

Graham Webster demonstrates the strength of the spats



▶ The company outgrew its backyard garage and moved into a 1200m<sup>2</sup> factory at Redhead, New South Wales, a few hours out of Sydney. It now employs 27 staff, including qualified engineers and CAD (computer-aided design) specialists. A separate sail-making facility has four staff. All aircraft are manufactured from the ground up using the latest technology. Parts are machined to precision tolerances. The XT 912 complies with the Australian Civil Aviation Safety Authority (equivalent of our CAA) and *BCAR Section S* as a primary category aircraft.

The family of trikes starts off with the Redback, named after that lovable little arachnid that lurks under toilet seats and administers playful nips to buttocks carelessly exposed above. Someone in the marketing department obviously had a sense of humour.

The Redback is a basic, 503-powered 'naked' trike (not everyone needs a pod – they do get to see the sun in Oz). The Outback has a 582 (I'm disappointed that they didn't carry on with the venomous creature theme), and the Classic adds a pod for us Pommie poofters. The XT 912 is top dog.

Sales are strong in the USA and China is an expanding market. One bloke in Hawaii has flown more than 14,000h in Airborne trikes, running a sightseeing operation out of Maui. Graham reckoned the company has built well over 1000 microlights, including 90 XTs. So we are dealing with a well-established organisation here.

For any vigorous Australian enterprise, the move into Europe is a logical step, provided it has a competitive product. Does Airborne's stack up?

#### Technical

And so we move on to the technical details, beginning with the engine. Yes, it's a Rotax 912.

There's not much else you can say really: it's a reliable lump requiring minimal maintenance and shoving out 80bhp in standard form. It comes with anti-carb-icing hot water jackets fitted, which run constantly. The layout will be familiar to all Pegasus / Mainair owners, except that the ceramic-coated exhaust ejects the black stuff

straight from the rear of the muffler (which will lead to nice carbon stripes on the back of the prop). Airborne has no plans to upgrade to the 912S, reckoning there is very little to gain from it, apart from cost.

The propeller is a nicely finished Bolly three-blade composite, ground-adjustable unit with a smart anodised alloy hub.

You'll love the fuel tank: it holds a whopping 70 litres (67 usable), which is probably why the seats are so beautifully cushioned – you could be up a long time in this baby! The tank runs behind and under the rear seat and is covered by the padded side panels. You can also just about read the calibrations on the right-hand side of the tank while in flight (always a comforting thought), but if you run out of fuel you're just being silly.

It didn't look easy to get behind the panels for extra stowage, but there is some space under the rear seat and two useful zipped-bags under the front seat that can carry 4kg each. You'd need to invest in some panniers for longer trips.

The cockpit is extremely spacious, at 0.7m wide, and the front seat can be adjusted for leg length. The forward backrest is substantial and feels very comfortable. Each seat can accommodate 100kg of pilot, so there's no need to ease off the pies. The seats both have three-point harnesses, the shoulder straps being inertia reel.

Something to watch out for is the fact that the throttle is on the right and the choke on the left; could be a little confusing. Dual bars operate the dampened steering and the footbrake has a ratchet for parking.

The instrument panel seems unusually spartan, perhaps because it is mainly glass – the back-up ASI, calibrated in knots, is the only analogue instrument. I'm a bit of a Luddite when it comes to instruments, but the Skydat GX2 is clearly a comprehensive piece of kit. The main screen comes up with four main dials: ASI, VSI, altimeter and RPM; in between are the CHT and EGT readouts. You can configure the instruments to the country of your choice. There is also a fuel gauge / flow-meter, OAT, oil temp and pressure gauge, voltmeter, engine hours and clock. I think you can warm up a Cornish pasty too.

There's lots to keep you amused on a long cross-country, and this type of instrumentation also has the advantage of simplifying the wiring. That said, you'll need to take your gloves off to access some of the functions. Next to the master switch and starter on the dash is a 12V socket, another very useful addition.

The front wheel sports a drum brake and double-acting oil-dampened shock absorbers. The rear suspension consists of a swinging wishbone (wasn't that a 1970s rock group?) and oil pneumatic shocks. Factor in the rear six-inch spun-alloy wheels, Tundra tyres and a 1.9m wheelbase, and you should be able to survive on the roughest of surfaces with the roughest of landings.

The rear wheels additionally come with aerodynamic spats, following the trend to use them as an aid to yaw stability. To demonstrate the strength of the structure Graham is quite happy to stand on the spat – and on the 'No Step' placard in the pod. Don't try this at home.

Most of the airframe is round-section 6061-T6



multi-sleeved aluminium, with aerofoil sections on the A-frame uprights and kingpost. Unusually, the mast has no fairing, but Graham says that there might be more refinements to the trike in future.

What you do notice is the quality of workmanship in even the smallest fixings. Airborne has invested heavily in CNC milling machinery, and the solid aluminium components found in the A-frame, mast over-centre block assembly and wing-tensioning shackle are a joy to behold.

### Wing assembly

The Streak 3 wing is a refinement of the series that was launched in 1999, which was designed primarily for stable cross-country flying.

The wing has a relatively high aspect ratio of 7.4 and is trimmed by the familiar wire-pull system that increases the reflex in the root section. The sail is made from 6oz Dacron and is double-surfaced over the keel and cross-tubes, and there is a trailing-edge band that has a cord-tensioning device on the end section. The leading edge is PX20 Mylar. The latest sail-making techniques have been used; I particularly like the innovative main battens (20 of them), which tuck into the trailing edge and are then clicked over-centre to tension – no more fraying elastic!

Rigging looks relatively simple. First step is to deploy the keel extension tube so that the wing can be stood up on its A-frame before folding out the wings. A tensioning strap with a 2-1 pull is hidden under a Velcroed cover on top of the wing, and the cable is next attached to the combined shackle and safety catch. The 10 under-battens, two nose battens and nosecone, and tip battens are then secured and the trike attached in the traditional manner, with the use also of a 'Jesus' strap. There is additionally a back-up cable running through the mast to the base tube.

The mast safety strap must next be attached if the pilot is to avoid decapitation should the gas strut get over-anxious. Lift the wing up and secure the mast into its gleaming, solid aluminium block with the over-centre lever, and finally secure the front strut with pip-pins and caps (I would have preferred to see drilled pins with safety rings).

Right, that's enough technical stuff – if you want more, the whole aircraft manual is downloadable from Airborne's excellent website, <[www.airborne.com.au](http://www.airborne.com.au)>. Can we release the beast now please?

### Playtime

Graham sportingly gave Paul and I the aircraft to play with. He's never seen us fly, has he?

I made Paul sit in the back, as he doesn't have to subsequently spend hours writing these articles. Start-up is straightforward, and fast taxiing is a doddle with all that suspension. The 912 purrs like a 912 does and the brake is sufficient to hold us for a decent power check.

There is a long queue to escape the joys of Saturday night at Popham and as we tag onto the end it gives us a chance to appreciate the roomy cockpit and extremely comfy seats. Paul confirms that he has an excellent view of the instrument panel from the rear seat, which is a real plus for training (although perhaps a slight negative for passenger wind buffet at higher speeds).

The aircraft accelerates briskly, and at around 50mph a smooth push of the bar is all that's needed to depart terra firma. We used around 200 yards to take off, which is very acceptable.

You then leave Earth behind exceedingly quickly. We'd been told to expect a decent rate of climb, and I'm used to that in the Quik, but boy, can this baby climb. I did wind some trim on (which the manual says you don't really need), but we really were going up fast. The big wing bit into the evening air and had no trouble lifting us two well-built specimens up at 1100ft/min, so we wasted no time getting into the circuit. You

## Technical data

### Airborne XT 912

#### MANUFACTURER

Airborne Windsports Pty Ltd, PO Box 742, Redhead, New South Wales 2290, Australia; tel +61 (0)2 4944 9199; fax +61 (0)2 4944 9395; <[fly@airborne.com.au](mailto:fly@airborne.com.au)>; <[www.airborne.com.au](http://www.airborne.com.au)>. Director: Rob Hibberd.

#### IMPORTER

Airborne Australia in the UK; The Headlands, Ercall Lane, Telford TF1 2DY; tel 01952 254949; mob 07971 260789; email <[instructor@airborneaustralia.co.uk](mailto:instructor@airborneaustralia.co.uk)>; web <[www.airborne.com.au](http://www.airborne.com.au)>. Proprietor: Graham Webster.

#### SUMMARY

Tandem two-seat flexwing aircraft with weight-shift control. Rogallo wing with neither keel pocket nor fin. Pilot suspended below wing in trike unit, using bar to control pitch and roll/yaw by altering relative positions of trike unit and wing. Wing braced by kingpost and cables; floating cross-tube construction with 80% double-surface; 20 battens on top surface, 10 battens on bottom surface. Undercarriage has three wheels in tricycle formation; oleo-pneumatic suspension on all wheels. Push-right go-left steering independent from aerodynamic controls. Drum brake on nosewheel, with parking ratchet. Round-section aluminium-alloy tube trike unit, with pod. Engine mounted below wing, driving pusher propeller.

#### EXTERNAL DIMENSIONS & AREAS

Length overall 2.74m. Height overall 3.65m. Wing span 10.0m. Wing area 13.5m<sup>2</sup>. Aspect ratio 7.4/1. Wheel track 1.7m. Wheelbase 1.9m. Other data NA.

#### POWER PLANT

Rotax 912 engine, liquid-cooled. Max power 80hp at 5500rpm. Composite three-blade propeller, 1.727m dia x 0.51m pitch. Gear drive reduction, ratio 2.43/1. Power per unit area 5.93hp/m<sup>2</sup>. Fuel capacity 70 litre.

#### WEIGHTS & LOADINGS

Empty weight 223kg. Max take-off weight 445kg. Payload 222kg. Max wing loading 33.0kg/m<sup>2</sup>. Max power loading 5.56kg/hp. Load factors NA.

#### PERFORMANCE\*

Max level speed 92mph. Never exceed speed 98mph. Economic cruising speed 75mph. Stall speed 40mph. Max climb rate at sea level 825ft/min. Min sink rate 770ft/min at 62mph. Best glide ratio with power off NA. Take-off distance to clear 15m obstacle 247m. Landing distance to clear 15m obstacle 325m. Service ceiling NA. Range at average cruising speed 436 miles. Noise level NA.

#### \* Under the following test conditions

Airfield altitude 550ft. Ground temperature 16°C. Ground pressure N/A. Ground windspeed 8kt. Test payload 420kg.

#### PRICE INCLUDING VAT

£26,500 delivered. Training bars extra

NA = Not available

Figures above are manufacturer's/importer's data

Figures in text are tester's experience

