aligned. Next was to add the fan mounts to the wing spars; this was quite a difficult job and required a number of jigs to be made to ensure accurate alignment. The tailplane and fin could now be fitted, using the wing centre section for accurate alignment.

Before the build could continue further it was necessary to install the fans, ESCs, servos, receiver, BEC, control rods and battery mount. This took some time as space was tight. After checking that fans were running in the correct direction and servos and linkages were functioning correctly work could progress to the next stage: moulding the canopy (using the technique described in the December 2020 *Newsletter*), fitting out the cockpit, making and fitting the four guns, steerable nose wheel and main undercarriage.

With all the hard work done the airframe was covered with tissue followed by two



coats of clear dope and airbrushed with matt silver enamel.

Next was painting the cockpit, adding the seat, painting and gluing the pilot into position and fitting the canopy. Decals were printed on printable transfer paper and applied to the fuselage, wing and fin.

Final adjustment of control surface throws followed and checking the ever-



important CG. With the Meteor suspended at the correct CG the battery was moved until the model hung level. Marks were made to ensure the battery could always be located in this position.

Final all up weight including battery was 401g, full power thrust 480g, flight time at full power was the aforementioned 90 seconds but with a more realistic 50% power run of over three minutes.

The full-size Meteor had a dreadful safety record which soon led to the RAF's new jet fighter being dubbed 'The Meatbox'. I feel my miniature version is going to be a real handful on its test flight but fingers crossed all will go well!



# 3D printing

## *Paul Ellis dips a toe in the water*

During the third lockdown I decided to have a go at learning something different and that whatever I chose would be useful for R/C aircraft.

So I decided to purchase a 3D printer, which initially I thought I could just use to print small parts such as servo mounts and control horns, etc. but which I soon discovered could print complete models.

I am currently printing my first model which is a small 1-metre wingspan electric glider from Eclipson (Model A).

Using the 3D printer has led me on to trying to learn 3D CAD (Computer Aided Design). I am currently using Fusion 360 which is free for personal use.

When I first became interested in 3D printing I did a lot of reserach on YouTube to see what other people were doing and to get an idea of cost.

As you can imagine there is a lot of information out there. Around January I finally decided on a Creality CR-10-V3. The reason I chose this model was it can print a bit higher than some of the smaller printers. The price was a very reasonable £430 from



*Some of the parts Paul has 3D-printed*



*Creality CR-10-V3*

carbon fibre and metal. A good resource website is [m.all3dp.com](http://m.all3dp.com). Here you can find a lot of information about 3D printers and filaments.

The slicer software I'm using at the moment for my printer is called Cura and this is free to download. Again I did some YouTube searching for this and thought I'd give it a try.

So far with my limited experience of this it seems to work well. Within the software there are a lot of parameters you can play around with to set up your particular machine though inevitably there is a certain amount of trial and error.

There are various websites where you can download 3D files to print R/C aircraft; a Google search will find these. The costs vary depending on the type of model but most seem reasonable. Some have free files to download.

I am really new to this so I am definitely no expert but am enjoying the journey.

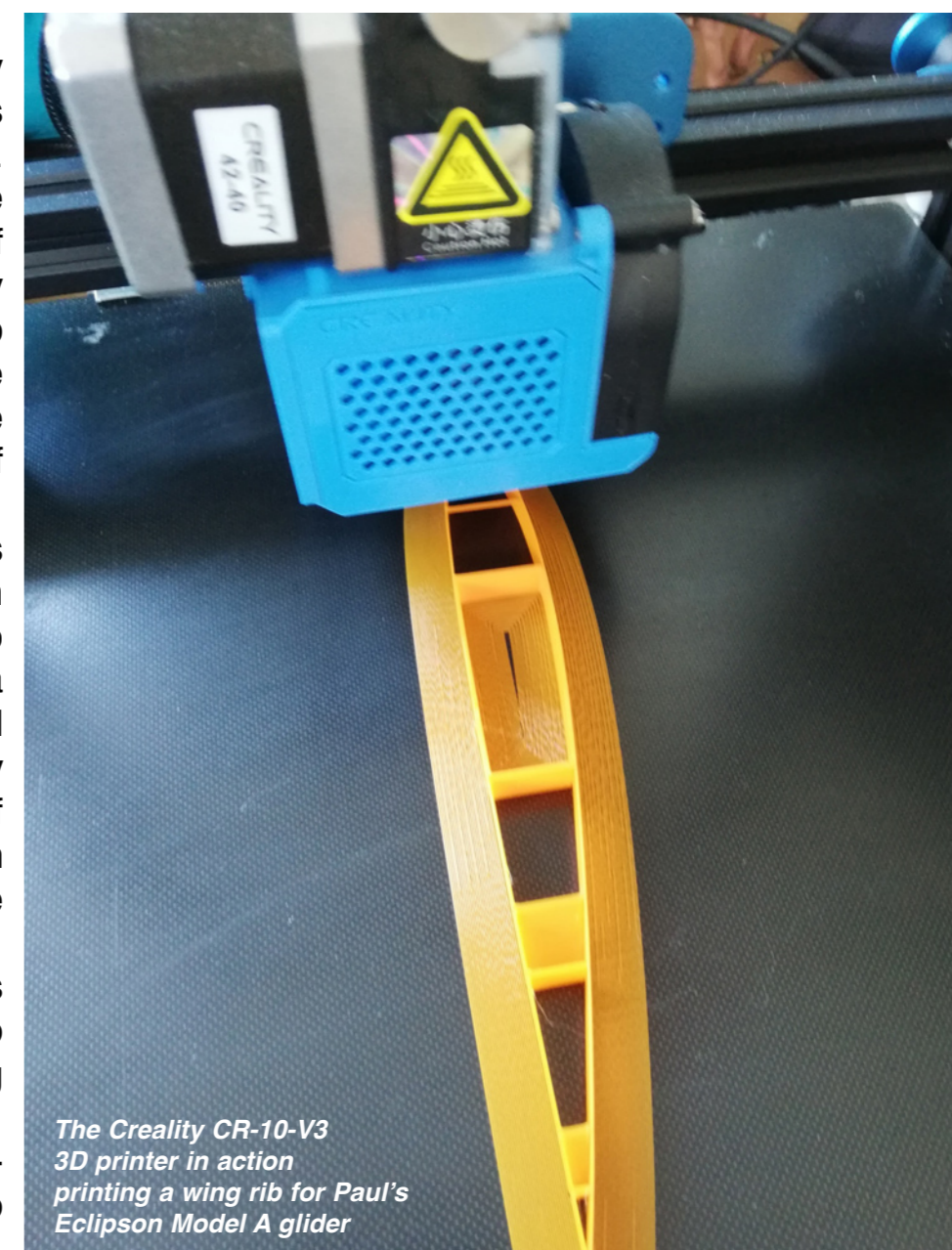
I hope this is of interest and inspires you to give 3D printing a go!

a company called 3D Jake. They are based in Austria and have a good selection of machines and filaments.

There are of course many other places to choose from. I have in the past used Banggood for other items and they have a lot of 3D printers.

At the moment I have only used PLA filament but there are others such as ABS. At the moment I am using a filament called Polylite which I purchased from 3D Jake at £27.90 per roll.

I've seen you can get filaments that have wood impregnated into it to give a wood effect and also



*The Creality CR-10-V3 3D printer in action printing a wing rib for Paul's Eclipson Model A glider*

# Aviation Quiz

*By an anonymous SRFC member*

*Feedback welcome – let Flypaper know if you'd like another!*

*This is a light hearted quiz for ageing (and possibly not so ageing) juveniles! Some are easy, others less so. No winners, losers, cash prizes, awards – or ribbing if you get a low score. Try not to resist the temptation to use Google!*

**Answers on page 32**

## 1. Middle names (I've given you the initial and how many letters)

Douglas R\*\*\*\*\* S\*\*\*\*\* Bader

Guy P\*\*\*\*\* Gibson

Adolph G\*\*\*\*\* ('Sailor') Malan

## 2. Nicknames. Name the aircraft

The Jug

Whispering Death

Widow Maker (US bomber)

Butcher Bird

Lizzie

Faithful Annie

Wooden Wonder

## 3. Dates. Just give the dates

Start of the Battle of Britain

Dambusters raid

Britain declared war on Germany

Maiden flight of the Hurricane



## 4. What were these operations?

Chastise

Dynamo

Neptune

Market Garden

## 5. Squadron numbers. Just give the squadron number

The Blue Diamonds

The Black Arrows

The first Spitfire was delivered to it

## 6. Name the two weapons tested at one or more of these venues

Loch Striven

The Fleet, Chesil Beach

Reculver

## 7. Who was the lead designer for...

The Spitfire after RJ Mitchell died

The Hurricane

The Lancaster

The Wellington

## 8. Who were eligible for membership of these clubs?

The Caterpillar Club

The Goldfish Club

The Guinea Pig Club

## 9. Name the military role of the following celebrities

Jimmy Edwards

Kenneth Wolstenholme

Jimmy Stewart

Clark Gable





# Aviation Quiz – answers Quiz is on page 30

1. Robert Steuart  
Penrose  
Gysbert
2. Republic P47 Thunderbolt  
Bristol Beaufighter  
Martin B26 Marauder  
Focke Wulf FW190  
Westland Lysander  
Avro Anson  
De Havilland Mosquito
3. 10th July 1940  
16th/17th May 1943  
3rd September 1939  
6th November 1935
4. The Dambusters raid  
The Dunkirk evacuation  
The actual assault on the Normandy beaches on D Day – Overlord was the name for the invasion of Northern France  
The ill-fated 'Bridge too far' assault on Arnhem
5. 92 Squadron  
111 Squadron  
19 Squadron at Duxford
6. Upkeep and Highball, the two bouncing bombs
7. Joseph Smith  
Sydney Camm  
Roy Chadwick  
Rex Pierson – not Barnes Wallis as is often quoted (sadly also in the film Dambusters). Wallis designed the geodetic structure used in several Vickers aircraft including the Wellington, hence the myth
8. People who have successfully used a parachute to escape from an aeroplane  
People whose lives were saved by a lifejacket after crashing in, or baling out into water  
Severely burned airmen treated at East Grinstead by Sir Archibald McIndoe
9. Transport Pilot  
Bomber Pilot  
Bomber pilot (US)  
Air Gunner (US)

## Ads

### For sale

#### Raptor 30 V1 helicopter.

Ready to fly. Just add receiver (if you are not Spektrum) and fuel. OS 32 engine, Futaba GY401 gyro and matching tail servo boom mounted. Upgraded metal parts, decent battery and Orange (Spektrum-compatible) Rx. Good for a first nitro helicopter, nice and stable, training can be given. **£70.**

**Jerry Hansen, tel:**



### Engines and plans from deceased estate.

**Engines**, clockwise from top left of photo:

PAW 09, Enya 29, Cox Babe Bee (2), and centre-stage, a Frog 160  
All have been well used.

### Plans:

SE5a F/F scale (0.5 to 0.8cc)  
Luscombe 'Sky Pal' F/F scale (63" wingspan for Mills Mk2)  
Peacemaker C/L 36" wingspan

Archangel F/F glider 72" wingspan

Delta 707 R/C 36" wingspan

**Offered FREE to SRFC members.**

**Tom Gaskin, e-mail: [memsec.srfc@gmail.com](mailto:memsec.srfc@gmail.com)**



# SRFC Committee 2021/22

Chairman	Ben De Vizio
Secretary	George Evans georgesec.srfc@gmail.com
Treasurer	Tom Gaskin memsec.srfc@gmail.com
Membership Secretary	Tom Gaskin memsec.srfc@gmail.com
Glider Competition Secretary	Robin Strange robin.srfc@gmail.com
Power Competition Secretary	John Ivory john.ivory.srfc@gmail.com
Flypaper Editor	Grahame Pearson grahame.pearson.srfc@gmail.com
Fixed Wing Training Co-ordinator	Ben De Vizio



Ben



George



Tom



Robin



John



Grahame

## Non-Committee Positions

Poling Representative (Helicopter Rep & Field Maintenance)	Mark Snow
Field Maintenance (Coombes)	<b>VACANT*</b>
Social Events	<b>VACANT*</b>
Website & Data	Ben De Vizio & Robin Strange
Safety Adviser	Dave Knott
Safety Marshall 1	Paul Gladstone
Safety Marshall 2	John Wase
Safety Marshall 3	<b>VACANT*</b>

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