



Nitro Kestrel SE

CAN'T MAKE UP YOUR MIND BETWEEN A SMALL ELECTRIC AND A NITRO POWERED HELICOPTER? WELL PERHAPS WE'VE FOUND THE MODEL FOR YOU. THE NEW NITRO KESTREL SE FROM CENTURY UK IS THE FIRST SERIOUS 'MICRO NITRO' TO BE MADE AVAILABLE IN YOUR LOCAL MODEL SHOP. BUT WHAT'S IT LIKE? NIGEL FRASER KER FINDS OUT...



The dilemma facing many new pilots is whether to buy a small electric helicopter or to

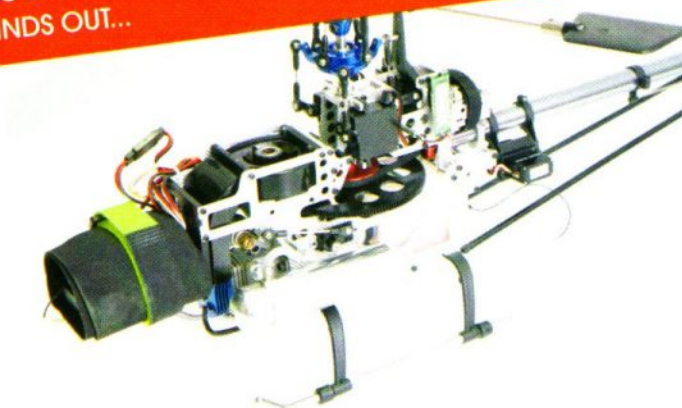
go for a more conventional 30- or 50-sized machine. Electric models are clean and easy to use but for an enthusiastic newcomer the need to keep recharging batteries can be very frustrating and the cost can also be prohibitive. Of course with a nitro powered helicopter you only have the receiver battery to worry about but there is the noise to consider and since nearly all nitro powered helicopters are at least 30-sized you need a good-sized field to fly them in. Until now there hasn't really been a compromise solution.

Enter the brand new Nitro Kestrel SE from Century UK, a nitro powered helicopter that's not much bigger than a T-Rex 450. Yes that's right, tucked away underneath that canopy is a tiny little 0.15in (2.5cc) engine (all engines are pre-run at the factory) and what's more it's ready to fly

right out of the box. Let's take a closer look.

CONSTRUCTION

The Kestrel is supplied fully built either with or without a transmitter/receiver and with the option of a large aluminium storage case. The fuselage is a conventional 'stacked frame' design the majority of which is made from 1.5mm a woven carbon silver composite material. The frames are separated by aluminium spacers and fastened with cap-head screws in the usual manner. The little Century '15A' engine drives a brass pinion which directly engages with the plastic main gear which in turn is fitted with an auto-rotation hub. In a departure from standard practice the required starter probe is a cylindrical rather than hexagonal 6mm shaft which fits into a one-way bearing mounted inside the cooling fan. A probe converter is provided with the helicopter in case you already have a hexagonal starter probe or alternatively you can buy a dedicated starter probe for the model.



Yes, that really is an exhaust pipe! The little 2.5cc engine fits snugly between the frames in a neatly designed arrangement



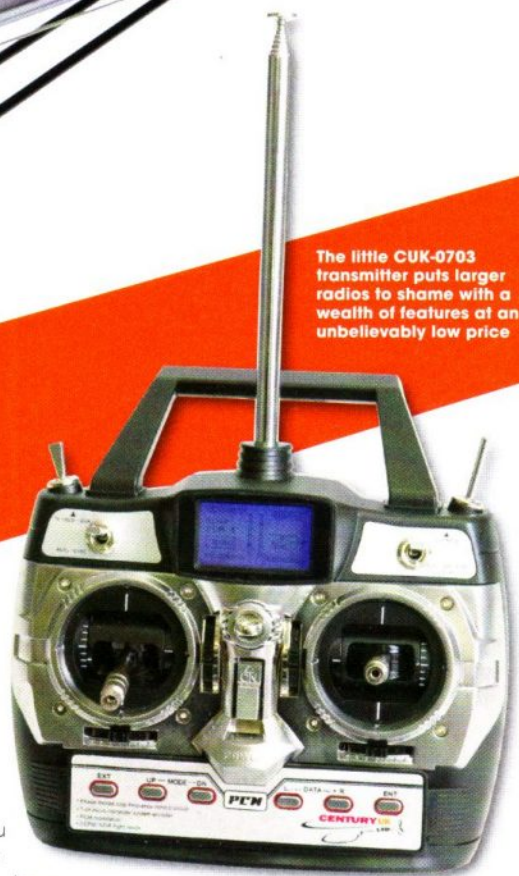
Keeping it simple - moving the flybar system works well and keeps the part count down

The Kestrel is an economical alternative to electric models and saves you from all that battery charging



Complete and ready to fly out of the box, the Kestrel is even fitted with a battery level indicator

The little CUK-0703 transmitter puts larger radios to shame with a wealth of features at an unbelievably low price



→ Cyclic control is achieved via a CCPM (cyclic/collective pitch mixing) configuration controlled by three servos linked to a nicely made aluminium swashplate. The head has been simplified by employing a moving flybar system which removes the need for an intermediate washout base. The main rotor blades provided with the model are 400mm long and made from fibreglass and seem sufficiently rigid and perfectly adequate for the job. Plastic paddles are secured to the flybar with fairly large metal paddle-couplers and these add considerably to its weight and therefore the stability of the system. There is no simple way to alter these weights to increase cyclic response but I noticed that there were several adjustment options on the mixing arms.

The tail rotor is belt-driven and the associated aluminium gearbox is a neat, simple design. In passing I noticed that the replacement cost for this item is less than half of the equivalent part for the smaller T-Rex 450 - simplicity saves you money! Tail control is delivered by a digital servo to provide better yaw control and gyro response. The gyro provided is

a Century CUK-G011 heading lock unit mounted to the rear of the main frames.

Moving to the front of the helicopter, the canopy is made from a sturdy and flexible plastic material, not the more brittle sort associated with some smaller helicopters. Control is provided by a Century 7-channel receiver with synthesised tuning which allows you to change frequency without the need for replacement crystals. It's worth noting that the channel assignment for the transmitter/receiver pair is slightly unusual although this in no way affects the performance. Power is provided by a more than adequate 1300mAh 4.8 volt nickel metal hydride battery and this is controlled by a switch mounted on the frames that you can get to without removing the canopy.

I find that when reviewing models it's the little details that make a difference and I was pleased to note that Century UK has provided a remote glow plug adapter, a battery monitor and a foam wrap for the receiver.

The overall quality of the materials and construction is good and I have not needed to re-tighten any bolts or fixtures so far. All the tubes and cables are properly routed and secured with cable ties and metal clips. I was pleased

to see that the receiver's antenna was nicely protected by fuel tubing but on my example it was tightly coiled towards the end of its length and I would recommend that if you experience any range issues you might like to draw the antenna out to its full length to get the best reception. I would also keep an eye on any cables which pass through holes in the frames to ensure that no chafing occurs.

The manual is well-produced but does not contain much in the way of written assembly instructions (remember, you'll need to be able to put it back together after a crash). Having said that, the design is pretty simple and with care I don't think pilots will have many problems.

THE TRANSMITTER

If you opt for the version of this helicopter which is provided with all the radio gear you will be supplied with Century's new CUK-0703 35MHz transmitter. Having seen lots of cheap units supplied with small electric helicopters I was expecting something similar to be provided with the Kestrel. How wrong I was!

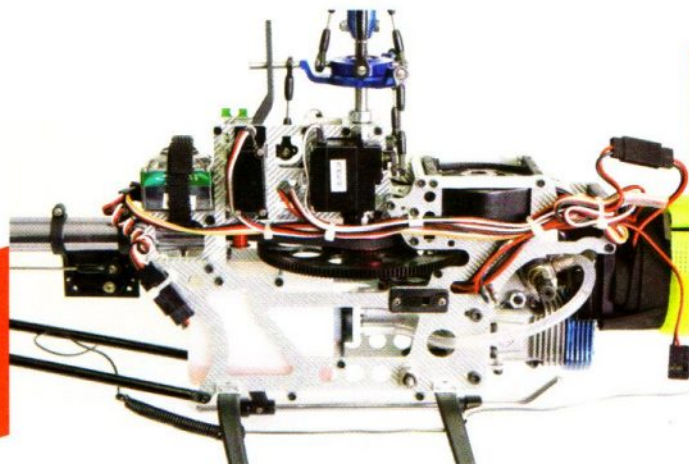
This little transmitter is an absolute gem and although I haven't had it for long enough to be able to comment on its reliability I can tell you that in terms of value for money it has got to be one of the best

transmitters you can get. Believe it or not it has all the functions you'd normally expect in a mid-range unit and includes features such as a proper graphic LCD display, four flight modes, five-point throttle and pitch curves, digital trims, eight-model memory, synthesised six-channel frequency control, channel monitor, CCPM mixing, selectable PCM/PPM modulation and is powered by a 1300mAh nickel metal hydride battery.

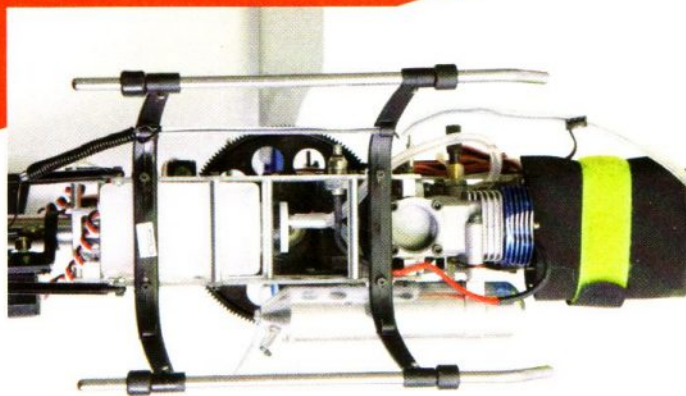
All this is packaged in a case that I would describe as about four fifths of normal size which is perfectly okay for an adult pilot but absolutely ideal for children and anyone with smaller hands. If you decide to buy this transmitter on its own it costs just £60, an unbelievably low price for what you get. It's even got a training socket at the back so you can 'buddy up' with an instructor who is equipped with a similar transmitter or with the necessary adapter lead it can be used with most of the leading simulators. I think that Century UK should consider supplying this excellent little unit as



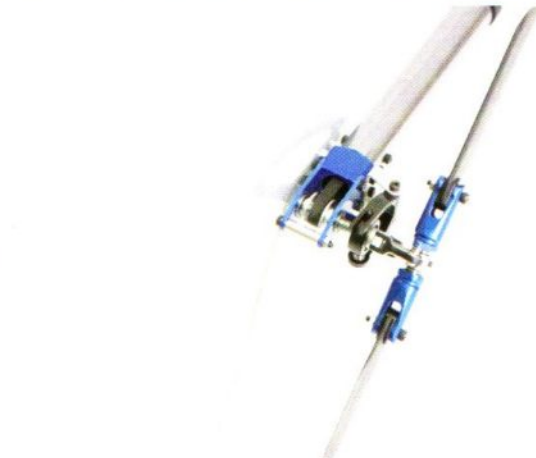
Ready to go! The engine is tested in the factory and should't need much tuning



The model is assembled well and the wiring is neatly routed around the frames with cable ties



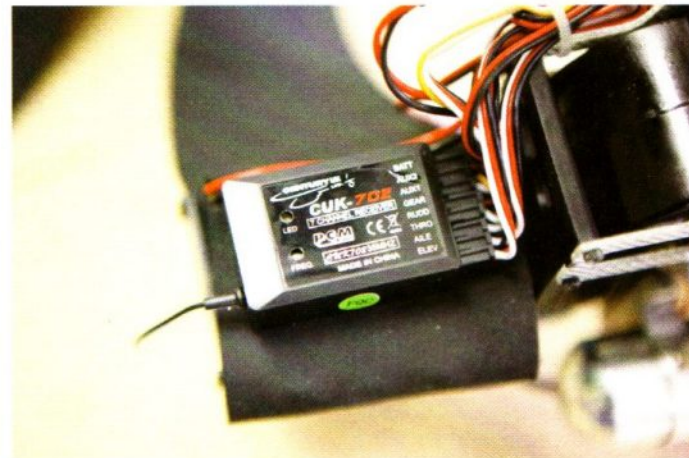
The engine installation is neat and as you can see, Century UK even offer a glow extension to make starting more convenient



The tail rotor is an example of design simplicity and keeps the price of replacement parts down



In the air at last and first impressions are good



With synthesised frequency selection the receiver's channel can be changed without the need for new crystals

an option for some of their other helicopters such as the GL-450 SE. You can tell I'm impressed!

ACCESSORIES

Century UK provide a small set of tools, a blade caddy and a charger for the transmitter and receiver which consists of a 12-volt mains adapter and a charging unit. If you wanted to use the charger in the field it would be a simple matter to make up a lead to connect the charger to another 12-volt supply such as a car's

cigarette lighter socket or similar.

Assuming you buy the helicopter complete with the radio equipment the only extra items you will need are a starter motor and probe, a fuel pump and a glow plug igniter. I would also advise anyone buying one of these models to obtain a combined fuel filter/T-piece to safeguard the reliability of the engine and to make refuelling easier. You might also like to consider buying a neck strap for the transmitter if you don't already have

one, not essential but many people prefer the extra security.

TEST FLIGHT

Having given the model a final check over I then performed a range check. This is an absolutely essential test especially for a new model you're about to fly for the first time. I haven't seen that many problems with brand-new equipment but once in a while I have come across a faulty transmitter or receiver so I never

take any chances. The range check is performed by retracting the transmitter's aerial and making sure that it is in full control at a range of 40 or 50 metres.

Since I had never flown a nitro-powered model as small as this I really didn't know what to expect. Living in a quiet neighbourhood I was also keen to find out how noisy the engine would be. So, with my safety checks completed and having filled up with fuel I started the engine. This was a relatively

straightforward affair once the fuel had reached the carburettor. The engine sprung into life and I thought it ticked over surprisingly easily considering its small capacity. I allowed the model to warm up and then gradually increased the head speed, checking the controls and satisfying myself that everything was in order I finally lifted the Kestrel off the ground. In the air it felt perfectly stable but the engine was clearly labouring so I decided to check the mixture. As supplied, the main needle on the carburettor was set at 1.5 turns out but I discovered that by slightly richening the mixture the engine began to behave itself and the helicopter started to perform nicely. The next day it was considerably warmer and I noticed that the carburettor needle needed adjusting again to get the most out of the engine.

Hovering comfortably I noticed that although the exhaust note from the engine is high-pitched it is certainly not excessively loud and the muffler seems to do a good job, you don't get that aggravating sound usually associated with small two-stroke engines. With easy-going neighbours you may even find that you could fly one of these around your back garden without complaint.

I found that I didn't need to adjust the throttle or pitch curves and that as it was set up by the factory it handled very well indeed. It was very stable and progressive and ideal for novices and intermediate pilots. There was easily enough power to fly around confidently and the engine didn't feel strained or underpowered during mild aerobatics. In fact I was so confident in the model that I performed the ultimate test by allowing one of my flying students to try it out. He had no problems at all with the helicopter, in fact was so impressed that he went out the next day and bought one! (I'll be waiting for my sales commission from Century UK!)

PUSHING IT

Having roared around the field for a while and gained confidence with the new machine I thought I'd push my luck and try some inverted flight. The idle-up settings were fine but just one tentative attempt to push it over was enough to tell me that the cyclic rates were so low that it would take far too long to transition from upright to inverted flight safely. I suspect that a lot of this was

RW top tip

Century UK recommend the use of their 30% Cool Heli Juice to power the model and this is the fuel I used for the test. Mixture adjustment is achieved by a conventional two-needle set up: one to control the mixture at normal running speeds and one to adjust it for idling. Beginners should note that no instructions are provided for the engine and should seek advice before fiddling with needle settings.



Light winds were no trouble for the Kestrel. Being slightly larger than a 450-size model beginners should find this easier to fly



The bright, pre-coloured canopy is easy to see in the air



Although not a full-on 3D model, the Kestrel is great fun as a sports model and will perform mild aerobatics with ease

The model is built in the Far East by Walkera who have taken advantage of development guidance from Century UK's Mark Tilbury to produce a very good level of build quality



caused by the heavy paddle-couplers on the fly-bar and any pilot wanting to make the Kestrel livelier should consider using smaller weights. However, not wishing to alter it mechanically for the time being I decided to adjust the swashplate mixing instead, modifying the aileron and elevator rates in the transmitter from 60% to 100%. This instantly gave the model a faster cyclic response and I was able to perform some mild 3D. I say mild because there is no getting away from the fact that this is not a helicopter for performing the sort of hard, pitch-pumping routines that you might see being done with electric models of a similar size. The Kestrel simply does not have the power-to-weight ratio of the small electrics and therefore I'm not sure that I would describe it as

a full-on 3D machine. However it is quite happy with loops and rolls, inverted circuits, flips, etc. and so I'm sure that most pilots would find it great fun.

One other small point is that even without fuel and with the canopy mounted the helicopter is slightly tail-heavy but aside from fitting a heavier battery or possibly moving the gyro to the front it's not easy to see how this can be corrected. Having said that however, the Kestrel flies perfectly well as it is and I would certainly not go to any great lengths to try to fix this particular problem.

THE VERDICT...

To summarise, I think the Kestrel is a super little model. Although not really suitable for wild 3D aerobatics it's fine for sport flying

and its stability will suit beginners, the extra weight making it a little less skittish than smaller electrics. The little 2.5cc engine performs well and during the test was reliable although I found that the carburettor needed occasional adjustment depending on the weather conditions and the lack of instructions for it could be a nuisance for beginners. The design is simple, the components are well made and the test model was assembled correctly. The transmitter is the best 35MHz unit available with a small model in my view and fantastic value if bought separately. Although it's smaller than an average unit I suspect that its size will be especially liked by younger pilots. ←

Nigel Fraser Ker

TECH SPEC

Nitro Kestrel SE

PRODUCT TYPE:	Nitro-powered micro
MAIN ROTOR DIA:	900mm
TAIL ROTOR DIA:	175mm
OVERALL LENGTH:	820mm
WEIGHT (W/O FUEL):	1100g
ENGINE:	0.15in (2.5cc) '15A'
RECEIVER BATTERY:	4.8 volt 1300mAh NiMH

PRICES:

Nitro Kestrel SE complete (no Tx or Rx)	£329.99
Nitro Kestrel SE complete (no Tx or Rx) in case	£359.99
Nitro Kestrel SE complete	£399.99
Nitro Kestrel SE complete in case	£429.99
Starter probe	£9.99

AVAILABLE FROM: All good model shops

UK DISTRIBUTOR: Century UK

TEL: 01795 437056

WEB: www.centuryuk.com