

## BENCHMARKS - By Bruce Corfe

An in-flight shot of the Z-Century. With electronic gyro and four-channel control, this small heli is both stable and very controllable.



# RC FOR MICRO-

**E**ver since Silverlit introduced the first affordable micro-helicopter, the Picoo Z, in mid-2006 (was it really as recently as that?) the number and variety of tiny R/C helis has increased exponentially. Silverlit have remained at the forefront of this revolution and a glance at the catalogue of Flying Toys Ltd., UK importers of the Silverlit range, reveals a bewildering array of variations on the two-channel, infrared controlled micro heli theme. When distributor David Rawlins offered AMI the opportunity to test the two latest, advanced, multi-channel offerings

*Silverlit's big RC Fortress - there is also a Eurocopter-bodied version.*



# TRESS & Z-CENTURY HELIS

Bruce assesses the latest multi-channel offerings from Silverlit, four years after the introduction of the iconic Picoo Z

from this stable, I bit the Ed's metaphorical hand off!

The two helicopters in question are the three-channel RC Fortress and the four-channel Z-Century. Both models show the clear influence of Belgian engineer Alexander van de Rostyne, designer of the original model and still working with Silverlit on their helis - the Picoo Z DNA is evident in both of the new models. Similarities between the two include: strong high-vis packaging; clear, well-illustrated manuals; spare parts; multi-channel operation; single rotor plus fly bar mechanics; motor-driven tail-rotor; detailed hard plastic body-shell with futuristic non-scale styling; 'searchlight' nose LED switchable from the controller; and, last but not least, an electronic gyro

for heading-hold - hurrah! There the similarities just about end so let's look at each model in detail:

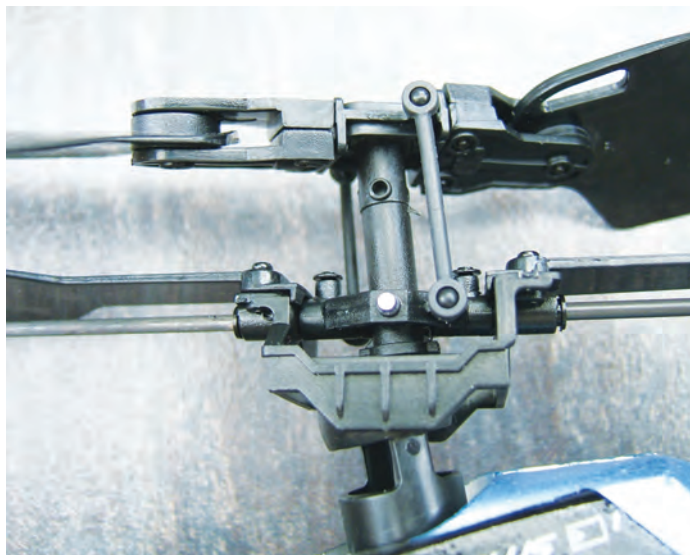
## Three-channel RC Fortress

The first thing to say about the RC Fortress is that it is BIG! Compared to other micro-offerings, this model is on a par in size with helis like the T-Rex 250, with a main rotor diameter of 335 mm and broad-chord blades with an undercambered section. The weighted carbon flybar is stuck under another, smaller, aerofoil section rotor rather like the Picoo Z arrangement. There is a large, highly cambered tail rotor driven by a separate, geared coreless motor:

A departure from previous Silverlit offerings is

that the Fortress is controlled by 27.145 MHz radio, rather than infrared, which is a welcome move. Two different body colours are available, blue-black and red, denoting two different 27 MHz 'bands', A and B. There is a similarly spec'd model with a scale body, the Eurocopter. The large, three-channel throttle-right Tx (requiring four AA cells) controls throttle/height (left stick) and yaw and pitch on the two-axis right stick, with separate trim controls. Three snap-on 'control caps' are provided which limit the movement of the right stick for learners.

Welcome additions are a trainer undercarriage for beginners and a training DVD packed with hints and videos. Spares include main rotor blades, connecting shafts, two rear rotors and



**ABOVE LEFT:** The Fortress has futuristic styling and a hard plastic shell protecting the front pod. **ABOVE RIGHT:** The business end of the Fortress - the robust fixed-pitch rotor head. **FAR LEFT:** The large coarse-pitch tail rotor is driven by a geared coreless motor. **LEFT:** The 27 MHz Tx of the Fortress - trims on yaw and pitch - and the charging system with UK plug/transformer, balance charger and 300mAh LiPo.

the control caps.

The charging method of the provided two-cell 300mAh LiPo battery is another departure from the Silverlit norm. A separate mains-powered balance charger plus UK plug/transformer is included and the LiPo (spares available from Flying Toys for £10) is removed from the body to charge, taking around half an hour.

On switching on, a red power LED is visible on the Fortress plus the blue 'searchlight' LED in the nose, switchable from the tranny (doesn't that need an extra channel?) All in all an impressive model, the flagship of Silverlit's huge range of helis, reflected in the price which is almost three times that of the Picoo Z. Is the price warranted? We shall see! But first a peep at 'big brother's little brother':

### Four-channel Z-Century

First off, this is a much smaller helicopter, only slightly larger than its ancestor with which it shares infrared control (range is listed as ten

metres maximum) and charging from the large, four-cell Tx. A hidden, geared coreless motor drives the tail rotor and brings up the rear - two spare blades are provided. One difference is the non-aerofoil flybar, mounted here above rather than below the main rotor.

Styling is futuristic with a hard plastic body-shell in metallic orange. There is a similar model with a different body style called the Z-Bruce - no, I'm not making this up - both are available on one I/R band only. A searchlight LED, again switched from the Tx, is fitted for night ops. The mode 2 tranny offers pitch and left/right 'drift' (if that's the right word - the manual calls it 'flying sideways') on the right stick and throttle/height plus yaw on the left as is conventional practice for four-channel helicopters. Trim is available on yaw only. All in all, the Z-Century is a very attractive little helicopter with some advanced features, including the electronic heading-hold gyro. There is also, uniquely, a USB computer charging lead provided, meaning that the Z-Century

can be conveniently recharged direct from the transmitter, or any computer USB port, in half an hour.

### Onwards, upwards - and sideways!

For flight-testing the two models were taken to Boulby Potash Mine Heli Club's gym venue in coastal Cleveland, our regular Monday night indoor fix. This is a large facility and has hosted F1D rubber duration events, so there's one excuse gone! It had to be the RC Fortress first as this is such an imposing model, charged and ready to commit to the skies, so to speak.

One issue emerged - the aerial on the heli is tightly coiled and knotted and therefore very short, but proved difficult to undo. However, range, quoted at 25 metres, seemed okay over the length of the gym, so it was left as was and posed no problems. The trainer undercarriage of carbon rods plus foam ping-pong balls was attached with rubber bands and we were ready.

The first flight was terminated quickly as I did

**RIGHT:** Big brother's little brother! The diminutive Z-Century atop the RC Fortress. **FAR RIGHT:** The Z-Century charging on the four-channel infrared transmitter. Note the sleek hard plastic body-shell of the little chopper.



not like the feel of the right Tx stick with the movement-limiting control cap fitted - it is like a gearbox gate and eliminates any intermediate stick positions between forwards and left/right and cuts out backwards completely. So the cap was removed and operations resumed.

I confess to finding the model a bit wayward over the first couple of flights until club-member Martin suggested removing the trainer undercarriage - bingo! Suddenly the model became docile and controllable and a pleasure to fly. Thanks, Martin! (He'd cured a similar problem with a CP hell this way.)

Height and yaw were very easy to peg, the gyro making itself obvious with some snap tail-boom corrections. Circuits, backwards flight and figure eights were readily achieved in the first few flights. Occasionally the gyro seemed to get confused and a wild pirouette would result, the best cure being a quick return to terra firma where a re-launch would smooth things out. Without the undercarriage, the model tipped over a couple of times in these landings, but the articulated main rotor seemed well able to soak up the impact without damage.

One oddity noticed was that, in a seemingly stable hover, the Fortress would begin a sort of pendulum oscillation, in an ellipse, as though attached to the roof on a long string. These oscillations, attributed to gyroscopic precession, could get quite wide but the model remained stable. It all adds to the fun!

After the excitement of the Fortress it was over to the infrared Z-Century, which performed exactly as expected, like a fuss-free Picoo Z but with added stability from the electronic gyro and added controllability from the new pitch control. The yaw trim was used several times and is effective in straightening up forward flight. The fourth, sideslip function on the right Tx stick just feels wrong to a regular 'plank' flyer like yours truly! However, it definitely adds to the precision of the flight envelope of the little chopper.

At one point I handed the Tx over to the aforementioned Martin while I took the pictures you see here and mistakenly wandered in between the L/R tranny and the model. Result - a plummet into the carpet from about three metres up ("I'm good, but not that good", quoth the pilot) and a thrash around on the ground but no damage - tough little critters, these. So several comings-together with the scenery notwithstanding, a very rewarding series of flights from the little orange wonder, with the extra functionality being judged well worth the slightly increased layout over the two-channel jobs.

## Conclusions

The size and extra functions of the RC Fortress, and particularly the adoption of radio (as opposed to infrared) control are a big step forward for Silverlit, as is the inclusion of an electronic heading-hold gyro in both models. Quite why the Z-Century (and Z-Bruce) get the extra fourth channel 'sideslip' function as opposed to the flagship RC Fortress is something of a mystery. In practice, however, it only adds slightly to controllability. Both models offer good value, with the Fortress having many worthwhile features in addition to those mentioned above - mains balance charger, replaceable two-cell LiPo, training undercarriage and DVD, comprehensive spares, etc., and the little Z-Century having a lot of pluses when compared to its slightly cheaper two-channel relatives. Overall judgement? Great fun and good value for money! ■

**ABOVE RIGHT:** An early flight with the Fortress at Boulby Mine gym, with the optional training undercarriage attached. **RIGHT:** Nurse, quick, the screens! The Fortress in a very stable hover minus the training undercarriage.

## Specification

**PRODUCT:** Silverlit RC Fortress SE85880  
**ROTOR DIA:** 335mm  
**LENGTH:** 335mm  
**WEIGHT:** 130g (inc. flight battery)  
**FLIGHT BATTERY:** 7.4 V 300 mAh LiPo  
**CHARGER:** UK mains charger/auto shut-off facility  
**FREQUENCY:** 27.145 MHz - bands 'A' & 'B'  
**RANGE:** Up to 25m  
**PRICE:** £69.99

**PRODUCT:** Silverlit Z-Century SE85962  
**ROTOR DIA:** 160mm  
**LENGTH:** 195mm  
**WEIGHT:** 25g (inc. flight battery)  
**FLIGHT BATTERY:** 3.7v 130mAh mAh LiPo  
**CHARGING:** From four-cell transmitter, or USB PC lead  
**FREQUENCY:** Infrared control, one band only  
**RANGE:** Up to 10m  
**PRICE:** £39.99

### CONTACT

Flying Toys Ltd. [www.flyingtoys.co.uk](http://www.flyingtoys.co.uk)



Silverlit's publicity photo of the RC Fortress in its red, band 'B' configuration.

