

March 2016

Newsletter

No complaints about the weather for this month. The field has improved - still a little soft but good for flying from. The grass has been cut so all is good. I took my Fun Cub out and that was the first time I had flown outdoors since October. The Fun Cub is so predictable and is simply fun. It can be flown sedately (which is what I did) or outrageously - you'll see all that by looking at YouTube. That model is so cheap - mine has flown over 30 hours and never once crashed - with my flying, that's saying something - it's a good model.

Last Sunday, I went down to find the flying field very well attended. Also all you guys who gave up their Sunday to work on the hut - Jason Reid, Andy Harrison, Dave Neighbour, Steve Warburton, Tim Walton, Geoff Brown Zuheir and Pete Eyres.



Health & Safety nil - effort 100%



Dave & Steve working on the fence.

Well done and thanks to you all on behalf of the Club. They worked right through to 4pm! Thanks also to Jason for taking these pictures on his phone.

I had taken down my Wiggo - it had been ready for flight for some weeks and the excuses for not flying it had run out. So there I was, shaking in my boots until I spotted John Prothero. Now, he flies mode 1 like me so I accosted him and in what I felt was an authoritative voice, and pleaded with him to test fly the thing.

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Now John is a very good flyer and he's test flown many of my models in the past but what he was able to do with my Wiggo and on it's very first flight just amazed me. He was so impressed that he wrote this:-

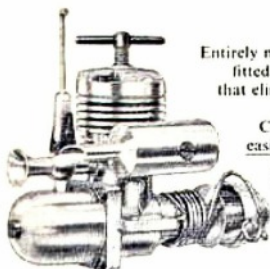
The BIG Cheese.

I was minding my own business at the field when one of the "Big Wigs" in the club (Peter Cathrow Sec.) came up and said "Hi J.P. just the man, will you test fly my Wiggo, a quick check confirmed that Peter wasn't wearing a toupee, so it had to be a model, well sort of.

Peter then produced what can only be described as a cross between a model aircraft and slice of cheese, the WIGGO.

I have flown unconventional models before, my British Nationals unconventional entry of a control line Flying Fortress comes to mind. What's unconventional about a Flying Fortress I hear you ask? Well mine had battlements, complete with Archers, the draw bridge acted as the elevator, the whole contraption was powered by an E.D. Cadet, which had a silencer because this was an indoor event!

NEW! AN OUTSTANDING NEW
ENGINE SPECIALLY DESIGNED BY
GEORGE FLETCHER Chief Designer of E.D.



ED 'Cadet' 1 cc.

Entirely new! Europe's first engine fitted with an efficient Silencer that eliminates the objectionable noise outlawed by many Councils. Designed for the easiest possible starting with 'easy-start' recoil starter. Complete with fuel tank. The ideal 'first' engine.

46/6
PLUS 8/5 P.T.

E.D. Cadet announcement - "Aeromodeller", September 1962

The Wiggo was checked out on the ground by myself and Peter. We finally ran out of excuses, Peters JR radio using FR Sky was switched on, I was switched on! I just didn't know quite what to expect from a model that would look more at home in a delicatessen.

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I could feel the tension rise in the group of on lookers as we got ready to fly, with remarks like “cheese and crackers” ringing in my ears I allowed such comments to just go over my head.

We placed the wedged shaped model on the ground into wind and did the final checks before attempting to fly it.

I opened the throttle and the model gracefully left the ground, it needed some left trim and a dab of up apart from that nothing!

I then flew a few circuits to feel it out, it was remarkable, not fast, responsive but not sensitive. I looped it, rolled it, flew it inverted and thought in for a penny in for a pound and knife edged it, no problem, it did sink a little but I am sure with a slightly different prop it would easily maintain knife edge. How many conventional models can you say you had the confidence in to throw around within the first few minutes on the first flight?! Not many!

The landing was a very easy with the model slowing down and flaring just before touch down.

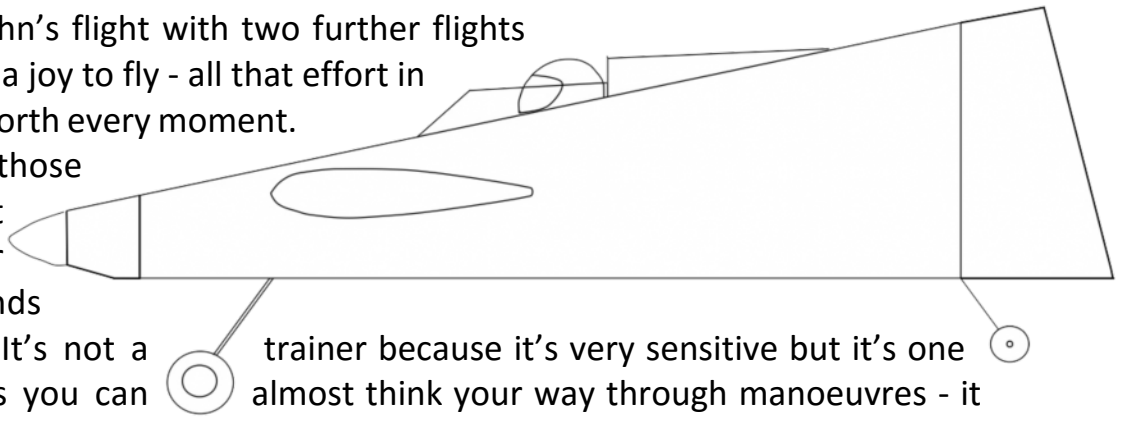
So never judge a book by its cover as they say, I was expecting a bit of a challenge, but it turned out to be a really pleasant test flight and the best bit is that Peter has a great model on his hands and won't get cheesed off with it any time soon.



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I followed up John's flight with two further flights and it really was a joy to fly - all that effort in building it was worth every moment.

It's one of those models that sort of shakes your hand - friends straight away. It's not a of those models you can really is so delightfully - it's definitely a 'keeper'.



trainer because it's very sensitive but it's one almost think your way through manoeuvres - it responsive. All I can say is that I'm so pleased I built it

I saw some really nice looking trainers at the field and took some pictures.

How about that for a colour scheme - this is the Ripmax Trainer and it looked (and flew) really well. Jason was at the controls and he knows just how to display a model!



A nice low pass by Jason - yet another well presented trainer - Black Horse Excel 2000.



John Higgins flying his Sukhoi with it's feet in the air.



Jason doing a low Farnborough pass - note the 'top' rudder.

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Pete Eyres hand launching John Higgins' Ripmax Spitfire.



This is Pete Eyres doing a low fly past with a 'nattie' - bit of foam.



JH's Spitfire in a low pass



Mark Conlin's Inversa on take off.



Coming in for a touchdown deadstick - Dave's lovely Excalibur XL

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A VIEW FROM THE HEDGE. (By Will Sparrow)



Spring was just about sprung as the end of the shortest month approached; modellers, in ones and twos, were to be seen enjoying themselves, even mid-week. The weather seemed to have turned more spring-like, with lighter winds and clearer skies providing the encouragement for members to fettle their models and charge their batteries. With this in mind I looked forward, with more than my usual dose of glee, to the last Sunday of February: I was not to be disappointed. A trickle of members in the morning turned into a gush by early afternoon. Flying conditions were ideal... the only insect in the ointment being the wind. This wind wasn't strong, mind you, but it was from the east... and it was cold. A couple of members left early in order to thaw out. Even your largest member was seen wearing a coat! As I watched from my twig, that wind was from behind and I could really feel its effect through my feathers. Yes, that wind was cold, really cold! I was reminded of the words of Charles Dickens-Sparrow, a noted word-smith and late (very late!) of this hedge. His words from "Our Mutual Feathered Friend" proved very apt.

"The wind sawed, and the sawdust whirled. The shrubs wrung their many hands, bemoaning that they had been over-persuaded, by the sun, to bud; the young leaves pined; the sparrows repented on their early marriages, like men and women; the colours of the rainbow were discernible, not in floral spring, but in the faces of the modellers, whom it nibbled and pinched."

Your members are made of stern stuff, however, and lots of flying took place. Electric models whirred, turbines whooshed and petrols roared (even if one of them initially proved reluctant to start). A good time was had by all. I was pleased to see a couple of new members taking their first steps in the marvellous world of model aviation. What's more, these chaps had, what I would call, proper trainer type models. You know, the sort of good-sized, high-winged models that will fly in all but the worst of conditions. Somebody must have given them sound advice.



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A VIEW FROM THE HEDGE Continued/....

You know, I really do love this time of year. The flying season has just started and I am always interested to see what you members have been getting your dentures into during the building season. One Sunday in mid-March saw me watching a new jet being assembled on the table just outside the club hut. The wings seemed a little reluctant to slide into place at first but, once they had been threatened with a lump hammer and dealt a few hefty blows, they abandoned their protest and duly slid into place. My mate, Jim Sparrow, did not, at first, recognize the model as being new, since it had the same twin-boom configuration as many jets we had seen before. I quickly corrected him and pointed out the subtle differences, such as the smart colour scheme and snazzy stickers. Jim, now re-educated, expressed himself as being suitably impressed. This new model had a fuss-free maiden flight and the owner pronounced himself well satisfied. The model's second flight, however, proved a little more exciting: the motor suddenly stopped turning and burning when the model was inverted. Such was the skill of the pilot that the gasps from onlookers were quickly quelled as he pulled off a super-slow, dead-stick landing right in the middle of the strip!

At this time of year we birds have many demands made on us which meant that I had to drag myself away from my viewing twig in order to attend to "domestic duties" in a near-by hedge (these hens can be very demanding!). Just as I was about to leave I spied a very large, petrol-powered aerobat being carried out to the pits. The thing that immediately struck me was that the model had an undercarriage but no wheels! I could not stay to see it fly – assuming that it could, and that its wheels had not been left at home. I hope that it did manage to fly successfully and that it was properly silenced; alas, many of these large petrol-powered models are, sadly, only suitable for flying in places where noise is of no consequence. On climbing out from the hedge a glance over my shoulder revealed a sight to gladden any heart, a couple of dozen modellers enjoying themselves.

As if to celebrate the spring equinox, modellers turned out in droves on the 20th of March. Not only was flying to be enjoyed, but those with a DIY calling were determined to do their upmost to refurbish the club hut. I observed much hammering and banging as a happy band of brothers set to with a will. Leaks were stopped, wood was sawn and a new car park boundary fence erected. By lunch time all seemed to be done and the verandah was full of members stuffing themselves with cake and biscuits! (Much later in the day, when all had departed, I managed to have a sparrow mini-feast from all those dropped



A VIEW FROM THE HEDGE Continued/....

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cake and biscuit crumbs). All this action at the club hut did not detract from plenty of action on the flying field. I spotted more than one member, whom I had not seen since last year, sallying forth to commit aviation. One model seemed to be suffering from the dreaded I-haven't-been-run-for-ages-so-I'm-not-going-to-start petrol engine problem. They always start in the end; modellers are very determined! Another new model to appear on the day had, shall I say, a novel appearance. The model in question had the usual wing in the middle, motor at the front, tail at the back arrangement, but the fuselage, holding all these bits in line, was shaped like a giant wedge of cheese! The model may have looked a bit strange, but it was test-flown with few problems and went on to have another impressive flight. It's good to see a bit of originality on the field; such a change from the usual run of things. How many of you own a model that can do dual duty as a device for wedging open the club hut door? Not many I'll bet. Before I leave the action on the equinox I must recount an incident that occurred with a really cute little jet. The model in question was flying really nicely and looked a picture against the sky. All went well until it came to landing time. The model came over our hedge low and slow (my mate, Jim, ducked under a thick twig!). The pilot tried manfully to sort out his approach, but in vain, as the model headed straight for the pilots' box. (It never ceases to amaze me how swiftly some of you aged modellers can move when the need is acute). The day was saved when the model sacrificed itself by colliding with a large, strategically-placed fire extinguisher! Thankfully, no one was hurt and the damage to the model was slight; it will soon be flying again and, I'm sure, landing much further out.

The days are now longer than the nights; the flying season is here. There's so much to enjoy!

WS

What Went Wrong

March 2016

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 repetition may be avoided. Sometimes, the cause may be obvious but usually a range of possibilities must be considered. These may be divided into Structural Failure, Radio Problems and Pilot Error with some overlap. Some clues may be evident in the final moments and some tests may be appropriate. It can be difficult to determine whether damage was the cause or consequence of the crash. Prevention is obviously advantageous, and some problems can be avoided (or at least minimised) by precautionary actions.



I took this in Australia - those guys fly like loonies!! (Ed)

Structural Failure

Structural failure covers the physical aspects of the structure including battery fixings, control surface hinges, servo mounts and linkages. This may be the obvious cause when pieces are seen to fall off in flight, though the underlying cause may be overstressing the airframe by, for example, pilot action or radio problems applying full elevator in a high speed dive when something is likely to break! A collision with another aircraft, tree etc. is obvious, with the implication of inappropriate pilot action. ARTF manuals often include warnings against excessive speed and these should be heeded - their build quality is somewhat variable with inadequate glue and flimsy materials being common. Vibration imposes considerable stresses and is a frequent cause of failures.

Fasteners such as bolts and screws can come loose with consequences depending upon their function. Thread lock may be helpful but can hide insufficient tightness of the items intended to be clamped by the fastener. Tightness of all fasteners should be checked after the first few flights of a new model since settling and consequent loosening often occurs. Pre-session examination is also worthwhile, especially if a problem has been detected earlier - repeated loosening suggests an underlying cause requiring resolution. Any visible vibration of control surfaces or linkages during engine running on the ground is likely to cause future problems such as loosening fasteners, fractured control linkages,



What Went Wrong Continued/...

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Article by Brian Holdsworth

airframe failure and/or radio problems - petrol engines can be particularly troublesome.

The forces on a battery can be considerable, especially on a large electric flight item which could be quite heavy. Flight loads or a LiPo which puffs in flight will impose considerable strains on the commonly used Velcro strap which will wear with its frequent separation in use; if the strap comes loose, the battery may move the C of G or batter its way out of the airframe which can have significant consequences. Inspection and multiple straps for large batteries should reduce this possibility.

Electric motor shafts and propeller adapters are vulnerable to bending resulting in significant vibration; rotating the propeller by hand and checking that each blade follows the same path may identify. I.C. engine shafts are more substantial but any bend may be identified similarly. Straightening a bent shaft is unlikely to be effective due to the effects upon the metal characteristics.

The spinner may need to be cut away symmetrically so that it does not press on the propeller blades, which would cause local concentration of blade flexing with consequential vibration or failure. Vibration from spinners can be due to flexing when running - especially for some ARTF plastic examples. This can be more apparent with electric motors due to their light weight compared with the equivalent I.C. engine and their lighter airframes are more likely to resonate; also, engine vibration tends to mask any spinner vibration. Rotating the propeller/spinner with respect to the shaft may reduce the vibration - any difference suggests an imbalance.

Propeller balancing may be beneficial, especially for wooden items; plastic types are generally adequate as supplied, though some cheaper examples such as those in RTF's have shown problems. The back of the heavy blade should be sanded as required, smoothing and varnishing as appropriate. Drilling holes in the hub has little effect and weakens a highly stressed area. Any moulding flash should be carefully sanded off the edges of the blades - cutting is likely to remove too much material producing imbalance in weight and aerodynamic performance. Visible damage to blade edges suggests replacement, since there may also be cracking which can be difficult to see. The hole in the hub should be a tight fit on the shaft otherwise the propeller will be off-centre, unbalanced and more likely to come loose.



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Article by Brian Holdsworth

Propellers can break or come loose and the consequences depend on what or who a separating propeller hits! Due to the loss of weight, separation in flight will move the C.G. back which can cause problems if already marginal. The propeller hub must fit flush onto the driver - some adapters have rounded corners which can stop the propeller being pushed home. Four-stroke engines are notorious for throwing their propellers and locknuts can reduce but not eliminate the problem. Some large engines have multi-bolt propeller fixings where the bolts can shear; if the propeller comes slightly loose, the rotational hammering action on the shaft by each firing cycle imposes considerable shearing forces on the bolts, and one failing is likely to result in a cascade failure of all - the usual hardened bolts can be more vulnerable than softer items. The cause of loosening is often crushing of the hub for wooden propellers, while other types can soften when heated by the engine via the shaft. Examination may show evidence of movement on the propeller hub so that removing and checking the propeller after the first few flights of a new model may be worthwhile, especially as the fasteners are likely to need tightening as above. The BMFA noise measurement procedure was criticised, when first introduced, for requiring the tester to be just in front of an engine at full throttle, especially as that is likely to be the quietest position - recent events may produce an overdue re-think.

Failure of front bulkheads due to poor material or lack of glue can occur and the resultant side and/or down-thrust could make control impossible. With an engine, closing the throttle may not be possible where the bulkhead has moved back. It is worth examining the area on an ARTF since there is often no visible evidence of any glue - run additional glue into the joints. With I.C. engines, applying fuel proofer to the area is helpful since this is rarely done by the factory and fuel soakage will accelerate degradation. Electric motors generally have lower vibration, but their torque effects can be significant - any exposed wood should be sealed since damp can soak in and affect glue etc.

Where rubber bands are used to attach a wing, sufficient should be used so that the wing cannot be lifted from the fuselage without considerable force since any movement can make the model uncontrollable. Incidents have occurred where a couple of bands were used for carriage to the strip and the other bands were not fitted before flight...! Typically, at least six should be used with the last pair fitted diagonally to reduce the tendency to slide off the dowels which need to be long enough to protrude beyond the bands. Frequent replacement will be required, since perishing is common and often



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Article by Brian Holdsworth

visible in the form of a roughened surface, especially along the edges. They should be wiped clean after use and stored in a sealed tin to exclude light and air with a little talcum powder to absorb any residual oil, which can extend their life considerably - detergent usage can accelerate degradation.

Flutter can be very damaging and may be difficult to identify, since it does not always produce audible or visible indications, though control linkages may show signs of wear. It may cause structural failure, broken servo gears or reduced control effectiveness causing difficulty in pulling out of a dive etc. The causes are complex, but excessive gaps in control surface hinge lines increase the vulnerability to flutter as do flexible linkages and structures. If flutter is detected, closing the throttle immediately and gently pulling out of a dive may stop it before failure - immediate landing and inspection is then advisable since damage such as airframe cracking or loosening of fasteners etc. may have already occurred.

Many ARTF's have rather flexible wings or tail planes prone to twisting which opposes control action and can provoke flutter; this may be apparent in the need for significant control movements to achieve sufficient control response. Slackening of film covering may be evident and should be corrected since, in many cases, the covering provides much of the required stiffness. Forward-facing film edges can be prone to lifting and a little varnish to seal can be helpful. If the airflow gets under the edge, the covering may be torn off with interesting flight effects due to the resultant open structure!

Tail planes are vulnerable to damage, especially during ground handling, and breakage in flight can result in a significant pitching force since the break is unlikely to be aligned with the fuselage. If not seen in flight, the breakage can appear to be the result rather than the cause of the crash.

With control surface hinges, the slit in the structure needs to be a good sliding fit; if too tight the glue will not penetrate resulting in failure; if too loose, the glue will not bond the hinge to the structure with failure again. While often recommended, pinning is of little benefit since, if the glue fails, the hinge stretches with consequential excessive looseness. Many foam models use the foam itself as the hinge, and these are prone to splitting so that frequent inspections are advisable.



What Went Wrong Continued/...

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Article by Brian Holdsworth

Plastic control horns can become brittle so that they break with little applied force. Discolouration is a warning sign and age seems to be a factor, but total age rather than time installed in a model. Occasional testing by applying sufficient force to bend the horn may be useful. While using similar plastic, servo output arms do not seem to be as vulnerable, probably due to their greater thickness and lack of exposure to sunlight. A broken horn or arm in the wreckage would raise the possibility that it was the cause,

Clevises with plastic pins can be very fragile and replacement should be considered. Those with metal pins are generally more robust, but need a retainer to stop the arms of the clevis splaying apart, disconnecting the linkage. Most metal clevises are loose on their rods with the potential to jump threads under load - a locknut has little effect and the clevis shank should be carefully squeezed to tighten the fit.

Plastic snake outers need to be adequately fixed at both ends. Particular problems may be evident with a long unsupported run to the control horn which can buckle under compression where a suitable support would be needed between the snake outer and the structure. Pushrods should be straight since any curve, particularly a Z-bend where the wire exits the fuselage as is shown in some books and plans, will result in sideways movement under compression so that little effective control movement is available in flight. Pushrods are also vulnerable to vibration with consequent potential for fracture.

Servo mounts are prone to coming loose at the fuselage sides and additional reinforcement may be appropriate.

While rare, in-flight fire can cause damage resulting in a crash, sometimes with visible smoke in flight; an electrical short-circuit or fuel leak ignition are likely causes, though a rotating item rubbing against the structure and igniting it is another possibility. Airframes do not burn easily, so that fuel and wiring insulation generally burn first. The damage caused by a crash can start a fire which would confuse the investigation and may start secondary fires in crops etc. - jets are particularly vulnerable with their large fuel tanks adjacent to a hot engine as an ignition source.



Social Calendar/Shows for 2016

March 2016

CLUB SOCIAL EVENINGS at the Clarence Hotel, Preston New Road, Blackpool FY4 4HG

6th April

What you will be flying this season - members asked to bring their current models.

4th May

Jason to talk about flying safety.

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.

SHOWS

18th June **Weston Park** International Model Airshow

25th - 26th June **Strathaven LMA**

18th - 19th July **Cosford LMA**

13th - 14th August **Elvington LMA**

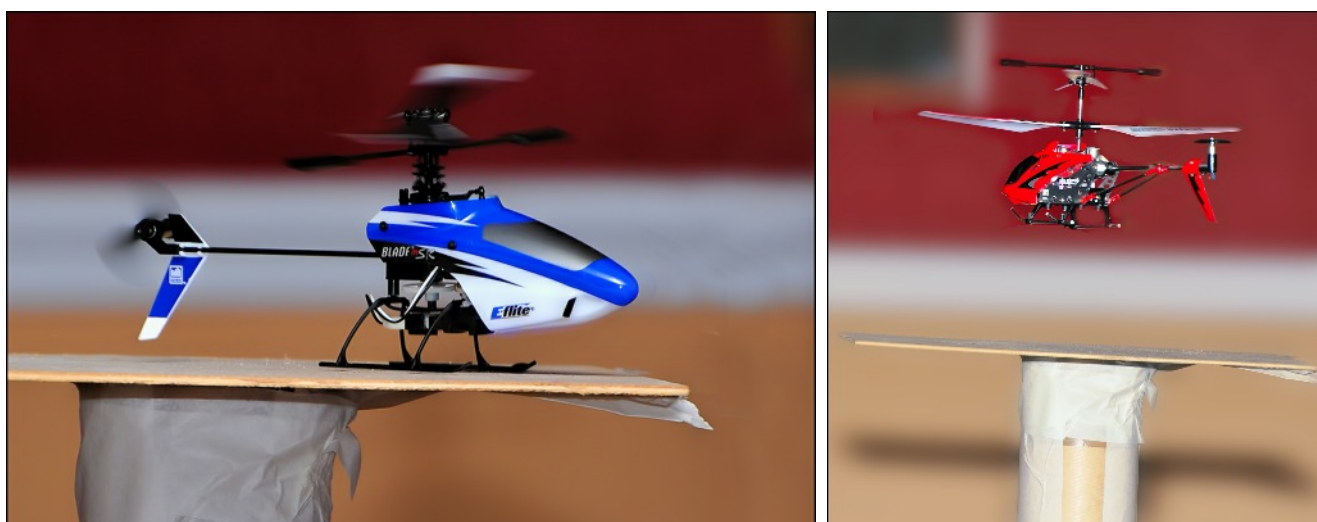
Dave asked me to print a list of our instructors.

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

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In Conclusion

Well, that's it for this month. The Quad/micro heli night was brilliant. It actually took a lot of skill flying that course. The first pilot to land on the tiny heli pad was Mark Conlin closely followed by Jason.



The new venue for our meetings looks good and I can tell you that they serve some very nice cask ales. Its clean, comfortable and quiet - they'll even serve you up with a plate of chips or whatever you choose.

As you can see, I had a ball at the field with my camera - it's like going to a mini airshow. I've never known a Club with such a variety of good flyers and such interesting models.

I know that Easter looks like it's going to be windy and a bit damp but summer is on it's way - isn't it next week that the clocks go forward.

My heartfelt thanks goes to John Prothero for trimming out my Wiggo and the article he subsequently wrote. Thanks to Will Sparrow, Brian Holdsworth for your contributions to this newsletter.

One last thing - we will be having a safety talk on 4th May. It is important for all members to attend, **especially the trainees**. Please guys try to be there.

In the meantime, I wish you all a Happy Easter.

Happy & safe flying.