

FLYING THE VALOR

Dave discovers the land-based Valor is almost as much fun as its amphibious cousin.

In the interests of a totally comprehensive report (and as I also like flying different aircraft) I also sampled the land-based version, the A-22. Known as the Valor in the US, the Foxbat in Australia and Britain, and the Sharik in the Ukraine (where it was designed) this is an interesting-looking machine that is also very capable. Designed by Yuri Yakovlev in the mid 1990s, the A-22 was built by Aeroprakt (literal translation - 'practical aero') of Kiev, with the prototype making its maiden flight in 1996,

The Valor is essentially the same as the Cape Town, except for the undercarriage, bigger engine and a few subtle differences in the cockpit. I liked the look of the undercarriage, which is conventional in both design and construction. The nosewheel is

suspended from a telescopic strut, with shock absorption provided by a fibreglass leaf spring. The mainwheels are carried by legs made of hardened spring steel, and are fitted with large hydraulic disc brakes. All three wheels use the same size tyres, and are closely spatted.

With FPNA demo pilot Mike Agricola in the other seat we were soon taxiing across the rather rough grass to the active runway. The take-off is impressively brief, and I soon why saw the tailwheel is there. A clumsy student could definitely cause a tailstrike. Climbing out at around 1,000ft/min my initial impression was that the visibility really is very good. The steeply raked windscreen, bulged Lexan doors and rear transparency give it an airy feel. In fact, it might feel a little too exposed for some

passengers. As Sebring was very busy with show traffic, we thought we fly over to Avon Park, which we knew would be quiet. As we cruised along



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it occurred to me that the Valor, which is somewhat 'boxy' in appearance, is actually faster than it looks. A high cruise speed of 87kts is perfectly achievable and sustainable, albeit rather noisy and thirsty. Around 75 is a more practical speed. An examination of its general handling revealed forceful flaperons an effective elevator and a powerful rudder. Breakout forces were low and control harmony mostly good, although the rudder is perhaps a little light while the flaperons are a touch on the heavy side. However the rate of roll is perfectly adequate, while visibility in every phase of flight is excellent. You can even see where you've been.

An examination of the stick-free stability revealed the Valor to be strongly positive longitudinally, as a ten-knot displacement from a trimmed speed of 75kts produced a low amplitude long wavelength phugoid that damped itself out after a single oscillation. Lateral stability is neutral but directional stability was - somewhat surprisingly

Access to the cockpit is good. The sills are nice and low while the large gull wing doors open wide and are supported by well-damped gas struts.





- negative. As the fin is quite big and works through a long arm, the moment should be adequate, and on reflection I wonder if perhaps the rudder doesn't self-centre as it is not fitted with springs. A very simple cure would be to increase the keel area of the nosewheel spat aft of the pivot point, although to be fair it really isn't an issue, just me being picky.

A look at slow speed flight was interesting, and as I've found with many LSA-type machines, the speed at which an unaccelerated 1g stall occurs is difficult to determine as the ASI is inaccurate, due to position error. The POH claims that with the flaperons drooped to 20° and the throttle at idle the Valor stalls at about 28kts. I have no reason to dispute this claim. The pre-stall buffet was very mild, but the ridiculously high deck angle is a strong cue that perhaps not everything is as it should be. Recovery was quick and easy, with

little loss of altitude. I decided to hold the Valor in the stall, and with the yoke on the backstop it simply sank straight ahead in a very stable condition and a vertical speed of less than 500ft/min. You could ride it right down to the ground like this, and although you might burst the tyres you would definitely walk away. This is a very safe aeroplane.

I tried a few stalls in the turn, and the Valor responded by always rolling the wings level - an excellent trait. I also experimented with some gentle 90° turns just above the stall, and discovered that the flaperons work well even at such slow speeds. Again, I wondered if the slot between wing and flaperons functions as a 'Fowler' flap. A minor niggle was that I definitely ran out of aft trim at slow speed. However, to be fair, *slow* in the Valor is *really* slow. Operationally, I doubt it would be an issue.

Circuits at Avon were great fun, and as we had the place to ourselves I tried all sorts of permutations of

flaperon and power settings. When I mentioned that the glide angle power-off was agreeable flat, Joe grinned and shut the engine down. This didn't faze me, so I simply flew a constant aspect approach slightly on the high side, then slipped off the excess height at the appropriate point. Great fun, and an impressive demonstration of Joe's confidence in the aircraft.

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AEROPRAKT A-22 VALOR

▶ DIMENSIONS

LENGTH	6.09m	20ft
HEIGHT	2.40m	7ft 9in
WING SPAN	10.11m	33ft 2in
WING AREA	13.93m ²	150sq ft

▶ WEIGHTS AND LOADINGS

EMPTY WEIGHT	271kg	599lb
MAX AUW	544kg	1,199lb
USEFUL LOAD	273kg	600lb
WING LOADING	39kg/m ²	7.9lb/sq ft
POWER LOADING	9.1kg/kW	14.9lb/hp
FUEL CAPACITY	90lit	19.9imp gal
BAGGAGE CAPACITY	20kg	44lb

▶ PERFORMANCE

VNE	113kts	209km/h
CRUISE	87kts	161km/h
STALL	28kts	51km/h
CLIMB RATE	1,000ft/min	5.08m/sec
SERVICE CEILING	13,000ft	3,962m

▶ ENGINE

Rotax 912 liquid-cooled flat-four, producing 80hp (59.65kW) at 5,800rpm

▶ PROPELLER

Warp Drive three-blade fixed pitch

▶ MANUFACTURER

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