



Bristol Radio Control Model Aircraft Club (BRCMAC)

November 2013 Newsletter

Chairman's Chat

Welcome to our fifth newsletter this year, we have had some reasonable flying weather, but sadly winter has now arrived. So it will probably mean more work in the shed than flying.

We have had an interesting year and a lot of input from members helping out at functions and emailing articles to keep this newsletter going. Thanks for all your support, please keep assisting, we can never have too much help in this area.

We held a successful Franklin Trophy, with a reasonable attendance from our members, more of this from Peter Bennett in this newsletter.

We also held an auction of planes that were donated to the club, these were all sold, save for a small mossie, which will be offered at the AGM. We also retained one Super 60 as a club trainer (to be serviced first) and an electric R.C. Macaw parrot retained as a club mascot.

John Harris first tested the parrot for us which proved unstable; subsequent alteration of motor down thrust by John Paton corrected this and John Harris test flew it again. It is great fun to see a large brightly coloured parrot flying around our strip; it also comes with two long tail feathers however John Harris warned us not to insert these tail feathers up its rear end. I thought this was because it would unbalance the C of G, but John said it was because the parrot would get p****d off.

No doubt you will see this flying again in the future (without its tail).

Hope to see you at the AGM

Ian Ferrari

Franklin Trophy – Results & Photos

This year there were three trophies up for grabs: the original Franklin Trophy for best overall, The Wilkins Cup for highest placed 'A' pilot, and this year we have added the Carol Cup for the highest placed ARTF model and pilot.

Unfortunately the poor weather delayed this year's event by a week which probably affected the turnout which was marginally lower than had been hoped for. Nevertheless a good time was had by the seven club members who took part and the nine members who submitted voting slips. Thank you to all. Here are the photos – enjoy:





The final placings were as follows:

Place	Pilot Name	Aircraft	A' Pilot	ARTF	Static	Flying	Total
1	Martin Fardell	Armstrong Whitworth Argosy			22	22	44
2	Peter Bennett	Westland Whirlwind			18	15	33
2	Doug Paul	Piper Pawnee	✓	✓	7	26	33
4	Patrick Rowe	Extra 260	✓	✓	2	18	20
5	Ian Ferrari	DH Tiger Moth	✓	✓	1	4	5
6	Alan Marshall	Supermarine Spitfire Mk1A	✓	✓	2	-	2
7	John Patton	Cessna Skyline	✓	✓	-	-	0

Peter Bennett

Westland Whirlwind



This is the first of a two-part article in which Peter Bennett describes the background and build of his electric twin WWII fighter.

The Plane



The Westland Whirlwind was designed to meet a 1935 Air Ministry requirement F37/35 for a heavily armed single seat fighter.

The design team at Westland was lead by WEW 'Teddy' Petter, who later went on to design the Folland Gnat, English Electric Canberra and ultimately the Lightning. He came up with an attractive design that featured twin Rolls Royce Peregrine engines, four nose-mounted Hispano canons, a high 'T' tail configuration, and a bubble top canopy that gave the pilot excellent all-round vision. The Whirlwind was a very innovative design for the time and many of

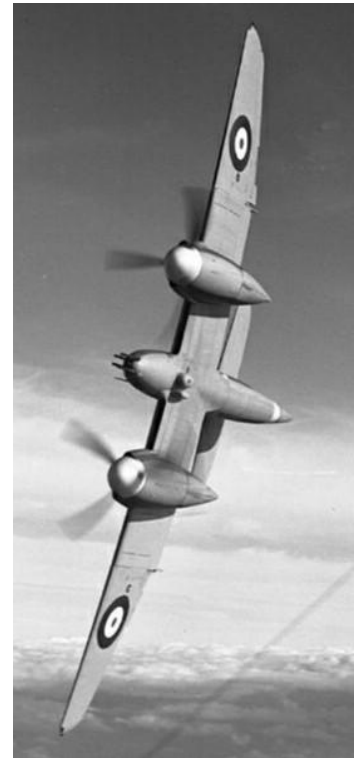
these features were 'firsts' for its day, pre-dating the Bristol Beaufighter and DH Mosquito by several years.

The Westland P9 prototype made its maiden flight on 11th October 1938. Following a fairly lengthy development period Westland began delivering production aircraft to the RAF from May 1940 onwards. Due to a political decision by the Air Ministry to enable Westlands to concentrate its production efforts on the Army Co-operation aircraft, the Westland Lysander (which in the end proved misguided because nobody really wanted it), they gave an instruction to Rolls Royce not to continue production of the its Peregrine engines and to concentrate all its efforts on Merlin production. As a result, with no prospect of further engine development the initial order for 200 Whirlwinds was cancelled. As Westland had by that time produced numerous components for the Whirlwind the contract was later reinstated but limited to just 114 aircraft. In practice this was only enough to equip two squadrons.

The Rolls Royce Peregrine engine was the final development of the Kestrel line of engines that powered the successful Hawker Hart series of aircraft. However, this choice ultimately proved to be a weak point in the Whirlwind design. Its performance at higher altitudes was not good compared with British and German single seat fighters of the time. Without the prospect of further engine development, such as adding a two-stage turbo charger, the Whirlwind's combat role was limited to low to medium altitudes.

Despite its limited numbers and lack of development, the Whirlwind went on to do good work in intercepting low flying lone ranger German intruders in the early part of the war and, following the fitting of under-wing bomb carriers, performed well in the ground attack role up to the time it was taken out of service, the last aircraft being struck off charge in December 1943. One example was retained by Westland for a few years after the war but was unceremoniously scrapped in 1947. No examples of this attractive groundbreaking fighter survive.

In my view, it was a much underrated aircraft that had many attractive features that would make a good model.



The Model

A couple of years ago while attending the Nationals, in a moment of weakness I found myself purchasing the Cloud Models hand launched 49" wingspan semi-scale Whirlwind kit intended for 3 channels only. It featured veneered covered foam wings, twin 400 can electric motors controlled by a single ESC, running off a 7-cell NiCad battery pack. Not having built or flown any electric aircraft at that time, I put the kit to one side pending acquiring some experience on Electrics beforehand. Two years later with a small ARTF electric Sukhoi under my belt, I felt the time was right to open the box and have another look at the Whirlwind.

The kit contents included building instructions, a veneered foam wing centre section and two outer panels with built-in wash out, ABS plastic turtle deck and fin, ABS engine nacelles and fuselage nose, balsa strip and sheet material for fuselage sides and tail plane, a clear moulded canopy, and a bag of small screws and fittings.

It does not come with a detailed plan, just a set of typed instructions and a few assembly diagrams. The instructions are, in truth, a bit basic with little or no punctuation throughout. In order to make sense of many sections, I had to first go through and insert full stops and capital letters! That aside, the build is fairly straight forward. However, I did depart from the instructions in several ways.

Motors and Batteries

Firstly, I decided to upgrade the power units to brushless out runners running off a 3-cell 11.1V LiPo battery. This set up required the use of two SECs, one for each motor. I also wanted to use fixed three-blade props rather than two-blade folders as recommended in the instructions. I felt they would look much more realistic.

The motor upgrade required me to design and build custom made mounting boxes that I was able to graft onto the front of the Engine nacelle internal structure.

'Long Leads'

The LiPo battery is mounted in the nose of the aircraft while the ESCs were mounted immediately behind the motor in each nacelle. The wiring run to each motor was consequently quite long.

On discussing the general wiring arrangement with the esteemed Martin Fardell, he advised that I should look into 'long wires' between batteries and ESCs as, in these situations, the ESCs have been known to fail prematurely. Not pretending to understand anything electronically technical, there are a number of forums on the Internet that discuss this phenomenon in reasonably plain English. If you put "long leads to ESC" into Google you will get several forums coming up, all saying much the same thing, essentially:

- Long leads will kill the ESC in time
- Capacitors at the ESC are the solution (220 Microfarad per 10cm)
- The capacitors must be low ESR type

In my case the answer to the potential problem was to solder 3 additional 220 Microfarad capacitors across the two supply wires from the battery to each ESC. This will prolong the life of the ESCs. Job done.

Part two of this article will cover the techniques used for manufacturing the spinners, home-made decals, painting, and the first flight.

Site Maintenance

We will need to arrange a small working party to trim the reeds and brambles on the approach to our strip as soon as the weather improves. If you are available week-days, please drop an email to Ian Ferrari.

AGM – Thursday 5th December

Don't forget the AGM, 8.00pm on 6th December, in the function room at the Swan Public House Thornbury. We need you there to ensure continued operation of our club.

Charging Station

Our charging unit is now operational for members to top up their flight batteries, or you can charge up to 3S power packs. You need to bring your own charger

For Sale - ParkZone Mosquito

One model left over from the auction of models mentioned in the Chairman's Chat, a boxed Parkzone Mosquito, will be auctioned off at the AGM with the proceeds going to the Club funds. Don't forget to bring your pennies!

Where space permits we will publish any items for sale that members may have.

External Events

There is always a risk with publishing dates and locations of external events especially with the unpredictable British weather and other economic considerations. The most reliable source of information is either the BMFA web site or local club web sites prior to travelling.

Annual Dinner

The Club held its annual dinner at the Swan Inn, Thornbury, on the first Saturday in November with a total of 33 persons attending. Judging by the photos a good time was had.



Car Parking

Just a reminder to all that cars must be parked on the designated parking area at the top of the field and not parked close to day side bridge.

Rules of the Air

Every takeoff is optional. Every landing is mandatory.

If you push the stick forward, the houses get bigger. Pull the stick back, they get smaller. That is unless you keep pulling the stick all the way back then they get bigger again.

Flying is not dangerous. Crashing is dangerous.

It is always better to be down here wishing you were up there than up there wishing you were down here.

The only time you have too much fuel is when you are on fire.

The propeller is just a big fan to keep the pilot cool. When it stops you can actually see the pilot start sweating.

When in doubt hold your altitude. No one has ever collided with the sky.

A good landing is one from which you can walk away. A great landing is one after which the aircraft can be used again.

Learn from the mistakes of others. You will not live long enough to make all of them yourself.

You know if you have landed with the wheels up if it takes full power to taxi to the ramp.

The probability of survival is inversely proportional to the angle of arrival. The larger angle of arrival the smaller the probability of survival, and vice versa.

Never let the aircraft take you somewhere your brain didn't get to five minutes earlier.

Stay out of clouds. The silver lining everyone keeps talking about might be another aircraft coming in the opposite direction. Reliable sources also report that mountains have been known to hide in clouds.

Always try to keep the number of landings equal to the number of takeoffs.

There are three simple rules for ensuring a smooth landing. Unfortunately, no one knows what they are.

You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.

Helicopters can't fly; they're just so ugly the earth repels them.

If all you can see out of the window is ground that's going round and round and all you can hear are screams from your passengers then things are not as they should be.

In the ongoing battle between objects made of aluminium going at hundreds of miles per hour and the ground at zero miles per hour, the ground has yet to lose.

Good judgment comes from experience. Unfortunately, the experience usually comes from poor judgment.

It is always a good idea to keep the pointed end going forward as much as possible.

Keep looking around. There is always something you have missed.

Gravity is not just a good idea it is the law and not subject to repeal.

The three most useless things to a pilot are altitude above you, the runway behind you and a tenth of a second ago.

There are old pilots and bold pilots. There no old bold pilots.

Future News letters

To make future Newsletters interesting your articles or stories (visits to shows or exhibitions, model builds, flying experiences, modelling techniques etc.) for sales and anything not necessarily model aircraft related will be most welcome and should be forwarded to secretary@brcmac.org.uk for inclusion as appropriate.

**Peter Bennett
Acting Editor**