

"Hatband" Coupe d'Hiver**John O'Donnell**

'Coup, as most Americans have come to call this event, has many exponents, but one of the longest practitioners of the model class has been John O'Donnell, and indeed, with this model. The committee salutes this diligent development of a model and the consistently high placing it has had in the event. Plans were not available on short notice, therefore John has given us some insight into matters with his description, below, and photographs which show the models in various attitudes. In one the landing gear is down; another the knee is slightly bent. Here we have a view of the front end and another of the photos gives a good view of the decalage. The underfin is well defined in another photo. We are grateful to John for this general view of British modelling.

The development of this design makes a short story - as I have built but one Coupe d'Hiver model, and that a good many years ago.

Coupe d'Hiver first came to British eyes when "Aeromodeller" featured Derl Morley's "Garter Knight" as the giveaway plan in the December 1961 issue - and announced a postal event for the following February. I decided to try the class. Having mislaid the "Garter Knight" plan, I was forced to design from scratch, and have never regretted it.

Model size was the critical question. Profiting from previous experience of attempting new classes, I decided to draw up a fuselage and prop, and to start by borrowing an existing set of "Jetex" wings and tail.

Layout was the next decision. The cross-section requirement made a pylon more than just a wing mount. My traditional rubber designs have all been diamond pylons - but the meager rubber allowance gave such a short fuselage nose that the upper prop blade would then foul the wing when folding. A slabside pylon layout avoided this trouble - as the use of a freewheeling folder system effectively locked the prop before folding, and the blade tips tucked under the wing without trouble. The pylon also provided a home for ballast and the mechanism of the retracting undercarriage that went with the then three point R.O.G. requirement. Finally, I retained the underfin that I consider improves the flight pattern.

The resultant model was smaller than Morley's design - and had less need to sacrifice motor run to obtain altitude. The "Jetex" wing was 32" span x 4-1/2" chord, with a fairly thin undercambered section. Tailplane was around 33% with a flat bottom section.

This combination proved very satisfactory with an apparent still air performance of 1:55

H. L. in midwinter. It was flown as my first trip to Chavenay in February 1964. An "open" fuselage had been built late in 1963 to borrow the prop and flying surfaces. This was a useful stopgap but was lost in mid 1964. I got the bits back after they had gone through a combine harvester. Miraculously the prop assembly was unmarked.

A few flights with a single blade prop and a 35" x 4-1/2" thick David section wing convinced me that neither were suitable for Coupe d'Hiver.

Consequently, shortly before Chavenay 1965, a new 34" x 4-1/4" wing using the Burrows A/2 section and a 33% undercambered tail were built - for the old fuselage and prop. This was first flown in England, finely trimmed at Chavenay (where it was fourth), and has been flown virtually unchanged ever since. It holds trim remarkably well.

It has been to Chavenay a total of seven times (1964 to 1970 inclusive) with a best position of second in 1966. Since then I have always misjudged the weather, at least once per contest.

Unseasonal (for Coupe d'Hiver) weather at Los Alamitos in 1967 was no obstacle for 2nd in the Dick Black Memorial Event. In England the "Hatband" has "dome me proud" with many successes - including four wins at the major South Midland Rally at Cranfield. Surprisingly, it has only once managed a treble (three two's), and then didn't win the flyoff.

When new, a prop guard attached to the nose-block was used to avoid damage when breaking motors. This was soon superseded by using a hook-on bobbin, and winding without the prop assembly. Eventually the fuselage started to wear with continual motor breaks, and a straightforward winding tube is now employed.

Rubber has always been a problem. The helical 16" x 20" two blade folder was intended to match 6 strands of 6 x 1 mm Pirelli. With first class "thick" pirelli the model is overpowered, and flies easier (and longer) on five strands. Six strands of 1/4" x 1/30" (yes, TS6) were used with success. Present day Pirelli is weaker, thinner, or both; and made up as 6 strands appears just right.

To recap, there is no doubt that the "Hatband", although a "one-off", has been a very good and successful model. I am happy to see it chosen by the N.F.F.S. as "Coupe of the Year".

