

Aeroprakt A22 Foxbat

Performance

- **Climb rate solo** 1400fpm
- **Cruise @ 75%** 90mph
- **VNE** 122mph
- **Stall (with flaps)** 30mph
- **Design dive speed** 145mph
- **Service ceiling** 15,000ft
- **Take-off to 50ft** 150m
- **Landing roll** 60m

Engine and range

- **Engine** 100hp
Rotax 912 ULS
- **Propeller** Tonini two-blade
180cm x 135mm
- **Fuel capacity** 88ltr

Dimensions

- **Length** 6.3m
- **Height** 2.4m
- **Wingspan** 10m
- **Wing area** 13.7sq m
- **Aspect Ratio** 7.1
- **Wheel Track** 1.8m
- **Empty weight** 264kg
- **Max weight** 450kg

Cost

- **Price** £31,500

Contact:

The Small Light Aeroplane
Company Ltd,
Otherton Airfield, Penkridge,
Staffs ST19 5NX
Tel: 01543 673075
web: www.foxbat.co.uk

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FOXBAT

Can a Small Light Aircraft take over as
the new backbone of flying schools?
Ronnie Faux tries a big challenger



Microlights are currently nudging their way towards acceptance as light aircraft with meaningful performance. Increased power and more robust construction has helped the 450kg category of Small Light Aircraft (SLA) to out-perform such established trainers as the Cessna 150 and 152 in speed, economy and maintenance costs. With that in mind, Flyer reckoned it's about time to discover whether the new generation of three-axis, twin-seat machines could replace the old.

A number of high-winged contenders are appearing on the market to compete for the 150/2 crown, among them are the Ikarus C42, the Tecnam P92, the all-composite Pegasus CT and the Australian Jabiru. The latest, now in the final stages of qualifying for BCAR Section S via the PFA, is the A22 Foxbat, a kit microlight from the drawing board of the Antonov Design Bureau.

As the law stands, kit planes cannot operate as training aircraft and only a proportion of hours accumulated on a microlight can be counted towards a full PPL. But the move towards using this new breed of light aircraft to train future pilots is inexorable, not only for their lower operating costs, but because the Cessna 152 and its Piper rival, the Tomahawk, are no longer in production. Even though the 152 and its predecessor the C150 rank among the most popular trainers ever, these excellent aircraft have a finite lifespan.

A22 Foxbat

The Foxbat was produced by Yuri Yakovlev, a young designer from the Antonov bureau and founder of Aeroprakt Ltd in Kiev, from a list of requirements aimed specifically at the 450kg market in Europe.

Like the Cessna, it has a metal fuselage, high wings held by single aerofoil struts, a robust tricycle undercarriage and side-by-side seating. Beyond these basic similarities, the Cessna has the sturdy reliability of a black cab against the sprightly qualities of the Foxbat, with its stunning short-field performance and a cabin design that gives outstanding visibility.

The A22 is being imported from the Ukraine by the Small Light Aeroplane Company at Otherton Airfield in Staffordshire operated by Gordon Faulkner, a microlight instructor, BMAA senior inspector, examiner and check pilot. He immediately recognised the Foxbat as the aircraft he was looking for in the 450kg SLA category; a machine the average-ability handyman could build and the average-ability pilot could safely and comfortably fly from runways used by microlights.

'The Foxbat not only looked right, it will cruise at 100mph for 400 miles using 3.3 gals of fuel an hour and operate easily from 200-metre strips,' says Faulkner. 'Altogether it was demonstrated to be an excellent touring aircraft that was rugged enough to work hard as a trainer.'

The monocoque fuselage is of conventionally riveted light alloy, with large clear panels in the side and upper surfaces. The kit comes with fuselage, wings, tailplane, fin and control surfaces



Foxbat's fuel burn is around half the 152's five gallons an hour



Tough-looking Foxbat is the work of the Antonov Design Bureau



Deep windscreen and windows good for lookout and sightseeing

pre-riveted and no fabrication of components is required. A comprehensive build manual is provided and the bulk of the airframe work is centred on the fuselage and fitting torque tubes, pushrods, bell-cranks and cables, all of which are anodised or plated and ready to install. The wings, tailplane and control surfaces require little attention apart from covering, painting and installation of the twin fuel tanks. The finish of individual parts down to the aerospace-quality rose-joints and bearings is excellent.

Flaperons, operated by torque tubes, extend the full length of each wing and give 10° and 20° settings. The wings themselves have a deep section, cambered under-surface and slight forward sweep. Interestingly, the section was designed some 60 years ago by Oleg Antonov himself for use on a military spotter plane; why waste a good idea? This combination of wings, flaps and a 100hp Rotax 912 ULS engine account for the Foxbat's startling short-field performance. With 10° of flap set the aircraft was airborne in 80 yards and well above 50ft before the end of Otherton's challengingly short grass strip.

At 55mph the climb out was steep at more than 1000fpm. As the large gull-winged doors extend virtually to floor level and have a three-inch bulge to give more elbowroom and the raked windscreen extends below each side of the instrument panel, the view as the ground slipped away was outstanding. The cabin is airy with ample headroom and certainly gives the impression of being roomier than the 152.

A sturdy control column is set centrally in the cockpit and fitted with a handbrake to operate the hydraulic system on the main wheels. Two buttons on top control an electrically activated trim. The Foxbat's entire tail area has a kind of reassuring

peasant strength about it, and although the aircraft's empty weight is half that of the Cessna, it has the compact sturdiness of a much larger aeroplane.

Opening the throttle with one stage of flap, the high-lift wings start to claw their way skywards at around 40mph, and with the airframe clean and the 912 turning over at 5000rpm the Foxbat settles into an indicated cruise of 108mph. A more comfortable 4500rpm returns 90mph. Conditions were stable when I flew it, so I could not experience how the little aeroplane handled turbulence, but Faulkner insisted that rough air presented no perils.

The stable way the Foxbat swept through steep successive turns again suggested a much heavier aircraft. Equally gentle manners were exhibited in various stall configurations, with no serious tendency to drop a wing or give more than an emphatic nod when the aircraft, with full flap, reached an indicated speed of less than 30mph.

At the opposite end of the spectrum the Foxbat proved a slippery performer, reaching its VNE of 122mph perhaps a little too easily, but at all times the aircraft remained admirably stable. Yuri Yakovlev's meticulous centre of gravity calculations are responsible for this, with the weight of two souls, 75 litres of fuel and up to 68kg of luggage all concentrated on the correct spot.

We made two landing approaches, the first in tight microlight-style and turning onto finals at 60mph – slow enough by Cessna standards. The second was made on a long final approach from around 1500ft with the aircraft reluctant to shed height in an unwieldy side-slip. Again, with full flap selected and 55mph indicated (slow, but faster than stall speed by a safety factor of two) we brushed the long grass on the threshold and settled on the



Central joystick serves either side, lever is connected to hydraulic wheelbrakes; panel offers plenty of space for instruments, while cockpit has comfortable room for two

sprung steel main wheels stopping with slight pressure from the brake in less than 60 yards, indeed a stylish performer.

Cessna 152

The Cessna 152 was introduced in 1977 after some 23,000 C150s had been delivered, while 152 production ceased in America in 1985 after more than 7000 had been built. Reims Aviation in France added a significant number until 1987. Even so, C150s and 152s continue into ripe old age to serve flying schools around the world.

I learned to fly on a 152 and clocked up many hours in them, even developing a blistered left elbow from spending so long droning over the endless Florida flatlands. Within hours of flying the Foxbat I was rousing memories of those early Cessna days behind the controls of a 152 operated by Border Air Training at Carlisle airport. Delta-Whisky was a smart, hard-working 28-year-old.

"Give the door a good slam. It's not your dad's new car," said David Knott, a flying instructor with a mighty respect for the 152 who ranks them as a fine training aircraft.

The Lycoming 110 pulled us to the holding point as we went through the checklist and then rose to a 2500rpm growl for take-off. A heavy application of rudder to balance torque effect and slipstream is required for both 152 and Foxbat, with rotation at 55mph and climb out at 65mph. We registered a 600fpm climb, and in the time it took us to reach circuit height the Foxbat would already have become an overhead speck.

The cruise speed of 102mph was similar to the SLA, and with the Lycoming churning tirelessly at 2300rpm the engine was burning five gallons an hour, almost double the Foxbat's consumption. The heavier engine will run for between 2400 and 2800 hours between main overhauls with an annual check, on public transport category, costing around £1100 plus parts. On private category the costs are obviously less, but replacing the engine with a reconditioned unit costs £9000 plus £1000 installation charges. For the Rotax 912 ULS fitted to the Foxbat, a bench check is recommended every 1200 hours which may be carried out by an approved technician and it runs on unleaded fuel.



A complete strip-down of the 912 costs no more than £750 and a new unit £6000. The Lycoming is of course long-established as a pre-eminent aero engine, but the Rotax 912 has in a relatively short space earned a reputation for strength and reliability.

Like Cessna's Lycoming, Foxbat's Rotax 912 engine has a reputation for strength and reliability

And the winner is...

A Foxbat kit requires 500 hours of meticulous work to assemble and costs around £31,000 including VAT and delivery. 152 prices vary, but one in 'new' condition wouldn't be too far off that. So the options would be a new aircraft and engine costing around £15 an hour to run and a few months of DIY, against a used machine with at least 13 years of wear on its wings, but with possibly some investment potential. Running costs on the 152, however, even on a private category Certificate of Airworthiness, would be steeper.

Hiring a Cessna from a club can cost anywhere between £83 and £120 an hour. Probably few private pilots would choose one purely for leisure flying (there are too many attractive alternatives) but the aircraft will always, it seems, find a market among the training organisations. School operators have in the past been notoriously cautious when investing in a new aircraft until they have at least 5000 hours and a respectable track record. To them, the devil they know is invariably the wisest choice and, despite its years, the 152 is a devil they have long known and respected. ■



Foxbat is stable through turns and feels like a heavier aircraft

Thanks to

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