

Are we a class-obsessed society? More to the point, is paragliding a class-obsessed sport? Take the Mac Envy for example. Mac tell us that this is deliberately developed as a low-end DHV2 glider. People interested in sporty handling and decent performance may naturally be attracted to the top-end 1-2 gliders like the Nova Mambo, Airwave Sport 3 and Ozone Rush, to name just three. After all, they offer the aforementioned characteristics with 1-2 recovery and good resale potential. Logic would suggest, therefore, that here needs to be a good-sized helping of added performance and/or dynamic character to tempt a pilot to buy a DHV2. So is the Envy a big enough step to justify a move up in class? Have Mac identified a real niche for pilots or have they shot themselves in the foot?

I flew the Envy 25 (73 - 93kg) at about 90kg over a four-month period in a variety of conditions. Weak autumn and winter thermals, smooth ridge lift, wave (both in and out of phase!) and, vitally for any glider review, some proper spring thermals. I have flown a good sample of DHV2s and my preference is good agility and fairly high levels of feedback, without anything too nery. I also don't want to give away anything in all-round performance.

The Envy was brilliant on the ground. Everything felt very predictable in all launch conditions. No more demanding, in fact, than a 1-2 in any respect, despite the greater aspect ratio. The brake travel felt quite long compared to some 2s. In a decent breeze the inflation phase was steady; it was slightly slower through 45 degrees than some but there was definitely no sticking point. Using the inner risers of the split As was good for inflating in strong wind to stop the tips coming up too soon. It didn't want to overfly by much, stopped easily with just a little brake and centred overhead nicely, even if inflated slightly out of wind. I deliberately tried to mess up forward launches with really sloppy lay outs, but every time the glider looked after me. So a big plus for the Envy in this department!

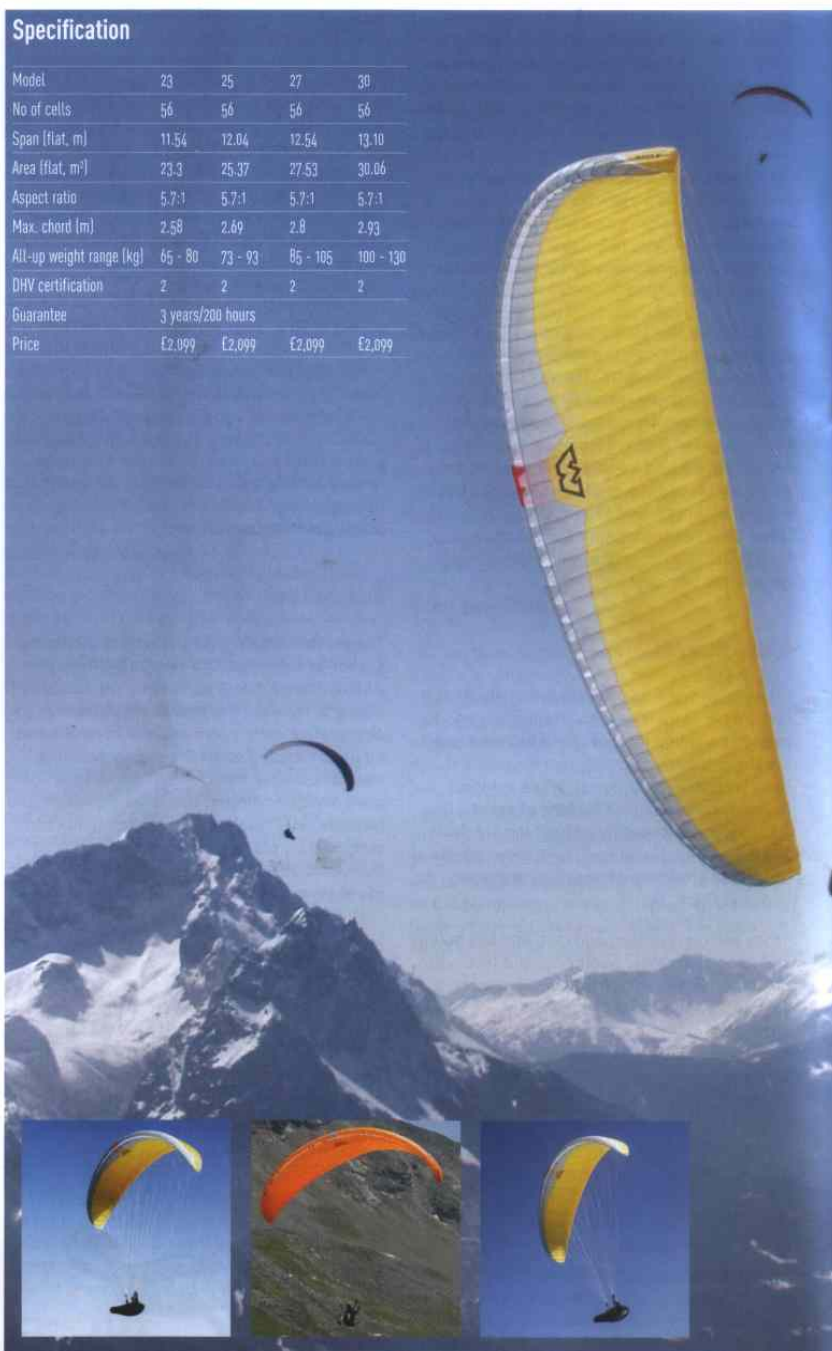
My first flights, in smooth scratching conditions, were great fun. Even taking account of having the glider well loaded, the Envy was trimmed a bit quicker than most DHV1-2s and some of the 2s. Normally this is a disadvantage in light conditions as it can equate to a less-than-brilliant sink rate. No such thing here, helped no doubt by its decent efficiency in turns. There was pleasingly little dive into sharp turns, and flat slow turns were also easy. The response to the brakes was direct and linear and there was none of the long-braked feel that I noticed on the ground. Whenever I wanted a bit more I just pulled a bit more - it was as easy as that. Brake pressure was medium and the travel was typical of the class. The glider felt taut and responded immediately to input, and turns took no great effort.

The Envy banked up pretty easily and it felt much more agile than the Gin Zoom (which is very damped in roll), a little bit more agile than the Advance Sigma 6, and slightly less so than the Nova Tattoo, Ozone Addict and Niviuk Artik. In thermals the glider was fine. As I entered lift there was just a hint of the glider pitching back, followed by a pitch forward and cut into the thermal with only a little delay. There was no tendency to bounce off cores when I really wanted to turn in. Approaching lift, from a short distance away I could feel the acceleration of the glider towards the lift, although I didn't think it was as sensitive to these subtle air movements as an Addict or Gradient Aspen 2, for example.

Overall, the turn handling was sweet, although it didn't feel as alive with excitement as some. What

### Specification

Model	23	25	27	30
No of cells	56	56	56	56
Span (flat, m)	11.54	12.04	12.54	13.10
Area (flat, m <sup>2</sup> )	23.3	25.37	27.53	30.06
Aspect ratio	5.7:1	5.7:1	5.7:1	5.7:1
Max. chord (m)	2.58	2.69	2.8	2.93
All-up weight range (kg)	65 - 80	73 - 93	85 - 105	100 - 130
DHV certification	2	2	2	2
Guarantee	3 years/200 hours			
Price	£2,099	£2,099	£2,099	£2,099

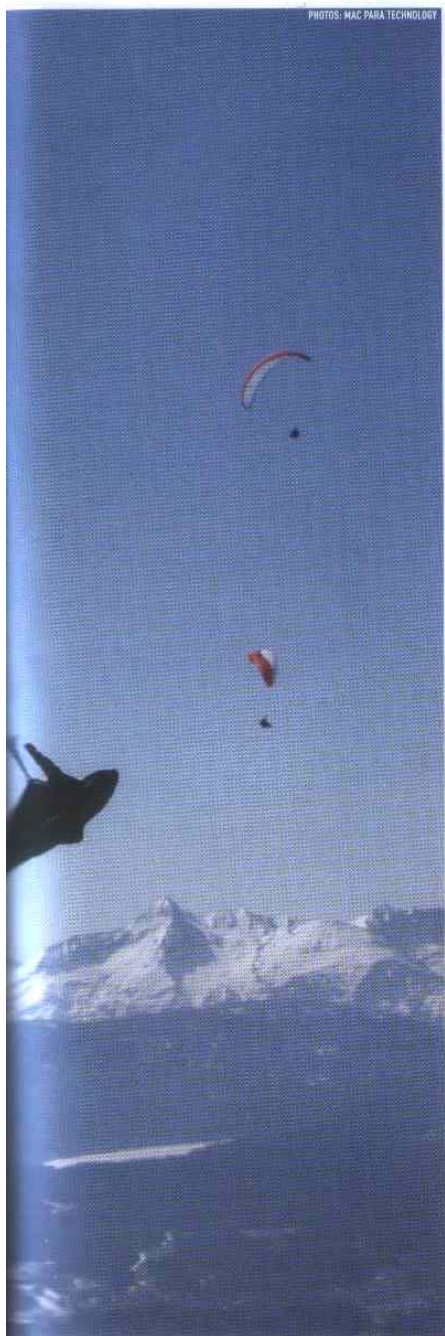


do I mean by this? It doesn't quite rip into turns like a Tattoo; it doesn't communicate around thermals like an Aspen 2 or an Addict, and it doesn't give that strong feeling of lift under the inner wing in a thermal like a Zoom. All of that said, considering that the glider is aimed at low DHV2, it's probably the perfect blend of response, balance and feedback.

On sink rate the Envy was very respectable despite me being close to the top of the weight range. On one wave day the battle of the sink-rates commenced as everything smoothed out and I was really pleasantly surprised. Only the King of Sink (Zoom Race) topped out above me, and he was lighter on the glider. Another high score for the Envy!

Straight-line glide performance seemed up in the same league as the other 2s mentioned. It's trimmed around the same speed as the Addict, Tattoo and Sigma 6, a bit faster than the Gin Zoom and slower than the Niviuk Artik. Any difference in glide angle was not significant enough to matter. Importantly, the Envy stayed steady in moving air, so you can glide efficiently without feeling the need to get on the brakes too much. On the bar it was again up there with the others. There's probably a bit more height loss than with the thin-liners, but it's still fine. Mac's claim of increased stability on the bar seemed reasonable; I had no rustles or frights. At two-thirds bar I had a fair amount of vibration from the undersurface near the intakes, but the leading edge was vibration-free and remained solid.

PHOTOS: MAC PARA TECHNOLOGY



Bar pressure is average but it had a bit more travel than some others. Now for a bit of a moan: quite simply, there was no way I could get full speed. With my legs at full stretch the pulleys were still 4cm or so apart, (which equates to another 12cm+ of leg extension). My legs are of the short variety, but bar travel must be an issue for a significant minority of pilots. I could have got a bit more by shuffling out of the seat, but any one flying with a pod can't do this. So a big plea to Mac and many of the other manufacturers: get your speed systems sorted!

A glider's behaviour in both good and bad wave is pretty relevant if you fly north or west of Watford, and I can report that the Envy was fine in these circumstances. Some gliders feel really edgy, but not the Envy. It feels much less of a handful than the



Artik, for example. The leading edge felt solid at all times and in this respect the Envy is a big improvement on Mac's original Intox (top-end DHV2). I had a couple of big exits from small cores; there was plenty of dive - indeed I felt half the leading edge start to go slack - but it thumped tight again as I controlled the dive with a good armful of brake. Pulling risers revealed nothing to be alarmed about: a big effort was needed to make it collapse, leading to a slow turn easily countered with weight shift and a few cm of brake. The vast majority of the DHV test manoeuvres give the Envy 1s and 1-2s in all sizes except the smallest of the range. In other words the recovery characteristics nicely complement the general resistance to collapse. After all, what's the point in having a sports-class glider with brilliant recovery characteristics if it collapses frequently and easily? It's fair to say that the Envy's general feeling of security is greater than the other 2s I have flown.

Construction-wise the Envy is a lovely clean, elegant, fairly conventionally constructed wing, neatly stitched and easy on the eye. Slightly unusual features include the brake line attachments to the wing and the small Dacron fins on the inside of the cell opening. The brake lines are routed through little rings sewn a few cm from the attachment points, so that pulling a brake concertinas the trailing edge as well as pulls it down. The fins are claimed to make the leading edge more solid at speed, and certainly when on the bar I could see the fins giving shape to the leading edge.

The material for the upper surface is the highly respected Skytex, although at 40g/m<sup>2</sup> it is a slightly lighter grade than some (the Sigma 6, for example, uses 45 g/m<sup>2</sup>). I am sure that the lighter material contributes to the excellent ground handling. The risers are pretty chunky, which of course helps with ground handling, although I personally prefer the skinny risers of gliders like the Tattoo. The A risers are split to aid big ears. I noticed that the glider sat

back a bit when the ears are in, so there's maybe not the quite the margin from stall as other gliders. Recovery was automatic however.

The brake handle attachments are magnetic and, as is often the case for me, tended to become detached at the wrong time when unpacking, sorting or bunching the glider. Mac are now fitting those lovely swivels above the brake handles to stop the lines twisting up, and a Velcro opening at the tips of the trailing edge help to remove debris. The bag is great: pretty comfortable, very easy to use, and it took all my gear including a pod harness. The outer pockets are sensibly sized and positioned.

I did have one small problem. The Envy has a fair number of internal tensioning straps across the wing. One of them appeared not to have been stitched in at one end and was just flapping around loose. I detected no ill effect on the glider. This is the first problem I have been aware of on a Mac glider and I wouldn't be put off by this.

Mac have produced a glider which ticks all the boxes. Far from being in no-man's-land, the Envy is an excellent step up the ladder from a DHV1-2 and Mac may indeed have spotted a niche here. It is suitable for confident and experienced pilots on sporty DHV1-2s looking for the next step, and also for pilots on hotter DHV2s who find their current ship a bit much at times. It goes about its business in a fuss-free manner and is lively and taut enough to be real fun. I found it a very confidence-inspiring glider, and all my mates who tried it felt the same. Although the Envy may not be outstanding in any one area, it is bloomin' good at everything!

### Importer's comment

My thanks go to Pat for his very thorough appraisal of a new glider which we are proud to include in the Mac range. I think the test shows that Mac's aims of performance, agility, stability and climbing performance have been achieved.

I'm not sure why Pat had a problem achieving full speed using the bar. Using a Mac harness and the two-stage bar supplied with the glider I have no problem bringing the pulleys to within 1 cm of each other - and I'm not famous for having long legs! Designer Peter Recek says that he will look at this for future versions, taking on board the needs of pilots with different harness configurations or possibly shorter legs.

All Mac gliders are inspected and test-inflated at the factory. They are inspected again in the UK before dispatch to the dealer, and then inspected and test flown by the dealers before delivery to the end user. This would normally exclude any gliders with stitching problems such as those experienced by Pat. Unfortunately the test glider was supplied straight from the factory and missed the last couple of checks. Mac have now introduced additional checks before a wing leaves the machinists. Mac gliders are covered by our three-year/200-hour warranty, which would of course include anything such as this.

Mac have produced a performance glider that will enable pilots with sufficient experience on a DHV1 such as the Muse to cut out the DHV1-2 step when progressing to a high-performance wing. The Envy will also appeal to existing DHV2 pilots who are looking for a more relaxed flight without sacrificing performance. I expect to see the Envy highly placed in this year's competition results.

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