

Newsletter

July 2020

I can hardly believe just how quickly this weird year is passing by. Already we are coming into autumn and facing a rather uncertain future. It concerns me that we seem to be squabbling with China right now and to anyone involved in flying radio controlled models, this must affect our sport. So much relies on this super power for the manufacture of some pretty spectacular models/equipment at prices we can actually afford. It is to be hoped that China will jealously guard what must be for them, a lucrative and very successful business and that may override the political shenanigans of politics.

Enough grumbling. As I read our pet Sparrow's musings, I realise that many of you are enjoying yourselves at the field. Your models are doing exactly what they were designed to do - fly. OK, they may experience the odd crash but that is one hell of a sight better than looking at your models hanging up like dead fish unable to be taken out. I regret that at the moment, and indeed for nearly a year now, my models have done exactly that. All I thrive on at the moment are memories - they stay with me forever.

Disabled Access Ramps

You will see that a willing work party have constructed access ramps up to the Clubhouse verandah. Well done gentlemen. Steve sent me some pictures.



The lads hard at work - looks impressive guys

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The Team



*Justin collapsed
Jake on Health & Safety Duties*



*Andy still on Technical Duties
Jake on Lookout
Dave suffering from exposure*



Congratulations guys - a job well done.

A VIEW FROM THE HEDGE. (By Will Sparrow)



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Well, the equinox is but a distant memory, as is the "summer" we had during the spring lock-down. The weather since that happy time has been a bit mixed – I'm ready to subscribe to the view expressed by Lord Byron Sparrow (mad, bad and dangerous to know) that "the English winter ends at the end of July... and resumes at the beginning of August!"

Wednesday, 24th June, proved to be the sort of flying day we all look forward to; warm (hot) with light winds only just off the runway. I was enjoying the graceful aerobatics of a large-scale, electric model. I was further impressed when it pulled up into a perfect 45° climb and switched on its smoke system, the blue smoke contrasting beautifully with the milky sky. Oos quickly changed to Aahs as the pits gallery realised that all was not well – I suppose that the stopped propeller was a good clue. The motor and/or the speed controller had suffered self-immolation. The model performed a dead-stick landing and a fire extinguisher was rushed to the scene. There was no sign of flame so the extinguisher was not needed but everything around the motor area was very hot and I could smell the cooked innards from my viewing twig. One wag, from the pits, was heard to remark, "Have you thought of trying petrol power?" The modeller, returning with his, still hot, aeroplane just gave a wry smile.

This day had more incidents in store: later, a small electric model decided that it had had enough of obeying radio commands and just flew straight on and suffered an out-landing, thankfully with no damage. Anxious to tempt fate, the intrepid owner had another flight... with the same outcome. This time the model landed on the runway. The modeller decided that he had run out of luck tokens and retired from the field. There is nothing worse than the feeling of helplessness engendered when a model stops listening to the sage flying advice provided, by the modeller, via his



A View from the Hedge Cont/d....

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trusted (?) transmitter. Back in the pits, a large-ish warbird, a Mustang, I think, was having all sorts of set-up difficulties. The model did not fly, but I look forward to being on my viewing twig when the maiden-flight day dawns and the model does, finally, feel air under its wings.

More recently, one of your flight trainees passed his "A" test and was clapped by the assembled multitude (It's never easy to do a test knowing that folk are watching your every move!). I look forward to observing many of his successful flights as the summer unfolds. Well done that man!

Fast forward to Sunday, 12th July when a new electric-powered glider presented itself for test-flying. This wasn't one of those instant foam jobs but a model resplendent in carbon fibre and transparent film; it looked lovely. All the usual checks had been done at home (range check, failsafe, etc.) and all the final checks were done in the pits (linkages, controls, CG and the like). Out on the strip, the motor was reluctant to start but finally consented and the model soared away from a text-book hand launch... and then, it did a beautiful chandelle and crashed, vertically just off the edge of the strip. We all feared the worst, but the damage was largely superficial and would be easy to repair. Post-crash analysis showed next to no range. How this had changed from fine at home to dire at the field remains a mystery. Worrying.

The Wise Old Owl told me, just the other day, that one of your modern-day "can't-do-without", something called "Twitter", had changed its programming language to take account of current sensitivities. Master/Slave notation was out and was to be replaced with Leader/Follower. So, the next time you attempt a bit of mixing on your transmitter you might well find yourself being politically un-woke. What times we live in, eh?

WS

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Brian's P51

Pics and Blog by Brain Wood

Brian Emailed me some weeks ago to say that he was building a large P51- would our members be interested. I assured him that we would!

'Hi Pete suppose i should give some background to the p51, it's based on the Brian Taylor 69" design

The plan was enlarged 20% giving a span of 88" which is 1/5 scale, this of course entailed making new moulds for the canopy, cowl and radiator shroud underneath which was a job in itself the finished weight should come around about 23-24lb which is fairly light for a model of this type and size, i've seen models of this size coming out at 30lb plus. The engine type was decided on with 2 reasons it had to be a petrol 4 stroke plus go in the cowl with nothing showing this is achieved with using a prop shaft extension of 45mm long.

Basic fuz bolted to wing, started to do fairing, first covered wing in parcel tape then applied carbon and resin on the wing where fairing sits then the wing is bolted on, the balsa angles are temp and there just to push the ply into the resin once dry the wing is removed and carbon trimmed back to the ply seat then the balsa fairing is built on this enables you to get a very narrow edge to the seat.

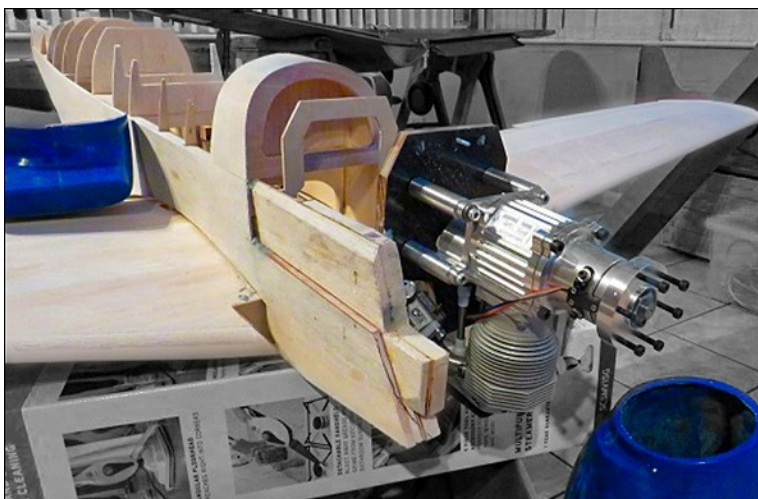


The Prop Extension referred to in Brian's text.

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'Hi Peter progress for you.

Fitment of the engine to the fuz which is a Kolmn 50 this required a 30mm long prop extension to get it in the cowl.



This is the model prior to glassing.



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Moved onto the rear canopy which is a moulding I made myself, it shows the framing and internal structure made from a mixture of fibreglass /litho plate and casting resin.

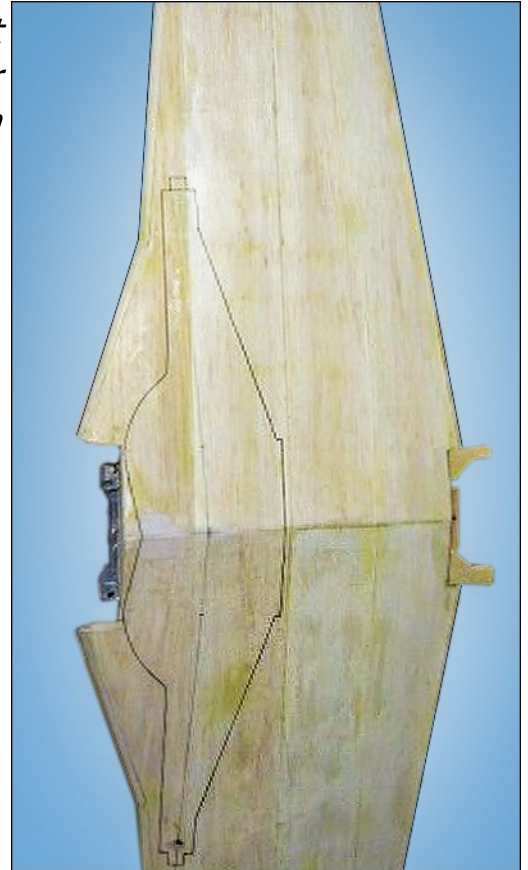


Staying in the cockpit this is the instrument binnacle being made from a previously made mould.



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This is the wing prior to having the wheel wells cut out also I've made the machine gun fairings, for people who know the P51. they will recognise them they will be faired into the wing with filler.



Couldn't get much further with the wing until I did the u/c this is an all metal affair it shows the blanks I made for the forks alongside one from a previous model this one was made from ordinary ali and wasn't up to the job ,the new ones are made from aircraft grade ali'



Adhesives

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Article by Brian Holdsworth

Joining thicker plastic parts can be difficult, and most techniques involve the use of a solvent applied to one or both of the mating surfaces. This softens the surface so that, when pressed together, the plastic merges, uniting the parts when any remaining solvent has evaporated.

There is a significant underlying problem with this technique where excessive solvent can dissolve the plastic into a hole which would not be good! Methods to control the quantity of active solvent applied are thus required to achieve reliable and repeatable results.

With automation, fine control of solvent application and timing could be achieved, but this requires expensive equipment making it impractical for other than large-scale production or, perhaps, high integrity applications.

The solvent may be diluted with a suitable carrier simplifying application, especially where the parts are assembled dry and solvent run into the joint. For this, a thin carrier is used, allowing capillary action to pull the solvent into the joint. Alternatively, a thicker carrier may be used to reduce the possibility of the glue running away from the joint when applied to one surface before the parts are brought together.

Sometimes, plastic is mixed into the solvent which neutralises most of it. A visible amount may then be applied without excessive dissolving of the surface material; it also allows any small gaps in the joint to be filled. This is widely available as Polystyrene Cement in squeezable tubes for assembling plastic kits etc.

A variant was marketed as Balsa Cement and used for joining early balsa airframes. It was fast-drying (a minute or so) which was convenient for the balsa strip construction covered with doped tissue used at the time. The glue shrinks slightly when drying which enabled simple field repairs of tears in the brittle covering, where torn edges could be brought together and a line of glue run along to join them with the shrinkage tightening the result. This quick drying meant that sheet covering of structural areas could not be satisfactorily glued which became a limitation when sizes and weights increased with the use of engines in control-line and the advent of radio control where their considerable weight required larger and more robust airframes. This glue has a tendency to become brittle after a year or two, though the early models rarely lasted long enough for this to be a problem - some antique airframes have been refurbished

Adhesives Continued...

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Article by Brian Holdsworth

with modern engines and radio equipment etc, but have disintegrated in flight when the glue gave way!

Many glues take the form of material dissolved and/or suspended in a suitable carrier; if pigments are added, paint is produced which has some limited adhesive properties. Increasingly, these types are water-based, reducing problems with solvent abuse and the potential environmental effects during usage, disposal and equipment cleaning etc. In basic form, setting time is fairly lengthy since it is determined by the need for most of the dilutant to evaporate from the joint. This becomes a problem where more than a very thin layer is used, since a skin develops on the outside surface which would slow or inhibit evaporation. Most modern types are a hybrid where a form of catalytic setting occurs when exposed to the ambient; this means that little weight is lost during the setting process which could be significant if used for ultra-lightweight components.

An early example is basically flour mixed with water which becomes sticky as the gluten in the wheat becomes suspended. This is often used for sticking paper to other surfaces, setting by evaporation of the water through the paper over a few hours. A variant, packaged in a squeezable lead tube for convenience, was marketed as Tissue Paste, used to secure tissue paper covering to an airframe before applying dope to shrink and waterproof it. Wallpaper paste is an example with obvious usage, being applied separately or sometimes pre-coated onto the paper for convenience, activated by immersing in water for a few minutes before application. Modern types use synthetic materials, including anti-fungal properties since the original was prone to develop black mould in damp conditions.

In the early 1960's PVA adhesives packaged in plastic containers became available on the domestic market and revolutionised wood-working, being more convenient than the original animal glues etc. and with better performance - often claimed to be stronger than the wood. They were effective for modelling and balsa cement usage declined rapidly. Being slower drying, they made sheeted structures practicable. The early examples were rather slow-drying, taking an hour or more before becoming tacky, requiring to be left overnight to set properly with clamping needed to avoid slippage (as for the original glue types). Current examples generally have catalytic setting properties so that they set sufficiently well to retain position after 20 minutes or so, reducing the need for clamping. As for most glues, about 24 hours drying time is generally needed for full strength.

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Adhesives Continued...

Article by Brian Holdsworth

Most are formulated for use with pine and hardwoods such as oak, beech, birch etc. since these are widely used for DIY applications. Items sold for modelling usage are generally standard items and can be expensive due to their small quantities and convenient applicator packaging.

Although classified as a hardwood, balsa is a very porous material causing particular problems for gluing. The product instructions on the label often state that adhesive is to be applied to both surfaces before they are brought together to complete the joint. This indicates that the product is fairly runny, intended to soak into the wood for good contact with its fibrous structure. Used on balsa, too much may soak into the material leaving insufficient at the join surface for a good bond. What is preferable is a product where the instructions quote application to one surface only, implying a thicker formulation with reduced soakage into the fibres.

An example would be the current Evo Stik Resin W which claims to be stronger than the wood, setting sufficiently for handling after 20 minutes; practical usage shows better sanding characteristics than its earlier formulation which could be somewhat rubbery when set. Yellow aliphatic products are popular, though expensive. The DIY store brands seen quote application to both surfaces and are formulated to also support other usages such as that of a plasticiser for cement. Where a structure is dry-assembled and glue run into the joints, a runny glue is preferred and the DIY store brands seem adequate. As earlier, it is desirable to match glue and material characteristics to achieve best performance.

A simple test of the performance of various glue types and brands could be undertaken to select a product and identify appropriate usage techniques. From the scrap bin, a short length of 1/4" square may be glued onto a piece of sheet, 1/16" thick or so where the 1/4" is glued on its side or its end grain edge, sanded to produce a flat surface - various techniques, single, double gluing, running into an assembled joint etc. can be tried to assess their effectiveness. After leaving overnight to set, the joint is bent to breaking point to assess its strength. The results can be alarming where a product soaks into the wood, leaving insufficient glue, when the joint can break very easily!

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Club Instructors

Jason Reid, Mark Conlin, John Higgins, Brian Holdsworth, Chris Vernon, Andy Harrison, Jim Sheldon, Paul Cusworth, Justin Goldstone, John Prothero and Kevin Watson.

In Conclusion

Well guys, that's it for this month. A heartfelt thank you to all of you who contributed to this newsletter. I hope autumn produces some more settled weather - right now there is a wind in excess of 30 MPH - not the best flying conditions!

I leave you with a shot I took at Elvington. Can anyone identify the model?

