

ELI-PAD

by John Heaton

MY KALT *COBRA* has survived its first six months since it was featured in May Heli-pad article. Problems of a major kind have not occurred and minor problems are extremely rare. I do not log actual hours flown but this model has consumed over ten gallons of fuel, and a standard 10oz tank lasts for 29 minutes (or did on the only occasion I timed it) so you can see it has a considerable number of flight hours. Only woes during these hours were that the crocodile clip glow plug connections for the jack plug system got dirty causing erratic operation twice, and the undercarriage loosened once.

Apart from infrequent mixture adjustments I have only made one mod. This was to provide two ventilation holes in the canopy. I had not suffered with engine overheating, but it just happened that I cut a hole where the tank fits in the canopy plywood base. Engine cooling air dispersed through this hole and impinged directly on the canopy, and during the extremely hot weather (do you remember it?) the heat was sufficient to cause distortion. I simply cut two holes where the distortion occurred.

The model has been stripped for preventive maintenance twice in its life. Each time I found nothing amiss so it was really time wasted, but worthwhile for peace of mind. I have not changed the gearbox oil and have had no leakage either. I suppose it wouldn't hurt to change it but think of your car gearbox and how often do you change its oil.

Wear on mechanics has proven to be minimal. The flybar, which has plain bearing pivots, has got a little sloppy, likewise the swashplate and pitch slider. All ball joints are original and serviceable. The clutch I have renewed once as it was dragging. Not enough to prohibit operations but annoying nonetheless. On inspection the pivots had worn whilst the friction surfaces were unmarked.

Finish has definitely worn but as it is a military subject it probably looks better now than when it was new.

The Futaba J series helicopter set is still giving immaculate service. I have never had a glitch despite an internally mounted aerial and the receiver being mounted above the engine where it gets quite hot to the touch. As far as all the gadgets go, whilst originally using the supposedly helpful facilities, I have gradually dispensed with them all. You have to accept the fact that a helicopter is an asymmetric flying machine and unless you had a complex computer to correct the varying effects of weight, speed, ambient temperature etc., simple mixing of controls is not perfect. For example, if you adjust the tail rotor mixing with collective to stop the yaw in the hover, it is all wrong when in forward flight. The most valued feature is the servo



Your columnist's Kalt *Cobra*, photographed after six months' use.

reverse facility which you can only use once per model and of course always have to check. Throttle hold and separate throttle and pitch trim are quite useful.

The OS46 rear exhaust engine has never coughed, never blown a plug and never given cause for concern — end of story. All in all a rather satisfactory model.

North London Helicopter Fly-in

This event was sponsored by Vago Nordigan of the Watford Model Centre. Baldock on July 11 was the venue and there were quite a few innovations in the format. Start was around 11 o'clock for the scale and novelty events which were run simultaneously. Options in the scale were take-off with climbing turn, figure eight, straight flight, two minutes freestyle and rectangular approach and landing. The novelty competitions consisted of an Event A, the maximum number of figure eight manoeuvres around two poles spaced about 30ft. apart in two minutes.

This was I felt a very good event and really had scope for the skilful boys, while a beginner could take the task by walking round with the model.

Novelty event B was a multi-task event, knocking down skittles, flying under a limbo pole, picking up a weight and depositing it on a table. All good fun stuff whilst by no means easy. Results were as follows:

Scale

1st P. Ray
2nd K. Whiddit
3rd D. Nieman

KKK petrol Hughes
Hirobo *Jet Ranger* SST
Petrol Hirobo 47G

Novelty A

1st L. Mount
2nd V. Nordigan
3rd J. Heaton

Heliboy
Star Ranger
Hirobo Endurance Model

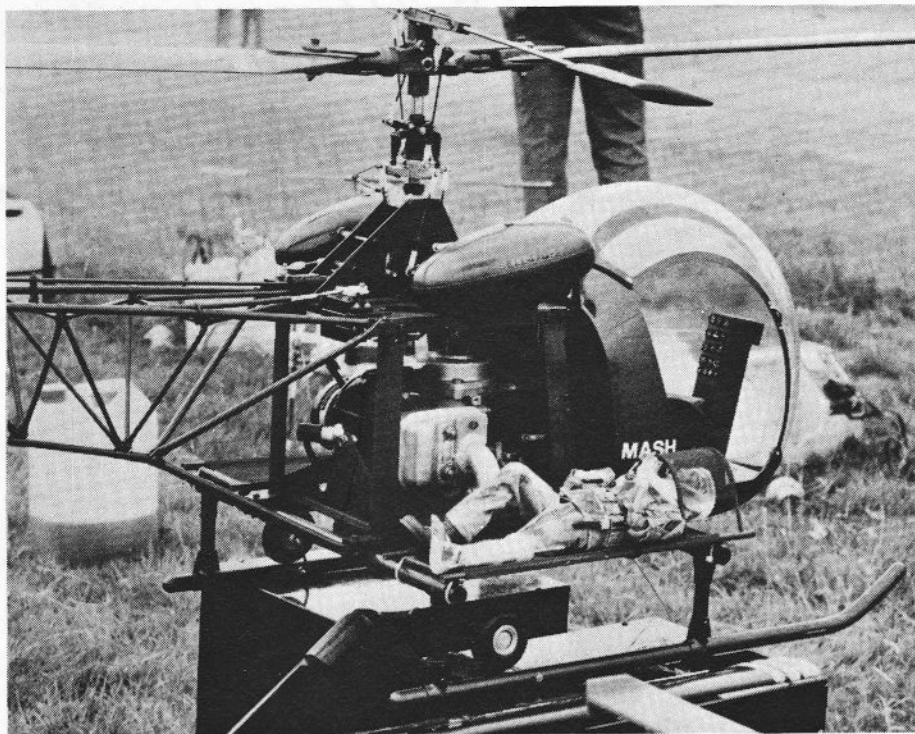
Novelty B

1st C. Ewer
2nd J. Heaton
3rd L. Mount

Hirobo 808
Hirobo 707
Heliboy

Whilst looking around the paddock I spied some interesting models. One was a nice *Augusta 109* by Trevor Moon. Colossal in size, it used 212 mechanics and was equipped with Rhom-Air retracts and fully closing undercarriage doors which, according to Trevor, was the longest job in the whole model. First flights were undertaken, the HB 61 coping with the rather heavy weight and we look forward to more exhaustive flight testing.

Second encounter was with Peter Ray of the Bretons, who had a superb win in scale with his KKK *Hughes*. I had watched Peter flying and had been impressed with his mastery of hovering with the model facing him and tail to the wind. He explained that he just made up his mind to master orientation and after six months of constant practice, it



all came together. Pete says the KKK was good for this as being clean and reliable, you can just practice then put it away with no cleaning or maintenance required. Congratulations to Pete on his mastery and skill. I know full well the dedication needed for this and welcome to the club! There aren't many people in this category in this country, perhaps no more than a dozen or so.

Congratulations are in order for Carl Ewer who wrapped up one of the novelty events with his Hirobo 505 with OS 45 power and Futaba M on 27MHz. He is only about 17 years old and obviously going places. It is apparent that one of my old specialist friends not a million miles away from Wembley is giving this boy a bit of support. The model which took my fancy was the new petrol engine powered Hirobo Bell 47G. Dave Nieman had one which he flew in the scale competition and it was very authentic.

The Hirobo Petrol Bell 47

Construction is a mixture of existing techniques. Tail boom is similar in construction and size to the big *Lama* whilst the centre section is superficially like a trainer i.e. nylon cog drive but with a petrol motor. At the front

The 4077th rides again. Chris Jenkin's petrol engine Hirobo Bell 47G features this mangled Action Man.

is the familiar bubble canopy. A novel feature are the functional scale petrol tanks. Recoil start is fitted and a coil type ignition with a small battery as opposed to the more usual magneto. Head and tail rotor are familiar items but main blades are colossal affairs with large span and chord. Overall size is comparable to the 'Big Lama'.

When Dave had switched the transmitter round to my preferred mode, i.e. pull for lift, and after giving me a short run down on characteristics, he passed over the controls. Flight conditions were not ideal, very hot weather with a blustery breeze. Lift off was very predictable and gentle and control responses were ideal, powerful enough for any conceivable situation but still docile without any delay in response. I took the opportunity to do some advanced manoeuvres, nose in circle, downwind hovering, and tail to wind climb out, which are a real test of a model's stability and handling qualities. I finished off the hovering manoeuvres with some slow 360° pirouettes both ways and all manoeuvres were absolutely uneventful. Considering the high tem-

Chris flew his petrol-engined Bell in the BRCHA Fly-In at Woburn Abbey.

perature and stiff breeze that was some performance. Tail control was particularly good, being slow and not twitchy but with outstanding control power.

Moving on to cruise performance, I climbed out at what we estimated to be scale speed and handling was absolutely standard, no pitch up with speed and all responses comfortable. Left rudder had to be fed in with speed in the normal way. I positioned for a standard (about 30°) approach coming to the hover, fed in right rudder as hovering power was applied, and there she was.

If this was a full size test much more emphasis would be placed on load carrying ability and speeds, but with a model this is academic because they all lift maximum all up weight, i.e. full fuel and Action Man, and they haven't got an ASI. All models will fly at faster than scale speed forwards and backwards anyway. In my book authenticity is the name of the game and we are spoiled by lovely scale jobs with superlative handling qualities. I tried a couple of fast reverse take-offs with the wind followed by a tail first climb and they were very satisfying. I didn't try engine off myself with someone else's model but Dave did a couple and again autorotation performance was absolutely spot on for authenticity. I could see there was not too much rotational energy left after touchdown and you would have to judge it nicely. The Hirobo 47G costs £690 and is available from Southern Helicopters and Dave Nieman Models.

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Finally, I am pleased to see that the Micro-Mold *Wallis Autogyro* is out. A long talk with Roy Sturman, the brain behind the project, revealed some interesting insights to the model. Apparently the production kit works out some 2lb lighter than his prototype and hence flies better, but is less steady in gusty weather. The rate of descent is so low that if you are in a spot of bother you can just descend vertically like a parachute with the fuselage gently rotating and touching down comparatively gently at a reasonable speed. The spin up device is clutched to the engine through a one way system like an autorotation freewheel. The plan is that you rev up the engine which spins the rotor, then as you accelerate along the ground, the rotor derives a few more revs from the airflow and the engine is not then driving. You can operate a release mechanism on the model if you want to thoroughly spin up the motor before commencing take off run whilst tethered, or can just take off in the normal way. Roy told me that settings are not all that critical and blade tracking not that important. I look forward to assembling one of these kits and giving Roy a bit of competition.

