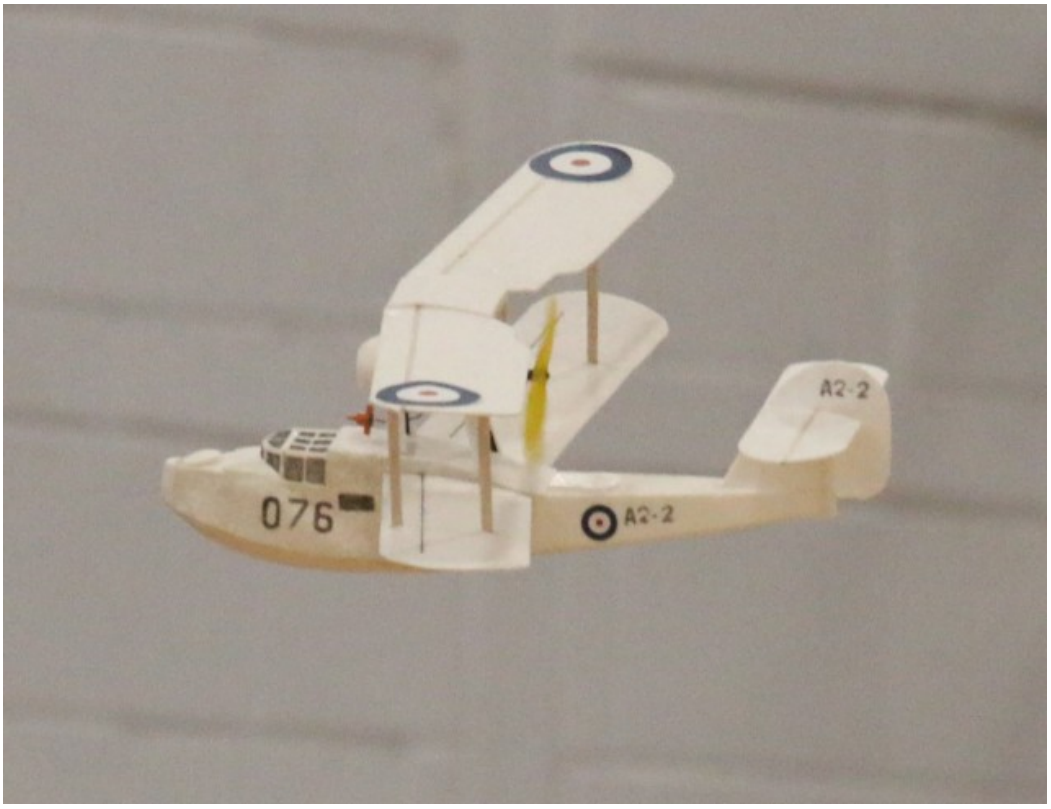
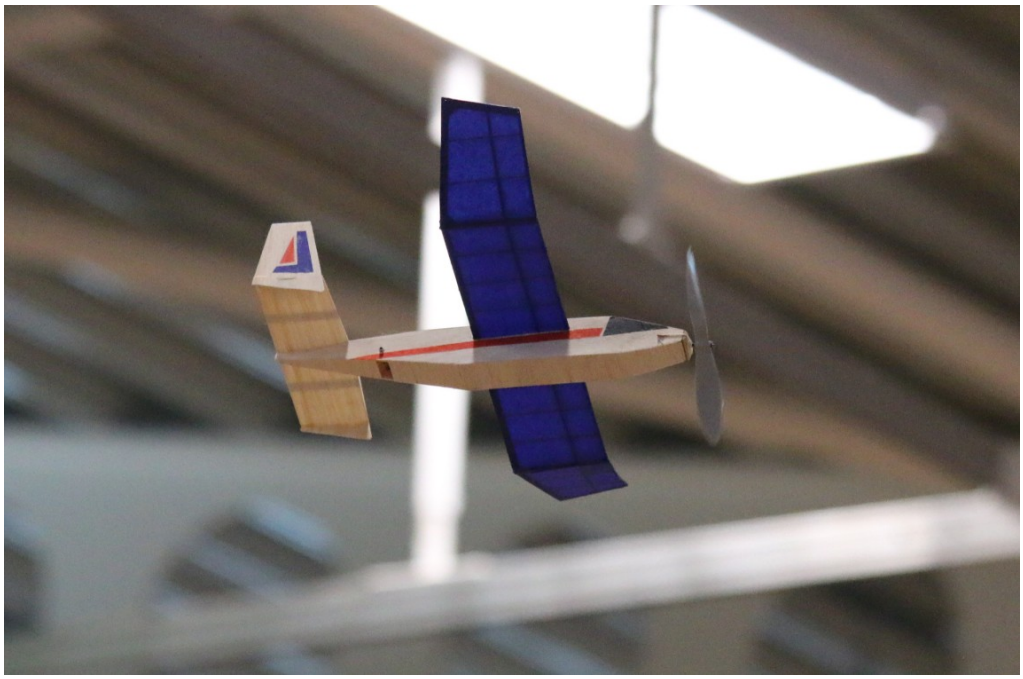
# Trinity Newsletter – Issue Nº. 3, 2023




*Chris Brainwood's Foam Supermarine Walrus*
*Photo – Andy Blackburn*



*Richard Preston's  Aerographics Agro*
*Photo – Andy Blackburn*

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## Calendar

### 2023

| Date | Session | Event |
|---|---|---|
| June 17th | 09:00 – 13:00 | |
| July 15th | 09:00 – 13:00 | |
| August 12th | 09:00 – 13:00 | |
| September 9th | 09:00 – 13:00 | |
| October 14th | 09:00 – 13:00 | Double Whammy LPP<br>CDs – Rob Funnell & Ian Pearce |
| November 11th | 09:00 – 13:00 | Themed Scale.<br>Aircraft of the 1914-19 war.<br>CD – Andy Blackburn |
| December 16th | 09:00 – 13:00 | Malmström Mêlée<br>CD – Lurk |

As other users of the hall may be given preference for the dates listed some meetings may have to be rescheduled.  Any changes will be sent out in e-mail

### 2024

Yes, it's that time of year again.  What party games would you like to see next year?  Drop a line to the editor with your suggestions and we'll put them to the vote.

Reviewing the way things have gone the last couple of years, 4 or 5 seems to be a comfortable number of events.  The calendar doesn't get crowded out and it gives time to build and trim any new models that may be required in something like a relaxed manner.

I have one suggestion.  VMC will be releasing a new "absolute beginners" high wing sheet monoplane, "The Buddy", later this year.  As we've had some fun with the FROG sheet models this might also prove a good subject for a single design event.  Industry sources tell me that the wing loading without motor is somewhere about 10-11g /$dm^3$ which suggests, if my Dumas Ryan at 10g / $dm^3$ is any guide, that it will probably be quite good for Trinity.  It won't be an ultra slow, stately flyer,but nor should it be a rocket.

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## Lionel Haines

I'm sorry to say that Lionel is very unwell and in hospital.  I'm sure I speak for all of us in wishing him well and hoping he has a speedy and good recovery.

If you'd like to know more please speak to Steve.

## Parish Notices

### A Request from the Vicar

Please will everyone be sure to close the hall doors when entering and leaving the hall.  The lighter models, especially the no-cals and featherweight duration types really suffer when the doors are left open and it makes it impossible to trim them or, in some cases, fly them.

## Flying at Trinity

When you arrive, please try and fill-in the corners and short edges of the hall first so as to leave the largest possible unobstructed area for flying.

The meetings are, mostly, sport-oriented; just turn up, pay and fly.  However, there will sometimes be an informal, “just for fun” event which will be fitted-in around the sport flying so that it doesn’t disturb anyone who isn’t taking part.

FF & RC flying are allocated half-hour slots, FF starting on the hour.  FF models may be flown during the RC session, but you do so at your own risk.

## Model of the Meeting

Many thanks to Steve Haines for the idea; it’s nice to have a good excuse to wander around and be nosey.  Rules are simple.  Amble around the hall, look at peoples’ models or watch them flying, pick one you think the best for *any* reason whatever, scribble the name of the model and builder on a scrap of paper and stick it on Lurk’s table by midday.

## Contributors

Thanks to Rob Smith, Chris Brainwood, Andy Blackburn, Nick Peppiatt, Rob Funnell, Mike Stuart, Dave King, Steve Haines, Colin Hutchinson, Dave King and Richard Preston for his Agro plan.  As always it’s the contributions that make this worth reading.

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## Trinity Indoor Flyers.  Online Resource Hub.

Now with on-line souk!  If you've got any ~~old tat~~ valuable aeromodelling materiel to sell, or give away, send John Whatmore (e-mail address below) the details

For back issues, plans and all sorts of other useful stuff point your browser at

www.trinityindoor.uk

If you've got anything you'd like to share with the rest of us send it to site creator & custodian John Whatmore (john.whatmore@hotmail.co.uk) and he'll add it in the appropriate place.

## Free Stuff.

If you've got stuff you want to hand on for free and don't want to bother John please send Lurk an e-mail a week to a few days before the meeting and the details will be added to the usual reminder message that goes out shortly before the meeting.

## Forthcoming Events

### October – Double Whammy

Your CD is Rob Funnell and will be assisted by Ian Pearce.  If you're interested in taking part and haven't already let the administrative staff (i.e. Lurk) know, please do so.  Rob still has some spare plans.

### November – Themed Scale.  Aircraft of the 1914-19 War

As most of the eligible subjects are short-nosed biplanes and notoriously tricky to trim you may want to start thinking about having something built & ready to test by September.

If you are intending to enter would you please let Lurk know so that a start can be made on the paperwork.  Thanks.

### December – Malmström Mêlée

Time to start building if you haven't already.  Now, *where* did I put that plan?

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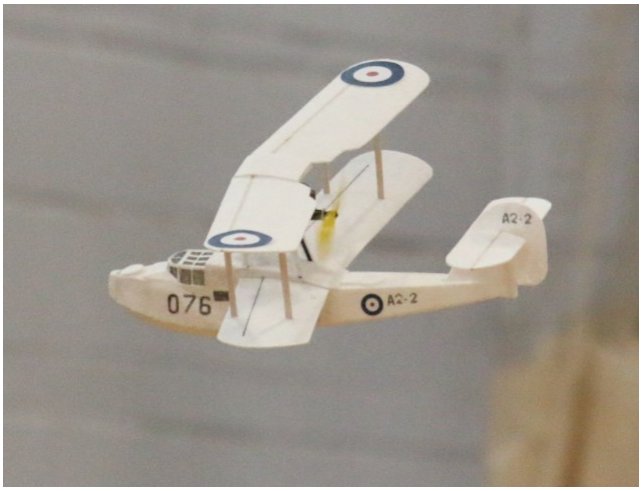
## April 2023

Another busy meeting with quite a few new models, some careful pre-indoor-scale-nats testing & trimming, the occasional soto voce imprecation, the odd pratfall and, thankfully, not many smashes.  I think it's safe to say that the highlight for most of us was Chris' $CO_2$ powered foam Supermarine Walrus. True, he only got two flights out of it before the airframe succumbed, but what flights.  Even better, he has yielded to the arm twisting of Trinity parishioners, as well as those on HPA, and started work on a stick and tissue version based on the lines of the foamie.

## Model of the Meeting

Almost everyone voted for Chris Brainwood's delightful Telco driven foam Walrus, but Steve Haines' Malmstrom Wren & Ian Pearce's No-Cal Staggerwing picked up some well deserved votes as well.  Chris has kindly written a bit about the genesis and construction of the Walrus and you can find his notes further on in the newsletter.




*Supermarine Walrus*
*Photo: Andy Blackburn*

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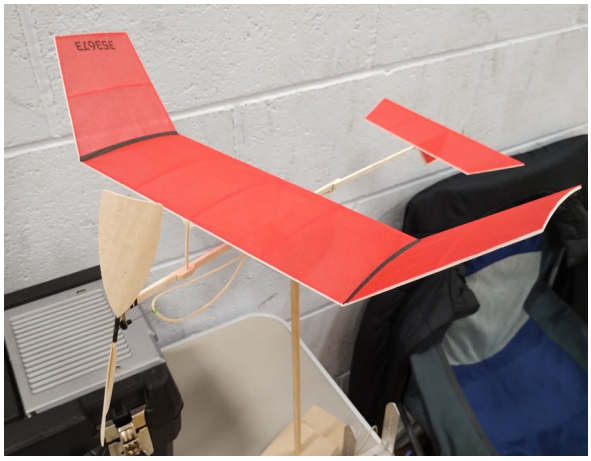
## April's Models

### Alan Coppen

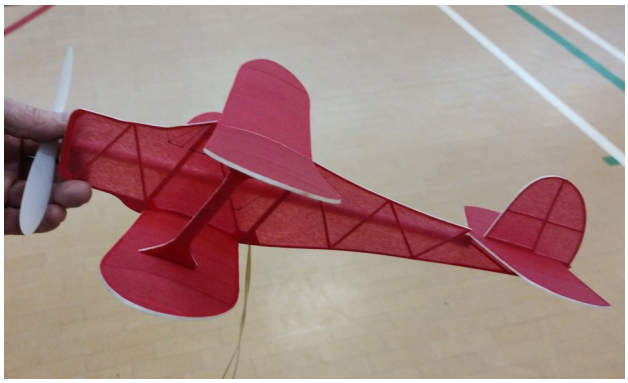
Of the 3 Double Whammies present at the meeting Alan's seemed to be the best performer, despite being lead astray by the typo in the tip dihedral measurement on the plan.  Sorry Alan.



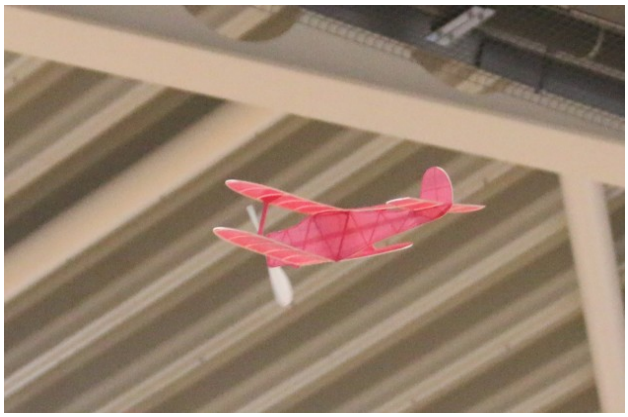
*Double Whammy*
*Photo: Staff*

### Ian Pearce

Ian brought a brand new No-Cal Lidberg designed Beechcraft Staggerwing along and it flies a treat.  He also had a brand new Legal Eagle (I know, I know, but *you* try and persuade him that there are other designs out there) in his preferred Blood & Custard scheme, which, when it had finished showing off its acrobatic tricks on take-off (see newsreel) was a steady flyer.



*Staggerwing*
*Photo: Staff*



*Staggerwing*
*Photo: Andy Blackburn*

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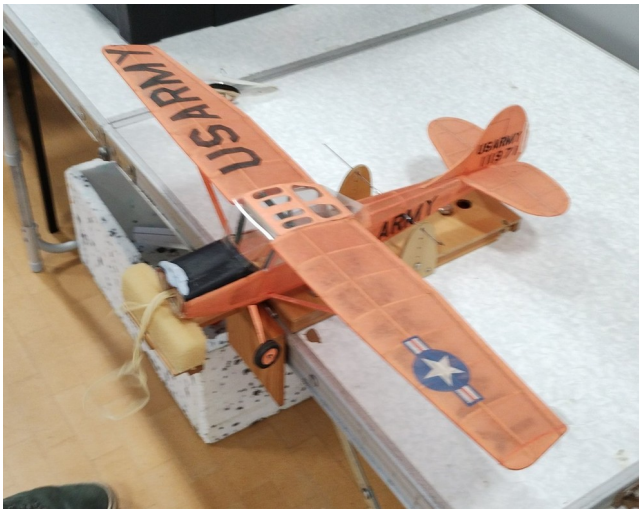
## John Scates

John's razorback Republic P-47 Thunderbolt made a welcome re-appearance and we have some rather nice snaps of it in flight to show you.

*Republic P-47 Thunderbolt*
*Photos: Andy Blackburn*

## Laurie King

Laurie's not quite content with his VMC Bird Dog yet.  It flies nicely from ROG, but he's not satisfied with the altitude.




*Cessna 01-? (Bird Dog)*
*Photo: Staff*

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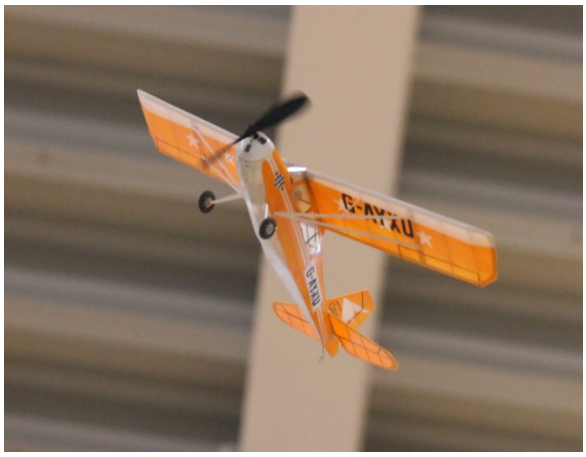
## Peter Smart

Peter rolled up with two very nice new models this month.  His Armstrong Whitworth Whitley, intended for Intermediate Scale at the Nats, and a Citabria. The Whitley really has presence and in the night scheme it looks like a bomber should; downright menacing, verging on evil.  As for flight potential, it's an absolute featherweight.  Peter ventured a low power ground run to check the circuit, but wisely forbore from risking a flight in Trinity's narrow confines.

The other new one was a Bellanca / Champion Citabria, which despite losing the fin at one point, flew very nicely.  Interestingly (well it interests me) the prototype G-AYXU which was built in 1969 and based at Staverton (Gloucester) for several years until late 2019 when it was written off following a bad landing.



*Citabria*
*Photo: Andy Blackburn*

*Citabria*
*Photo: Chris Brainwood*

*Armstrong-Whitworth Whitley*
*Photos: Chris Brainwood*

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## Steve Haines

You may have noticed that Steve is a regular top three finisher in our party games.  Ever wondered why?  Me too.  Well, apart from building things *properly* his main secret seems to be; build far enough in advance that you have time to trim the model before the event.  April's example was his Malmström Wren for December's event.



Malmström *Wren*
*Photos: Staff*

## Roger Butler

Roger was having fun with a profile model, a garden centre find that his son thought he'd appreciate.  He also brought along his take on the VMC MK I Spitfire.  He'd been a bit disappointed with his build because it required so much nose weight so was relieved to find that it's not uncommon for them to require significant weight up front.

*MK I Spitfire*
*Photo: Staff*

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## Andy Blackburn

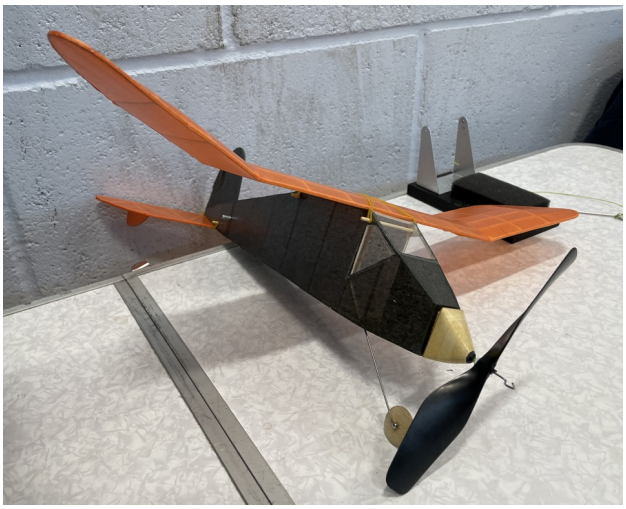
From the satisfied grunts I heard I think Andy is now pleased with his Wittman Tailwind as it's now capable of 38s from ROG.  His IL-29 (Sturmovik) got an outing and, as I didn't hear any grumbling from the corner, I assume it flew satisfactorily.


*Wittman Tailwind*
*Photo: Chris Brainwood*


*Il-29*
*Photo: Chris Brainwood*

## Ray Goodenough

Ray was playing with a Sorta Senator this month.  It did fly, but Ray tells me it doesn't want to fly circuits.



*Sorta Senator*
*Photo: Chris Brainwood*

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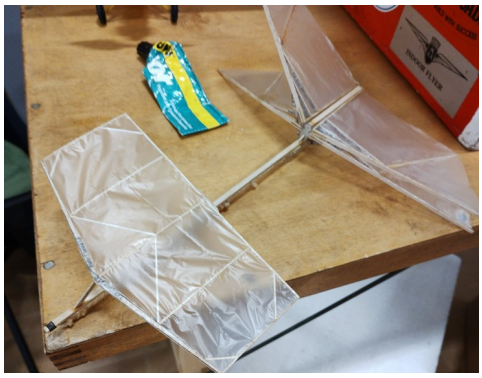
## Nick Peppiatt

As well as his Ganagobie and FRED, which we have seen and envied before, Nick had a couple of oddities with him. The first was one of a collection of compressed air motors inherited from Lindsey Smith and he's sacrificed valuable building and flying time to provide a bit more info. on them, see below. The other oddity was a hem hem *venerable* Flutterbye ornithopter from a Canadian kit. The ornithopter is doubly odd, having a canard layout, but it flies at a fair old clip. The main problem Nick now has with it is attaching the polythene film to the various wooden members because it is no longer possible to get hold of the glue he originally used.

*Motor & Reservoir assembly*
*Photo: Staff*



*Flutterbye*
*Photo: Staff*

## Rob Smith

Not one, but two foam sea-planes! Rob has been experimenting with capacitor powered foam profile stuff and brought along a Republic SeaBee. The motor & capacitor were salvaged from one of the many toys available from one of the electronic mail-order sites. I failed to get any film of it, but I did see it flying well towards the end of the meeting.

*Republic SeaBee*

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*Photo: Staff*

## May 2023

You can tell the outdoor season is upon us.  Ever so quiet, even with the FROG Senior going on.  An unexpected visit from Andrew Boddington made for a pleasant surprise and those who took part in the FROG Senior will have their fizzogs immortalised in Aero Modeller.  Well, that or the Police Gazette.

A couple of bits RC activity caught my eye.  Mick Langford's RC conversion of the FROG Tomtit now has streamers.  Very First War and it adds a certain something to it.  I like it.  The other, notable, RC flying was Rob Smith's.  He seemed intent on maiming someone, anyone and John Holman came within a whisker of losing his left lug at one point.

Speaking of Mick & Rob.  Mick's VMC Sopwith Tripe was performing very respectably, but I got neither photographs nor film of it.  A pity.  Rob's Czech Seagull was flying nicely until I jinxed it by remarking that it was good to see it flying in circles at last, after which it promptly resorted to straight line flights at high speed into the walls.  Sorry Rob.  I had much the same effect on Gerard's Tiger Moth.  Sorry Gerard.

## Model of the Meeting

I was too busy to chase this up.  Sorry.

## Frog Senior

Although 3 entrants didn't make the start line it seemed to go off very well.  At least I didn't hear any swearing or the sound of splintering balsa.

Of all 9 entries only Steve differed from the Redwing/Linnet default with the Tomtit.

The results for those who posted times (3 best of 5 nominated flights) were

| Pilot | Model | Total |
|---|---|---|
| Dave King | Redwing | 102 |
| Steve Haines | Tomtit | 84 |
| Mike Stuart | Redwing | 77 |
| Reg Bees | Linnet | 35 |
| John Winfield | Redwing | 33 |

I don't know if it played a significant part in Dave's success, but he was the only contestant using a torque meter.  Of course it may simply have been psychological warfare on his part.  And, as is traditional, one entrant's model waited until after the event to perform *really* well.  This time it was Mike's Redwing.

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## The Entrants' Models.

No particular order

*John Winfield – Redwing*
*Photo: Staff*

*Reg Bees – Linnet*
*Photo: Staff*

*Tony Calvert – Linnet*
*Photo: Staff*

*Steve Haines – Tomtit*
*Photo: Nick Peppiatt*

Continued over...

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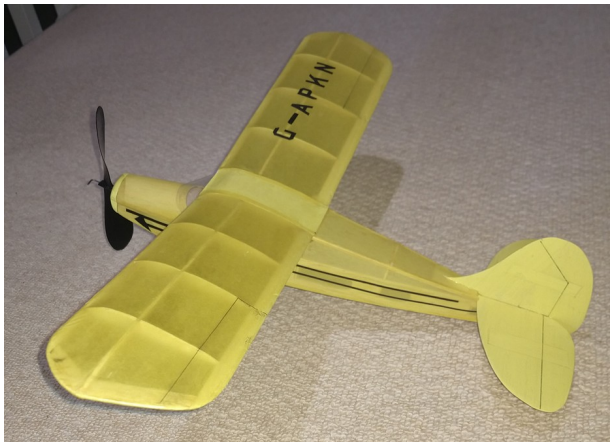


*Dave King – Redwing*
*Photo: Dave King*


*Mike Stuart – Redwing*
*Photo: Mike Stuart*

The Competitors

*L-R  Reg Bees, Steve Haines, Tony Calvert, John Winfield, Mike Stuart, Dave King*
*Photo: Nick Peppiatt*

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## The Prize Winners

*Dave King 1st*
*Photo: Staff*

*Steve Haines 2nd*
*Photo: Staff*


*Mike Stuart 3rd*
*Photo: Staff*

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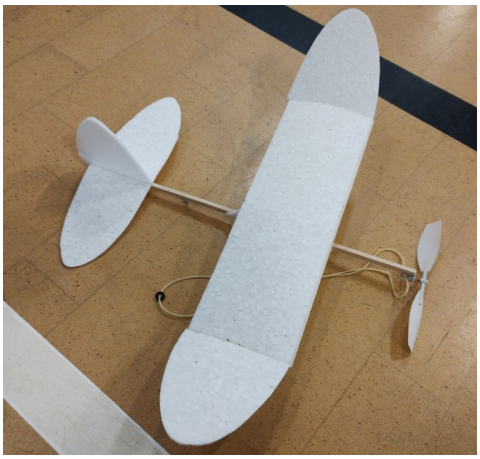
## May's Models

Not many snaps of models this month as many of those in attendance were concentrating on the FROG Senior and I was trying to film as many flights as I could, but there were two or three that caught my eye.

### John Foster

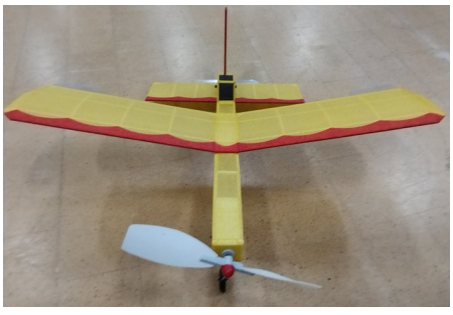
John brought along his new foam Serene to Richard's design.  At this rate we'll have a full squadron, never mind a flight.  John was very well satisfied with it; in his own words, "...it flew right off the board."  Chapeau Mr. Preston.



*Serene*
*Photo: Staff*

### Steve Haines

It looks as though Steve is intending to crush any opposition in the Malmström Mêlée through sheer weight of numbers.  He now has an Invicta to go with his Wren.  And, as I mentioned above, Steve's getting his trimming in *early*.



Malmström Invicta
*Photos: Staff*

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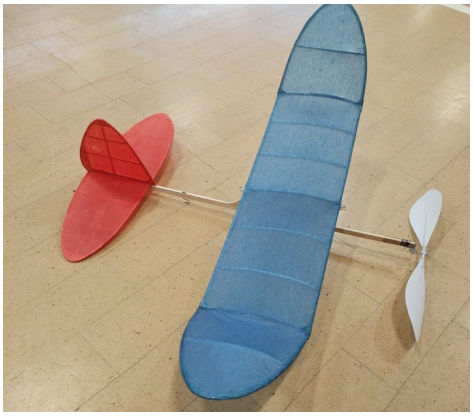
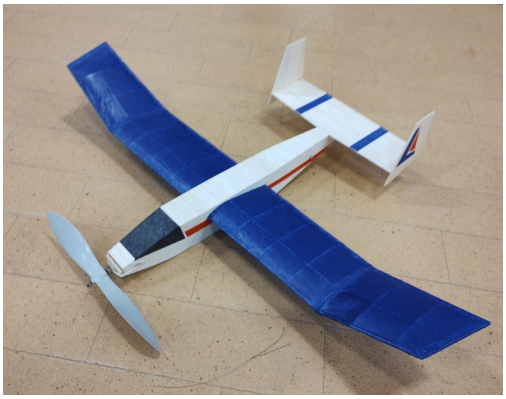
## Richard Preston

Resuming the Serene theme.  Richard had a stick and tissue version with him as well as his Aerographics Agro,  the plan for which should accompany this issue.  Richard tells me that the Agro's recommended 1/8" motor is best reserved for outdoors or *very* high halls and for somewhere like Trinity a 10" loop of 0.090" is more suitable.  When pressed on the subject he conceded that a loop of 3/32" (0.094") would probably work too.

For those who don't know, I didn't, Richard was (is) Aerographics.



*Stick & tissue Serene*
*Photo: Staff*



*Aerographics Agro*
*Photo: Staff*

## Nick Peppiatt

Nick's been dusting off his older models and this month saw the return to the air of his No-Cal Beercat.  He also brought along some free balsa.  Vultures? You never saw the like.

*Beercat*
*Photo: Staff*

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## Foam Supermarine Walrus for $CO_2$ – Chris Brainwood

I recently built a rubber powered SE5a from Wall foam which was very quick to build and flies nicely so I wondered as, thanks to Gerard's meticulous work, I now have few good Telcos sitting doing nothing could I do something in foam which could fly in a similar slow fashion on very low power?

Now, the best thing would have been to build a nice simple model to try it out.... well so much for that idea. I'd always fancied doing a 'Shagbat' and I started the APS FF version in my youth but it didn't get very far. I have since learnt there were quite a few errors on the plan including the thrust line and CG position so maybe that was good thing. The scheme was an easy choice. I still have a book about the aircraft of the RAF that was my dad's which has a picture of the Walrus that I traced so hard it's left an embossed outline round the image. The aircraft, marked 076, was the 2nd Walrus built and destined for the Australian Navy. The UK government weren't interested in the aircraft to start with, but after seeing them in action they changed their mind. Initially a navy spotter aircraft it quickly became used for search and rescue and saved many pilots' lives in the Battle of Britain .

For reference material I used the Aeroplane Database file from RCLibrary which has a nice 3 view, the old APS plan I started all those years ago and a plan for a Depron 30" RC version by Trevor Hewson and Mike Roach that I found on OZ. I hoped the Hewson & Roach plan would save me a bit thinking for the wall foam version and it proved a good source of templates for many of the larger parts.

Construction was more or less the same as my foam SE5a, but there is a bit more reinforcement to take account of the extra weight. The motor alone is close to two and half times the weight of the SE5, 17g vs 7g. The airframe construction can be summarized as follows

- The lower wings have a 2mm x .5mm carbon spar let into the wing & the top wings have a 1/16" sq spar.
- The fuselage has 4 formers of light 1/16" balsa with a 1/16" x 1/4" strip running longitudinally. It also has a false bottom so that the curved part of hull can be built separately and stuck to it.
- The wings are fitted to a split former in the fuselage which accepts the spars and the natural aerofoil given by the curve of the foam sheet is maintained by gluing the wing roots to the fuselage.
- Struts are bamboo skewers pushed through, glued and cut to size. This very much a lo-fi model.

The nacelle & motor installation required some thought to get the tank as far forward as possible and I ended up with two 1/16" balsa profiles formed into a cross with foam "planking" to give the characteristic shape. It's held in position with carbon fibre struts fixed to a light balsa sheet base set to give 2º upthrust.

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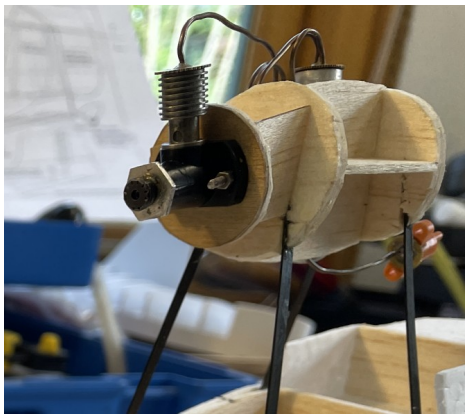

*Nacelle Construction*
*Photos:  Chris Brainwood*

## Flying it…

By the time I made it to Trinity the Shagbat weighed 33g and I wasn't really expecting to bring all of it home.  To cut a long story short I was right but in between it flew very nicely.

Initial tests produced a 'sort of' glide with addition of nose weight so I tried that first with some low power, but it just nosed over into the ground.  I removed the nose weight and tried again, this was much better . It looked more promising so added more power but the added power pulled the nose up into a mushing stall suggesting that the thrust line was wrong.  It is very clear though that the aircraft also has large nose down rolling effect, presumably from the short coupled tail.  However with some power this is reduced and can even be eliminated.  I eventually found that by increasing the upthrust level flight under power was possible.  I also found that, being directly behind the prop, the tail and fin are are very sensitive to movement.  This made it tricky to get any sort of consistency because the foam deforms very easily.

As I feared the foam construction wasn't really up to to the weight of the model so even a nice landing resulted in damage.  Early flights did not end in nice landings, but armed with some UHU POR I just kept repairing and adding foam panel doublers where it folded under load until it flew… or disintegrated

In the end it proved worthwhile when a final bit of upthrust followed by a bit more gentle twisting of the foam to make sure everything was square gave two good flights, the second of which was filmed, *see newsreels Ed*.  Unfortunately subsequent trimming and attempted flights more or less destroyed the model; a propellor running at full chat can chew through an awful lot of foam in a very, very short time.

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So where to go now?  I think I've proved the design will fly well so, after some prompting from others, I've started on a stick and tissue version that will be a bit more tolerant of walls and landing.

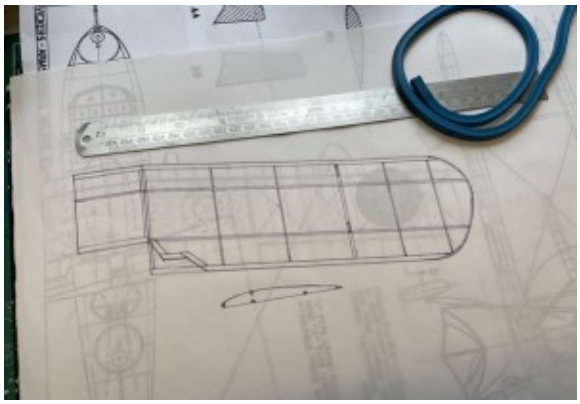


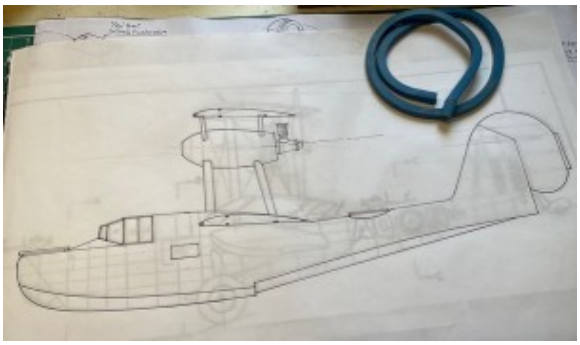
*Before…*

*…and after*

*Photos: Chris Brainwood*

Watch this space….





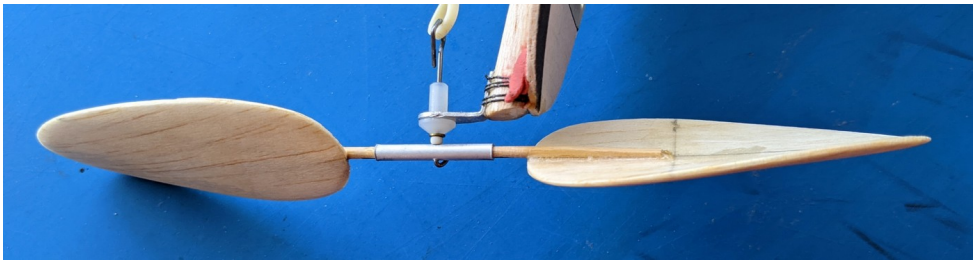
*The stick & tissue version begins.*
*Photos:  Chris Brainwood*

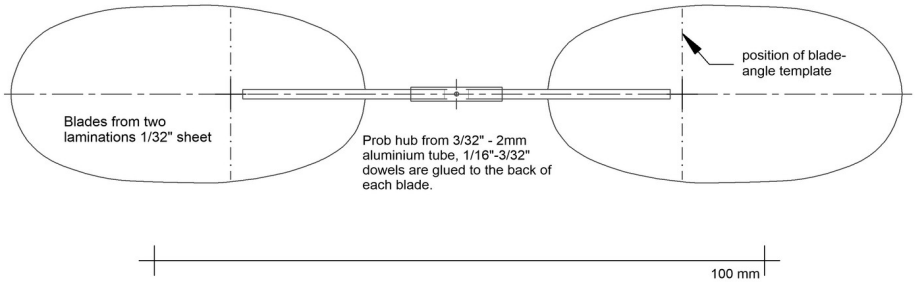
# Trinity Newsletter – Issue Nº. 3, 2023

## A Better No-Cal Prop – Andy Blackburn

One of the problems with balsa props on No-Cals – which tend to lead a generally hard life – is that the traditional 1/32” balsa-bladed prop is often lucky to last a flying session.  Balsa props are good, but very fragile.  This was the main reason that the Trinity No-Cal rules specified plastic props; they don’t self-destruct, performance is OK, and it’s one less thing to worry about if you haven’t built a No-Cal before.

However, after a bit of ~~structured bodging~~ experimentation, I’ve managed to find a prop formula that can survive the odd knock, seems to have better performance than a typical No-Cal plastic prop and uses roughly the same size rubber.






It’s more resistant to damage than normal because the blades are laminated from two layers of 1/32” sheet laid slightly cross-grain; this produces a slightly thicker blade than normal but if it bothers you, the blades can be sanded before laminating and you’ll still get most of the benefit.

The key materials to acquire before starting are some aluminium tube of approximately 2.5 mm ID and some dowel or similar that will fit or can be sanded down to fit into the tube – the exact size doesn’t matter.  I got some suitable aluminium tube and dowel from Mantua Models

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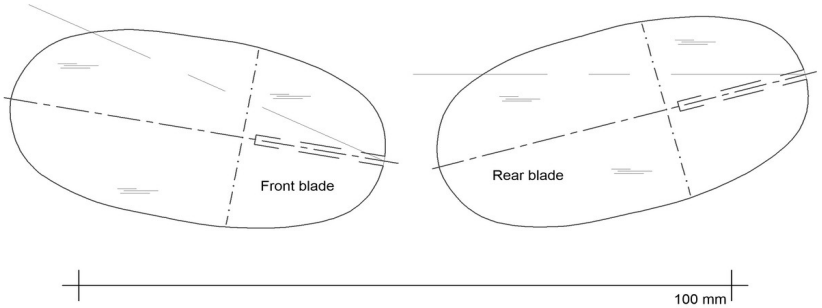
## Prop Blades

The laminations for each prop blade are cut from 1/32” sheet as shown, if you use the pattern below the grain will be in the right direction




The prop blades are quite quick to form because we can use balsa cement; the process is:

1. Pre-curve the Rear blade to fit a 3” diameter can (e.g. 250 ml dope tin), align it carefully on the can so that the blade is angled at 15 degrees (the reference line will then be along the axis of the can) and tack in place with a bit of double-sided tape on the can.
2. Pre-curve the Front blade so that it fits over the rear blade with a minimum amount of force. Dampening the TOP SURFACE ONLY helps a lot.
3. Tear off a few pieces of masking tape a few inches long and put them somewhere within easy reach.
4. Take the Front blade off and coat with balsa cement on the back face, then press in place. Hold the Front lamination in place with one hand and tape in place with the other – four or five strips of tape are usually enough.
5. Leave it for about 30 minutes and then take the blade off the can and make the other one.
6. Finally, sand the blades to an airfoil-ish section and CA some dowel to the back face of each blade – refer to the first General Arrangement drawing for the length.

## Hub

Cut a piece of tube for the hub, indent with a pin or scriber in the centre[1] and carefully drill a pilot hole (around 0.5mm) with a pin vice. Drill all the way through, checking for squareness in all three axes. Enlarge the holes to 0.8mm and spin the hub on a bit of prop shaft wire – if it’s good enough, congratulations! If not, bin it and try for another.

[1] *Your editor finds it easier to cut hub tubes slightly over-long, make the hole more or less in the centre and then sand/pare back the overlong side(s).*

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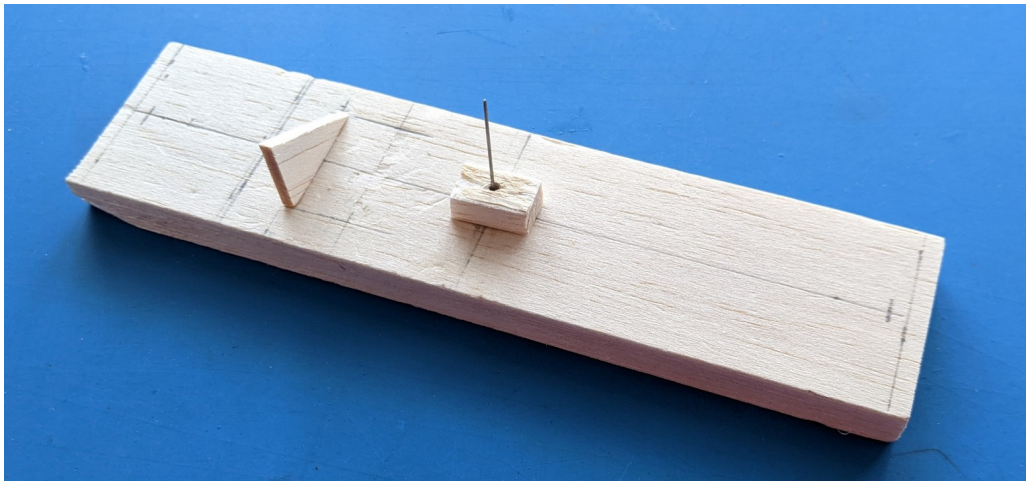
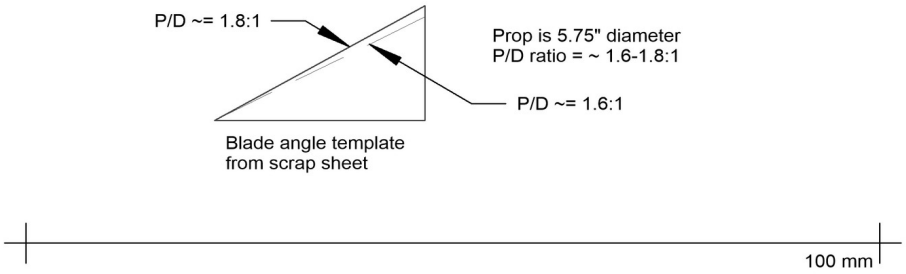
## Assembly Jig

To assemble the prop, you'll need to make yourself a simple jig, like this:



The base plate is a piece of scrap thick balsa, the wire is 1/32" piano wire that has been CA'd into place at right angles (that is, square in both the X and Y axes) to the base plate.  This isn't anything like as difficult as it sounds, just cut four 90-degree triangles from scrap 1/16" and tack-glue in place at 90 degree intervals, then when happy that everything is square, CA the wire in place. The triangle shape is the blade angle template and looks like this:




I've used a Pitch/Diameter ratio of 1.8 for the 109G, if your intended No-Cal is heavier than about 6 grams or so then consider using the slightly shallower angle for a P/D of 1.6.  Glue the blade angle template onto the base plate in the right place (as indicated by the first general-arrangement drawing of the propeller).  Finally, make a spacer as shown to put the prop-hub in about the correct place vertically – the blades should be horizontal when inserted in the prop hub.

### Assembly

To assemble the prop, insert a blade into the prop hub, drop the hub onto the jig and when everything looks correct (angle of blade and length of prop), glue the blade in place. Blades are glued with a SMALL drop of thick CA or epoxy, this allows the prop pitch to be adjusted by softening or breaking the glue bond and twisting the blades to a new angle. Repeat for the other blade and it's done.

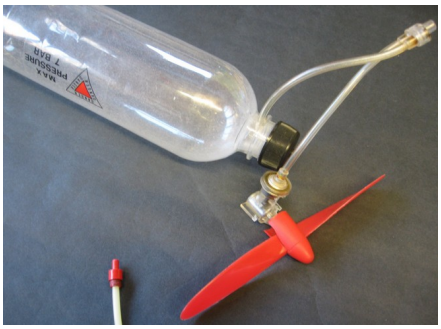
With minor modifications the same prop can be used for other models, Peanuts, Bostonians, etc.

> *The templates pictured above are in the supplement accompanying this issue. Ed.*

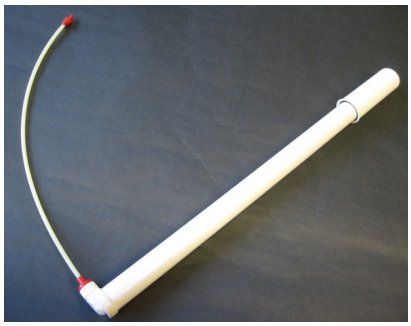
## Modern Compressed Air Motors – Nick Peppiatt

As you are probably aware the late Lindsey Smith donated his aeromodelling effects to SAM1066. Since I was the member of the SAM1066 committee whose aeromodelling interests most overlapped with Lindsey's I have ended up with a collection of desirable and not-so desirable artefacts, which are slowly being dispersed. Among the less desirable, but, none the less, very interesting items is a group of compressed air motors.

Compressed air motors for model aircraft are, of course, not new. In the May 2023 edition of AeroModeller, Martin Dilly describes a machine built by Gordon Tucker for a Gamages compressed air engine before WW1, which used a brass foil tank reinforced with steel wire. In the late 1980s, there was a revival of this power source using plastic bottle tanks and motors using moulded plastic components. I think the first of these was the Italian Z Model MM3, about which Doug McHard wrote a number of articles for AeroModeller in the early 1990s. This motor was supplied with an ARTF model called the Jonathan. I also wrote about this motor with references to the AeroModeller articles in the December 2021 edition of the New Clarion. *See www.sam1066.org for copies of New Clarion. Ed*.



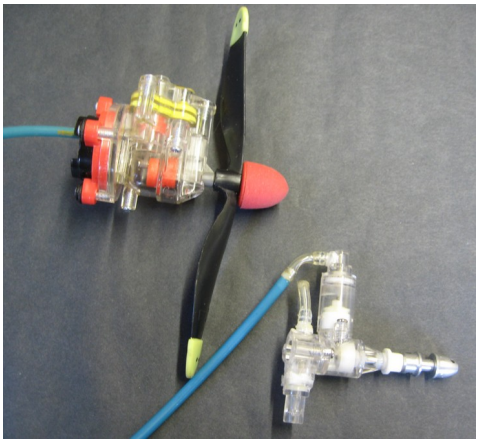
*Gerard Moore's Z Model MM3 motor, tank and filler valve. Propeller diameter 165mm*



*The associated pump*
*Photos: Nick Peppiatt*

Lindsey left a dozen or so of these motors, but no tanks, in various states of repair. Reading Doug's articles, you soon appreciate that the MM3 had a number of weaknesses and, being Doug, he offered solutions. Clearly, Lindsey had been carrying out a number of these modifications.

In the later 1990s Air Hogs RTFs appeared. These were the result of an agreement between the British inventors John Dixon and Peter Manning and the Canadian Spin Master company, the first product being the 'Sky Shark' in 1998. I must confess that these developments completely passed me by at the time, but Lindsey had acquired a number. Unlike the Z Model motor, only one type of which appears to have been produced, there is considerable variety in the Air Hogs compressed air products. The larger motors have a floating piston in the manner of the Z Model MM3, but no flap valve to reduce the cylinder pressure on the up stroke. There are conventional exhaust ports in the cylinder walls at the bottom of the stroke. There is, however one larger motor that is mystifying me – see photos below.

*Air Hogs Motor Selection*
*Photos: Nick Peppiatt*

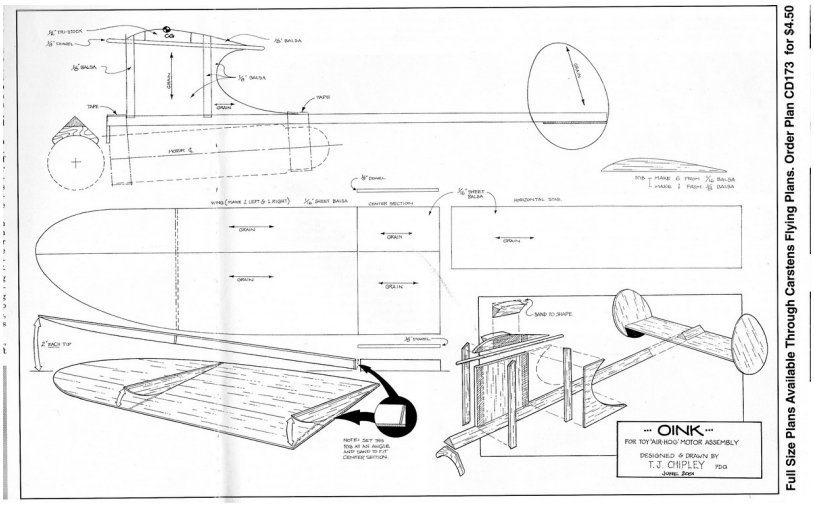
The top two Air Hogs motors in the left hand picture are similar, and are probably from products like the 'Sky Shark' whilst the bottom is a tiny motor from the 12" span 'Blue Sky' model. I have yet to fathom the complexities of the top one in the picture on the right. Lindsey has clearly modified the bottom one so that the propeller can be readily changed.

There is a considerably smaller motor, dated 2003, an example of which I brought along to the April Trinity meeting (*see newsreel. Ed*), which operates on a novel principle, which is the subject of US Patent 6,626,079, and which I described in an article published in the May 2023 New Clarion

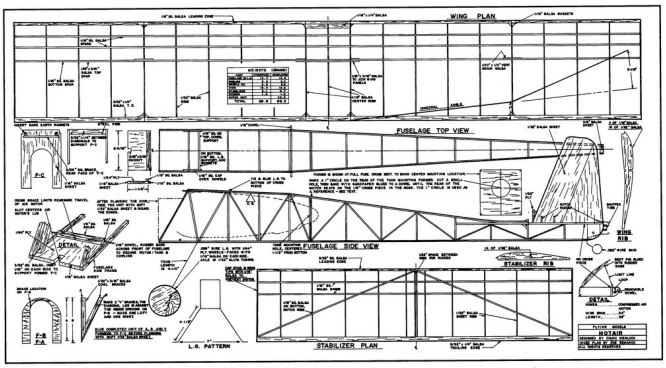
# Trinity Newsletter – Issue Nº. 3, 2023

This motor powered a 12” span ARTF model called ‘Blue Sky’ Unfortunately Air Hogs used the ‘Blue Sky’ name for a number of different products so identifying which ‘Blue Sky’ model is which can be confusing.  Gerard Moore has kindly made me an adaptor for this motor so that I can pump them up using a bicycle track pump and try Lindsey’s 24” span model, “Hot Air”.  Not to be confused with Chuck Wenlock’s design shown below.

I have found two plans that use Air Hogs motors, both were published in the now sadly defunct ‘Flying Models’.




*Tom Chipley’s Oink, 25.5” span.*
*Just strap your Air Hogs motor on with tape!*
*Flying Models August 2002*




*Chuck Wenlock’s Hot Air.*
*34” span for Air Hogs ‘Sky Shark’ type motor.*
*Flying Models March 2005*

The larger units are clearly too big for indoor flying, but the Blue Sky units could surely power an indoor model, but this would still be likely to require a larger space than we have at Trinity.

# Trinity Newsletter – Issue Nº. 3, 2023

## My Mate Jerry – Rob Smith

As free flight flying at Port Meadow before long seemed possible I thought I should check my box of free flight models as I had not checked it for several months.  On opening the box I found I had acquired a lodger, Mus Musculus or as we modellers would call it, a bloody mouse.

It has made a lovely nest of multi coloured tissue remarkably similar to the tissue that my models were covered in.  I say were as they now no longer had covering.  Mus had stripped all the tissue from my Hep Cat and Thermal Hunter and had a good go at the Tomboy removing a large portion of Light Span from the wings.  He hadn't risked a go at the fuselage as I guess it was too fuel soaked.  The ether fumes from it probably made him sleep well.  It had also had a go at the Number 9 but didn't seem to like the poly tissue covering, probably got stuck in its teeth.

So it looks like I am going to have build some new models for Port Meadow flying.  The mouse? I must think of some humane way to deal with it.  Humane? Well provided I don't get my fingers caught setting the trap it shouldn't hurt a bit!

*A new, lightweight, approach to covering?*
*Photos: Rob Smith*

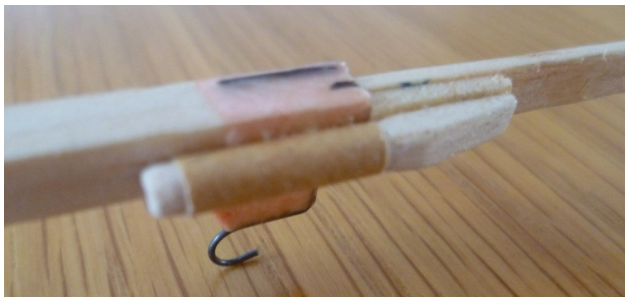
# Trinity Newsletter – Issue Nº. 3, 2023

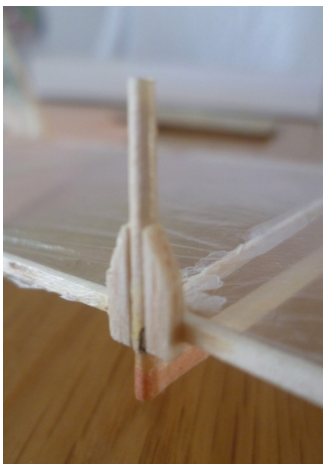
## LPP Thrush – Rob Funnell

The editor asked for some detail of my changes to the Thrush LPP design which was mentioned in the last issue of the newsletter so here's a short summary of where I went my own way in the hope that it's useful to anyone considering a full competition LPP. Some of these changes are because the original drawing is deficient in some data - no incidences, no CoG, etc.

1. Prop spars are shown as inset into the blades - I have mounted them on the rear.
2. I've used a Ray Harlan aluminium bearing rather than a wire pig-tail.
3. The stick/boom joint has been put on the port side with the tube on the motor stick and the dowel on tail boom. This requires spacer because the rear of motor stick & front of boom differ in thickness.
4. Added tail incidence adjuster as photo. The tube & buttresses are fixed to the trailing edge and the post is attached to the tail-bone with a tissue strap to reinforce.
5. Drawing shows the wing post sockets on the starboard side of the motor stick, but I've moved them to the port side. This puts them nearer the centre of the (offset) wing.
6. Added a tail incidence adjuster which was not in the article or drawing but which I consider to be desirable for all indoor duration models.

The photos show the motor stick/boom joint which is mentioned in the article but not shown on the drawing and the tail incidence adjuster.





*Photos: Rob Funnell*

*Rob also supplied copies of the original article and drawing from Indoor News & Views and they can be found in the supplement with this issue. Ed.*

# Trinity Newsletter – Issue Nº. 3, 2023

## Balsa Sheet Densities – Lurk

As you well know, we're all obsessed with finding the least dense wood for our models and if you point your browser at https://www.modelaviation.com/balsa you will find a page of extremely useful nomographs that will give you the density in lb /cu. ft of balsa sheets from the sheet weight.

All very handy if you have access to the internet or a printed set, not so if you don't. So here's a cut out and keep ready-reckoner that you can slip into your wallet complete with the traditional back of a fag packet for those times when your portable telephone's battery has gone flat or you can't raise a signal because the LMS has moved to an out of town steel framed Faraday cage.

$$\rho = \frac{m}{451\,v}$$

Where
ρ - density in lb / cu. ft
m - mass in grammes
v - volume in cu. ft

or, more usefully

$$\rho = km$$

Where
ρ - density in lb / cu. ft
m - mass in grammes
k - $1/451\,v$

Sheet Volumes in cu. ft

| Sheet | 3" x 36" | 4" x 36" |
|---|---|---|
| 1/32" | 0.00195 | 0.0026 |
| 1/20" | 0.0031 | 0.005 |
| 1/16" | 0.0039 | 0.0052 |
| 3/32" | 0.00586 | 0.0078 |
| 1/8" | 0.0078 | 0.0104 |

1/451v or *k*

| Sheet | 3" x 36" | 4" x 36" |
|---|---|---|
| 1/32" | 1.138 | 0.853 |
| 1/20" | 0.715 | 0.443 |
| 1/16" | 0.569 | 0.426 |
| 3/32" | 0.379 | 0.284 |
| 1/8" | 0.284 | 0.214 |

You all know how to convert oz to g if your scales don't understand these new-fangled systems.

How reliable are these? I've checked them against the nomographs with random sheet weights and they agree well, but in use I'd round to the nearest 0.1 lb/cu. ft. This is more precision than I need as a value to the nearest ½lb usually does me.

# Trinity Newsletter – Issue Nº. 3, 2023

## “Lead” Shot Fishing Weights – Lurk

A lot of tackle manufacturers seemed to have stopped dual labelling (size code & weight) in favour of size code only.  So, for those of you that also like using shot for ballasting models here’s another handy cut out & keep guide.

I’ve ignored the really enormous weights because you’re all really, really careful about building your models with light back ends.  Aren’t you?

| Code / Size | Nominal Weight (g) |
|---|---|
| 13 | 0.01 |
| 12 | 0.02 |
| 11 | 0.03 |
| 10 | 0.04 |
| 9 | 0.05 |
| 8 | 0.06 |
| 6 | 0.1 |
| 4 | 0.2 |
| 1 | 0.3 |
| BB | 0.4 |
| AB | 0.6 |
| AAA | 0.8 |
| SSG | 1.6 |
| LG | 2.5 |

# Trinity Newsletter – Issue Nº. 3, 2023

## Work in Progress

### Alan Coppen, John Whatmore, Lurk

All 3 of us have been working on Double Whammies for the October event and this seems like a good place to gather what we've learnt (mostly from Rob, & Ian) for those yet to start building.  Briefly

- A tissue covered version is likely to come in somewhere about 4g to 4.5g. Both John's & mine are 4.3g and need a loop of 3/32" (+/- 0.092") to climb.
- All 3 of us have found that the propeller will need to be trimmed.  Alan's is considerably hacked back, John & I have been slightly more subtle – John has also moved max chord of the blade nearer the hub. And, because it is a flat rather than curved blade, a finer pitch than the 45º given in the notes is needed.  I've gone for the "biro tube" hub which makes this a bit easier to experiment with.
- Build it without down thrust.  Alan's has a little up thrust.  Mine uses a commercial plastic prop. hanger.  This is probably not a good idea.
- Build it without any offset in the rear wing support.

## Colin Hutchinson

AKA Johnny Craddock.  Colin's creations have been more culinary than aerodynamic lately...

*Curd Cheesecake*
*Photo: Colin Hutchinson*

*Custard Tart*
*Photo:  Colin Hutchinson*

# Trinity Newsletter – Issue Nº. 3, 2023

## Lurk

I think the Ryan M-1 is now at a point where trimming info. is worth sharing.  I haven't got it to ROG yet, but it will climb a little and is good for 15-17 seconds from a hand launch with 1000 or so turns on a 15" loop of 0.16".  See the newsreel section.

Briefly

- Tail plane  - Laminated outlines and 107% in span & chord c.f. kit drawing.
- Fin & rudder hinged.  Strongly recommend hinged rudder for Trinity and small halls
- Trim tab on starboard wing to control torque roll.
- Nose plug – Replace the E5, E6 assembly with 3xE6 to allow adjustment of thrust line while trimming.
- Thrust lines.  Down, the built in 3º + 1/16 shim.  Right, 1/16" shim.
- Circuit – clockwise.  None of the Trinity M-1s (John Winfield's, Laurie Kirby's or mine) want to fly anti-clockwise.
- Built weight 28g, trimmed for flight (no motor) 33g.

The plan fragment and some brief build notes are in the supplement accompanying this issue.

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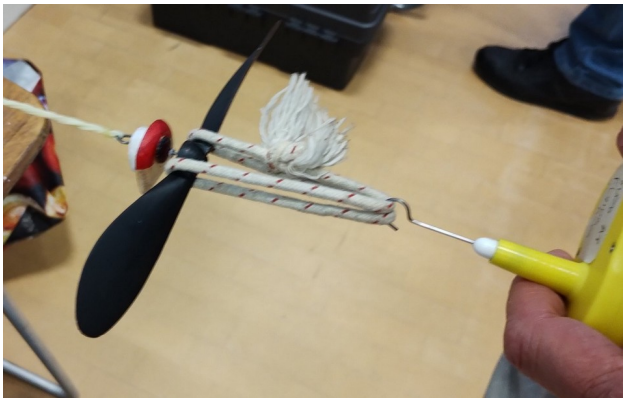
## Just Because



*Seems there's still a use for DT fuse.*
*Mike winding his Redwing*
*Photo:  Staff*

# Trinity Newsletter – Issue Nº. 3, 2023

## Newsreels

### April

| | |
|---|---|
| Chris Brainwood’s Shagbat! | https://vimeo.com/817930498 |
| Nick Peppiatt's Flutterbye | https://vimeo.com/817932754 |
| Nick Peppiat’s Compressed Air Motor | https://vimeo.com/830333289 |
| Peter Smart’s Whitley. Low power ground run to check circuit diameter. | https://vimeo.com/817931255 |
| Lurk’s Ryan M-1 | https://vimeo.com/817960541 |
| Chris Brainwood’s Meeting Round-up | https://youtu.be/O7FAL_Ymk7I |

### May

| | |
|---|---|
| Dave King’s FROG Redwing | https://vimeo.com/828624445 |
| Mike Stuart’s FROG Redwing | https://vimeo.com/828625716 |
| Steve Haines’ Malström Wren | https://vimeo.com/828625182 |
| Lurk’s Double Whammy. Going *mostly* in the right direction. | https://vimeo.com/828622422 |
| Lurk’s Tiny Courtesan | https://vimeo.com/828623487 |
| Chris Brainwood kindly hosted the remaining videos that I didn’t have space for on Vimeo. They include... | https://youtu.be/nI6hRKLPUC8 |

Andy Blackburn's No-Cal Me. Bf-109
Gerard Moore's Viking
Nick Peppiatt's Flutterbye & Beercat
Staggerwing
John Foster's Serene
Dave King's Redwing (again)
Richard Preston's Aerographics Agro

Vimeo hosted clips can be a bit… awkward. If they don’t play well in your browser (Opera is a complete non-starter) try using Chrome or Firefox.

# Trinity Newsletter – Issue Nº. 3, 2023

## Any Other Business

Nothing for this issue.