

September – October 2014
International Free Flying Magazine

Cross Country 155



BLOWN AWAY

Ant Green goes off the beaten track in Iceland



A DIFFERENT CLASS

Hugh Miller tries out the Swing Discus and discovers just how far EN A wings have come

“Stitch” and “up” were the first two words to spring to mind when my new review wing arrived from editor Ed. Instead of any number of shiny new C or Ds that could have filled that tightly packaged cardboard box (how do they pack them so tightly?), I instead found myself pulling out a school glider. Yep, an EN A. A fat tipped, low aspect, thick risered EN A – without doubt, the least alluring of all the EN classes.

I shook my head and headed to the hill muttering silent profanities. But I reminded myself of all the fun I’d had flying an 80km XC on a school glider at the start of the 2013 season, and wondered if I might be able to do 100 on this one...

What’s it like?

Unravelling the wing also unravelled a few of my prejudices. The three-riser line layout (with split A-risers for easy big-earring) is simple and clean – a far cry from the four-riser, ship rope construction of EN As I thought was standard. Inflated, the Discus is actually very attractive. The leading edge profile looks smooth and efficient, with the A-lines set nicely back from the 44 cell openings. So this is what a modern A looks like...

At 45cm long, the risers are generous in length, but this makes for simple groundhandling, as does their two-centimetre width. On seeing the wing, local instructor Carlo Borsatino pointed out that this goes against the current fashion of fitting

▲WEIGHTSHIFT FIRST

And then brakes. You’ll soon be turning on a dime. Photo: Swing

beginner wings with racy, sexy looking skinny risers – but it's a sensible move, making the wing more user-friendly. The brake handles are properly lush: adjustable in size, and with removable stiffeners, so you can tailor them just as you like.

First go

My first time out with the wing was one of those interesting days, with scuddy cumulus clouds under a heavy sheet of stratus: the hints of instability were there, but you wouldn't describe the sky as classic, or even pretty. I took off with no instruments or jacket and felt immediately enlivened. The Discus turns on a dime, and there's a lovely amount of information as the brakes start 'biting' and giving feedback only five or so centimetres down from the keepers. I hooked into a small core and spiralled my way up, grinning away. Thermalling without a vario means you have to rely on the feel and sound of the thermal, and the feel of the wing within it, and the Discus gave a surprisingly intuitive feel to the air. I got up to 500m, pushed out to the front, and the temptation was just too strong. Down with the brakes... hold... hold... ("Should I really be doing this?") back she went, thrashing and flailing, release... dive... boom, boom, boom goes my heart. That's woken me up. I fly back to top-land and get set up properly for an XC.

Who is it for?

EN A is a funny category. In the old days, it was what you learnt on – a squashy blancmange that wouldn't stay up in anything but the strongest gale,

and understandably pilots were loathe to actually part with any cash for one. No, you'd want a shiny new EN B as your first wing: a step up, to mark your graduation from paragliding school out into the wild blue yonder (and something you could actually soar).

That legacy lingers on, yet instructors still complain that new pilots move too quickly onto wings they are not quite ready for. There's a good analogy in motorsports. All drivers start their careers in go-karts and learn to bleed every bit of performance possible from these low-tech trays on wheels before moving on. The focus is on handling and race tactics, not "ponies", as a friend of mine describes horsepower. Of course it's tempting to reach for more performance, but you have, in the words of paragliding coach Kelly Farina, to "serve your apprenticeship" first if that performance is to pay off. What's more, things have moved on. Now you really can use an EN A for your first two seasons and score your first big flights on it, as I found out.

In the air

My first attempt at going XC was a failure – I made the beginner's mistake of trying to keep up with pilots on higher performing wings... and ended up with a sweaty walk back to take-off. Some swifts were climbing out to the left so I punted off on a second attempt, and this time I committed low to the climb-out. It was still shaded out, but the climb was consistent enough to go with, and soon I was at 1,100m, and scooting off downwind to a nice juicy-looking cloud.

MANUFACTURER'S INFO

Target group: "Beginners and low airtime pilots"
Sizes (m²): 20.5, 22.7, 25.4, 27.4, 28.6
Take-off weight (kg): 55-80, 75-95, 85-105, 95-115, 105-130
Cells: 44
Aspect ratio: 5.2
Weight: 4.9kg-6kg
Trim speed: 38km/h
Max speed: 47km/h
Certification: EN A
www.swing.de/discus-en.html

▼ DETAILS

The simple three-line riser set with split-As

The leading edge of a modern EN A, with the A-lines nicely set back

What's in the bag...

Photos: Hugh Miller



DESIGN DETAILS

CAMBER AND PROFILE

Michael Nesler says that the Discus has a similar camber and profile depth to modern competition wings. "The depth is connected to the chord, in percentage terms," he explains. "The Discus's profile only looks deeper because the chord is longer than on competition wings"

LEADING EDGE CONSTRUCTION

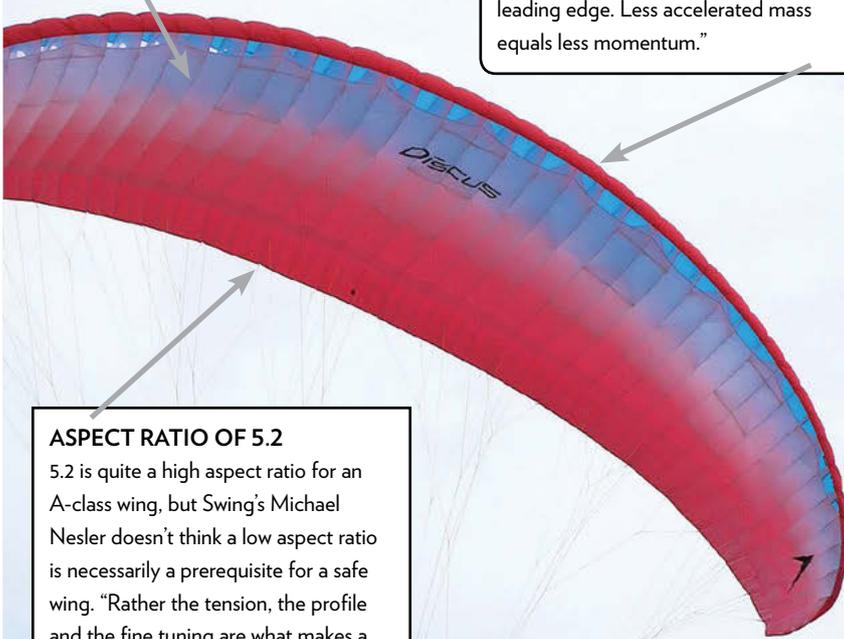
Plastic rods have advantages over classic Mylar and Dacron reinforcements. They're lighter, and do a better job of keeping the leading edge rigid and taut. "With plastic rods, the profiles can be tuned and trimmed in the direction of performance," says designer Michael Hartmann. "We've drastically reduced the weight of the leading edge. Less accelerated mass equals less momentum."

ASPECT RATIO OF 5.2

5.2 is quite a high aspect ratio for an A-class wing, but Swing's Michael Nesler doesn't think a low aspect ratio is necessarily a prerequisite for a safe wing. "Rather the tension, the profile and the fine tuning are what makes a safe wing," he says. "5.2 is within the framework of what has been achieved in the past by us. The Arcus series with similar A/R had always been A-rated in the non-accelerated tests."

THREE-RISER DESIGN MINIMISES LINE USE AND DRAG

There were no challenges getting the three-riser design through the A-rating. This kind of riser gives maximum stability at full speed. It's a 'clean' layout: fewer lines and risers means fewer headaches for the pilot



The wing quickly grew on me. The Discus is one of the most fun wings I've flown – it has such a tight turn radius. Flying without a vario, it gave me plenty of nudges and information to help me settle into the core. It reminded me to listen out for the quieter moments, when the rush of the air around the core subsides, and you're left right in the middle of the bubble of rising air, with the wing settled – such a good clue that you're exactly where you need to be.

This is exactly the kind of feel that's perfect for new pilots learning to fly thermals. The sensitivity is enough to let you feel the air, without overloading you. For new pilots who don't yet have a vario, it's even better. You can easily overload yourself with technology – whereas you'd do yourself a much bigger favour by learning to concentrate on feeling and understanding the air around you. If you've got this kind of feedback locked up in an EN-A package, imagine how confident you're going to feel as you encounter your first properly strong thermals. Can I chuck in another quote here? It's one of my favourites, and it's from Jocky Sanderson: "You're better off flying an easy wing at 100% of your capacity, than a higher performing wing at 70% of your capacity." What we're doing, early on in our career, is managing a huge assault of emotions and senses, not least vertigo and fear, as we take our fragile human bodies high into thin air. The Discus will do a lot to reassure you in such new, inevitably exhilarating and occasionally scary experiences.

Going XC

Michael Hartmann and Michael Nesler are the design duo behind the Discus, and they told me their aim was to develop an EN A wing that pilots wouldn't want to change after their first season, but get to know intimately and excel with – thoughts that echo the sentiments of Kelly Farina.

"To become a good pilot, you have first to get to know the glider perfectly and learn to exploit fully its performance," says Michael – echoing a view held by the majority of coaches in the sport. "So it wasn't just about having good performance and handling – we set out to make it a really fun wing, the kind you really don't want to give up."

I managed two short 20km XCs with the Discus in fairly poor flatland conditions and I'm convinced there's enough performance and handling here for anyone who wants to use it. In fact, on a tricky day in the south of England, I climbed through a pack of 30 wings to the top of the stack, proving to me it has more than enough thermalling performance – in fact, more than most higher grade wings. Meanwhile, a fellow reviewer has flown his



Discus 125km in Piedrahita, and another pilot has completed a 95km alpine triangle.

Of course, an EN A wing is a totally different aircraft from the EN D I've got used to flying this season, and I found I needed to ease up on my brake inputs and fly with a little more sensitivity in the turn: this is a wing that you can flick on a wingtip with little more than a sideways glance. As mentioned earlier, there's something really sporty about the way the brakes bite so quickly that gives a really lovely, responsive feel to the wing, but the design team recommend "weightshift first, brakes after" when thermalling this wing. Despite the immediacy in response, the brakes are nice and long in range, meaning early pilots have an added buffer against unintended spinning.

The speedbar is simple and easy to apply, and requires moderate effort – it's not something you're

going to push on by mistake after taking off without knowing about it. Acceleration feels good for the class, and it's the kind of wing I'd feel happy about a new pilot accelerating fully to punch out of a strong valley wind. I played around with jabbing the brakes down while on full bar and aside from a little porpoising, the wing cruised on unruffled. Of course you shouldn't ever use brakes and speedbar, but it's something a new pilot might do in error quite easily.

Conclusion

I was annoyed to have not flown 100km on the Discus before handing it back – it had been a goal. But what I did take from my experience with the wing is just how far things have moved on at this level. We all hear so much about the latest competition wings – and they have tended to mark the 'big' turning points in the sport, but gliders at

▲ CONFIDENCE INSPIRING

This sort of performance with an EN A level of safety will help you make the most of your early XC career.

Photo: Hugh Miller



**ASI
FlyNet** SWISS
made

**Come discover our new product
at the Coupe Icare, Booth B14**

flynet-vario.com



NOVA NEXON VS SWING DISCUS



We decided to introduce the young Discus to its twisted, evil grandfather - the much-feared 1997 competition wing, the Nova Nexon - to see just how much paragliding design has moved on. I pulled the Nexon up and shouted to the photographer, "Take the picture before the thing kills me!" and got it back in on the ground as soon as I could. Yes - I know - a glide comparison would have been great, but I think one of us may have ended up in hospital. And I know who. So we then donned white coats and got out our tape measures to see what similarities and differences we could find...



Fifteen years ago, performance relied on narrow aerofoil sections that were inherently prone to collapsing. Modern A-class wings gain the same performance through much more efficient profiles. Even though they're much fatter and chunkier to look at, they generate much better lift, less drag, and are inherently much more stable.



Incredibly, the Swing Discus has only a smidge less aspect ratio than the cutting edge comp wing of yesteryear. The Nexon only has 10cm less chord in the centre section and 40cm more span.



The Discus has a beautifully cut sail, with none of the ugly external stitching or big attachment tabs of its evil grandfather.

the safest end of the spectrum have leapt forwards too. The As of my day were kindly, forgiving docile aunties designed to chaperone you on your first forays out of school. My experience with the Discus tells me that modern A-class wings have progressed beyond all recognition.

In conclusion then, this is a really fun wing that has totally met Swing's brief: I can't imagine anyone would want to progress from this wing for at least two seasons. It's got more than enough performance to get you going XC, and has the kind of character that'll have you grinning ear to ear.

Would I recommend it to new pilots fresh out of a school? In a heartbeat. Would I recommend it to pilots who wanted to have the ultimate in passive safety but who still wanted a glider that could thermal up, and go XC on? Yes, but with the proviso: you're going to have to be the kind of pilot who's adamant that your progression is more important than competing against your fellow graduates on their EN Bs. And your payoff will be when the going gets rough, for sure.

Ultimately this glider does what it says on the tin: it's a usable cross country glider that will help you learn to fly XC. And for those of us a little longer in the tooth, well, can you have more fun than taking a wing to base and locking it into a full stall? I doubt it. ☹️

Hugh Miller flew the Swing Discus S, 75-95kg. The wing feels best in the middle of the weight range

POSTSCRIPT...

"I'm sitting on an open-top double decker bus heading back to the hill after a 65km flight in the south of England. Flying is such ridiculously good fun. Today's flight reinforced my view that what you fly doesn't matter: it's what you make of what you fly that matters, and if anything, flying a lower performance wing will do your flying more good than anything else will.

"The Discus was a beauty in the nice, established thermals, and if anything it handles a little too well - you only need 3-4 cm of extra brake on the inside to get her whipping around. 'Weightshift first, brakes after' is definitely the right technique with this very roll-nimble wing.

"For me it's best suited to moderate to strong conditions. In really light lifty air it's at a slight disadvantage, as its roll response means it's hard to get the absolute best out of weak thermals. But when I was sat under a fat dark line of cumulus, getting buffeted by windshear, it was so reassuring to be under a wing of this class. Flying a really safe wing allows you to fully concentrate on watching the clouds, feeling the lift, planning your next move."