



# Newsletter

May 2016

Perhaps I'm talking too soon, but this year does seem to have been giving us some rather more summery weather than last year. We've actually started to enjoy warm and calm days. I for one, have been really enjoying the training evenings. It always seems to go calm in the evenings and we have enjoyed some really good flying - that is until last time I went a couple of evenings ago. It's good to see that more trainees have now started coming to these evenings.

I took my Zulu model down - it's dead easy to fly - very predictable - a model to relax with. I taxied out, took off and climbed. I was somewhat disconcerted to find that I was watching not one but two models in perfect formation climbing out. Panic sets in - why the double vision? It turned out to be my new glasses - good old Specsavers had done their worst. I managed to land the model but that was an experience I would prefer never to repeat. They are in fact now remaking the lenses and hopefully will this time, get it right.

Rob Ellis has bought the models which Brian Sheard kindly gave to the Club. A couple of the I.C. Engines which Brian also gave are currently on EBay. One of those motors has already received six bids and there are still two days to go.

We are now most certainly coming into model showtime - Long Marston followed by Weston Park followed by Strathaven - it's all starting to happen. These shows are all in June. Cosford LMA follows in July with Elvington in August.

I've started the covering of the Junior 60 using nylon and then doping - it's been many many years since I've used this traditional form of covering but John Prothero encouraged me to do it and it so suits a vintage model.

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**A VIEW FROM THE HEDGE.** (By Will Sparrow)



'Tis the merry month of May, and all the buds are swelling! As a matter of fact, it isn't just the buds that are swelling: let me explain. Our hedge is enjoying the presence of a vast number of slugs, and, as you probably know, we sparrows love a nice, tasty slug. The reason for this gastronomic abundance is down to the previous mild winter allowing the slugs the luxury of not having to hibernate. As a result, some of them have grown to be right whoppers; not only that, but they have been breeding as if there was no tomorrow. Slugs are hermaphrodite and, (after they have given themselves "a right good seeing to", presumably), can lay up to 100 eggs per day! (At this point, having just overheard this last bit, one of our highly-strung hens swooned at the prospect and fell off her twig!). The slugs' good fortune is proving to be ours too, so, if you notice my favourite twig bending more than is usual, the deflection isn't just down to the breeze...

The recent spell of good weather, with sunshine and light winds, has been bringing your members out in force; weekdays and weekends have seen really good turn-outs for the time of year. Much enjoyment has been had and many flights successfully completed. I only saw one crash. As is usual with the modern aeroplane, they can only experience the one crash, and this one looked, from where I was perched, to be pretty terminal. This crash was doubly tragic as the model was the owner's "B" cert practice plane. Gone are the days when models finally expired when they became too heavy to fly as a result of umpteen crash repairs and many years of oil soak!

On one of these halcyon days, a ripple of excitement was evident in the pits. As the feeling spread, like Canadian wildfire, from member to member, the cause of the excitement became clear: it was rumoured that your chairman was to test-fly his electric, ducted-fan jet. A couple of members had turned up at the field especially to witness this not-to-be-missed event. When the chairman eventually turned up, excitement turned to disappointment. By all accounts, the model was still in its hangar! In the pits the adrenaline drained away, from its peak, to a mere dribble.

As the bard once observed, "one swallow does not a summer make". This may well be the case, but every year we hope to prove him wrong. Only the other day, I spotted my



## A VIEW FROM THE HEDGE continued/....

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first swallow. Coincidentally, on the same day, I spotted the first glider of the season take to the air. It flew, but the available lift seemed to be a bit on the weak side and it wasn't able to stay up for the amount of time gliders usually stay up for. The following Sunday, another of these long-winged beauties was viewed doing its best to defy gravity, again, with mixed results. Very soon the air will be thick with swallows and the gliders will have the chance to soar with them. I'm keeping my wings crossed at any rate! The same Sunday saw the maiden flight of a model I had been expecting to see on the field for some time. The model in question was an electric version of the big, silver, petrol-powered high winger that I have admired flying on numerous occasions. After the usual pre-flight checks, the model pointed itself into wind, straight at my twig – no sparrow could have wished for a better view. With a mighty whoosh, the model accelerated and, with a brief nod to the great Bernoulli, felt air under its wings as the ground fell away. This model has real presence and lots of oomph. Unfortunately, the flying had to be suspended because the model's esc (whatever that is!) was overheating. Solutions exist for all problems and I know how ingenious many of you chaps are. I look forward to viewing this model again once it has been properly fettled and, perhaps, fitted with a bigger pair of wheels?

Regular readers (He has readers? – Wise Old Owl) will remember me telling of that rather nice petrol-powered Yak that suffered the ignominy of having its undercarriage removed a few weeks ago. Well, it's been repaired (properly!) and turned up at the field, only the other day, ready for another outing. From one of my viewing twigs, just in front of your car park, I had a pretty good view of the proceedings: the little plastic pilot in the cockpit looked very determined, with a stiff upper lip verging on the brittle. Once assembled, the model's fuel tank was filled and a starter applied; the engine fired up a few times but was reluctant to keep going. Much head-scratching took place but, once the bonnet was lifted, the cause of the engine's reluctance to run was revealed. This model, you see, is fitted with a smoke system and it was the smoke tank that had been filled with petrol and not the petrol tank. The engine had been trying to run on a few residual drops of fuel left in the petrol tank from the previous outing. I can sense that you might be ahead of me here. Had the model been flown with its smoke tank full of **petrol** (instead of the usual smoke oil) and the smoke system turned on... I'm constantly amazed at the number of ingenious ways you modellers think up to destroy your models! Once things were sorted out the model flew very well, even if the tricky

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## A VIEW FROM THE HEDGE continued/.....

cross-wind conditions made landing a bit of a challenge and put additional strain on that plastic upper lip!

We all sense that the flying season is well under way when Wednesday evening flying starts. I look forward to seeing you all enjoying yourselves as I raise my wing to shield my eyes from the setting sun in order to get the best possible view from the hedge.

WS

## New Members

We have three new members: Glenn Hatch, Kevin Hope and Mark Cummins.

Mark is a leading member at the Fleetwood Club, holds a 'B' certificate and flies jets. Welcome Mark - we hope you enjoy the Club. I took some pictures of his Xcalibur jet, which he flew the day he joined.





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# What Went Wrong

*Article by Brian Holdsworth*

When an aircraft falls out of the sky to become a crumpled heap on the ground, there is an obvious desire to identify the cause so that future repetition may be avoided. Sometime, the cause may be obvious but frequently a range of possibilities must be considered. These may be divided into Structural Failure, Radio Problems and Pilot Error with some overlap. Prevention is obviously advantageous, and some problems can be avoided (or at least minimised) by precautionary actions.

## **Pilot Error**

Pilot error covers inappropriate actions and inactions of the pilot and is a common cause, though often difficult to admit. Some operational problems were identified under Structural Failure and Radio Problems.

A major requirement for a model flyer is the ability to determine the orientation of the model in flight and hence identify the required control inputs. If it cannot be seen clearly, it cannot be flown! This needs practice and experience to recognise and correct the inevitable deviations. Positioning to reduce the potential for confusion is helpful and colour schemes have a considerable effect on visibility, with camouflage and white/silver schemes often demonstrating their effectiveness!

It can be difficult to determine the orientation of the model at a distance or against a bright sky when its silhouette can appear identical with a left or right bank angle. Caution and watching for the perceived angle to increase when "corrected" instead of the expected decrease is needed, along with not flying too far away so that the model remains at a reasonable size. Flying too near to the sun can be dazzling, so that effective sight of the model may be lost with obvious consequences. This can mean that a considerable area of the sky is effectively unusable, especially in the evening with a low sun. Flying in poor visibility or against a darker background such as when dropping below the horizon on a landing approach can be awkward. Flying overhead means that orientation can be difficult to determine, which is why it is not considered safe - the maximum visual elevation angle should thus be limited to 60-70 degrees, which also reduces neck-ache!

In most cases when response seems to differ from that intended, closing the throttle is helpful and allows more time to identify what is actually happening - if all else fails,



## What Went Wrong Continued/...

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*Article by Brian Holdsworth*

it reduces the impact speed! There are several conditions where holding on aileron and/or elevator makes the behaviour more confusing, so that releasing these can also be helpful.

"Freezing" can be a problem, especially for beginners, where no control inputs are given and a crashing model watched to the ground. Even if uncertain of what is required, it is generally better to do something since the model will then recover or the situation worsens making the required input more apparent.

"Wrong-sticking" is where confusion creeps in and left control is given instead of right etc. Because the model does not respond as expected, the applied control is often increased until the error is eventually recognised and corrected - perhaps! Excessive control authority can make flying more difficult, since an inappropriate input can worsen the situation so rapidly that orientation is lost with inevitable consequences. Not reversing roll corrections when flying towards the flyer is common - practice and concentration required! If returning from a considerable distance, it may be easier to come back at an angle so that part of the side of the model is seen rather than flying directly back when its small frontal area can be difficult to see and interpret. The "Figure Eight" in BMFA A/B certificates etc. should be flown with the cross-over going away from the flyer as shown in the handbook (not as in some of the modelling press) - the potential for confusion when reversing the turn with the model flying directly towards the flyer would be considerable with the resultant wreckage too close for comfort! When practicing aerobatics, there can be an instinctive tendency to apply up elevator when it seems to be going wrong, but this could be problematic if inverted at the time! However, excessive height causes difficulty in seeing what is happening and can cause other problems - compromise and concentration is required so that the appropriate recovery action is taken.

The "Death Spiral" is where the model is descending in a spiral dive and elevator fails to recover it with frequent claims of radio failure - in fact, elevator will tighten the spiral, increasing the rate of descent. All aircraft are spirally unstable to some extent, so rarely recover on their own. The solution is straightforward, though perhaps difficult to apply in the panic of the moment! Close the throttle and release the controls, which will open the spiral so that its direction may be identified and opposite aileron applied to level the wings when elevator may be applied to recover to level flight. In the event



## What Went Wrong Continued/...

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Article by *Brian Holdsworth*

of an engine stopping, twin-engined aircraft often enter a spiral dive due to the resultant asymmetric thrust, and aileron application will not correct it. Identifying which engine has stopped can be difficult, so it may be helpful to close the throttle, recover to near-level flight (descending slightly to maintain airspeed), and slowly open the throttle watching for the resultant yaw so that the appropriate rudder may be held to oppose it. Considerable rudder application will be needed to control this yaw and, in many cases, there will only be sufficient control authority with part throttle on the remaining engine, especially where the left engine has cut. Any turns should be gradual and towards the dead engine to reduce the tendency to stall into a spiral.

A stall is, essentially, where the lift generated by the wing does not increase as more elevator is applied and often reduces so that the aircraft falls out of the sky! While usually associated with low airspeeds, stalling can occur at any speed if sufficiently provoked. The wing section has a considerable effect on stall behaviour and is generally chosen to have relatively benign stall characteristics, otherwise the model tends to have a short life, being prone to flicking into the ground especially when landing. A low speed stall with wings level is usually reasonably gentle. However, at higher airspeeds or when banked, one wing often stalls before the other producing a more violent effect so that the model may flick and be heading down before the flyer realises what is happening.

If the engine cuts on takeoff, there is a temptation to turn back to return to the strip but, unless the wind is very light, a downwind landing will not end well...! Considerable height is needed to allow a dead-stick turn downwind without excessive slowing and consequent flick into the ground. Even more (at least normal circuit height) would generally be needed to circle back to land into wind on the strip. Thus, landing straight ahead into wind is generally more appropriate, accepting likely damage from landing on rough ground.

For spin recovery, there is the need to wait for the model to be ready before pulling out. After the spin has been stopped, a short vertical dive will be needed to regain flying speed before applying elevator to recover, otherwise a flick into another spin is likely...!

The effect of wind is proportional to the ratio of wind speed to airspeed and can be

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## What Went Wrong Continued/...

Article by Brian Holdsworth

very significant for models due to their low flying speed (typically about 40 to 50mph); even light aircraft cruise at 100 mph or more. A wind speed of 15 mph results in a speed of about 20 mph at flying height, but maybe only 5 mph at landing height (a few inches above the ground). This is due to the wind gradient caused by the friction of the wind against the ground and considerable turbulence can be generated by hedges, trees, uneven ground etc. A full-size aircraft with airspeed of 100 mph would have a ground speed of 80 mph into such a wind and 120 mph downwind; a model with airspeed of 40 mph would have a ground speed of 20 mph into wind and 60 mph down wind which is a noticeable difference! A common problem is slowing the model down wind to reduce its assumed excess speed so that its stability tries to maintain flying speed by dropping the nose to convert height into groundspeed (with claims that the wind got under the tail!) or it stalls and flicks into the ground, especially during the turn into wind for the final approach to landing.

This wind gradient causes problems near landing touchdown where, for example, an approach at 30 mph airspeed, giving a small margin (5 mph) above stall speed (25 mph), would become only 15 mph airspeed at touchdown which is somewhat below stall speed; the result is a rapid sink onto the ground with elevator unable to slow the descent as the inherent stability tries to maintain flying speed as above. This is why, on a windy day, it is helpful to fly the landing approach at apparently high speed so that the airspeed can remain above stall speed until touchdown.



*The perfect touchdown - Mark Cummins just about to reach terra firma.*



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# The Hangar 9 Valiant



*JP guiding his model on perfectly controlled finals*



*Low inverted fly pass by John - look at the elevator - it doesn't seem to need any 'down' to keep it level at all*

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# The Hangar 9 Valiant

*Article by John Prothero*

## A Valiant Effort!

I decided a couple of years ago that what I needed was a multipurpose model that could fly in and out of most club fields. aerobatic and had to be able to worst. In other words a flying considered a BIG FOOT it has a massive flaps and seemed to fill **is a BIG FOOT.**



It had to be easy to fly but fly off our field when it's at its Land Rover or Tractor. At first I high wing, large wheels, and the requirements. **Pictured here**

I was discussing this with Steve (Prop Guy) Waltier and he said that Hanger 9 had just brought out a similar model for around the 30cc range of engine. After watching a few YouTube videos I decided that on balance the Hanger 9 Valiant was the one to go for, just because it was Hanger 9 and Hanger 9's models usually are of high quality. Plus it's a Mike McConville design and his designs all seem to fly very well indeed.

I got Steve to order one up for me and for good measure I ordered an E.M.E 35 cc petrol engine off Steve at the same time.

I put the model together in about a month, the only thing that I found was that the fin retaining bolt wasn't quite straight in the fin. I elected to glue and screw the fin and tail plane onto the fuselage, only to find that the fin has a slight lean to one side. This has no effect on the flying whatsoever as far as I can tell.

So came the first flight after giving the E.M.E. about 20 minutes to loosen off a bit. I had fitted a "Pitts" type exhaust, this proved far too noisy and the engine wasn't happy on it. So I decided to make a manifold and fit a can. This worked really well with the standard under carriage, the engine had lots of power and started really easily. But I wanted to fit the Tundra undercarriage with six inch wheels and my home made manifold and can was just far too long.

So I got in touch with Weston U.K. and set them some drawings, a couple of weeks later a manifold and can turned up and to my delight fitted perfectly.



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# The Hangar 9 Valiant

*Article by John Prothero*

The engine seemed to develop even more power than before on the Weston set up, some of this was probably because the engine was now getting run in, and it is also reasonably quiet. I did have one odd glitch with the E.M.E it suddenly became reluctant to start, this turned out to be a slightly faulty plug cap. This was an easy fix and the engine hasn't missed a beat since.

## Flying the Valiant

The model has a huge wing and tail couple this with the massive flaps that go down to about 80 degrees, the fuselage has an equally massive amount of side area and you can see why the model takes to the air so quickly and equally can land very slowly. To take off, gradually advance the throttle (in a slight breeze no need for take-off flap) by the time you have got to about 50% the model is ready to fly, you can then climb out at more or less an angle you choose! I usually then stand the model on its wing tip and come back down the strip.

The model is totally benign to handle with no vices to speak of and for its size is very agile. All the controls harmonize extremely well, this makes for a very pleasant flying model. I have managed to stall the model with the flaps up, it just went slower and slower until it almost stopped and just dropped its nose, nothing too dramatic at all. It loops, rolls, flies inverted with very little down trim and will knife edge thanks to that deep fuselage and huge fin and rudder. Consecutive rolls just require the smallest dab of elevator. Slow rolls are great to do as it gives you all the time in the world to feed in the rudder and elevator compensation.

I have fitted J.R servos all round (8511s) through a power box switch/regulator powered by 2x2200 M.A.H Lipos. Another 2200 Lipo supplies the engine ignition unit.

In conclusion as far as a Petrol engine version of this model is concerned I think that this is a really good combination the E.M.E. coupled with the Weston pipe and manifold works really well, I have also fitted a velocity tube to the carburettor this extends the engine intake into the fuselage keeping the heat from the exhaust away from the intake. I can fly on one tank for around 30 minutes if I wanted to, I regularly don't bother re-fuelling as I

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# The Hangar 9 Valiant

*Article by John Prothero*

still have over two thirds of a tank left after 10 plus minutes of flying! The tank is also from Steve (Prop Guy) and is a 12 oz. clear Flowmax system.

The telemetry on my radio tells me that on a 20X8 inch prop I'm pulling 7700 RPM, it occasionally unloads to around 8500 RPM which isn't bad for a 35cc engine.

I look forward to a lot more flying on this model, seeing the contrast between the electric version the Chris Vernon is doing and my petrol version will be interesting.

So next time the field is boggy and you can't get your model off consider a flying tractor

—  
**The Valiant.**



*To me, it's a very smart looking aircraft but the way that John had been throwing it around the sky was something else!!*



# Social Calendar/Shows for 2016

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## AT THE FIELD

### 5<sup>th</sup> June

**Club BBQ** at the field. Jason is organising this - he'll be lighting up around lunchtime. If you want a nice big juicy steak, designer burgers and the like - bring them with you! It should be fun day if the weather behaves.

## TRAINING NIGHTS

These will be every Wednesday evening from May 11th onwards till September at the field so if you wish to, either learn, or just brush up those skills prior to taking your 'A', (or 'B') - this is a good time to do it.

## List of our instructors.

Jason Reid, John Higgins, Chris Vernon, Brian Holdsworth, Jim Sheldon, Paul Cusworth, Andy Harrison, Lee Connor, Justin Goldstone & John Prothero.

## SHOWS

4<sup>th</sup> - 5<sup>th</sup> June **Long Marston** Model Airshow

18<sup>th</sup> June **Weston Park** International Model Airshow

25<sup>th</sup> - 26<sup>th</sup> June **Strathaven LMA**

18<sup>th</sup> - 19<sup>th</sup> July **Cosford LMA**

13<sup>th</sup> - 14<sup>th</sup> August **Elvington LMA**



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# In Conclusion

To all you guys who have contributed to this newsletter, very sincerely, thank you. I have said it so many times till you are possibly sick of hearing it, without your input, this newsletter will not exist.

Something I love about this Club is the amount of expertise within it. When you go to shows, you'll see 'our' pilots displaying their models and the skill they display is up with the very best.

I think that my favourite show for the whole year has to be Elvington - the show run by the large Model Association.

This month I decided to fly my brother's beautiful Zulu - it's one of those models which hangs up in my cellar - I dare not fly it because it's too nice. Anyway, I did fly it early in the month - it was a gorgeous day and yet only two of us shred the field, myself and John Wigley. We had a great afternoon. I did however, on my first landing on slightly long grass, dislodge the two torpedoes which my brother had installed on velcro beneath the wing. I therefore flew with out these but noticed that any time I had any speed at all, I could hear a deep reverberation going on. Now I had previously put this down to the little fans which my brother had constructed at the backside of the torpedoes.

I did a low fast pass and there it all became clear - it was the ailerons which were vibrating like there was no tomorrow! Those ailerons had been sanded down to a knife edge and John Higgins had warned me that this could set up all sorts of vortexes.

He gave me the answer - move the C of G forward of the hinge line and the reverberation should disappear. It's an easy modification but thank goodness that we have people within the Club who are willing to share their expertise. I'll do the mod and show you in the next newsletter - also report on whether the vibration is cured.

For this month, I'm going to stop now. I look forward to the barbeque day - it's for this Club exclusively. Do come along to the Wednesday evening training nights.

For now, happy and safe flying.

# Dave's Xcalibur XL



*Taken at Blackpool Airport - a very beautiful model*



*On Finals to our field with Blackpool Tower as a backdrop*