How to choose a **new paraglider**

Pat Dower considers the important parameters

Buying a new wing for most of us is a huge decision, a potential minefield in fact! Let's start with one reassuring truth: there are very few bad paragliders. However, less reassuringly, there are plenty of unsuitable ones for your needs. This article explores the issues for both experienced and new pilots.

What level of wing?

This is the single most important factor to guide your choice of glider. Many pilots fly a glider one grade higher than they should. Its not that they are about to crash at any moment, in fact they are doing just fine for most of the time. But nice conditions on familiar sites are one thing. However if you have any intention of flying abroad, where conditions are likely to be more turbulent and it is far easier to get caught out by unfamiliar micro-meteorology - valley winds, lee-side thermals and thermic launches - I strongly recommend that you go for an extra margin for safety.

I know some very experienced pilots who actually have two wings and use the less-demanding one for their holidays. I don't personally recommend this - I think it's better to get really dialled-in to one wing - but it illustrates the point.

In considering the level of a wing it is necessary to look at what the manufacturer says as well as the certification (all available online[1]). There are anomalies out there, gliders which appear quite benign in the EN or LTF tests but actually are quite difficult to fly in turbulence. Please do not count up the numbers of grade As, Bs, Cs, 1s, 2s, etc, and think it will give you a reliable indication of overall safety. If only it was that simple!

Certification objectively tests glider recovery with no pilot input. It doesn't tell you how naturally resistant the glider is to collapse, or how easy it is to "read" the feedback and prevent collapses, or how easy it is to regain control with the correct input. Also, be aware that certification grades are not a reliable indicator of performance. There are two reasons for this: there is considerable overlap and thus often little discernible difference between gliders in different classes, and performance is about the complete package of glider, harness and pilot.

If you are relatively inexperienced, it is also worth getting the opinion of trusted individuals like instructors or coaches who know your flying - but even with the best intentions some advice may be slanted towards what the person is currently selling or flying!

Finally (it's been said before and I make no apology for repeating it), do not go with the crowd! Don't succumb to peer pressure and get a certain level of glider just because your mates are. Be brutally honest with yourself about your flying and choose wisely.

Test fly or not?

The second most important thing of all is the feel of the glider. This will determine how confident you feel and how much you will enjoy your flying. How will you know if you don't try the glider? However, test flying is not straightforward for a number of reasons. Getting hold of demo gliders and having enough time to thoroughly explore them can be difficult. Evaluating a glider in isolation is tough; you can decide if you like it or not, but not whether it is better or worse than something else.

I have been lucky enough to fly well in excess of a hundred different gliders and have done numerous reviews for Skywings, yet I still find it takes a lot of time and work to judge gliders with absolute confidence. When doing a review I aim to fly 10 - 20 hours over a number of days in different conditions. I won't submit a review until I have flown in thermic conditions, and I usually manage to find out how the glider behaves in some really unpleasant conditions like out-of-phase wave. I try light and strong wind launches and do lots of ground handling. I use full speed bar and do a few collapses, wingovers, fast descents and I usually fly XC. To get an idea of performance I fly on familiar sites against gliders I fly alongside regularly. I try to grab a quick go on any other current models on the hill for some back-to-back comparison and to recalibrate my judgements. And even after all that I still learn more about the glider over the long term. The full picture only really emerges after a season when lots of people have flown it all over the world. Be very wary of gossip, especially on the forums. I see very few postings which are sufficiently objective and from people I feel I can trust.

Rough guide to paraglider classifications

EN926 classification, description and BHPA recommendations	EN926 classification	LTF (DHV) classification
A: Paragliders with maximum passive safety and extremely forgiving flying characteristics. Gliders with good resistance to departures from normal flight. For all pilots including pilots under all levels of training.	A	1
B: Paragliders with good passive safety and forgiving flying characteristics. Gliders with some resistance to departures from normal flight. For all pilots including pilots under all levels of training.	B	1-2
C: Paragliders with moderate passive safety and with potentially dynamic reactions to turbulence and pilot errors. Recovery to normal flight may require precise pilot input. For pilots familiar with recovery techniques, who fly "actively" and regularly, and understand the implications of flying a glider with reduced passive safety. *(Recommended minimum: BHPA Pilot rating)*	C	2
D: Paragliders with demanding flying characteristics and potentially violent reactions to turbulence and pilot errors. Recovery to normal flight requires precise pilot input. For pilots well practised in recovery techniques, who fly very actively, have significant experience of flying in turbulent conditions, and who accept the implications of flying such a wing. *(Recommended minimum: BHPA Advanced Pilot rating)*	D	2-3
	FAIL	3

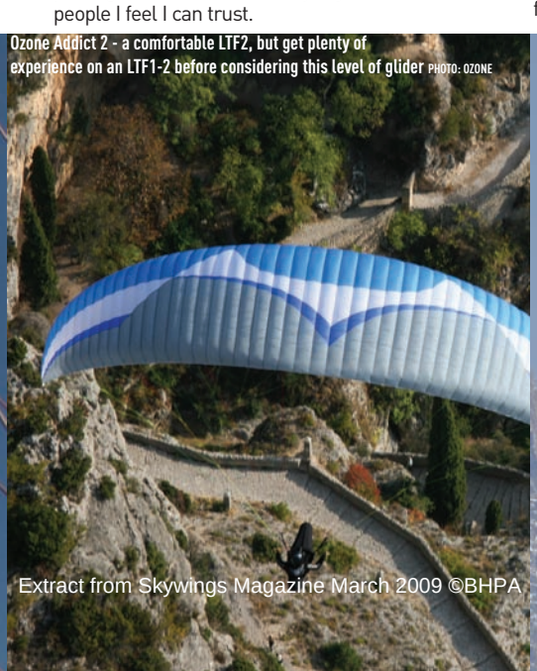
Test flights

Some dealers are very controlling in the way they give test flights and go out of their way to make sure you fly their demo glider on a nice hill in good conditions. It might be good business but it's not necessarily good service. This can be really misleading; most CP+ pilots could probably have a nice flight on a competition glider in smooth air but get into big trouble in any other conditions. It is common for people to buy the flight rather than the glider!

Do your research and compile a short-list of maybe three gliders, and take your time to get a decent go on each one. Try gliders with different characteristics if possible. Even if you love the first one, it's still worth trying something else to confirm your judgement. There is quite a lot of diversity in the feel of gliders, especially in the higher grades. One thing I have noticed over the years is that some gliders feel nice instantly and others take more time to tune into. For some reason I often find the latter more rewarding to fly in the long run.

If possible, make sure the only thing you change when test flying is the glider. Use your own harness, etc, and fly on a familiar site. This is very important. Recently a very respected and capable pilot tried a friend's glider with his friend's harness and said he

Ozone's Mantra R - hotter than hot, but only for a top handful of pilots PHOTO: OZONE



Ozone Addict 2 - a comfortable LTF2, but get plenty of experience on an LTF1-2 before considering this level of glider PHOTO: OZONE

Ozone Mojo 2 - LTF 1 is a good starting point PHOTO: OLIVIER LAUGERO/OZONE

hated it. Some time later he tried the same glider with his own harness and loved it! You get so much feedback through the harness that it is your relationship with glider *and* harness that determines the feel, and it's the feel and handling of a glider which should ultimately make up your mind. In most cases, differences in performance amount to very little anyway.

What is performance?

Judging performance is really tricky. The main factors to consider are minimum sink rate, best glide, trim speed, flatness of polar curve, height loss in turns and how efficient the glider remains in mixing air. When you read some of the posts on the forums you realise the obsession people have with glide angle. I have flown a number of gliders which appeared to go well in a straight glide but lacked the turn efficiency, or the feel to do well in thermals. Good glide in still air does not necessary translate to good glide into a headwind, where the flatness of the polar and speed become paramount, or to glide in turbulent air where pitching can dent the glide performance. And that is without taking into account levels of confidence and comfort.

The importance of weight

Make sure you know your all-up flying weight. Don't forget to include your drinking water, food, boots, clothing and so on. My bag with all my kit for XC flying weighs in at a hefty 25kg. There is a general wisdom that flying a glider loaded towards the top of the weight range is a good thing. Yes and no! It varies from wing to wing. The truth is that you will generally have to work harder on a heavily-loaded wing - to stay up, to climb and to deal with collapses. Sink rate and climb in thermals will suffer a little, reactions to turbulence will be more aggressive and collapses (though perhaps less frequent) will be more dynamic.

For typical UK flying, including downwind XC, heavy is usually bad. Unless the conditions are belting, sink rate is a massive factor. Sitting above everyone else is a great place to be. At some point in many of my big XCs I very nearly went down, and only a good sink rate and great feedback from the glider allowed me to get up again. For Alpine-style XC and competitions abroad heavy is good. With good climbs in strong cores there is hardly any penalty in the rate of climb. The glide angle is the same in still air but the faster glide speed gets you to your next thermal quicker. And your into-wind glide over the ground will be better. I fly my current glider just over the middle of the weight range on most days in the UK and ballast up for racing in competitions abroad.

Some manufacturers give more detailed guidance such as optimum loading and whether the glider has any special tendencies at different loadings. I know of a couple of LTF 2-3 gliders with a reputation for cravatting when not flown towards the top of the weight range.

Ready to move up?

Increased performance and sporty handling are mighty seductive, and it is natural for pilots to want to develop their skills and fly more expansively and dynamically. Progressing at a sensible pace and in manageable steps is a balancing act. So what are the factors involved in moving up?

- Plenty of hours on your current wing in the full range of conditions.
- Have suffered some collapses in turbulence and dealt with them comfortably.
- Have never cascaded your current wing - or at least learnt how not to.
- Enough thermic flying to have learnt to prevent the vast majority of collapses.
- Have done a pilotage[2] or SIV course. I don't think full SIV is necessary, but a pilotage course with a skilled instructor is invaluable for honing skills and uncovering faults in your flying that you may not otherwise discover until it's too late.
- Be comfortable using the full speed range of your glider in a range of conditions. If you are reluctant to use the bar (given enough height) you are probably not ready to move up - and there would probably not be much point.

Unless you can tick most or even all of the above you are not ready.

Other factors

Opinions differ on the importance of dealer backup. Some people are not bothered and will go for the best price even if it means buying abroad. It's the height of cheek to test-fly a dealer's demo glider and then buy it from someone else. Problems with gliders do crop up occasionally and I want a dealer I can trust. A recent example: a particular glider had a minor issue with its lines. The importer sorted this for everyone affected, free of charge, with minimum of fuss. That sort of service is worth paying for!

Most gliders are pretty well made but there are still significant differences in the quality of construction. I pay a lot of attention to the risers. There is a lot of variation here, particularly in the area of speed system design. I find it amazing how heavy the pressure is on many gliders, and/or how much travel is needed. If you are using your glider's performance to the full you need to be able to get full acceleration without needing six months in the gym to prepare!

Tall pilots with long legs have fewer problems, but I would recommend working out your own personal maximum leg extension for your harness (from speed bar off to full acceleration) and comparing this to the extension needed on any glider you are considering buying. You will almost certainly need a two-step speed bar.

Summary

Having the right glider is vital for your safety and enjoyment. Your level of confidence in your glider has a massive impact on the overall flying experience. I can't remember who first said it but it's absolutely worth repeating: it's better to fly a lower-performance glider at 100% than a higher-performance one at 80%.

Quite simply, buy the best glider you can. One within your skill level, practice with it and fly it lots. Happy flying!

Pat Dower can be contacted to discuss any of the above in more detail through Ozone UK at www.flyozoneuk.com.

[1] For descriptions of what certification grades mean go to www.dhv.de/typo/DHV_classification_o.831.0.html

and www.para-test.com/index.php?option=com_content&task=view&id=126&Itemid=41

[2] The Pilotage philosophy has been developed by the French. It's training which allows the pilot to explore closer to the limits of glider handling. I recommend it over SIV, which can be counter-productive as it sometimes scares pilots off. Two of the top Pilotage operators, Passagers du Vent (www.lespassagersduvent.com/) and Flyeo (www.biplace-parapente-annecy-flyeo.com/) are both based near Annecy. The Last Resort (www.paraglidingholidays.com) are also based at Annecy and offer Pilotage courses using respected local instructors Fabien Blanco and Pierreo Bey. I would have no hesitation in recommending them.

Nova's Mentor - a top-end LTF1-2 PHOTO: NOVA

Gin's LTF2 Rebel Race 2. As with all LTF2 gliders, you'll need to be very au fait with speed bar work to get the best out of it. PHOTO GIN

Airwave's LTF 2 Cobra. Another high performer - but only if you're ready for it PHOTO: AIRWAVE