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MicroLight (FLYing)

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Entry is really easy.



Loads of space in the cockpit.



Neat semi-recessed tailwheel.

sat back in the left hand seat of the Foxbat and turned to importer Gordon 'Hagar' Faulkner. 'Are you flying this thing, or am I?'

'I don't know,' he said. 'Does it matter?'

And for the moment, it didn't. We sat back and took in the scenery, looking straight down through the bulged door panels, and turning round to catch the view through the remarkable clear panels in the rear fuselage. The 912S in the front murmured quietly, the ASI was steady at 80mph, and with occasional tickles of rudder we could have flown all the way to France. Now, a flight tester isn't supposed to enjoy his flying, so we just had to get on with the tough business of checking the aircraft out.

I'd arrived earlier that morning and we'd got on straight away with taking the photographs. I was invited to take the right hand seat of a 503 Rans, which, with the door up, makes a very creditable camera ship. We took off, and Gordon took station below and behind us. The Rans was keeping a steady 60mph, and I found that the Foxbat was able to maintain station, flaps up, without too much difficulty, although it was clearly more comfortable with the Rans ASI pegged at 70mph. A photo shoot is a very good test of an aircraft's range of vision, and it was clear that Gordon was generally able to keep in visual touch with us under most circumstances; the wing leading edges and cabin roof were the main blind spots, but overall the Foxbat scored highly in this important safety aspect.

Back at a chilly Otherton, we warmed up over a cup of coffee and a sandwich, before I took a closer look at this newcomer to the microlight scene.

The Foxbat is of ex-Soviet origin, originating from the fertile mind of Yuri Yakovlev and the Aeroprakt factory in Kiev, Ukraine, where it is known as the A-22 Shark. You may remember an attractive tandem two-seat pusher motorglider at the Telford show a couple of years ago. This was the A-20, which was

My fun

The Ukrainian
around on the
three years now
has only
David
this r



My friend

In Foxbat has been seen
on the Continent for two or
three years now, but UK certification
has just been achieved.
John Bremner tries
this metal monocoque
newcomer.



Distinctive 'greenhouse'.



Great visibility to the rear.



With strong performance and plenty of room, the Foxbat makes a first-class tourer.

My furry friend

► Yuri's first design to go into production and dates back to 1991. It was remarkable in that it gave a perfectly creditable performance two-up on only 30hp, and has been flown (powered by a Rotax 582) by designer Yuri and Igor Pugach with great success in a number of European and World Championships.

Development of the A-20 continues, a 912-powered version and folding wings being among the modifications likely to interest microlight pilots.

The A-22 design (called Shark in the Ukraine, Valor in the US and Foxbat in the UK) dates from 1996 and is a conventional strut-braced high wing side-by-side tractor monoplane with tricycle engine. It's been popular all over the world, and Gordon Faulkner of The Small Aeroplane Company knew it was the one for him when the UK regulations were changed to 450kg max all-up weight a couple of years ago. Generally it's sold ready-to-fly, but the cost of accrediting Aeroprakt or a UK outlet as a CAA manufacturer is prohibitive, so it's imported as a kit certified by the PFA. It's extensively pre-fabricated, however, and the bulk of the work consists of fitting out the fuselage and covering wings and control surfaces.

What makes the Foxbat stand out from the crowd is the greenhouse at the back — large glazed panels in the rear fuselage that give it a light and airy feel inside, and make airframe inspection a lot easier. The structure is an anodised aluminium riveted monocoque with fabric-covered wing trailing edges and control surfaces. This may not be the sleekest of airframes, but the impression is of durability and quality, without in any way looking heavy.

There is extensive use of buck-riveting, which isn't often seen in the UK; it's time-consuming to manufacture and is only practical in a country where skilled labour rates are a fraction of the minimum wage here. Done properly, the joint is stronger and less prone to corrosion than a pop-riveted one.

'And is the Foxbat done properly?' I hear you ask. You betcha. It's all done in the factory by experts trained in the Antonov works and its build quality looks first-rate.

The fabric (on tail surfaces and wing trailing edge) is also good firm stuff that inspires confidence. There are 38 litre tanks in each wing, meaning that the inboard metre of each wing is all aluminium, and less susceptible to accidental damage. Compared to some of the opposition, the full-span flaperons look enormous, promising bags of control.

The smooth top surfaces of the wings are disturbed by the filler caps and fuel gauge senders. I understand that fuel gauge senders on subsequent kits are buried within the wing profile.

Moving to the rear of the aircraft, it's a bit disconcerting to be able to look right through the rear fuselage, but at least you can spot birds nests, missing sandwiches or (hopefully) frayed cables. Once again the workmanship shines through —

there's no noticeable effect from wagging the tailplane. There's a tiny tailwheel semi-concealed in the skid so that ground handling doesn't scratch the paint.

At the front end, access to the Rotax 912S

was very straightforward — four Dzus fasteners and the top half of the composite cowling lifts off, giving plenty of access to most of the essential bits inside. The power plant installation is neat but leaves sufficient room to get to most of the engine. If you need more, another four Dzus fasteners will allow you to remove the lower cowling too.

The nosewheel, steerable and with leaf-spring suspension, is attached to the firewall, while the main undercarriage is mounted on a steel transverse spring slung under the fuselage. Its small size has elicited some comment, but the drop tests required by Section S would inspire confidence in the most suspicious mind. Disc brakes fitted to the main wheels will apply twisting loads to the leaf spring in addition to bending and drag loads, but you'd better believe that Section S has thought of that too.

The doors are fully glazed, bulged, and top hinged. Undoing the latch, it's a civilised touch to find a gas strut taking the weight of the door while you get in. And that's pretty civilised, too. There are many designs where the strut gets in the way but on the Foxbat the only acrobatic required is stooping low enough to get under the wing. After that it's easier than getting into many cars. There is a central stick, so that swinging your feet inside is very straightforward. The single latch on the bottom rotates shut, and that's all there is to it.

The seat isn't adjustable, which for an aircraft of this price may be considered a bit of a drawback. However, Gordon and I pretty much span the range of prospective pilot sizes, and we both fitted adequately; my knees were a little too close to the instrument console, and his legs were at full stretch without cushions, but the seats were very comfortable, and if necessary it might be possible to angle the console a little more to ensure plenty of knee room — and cushions are a very practical way to accommodate the vertically challenged.

Knee room apart, the cabin is positively palatial for a microlight. The clear bulged door panels have all sorts of benefits; the elbow room is hugely improved, you can see straight downwards in level flight, and the door panel is greatly stiffened. The headroom is also very good; Gordon has been known to don a viking helmet on occasions, and I'm sure he'd have had no problems wearing it inside the Foxbat!

The instruments are housed in a moulded console which is attached to the back of the firewall. It has a rounded top which is stylish and is very effective at reducing glare, but eliminates what would otherwise be very useful shelf space for maps, cameras, etc. Maybe Yuri didn't want loads of gubbins lying about loose in the cockpit where it could interfere with controls at embarrassing moments, because instead there's a cavernous compartment behind the seats into which everything can be dumped — and, more importantly, reached in flight. It has a zip lid, and is altogether a Jolly Good Idea.

The overall feel of the cabin is airy and spacious; it would be eminently suitable for a long continental tour, with enough space for the essentials, and enough room that you don't feel crowded by your passenger.

The controls all fell easily to hand. There is a short central stick fitted in a central tunnel which acts as an armrest, with a throttle lever mounted on the cockpit floor on each side. Electric trim is operated from buttons on the top of the stick. Rudder pedals are floor mounted and very solidly made, and operate the nosewheel steering as well.

The hydraulic mainwheel brakes on the demonstrator are operated by a rather unsightly lever



And well he might look pleased with himself! Gordon Faulkner is UK agent for a very desirable aeroplane.



Full-span flaperons give ample roll authority.



mounted on the stick which has to be angled sideways to clear the instrument panel. All the other UK kits have a better-fitting lever that fits symmetrically.

A central two-stage flap lever is mounted overhead, with a sideways movement unlocking the detent before raising and lowering the lever itself. The fuel tanks are individually plumbed to the engine, with highly visible fuel cocks in the wing roots. All the instruments in the console are readily visible from either side.

Before strapping myself in, we had a good look around inside. Access for maintenance or inspection is generally good apart from the rear fuselage; all the control runs are visible behind the seats, as is the bulk of the structure, thanks to those glazed panels.

All controls except the rudders and throttle are pushrod operated, and the very high quality fittings speak volumes for the labour rates in Ukraine; everything is designed for quality without compromise and should give excellent service. The flaperon linkage from flap lever and stick is complex but very effective; both controls are light and very positive, with no sponginess.

Before departing, we had to fill up. Wing tanks leave lots of space in the fuselage, and gravity should ensure a comfortably reliable flow of fuel to the engine. The downside is that filling up is a bit of a chore, requiring step ladders, a pump, or a very tall assistant. However generations of Cessna operation have ensured that most GA airfields are geared up for wing tank filling, so it's unlikely to be a problem in practice. You also need to bear in mind that although there is a whopping 88 litre capacity, the empty weight (said to be 258kg) means that with two standard 86kg pilots, you'll only be legal with just over 30 litre on board.

We got ourselves installed, fastened the three-point harnesses, and Gordon fired up the Rotax 912S without delay. We waited for the oil temperature needle to budge before beginning to taxi, and released the handbrake. The Foxbat is very nifty on the ground; the turning circle is excellent — it will turn well within its own wingspan, but the steering doesn't feel overgeared. The surface at Otherton is bumpy in places, and I could exert full control. The propeller tip clearance is also good, so regular operation from rough strips should be eminently practical. By the time we'd got round to runway 16, the oil was warm enough, so we lined up and opened the taps.

Wow.

With 100hp under the bonnet, the effect is instantaneous. With no flap set, little wind and pretty much the full 450kg, we were airborne in about 100m at only 45mph, and climbing at a spectacular angle. Best climb speed is about 60mph, and with that set we measured the rate of climb at 1000ft/min. Gordon explained that this was a coarse pitch propeller for optimum cruise performance, and that it was possible to achieve better results with a finer propeller.

I had been expecting to have to use tons of rudder to counteract all that torque, but it naturally tracked pretty straight. We set it up in the cruise, and I felt immediately at home. The trim control is wonderful; powerful but not over-sensitive, and the pitch stability such that once set, it will maintain the speed set as long as you want. Disturb push the stick forward a little and let go, and it will cycle back to trim speed within one slow cycle. It's possible to set up a cruise anywhere between 60 and 95mph, and it feels comfortable, stable and controllable at all of these. Engine speed varies between 4000 and 5000rpm. We set up 5500rpm (max continuous speed,) and the speed straight and level ended up just above 100mph.

At the other end of the speed range, the stall buffet without flaps came at 37mph, with the break at 35mph. I had been alert for a wing drop, given the very large flaperons, but in this configuration it was very straight through, with instant recovery when you centred the stick and opened the throttle, and no more than 100ft lost. With full 30° flaps, the buffet

speed was similar, but the stall break was at an amazing 28mph (32mph true!). We didn't explore asymmetric stall entries, but it's comforting to know that for Section S approval someone else has, and there must be no unexpected behaviour.

Control is excellent in all axes. The large ailerons give a very crisp response at all speeds without being over-sensitive. The rudder is reasonably powerful, and slightly lighter in weight than the ailerons, but in truth you don't need it much in flight; turns only need a touch of boot to keep them in balance, and once established in the turn, only elevator is needed to maintain balance. The elevator is of similar weight to the rudder, but all control forces get progressively heavier with speed, which is as it should be.

One other good feature of the handling: the trim speed varies very little with power. If you've set the trim for 60mph it will keep that speed from glide to full power, which eases the workload, particularly in the circuit.

Visibility is as good as you would expect; it's just unfortunate that there isn't a clear panel in the cabin roof to enable one to see into turns. I was surprised how useful the rear windows are; there's plenty of space in the cabin to turn round, and it's a useful facility to search for ground features or other traffic.

We reluctantly turned back to Otherton to find out about its behaviour in the circuit.

Descents at 60-70mph show about 500ft/min. Sideslipping is very effective, the ailerons being more powerful than the rudder, and the rate of descent increases to about 900ft/min. Flap limiting speed is only 69mph, so it's important to remember this if you are planning to use flaps. However, for all but the shortest strips, the flapless landing will be quite short enough: we managed very easily in Otherton's 300m with no special care.

Gordon then demonstrated a short landing. First stage of flaps doesn't have a dramatic effect, but once you've got those huge flaperons fully down, you can really feel the extra drag and lift, but once again the effect on trim is limited. This time we were stationary well before the intersection — about 100m, and we reluctantly taxied back to the clubhouse.

So why buy a Foxbat? At about £34,000 finished and flying this is towards the top end of the microlight kit price range, competing with the Comco Ikarus, Dyn'Aero Banbi, Kosmik Eurostar and Tecnam Echo.

Gordon Faulkner sees it as a first class touring machine capable of going reasonable distances while operating routinely out of the shortest strips, and I would agree with that analysis. The Ikarus is slightly faster and the wings can be folded for storage, but doesn't have the same airy, spacious feel to the cabin. The Banbi is pure testosterone; fantastic speed but less room inside. The Eurostar is lighter handling and may need more concentration for long trips in turbulence — and not everyone likes the low wing layout. The Tecnam Echo achieves similar performance using the Jabiru engine, but again lacks that wonderful spacious feeling inside.

If you're a bit more confident of your building skills, you might want to look at the Zenair CH601UL (low wing) and CH701UL (high wing) kits, which offer similar performance for significantly less outlay, and if you haven't the skill or the time to build, you could consider the Pegasus CT at £44,500.

It's a competitive market sector, but there is an indefinable something which endeared the Foxbat to me, and I can understand how sales have already reached double figures. It's an aircraft that the average three-axis microlight pilot will be able to manage with the minimum conversion, and yet will give him a considerable leap in performance, and which non-flying friends / partners / spouses will find a real pleasure.

The Jodel range of aircraft has inspired devoted loyalty from generations of GA pilots (including me) and the Foxbat seems to me to fall into the same category. It's altogether a *friendly* Foxbat. **MF**

TECHNICAL DATA

Aeroprakt A-22 Foxbat

MANUFACTURER

PO Box 112, 252148 Kiev, Ukraine.;
tel +380 (0)444 579159; fax +380
(0)444 579293;
<air@prakt.kiev.ua>;
<www.aeroprakt.kiev.ua>.
Directors: Yuri Yakovlev, Oleg
Litovchenko, Igor Pugach.

IMPORTER

The Small Light Aeroplane Co,
Otherton Airfield, Penkridge, Stafford
ST19 5NX; tel/fax 01543 673075;
mobile 07831811783;
<info@foxbat.co.uk>
Director: Gordon Faulkner.

SUMMARY

Side-by-side two-seat high wing
monoplane with conventional three-
axis control. Wings have swept
forward leading edges, swept forward
trailing edges and constant chord;
conventional tail. Pitch control by
elevator on tail; yaw control by fin-
mounted rudder; roll control by
ailerons. Wing braced by struts from
below; wing profile NA, 100% double-
surface. Undercarriage has three
wheels in tricycle formation; steel-
spring suspension on all wheels.
Push-right go-right nosewheel steering
connected to aerodynamic controls.
Disc brakes on main wheels. Buck-
rivetted aluminium monocoque
fuselage. Engine mounted below wing,
driving tractor propeller.

EXTERNAL DIMENSIONS & AREAS

Length overall 6.30m Height overall
2.40m. Wing span 10.00m. Constant
chord 1.40m. Total wing area
13.7m². Aspect ratio 7.1/1.
Other data NA.

POWER PLANT

Rotax 912 ULS engine, liquid cooled.
Max power 100hp at 5500rpm. Gear
reduction, ratio 2.43/1. Propeller
diameter and pitch 180x135cm. Power
per unit area 7.30hp/m².
Fuel capacity 88 litre.

WEIGHTS & LOADINGS

Empty weight 258kg. Max take-off
weight 450kg Payload 192kg. Max
wing loading 32.8kg/m². Max power
loading 4.5kg/hp. Load factors +4, -2
recommended, +6, -3 ultimate.

PERFORMANCE*

Max level speed 110mph. Never
exceed speed 122mph. Economic
cruising speed 90mph. Stall speed
32mph. Max climb rate at sea level
1100ft/min. Min sink rate 550ft/min at
60mph. Best glide ratio with power off
10/1 at 60mph. Take-off distance to
clear 15m obstacle 100m on grass.
Landing distance to clear 15m
obstacle 150m on grass. Service
ceiling >10,000ft. Range at average
cruising speed 500miles.
Noise level NA.

* Under the following test conditions

Airfield altitude 0ft. Ground
temperature 15°C. Ground pressure
1013mB. Ground windspeed 0mph.
Test payload 450kg.

PRICE INCLUDING VAT

£34,500 complete and flying.