The Starlight has a very different appearance — assisted by the very tasty airbrush job.

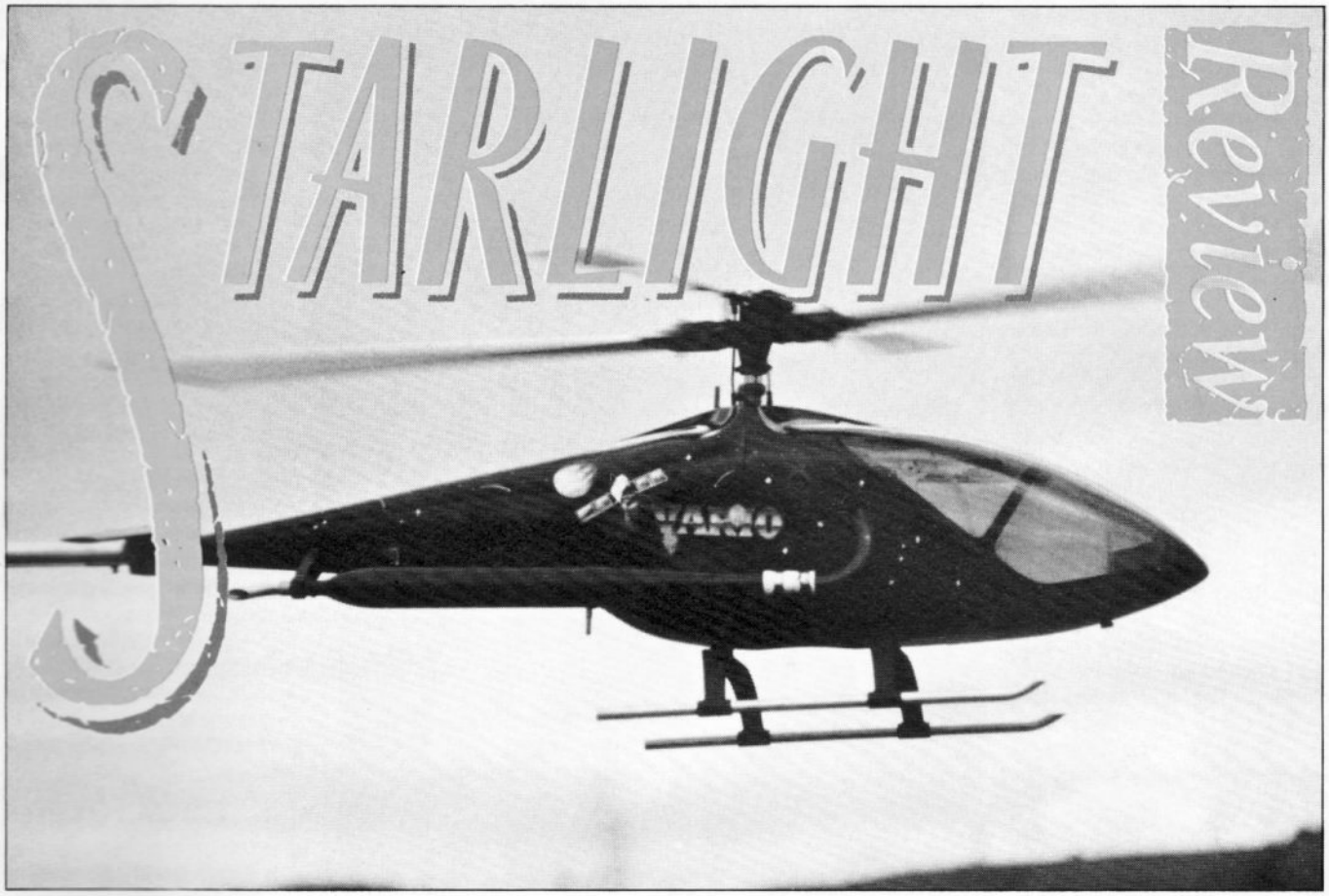
Jim Brown gets to grips with Vario's Starlight

The Vario Starlight does fill quite a gap in the market place created by Mr. Ewald Heim's exemplary helicopter designs. The first kit he marketed was the Star Ranger then joined by the Bell 222 and two years ago the Lockheed 286. There have been many photographs of the Agusta 109 but I have yet to see one, the latest addition to the range is the Hughes 500D, which hopefully will filter into the shops faster than the previous addition. As can be seen from the list all the models are scale and require a full fuselage in order to accommodate the mechanics. Now many modellers have an aversion to scale fuselages having what could be called fuz phobia. A considerable amount of time and skill has to go into the assembly of these models so perhaps even experienced modellers may feel apprehensive about throwing them around, and because of the light construction damage can be severe, but let's face it, they're designed to fly and not to crash.

J.B. with his pride and joy.

Some time ago Robbe kits

A general view of the machine with the body off. Note the Vario rocking washout unit and special swash-plate driver.



came up with the Avant Garde, which was a number of well designed mouldings, that carried Heim mechanics and the end result was a moderately presentable pod and boom trainer. However in service they're found to be rather flimsy, with various parts prone to cracking. The other slight oversight was that its rather small and it tended to be overpowered with the normal piped Heim set up.

Vario Rotor Systems are now producing three models to convert Heim mechanics to pod and boom. The Starlight which I shall now describe, the Starlight trainer which has longer tail boom supports and an open rear fairing, and the Phoenix which is similar to the trainer but does not require a rear fairing.

Ah So!

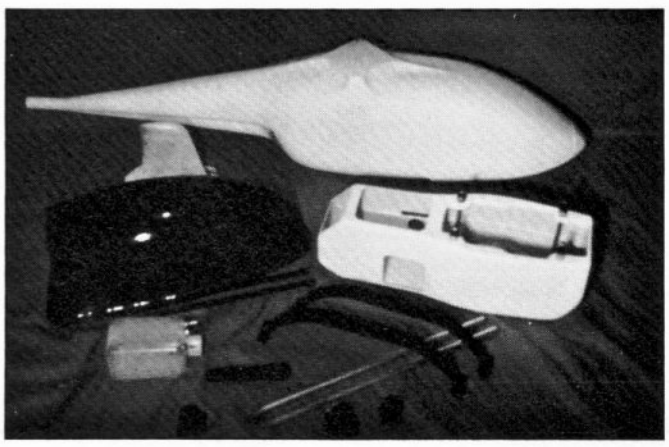
In the kit you get everything you need to build the model, apart from fuel tubing, radio, engine manifold and pipe, you can buy a fuselage kit alone (which is what I have got), without the mechanics. The central box is a nice epoxy moulding that houses the mechanics, radio, tank and the tail boom, and the model can be flown very successfully in this form. Before I started cutting and thrusting I carefully studied the instructions — which got me nowhere because they're all in German — so instead I studied the plan which is very informative, but again in German. By carefully examining this and referring to the ample supply of good quality glass filled nylon mouldings, I quickly had most of it put together mentally, which let's face it solves half the problem.

Getting it Together

I started by installing the wooden formers in the central box, there are four of these, two for the undercarriage, one is a rear tail boom reinforcement, and the last is a divider to keep your radio and mechanics separate.

Now, as I have previously explained in my bi-monthly ramblings that I have built many models (i.e. aircraft) from kits and plans, and because of the experience gained I always double check everything in order to prevent pulling it apart at a later date, (all experienced modellers will know what I mean), and here I discovered the first slight inaccuracy. The undercarriage mounting holes are pre-drilled and quite close to the alloy supports that strengthen the epoxy radio/mechanics box. Now, the undercarriage is spaced via 20mm nylon bushes and long 3mm allen bolts, but they were positioned too close to the alloy reinforcements which would end up fouling the u/c spacers. As the flexible u/c supplied is not drilled I elected to move the bolt holes, to give adequate clearance. The plan did not show how the u/c bolts were retained, but bearing in mind the mechanics would cover the bolts I elected to use blind nuts, sunk into the ply supporting plates, and I would also advise any prospective builder to do the same. Once the wood was all installed and fuel proofed it all went quite quickly.

The rear tail boom retaining clamp is screwed into place, again using blind nuts. This clamp is very substantial and care must be exercised when inserting the boom, in fact the only way you can do it, is to insert a screwdriver into the slot to open it up. The tail boom supports are bolted on top of the rear moulding on two hardwood spars, and to be honest this is one of the few areas I was not totally happy with. It looks weak and appears to be an afterthought. Anyway I put it together as instructed and we'll see how it performs. There are three identical tail boom clamps supplied with the kit. One is to mount your tail rotor



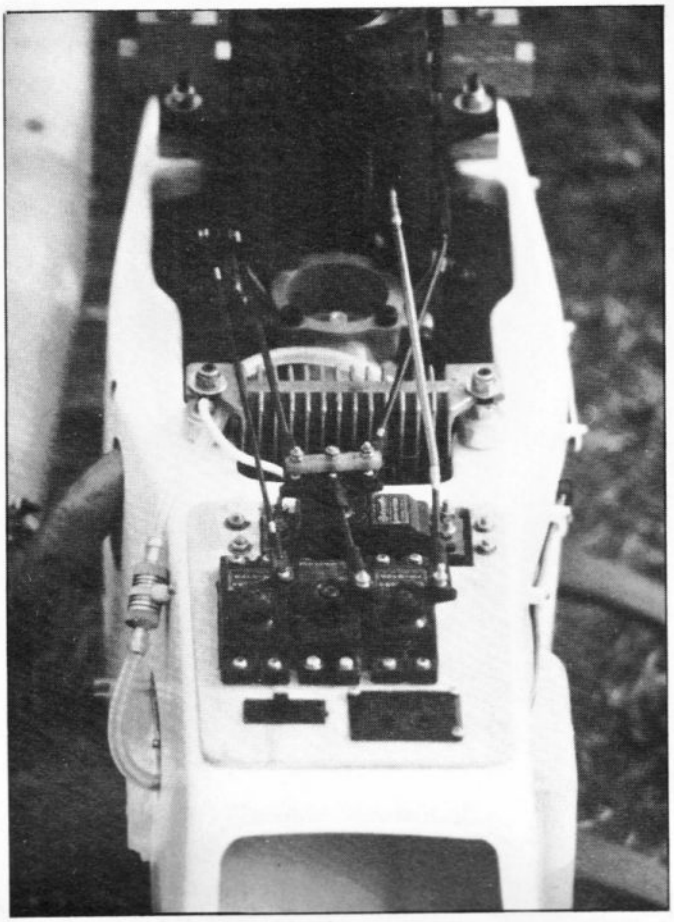
servos, another to take your tail boom support, and the last is for the horizontal stabilisers. Again the mouldings are good quality and very tight fits. I cut some ¼" balsa spacers and inserted them into the gap to aid fitting and to save marking the boom. At this point, before one fully assembles the tail boom, we now turn to the fuselage, especially on the Starlight because the fuz dictates the placing of these clamps.

Glasswork

The fuz. consists of two very light high quality epoxy mouldings, even the seam line doesn't need attention, however be warned the mould lines are not central so do not use them as a guide. There are cutting lines on the fuz. which are quite accurate and only slight trimming was needed to obtain a very close fit. The two halves are joined using 3mm bolts and blind nuts. A simple former is inserted in the nose to find the front placing and then you work backwards from there. Like all fuselages a fair amount of cutting out was required, for this I used a Dremmel and milling cutter which made short work of it. The clear windscreen was carefully cut out and fitted with small self tappers into wooden blocks cyanoed inside. When you're satisfied with the fuz., mark where the tail fairing ends and now return to the tail.

The rear pipe clamp must be behind the tail boom supports, if not you won't be able to assemble the finished model, fit the manifold pipe and clamp carefully. Cut a slot in the rear cone for the pipe clamp. There were some pushrod support clips supplied in the kit, but I couldn't figure out how they worked so I opted for the easier solution of drilling through the support clamps, a much neater and tidier way.

The tail rotor servo could be servo taped directly onto the clamp, but I elected to bolt a larger aluminium plate onto the clamp and then servo tape, thus giving a larger contact area, and a more rigid mounting.



View showing radio installation. Sullivan filling station is fitted. Hole in canopy is for radio switch.

Tail rotor servo is fitted onto the tail boom itself. Note neat servo wiring and standard tuned-pipe fitting.

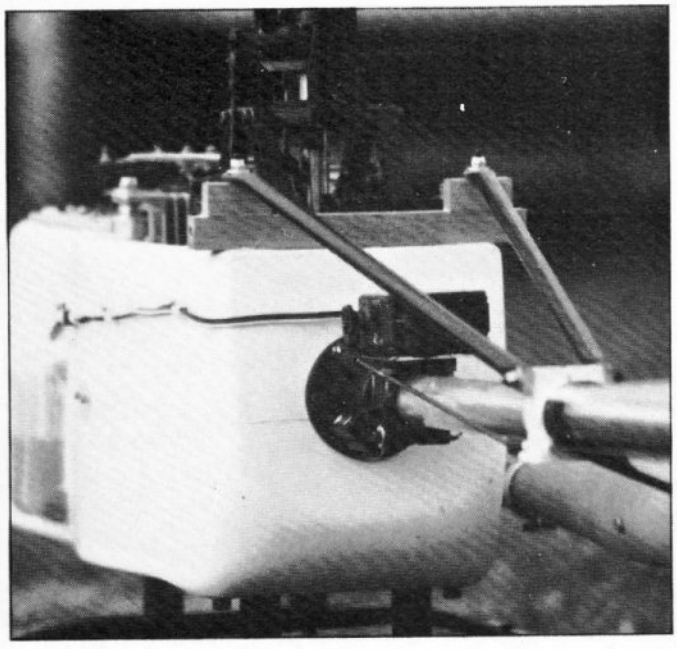
Finishing Off

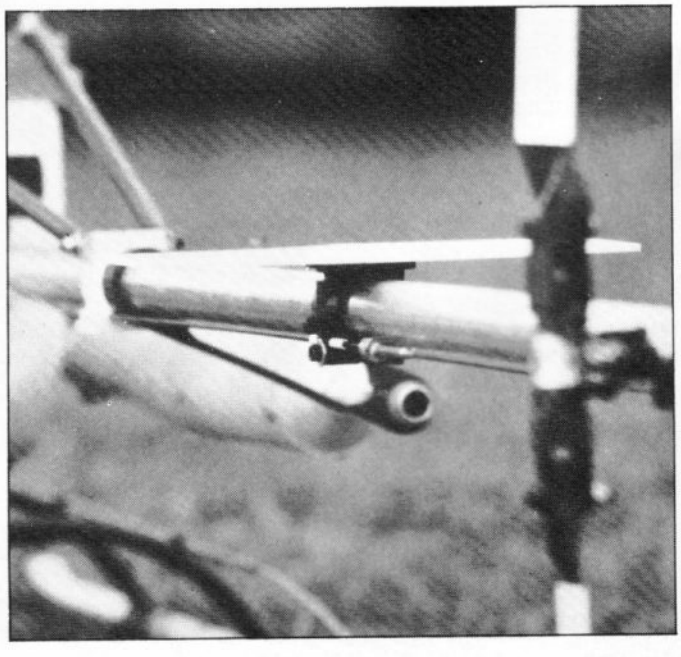
Everything else from here was quite simple. Tail rotor, gearbox clamp, radio installation, all presented no problems. The gyro receiver and battery were all mounted underneath the servos — the only slight problem being its too narrow to get the rocking servo output central, so it's about ¼" off centre. A glow plug jack is supplied, this was fitted underneath as close to the tank as possible. Now I strongly recommend that the first few flights are done without the fuselage making it easier to check the engine and linkages and to make sure nothing falls off.

I flew it for some three weeks in this form and was very pleased with its performance, obviously its not too fast, because of the lack of streamlining but it hovers very smoothly and responds well to the controls. When the body is fitted its like a rocket, very fast, and can be hovered nose and then tail into wind with minor stick deflections.

Summary

When its finished you end up with a model with more ability than most pilots will have. It also looks quite "different" from anything else on the market. There are two items I would criticise. One, is the tail boom supports, they are not good and could be better designed. Two, in the effort to make it different from other models on the market, the glazed area of the canopy is too large and after cutting out the windows, you weaken the front moulding





Detail of tail coupler.

considerably. In fact the front felt so weak that I refrained from cutting the tank viewing slot, as shown on the plan. However, if you use dyed fuel, you can peek through the clear canopy to see the tank, but you have to land to check. Apart from the lack of English instructions (which may well be available now) it is not a kit for the absolute beginner — or dare I say the bolt together brigade?

You do need a bit of experience, to end up with a tidy machine, but I think you are well rewarded with a very potent streamlined machine which is certainly out of the ordinary. With an all-up weight of 10lbs, good streamlining and the ability to use full length glass blades, the piped Heim mechanics are in their element. You won't encounter any overpowering problems, like running out of ATS. It's rock steady in strong winds, and it's very slow to weather etc, so its easy to fly side on to wind. Even if the appearance does not appeal to you, it's a very good flying machine, with easy maintenance. In the event of a crash all the parts can be repaired using conventional materials. The Vario plastic mouldings are of excellent quality — very strong but reasonable in price. Yet, because of the construction, I would be surprised if you ever broke one, so your repair bill should not be too great. I would certainly recommend this kit to any Heim owner, as a quick and simple back up model that may overcome fuz. phobia, and put enjoyment back into your flying. Finally I would like to thank Trev Coulson for a superb airbrush job. I shall keep you informed of how the model stands up to the Brown treatment. □

Starlight on right, Trainer on left. Notice different tail boom layouts.