How to choose the right paraglider

TOBY COLOMBÉ CUTS THROUGH THE FLUFF TO OFFER SOUND ADVICE. PART 1: CERTIFICATION AND WEIGHT RANGE

photo: Martijn van Dijk

GLIDER REVIEWS RAVE ABOUT THIS WING AND THAT WING. The paragliding forums are full of punters raving about their recent purchase. Even magazine reviews can seem overwhelmingly positive. Your local dealer raves about his favourite brand. Pilots in your area tend to fly a certain brand … and on it goes.

How do you read between the lines? How do you make an informed choice? And when the information is conflicting, which wing do you choose? What questions should you be asking before buying? And just what is it that you should be considering when it comes to selecting your ideal wing anyway?

In this and a following article I'll look at all the factors you should take into account. I'll look behind the fluff and get to what's really important. Just how important is wing category? Where should you be on the weight range? And next month I'll explore the idea of usable performance versus quoted performance, and take a detailed look at handling and other variables.

The right level for *you*

In recent years most pilots have become accustomed to the EN certification system which classifies wings from EN A through B and C to D. Traditionally pilots learn on an EN A wing, buy an EN B and then, occasionally, progress on to an EN C wing or beyond. So which is safer? What are the main differences in handling and performance, and which category should *you* be flying? Over the last ten years I've guided hundreds of pilots. Here are just three of the more common misconceptions I come across regarding wing classification …

'My wing is tested so it'll be OK.' Gliders are mainly tested for their passive recovery characteristics – how they recover from very specifically defined collapses in benign, still-air conditions, usually with no pilot input required. Although this is arguably the only quantitative way a wing can be tested, the limits of these procedures cannot be overstated. They *do not* quantify a wing's propensity to collapse in the first place; nor do they hint at how much active piloting a wing will require to prevent that wing from collapsing; nor do they tell you very much about how a wing is likely to recover in turbulent air; nor do they tell you how a wing will recover from more severe collapses (the asymmetric collapses stipulated by EN tests are of a limited magnitude); nor do they tell you how likely or otherwise a wing is to cravat … and so on and so on. A glider's rating is therefore only half the story. It gives you an idea about its behaviour, but it's really only a homologation test, a test of conformity. We'll look at other factors you should consider later on. For now, let's look at another common misconception.

'My wing is bulletproof.' Although some lower-end wings, particularly the recent crop, are very solid and collapse-resistant

Photo: Jamie Shelden

Put any wing in the wrong place at the wrong time and ...

(you might even liken some models to flying a truck!), it's still a piece of material that if put in the right (or wrong!) place) can lead to unrecoverable scenarios. Every now and then, when I've briefed clients for a particular site and the danger areas to avoid, someone will pipe up, 'Oh, I'll be OK – I'm only flying an EN A wing. It doesn't collapse, and if it does it pops out again immediately.'

Whilst that might be true in most situations including mild turbulence, put any wing in the wrong place – strong turbulence such as rotor – and it can crumple into little ball, never to reinflate. Remember that keeping safe is more about *where* you put your wing than *which* wing you choose to hang underneath. No glider is bulletproof.

'It's a C, but only in accelerated asymmetrics. It's really a B until you use bar.' This (very false) statement, or something similar, is something I hear disturbingly often. Pilots are tempted into a higher wing category by this thinking more than any other factor, save perhaps peer pressure. Just remember that the vast majority of higher-end wings have very few higher-end ratings. For example, to be an EN B a wing only has to respond as a EN B in one test: it is classified according to its highest rating. Likewise, most EN C gliders score only a few Cs and often only one. Your wing is not a B if it scores a C in just one test – it's a C! The passive recovery testing categories, although limited, give us the best 'on-paper' idea of how a wing behaves. A C is a C is a C. It was designed to be a C for C pilots! Kid yourself at your peril!

So how do you choose the right wing rating for you?

In my opinion, about half the pilots flying EN C wings shouldn't be. They move up for supposed higher performance, but with the reduced passive safety they leave themselves far more vulnerable than they'll ever realise (I hope). To move up from the B category (or even, these days, to some of the higher-end EN Bs), a pilot should be flying regularly, flying at least 70 hours a year and have excellent wing handling and wing-control skills. Then – and only then – a C might even be considered safer than a B. Its increased sensitivity, manoeuvrability, speed and glide could be considered safety features – in the right hands.

Here are a few things to consider if you're thinking of changing wing class ...

• Have a look at the manufacturer's (not the dealer's!) website. Who are they aiming their wing at? They have a reputation to look after and that involves not selling wings to pilots that aren't yet ready. Plenty of pilots have flown 100km or more on an EN A for example. By itself, upgrading a wing rarely results in bigger XC distances. Experience and skill usually do.

• Consider the aspect ratio. In the last few years the aspect ratio of some wings has been increasing in certain categories. Increased aspect ratios help a wing's performance, but a high aspect ratio requires more 'management' from the pilot. Compare aspect ratio for a hint as to how it handles! The Gin Carrera, for example, scored an EN B and thus attracted a lot of pilots onto a quite high (6.2:1) aspect ratio wing. The Carrera is a 'safe' wing, but its aspect ratio is still 6.2:1, and according to Mr Gin himself it was aimed at EN C pilots.

Photo: Jerome Maupoint

Gin's Carrera – a B-rated glider aimed C-rated pilots

I personally love the Carrera. I have one, but I'd definitely place more importance on the manufacturer's recommendation than a homologation test. The difference between a so called low-end and high-end B has now become the biggest jump a pilot can make. In case I haven't been clear enough yet: the EN tests are limited, very limited. When choosing a glider place as much importance on its aspect ratio as you do its EN class.

• Talk to an experienced pilot, someone you trust to give an honest opinion. This is probably not one of your flying peers and might not even be your local dealer. If you're hungry for more performance, focus on improving your skills first. Then consider where you are on the weight range.

Where to be on the weight range

Wings are sold in different sizes depending on the all-up weight (pilot, wing, harness and everything else). As the recommended flying weights of different sizes usually overlap, this can leave pilots with a choice of where to be on the weight range. Being near the top will mean that a wing is more highly loaded.

The more highly loaded a given wing the faster it will fly, and the more collapse-resistant it is likely to be. A higher loaded wing will also behave more dynamically – it will respond to inputs more directly and collapse recovery will tend to be faster. The glide angle is little affected (assuming a wing in good condition) by a wing's loading. A more highly loaded wing will also generally be easier to launch in strong conditions or higher winds, easier for *you* to collapse (for example big-ears, stalls in air or on the ground) and, most importantly, the handling will feel more direct and responsive. This makes highly loaded wings much more fun to fly.

What are the disadvantages of flying 'heavy'? First of all, collapses. Although less likely in the first place, if a highly-loaded wing does collapse it will, for example, potentially turn more and dive more on recovery. That is, *everything* is more dynamic. In my experience, whilst it's important to be aware of the potentially more dynamic nature of the collapse, the increased turn is only slightly more than a lightly-loaded wing, probably because the collapse reopening is usually faster.

Add to that the fact that a highly loaded wing is less likely to collapse in the first place, and flying heavy really isn't any more dangerous than flying light. Indeed in many ways it's safer. The difference in speed between top and bottom of the weight range is about 5km/h! This is a huge difference and a factor that highly favours being heavy on your wing.

The second perceived disadvantage to being heavy on a wing is to performance. The increased speed as a result of higher loading will lead to a slightly increased sink rate. However, since glide is not affected, when it comes to XC flying the slight increase in sink rate is of little consequence, except in very light, scratchy conditions. In normal or even light XC conditions (thermals of +1m/s or more) the increased speed and loading will improve your 'speed to fly', making it easier to fly further, particularly if there is likely to be any into-wind gliding or sink to fly through.

Being light on your wing is old-school thinking from 30 years ago, when wings could barely soar, let alone fly XC. There's only one time when I'd chose to be light on a wing: on the very weakest 'floaty-boaty' day. Given the choice I'd choose heavy almost every-time for easier, more dynamic flying, increased performance, less dragging on launch and more fun in the air.

TO BE CONTINUED …

Toby Colombé is a British Team Pilot, tandem World Record holder, BHPA instructor and proprietor of adventure paragliding and post-CP development company Passion Paragliding. He can be contacted by email at toby@passionparagliding.com.

Photo: Phil Downie

No wing is bulletproof