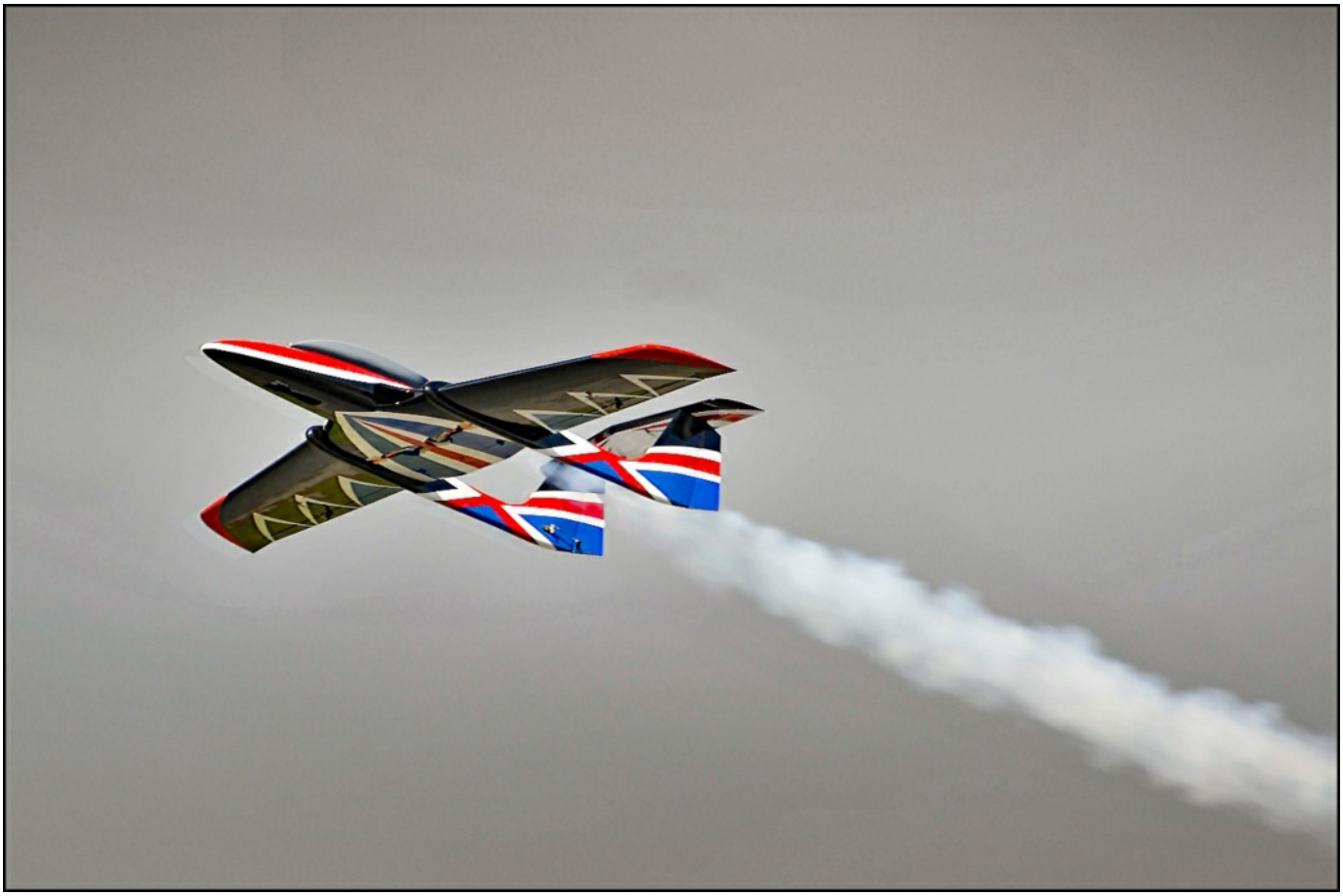
Newsletter

August 2016

Elvington LMA 2016

For me, this was a month I had been so looking forward to - Elvington LMA. This will be my sixth year at the event and I've never been disappointed yet. The journey there was excellent - virtually no holdups in fact it was the fastest we had ever done it. We stayed at the Primrose Lodge at Dunnington as we had for all the preceding years. We enjoyed a really good meal in the evening at the Windmill - they really do cook some lovely food there, so we had pre-booked a table for both the Friday and Saturday evenings.

I went to the show alone - Judy stayed in the room and the B&B people gave her something to eat at lunchtime. It was very windy, sometimes sunny, sometimes grey, on the Saturday - about 16MPH gusting to around 24MPH. Flying was at the discretion of the pilots - there would be no set flying schedule. Dave and Jason elected to fly their Xcaliburs.

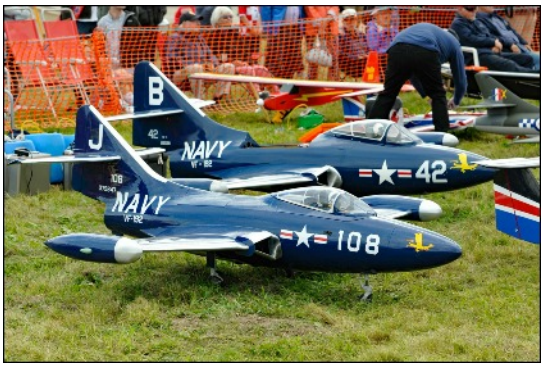


Dave and Jason flew a really good display - fast and spectacular.

Elvington LMA 2016

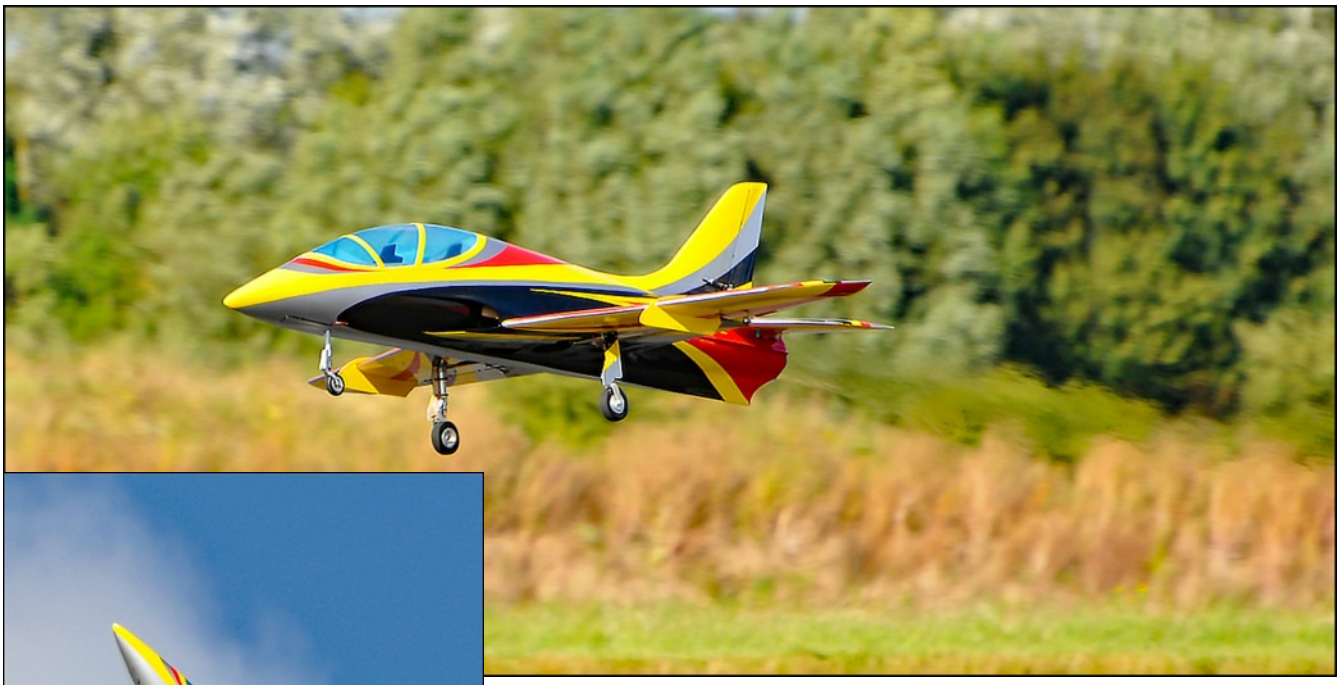
August 2016

They decided to fly their Panthers on the Sunday when the wind was forecast to have dropped. (I've since seen the video taken at the show and those Panthers looked really good).



You can see the two Panthers on YouTube:- https://www.youtube.com/watch?v=Knudcuwekho.

Mark Conlin was flying his Sebart Avanti - he had a solo slot so he was able to fly the Avanti in a much more 'exuberant' way - he used the vectored thrust. He would climb to



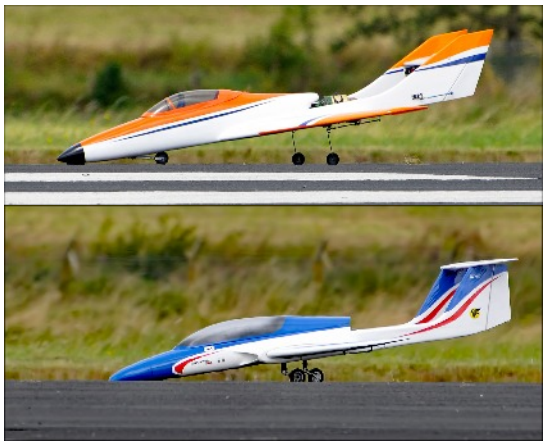
Look at that power as Mark lifts off

a great height, enable the vectored thrust and the model came down in a flat very fast spin. In all previous shows, Mark has been flying with other pilots and was therefore only able to follow predictable left or right hand circuits - flying by himself gave him complete freedom which he very obviously took full advantage of!

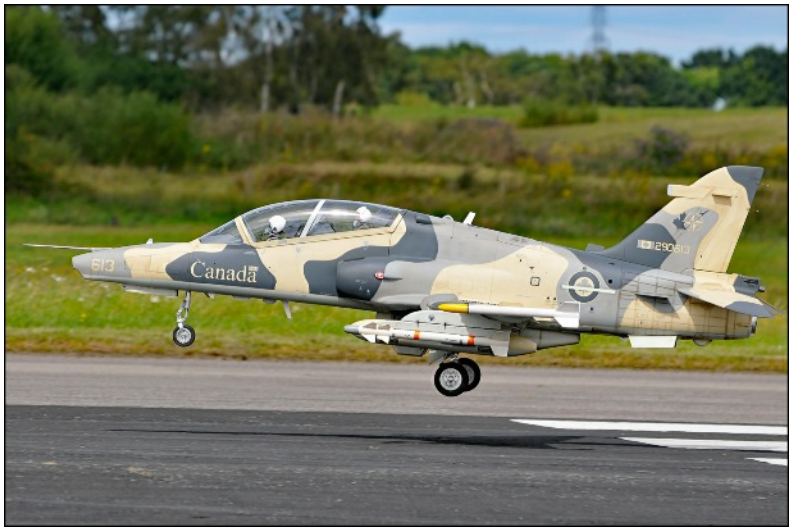
Elvington LMA 2016

I tried to photograph it but very obviously didn't use a high enough shutter speed because the wing and tailplane are blurred - I was using 1/400th second so you can see how fast it was rotating. Lousy photo - sorry.

The unpredictable blustery wind took it's toll on many of the models- it was the undercarriage which failed. These two models flew together - good display but when they came in to land, the blustery wind produced this result.

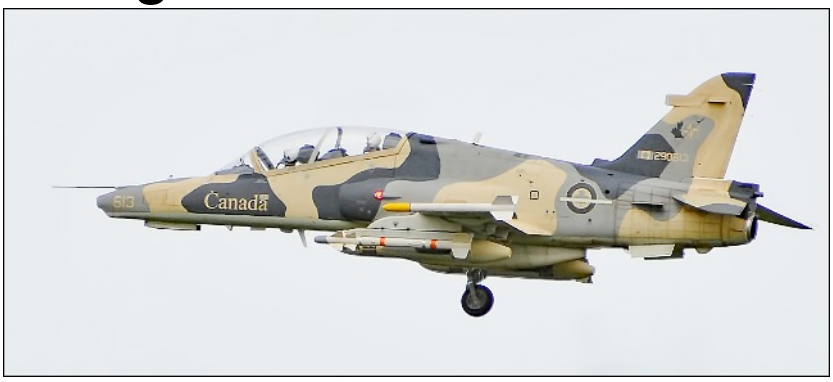


One new model on the scene was this beautiful Hawk 100 in full battledress. It even had missiles which looked almost too realistic. This was about 1/3rd scale. Here it is taking off. The pilot then attempted to retract his wheels - one wheel remained down. He therefore dropped all 3 wheels and carried out the rest of his flight with the wheels down.



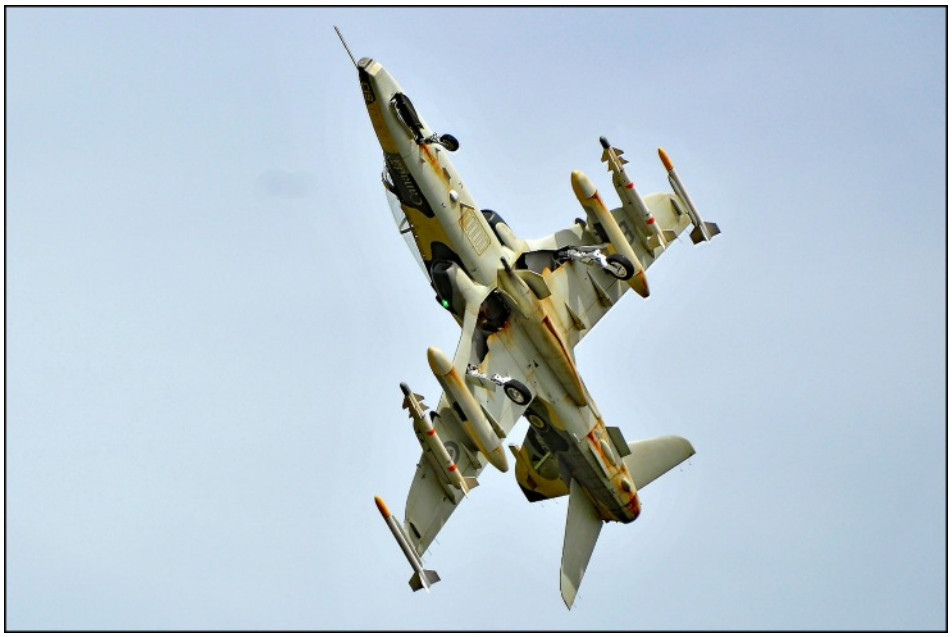
Elvington LMA 2016

August 2016

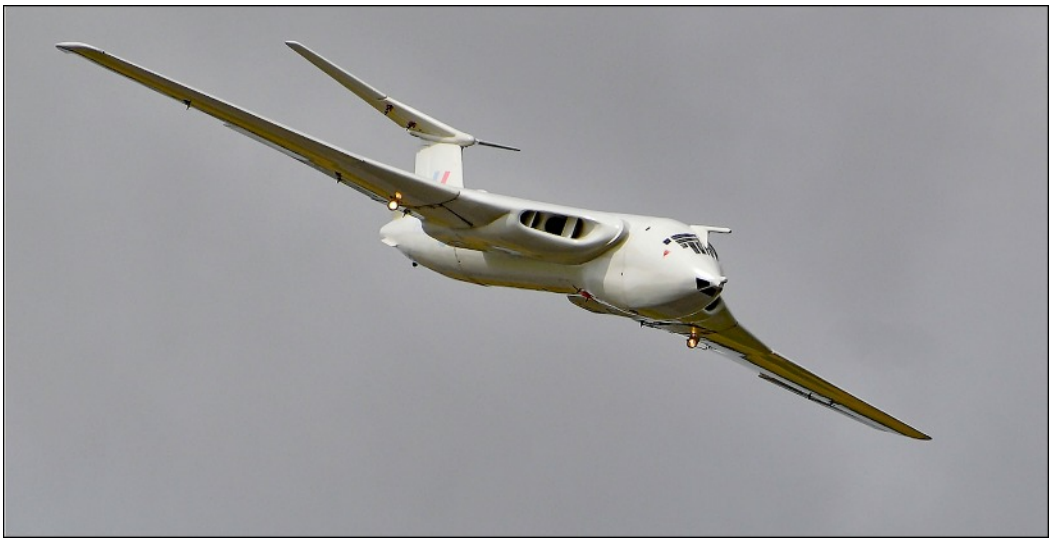


One wheel just refused to retract!

Just look at the detail even on the underside of this model.

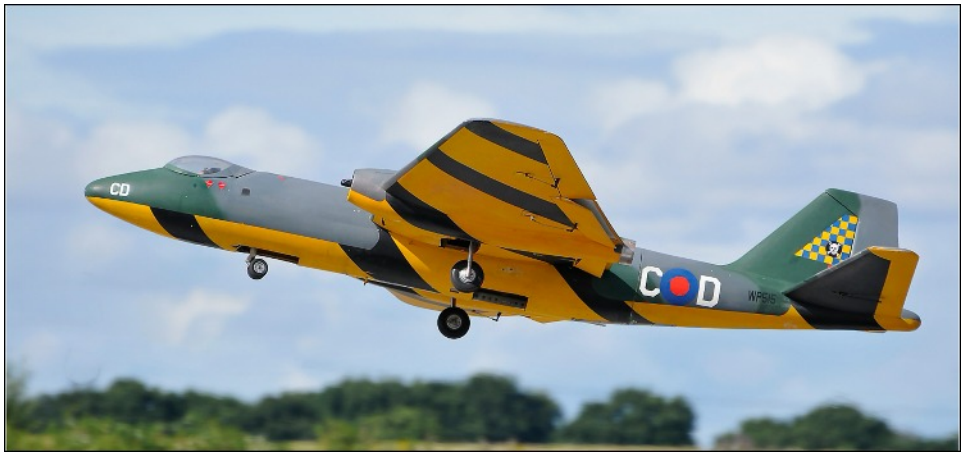


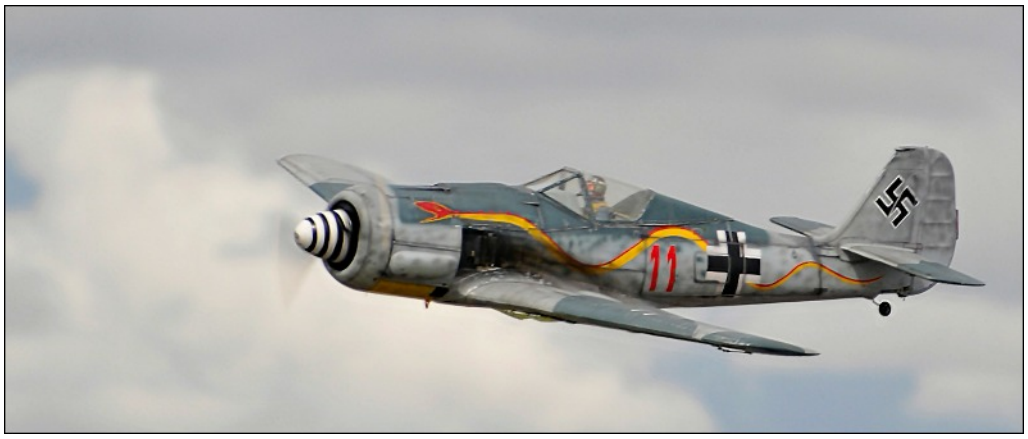
I took loads of photos and saw some great flying. Dave Johnson's Vulcan did not fly on the Saturday but his beautiful HP Victor did - wonderful aircraft. I have many happy memories as always. It really was a great show and I so enjoyed the company.



Thanks guys - you made it special.

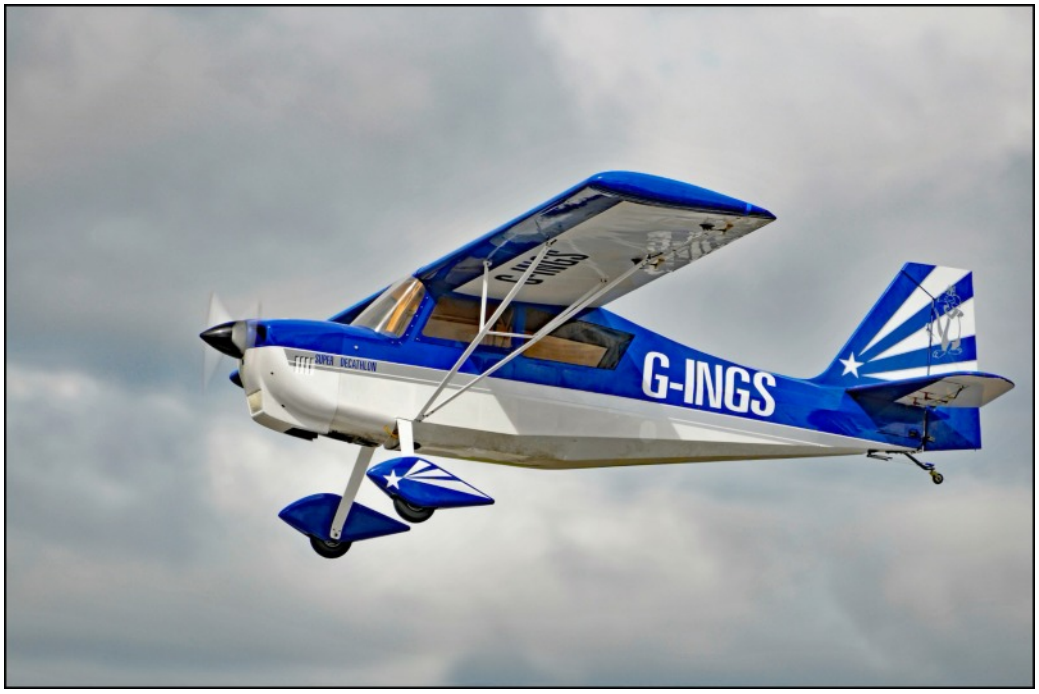
This Canberra flown by Dave Johnson was dead steady - it was built some 21 years ago andis now fitted with two gas turbines - sounds and looks so authentic





The warbirds absolutely screamed down the strip - I loved this FW190

The Super Decathlon - there were two flying together - very nice aircraft



A VIEW FROM THE HEDGE. (By Will Sparrow)

When I was a very young sparrow, just out of the nest and very wet behind the ears, I remember my father saying to me "look son, (he always called me son; 'probably couldn't remember my name) you're going to spend a lot of your time flying, so you may as well learn to fly properly rather than just batting about the sky like some demented wasp". Now, at the time, batting about like a demented wasp was what I really wanted to do, but I followed pappy's advice and quickly found myself enrolled in the Sparrow Cadets. It was here that I learned to fly in straight lines – not easy for one of the demented wasp persuasion I can tell you – and to plan for unexpected situations. What to do if suddenly affected by wing cramp. How to deal with a mid-air collision with a large insect (they just don't look where they're going, you know!) etc. All these memories come flooding back when I watch those of you who are doing your "A" cert preparation learning, just as I did all those years ago, to fly in straight lines and deal effectively with the odd emergency situation. It's very entertaining, once the "L Plate" phase is over to let a bit of the demented wasp into one's flying, but I would urge you to remember the old adages that height and/or speed are your friends and that the most useless commodity in aviation is the amount of sky above you. Remember these words when you're trying that swanky new hovering manoeuvre at low level… and the engine stops!

I witnessed an interesting bit of model aviation a few weeks ago. Let me explain. One of your long-standing members was out with a little low-wing electric model. I've seen this combination before and the little model flies well and always seems to get back down in one piece. This day, however, was different; the little model began its take off run with all the alacrity of an asthmatic duck. The model waddled off, into wind, and never looked like taking off. The owner did the right thing and aborted the take-off. The transmitter was passed to another member, thought to be good at persuading models to fight the pull of gravity: the result was the same "sick duck" acceleration as before. The owner denied changing anything since the previous, successful, outing prompting a bit of head scratching as to what might be the cause of the problem. Then all was revealed… This modeller had been safety-conscious and had removed the propeller, at home, whilst he had been playing about with the electrical system. (As you all know, electric models can

A VIEW FROM THE HEDGE continued/….

bite very hard if given half a chance). You can probably guess what's coming next… Yes, the propeller had been refitted back to front. Propellers don't work very well back to front! With the prop refitted, the little model took to the skies and performed with all the wiz of a chemically-assisted Russian athlete.

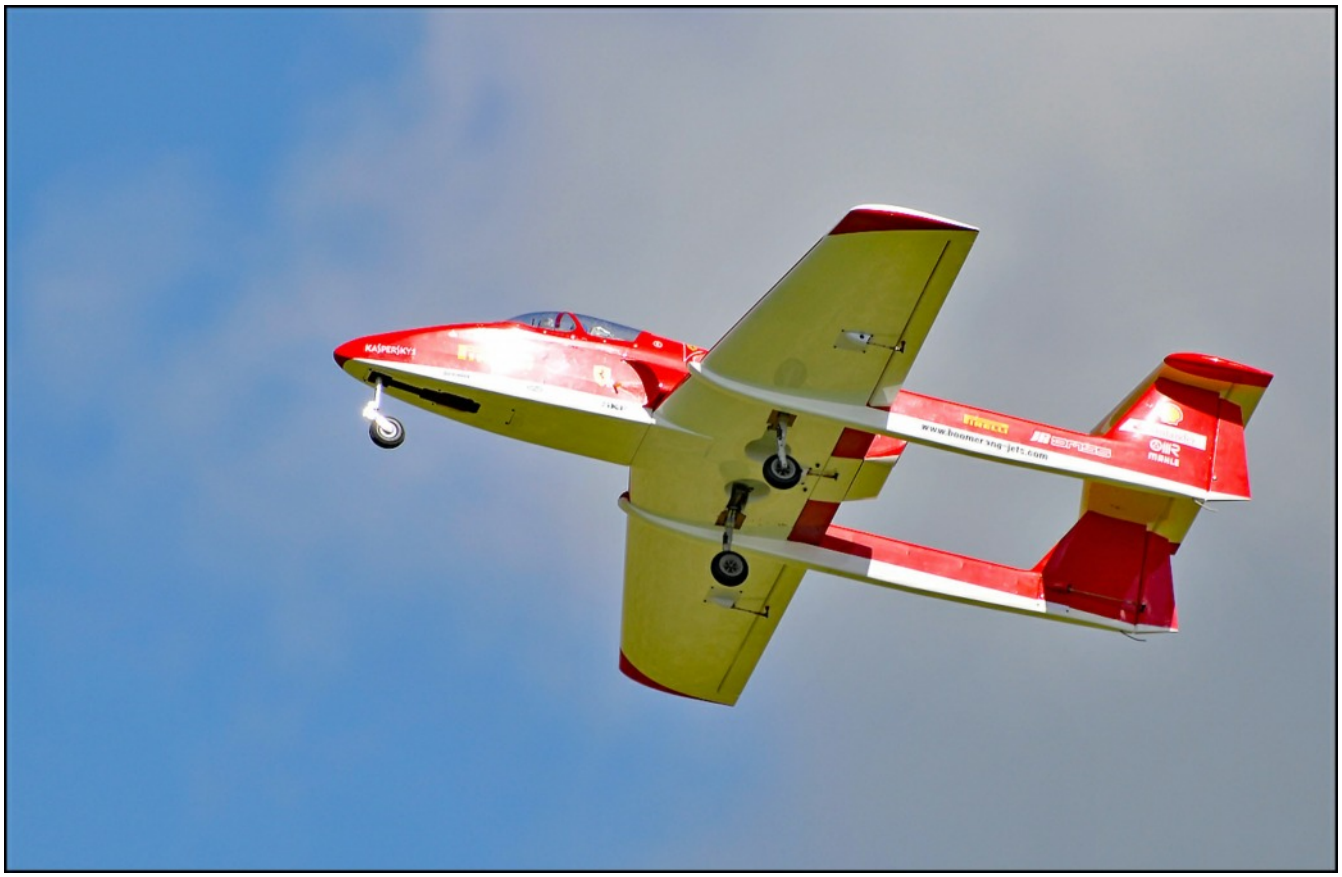
The Sunday of 24th July was scheduled to be a bit of a poor flying day… but the Saturday was exactly the opposite, so I settled myself on my best viewing twig ready for a good session: I was not disappointed. As the day matured, more and more members turned up so there was lots for me to see. One seasoned member whom I have not seen holding a transmitter before, although I have spotted him observing the action on previous occasions, turned up with one of those Wot Something models with the intention of getting back into the swing of things by using the buddy box. A good idea after a long lay-off. Some say that this chap joined the club when Icarus was but a junior member, and that some of his models were once covered in the wrappers from Werthers Originals… be that as it may, he was keen to go. Unfortunately, the buddy box system was proving somewhat temperamental and was determined to deny him airtime. Still, the sun was shining and the pits banter was as good as ever, so all was not lost. This day also saw an outing for a lovely, big, petrol-powered aerobatic model. This model's usp was its self-starting engine. Now, tedious flicking is relegated to history. A flick of a switch sees the engine burst into life – just like those nice, quiet electric models! It flew very well too… I do like watching nice aeroplanes being well flown.

Saturday, 6th August was a really promising flying day and, from early doors, the flying site was humming with activity (all model fliers, worth their salt, keep a steadfast eye on the weather forecasts. Saturday was busy because the Sunday was set to be a stinker with gale-force winds on the menu). The twin-boom jet men were out in force – I counted four altogether. Much swooping and whooshing took place with the participants giving each other encyclopedic levels of advice and criticism. How they managed to concentrate at all is a tribute to their skill (…and ability to turn a deaf ear!). The day was also conducive to a bit of gliding activity: I love to see these long-winged machines challenging the gulls and buzzards at their own game, even if the latest technological developments and well-honed skills are usually trumped by many thousands of years of evolution. You might remember that I tried thermal soaring myself some time ago. You might also remember that I failed miserably; my tubby little body and stubby little wings hardly fitted me for the task, but I did enjoy the challenge and I was prepared to give it a go. If you've never tried gliding, why don't you give it a go too? You might well find that you like it – gliding's like that. Saturday's enjoyment was marred by a couple of fairly terminal-looking crashes.

A VIEW FROM THE HEDGE continued/….

One was down to the modeller becoming disorientated, the other was caused by the motor on an electric model shutting down as a result of a depleted lipo. This latter incident made me duck under a sturdy hawthorn branch as the model headed straight for our hedge, the modeller frantically trying to rescue the situation, before the model hit the ground just behind my position. Sad though it is to lose models, these crashes were in safe areas and no persons or property were endangered. We sparrows don't count!

WS



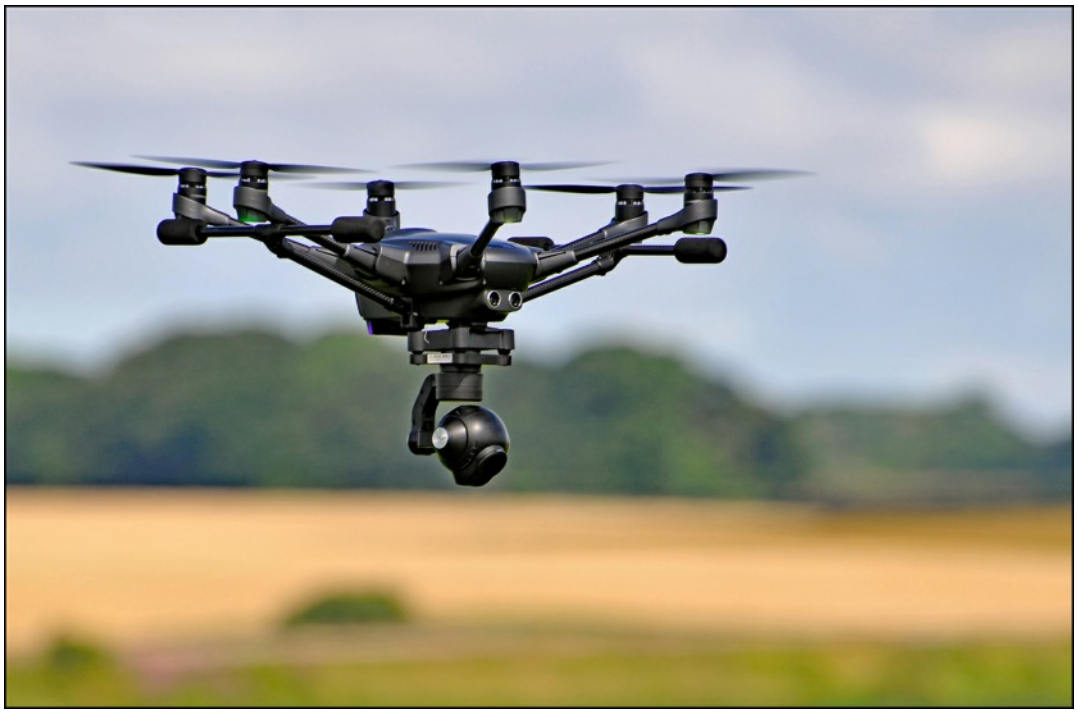
Jim Sheldon flying his Boomerang in beautiful sunshine.

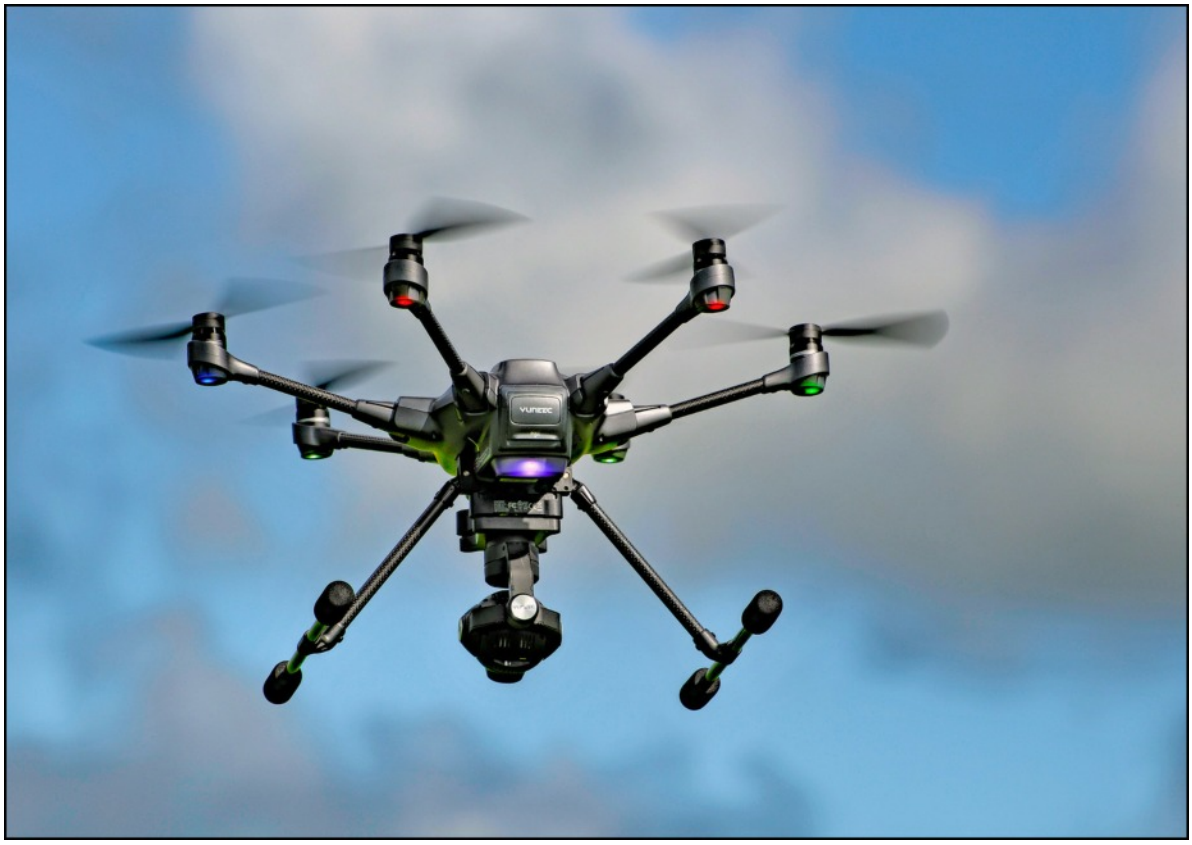
The Dreaded Drone

We hear all the time bad things about 'drones' being used in a totally irresponsible way - near misses with passenger aircraft etc. Well, what if a drone is flown by a responsible (and highly capable pilot) - do these things actually fly or do they just hover. I have to say that my understanding of them was extremely limited but what I did know was that an old flying buddy of mine, Jim Burton - we used to spend weekends up at the Long Mynd in Shropshire slope soaring - is absolutely hooked on them.

We do of course have our very own highly capable 'Quad' pilot here at the Club - Mark Tomlinson. I asked Mark if he would bring one of his multicopters to the field and let me see just what it would do. Now, the wind was a bit blustery and and was blowing at about 14 - 16MPH - I wouldn't have been all that keen on flying a lightweight fixed wing in that wind. The model he brought would not have been cheap - it was a Yuneec hexicopter - six brushless motors. It was powered by a 4s 5400Mah LiPo. I thought it would sound like an angry bee - it didn't, it was actually very quiet. I thought it would be boring - you know, hover then move to another spot and hover again. Well it didn't!

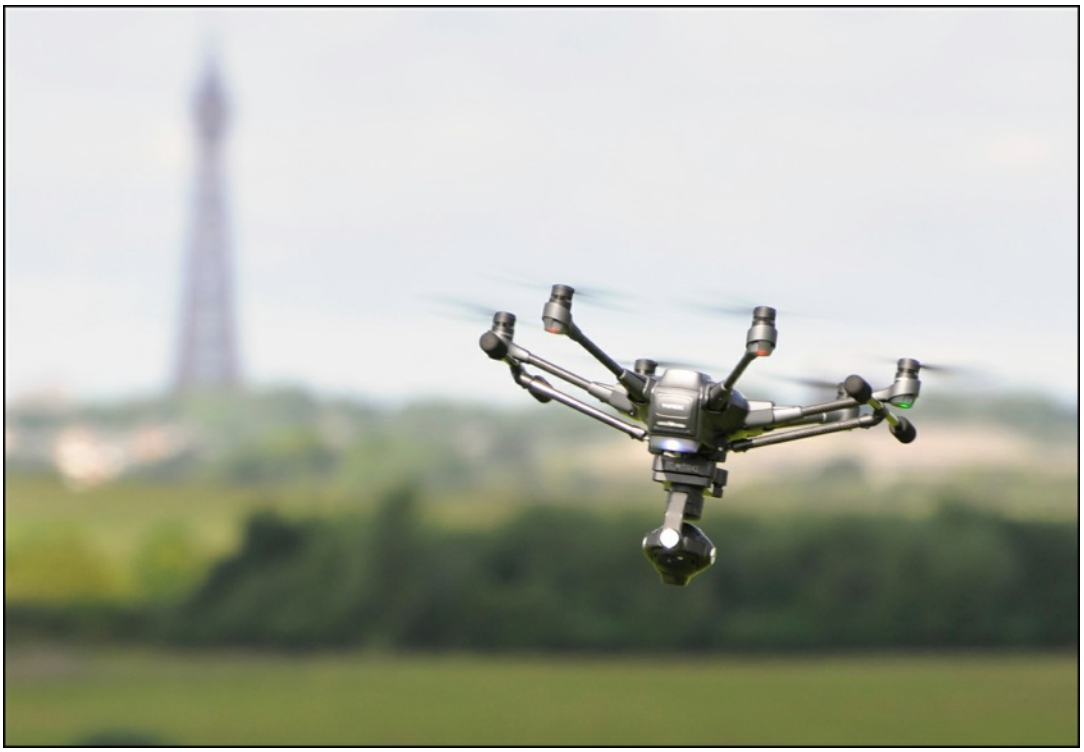
It flew like there was no wind and when I say flew, I mean it flew circuits at a very reasonable speed around the field. It doesn't do those incredible, almost brutal manouvres which a 3D helicopter does - it was dead smooth and want of a better description, graceful in flight.

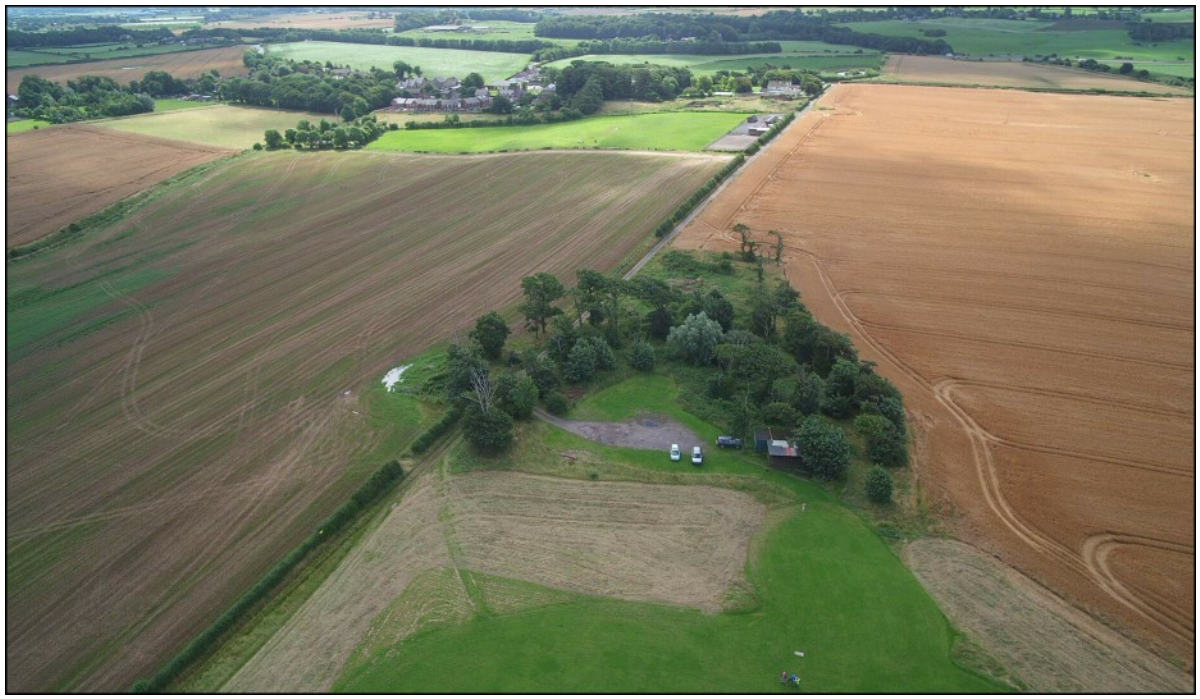




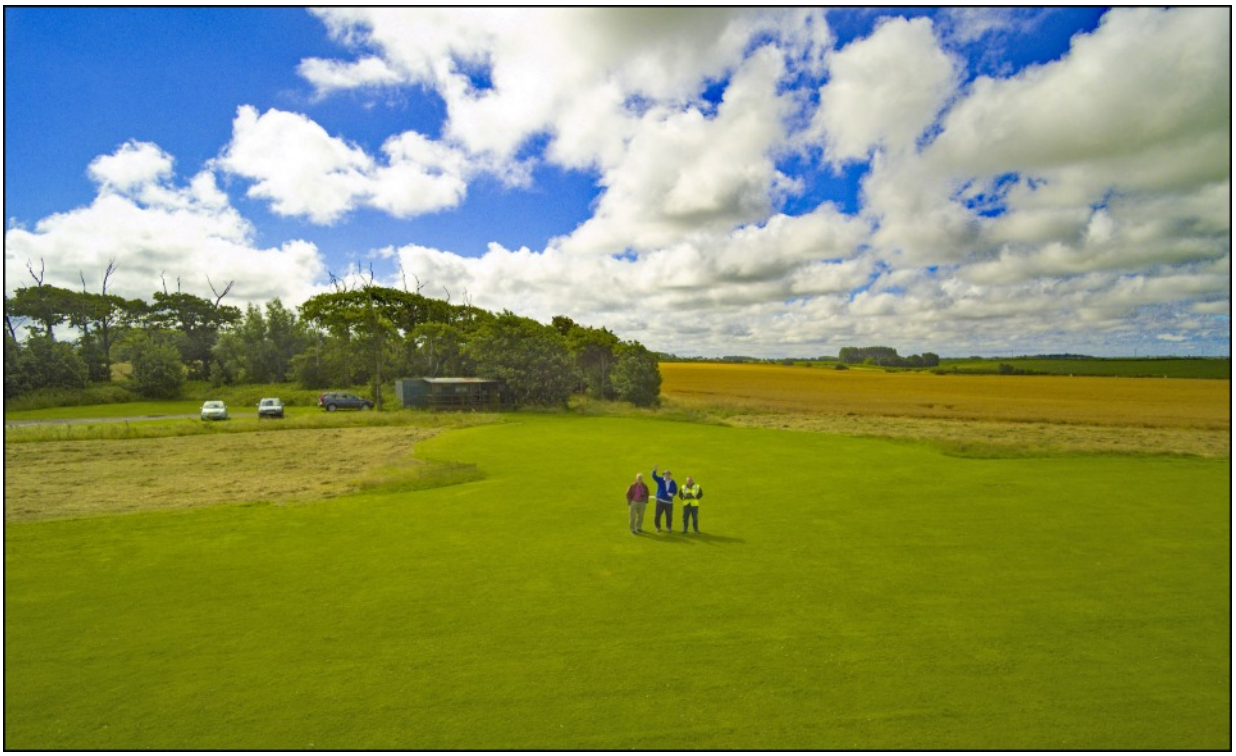
On take off, the undercarriage legs are down.

Here it is at speed (and I do mean proper flying speed) with the undercarriage legs retracted





This is just pin sharp - I've done nothing to process it.



Mark took these pictures during the flight. I really am amazed at the incredible quality produced by that tiny camera and indeed the way the model flew. I am very impressed - thanks Mark - I really enjoyed that.

Inverza 62

August 2016

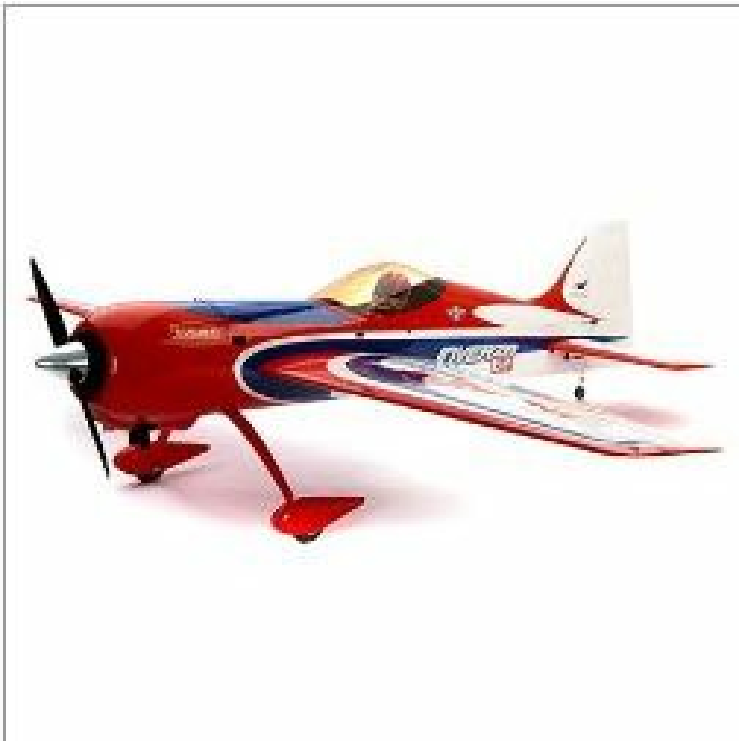
Article and pictures by Jim Sheldon

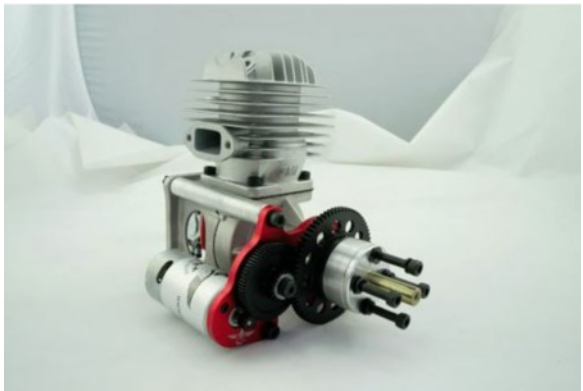
This model came about by myself first seeing Mark fly the smaller 30cc version down at the field, then soon after I watched John fly his 30cc version although Johns being electric. Both flew very very well (nothing to do with the pilots of course). I really liked the large broad wing and overall shape and thought that I would really like one. But having a 30ccc size MX2 electric that most members have seen me fly, could I justify another 30cc size model?

Anyway some time passed and one evening, one of our members called around for a brew and he noticed that I had a 50cc Hangar 9 Carden Yak. I told him several times that it wasn't for sale especially having only recently converted it to electric power and having 12s 5.5kw on board it flew very well.

Yes this member was very persuasive and one hour later he left and my model had gone, it took me another hour to realise what had just happened. Once I had got over the shock and confusion as to what had just happened, the excitement started. So I started to look for my next project.

The next day I popped in to see Steve (Prop Guy) and over a brew he told me how he had seen the large Hangar 9 Inverza 62 in the States and how well it looked. So off I went to do some research, within a couple of hours I knew I was having one and the next day off I went to see Steve and Yes I ordered one from him.





Inverza 62

August 2016

Article and pictures by Jim Sheldon

While I was waiting for delivery I started planning the build, I decided to go with an EME 60 with full Electric Autostart with a Zimmerman Canister exhaust to keep the noise down. I also chose all the servos Hitec HS-7954SH. With the servos being high voltage I will use a Jeti mag switch having 2 feeds in and 2 feeds out but being switched totally independently to each other. I have used these switches for some time with good success. I even purchased new lipo's, 3Nº 2s 2200mah, 2 for the receiver and 1 for the ignition, and a 3s 1000mah for the electric autostart.

The big day came I got the call your model has arrived," But come in your Van." Wow 3 huge boxes. After a coffee or I think two, off I went back to the workshop. First job was to lay everything out as I always do so as to check every part, I'm very lucky as I have an 8 foot x 20 foot work bench in the middle of my workshop, So having all the parts out in front of me it is easy to check fit and finish of everything. Yes, apart from the odd wrinkle in the covering which is easily put right with an iron, everything was perfect - typical Hangar 9.

The build was very quick as all the control surfaces come pre fixed with good quality hinges and 3mm ball joints, all that needs to be done is to screw the servos in. Something I do regarding the servos, is to screw them in and then take them out, then I put a couple of drops of very thin cyano into each of the holes and leave to fully cure overnight, allowing the cyano to soak in. Then when you put the screws back in the wood is so much stronger and is less likely to strip. Very soon the main airframe was together leaving just the engine, starter and exhaust.

As with the fitting of all the servos the EME 60 engine with full autostart was soon fitted. But as Hangar 9 recommend their Evo engine, there were some very slight modifications needed. The canister exhaust fitted perfectly. What I didn't like was the manifold as I thought that it would poke out of the cowl to much so I completely modified it and re braised it all back together so as to fit nicer within the cowl. Not to many evenings later the Inverza was nearing its completion and so it was time to hang it up in the workshop fully assembled hanging exactly on its CG so I could fit the batteries. I build all my models like this as I don't like to use any lead, most times I can move things around so as to achieve the correct CG without using any lead.

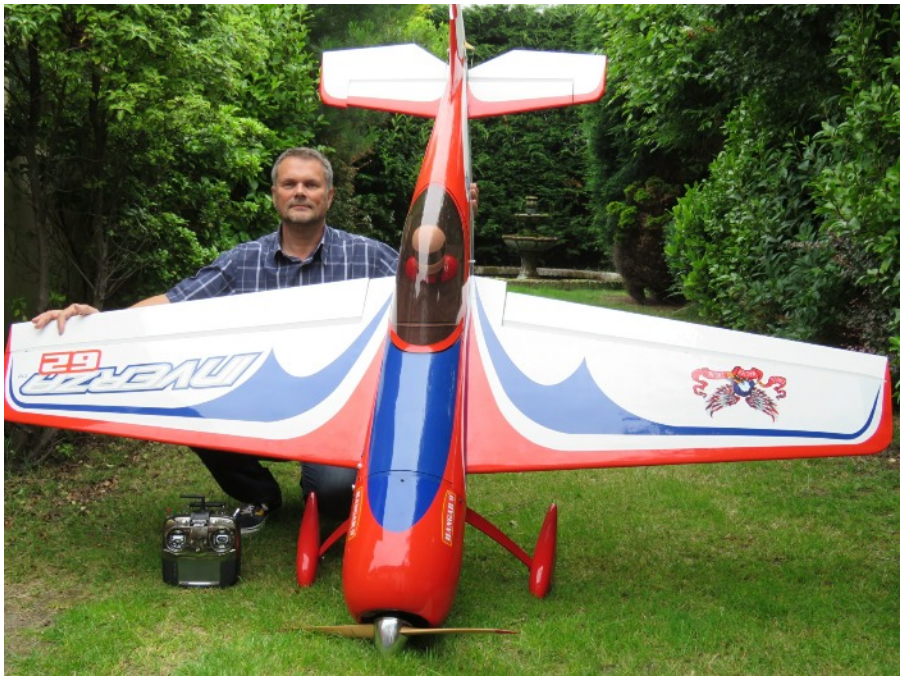
Inverza 62

August 2016

Article and pictures by Jim Sheldon

Another evening to go over absolutely everything every single screw, nut and bolt checking everything and then checking it again. Then it was time to set up all the throws, I always go with the recommended throws but having dual rates set with less and more, so on the first flight I have got plenty of options.

Another evening and yes more checking, I again check every single part, taking the cowl off checking absolutely everything it's just something that I actually like to do. Especially because this is such a large and expensive model, but I am the same with all of my models.



The time came to start the engine so the wings were put on and the model was restrained and a fire extinguisher was close by. Just a point that I always run the engine with the wings on as it puts less stress on the fuselage. Put the choke on and push the button on the transmitter and within 3 seconds the engine was running. The engine seemed to run and pick up fine so no adjustments were made to the mixture settings.

Saturday came and it was a lovely clear day with 9 mph wind straight up and down the strip, so everything charged off I went.

The first flight was a joy absolutely no problems, it was off after around 20 foot and only needed one third throttle. One click on the elevator and one or two clicks on aileron was all that was needed. I flew steady circuits on a third to half throttle. After around 6 mins

Inverza 62

August 2016

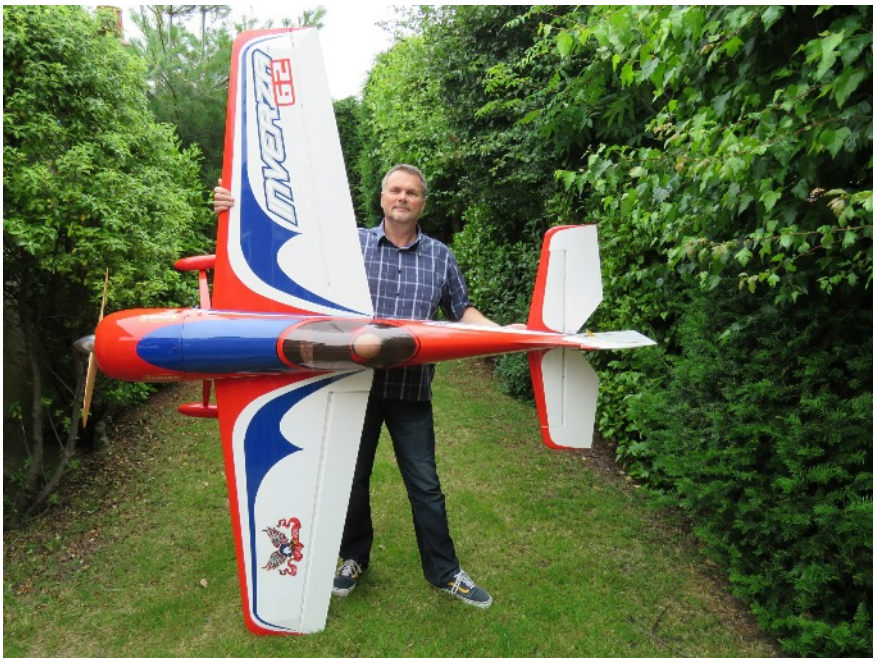
Article and pictures by Jim Sheldon

I thought I would try a landing approach and then go around for a landing. The model came in so nice and floaty that I landed without the trial approach.

The second flight was much of the same, only this time I tried reversals, loops slow roles etc and it is absolutely fantastic I love it.

After the second flight as with any of my new models I like to put them back in the workshop for yes you have guessed a full check over. Checking engine mounts exhaust mounts and every single nut bolt and screw.

Since then I have had over 20 flights with the Inverza 62 and I am really enjoying it, all I have done is to adjust the CG so as to suit my type of flying and slightly adjusted the high end carb settings by about 1/6". I really like the colour scheme the shape and how it performs there is nothing I don't like about it.



Also something I have not mentioned is that I have been curious about Gyro's hearing that more and more people are using them so yes, I have also fitted a Demon Cortex Gyro. It is on a switch on My transmitter so that I can switch it on or off and I can also adjust the gain in fight. It is early days yet but once I have fully tried and tested it I will do a little article with hopefully some good answers. What does it do? Does it fly any better? Does it fly in knife edge on its own? Does it do prop hanging? All these questions I hear members talking about. I will let you know what I think.

Thanks to Steve(propGuy) for recommending a great model and thanks for all your help with the EME 60 and Autostart, Fantastic.

TX Setup - 2

August 2016

Article by Brian Holdsworth

Where an engine is used, the servo throws need to be setup to match the throttle movement. When the throttle barrel is half open, the arm needs to be at right angles to the linkage - it seems fairly common for this to require adjustment. Many carburettors still use a throttle stop, limiting low throttle movement, which may need adjustment to allow the barrel to close fully so that the engine can be stopped from the transmitter (desirable for convenience and safety). This stop became redundant over 40 years ago when proportional radio control became practicable and universal, but many manufacturers do not seem to have realised! Generally, the outside hole should be used on the throttle arm and a middle hole on the servo arm to maximise mechanical advantage. The linkage may require adjustment (bending etc) to allow free movement over its full range - any binding will result in servo buzzing, amplifier overheating and possible failure.

Initial linkage length is set such that the barrel is half open at mid throttle stick position and hence centred servo arm position. Full throttle servo travel is adjusted so that the barrel is fully open but the servo is not stalled - set it just before the point where barrel movement stops. Low throttle travel is adjusted so that the throttle barrel is almost closed - set to just close the barrel at low throttle stick and low trim, ensuring that the barrel can close a little more so that the servo is not stalled. The throttle trim only affects servo positions below mid throttle so that full throttle is unaffected. Some "clone" engines, such as many of the SC brand, may need a setting such that the throttle barrel is beyond closed at low trim. For optimum throttle response, the travels need to match within about 10%, and should not be more than 100% or lower than about 80%. This may be achieved by using a suitable hole in the throttle servo arm and setting linkage length as required. Final adjustments are made with the engine running to achieve a reliable idle. The throttle trim needs to be no lower than its mid position to allow sufficient barrel movement below the idle setting to stop the engine quickly from the transmitter.

The engine may be stopped by moving the throttle trim to its lowest position, but this has the disadvantage of disturbing the carefully adjusted idle setting. Some transmitters use a technique where the throttle trim button is held low until the engine stops when an immediate click to full restores the original setting. Usually, a separate "Throttle Cut" function is available using a dedicated button or a user-defined switch enabled by a menu function. Some manuals claim that, to reduce inadvertent operation, this function only operates near low throttle stick position, but reality can be different - testing is advised!

TX Setup - 2 Continued/..

Article by Brian Holdsworth

The Trainer switch is often a convenient choice, since its spring-loaded operation avoids the embarrassment of being unable to start the engine if the switch is inadvertently left in the stop position! Obviously, another switch must be used if the Trainer function is enabled. If it is required to stop the engine in flight, perhaps for hand-launched models to reduce the risk of breaking the rotating propeller or damaging the engine on belly-landing, holding the Trainer switch for the extended period needed while the engine stops in the airflow would be awkward so that another switch would be more convenient.

When aerobatics are intended, it is common for the idle speed to be set relatively high to reduce the risk of the engine stopping in flight. Especially with a new engine, it is generally preferable to set a relatively rich mixture to avoid the engine running lean in flight with consequent potential for damage; towards the end of the flight, as the fuel level drops, the mixture often leans out, increasing the idle speed, so that a setting which seemed reasonable before the flight becomes too fast at its end. A fast idle can cause problems when landing where the residual thrust results in a very flat approach or may even be sufficient to allow a climb.

The throttle trim could be lowered in flight to reduce the idle speed, but this is inconvenient with the potential for excessive change stopping the engine. However, stopping the engine for a dead-stick landing may be needed if no other option is available - waiting for the fuel to run out can be tedious, and the engine is liable to stop at an inconvenient moment! Some transmitters have an option "Idle-Down" or similar where a switch may be operated to lower the idle setting by a user-defined amount. A free mixer may be used to achieve this by mixng throttle to throttle for positions below mid-stick when a suitable switch is operated, with a small mixing value adjusted appropriately; however, some sets do not allow a channel to be mixed to itself. In both, full throttle operation would be unaffected allowing overshoot if required. The "Throttle Cut" function could be set to produce a switched low idle but should be used for its intended purpose, especially as opening the throttle for an overshoot would not be possible without cancelling the selection which is easy to forget!

Increasingly, switched Throttle Curves are available allowing the barrel position to vary non-linearly with stick position; optionally, the curve may be smoothed to avoid sudden changes at the transition points. This could be useful for aerobatics etc to give a defined

TX Setup - 2 Continued/..

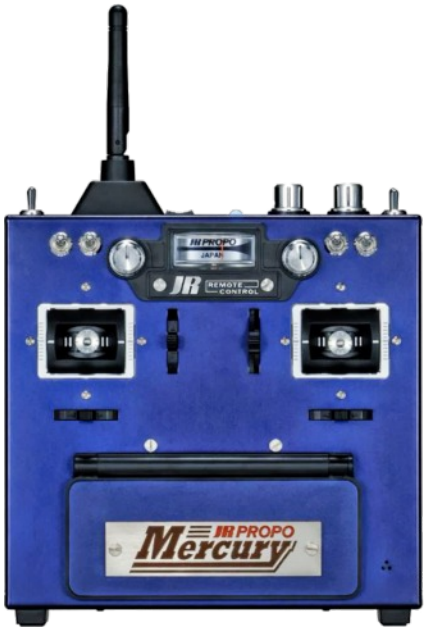
Article by Brian Holdsworth

throttle setting over a range of stick positions which can simplify usage. However, it can be difficult to setup and may be confusing near the points in practice. A curve may be used to produce a lower idle for landing as above, but the other options are generally simpler.

A few transmitters have an option "Throttle-Needle" or similar, using an additional channel and servo to allow the needle valve setting to be changed as the throttle is altered. A momentary change in setting can also be setup taking effect during fast stick movement. This is intended to improve throttle response in extreme usage but is rarely used, especially as the required needle valve assemblies are very expensive (if available) and setup is difficult.

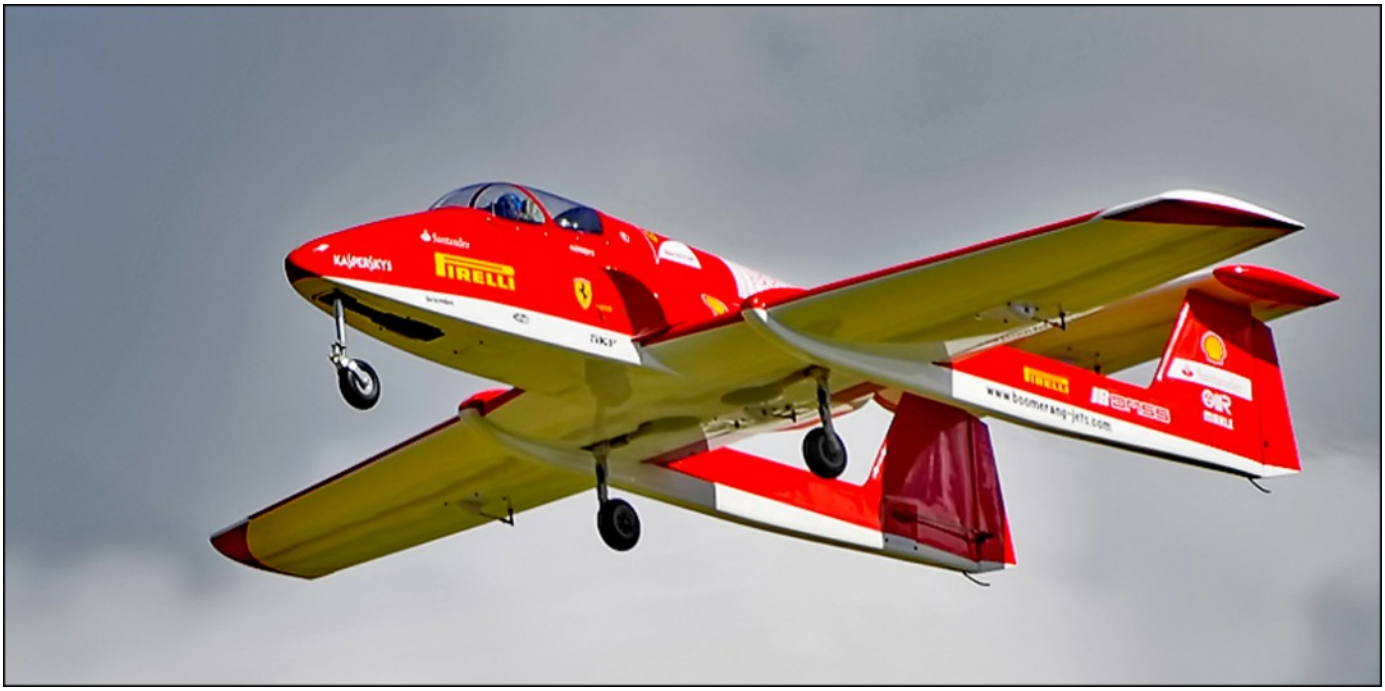
"Throttle Delay" or similar may be available which would allow the throttle response to be slowed, perhaps to simulate the slow response typical of jet engines. Where an electric motor is used with a gearbox, the maximum response may need to be limited to avoid damage, but this is usually better achieved via ESC options.

There may be a function "ATL" or similar which would allow the throttle trim to be effective at all stick positions rather than the default of only below mid position. This could be useful where the throttle stick is used for other purposes.

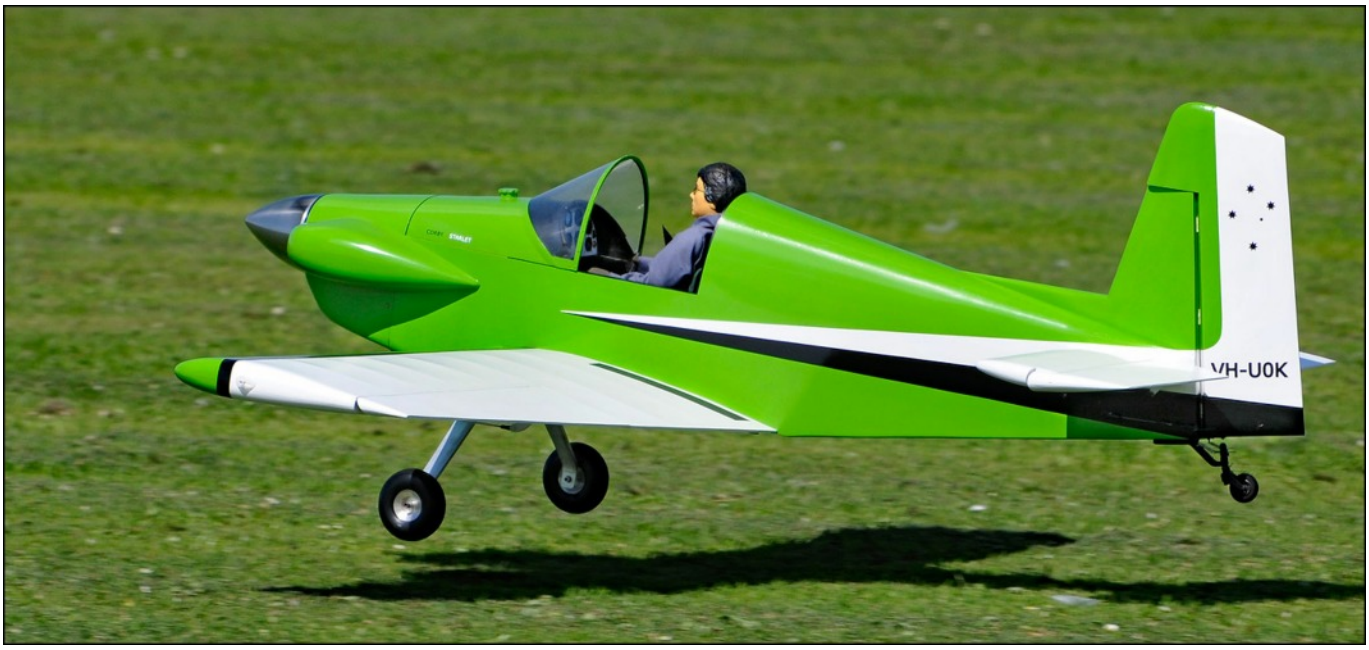


Scene at the Field

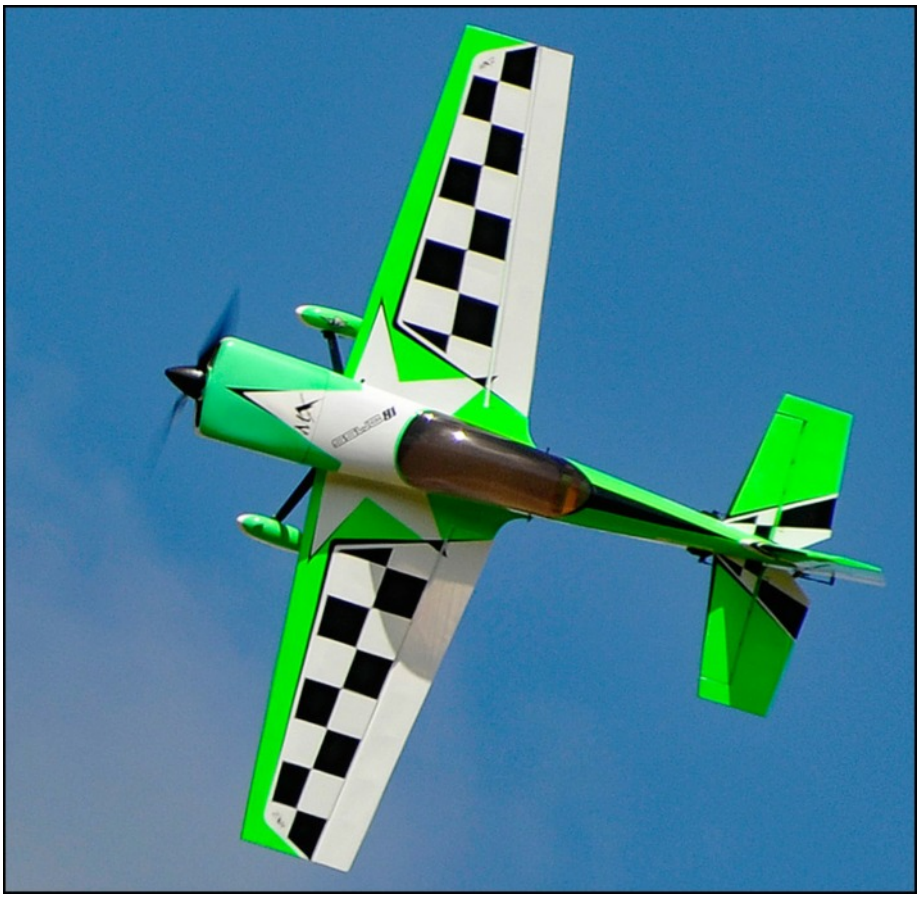
August 2016



Another shot of Jim Sheldon's immaculate Boomerang

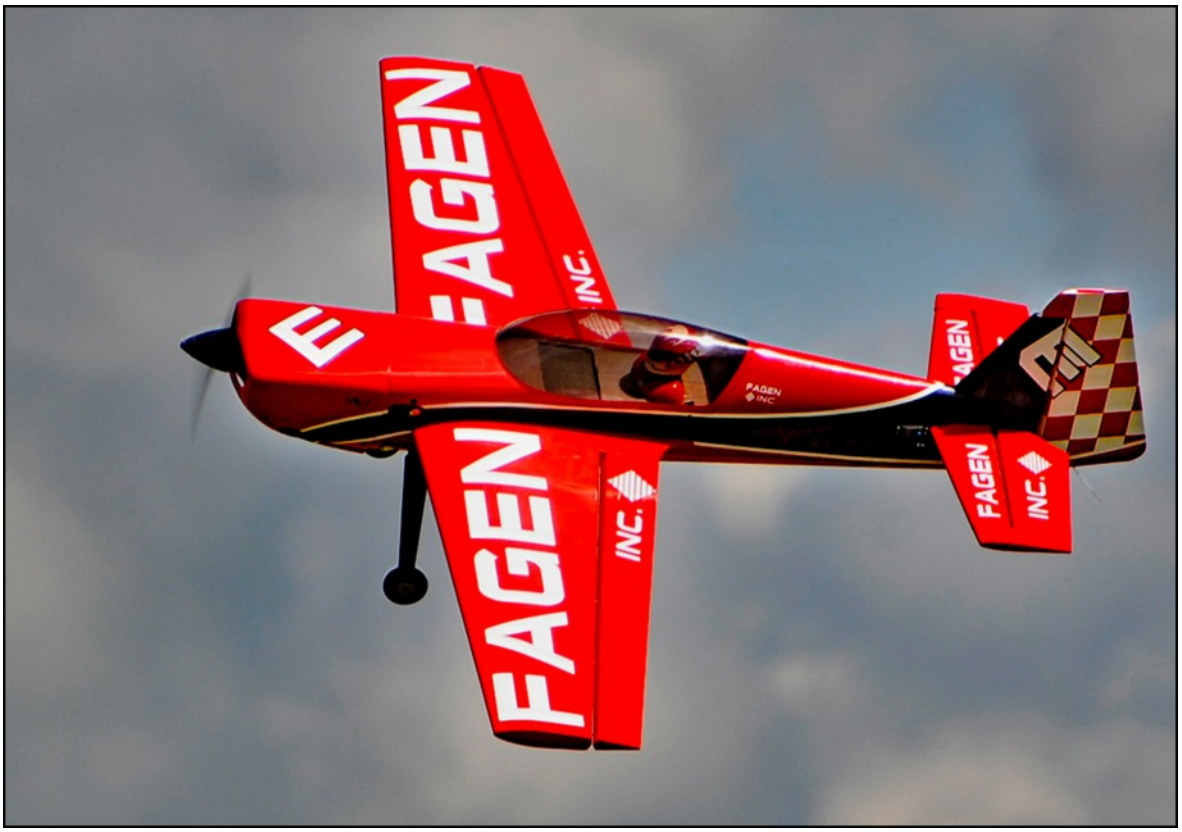


Mr Higgins going up for another perfect flight with his Corby Starlet



This was Allan Bates flying the MXS - he was doing dead steady slow rolls and long passes in Knife Edge

This is Paul's petrol model Fagen - lovely model - always looks good



Social Calendar/Shows for 2016

TRAINING NIGHTS

These are 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. The winds seem to subside as the evening develops. It's a great time to fly.

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

LMA show at Much Marcle, Herefordshire 3rd and 4th September

In Conclusion

Well guys, that's it for another month. There should be good weather restored to us by Bank Holiday Monday if we are to believe the forecasts. We certainly can't complain that we haven't enjoyed some good weather this year.

Thanks to Jim Sheldon - that really is an excellent article. Please let me know when you are going to fly it - I'll bring my camera - if you want really decent shots, speak to Jake. Thanks also to Brian for another highly informative article on something which affects every one of us. Thanks to Mark Tomlinson - I was very impressed and those shots you took are amazing. Thanks to all you guys at Elvington - not just the pilots - Tank Dave and Jake, Julie and Jane - you all made that weekend special. Lastly we must send a tweet to our very own Will Sparrow.

So, happy and safe flying to you all.