



# NEWSLETTER



Editor : Bob Young  
December 2005

## SUBSCRIPTION FOR 2006 MEMBERSHIP

The club membership subscription for 2006 will be £60 (Juniors £30), a reduction of £5 from last year's figure. BMFA membership has been set at £26 for adults and £14 for juniors, an increase of £2 for Seniors and £1 for Juniors on last year. So when you come to the **Annual General Meeting on Thursday evening, December 8th, at the Battle of Britain Club**, please bring a cheque or the EXACT AMOUNT in cash, to speed the collection process. If your BMFA membership is obtained elsewhere, please bring your membership card and/or a note of your membership number. Anyone who joined the BMFA during the year and possesses a pink credit note should bring that as well. Alternatively you may send your cheque, payable to the West London MAC, to treasurer Peter Nielsen at 176, Cherry Tree Road, Beaconsfield, HP9 1BA. Telephone 01494 675716. There will be drink and food on the house as usual.

Peter Nielsen



*A sunny November day at Harefield*

Tony Taylor



*Talking of shockwaves (last newsletter) how about this "Blue Angel" F/A 18 Hornet!*

## CLUB MEMBER WINS RCM&E PRIZE

WLMAC member Bob Howard was the winner of the RCM&E magazine's regular photo competition "Pilots' Pictorial" with his neat digital picture of Michael Sullivan's Comper Swift about to touch down. His prize was an ARTF Piper Cherokee with an Evolution .46 two stroke engine to power it. Mike's Comper, a semi-scale job "guesstimated" from photographs of the little 1930's racer, is eleven years old and wears the engraved brass plaque from the trophy it won at our Scale Day in 1994. Twice re-covered with Solartex in its life and powered by an OS 52 FS it has been no stranger to Harefield.

*Mike Sullivan*



**Brentford Radio Control Centre** — have a number of Christmas Specials which are shown on their Website: [www.brentfordrc.co.uk](http://www.brentfordrc.co.uk)

## MY FIRST JET — BY ANDY HOPPER

I have for a long time had a fascination with the modern model turbines, but have been put off by the complexity, size and costs of the turbines and models, and the need for specialised sites, however when a friend rang me to say that he knew of a nearly new Wren MW44 turbine for sale, at a reasonable price, I could not resist going to look at it, and if you are anything like me, it was probably a forgone conclusion that I would end up buying it.

So here I am, with a very beautiful (expensive) new toy, what shall I do with it. I started to research on the phone and the internet for a suitable air-frame, I had a very clear picture of what I needed, small lightweight aeroplane, suitable for the limited thrust of just 7 pounds, able to fly from a club grass strip, easy to assemble and service, forgiving to fly, easy to learn turbine flying with, and at a price I could afford, and of course it had to look pleasing. To my surprise there was nothing available, no turbine trainer, for this sized turbine, only a few scale jets.

That's the point at which I decided to design and build my own, below is the design brief that I set myself. I realised early on that it would be foolish to try and fly an untried airframe with a new power source, two unknowns – not a good idea, so the design had to incorporate the facility to fit a Glow motor on the same thrust line to prove the airframe before risking the turbine.

**Criteria.** All up weight to be around 10lbs, this to give a weight to thrust ratio of around 1.5 : 1. Good lifting wing – Semi-symmetrical - a proven aerofoil. Retract U/C with facility to belly land if needed. Able to be fitted with Glow or Turbine with no trim change or major re-work needed. Similar flying characteristics with Glow or Turbine. Good access to inside of model for starting procedures, to ease the learning curve. Air intakes to be over wing to limit foreign object damage. Easy to transport and quick to assemble on site.

### Statistics:

Power	Glow	0.91 with 11x8 prop (pusher)
	Turbine	MW44 Wren.
Wingspan		59 inches
Weight (Dry)	Glow	10lbs (ended up 11lbs)

	Turbine	9.5 lbs
Wing loading		To be less than 30 oz per squ. Ft.
Fuel capacity	Glow	10 oz 10 mins Duration
	Turbine	1 Ltr 10 mins duration (actual duration 15 mins)

The die was cast, shape was the next consideration, the turbine exhaust is in the region of 600 degrees, so you cannot have the tail feathers in the exhaust, which means a Delta, a high tail or twin booms with a high tail, this is option I chose, I like my aeroplanes to look the part, and a swept wing for a jet I think looks good, I wanted the nose to be long enough to house everything without the need to carry lots of ballast, and with all that in mind it creates a shape, the rest is just cosmetics to achieve a pleasing functional aeroplane.

Construction needed to be reasonably quick so I decided on a foam wing, I had the cores cut and veneered from one of the companies who advertise in the back of a magazine, using a band saw I cut slots across the span and inserted 1.5mm plywood full depth spars to give all the hard points

Leon Taylor



for hanging things on, booms, U/C and fuselage, the fuselage sides are made up from a sandwich of Balsa, Carbon tows and 1.5mm ply, to reinforce the length for the nose wheel landing loads, the removable fuselage shell is rolled 3mm Balsa over light ply formers, steaming the balsa and using a plastic drain pipe to set the shape. The booms were cheap GRP fishing landing net handles, covered with 3mm Balsa, probably over engineered, but very strong and light. The fuselage sides and nose area was glassed and Profilm covering used for the rest.

So how does it fly, well actually very well. I had great reservations about the Glow version, it was heavier than I wanted, my first effort proved that



the 1.5 degrees of positive wing to ground incidence for take off was not enough, and it roared across the strip, without leaving the ground, second attempt with a longer nose wheel and shorter main wheels, proved OK, and after about 30 Mtrs she was away, this flight proved the airframe to be as I'd hoped, without any un-foreseen problems (land and go home nothing else needed).

Phase two, at home, by removing just four bolts, and a change of fuel tanks the turbine was installed, this is held in place by just four small wood screws, rather similar to a servo installation through rubber grommets (Approved Wren method). For the next month I learned how to start and run the turbine, I must say that at Wren, both Roger Parish and Mike Murphy were very helpful, and held my hand over the phone, when I was not sure how to do things. It is good to have British design and engineering at the forefront. The day eventually came, when it was time to fly



the beast with the turbine, by now starting and running were familiar, so there was nothing left but to open the tap and let her go, and brother did she go, once again in about 30 Mtrs. she was airborne, now being nearly a kilo lighter than the propeller version, it was much more sprightly, if you pointed it up on full power it just carried on going, just as Mike Murphy had said, I ended up flying it around on around half power, still quite fast, very responsive. I did a few limited aerobatics on that first flight, just to calm me down a bit, after around 6 mins of flying I decided to land, here I broke all my normal rules (still I don't know why) I had not done any stall tests or slow flying checks or practice landings at height, I just went for it – wheels up as planned, not the best landing, far too fast, but under control, it skipped off the end of the mown area and into the rough, luckily only broke a nylon boom bolt, that one flight was enough to send me home, with a very large smile on my face. Was it worth it – You bet, I can't wait to really explore the flying characteristics fully, and practise those landings. Learning the technique of flying a turbine and getting used to the lag in both spool-



ing up and down is going to take a while, I am surprised just how long it takes for the plane to lose speed once you close the throttle. Nose high landings I am sure will be the answer.

Next project, Like most who own the Wren MW44, I intend to build the Scale Savex L39 Albatross jet, but first I have a whole lot of fun ahead.

*Andy Hopper. November 2005.*

See the video of Andy's flight at [www.brentfordrc.co.uk](http://www.brentfordrc.co.uk) in the "Video Vault"