

HOVERING ABOUT

BY THE TIME this is in print, the first of the season's meetings will already have happened at Cromer in Norfolk. Last year's meetings were, on the whole, very well attended and well worth attending and I think there will be even more this year.

We seem to have two associations now promoting the cause and trying to provide information. First came a questionnaire and letter from an association calling itself the U.H.A., for United Helicopter Association, but I gather it has no connection with the American one of that name, mentioned four months ago. The questionnaire asks 'what do you want from an association,' and a few general questions on models. The result of the returns could well show some interesting facts about the spread of helicopters round the country.

I thought the computer style helicopter motif heading the pages to be clever, the U.H.A. is being run by John Griffiths from Slough Radio Control Models, 273 High Street, Slough, Berks.

Shortly after that questionnaire (because of it?) a B.R.C.H.A. newsletter arrived. No, not one, but also soon after it, a second. The British Radio Control Helicopter Association is waving its flag, and with a lightened committee, it promises a regular newsletter, help when asked for, and organisation of fly-ins

them sensibly for mutual benefit to members. Let's hope that the two that are now active for model helicopters will do the same. Notification about meetings, giving classification, that is, competition, fun-fly, or just informal gatherings would be a useful function.

Royal Aeronautical Society's Mini Rotorcraft Competition

As a follow-up to my comments on this in the February *Hovering About*, it should be pointed out that the finals will be held inside a Royal Air Force Hangar, which, if you reach the finals, means you can have a machine designed for efficiency rather than coping with Yorkshire weather.

Apparently, there are about 50 entries so far, entries close on 31st July 1981 for this endurance competition to be held in July 1982.

Information from: The Secretary (Mini Rotorcraft Competition), The Royal Aeronautical Society, 4, Hamilton Place, London W1V 0BQ.

Overgrown Model Helicopter

I make no excuse for using column space on a non radio control model because I am sure a lot of you will be interested.

Guy Meech has handed over his *Kavan*

'Jetranger' to his son Tim in order to build from a kit the *Rotorway* 'Exec'. This little two seater helicopter from America will be the first to be built in this country although I understand a few dozen of the earlier version, the 'Scorpion', have been imported.

The 'Exec' is a business-like job, 25ft. rotor diameter, and powered by an engine made for it by *Rotorway*. Motorcycle or outboard motors just would not do. First reduction from the motor is by multi V-belt and further reduction to the main rotor is by chain. The tail rotor is driven by a series of V-belts or idler pulleys, inside the fabricated sheet alloy tail boom.

The chassis is a strong tubular steel framework, mostly pre-welded but with a lot of work still to do, while the body is made from several glassfibre mouldings and a canopy. You need pretty good building facilities and, of course, you can't just fly it when you have built it, without a training and licensing exercise that is, but what an interesting thing to do. I look forward to seeing more of it.

Overgrown full size helicopter

I was recently showing my ancient film, it's amazing there are still clubs wanting to see it, to an audience in Crawley. I have done a similar evening entertainment many times now and reckon to have heard most of the questions asked. On this occasion, though, several of the questions were somewhat dif-



and the SMAE Nationals again. It is the B.R.C.H.A., or at least one of the committee, who act in your interest when it comes to negotiating with the powers that be over major competitions and what helicopters should do. A most important function that justifies support by competition-minded flyers, if for no other reason.

The newsletters were each of three pages, with tips trying to improve flying and specialist knowledge. Perhaps the most significant offer was that of providing members, for 50p, a computer printout of members in their county. Contact can be a tremendous help for beginners, and can only result in more fly-ins.

It can't be bad having two associations, motorists in this country have had the RAC and AA from almost the word go, and now both provide a good service for their members. The one virtually running motor sport, while competing with the other in other spheres, at the same time liaising with

Above left and right: futuristic R/C helicopter from USA, the *Horizon*, cable drive tail rotor, as an alternative to 'speedo' type cable. Right: also from USA the John Gorham design 'Cricket.'



WITH JIM MORLEY

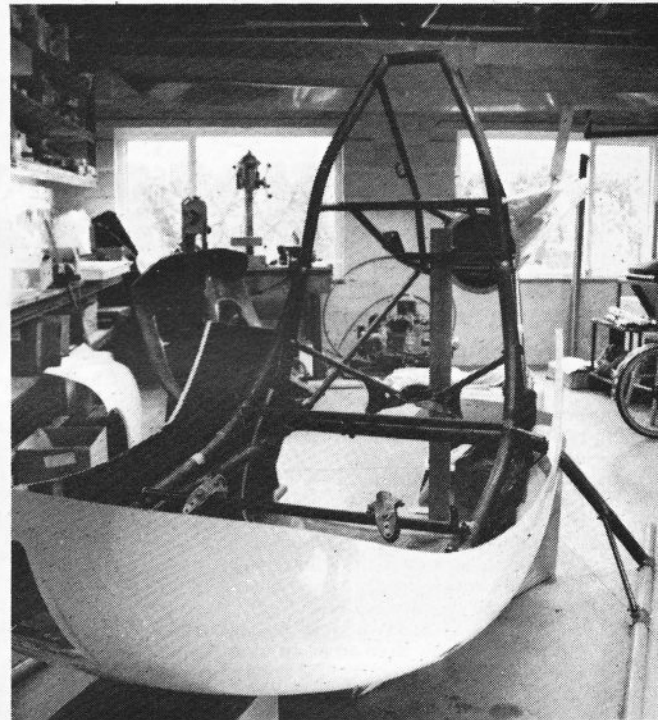
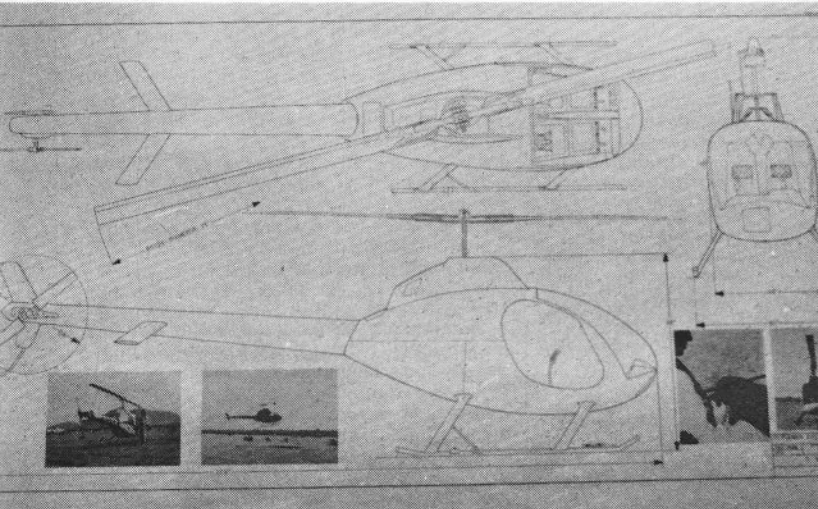
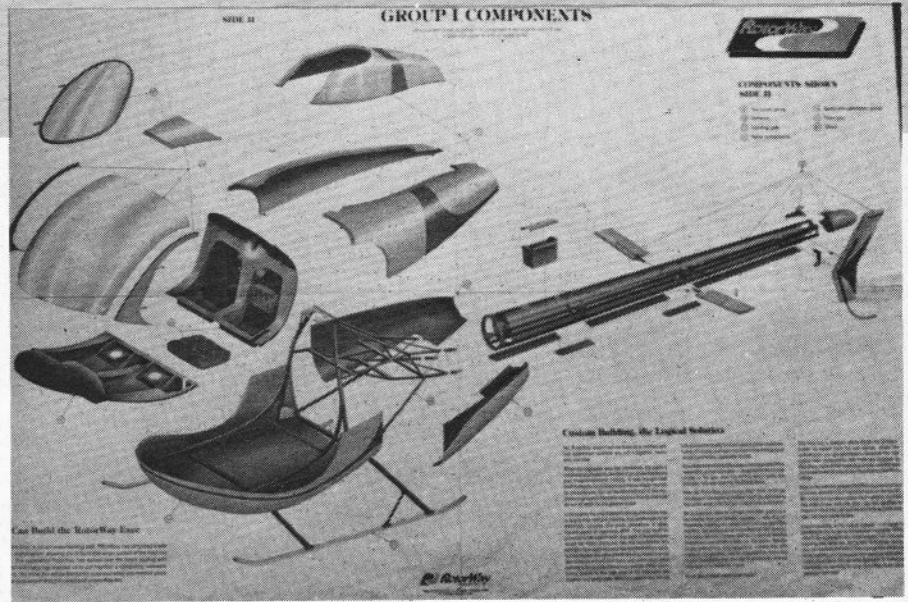
ferent, a small section of the audience worked at *British Airways Helicopters*.

Anyway, the outcome was that I was invited to go and see the 'Chinook' just delivered, an opportunity that I was delighted to accept.

It is big, and very wide.

The blades have such a wide chord (about 30in.) that you tend to think of glider wings, except for the weight, and the one at the front anyway has a much bigger droop than you might expect. The fuel tanks, which are the panniers on either side, are sprung loaded on the airframe and completely separated from it. There is a gap all round.

The mechanics of the beast are as complicated as you would expect, there are five gearboxes. The whole thing seems more solid than most aircraft, and it is strange to look down the unusual shaped passenger compartment and straight out at the back



along the ramp.

Also in the hangar was an S76 being repaired; I was surprised how much of it wasn't metal. Also inspected was an S61 'Sea King'. These are fairly big too. The main spar of each rotor blade is hollow and filled with inert gas, a pressure transducer at the root monitors this pressure and any fatigue crack or joint seepage will be indicated and a potential failure can be averted.

Top and left: plan sheets for the Rotorway Exec. seen under construction right. Below: rotor blade balancing device by Mick Harris described in the text.

Back to models, Blade balance

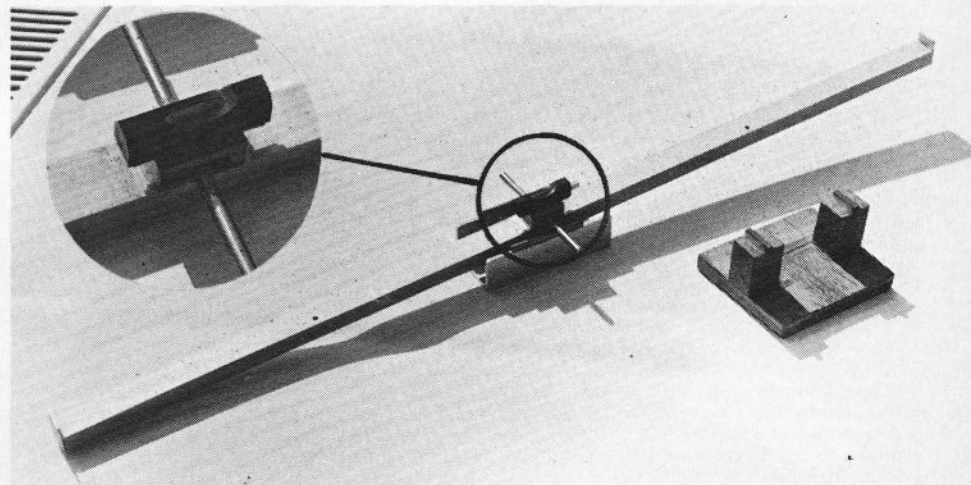
A nicely balanced main rotor makes a tremendous difference to a model and isn't all that easy to achieve. Mick Harris made the balance shown in the photographs, the principal part being a 2ft. length of alloy channel section. The pivots and knife edges are thick piano wire *Araldite* epoxy glued into position and an ordinary spirit level on top.

The black dots half way out are there for a very good reason. The piece of alloy had a hole in it which had to be equalled on the other side to make it suitable for use.

Anyway, the method of use is as follows. The covered blades are placed across the end of the balance, leading edge hard up against the stops. An extra piece of covering material is cut, peeled and placed on the lighter blade, to make it balance, sticky side up. The blades are then mounted on the rotor head and, using the other knife edge unit, the rotor is then balanced with the extra piece of covering, moving it out along the blade until the right place is found, and then putting it on sticky side down.

The rotor should then be statically and dynamically balanced. If it isn't, or if you have a fly-bar-less rotor, you will have to try my own very scientific method. That is to cut a 1 in.

wide band of covering and put it about two-thirds of the way out along one blade. Run up the rotor to lift off speed, if its balance is worse, stick it on the other blade!



JUNE 1981

Right: to achieve auto-giro spin-up on demand, John Heaton devised this system for his Kalt Robin in which a servo drives to engage wheel with drive disc behind propeller via flexible cable. Below left: bottom starter, like a car Bendix drive, now available for Kalt Baron. Enables mechanics to be put into all enveloping body. Also new, tail rotor reduction gearbox fitting to permit main rotor speed up for aerobatics. A counter roller is available to stop the crown wheel deflecting away from the pinion and consequential damage. Below right: Kalt have a new rotor head, and a flybarless rubber-mounted one. The Bell 222 kit has this as standard, and a retractable undercarriage all included if desired.

