



Scottish Airsports Club

Latest News

Issue 6, August 2003



Contents

Forthcoming Events

Page 1

Flight Test

Page 1

More Tug Trouble

Page 4

More Dual Aerotowing

Page 1

Demo Day

Page 3

The Tug - What to Do?

Page 4

Forthcoming Events

30th August - Thornhill Gala Day

Another reminder that there will be a fly past at the Thornhill Gala Day on 30th August. It is hoped that as many club members as possible will take part, both hang glider pilots and microlight pilots. The main objective of the day is to perform a fly-past over Thornhill that would put the Red Arrows to shame. It would be great to have as many members as possible airborne over Thornhill at the same time, so bring out that power unit, brush up on those right-of-way rules. Another reminder that there will be a fly past at the Thornhill Gala Day on 30th August. It is hoped that as many club members as possible will take part, both hang glider pilots and microlight pilots. The main objective of the day is to perform a fly-past over Thornhill that would put the Red Arrows to shame. It would be great to have as many members as possible airborne over Thornhill at the same time, so bring out that power unit and brush up on those right-of-way rules.

20/21st September - Trip to Aboyne

For those who don't know, Aboyne is the premier wave site for gliding in Scotland. We (as in the Scottish Airsports Club) have been invited up for a weekend to demonstrate the joys of hang glider aerotowing, to play in the wave that's almost certain to be there just for us, and to increase the club bar revenue. The probable date for this wave-flying frenzy is 20/21st September.

More Dual Aerotowing

The Scottish Airsports club continues to be one of the premier dual aerotowing centres in the UK, with Martin and Mike both taking up passengers in the sleek dual Laminar. Having been one of Martin's passengers in lively conditions, I can vouch for his skills as a dual pilot! Stand-up landing? No problem!

Flight Test

Is your hang glider beginning to show its age? Ever land in Callander on an epic day knowing you could have caught the next thermal to John O'Groats if only your glider had a bit more performance? In a first for the Scottish Airsports Newsletter, I bring you a comprehensive review of 3 of the latest gliders on the market: the Airborne C2, the Avian Cheetah and the Laminar MR. The truth is, thought, that 2 of them are bitter lemons, while one's a sweet juicy peach. Which one is it? Read on and find out.

Before I start the review, I have to admit that I own one of the gliders, and I've never flown either of the other two. However, I've made some careful observations and have tried to remain unbiased and objective throughout.

Construction

Latest News

Scottish Airsports Club

Issue 6, August 2003

1

The Laminar is one sleek gliding machine. Who needs gimmicks like a mylar sail, carbon base bar etc, when the "basic" model is this good? Anyway, the battens are much shinier than the Cheetah's and I'm convinced that shiny battens are a major contribution to glide angle.

Now everyone knows that a real carbon cross-tube as seen in the Laminar and Cheetah is rectangular. So I wasn't fooled for a second by the cross-tube in the C2 which is round, and quite obviously made of wood but painted black to look like carbon. The sail zipper's also a bit dodgy in that there's nothing to stop it coming right off. Imagine my embarrassment as I'm left holding the zipper in my hand after asking Ross if I could inspect his new glider a bit closer! I'm also told it's got carbon inserts on the leading edge, but since I was now too scared to touch any of the zips I couldn't tell for sure. Besides, what do they do except increase the bill when you crash it? I did notice that the wing is extremely flat with very little twist in the sail, but I'm sure that in Australia they think certification tests are for poofs.

The wing tips on the Cheetah look like they've been cut off with a hack-saw. I reckon this is a cunning marketing ploy by Avian so that they can flog expensive carbon winglets to finish off the wing and make it all aerodynamic again. The wing shape is rather unusual in that the chord of the wing tapers remains almost constant for the first two thirds of the span before finally curving in towards the tip. In fact this wing shape was unique until the new Litespeed S came along which must have put a smile on Steve Elkins' face! However in every other detail the Cheetah is just a shameless rip off of the Laminar, right down to the fact that there's no king-post.

Rigging

The Laminar is easy to rig either on the A-frame or flat. The tip wands can be a struggle to put in, but only if you stupidly follow the instruction manual and put the tension on first. If, however, you pop the levers on before you apply full tension, it's a doddle!

What a nightmare it must be to rig the Cheetah! 57 or so battens on each side, and they're all the same length because of the wing shape described above. Allow at least 3 hours to put this lot together.

As for the C2, being Australian glider it prides itself in being a real Man's glider, being designed to require large amounts of sheer brute strength and effort to rig. No wonder Ross keeps asking for help to force it all together.

On the ground

The Laminar is beautifully balanced and relatively light. There's not much slack in the side wires even with the VG off and it's easy enough to get it in and out of the launching trolley, even in a breeze. The only problem is that once in the trolley you need someone holding onto the nose until you're clipped in and hanging because it just wants to go flying! When I first tried to pick up the Cheetah, I thought it was staked to the ground! Then I discovered it's just that it weighs at least 60 kilos! The position of the rear wire attachment point being so close to the hang point doesn't help. Steve Elkins recommends picking it up like an ATOS, i.e. like an awkward heavy bastard of a glider.

The C2 has an ultra-aerodynamic A-frame which is very awkward to hold, especially when this is another 60+ kilo monster. The big chunky wing, is however much easier to hold. I think they've got things the wrong way round here. Try making the wing aerodynamic and the A-frame easy to hold, Airborne!

In the air

When flying the Laminar for the first time, make sure your radio's switched off, otherwise your friends are liable to think you're rehearsing your lines for your next gay porn movie. "Oh my God! Oh that's sooooo goooooood! It's so big, but it's soooooo easy to handle! I'm just going to keep it up all day!" are the sort of things you'll be saying to yourself. And when you're all spent and you finally come in to land, it really is a piece of piss to land. Just look at the DHV report:

Length of final glide: Long

Point of flare: Easy to find

V-tolerance to flare: Big

Effort of flare: Low

The Cheetah seems to be twitchy to say the least on the tow. It was very amusing one afternoon watching Donald and Andy's Bucking Bronco style aerotow challenge to "Let's see who can be the first to stay on this beast for more than 50 feet". A total of four attempts later and Andy eventually won, but only by flying it so slowly that Donald had to almost stall the tug to stay level. Andy also nearly managed to trash Steve Elkins' demo Cheetah after what looked like a wingover attempt moments after coming out of the trolley.

The C2's questionable certification certainly seemed to cause Ross a few problems. On the way down, the glider's severe instability meant that it went into all sorts of involuntary wingovers and loops, before thankfully recovering just in time for a safe landing. Ross, of course, claimed these were deliberate aerobatics, but the white knuckles, perspiration and ashen face gave it away. No-one was watching anyway, Ross.

It's interesting to note that while my Laminar keeps all its logos for the undersurface, both the Airborne and the Cheetah have their main logo on the top surface. This is obviously so the Laminar pilot can see who's beneath him (Ken

and Ross) and the Airborne and Cheetah pilots can see who's above them (me, as if they didn't know).

Conclusion

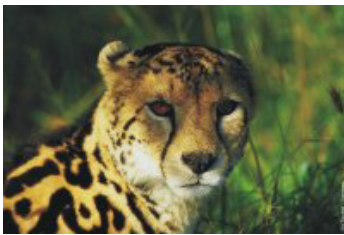
These three gliders have been very aptly and helpfully named by their manufacturers, and in fact you don't need to go any further than the names to get a real understanding of the nature of these gliders.

First there's the Cheetah. Just like the creature it's named after, fast and dangerous in close proximity to the ground where it belongs, but hopeless in the air.

Then there's the C2. I wasn't sure whether Airborne picked this name because it's like a Hercules C130 - big, and heavy with a questionable glide, or because a C2 is to the hang gliding world what a Sinclair C5 is to the automobile world - utterly useless. A bit of both, I reckon.

And then finally there's the Laminar MR700 World Record Edition. A bit of a mouthful, but the name says it all. How far has yours gone?

The Cheetah - can't fly



Ross on his C2



C2 - nimble handling



And finally...

If anyone thinks I've been a little harsh on the Cheetah and C2, particularly anyone who's actually flown either of them, then you'll just have to write your own review and send it in, because I don't print retractions!

Demo Day

If you weren't at Thornhill over the weekend of 23/24 August, where were you? We had great weather, lots of flying, and lots of demo gliders to try out, courtesy of Steve Elkins, Mr Avian Hanggliders. Gliders available for test flights were: a Cheetah, a large Atos, a small Atos and a Laminar MR13. Both Atoses came with V-tails.

I've been lucky enough to fly the large Atos at Avila in Spain, courtesy of Aerotow.com, so I restricted myself to a flight on the small Atos and the small Laminar MR. The small Atos was intriguing because it wasn't just a scaled-down version of the larger one. The most obvious difference was that it had no nosewires. Now how long do you think you'd last in the air on your own glider before having to throw your 'chute and pray if you forgot to attach the nosewires? So how does the Atos manage to dispense with them? No-one could work it out, and I forgot to ask Steve! If anyone thinks they know the answer, please write in and tell us all!

Anyway I had a flight on the small Atos, and it brought back just how easy these things are to fly. The controls are finger-tip light and it is so easy to keep in position behind the tug. Pulling full flaps on for landing makes it easy to land in a small space. In fact at least one pilot had to quickly release the flaps for a short while to be sure of getting back into the airfield, such was the difference they make to the glide angle. Landing it was easy, but it does stall sharply with full flaps on. The other thing to remember on an Atos is always have plenty of airspeed, especially with the flaps on.

I also had a go on the Laminar 13. This until very recently was just one size down from my Laminar, but there's a new intermediate size available now. The MR13 certainly looks an awful lot smaller, and caters for a clip-in weight of 60 - 90 kilos compared to 75 - 110kg for the 14 (I clip in at around 85 kg). This version had the all-Mylar sail and was lovely to fly. It was certainly quicker to turn than my glider, but as might be expected it landed a bit faster. Still easy enough to stop, though.

All in all it was a great weekend, although the air got a bit rough towards the end of the Sunday. Steve Elkins showed us how to do it by making the only XC flight of the weekend on his Cheetah. He was in the air not far from Stirling, when Donald radioed him up and promised that we'd all buy a Cheetah if he made it back to the airfield. That was a foolish thing to say, Donald - he nearly made it, but finally landed a short distance from the village of Thornhill. Don't

forget this guy set the British triangle record at around 110km earlier this year (on an Atos).

More Tug Trouble

Our tug's been playing up again recently. It looks like the engine mounts haven't been set up correctly after the recent major repair work, and the prop is occasionally hitting the tow frame with the obvious results. Thankfully we managed to patch it up to keep it running over the demo day weekend, however a more permanent repair is required.

The Tug - What to do?

Our tug's been having a bad year so far, and sooner or later we'll have to replace it, but what with? There are only 3 certified tugs which are available in this country: the XL, the AX2000 and the 912. The AX2000 is a non-starter because it's a 3-axis machine which means that none of us could fly it. So what should we get - another XL or a 912. These are the main arguments as I see them (feel free to write in and disagree!)

- 1) Purchase cost. The XL is the clear winner here. We could get an XL for about £3,500, whereas a 912 would cost upwards of £15,000.
- 2) Reliability. The 912 is a 4-stroke and so should be more reliable.
- 3) Maintenance. The 912 wins again since the 4-stroke engine requires less frequent servicing.
- 4) Spares. The 912 wins yet again. The 462 engine of the XL is no longer in production so getting spares is going to get harder and harder. There is, however a company in England that claims to be able to provide spares for any Rotax engine including a 462.
- 5) Running costs. The XL wins simply because we'd have to insure the 912, and that wouldn't be cheap.
- 6) Dual towing. No contest. Although the XL is powerful enough for solo towing, it really struggles to tow the dual gliders, particularly the Discovery. Even for solo towing, the 912 can cut down the turnaround times. The 912 can even tow small sailplanes.
- 7) Towing beginners. The XL can tow more slowly than the 912, but there's really not much in it. As reported in a previous newsletter, we towed with a borrowed 912 earlier this year and proved that the 912 can be made to tow at around the same speed (38-40mph) as the XL.

So which one should we go for? The 912 is clearly the better option in just about every respect apart from cost, where the XL wins big time. However, we're looking at various options including one or more members buying a personal share in the aircraft, and the possibility of an interest-free loan from the B.H.P.A.

Watch this space!

Scottish Airsports Club, Easter Poldar Farm, Thornhill, Stirling, FK8 3QT
www.scottishairsports.com