

## Kalt 30 Baron SXH is Flying

I've finished building the new Kalt Baron 30 and have flown about half a gallon through it. Since the initial shipment of kits and parts is expected any day, (but NOT here yet!) I have been a bit cautious about breaking anything! But here's my initial findings...

First, the kit builds easily and everything fits well. The worst part of the kit is the decals which I found just too ugly to use, but then that's just personal taste. I like the looks of the machine, looks just like a baby brother to my Baron Alpha II.

I haven't heard any news about ball bearing upgrades for the control pivots, but it's likely that they will be offered. Mine work very freely and no wear yet with limited use. The clutch works great, very smooth and it engages at the proper speed. The blades are finished and mine were perfect, exact same weight and within 1 mm of same span-wise balance. The tail rotor, swashplate, flybar and control levers look to be the same as on the Enforcer ZR. Most of the rest of the parts are NOT interchangeable.

The only thing to go wrong on mine so far is a problem with the bearing block that houses the starter shaft. The lower bearing dropped out of the block and caused some wear on the flywheel. This was due to my being too ham-handed with the starter shaft (you need a 6mm hex starter extension) and not tightening the starter connector securely enough. Oops.

The machine is very stable in hover and is quite responsive even with the standard arrangement of control arms. There is lots of collective range available, though with hot cyclic controls you need to limit collective to about 20 degrees to avoid binding on the swashplate.

This is not a "complete" report, but I now have about 20 flights and the SXH is breaking in. Here's a shot of my Baron 30 in hover:



I like this chopper a lot. The controls are showing no signs of slop, the direct tail rotor pushrod is slop-free and very low friction so it works very well. Everything on my machine is stock except I used Zap-a-dapa-goo to glue a 2-oz header tank directly to the main tank. Works great and capacity is BIG. All of the control links and bushings are working great, no slop or wear yet. The main blades are excellent in flight, and the stock arrangement has virtually NO pitch trim change from hover to fast forward flight. The cyclic controls are very powerful but not touchy. I haven't tached it but I'd guess it's running at 1700 rpm, it doesn't feel happy at low head speeds. I know there's a "review" that says the clutch is bad on this machine, but don't believe it! This clutch is silky smooth, engages at the perfect speed and shows no wear or stress. Either Kalt fixed the "problem" or the other reviewer just had bad luck in getting a faulty unit.

In general I really like the way this chopper is built and the way it flies. It's easy to build and very easy to service.

Hey, this is a fun chopper! With over 70 flights on it now, I'm pretty danged impressed. After almost 2 years with only a few heli flights (been busy with pattern stuff) I've progressed a bunch with the Baron 30. I've done my first hovering loops, both inside and outside, hovering rolls, outside loops, stall turns with half rolls, full-down autos nose-in, and several other manoeuvres. What a blast!

Nothing has worn out and everything is working well. The OS 32SXH is a great engine, a perfect match for the Baron 30. I'm also really getting to LOVE the new Heli Card for the Stylus, this should be available before Christmas. Here's some of my observations:

<b>Hover</b>	Very stable in hover. I like the way it feels.
<b>Forward Flight</b>	Better than the Enforcer (which I loved), the Baron 30 has almost no tendency to pitch up in fast forward flight, even with the flybar set up for faster response.
<b>Autorotations</b>	With the stock blades the Baron autos very nicely for a 30-sized machine. You have about 2 seconds after flaring before the energy is used up. (Tail rotor is not driven but can be upgraded to a LSD arrangement)
<b>Loops</b>	Forward flight loops are a piece of cake. Multiple loops are possible without losing altitude. Tracking is excellent.
<b>Rolls</b>	A full roll takes about 1-1/2 to 2 seconds. Slight tendency to pitch the nose up at the inverted position, probably due to a slightly aft CG on my heli.
<b>Stall Turn</b>	Very good vertical performance, enough to do half rolls with ease. Good tail rotor response, 180 or 540 stall turns are great.
<b>Inverted Flight</b>	Inverted forward flight is about the same as upright, I guess the blades are pretty close to symmetrical. Plenty of collective range available to use full power both upright and inverted.
<b>General</b>	As you can tell, I really like the Baron 30. So much so that I ordered another one (yes, I have to PAY for mine just like anybody else!) and some of the upgrade parts. I want to make sure that I'm not grounded when the time comes that I push the envelope a bit too far! Also, I think the mixer arms will probably benefit from upgrading to the aluminium units with bearings. I see no real need to upgrade the bell cranks other than neat looks, so I didn't order them.

The original shipment of the Kalt 30 Baron had kits with servo trays that are prone to failure. The most common location of failure is in the area at the upper rear of the elevator servo mounting hole. Inspect yours for any signs of cracking or splitting and ground it if you see any. The replacement trays are the same size but use a different material and/or moulding method and seem to be pretty bullet proof. The part numbers are the same, but the NEW trays have the flat/satin look as opposed to the shiny smooth surface of the questionable trays. All kits shipped from Airtronics since late April should have the good trays included. They will send you a replacement tray if yours is defective, no charge for the part but they want the old one returned to them. You can call them for details.

## UPGRADES to 30 BARON

Most of us heli-addicts seem to have an affinity for adding upgrade parts until we either run out of money or run out of parts to add. I get more questions about upgrades than about how the 30 Baron flies. So I'm going to give you MY opinions on which upgrades are the most useful for the 30 Baron.

If you are a beginner or are primarily interested in just enjoying some hover time now and then, there's not much reason to upgrade anything. The 30 Baron (like most modern heli's) is a very nice flying machine right out of the box. Folks who want more precision, less maintenance, hotter cyclic response and so on can upgrade to their heart's content. Here's what I've used:

1. The first upgrade I suggest - before you even build the kit - is the "main frame bearings" option. These bearings replace the bushings used on the pivot arms for the collective pitch yoke. Less friction and almost zero maintenance are the benefits. The reason I say put them in when you build the kit is simple - it saves having to take the main frames apart later to install them. Cost: under \$20.
2. The mixer arms work fine, but the stock bushings mean you have to leave the bolts slightly loose. It's impossible to field-check the bolts without popping all the links. There is also some side-play in the bushed arms. The first upgrade to make here is to use the aluminium, bearing equipped mixer base. This lets you snug the hex head bolt on the inner arms to eliminate all slop on those arms. Cost: about \$60.
3. The next area I upgraded was the tail drive. The stock drive wire/bushing arrangement wears out, as they all do. So I installed the Kalt carbon fibre tube drive (they call it a "pipe drive") and that ended the maintenance on that system. It doesn't make the heli fly any better, just saves shop time. Airtronics has not got these in stock yet but may have an aluminium version. I'm told that Hobby Hanger may have a low priced CF tube drive but haven't checked it out yet. Cost: \$35-80.
4. I have yet to experience a problem with an engine that runs too cool, or a plastic fan that is too perfectly balanced. So I installed the Kalt aluminium cooling fan. This puts out more air, runs very true and eliminates the separate fan/flywheel arrangement. I love it. Cost: about \$41
5. The next area I upgraded was the mixer arms. The aluminium mixer arms with ball bearings eliminate ALL of the slop and friction in the mixing unit. They also allow more cyclic/collective travel, which obviously means they can expand the flight envelope. They are pricey, the street price for both sets of aluminium arms is about \$110.
6. The biggest difference in FLIGHT came from the upgrade to the NHP 550 blades. I buy the regular symmetrical units, not the lighter "3D" blades. Both sets were perfectly balanced (all three ways) right out of the box, one set at 119 grams and the other at 121 grams. They will pull more pitch with the same power and add almost a full second of hang time (a scarce commodity on a 30 heli!) to the bottom of an auto. They also seem to feel better in flips but I have no idea why, perhaps the higher rigidity of the blades. Cost: about \$80.
7. The aluminium lever bracket works the same as the stock unit, except that it's maintenance free and virtually wear-proof. Being aluminium you can loctite the bolts in place. Cost: about \$28
8. Thrust bearings are not stock, but are available as an option. To be honest I can't tell the difference in flight, probably due to my skills not being good enough. Cost: about \$35

I have also bought some other upgrades, most of which offer marginal gains over the stock assemblies. These include the aluminium (bearing equipped) aileron and elevator control systems, (expensive!) and the carbon fibre tail blades. Neither enhances performance as far as I can tell, but of course the bearings in the cyclic control systems allow you to lessen the friction (and thus servo-load) and remove a tiny bit of slop. These are fine upgrades, work great, look nifty - but offer the least actual performance gain for the cost.

The last upgrade I haven't installed yet because they just became available. An optional kit allows installation of the OS .46 engine for those folks who want "more power!" (pause to grunt like Tim Taylor..."oh yeah, more power, oogh oogh oogh...") I'm installing this so I can run 20% nitro in my heli's, same as I run in my pattern planes and my big twin 4-stroke. With the .46 there will be no need to use high nitro! Kalt does not (yet) offer a different blade set so I'm going to try a set of the NHP blades which they designate for the Ergo .46. I'll let you know next time how that works.

The upgrade kit includes a new fan, engine mount, shroud, and flywheel. Cost: about \$100 not including muffler.

There's also an all metal swashplate and two all-metal heads available. Since the stock units are working fine and showing no sign of wear I haven't dropped the big bucks for there parts. Maybe someday, I'm sure they look real cool

While I'm talking about my heli, I should also mention that the new HELI feature upgrade cards are now shipping for the Airtronics Stylus. It's a great card, definitely gives you almost everything you ever wanted in a top of the line heli radio, for much less cost.