



Design Integrity

When Air Vice Marshall John Blackburn (Retd) AO expressed interest in learning more about the Bristell LSA, Brett Anderson, whose company Anderson Aviation represents the manufacturer in Australia, saw an opportunity not only to reinforce his belief in the design but also to validate, by peer review, its integrity and the aircraft's build quality.

John, a Commanding Officer and, prior to retirement, Deputy Chief of Australia's Air Force, was a man with 3,000 hours experience in over twenty aircraft types. It was his time as a test pilot at the RAAF's Aircraft Research and Development Unit based at Edinburgh, South Australia and later flying F/A-18's operationally with 77 Squadron, that developed a significant awareness of (and interest in), aircraft design integrity and, as importantly, the dynamics of flight.

The decision by his brother-in-law to take up flying started John Blackburn on a journey that would eventually see him place an order for an aircraft in his own right. 'My brother-in-law was looking for a light sport aircraft and asked me for some assistance. During

the process of reviewing options, I flew to Melbourne and took a flight in a Bristell. We flew in pretty turbulent conditions, around 30kts of wind in fact, and what I experienced surprised me. It didn't fly like a recreational aircraft, it was very responsive - there was a lot of control margin. These aircraft types generally have low inertia, but I felt the Bristell flew incredibly well in those conditions. What surprised me most was that it felt like a heavier aircraft. Its gust response was better and it just felt really capable'.

This experience led John to speak about the aircraft's flight characteristics first hand with its designer Milan Bristela. 'What he told me was that he had shaped the aft section of the fuselage so that, as you fly in turbulent conditions where you're getting vertical gusts, you don't present a flat plate to the updraft. What Milan had done was rounded it which seemed incredibly sensible'.

This initial conversation with Milan Bristela encouraged John Blackburn to consider the design further but not without a visit to the BRM factory in the Czech Republic. 'I happened to be going to Europe on a business trip so I took the opportunity to visit the factory' he recalls. 'At the time it was quite small and Milan has now moved to bigger premises, but what I saw impressed me anyway. The conversation we had allowed me to fully understand Milan's background and the technical experience

he had built both in aircraft design and construction. I walked through his production line, and I've seen quite a few that were less than impressive in my time, but what I saw here was different. It was small but thorough, the principles he was applying in material choices, the spar design and the built quality really impressed me'.

John saw Milan Bristela's decision to work with metal and not composites as a positive because it demonstrated the designer's commitment to longevity. There were obvious benefits in being able to prolong the life of the key control surfaces, given the ease with which their condition can be assessed. 'I saw this as a positive because he was using composites where it made sense but not as a default position' John recalls. 'What also impressed me was that he was doing the metal coating in house, because he had found in the past, that he could not guarantee the quality produced by external providers'.

Milan Bristela's cockpit design was also something that impressed John Blackburn. 'The Bristell's cockpit is larger than many Cessnas I've flown' he says. 'I'm 6'1" and I've flown with taller people. Headroom for us is a challenge in many other designs. This one has plenty of headspace, plenty of shoulder and elbow room and what really impresses me is the visibility - it's really good'.

Despite all the positives John saw in the Bristell's design, there were a couple of aspects he felt he should investigate further, seeking input from colleagues in the aeronautical design space. 'One of the issues I perceived was that there was no aerodynamic mass balancing on the aircraft. I had asked Milan how he addressed the issue of flutter and he explained to me that the mass distribution in the elevator itself was such that the natural harmonic frequency would be low enough. This was ratified by the scientists. They said "that sounds good, that sounds reasonable". It's interesting to note that Milan did subsequently address this issue and sent out a modification kit to all owners. I was really impressed by his willingness to respond to qualified input. There were a couple of other small design suggestions made and he has responded in each case with mod kits. It's not like "this is it, this is what you get". He listens, he's open to suggestions and it's clear he wants to optimise what he designs and manufactures'.

Build quality was also high on John Blackburn's agenda. 'This was important to me and I needed it validated', he says. 'What became clear from my observations was that Milan had come from a larger aircraft manufacturing environment and was operating in one much smaller. The significant thing of course was that he'd clearly brought with him the knowledge,



A commitment to build quality, the use of alloy rather than composites for the main control surfaces and a factory environment that demonstrates the designer's attention to detail support the Bristell's claim to be the genuine article.

particularly key design and production aspects, necessary to deliver a really high quality product. You could say I was quite impressed when I left the factory'.

As John Blackburn will tell you, buying an aeroplane is not always a pleasant experience. In fact, he has written several articles about the subject highlighting the risk/reward scenario. Whilst he has not been the victim of a compromised purchase transaction, he has been exposed to the possibility in initial discussions. 'It's interesting to be told that I should commit to purchasing without a pre-purchase inspection. It's even more interesting to have been told on one occasion that I didn't have the experience to make an in-flight value judgement. It's quite extraordinary really given my career profile!'

Finding someone John could implicitly trust to help guide him through the aircraft ownership proposition therefore became a high agenda item. 'I found in Brett Anderson someone I could trust, someone whose integrity was clear to me from the very first encounter. What I saw was 100% honesty, I saw a straight shooter, I saw a person whose highest priority was clearly to look after his customers. All of that in my case sent a very strong message.

The positive relationship that developed with Brett Anderson was crucial because of John's desire to maintain an effective line of communication with Milan Bristela. 'When you get a relationship going like this, particularly at this end of the market, it's pretty unique in my opinion. What it enabled me to do was cover off my key purchase requisites – good design, excellent build quality and unquestionable support both pre and post purchase. I guess it's where you start, how you choose to calibrate the

process, what you expect as the outcome. In my case I set the bar pretty high because I wanted certainty, I wanted a risk free environment in which to transact'.

John Blackburn's sentiments are echoed by Brett Anderson who was immediately attracted to the Bristell after completing an initial flight. 'John's done a pretty good job identifying the attributes of the aircraft's flight characteristics. I fully endorse what he's said. In terms of the build quality, I'm a total advocate but the best judges really are the LAME's. You often get comments like "Wow, this is a real aircraft". That's a fairly common observation. They like the alloy construction and the feeling they get is that the Bristell is built like a traditional aircraft, in other words it's strong and it's clearly built by craftsmen to a very high standard'.

What also impressed Brett was the Bristell's carrying capacity. 'You've got wing lockers, you've got storage behind the seats and you've got the possibility of a front locker as well. There's also an option Milan calls the "sleeping pack" where the fuselage opens up down through the tail. The ability to carry long items, perhaps fishing gear or as they do in Europe, ski's, is a great option and it's been a popular attribute when I've demonstrated it. These are really sensible features and the factory tries to incorporate innovative ideas like these throughout the aircraft wherever they can'.



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Bristell

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