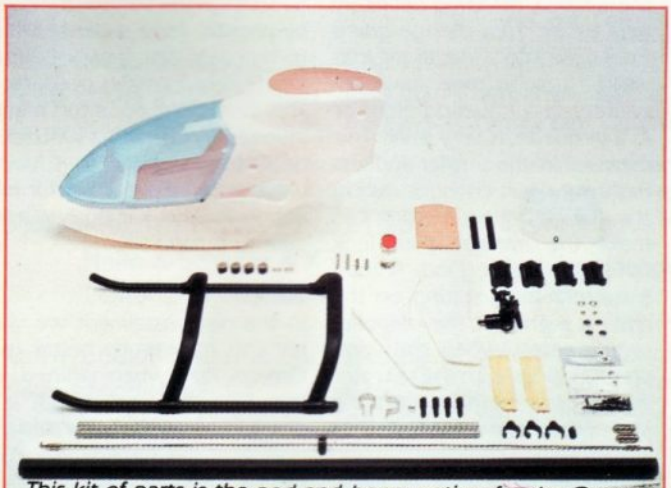
The Omega Pro IN THE AIR

Fellow clubmate and contributor Nigel Ashwood, a dyed in the wool Baron 60 man, is very pleased with his Omega. This model is still very aerobatic with an OS 61 FSR and a large expansion type silencer. Nigel doesn't believe in brute power and seeing some of his aerobatics we think he could have something there.

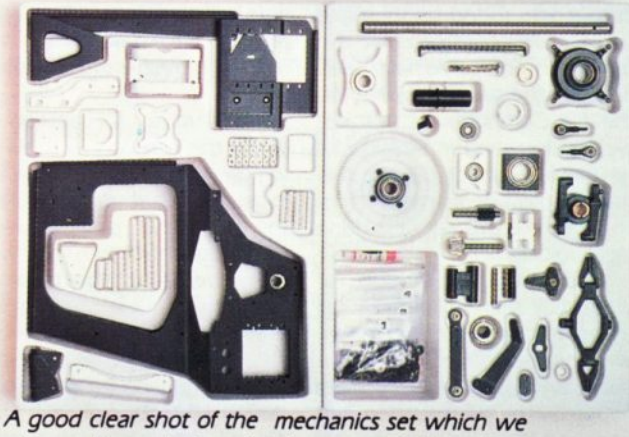
Model Heli World flies the Kalt Omega Pro

The second of our three part, in depth review on the Kalt Omega Pro. Here we look at setting up and flying this latest offering from Kalt.

This part of the Omega review nearly didn't happen as planned (in this issue). After doing the building review in the



This kit of parts is the pod and boom option for the Omega Pro. Every item is of the highest quality, as one would expect from a kit costing £750.



A good clear shot of the mechanics set which we managed to omit from the first part of the review.

The Omega Pro

last issue, Jim Perkins (Dist) the Kalt importer, borrowed the Omega for display on their stand at the Earls Court Show and then after that they flew it over to West Germany again for display, on their stand at the Nurenberg Toy Fair.

John Wallington explained that J.P's were selling Omegas as fast as they could get them and they hadn't had time to replace the display model which had taken a tumble at Woodvale last ayear.

Naturally we didn't mind but we did have a deadline which was looking a bit marginal.

However when we went to collect the Omega from Greenwich, J.P's showed further appreciation by asking us to take with us, a Jetstream fuselage. This really tasty piece of kit will form the third and final part of our Omega story.

Controls setup

After fairly extensive flight testing of about seven hours air time the control settings we have adopted are as follows.

Cyclic left/right

Servo throw was set at that which was advised in the kit instructions. The swashplate angle at full stick deflection looks quite horrific when compared to the European style of setup but in reality we found the model quite easy to manage like this. In fact, half way through the test flying we decided that on returning to the hover, we even found this amount of swashplate movement comfortable to handle here too. (60% on the rates did make it docile though.)

Cyclic fore/aft

As above exactly, except that for hands off hovering, full forward cyclic trim was necessary. Which meant moving the servo output arm round on its spline so that we could recentre the trim again. This could have been done on the sub-trim facility on the J.R. Computer set that we were using (and in fact it was on the first flight), but we feel that any permanent trim changes like this are best done mechanically.

Incidentally, the reason for what may seem to our readers to be a strange trim position, was that our Omega came out tail heavy. Most fliers won't feel happy with this situation but we find it tolerable and infinitely preferable to adding nose weight. *This doesn't apply to flybarless models O.K.!*

Tail rotor

The servo output arm we used here was long enough to utilise all of the available movement at the tailbox end when the stick and trim were fully deflected. It's unlikely however that the controls would ever get near their full extension in flight, with the gyro switched on.

The gyro — a Futaba 153 BB — was set at 60% on the high position and 30% on the low. Of course, gyros vary enormously — even two examples of the same type — so if you're using these jottings to trim your own Omega, you may find your requirements somewhat different.

Collective pitch

These measurements were carefully taken with a pitch gauge but of course the final settings are purely personal and set to suit this writer. However, if you are not familiar with dealing with a powerful machine such as this, they will make a good starting point.

1. Normal pitch curve is set at +3 at the hover point, the top and bottom are set at the mechanical stops (inc. trim) but with the trim centred –8 to +10 is attainable. A range which is more than adequate for extended autorotations.
2. Idle up 1, for hovering. This can vary in different wind conditions but is currently set at –1 at the bottom +3 in the hover and +6 at the top. This compressed pitch takes away any over-sensitiveness at the hover point.
3. Idle up 2, for aerobatics. Again this can vary with differing weather conditions but this is usually set at about +7½ at the top, a pitch position which the Yamada YS61 can cope with indefinitely at full throttle, at the bottom end –3 is used so that during the inverted phase of a roll, the stick can be bottomed leaving no need for guesswork during this part of the manoeuvre. Again neutral is set at +3.

Throttle

The servo output arm was initially set at neutral, i.e. at 90 degrees to the pushrod, when the throttle was half open.

Final throttle open % settings are as follows:

	Low stick	Mid stick	Hi stick
Normal	Steady idle	60%	100%
Idle up 1	20%	50%	100%
Idle up 2	60%	50%	100%

If you can interpret that you may think it strange that a higher % of throttle is required in the hover than during aerobatics at the centre stick position. The explanation for this is that the rotors will unload in translational flight and if the hover trim is used in aerobatics, the rotor speed can increase beyond that which is required. Remember, with a machine like the Omega, aerobatics don't require full throttle. Except in the case of certain Northern pilots.

All these trim settings were easily achieved with the Computer radio set and could just as easily be duplicated on a non-computer set which has hovering throttle and hovering pitch facilities. Anything less would make the task very difficult, if not impossible.

In the hover

With a large and relatively heavy (but powerful) model like the Omega, hovering definitely gets easier. Trim change going from nose into wind, to tail into wind, such as one may encounter in a hovering eight or in a pirouette, is very small. This means that the smaller and less frequent cyclic changes during the full 360 degree turn can make the average pilot look (and feel) pretty good. A comfortable hi rate setting on the gyro is such that the onlooker won't detect when the wind changes sides with the tail rotor and crosswind drift with the stick centred is very slow. This hi gain setting could not be used in forward flight at any appreciable speed, then the low rate needs to be selected.

In low rate it's possible to achieve quite high speeds in sideways flight (left and right) with the power available, no doubt aided somewhat by Dave Whitney's NHP carbon fibre sticks.

Out of the hover

With regard to aerobatics, we'll keep our comments to loops, rolls and reversals. Anything else gets very personal in the way of fine tuning. (We get letters.)

The loop is possibly the easiest manoeuvre, one can loop continuously — on the spot — and with judicious use of negative pitch, it's very easy to gain height during each loop. Not bad eh. and all on far less than full throttle.

The roll is a nice one. Remember we've got lots of swashplate movement but heavy glass blades too. As such, going into the roll at optimum speed and power, full right stick gives a nice slow roll (about 3–4 seconds) with full bottom stick during the inverted bit. No doubt about it, careful setting up of a good machine takes out all the guesswork and makes aerobatics very much easier and a pleasure to watch.

In most of the rolls with our Omega, the inverted trim is such that neutral stick (fore/aft) can be maintained during this manoeuvre if it is commenced on the level. This may be a product of a tail heavy model, who knows?

Of course with our rolls taking 3–4 seconds, no attempts were made at consecutive rolls. We didn't have enough sky.

Reversals. Pretty much the same as for rolls except that one doesn't need so much entry speed to carry the model thru'. Once inverted, with the collective stick at the bottom, it would be possible for a superior brain to maintain fast forward flight indefinitely (in circles of course). This writer has done too much inverted flying with a switch to be able to cope with that. Manual inverted flight is not for me although the Omega would take to it naturally.

Next

In the next instalment we will tell you how much better the Omega flies when clothed in the Jetstream fuselage. If it's possible to improve the performance of the Omega Pro, this can be the only way.

We will also cover autorotations with this model at that time.□