HOVERING ABOUT with Jim Morley

THE ELMBRIDGE CLUB SYMPOSIUM at Sandown Park was again the splendid event we all hoped it would be. In spite of their boast otherwise, I still think that the ideal weather conditions over the weekend were due to luck, but their claims that the event is probably the best in the World specialising in models and radio control in particular is undoubtedly due to hard work and the venue.

That the club works hard and to good effect, I am sure nobody would dispute, and there is no doubt that the venue at Sandown Park race course is extremely good — but there is a problem.

Although having the flying demonstrations immediately in front of them is ideal for the spectators, the exhibitors are not so lucky and have to contend with peculiar turbulence caused by the grandstand and an array of awkwardly placed fences, flag poles, filming platforms, aerials and posts. If that wasn't bad enough, they're not supposed to walk on the grass, this does happen, it would be asking too much not to, but there were places where you couldn't and fuelling up was forbidden on the hallowed turf that only horses can do literally what they like on!

All this made the demonstrations a little fraught, particularly for the fixed wing flyers who need a long runway. The 'hallowed turf' was of meadow variety, not lawn, and although a boarded runway had been laid down, it was really only suitable for VTOL.

Helicopters were therefore at a tremendous advantage and were ably demonstrated by several exhibitors as well as the three helicopter 'specialists' present.

One way of putting it would be to say that the show was a month too early for *Morley Helicopters*! The new Mk 3 or *Hughes* 300 was on show but with a few obviously non-production fittings. Similarly the *Augusta* 109 was incomplete, although it was only intended to have this available as a shell for custom builders until a kit is organised later on. The plug for this attractive model was carved by Andy Hopkins and the shells made by *Clive Hall Models*. They show a new standard for quality and detail to helicopter fuselages. Will be available from him direct on order to *Morley Helicopters*.

Also on show was the 'Sea King' fuselage which is now available. This is made by *Preston Model Centre* and will be marketed as a kit later in the year, the new fuselage is very much lighter than the one that formed the basis of the prototype shown in this column two years ago. These are now very nicely made.

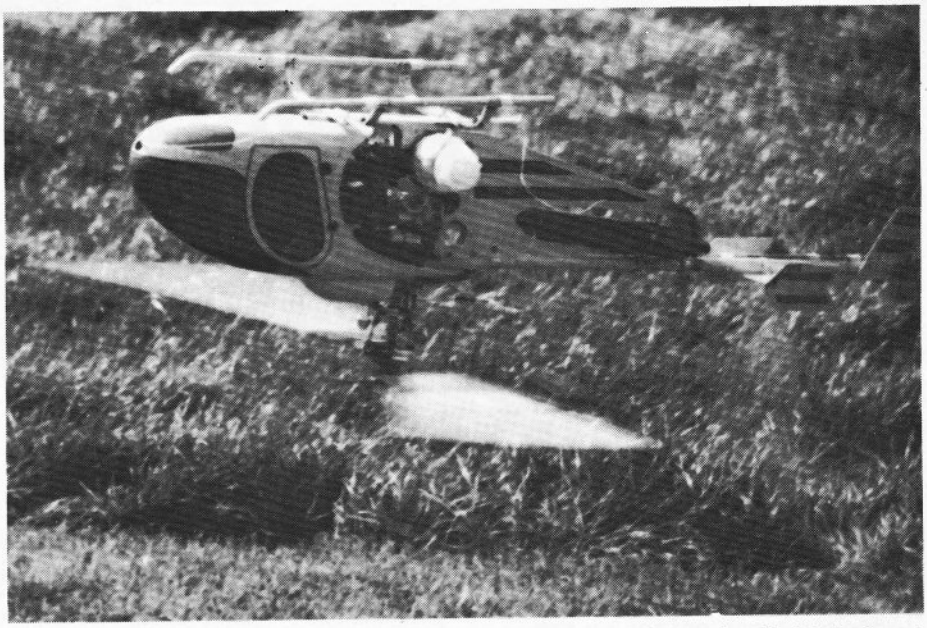
The old faithful Mk 2c could well be given an extra boost by the availability of a ready-built tail boom. Spot welded and stove enamelled in white.

Slough R/C had a little of the same trouble. that is the show came too early to show off to the full the new 'Chinook' and also the petrol *Bell* 47G made around the petrol 'Baron 50', or is it a 'Baron 136'? That is what a 22cc engine would be in the same language. *Slough* were, of course, fully prepared with their established *Kalt* range and even flew inverted with the 'Baron 50'.

Dave Nieman has now added to his *Hirobo* range the KKK *Hughes* 300 and flew the petrol engined version. This must be about 1/5th scale, the same as the *Hirobo* 'Bell 47G' which now complements the 'Lama' for those who like big models. The power kit, complete with pull start and enclosed clutch unit is available separately and was a very attractive and neat unit.

Watford Models showed a new shape for the 'Star Ranger', namely the *Wik* 'Bolkow' fuselage, which, strange to relate in fullsize form is a very aerobatic helicopter so it could look the part.

Micro-Mold now at last have the 'Autogyro' to supplement the 'Lark' for eligibility in this column and Roy Sturman offered to demonstrate the niceties of setting them up. Must take him up on that one day.



At Stoneleigh, during the Model Craft and Country Show, Len Mount flew his modified 'Heliboy' in awe inspiring fashion.

Model Craft and Country Show

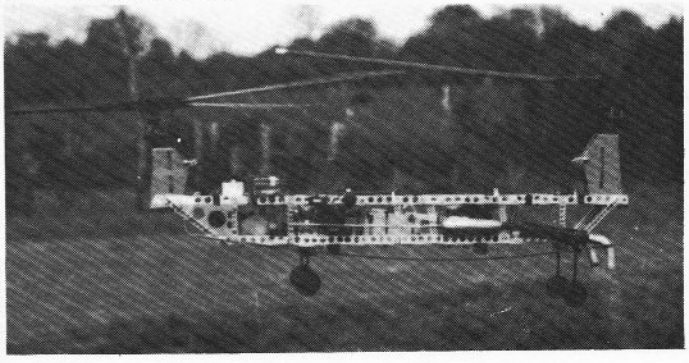
This event could well turn into the major event in the Midlands for our hobby. Organised jointly as it was by Model and Allied Publications and the Royal Agricultural Society at the Royal Showground at Stoneleigh, Kenilworth, it had a similarity to the Model Engineer Exhibition and the Sandown Park Symposium.

The Royal Agricultural Showground has a wealth of facilities for this sort of event, cars, boats, crafts, models, model engineering and trade stands all were comfortably catered for within the area but the flying site left something to be desired in the inclement weather. A great shame this, the gusty conditions limiting even Len Mount's helicopter but his 'falling leaf' manoeuvre and inverted flying under the trees provided reliable entertainment for the crowd.

1/1 Models

Guy Meech's *Rotorway* 'Executive' which this column reported upon some 12 months ago in the construction stages. Now the almost ready to go, in fact it would have been flown by now if one of the valve caps hadn't broken up in an engine run, demanding a strip down and good deal of moral maintaining. Guy says that the final stages are very

Left: Rotorway *'Executive' built by Guy Meech. The ultimate in DIY helicopters, beautifully made. Will be flying soon. Below: John Barrow took the first comments on tandem rotors in this column to heart. Produced this bigger, twin-engined, three blade rotor model with gyro on differential collective. Very promising.*



demanding from the determination point of view without that sort of fault. Pioneers have problems. I hope that Guy's magnificent effort and workmanship are allowed to be fulfilling in the end.

I am also watching with great interest another 1/1 model, this time a scratch built job. Smaller and a single seater powered by a motorcycle engine. Will keep you informed.

Hovering around the World

A letter from John Swales in New Zealand tells me that an established hard core of enthusiasts meet up every few months from throughout North Island. Over the last 18 months a lot of new machinery has appeared, but apparently there is a marked reluctance to use it because of the cost. He apparently uses the 'Hovering About' string method of training on other people using his own *Morley* 2c. Now that is courageous, but he did write mostly because he's doing a rebuild.

Skybirds Club, in Belgium, tell me that with great regret they are unable to hold the 'Eurocup 1982'. You may remember that in the 1981 Vilvoorde event it was said that they would lose their flying site to a string of electricity pylons, and in spite of every possible effort they have been unable to find a suitable place in time. They hope to welcome us to the 1983 event.

Another regret is that, although I thought an addition could be added to the last 'Hovering About' to publicise the Torbay Helicopter Club event on June 13th, it obviously didn't quite make it. The lead time with a magazine, as opposed to a newspaper, must be appreciated by Club PR Secretaries and for the 'Going Places' column, the Editor must receive notification in writing. My apologies to Torbay.

In good time is notification of the Bretons meeting at Hornchurch, Essex on September 12th. Make a note of that, the event is at the Breton's Sports and Social Centre grounds on the Upper Rainham Road. A must for all helicopter enthusiasts. Camping facilities on the night before. Contact is Brian Davies, Chelmsford 441966.

John Griffiths and I have yet to finalise the date of the Slough meeting but it will be in late September or early October. Notification in next 'Hovering About'.

Needing support, and offering a good return, is Eric Kenlay of the Manchester Model & Crafts Society. He has a large classroom available a lot of times, with lathes, drills, mills, etc. AND a large grass covered field suitable for model helicopter flying. His telephone number is 061-205 1338. Do take advantage of this or the facility may be lost.

Gyro modifications

John Bottomley writes from Salisbury:

"My colleague Keith Thurlow and I tried for 12 months to achieve some kind of mastery of R/C model helicopters. The main problem was control of the tail-rotor — which caused numerous crashes and very little actual airtime.

We both decided to buy the World Electronics Gyro system, and this led to successful hovering for Keith, and my first circuits. However, a small disadvantage was noted — i.e. the more authority the gyro had — the less the Tx had.

Also, at about this time the RCM&E Gyro (January 1982 edition) was published. Two electronic circuits detailed in the article were quickly built and substituted for the World Electronics mixers. This modification removed the lack of Tx authority at maximum gyro.

We both felt that the mechanics of the gyro could be improved to increase the responsiveness of the system. Preliminary checks were carried out using a Kavan Gyro in lieu of SLM unit — this confirmed our thoughts and we therefore decided to modify the SLM unit. The modifications took the form of larger flywheel and balance weight — details of which are shown in the accompanying drawings. (Fig. 2). Also included are details of the disassembly and re-assembly sequences. Further flight testing has shown a greatly increased responsiveness, subjectively on a par with the sophisticated *Futaba* unit. The only slight disadvantage is a slight increase in current consumption.

A final word of warning here, regarding the airborne battery pack is in order. When flying a helicopter the servos are in fairly constant operation and the gyro is equivalent to a fifth servo continuously running.

Using a 'Bat-Stat' the airborne pack is unsafe for flight after 30-40 minutes' continuous operation (i.e. two-three tanks of fuel) after previously being fully charged. This will obviously vary with different systems and servo set-ups.

Finally, if there is anyone who would like to incorporate the above modifications, but cannot do the machining, a few sets of parts could be made available."

Fig. 1. Fitting details

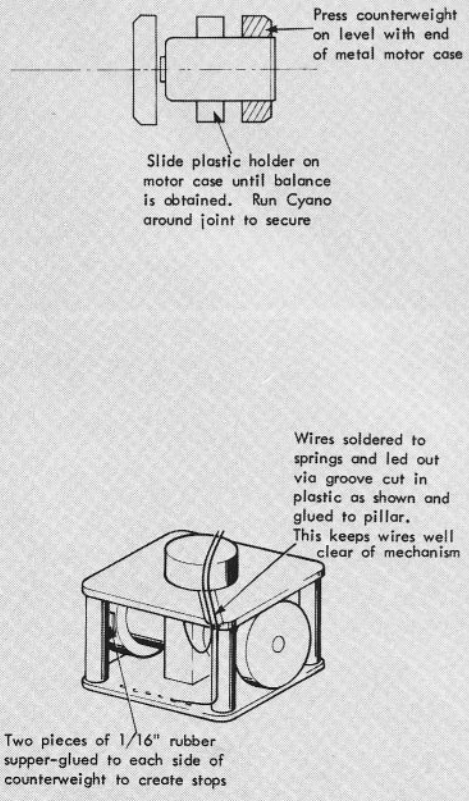
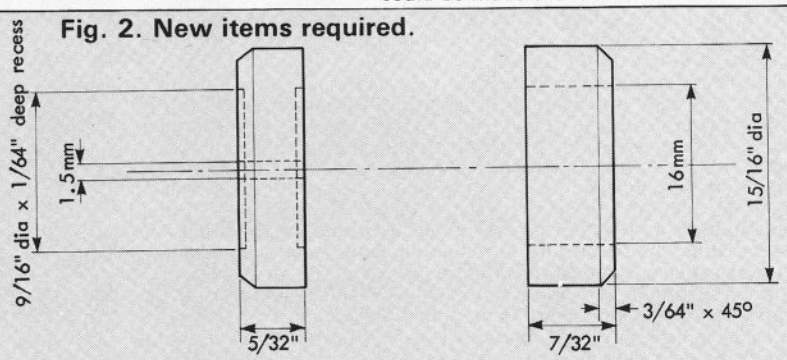
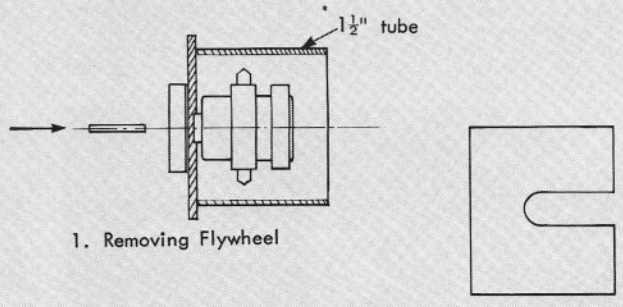


Fig. 2. New items required.

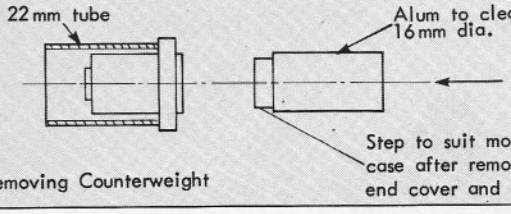


New flywheel and counterweight dimensions
Material - Brass

Sequence for dismantling existing motor assy



1. Removing Flywheel



2. Removing Counterweight