



The "Kelling Flier" Mch21

Hi all, It's great to hear that you are all having your Covid jabs as we all look to a return to being able to meet and hopefully fly again. The BMFA are still looking at March 29th and I will update you all when I know more. Thank you to those of you who have made this issue possible and I hope to thank you in person soon!

Please continue to submit all items to me at awjenkins@sky.com.

Thanks, Andrew

STANS QUIZ CORNER



Here are the answers together with another group of aeroplanes for you to identify. Good luck!

Keep balsa bashing, Stan!

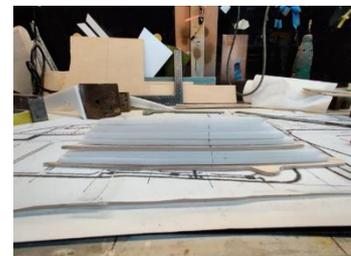
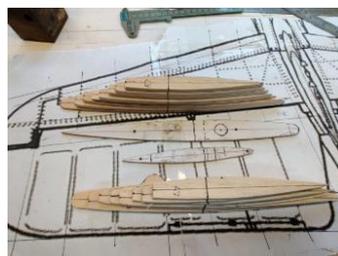
QUIZ - WHAT'S THE AEROPLANE ?

1. Did the Dutchman enjoy the offal or was he in the wrong platz?
2. She may not be very tall but she is royal.
3. This time the dog-collars are very brave.
4. In the West, he held the first flying licence in Britain.
5. The cook burnt the cakes again AND they were as hard as granite.

Answers to last Quiz - 1. Airspeed Ambassador. 2. Fairchild M62. 3. De Havilland Vampire. 4. Republic Rainbow. 5. IAR 80.

Nick's IAR80 "Lock down project" Part 2.....

Well, not much has been done this month. I seem to spend more time thinking of ways to do something than actually doing it. This time most of the work has been around the tail end of the IAR80 (Hunter). Using the tile print program I used to scale the model, I



printed the tailplane and carefully stuck the tiles together to give me the plan I was going to use to build the tail end over. My original thoughts were to make the ribs from depron with the load bearing ribs from 1/8 ply. I soon after changed my mind and plumped for balsa instead of foam. I was not sure if the foam was strong enough.

And the build goes on.....



Crutch removed from inside fuselage

If you recall, last month I said that when the fuselage had enough strength the crutch could be removed, well here are the pieces from inside the fuselage and showing where they were removed from.



This is where the crutch was located within the fuselage



Construction of tail



Joining tube in place

As the tail is to be removable a half inch tube was installed into both halves of the tail. This passes through the fuselage.

The tailplane halves were sheeted with 1/16 balsa and test fitted to the fuse. Angles were checked and checked again before the anti-rotation pin was fitted. This is a 1/4 carbon dowel through the fus near the leading edge of the tailplane. The elevators are open structure. I made these with 2mm light ply and balsa with rounded leading edges and inset hinges with shrouds, not yet fitted in the pictures.



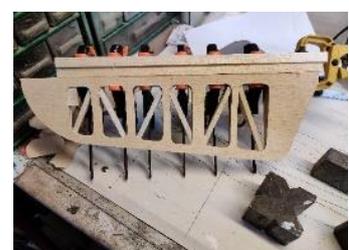
Trial fit of tailplane



Elevator halves prepared



Hinge blocks added



Leading edge, waiting for glue to dry



Sanded and rounded leading edge

The method of making the elevators move was going to be with a servo in each half of the tailplane. In the end after much head-scratching I decided to use a carbon fibre push rod driving each half of the elevators.



Elevator drivers

And on.....

Using 8swg wire, bent into a kind of capitol E shape lying on its long edge with a twin arm silver soldered to the middle at 90° to the sides of the E. Between the twin arms a heavy-duty ball link is bolted through with a 3mm HT bolt and nylock nut. A socket in each elevator half is where the wire locates when the tail is bolted in place. No servo wires to disconnect, "simples"! Next time I will finish the tail and then go back and look at the tail skid arrangement, I am not happy with the way I have made it. The real Hunter had a fixed skid. Anybody who has had a model with no way of controlling its path on the ground will understand why I want some means of steering it. *Thanks for the update Nick! It's looking very impressive, keep us posted!*



Socket for wire elevator driver

(More building projects in the next instalment!)

A thought from Stan regarding the popular Winter Wednesdays at Muckleburgh.....

A return to our Wednesday building and tea drinking, sadly missed, hopefully will be up and running this coming winter. As the Drone build is nearing completion, we shall need a project for the balance of the season. How about we build three single-channel gliders, about one metre span for a fun competition in 2022? Each competitor would have one flight with each glider and the highest total score wins. I think it would be more interesting to build three, different, models.

If this idea appeals, perhaps members would have a rattle amongst their old plans and then we can have a get-together and decide which models to build. – *Thanks for that suggestion Stan, perhaps you can all give it some thought as the next project and let me know your thoughts-* Andrew

Identify the item!

See if you can guess this one! This has been supplied by John Wells and is another object that we would use on our models! Thinking caps on chaps, I look forward to hearing from you (other than Nick, no offence mate!!)! Email me with your ideas (awjenkins@sky.com) and the first correct answer will get a mention in the next issue.



Last month's item.....

Several of you guessed this one correctly, but the first to guess it was a type of bush for mounting motors, was John Wells, well done John.



“Your article” – Could be here in the next instalment! So, get scribing and emailing and share it with our fellow modellers - awjenkins@sky.com

John Wells “Tethered car” project.....

Tether cars are built for maximum speed, which is why some people describe them as bullets on wheels, rather than cars. The world record for the top **tether car** speed is 214 miles per hour (344.4 kilometres per hour), well above the top speed of most model cars and perhaps more impressively, well above the top speed of most full-size cars.



A typical "tether" car

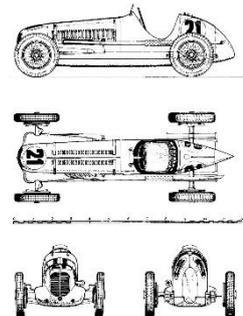


The classic Maserati

As well as aeroplanes, I've always been interested in engines, cars and motorbikes. After reading that a track for running tether cars (RTP) was being constructed at BMFA Buckminster, I looked into the history of the sport, with a view to maybe building a car. Tether car racing was at the peak of its popularity in Britain for 10 years from 1946 but rapidly declined until just one track remained, which closed in the 70's. It is still pursued as a specialist sport in Europe and elsewhere in the world. There is also a track at Great Carlton in Lincolnshire and at Old Warden.

After getting a couple of books on the subject, the older 'retro' style of cars appealed to me and would be a good place to start. Famous names, John Oliver (high performance diesels) and George Brough (the motorcycle builder) were involved from the early days. The first car to exceed 100MPH in the UK was built in 1947, the record at the moment is just under 215 MPH but these look more like guided missiles than cars, using glow motors and tuned pipes etc.

I've never had anything to do with diesel engines, but as that is what powered the early cars, I needed to learn fast.



John takes on the diesel engines!.....

A couple of 2.49cc PAW engines were acquired from eBay and the possibility of converting one to a twin-shaft, direct rear wheel drive layout was developed. A refresher course on screw-cutting in the lathe was needed to produce the 32 t.p.i. backplate thread on an alloy housing containing the 'second crankshaft' and bearings.



Tony Eifflaender at P.A.W. gave me some useful tips about their engines. The early model engine that I am using, with its single ball-race has a crankshaft that has an extended crankpin that should allow easy coupling to the additional driveshaft, after reducing the con-rod 'a bit'. The later engines make it rather more tricky as a needle roller pin will need to be fitted to link the shafts.

The design of the car will probably be something along the lines of a '36 Maserati Tipo with alloy body. In the pipeline is the machining of a new crankcase from solid, with a view to producing another engine with 4 ball-races using a PAW cylinder and piston. *Another great project John – thank you!*



Geoff Cleall's Cessna flight experience and his pilots replica Fokker Dreidecker DR1 project.....

Six years ago, when I was 70, Ann secretly booked me a flight in a light aircraft. I got to know about it when the pilot rang up to postpone the flight because of stormy weather. The pilot was Peter Bruggemann, an ex Holt Surgery GP, who wanting to keep his hours up, would take me for a flight from Little Snoring Airfield. A new date was settled, and we then met him at the airfield for a flight in the McAully Group Cessna C172P Skyhawk (G-MCLY).



The Cessna 172P Skyhawk

Geoff takes to the sky.....



Aerial shot of Blakeney Point

We (Peter, me, Ann and my daughter Vanessa) took off, heading for the coast. Although I thought that we were just passengers, after passing Blakeney Point (see pic) Pete asked me

if I wanted to take over. I flew the aircraft along the coast to Cromer and I was interested to note that the Norwich Control Tower kept giving me

instructions to stay below 4,000 feet because of American Military movements. I certainly planned to fly a level course and there was no way that I wanted to get tangled up with F15s. With Peter, back in control we went round in a big loop over Norfolk, landing after about 50 mins in the air. Pete only charged us for the fuel and the trip cost £45.



Geoff Cleall (right) at the controls!



The replica Fokker Triplane in flight

During the flight, Pete mentioned that he flew a Tiger Moth from Norwich and there was also some mention of building a Fokker Triplane replica. In 2017, I was at a meet of light aircraft and classic cars at Little Snoring Airfield. Over the barbeque lunch I asked flying club members if they had seen anything of Bruggemann. The response was that he had not been seen for ages and he was caught up with the build of his Triplane. They seemed faintly worried that he might do himself

a mischief because the plane might be difficult to fly.

However, the work was finished, and he took it up for the first time from Felthorpe Airfield in August 2018. It looks a splendid machine and you'll note that it has 'Baron Peter von Bruggemann' painted as per Richthofen on the side. Modesty or what? I've put in two photos. Just goes to show you what you can do if you have real money. – *A great experience and great pictures Geoff, the Fokker Triplane looks amazing, thanks for sharing it with us!*



Pilot Peter Bruggemann



Baron von Richthofen

The Fokker Dr.I, often known simply as the Fokker Triplane, was a World War I fighter aircraft built by Fokker-Flugzeugwerke. The Dr.I saw widespread service in the spring of 1918. It became famous as the aircraft in which Manfred von Richthofen gained his last 19 victories, and in which he was killed on 21 April 1918. Manfred Albrecht Freiherr von Richthofen, known in English as Baron von Richthofen, and most famously as the "Red Baron", was a fighter pilot with the German Air Force during World War I. He is considered the ace-of-aces of the war, being officially credited with 80 air combat victories. – (courtesy of Wikipedia)

An inflatable plane! This is the story.....

The Goodyear Inflatoplane was an inflatable experimental aircraft made by the Goodyear Aircraft Company, a subsidiary of Goodyear Tire and Rubber Company, well known for the Goodyear blimp. Although it seemed an improbable project, the finished aircraft proved to be capable of meeting its design objectives, although orders were never forthcoming from the military. A total of 12 prototypes were built between 1956 and 1959, and testing continued until 1972, when the project was finally cancelled.

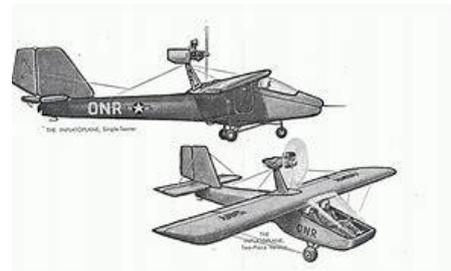


The original concept of an all-fabric inflatable aircraft was based on Taylor McDaniel's inflatable rubber glider experiments in 1931. Designed and built in only 12 weeks, the Goodyear Inflatoplane was built in 1956, with the idea that it could be used by the military as a rescue plane to be dropped in a hardened container behind enemy lines. The 44 cubic ft (1.25 cubic meter) container could also be transported by truck, jeep trailer or aircraft. The inflatable surface of this aircraft was actually a sandwich of two rubber-type materials connected by a mesh of nylon

threads, forming an I-beam. When the nylon was exposed to air, it absorbed and repelled water as it stiffened giving the aircraft its shape and rigidity. Structural integrity was retained in flight with forced air being continually circulated by the aircraft's motor. This continuous pressure supply enabled the aircraft to have a degree of puncture resilience, the testing of airmat showing that it could be punctured by up to six .30 calibre bullets and retain pressure.

There were at least two versions: The **GA-468** was a single-seater. It took about five minutes to inflate to about 25 psi (170 kPa); at full size, it was 19 ft 7 in (5.97 m) long, with a 22 ft (6.7 m) wingspan. A pilot would then hand-start the two-stroke cycle, 40 horsepower (30 kW) Nelson engine, and take off with a maximum load of 240 pounds (110 kg). On 20 US gallons (76 L) of fuel, the aircraft could fly 390 miles (630 km), with an endurance of 6.5 hours. Maximum speed was 72 miles per hour (116 km/h), with a cruise speed of 60 mph. Later, a 42 horsepower (31 kW) engine was used in the aircraft.

Take off from turf was in 250 feet with 575 feet needed to clear a 50-foot obstacle. It landed in 350 feet. Rate of climb was 550 feet per minute. Its service ceiling was estimated at 10,000 ft.



The **GA-466** was the two-seater version, 2 in (51 mm) shorter, but with a 6 ft (1.8 m) longer wingspan than the GA-468. A more powerful 60 horsepower (45 kW) McCulloch 4318 engine could power the 740 pounds (340 kg) of plane and passenger to 70 miles per hour (110 km/h), although the range of the plane was limited to 275 miles (443 km).

The test program at Goodyear's facilities near Wingfoot Lake, Akron, Ohio showed that the inflation could be accomplished with as little as 8 psi (544 mbar), less than a car tire. The flight test program had a fatal crash when Army aviator Lt. "Pug" Wallace was killed. The aircraft was in a descending turn when one of the control cables under the wing came off the pulley and was wedged in the pulley bracket, locking the stick. The turn tightened until one of the wings folded up over the propellor and was chopped up. With the wings flapping because of loss of air, one of the aluminium wing tip skids hit the pilot in the head, as was clear from marks on his helmet. Wallace was pitched out, over the nose of the aircraft and fell into the shallow lake. His parachute never opened. Only 12 Goodyear Inflatoplanes were built, but development continued until the project was cancelled in 1973. - (courtesy of Wikipedia)

and finally..... A word from our Chairman

Hello All,

I hope you are all keeping well and gainfully occupied getting your models ready for when we can go flying again. My reading of the Covid situation is that provided there are no setbacks in easing off of the lockdown measures we should be able to resume flying at Muckleburgh from Monday 29th March. Let's keep our fingers crossed that happens and we can begin to get back to some sort of normality. Andrew will send an email a few days before the 29th to confirm exactly what the situation will be.



Last month I mentioned how I had used Depron covered in tissue and sealed with floor varnish to make a new fuselage for my Flying Flea. Since then I've built another model using a similar technique for the fuselage. This time the fuselage is more normal in proportions, basically a box 3 inches square by 33 inches long. However, it has a 16 inch length of the

top surface removable for access to the inside, so achieving rigidity was going to be a challenge. There is also only one former - near the front to support a nose wheel. As with the Flea, I used 6mm Depron for the sides, top and bottom but the sides are reinforced full length on the inside with 2mm light ply. This time I've finished the outside with 50g/sqm glass cloth applied using floor varnish and then covered in Solarfilm. I was very pleased with the end result. It is quite rigid, tough and light and it will be interesting to see how it puts up with the rigours of flying. The wingspan is 54 inches and it is powered by an electric motor turning a 10x6 prop. The finished weight has come out at 1560g (56oz) + the weight of a 3S battery. What is it? Well, I wanted to build a sport model and was looking for something a bit different when I came across a canard design on Aero Fred.



Called 'Gannet', it is a Canadian design featured in RC Modeller back in 1983. With this inspiration I decided to build my own version, but as always, with a few tweaks. The original was powered by a 40 glow engine, weighed 80oz and was of conventional balsa construction with a one



piece wing. I've built the wing in two panels which attach to the fuselage via carbon rods. I've used an electric motor rather than an engine and as mentioned above, I've built the fuselage mostly from Depron. The fin is also Depron with balsa leading and trailing edges. The wings are conventional balsa construction with fully sheeted

surfaces for stiffness. The other dramatically different thing is that I've gone for a swept forward wing as opposed to the swept back wing on the original. That necessitates having the CofG slightly further forward but is easily achieved by putting the LiPo battery just behind the nose wheel bulkhead. The main wheels are well back, just below the trailing edge.



This is needed to prevent the pusher prop clashing with the ground when the model rotates for take-off and flares for landing. So, all in all it will be quite a different shape in the sky. Hopefully, I will get to try it soon.

That's all from me for now. I look forward to seeing some of you at Muckleburgh next month, Covid and weather permitting.

Meanwhile, stay safe and please send in details of your latest projects to Andrew.

Cheers, Steve

