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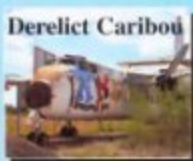


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WIN!
a helicopter flight



Aeroprakt A-22 Foxbat



Foxbat

22

*All metal
VLA from the
Ukraine is a
winner and
deserves great
success in
South Africa*

IT'S NOT EVERY MONTH we carry flight reports on two Russian aircraft in one issue. Whilst mean looking battlefield assault helicopters might sit high on the fantasy list of rotary wing pilots, Aeroprakt's remarkable little A-22 Foxbat ultralight has yet to achieve the awed notoriety of its gunship brother – apart from perhaps its marketing name. Nevertheless, this tiny Rotax-powered aeroplane has been welcomed into South Africa with open arms and has scored a notably good sales record with 14 lucky pilots having signed up since Pietermaritzburg's Dreamwings acquired the agency two years ago.

A-22 owners have raved about the Foxbat's ease of handling and low cost and urged by a number of potential and existing customers, I dropped into Oribi Airport in September to see what all the fuss was about and to meet Dreamwing's CEO, Dave Grosvenor. Dave was busy with a couple of Foxbats – one of them scheduled for delivery the very morning I arrived and he had one last flight to do in it to ensure it was ready.

It is with little surprise to ultralight owners and myself that the Foxbat is the product of a previously state-employed Eastern European

designer. In this case, Yuri Yakovlev – a famous but unrelated name in Russian aviation. 45-year-old Yuri's enthusiasm for aeroplanes remains in metal construction rather than more common composites. Paying his dues as preliminary design engineer at Antonov's Kiev, Ukraine factory, Yuri worked on the An 70 and An 38 aircraft. Antonov has always been one of the more commercially favoured design bureaux in Russia. Its aircraft are largely responsible for hauling cargo and to a smaller extent, passengers, throughout the CIS and the world. Thus, it managed to retain valuable design staff as state support for aircraft manufacturers declined during the nineties. According to Yuri however, internal politics eventually got in the way of technical progress and he left Antonov in 1995 to start his own aircraft manufacturing company just as the ultralight business was beginning to flower.

Yuri's new-found freedom and entrepreneurial spirit led to a number of early designs including the pod and boom two-place A-20 and the curious but conventional twin Rotax-engined A-26. A number of other designs have emerged from Yuri's fertile mind, the most successful being the A-22. First flown in 1998, Aeroprakt have sold over 175 A-22s. Branded 'Foxbat' in Europe,

South Africa and Australia, it is known as the 'Valor' in the USA.

The A-22 is defined by its all-metal basic construction and huge perspex area stretching halfway along the fuselage. The airframe sits on a faired tubular main undercarriage. Whilst the almost entirely see-through fuselage is unusual, the thick-section wings and tail feathers are conventional and are partially fabric covered, therefore no surprises for maintenance companies. Indeed the A-22 has been designed for simplicity

“Internal politics eventually got in the way of technical progress”

and modest performance to suit pilots unwilling to chase exotic building materials and compromises between speed, handling and comfort. The Foxbat is as conventional as

they come and has been designed like that.

All aircraft in this category are faced with weight saving compromises and it is interesting to see how Yuri has integrated his minimalistic design features with providing safe and pleasant handling qualities. An early decision was to install pushrods for flap and elevator controls. Pushrods traditionally reduce control circuit friction and in the Foxbat's case, have allowed a relatively simple and rigid method of combining drooping full-span 'flaperons' without the high parts count usually associated with cable pulleys and brackets. The higher cost of pushrods has been offset by simpler internal wing mechanisms as well as providing an easier structure to detach the wings for road transport when needed. The pushrods are largely visible inside the cabin and it is obvious they have been manufactured with a high degree of precision – very reassuring.

Although the Foxbat is available with a central stick, most owners have opted for control yokes. This welcome feature is rare in an ultralight. The yoke system is engineered to a high standard and is an obvious example of the design skill brought across from Antonov. Whilst Yuri admits to the extra manufacturing expense, the yokes' somewhat costlier option has been well received by customers.

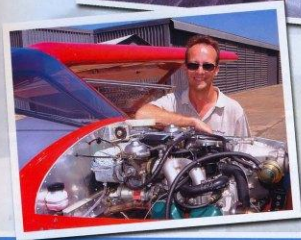


Aeroprakt gambled on the extra expense of a yoke option - it has been a popular and unusual (for a VLA) choice.

Right: Excellent throttle and brake lever positioning is a configuration other VLA makers should adopt.



Below: Importer, Dave Grosvenor has done deservedly well with this design.



Below: Clever features and an entirely conventional design that manages to look good.



Power comes from the ubiquitous 100hp Rotax 912ULS engine driving a Russian-made three-blade composite Kiev propeller. There are other powerplant choices including an 80hp 912 UL engine, as well as various propeller combinations that include a variable pitch system and two-blade option. Fancy in-flight adjustable props are perhaps an overkill in this class of aircraft, although there are one or two owners who have decided in favour of the extra sophistication.

Flying the Foxbat

This must be the first Russian aircraft I have flown without one of those magnificent

panel-mounted timepieces made by the Moscow Clock Company. The A-22 is however a recreational aircraft designed to fit within world ultralight weight limits and big timepieces have no place here. Whilst these aeroplanes might be beloved of weight watchers, the Foxbat has the girth to provide ample room for any sized occupant. Cabin width is abundant as is every other important dimension within the airy cabin – it's an aeroplane you can see from and be seen in. Each door is hinged to open upward with a gas strut to keep it in place during entry. The doors can also be removed entirely and can even be supplied half covered by aluminium sheeting – same

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Right: Visibility for a high wing is outstanding although the A-22 can be ordered with all-metal panels.

for the open fuselage section, though I could not see any reason to specify these options. Moreover, the yokes provide plenty of legroom, indeed, if anything they are placed slightly too high and there's a sense of your arms stretching forward and upwards to grasp the controls. This is a minor observation rather than a criticism as the dual controls are a big advantage over centre-stick configurations.

The yokes free up space on the centre pedestal for the throttle lever. The single brake lever is handily attached to the front of the throttle giving great ground speed control without having to take a hand off the throttle. Although the internal finishes are pretty bare, even after painting, the panel itself is tidy and compact. There isn't too much space for a wide selection of electronic panel gadgets and an early choice needs to be made when ordering to go with analogue or digital gauges. Those on a budget will be obliged to go for a circular panel-mount radio and transponder as a basic fit, leaving enough space for some primary flight instruments and



The Rotax starts easily with a twist of a key and after a few minutes for it to warm up, the aircraft is ready to taxi. Nosewheel steering requires firm input but the aircraft was easy to manoeuvre on the ground as Dave and I taxied to Oribi's holding point for a flight towards Cato Ridge. Even at gross weight, the A-22 was off the ground very quickly after only a brief ground roll with one stage of flap.

Whilst the Foxbat doesn't have particularly well harmonised controls, it is at all times pleasant to fly. The flaperons, predictably, were the heaviest. Pitch forces are light as are rudder forces. The aircraft is inherently stable, returning to level flight after any roll or pitch excursion – a good safety feature in this type of aircraft. Indeed, the little Foxbat is a pleasure to fly and is also easy to fly – it will reward owners with hours of fun and allow them to enjoy the amazing view rather than worrying about handling and continual control inputs to remain straight and level. The only abnormal observation was a tendency to 'rudder-lock' – ie, the rudder remained at full deflection without any input from the pilot. This had no effect on the aeroplane's handling qualities and having discussed it at some length with a couple of our local ex-military test pilots, I was satisfied that it had no unwelcome side-effects. A gentle application of opposite rudder was enough to bring it back again.

Although the manufacturers claim a respectable 118 mph top speed – the figure is largely academic as it depends on what engine and propeller combinations owners select. I doubt Foxbats are going to be bought by speed freaks – their customers are going to be predominantly weekend pilots who may occasionally choose to fly away to a fly-in or take a short camping trip. Rotax engines like

to run at higher power settings though and keeping the rpm towards the Rotax's limit of 5400rpm is going to return well over 100 mph for some 16 litres an hour fuel burn. With 88 litres useable, this is sufficient for well over five hours of flying on a tankful – perhaps more than you'd want for a single leg. Lower power settings will extend this range even more – and if using mogas, running the A-22 is going to be inexpensive.

The Foxbat is not going to surprise pilots at the stall. With full flaperons, the stall speed is a low 30mph and the aircraft shows little inclination to drop a wing or do anything nasty at this speed. There is a tiny amount of pre-stall buffet and gentle nod of the nose at the break – extremely benign behaviour guaranteed to please some flight schools.

It will reward owners with hours of fun and allow them to enjoy the amazing view rather than worrying about handling

traditional engine gauges.

The layout is as easy as it gets with a centre pedestal carrying two prominent fuel gauges, an avionics master, magneto switches, fuses and a trim indicator – all within easy sight of both pilots and switches within easy reach. The fuel on/off levers are mounted high on the 'B' post behind the occupant's heads. This out-of-sight-out-of-mind location might not be ideal but is a simple and inexpensive solution to providing a cut-off – pilots need to remember to have the fuel on prior to start up.

Getting into the aircraft is painless, either by placing a leg in first or your bum and swinging in. The seating position offers great visibility in almost all quadrants although the wing root does block some of the view. The view over the nose through the deep windscreens is superb.

Aeroprakt A-22 Foxbat specs

Engine:	Rotax 912ULS
Propeller:	Kiev 3-blade ground adjustable
TBO:	1500 hours
Seats:	2
Length:	6.16 metres
Wingspan:	9.53 metres
Height:	2.24 metres
Empty weight:	275 kg
Max all up weight:	520 kg (PPL category)
Max all up weight:	450kg (microlight category)
Fuel capacity:	90 litres (88 useable)
Max speed:	118 mph
Cruise speed:	105 mph
Max flap speed:	68 mph
Range:	880 kms
Takeoff dist (sl):	60 metres
Airframe limit:	+6g – 3g
Agent:	Dreamwings
Contact:	084 422 6359
Website:	www.dreamwings.co.za



Above: Yuri Yakovlev and another of his innovative designs, the Aeroprakt A-28, powered by a pair of Rotax 912 engines.

Depending on which side of the fence instructors come from, the Foxbat's suitability as a trainer is going to be much debated. The A-22 will definitely please those who prefer gentle and easy flight characteristics and its handling will go a long way towards calming those who have a nervous disposition.

Dave demonstrated a couple of approaches to Cato Ridge. A downwind speed of 80 mph is reduced to 70 on final. The flaperons are deployed using a roof-mounted lever and have three positions: Up, 10-degrees and 20-degrees. Flap deployment requires a nose-up nudge on the trim button during approach. The aircraft

will happily fly away from a missed approach with full flap. I found the Foxbat's handling during the approach, flare and touchdown to be exemplary and the nose could be held off nicely as speed bled off before the wheels touched – lovely.

We returned to Orihi Airport, the tail on this brand new example lightly spattered with Cato's usual runway cow-dung – Dave would clean it off before delivering the Foxbat to his customer down the road at Light Flight airfield. We landed and taxied back to Dreamwings' hangar, opening the A-22's big doors to let in a cool breeze. I must confess to wanting more of this aeroplane after shutting down

and positioning another new Foxbat for some photographs in front of the Orihi terminal building. The great news is that the A-22 is tremendous value for money. Although the factory supply homebuilt kits, a completed version and the one so far supplied to all South African customers, is a mere R450,000 complete and ready to fly away including VAT and basic VFR instrumentation and a Filter radio. The 80hp Rotax is some R20,000 less, so is hardly worth the saving. This represents tremendous value and will reward pilots with hours of safe and fun flying for minimal running costs. I really liked this aeroplane – maybe its time for FPI to be traded in! 

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