

Brumby's new evolution **A WORKHORSE**

by Kreisha Ballantyne



>> Cavernous cabin
with me inside

OVER the mountains, a mere seventy minute flight away from Sydney, stands a small aircraft manufacturing company called Brumby. Family owned and operated, they've been making light, all-metal aircraft for over twenty years. Some time ago, I flew their sporty low wing and deemed it the aircraft I would buy should I ever purchase a two-seater; it's an elegant, sleek, bubble canopied little bird, perfect for a pilot who still likes to see rivets on their aircraft.

Two weeks ago, I received a call inviting me to come and fly their brand new prototype - the Brumby 610 Evolution - a two seat, training and recreational aircraft. I flew to Cowra to see whether the new machine was as impressive as its low wing sister.

Being a high wing the Evolution lacks the streamlined, sporty cut of the low wing. Packaged as a trainer, it has a functional appearance - 'sturdy', 'robust' and 'hardworking' are words that sprang to my mind. Truth be told, the Evolution is not as good-looking as its sibling.

The first thing that struck me was its deceptive cabin size. Entry is through one of two very large doors, whereupon I was reminded of the first advantage of the highwing - easy access. This should most certainly be taken into account for elderly or less nimble pilots, as well as the very tall. The cabin is cavernous - a massive seven inches wider than

the 172 and able to accommodate pilots up to 200cm tall. With an under-panel mounted control stick and runner adjustable seats, there is ample room for the most rotund of pilots.

Inside, the Evolution is laid out in the traditional GA format - the trim wheel, carb heat and throttles are reminiscent of a 152; the aircraft is fitted with toe brakes and a Vernier throttle. Electric flap and a steerable nose wheel complete the GA feel of the 610.

Because the aircraft has a six hour endurance, Brumby has given a great deal of thought to comfort: the seats are finished with leather and fitted with four point harnesses. Cabin heat is a standard, rather than optional, fit.

For the instrument panel there is a choice of conventional instruments or the increasingly popular Dynon D180. Its lightweight, low cost, simple to install characteristics make it an easy choice for Brumby to offer as an option.

I took it for a spin (not literally, of course) with Temora Aviation display pilot, Paul Goad, son of Phil and the flight training component of the Brumby family.

Climbing out at around 1,200fpm, we reached 4,000ft in under four minutes and tried a few stalls. With a stall speed of 37kts, it seemed to take forever to get there; when we did, it was barely noticeable - perhaps the politest stall I have ever encountered - no wing drop. A mere unloading of the nose was enough to unstall us immediately.

"Docile stall characteristics are a major consideration in a trainer," remarked Paul. "This is a compliant, well behaved machine. The buffer between the approach speed and the stall speed is massive."

Here too, the second advantage of a high wing became apparent - excellent visibility. We cruised comfortably at 110kts, and I could immediately see the advantages of this aircraft as a tourer. While the six hour endurance certainly exceeds the average person's bladder capacity, in these days of dwindling fuel supplies at country airports, it's reassuring to know you can flight plan along leg without having to worry about fuel.

After some steep turns, and some general handling we went in for a few circuits. Paul handed it over to me to land, and it was, once again, extremely well behaved. Pulling back the power on downwind, we lowered flap at 80kts and stayed on profile down to the aim point, where we crossed the threshold at about 55kts, allowing us a slow, stress-free landing. On go-around, I 'forgot' to raise the flaps (as many students do in early training), and we still took off and climbed out easily. We tried a flapless approach and an emergency glide approach, again with very little fuss. Paul demonstrated a short field take off, where we were off by 300 metres.

Evolution owner, Andrew Broad, President of the Victorian Farmers' Association, says the aircraft is perfect for farmers.

BRUMBY HIGH WING SPECIFICATIONS

Wing span	28ft	Empty weight	345kg
Length of fuselage	20ft	Cruise speed at 75% power	110kts
Wing area	117sq ft	Stall speed	35kts
Cockpit width	47in (119.38 cm)	VNE	140kts
Engine options	Rotax 912 and Lycoming O-233	Climb speed	65kts
Fuel capacity	140 ltrs	Rate of climb	1,000fpm
Maximum take off weight	600kg	Landing speed	55kts

>> Fabulous paintwork, and right, Phil tests engine mount strength



>> Multicam



>> Cabin



>> Engine

"Its short field characteristics are well suited for us. I have a 600m strip and the Brumby presents no challenges landing there under most weather conditions. My wife is a reluctant flier, but feels very safe in the Evolution because of its all-metal build and steel undercarriage. I am also a big supporter of local industry, and am glad to be buying an aircraft from an Australian rural business."

Fitted with a Rotax 912 (A Lycoming O-233 option is available) it is aimed squarely at the training market. With an 18 lph fuel burn, 6 hour flight endurance and 110kt cruise, it's a pretty fine option when compared to a 152, no matter which way you do the maths.

Marketing manager, Ross McRae, says the Evolution also brings economic benefits.

"While I appreciate LSAs do not have a great track record for standing up to the punishing environment of the training market, I feel the 610 Evolution really challenges this.

"Its solid aluminium chrome moly build, with tough and robust 13mm thick spring steel formed undercarriage legs with the Cleveland style wheels and brakes, makes it the toughest LSA on the market.

"In terms of economy, the Rotax-fitted 912 has a fuel burn of 18 litres per hour, running at 50% of the capital cost of the average GA trainer. In addition, maintenance costs are significantly lower, with a 100 hourly being 50% cheaper on a Rotax. All in all, I feel Brumby is offering a modern, high powered LSA perfectly positioned for the training environment."

To demonstrate the process of creating this rugged LSA, Paul showed me around the factory. Every part of the Brumby, with the exception of the engine and prop, is built on-site in Cowra.

"The Brumby centre section has 2¼" machined spar caps, top and bottom with a .040 web. Solid aluminium formed ribs join the front and rear spar with intercostals and doublers to create an extremely strong monocoque structure of conventional aircraft design," says Paul.

Everything here is designed to GA specifications: with struts the same size as the 182 and a rudder like a barn door, it certainly cuts a GA figure.

Phil, the designer of the aircraft, came on board with some safety stats, informing me Brumby had hired an independent test pilot who spun the aircraft 56 times, testing the fore, mid

and aft C of G positions and employing a spin chute. The wing can bear a loading force equivalent to 64 bags of cement.

For a comparison, Paul and I followed the factory tour with a flight in the elegant low-wing 600. I was mightily surprised to note I actually preferred flying the high wing! From a training perspective, you certainly can't go past the sedate characteristics of the Evolution – comfortable, sturdy and very, very forgiving. It may not win any beauty contests, but then again, neither will the Cessna training fleet.

Overall, Brumby is extremely satisfied with the Evolution. In a tough market like today's, with training doing it the toughest of all, it's reassuring to know there are options for students to learn to fly more cheaply, especially for those of us tired of flying the ancient asthmatic aircraft many schools still have online in Australia.

The hardest task ahead is changing the ancient mindset of schools and operators with regard to using LSAs. The company's foresight in providing a Lycoming option will hopefully bear fruit. Offering a light, traditional GA engine is a smart move and Brumby should be saluted for being the first to do so. 🇦🇺



>> The Brumby factory and the Brumby rear interior

