

BELL OF THE BALL

A TRIP DOWN MEMORY LANE AS MARTIN BRIGGS LOOKS AT ONE OF THE EARLY SUCCESSES IN R/C HELICOPTERY

It's January 2002 and Graham's on the line: "We're producing a new heli magazine, would you like to contribute something interesting and different?"

Well, I thought about this long and hard, and although there had been a plethora of new items introduced since I last put finger to keyboard, I couldn't think of anything sufficiently interesting, or indeed different, to stir my aging brain cells into action. However, while I thought about it, Graham mentioned that he wanted the new

WHICH ONE THEN?

Although I do have a fair collection, I'm not a fanatical hoarder. If I know someone that has a good working example of a particular vintage model that I can get to see every so often, then I'll tend not to crave ownership. For example, Ken Gale, my long-time friend (and fellow contributor of the past), owns a totally original 1973 Kavan Jetranger. To see him operate this (flybarless) model from time to time, with the occasional stick-stir myself, lessens



The crisp paint job really stands out well in bright sunshine. Just look at that coning-angle, a combination of built-in sweep and a very slow rotor speed (between 11 and 1200rpm). I must do something about that sagging piece of aerial wire!

magazine to appeal to all ages and interests, including those who really get deep into this fascinating hobby and are keen to know it's history. With this in mind, and knowing my collection of early models, he suggested that I might want to pick one of these to illustrate how much more difficult it was, back in 1973, to get to grips with this then new and exciting branch of R/C modelling.

the yearning for me to actually own one. It's probable that between the two of us, we own (or have owned) over 90% of all the commercially available model helicopters that have ever been produced.

Ken's Kavan was introduced to the UK in the same year as three other successful designs, these being Schluter's Huey Cobra, Graupner's Bell 212 TwinJet, and the Micro-Mold Lark. Now, readers of 'Model Helicopter World' will be familiar with Dieter Schluter's Cobra (the first successful R/C helicopter in the world), Kavan's Jetranger, and the comparatively tiny, all-British Lark. But little has been written about the equally successful '212, and that's my chosen subject for this article. As a point of interest, though it's probably not in the Guinness Book of Records, the Graupner '212 demo team were the first to successfully fly a model helicopter across the English Channel.

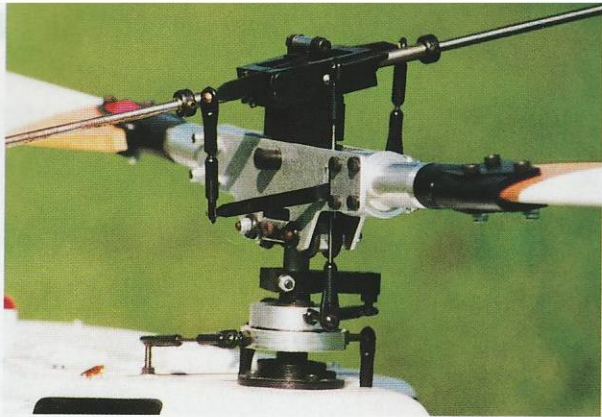
HISTORICALLY SPEAKING

To be honest, Graham didn't want a history lesson, more a description of how this model differs from modern designs, and there's a great deal to say about that.

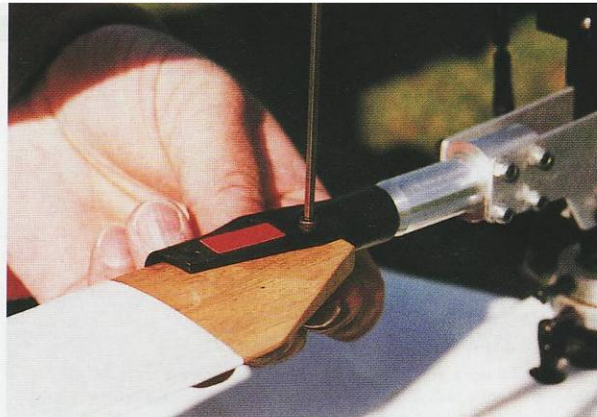
I saw examples of this model fly almost as soon as the kit hit the streets but it wasn't until about 1979 that I actually owned my first one. This remained in my possession for a couple



Isn't she a beauty? The culmination of Andy's hard work. Shame we couldn't get a sheet of the original decals, just to finish the job off. Not pure scale but it certainly captures the character of the full-size very well.



Main rotorhead design was quite substantial and crash-proof but the lack of blade pivot bolts was a feature that didn't help in a ground strike.



Three bolts per blade had to be removed to stow the model in a Mark III Ford Cortina.

of years until I exchanged it for something a little more sprightly in an attempt to enter the FAI competition scene. Typically, I always regretted parting with it and it was many years before I got another. By chance, a casual customer arrived in my shop, clutching a large dusty box - inside was a '212 TwinJet. It contained, in his own words: "an old worthless helicopter" that someone had left him, and would I give him £25.00 for it, towards the purchase of a Kalt Whisper. Reluctantly, I agreed (who's a liar?), thinking that one day, in my retirement, I may get a chance to build this relatively complicated beast. Then, in came Andy Brooks, a regular visitor to my shop. "What's that? It looks quite interesting. I've got nothing to do this week, would you like me to build it for you?" Okay, it wasn't quite like that, but the outcome was that he departed with the large box and returned several weeks later with what you see here.

Fortunately, Andy and I share a similar sense of morality and we agreed that the build would be totally original with the exception of the electronics... Oh, and we grudgingly replaced the rather brittle ball-links with a packet of Rocket City items.

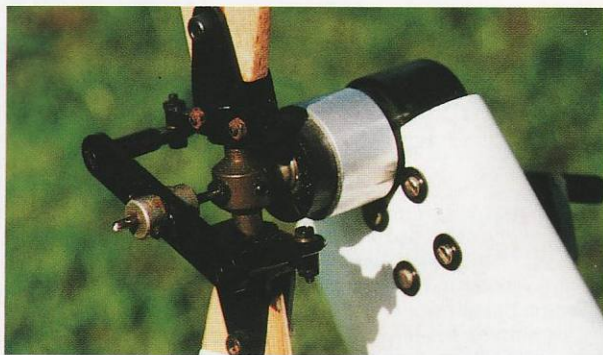
I fly this model far too infrequently and it's always a pleasure - except for the horrendous exhaust noise from its standard early '70's aeroplane muffler. Actually, since these photographs were taken we've also further submitted to



Unscale but wide-base undercarriage gave a little more ground stability but most beginners fitted the optional inflatable float set to give even wider stance and to absorb those inevitable landing shocks. The undercarriage cross-struts were made from multi-laminate wood and were bolted to the fuselage via rubber shock-mounts. The silencer (!) outlet position is unusual but does in fact keep the model quite clean and free of the exhaust residue that used to contain the gooey remains of castor oil - which was about all we had as lubricant in those days.

About the only view that most original owners got for a long time. Can you imagine? No gyro, no tail rotor mix and no computer radios to set the model up on the bench before committing it to the air.





The tail rotor drive wire runs at engine speed with a 2:1 reduction in the gear-box. An external pitch slider, driven by a rod going through the tail shaft, gave fairly precise tail control to the wooden tail blades. Not as sophisticated as current designs, but the shorter tail shaft was less vulnerable in a crash.

modernity (and common sense) and have now arranged to have a much quieter silencer fabricated and fitted.

PERFORMANCE

So, what's it like to fly? Well, she's not what you'd call over-responsive; more ultra-stable, gentle and predictable, which is exactly the list of credentials that a beginner would be searching for, and that's what we all were in 1973 - total beginners. Unlike modern scale types, this particular '212 (in its original and unmodified condition) has no aerobatic or autorotational capability. Later on, after further development, an autorotation unit was made available, along with an extended mainshaft assembly that was designed to avoid the then commonplace boom-strike. With further modifications such as a tuned exhaust, a later (more powerful) PDP version of the standard motor, direct swashplate input and a more powerful flybar control (to give a Bell / Hiller mix - a feature found on all modern designs with the exception of basic indoor models), even loops and rolls were possible in the hands of experts.

But we don't want to tell you that, this is about an original and unsullied example. This is a model that can give a great deal of pleasure to any competent flier - but how beginners coped with it in those early days is still a mystery to me!

So, what is a Graupner Bell 212 TwinJet? On the premise that a picture is worth a thousand words, here follows several thousand words...



The large hatch behind the main shaft allowed access to the receiver, NiCad and four servos, controlling five functions through a rack of bellcranks. This model also has a gyro and an additional separate throttle servo, which probably has more power than the combined might that the original four may have had.

