# model Helicopter world



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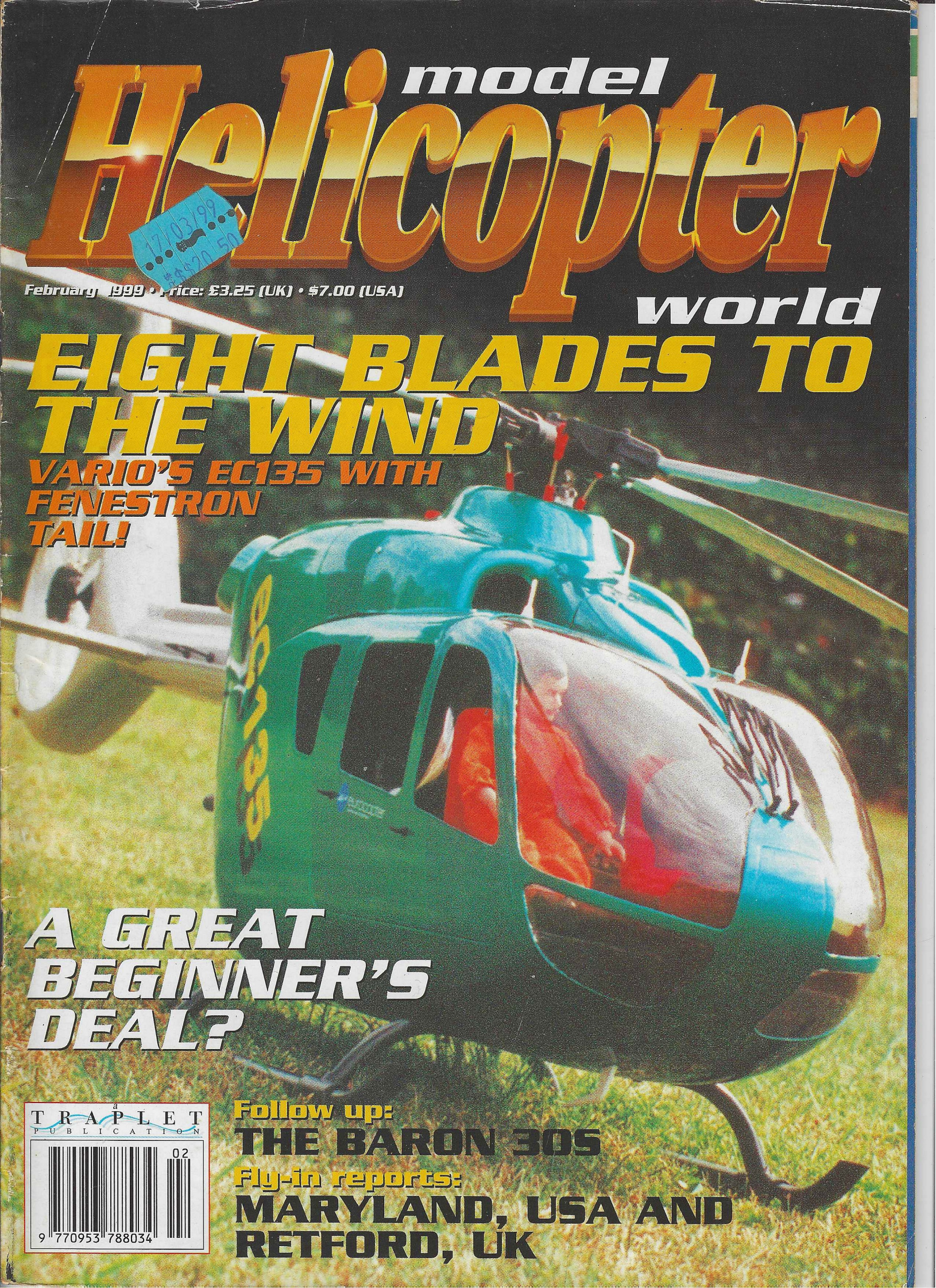
# EIGHT BLADES TO THE WIND

## VARIO'S EC135 WITH FENESTRON TAIL!



## A GREAT BEGINNER'S DEAL?

a TRAPLET PUBLICATION

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Follow up:
**THE BARON 30S**

Fly-in reports:
**MARYLAND, USA AND RETFORD, UK**

*The clean lines of the Baron 30 'S'. NHP main and tail blades, rear servo pushrod and 3D fins, plus header tank. Now the model is pure fun and has even more 3D potential!*

# Baron 30 'S' UPDATE

**A set of NHP blades, a carbon push-rod for the tail, some fuel and a bit of fiddling. Now the Baron 'S' is showing true potential!**

Whilst reviewing the 'Cheeky little Baron', the model did show excellent potential. However, the supplied wood blades did restrict the more adventurous side of the performance, as did that 'whippy' tail pitch control wire. I must stress that when I say 'adventurous', I mean extreme 3D aerobatics. In 'out of the box; format, the Baron was more than capable of all conventional aerobatics and some '3D' stunts.

Bearing in mind we at MHW do like to push the review models to their limits, a simple question was asked by the Boss "OK, what would you need to make it really perform?", "Not that much at all", I replied! So a very conservative shopping list of two items was quickly achieved. Blades were first on the list, I was looking for the reassurance of carbon and the popular NHP blades were chosen. "Alright, what else?" he said. I paused for a few seconds, allowing 'budget busting' images to build in his mind! "Just one of them rear PUSH-ROD things" I eventually said, "Oh, yeah no problem." the governor replied, in a relieved tone and again NHP was the source of my relief, in the form of a 'Rear PUSH-ROD kit'.

## QUICK SPEC

*AUTHOR:* **Russ Deakin**
*PHOTOGRAPHER:* **Russ Deakin**
*WE USED:* NHP Sport 55 cm Blades. NHP 46 size Tail-Blades. NHP Rear Push-rod Kit. NHP 3D Fin Set. 2 oz Dubro Fuel Header Tank. K&S S.P. 30 L/W Pink Paddles.

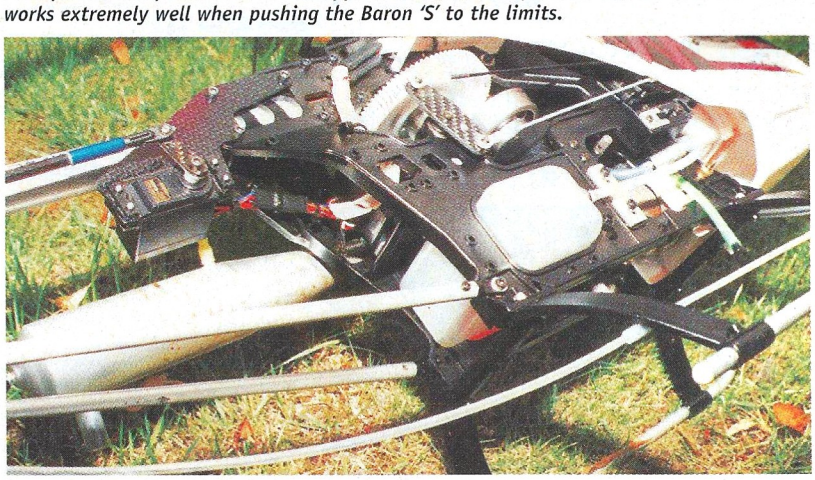
### The Source Of Lift

NHP 55 cm Sport 2's were selected to install the required confidence. I have to admit to having a lot of experience of these 30 size blades and quite simply I know them, I like them and I definitely trust 'em! The Sport II blades are supplied pre-covered in white material. They were also found to be perfectly matched as a pair, both in weight and in balance, which makes them truly 'ready to fly'.

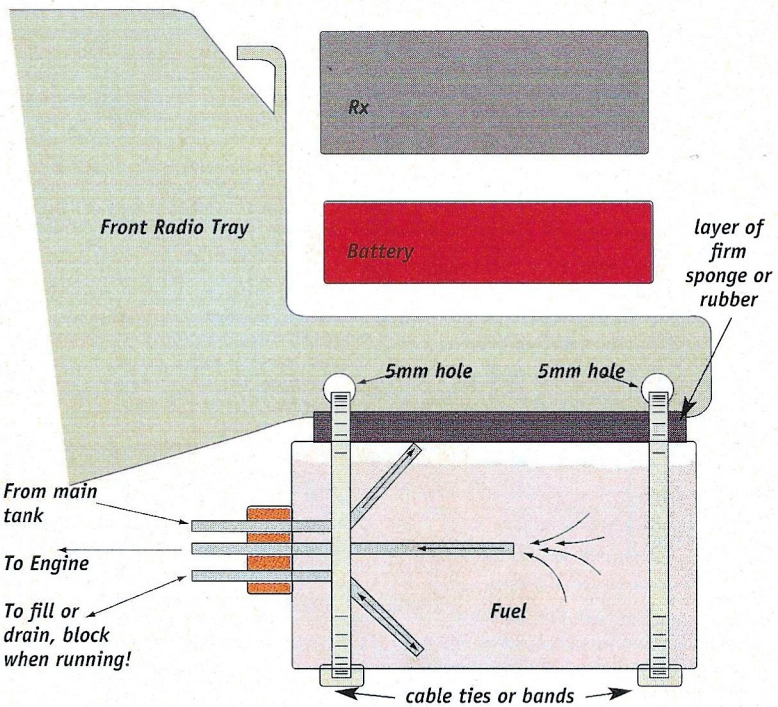
### NHP Rear Push-Rod Kit

The kit is supplied with all the necessary components to complete the task. There are two main components, most noticeable is the 5 mm carbon PUSH-ROD, this is supplied pre-cut to length, with pretty blue anodised end caps. These end caps are internally threaded and your first job is to threadlock the two long set screws into position. Whilst the threadlock is curing, your attention can be drawn to the rear servo mount. This is essentially a 2 mm flat carbon sheet carefully trimmed and pre-drilled to suit, this simply sits against the R/H sideframe and is held in place with three 35 mm bolts. Your servo is then mounted to this plate with four large headed screws and nylon plates. Next step is to trim off the small hook on the R/H gearbox case. This was easily achieved with the help of a razor saw, if you haven't got one, then use a hacksaw blade or similar, as the material is tough and fingers are not so easy to replace.

***Push-pull on the pitch, twin boom supports and NHP rear pushrod kit. The combination works extremely well when pushing the Baron 'S' to the limits.***



*Dia. 1: 2 oz Header Tank Installation*




*The 2 oz Header Tank is installed on the under-side of the front radio tray. Drill two 5mm holes through the tray, use a layer of sponge or rubber to damp out vibration and fix with rubber bands or cable ties. If you use cable ties, you may have to slide some fuel tubing onto the ties to stop the tank slipping. Make up the fuel tubes as shown, noting the flow of fuel. If you get confused, use different colour silicon fuel tubing to highlight the correct installation. Route fuel tubing through frames carefully and check frequently for chaffing.*

Last steps are to install the stand-off control balls and the ball-links. I found the NHP 'rear servo kit' very easy to install and required no special tools whatsoever. Allow a leisurely hour for this project and as usual, take your time and enjoy it!

## A Bit Of Fiddling With The Webra

This bit of fiddling is perhaps more accurately described as 'getting to know your engine!'

The Webra 35 has proven to be an excellent power-plant, combined with the J. Perkins Dyna-Pipe, it is very powerful, totally reliable and acceptably quiet.

The Webra will run on 0-10% nitro, the higher percentages offering a little less sensitivity. I have settled on Formula Irvine Contest 10 and the main and low needles do not appear to be under or over-sensitive. However, to retain totally consistent running, a header tank did have to be installed.

This engine is no different to any other, in that to get the most from it, will require some careful setting up. The choice of plug does appear to create varying characteristics on the Webra. I have found that the Fire-Power M5, ENYA 3 or O.S A5, work well with 10% fuel, a tuned-pipe and a head-speed of around 1900 rpm.

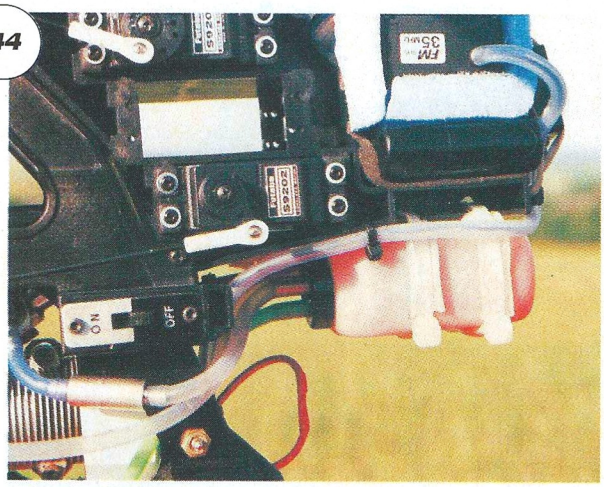
Another point worth bearing in mind, is that the low needle has a lot of authority over the mid-range mixture. Therefore, don't necessarily look to the 'main' needle if the mid-range requires adjustment, instead small adjustments of 5-10° could be tried on the low needle and as usual, don't forget to check the main needle setting after each adjustment.

## Let's Get Acquainted

Now it was time to fine tune the set-up and get to know the Baron 30 'S'. The little 'ankle biter' was given a thorough check-over on the bench. As expected all the nuts and bolts, etc. had stayed nice and tight, the tail-belt tension had remained consistent and no wear was evident. I did have to nip up the mixer arm bolts once in the settling-in period, but not since and the model has remained completely maintenance free. I did find the fuel tank rattled a little in-flight, so I simply positioned a few strips of foam between the tank and side-frames.

The Header tank fitted was a Dubro 2 oz tank and was strapped to the underside of the radio tray. Should you wish to follow this route, the accompanying photo and Dia. 1, should help. The last mechanical tweak was to lighten the paddles. This was achieved by cutting out a section on the rear of each paddle. This did reduce the paddle weight to about 15 grams, but was a time-consuming task, that I could only recommend to

*'when I say 'advent-urous', I mean extreme 3D aerobatics'*



*Dubro 2 oz header tank strapped to the radio tray provides totally consistent running.*

*Source of much improvement, the NHP rear pushrod kit.*

experienced 'fiddlers'. A much simpler fix would be to use the popular K & S paddles, they are cost effective and are renowned for their rapid response.

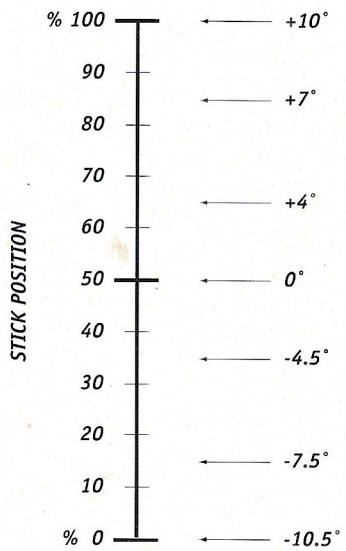
Down the field, the fine-tuning went extremely well, this consisted of attaining a constant head speed on the NHP blades and a bit of scrutiny of the rest of the set-up. The NHP blades, pull a good plus and minus 10° with 0° at half stick. Should you have the facility of a 7 point pitch curve, you may find Dia. 2 useful, if you wish to mimic my set-up. I am also using around 10% exponential on cyclic controls and cyclic to throttle mixing, is around 20% on a 14 mm throttle servo arm. Tail blades are again NHP's and are 46 size trimmed down to 80 mm.

To aid the backwards flying, I fitted a '3D' fin to the Baron and trimmed down the horizontal stabiliser. The last adjustment I made was to the balance of the model, this was moved rearwards to line up exactly on the main-mast. This was achieved by a temporary piece of lead around the tail boom. I do have high hopes of removing this lead as and when time allows me to have a 'shuffle' around of the receiver and battery, etc.

## VERDICT

NHP Sport 55 cm Blades. RRP £36.95
Verdict: Good all-round blade, tough and reliable, with an excellent reputation for withstanding '3D' flying.
NHP 46 size Tail-Blades. RRP £11.95
Verdict: Excellent tail blade, light proven design, progressive feel and response, trimmed down to 80 mm on the Baron.
NHP Rear Push-rod Kit. RRP £19.95
Verdict: A dramatic improvement when working the tail hard, quick and easy to fit and has proved to be reliable in operation.
NHP 3D Fin Set. RRP £14.95
Verdict: Very useful if you're into extreme 3D aerobatics but can be a disadvantage in auto-rotations.
2 oz Dubro Fuel Header Tank.
Verdict: A quick easy fix, when installed correctly gives consistent running down to the last drop.
K&S S.P. 30 L/W Pink Paddles. RRP £5.95
Verdict: Rapid response in stationary manoeuvres, but can get a bit twitchy in very fast forward flight.

*Dia. 2: Seven Point Pitch Curve and Useful Info*




| SERVO ARMS | |
|---|---|
| AILERON | 16.5mm (overall) |
| ELEVATOR | 16.5mm (overall) |
| RUDDER | dependant on gyro set-up |
| THROTTLE | 14mm |
| PITCH | 13.5mm |

| EXPONENTIAL | |
|---|---|
| AILERON | 10% |
| ELEVATOR | 10% |

| CYCLIC TO THROTTLE MIX | |
|---|---|
| AILERON | 12% |
| ELEVATOR | 12% |

***The pitch graph refers to my seven point curve. All settings are given as a guide. Adjust to suite your flying style!***

### All The Fun Of The Fair

To me, this latest offering from Kalt is pure fun! I have perhaps been a little spoilt of late, having a few high quality 60 size machines to play with. Whilst the 'big uns' offer unparalleled accuracy and are so dream-like to fly, they do represent higher repair bills when we get it wrong. This is why I find this 30 size machine so much fun. With the aforementioned items, the Baron 'S' is now accurate enough to be flown in a precise 60 style of '3D'. I have gained a lot of confidence whilst flying the Baron and now my repertoire is substantially lower than before. I do actually attain much pleasure in seeing how low I can fly this model and the 'adrenaline buzz' gained, is payment in itself. This little machine, is capable of almost everything I can throw at it.

The tail is now rock-solid in all but the most demanding of 'rippers' and 'death dives'. When I say demanding, I mean the 200 ft plus variety. Below this - no problems, above - just pull out a little more cautiously than an all singing all dancing 60 size model. The Baron appears to love backwards loops and control is accurately retained at all times. Both forward and backwards rolls are good and when pitch inputs are correctly timed, rolling circuits etc. can be achieved. Where I most enjoy the Baron is 'low and slow' and this is where I like to keep it!

### Will I Give It Back?

No, I won't, I have found that having a 'low cost fun model', is very advantageous. It fits in my car boot easily, it simply sips fuel and I find that I use the Baron to tone-up my low level flying and to practise new manoeuvres. I think this offering is excellent value for money! Should you buy one, you will be rewarded with a machine that could take you up to advanced '3D' aerobatics, with only a minimum of up-grading, purchased as and when you need it!

## A couple of after-thoughts...

### Push-Pull

I had been noticing that either my reactions were slowing down, or the pitch set-up on the Baron could do with a boost in speed. Simple answer was to increase the servo arm length and reduce the A.T.V. so the servo was in effect faster. However, I also wanted to improve the resolution, so a push-pull conversion was carefully considered. To achieve this, I just bolted a 48 mm long carbon-plate to the existing pitch control-arm, fitted a 20 mm output disc to the servo and connected them up with two push rods. The set-up is now faster and more accurate, but I was a little disappointed to learn, that G-Blades do a purpose designed kit for a very reasonable £11, which is (I'm assured) fitted in minutes. There you go, there's always someone who tells you these things when its too late!

### Is Two Better Than One?

Yes, when it comes to boom supports and maximum gyro performance, two are better than one! By using two supports, the tail boom is locked in all directions. The task was easily achieved by adding an additional 'support' and anchoring them on the side-frames at the front. The rear boom support clamp is still utilised, but a 3 mm spacing washer is placed in the middle and the supports are now bolted to the outside of the clamp. MHW