

flight test: **Advance Iota DLS**

DAVID SOUTHERN REPORTS

Since its launch in 2015 the Iota has become established as one of the pre-eminent gliders in the high EN B class. Advance's first foray into high-B gliders was soon followed by the Iota 2, which I reviewed for this magazine [October 2018]. I was sufficiently impressed to purchase one for myself!

The Xi, the Iota 2's lightweight cousin, used same planform with two fewer cells. Although Advance have discontinued the popular Xi concept, they will soon have three EN B gliders in their range: the entry-intermediate B Epsilon, the Theta ULS (a new mid-B due in spring 2024), and the high-B Iota DLS which released in 2022.

Advance's reaction to the unabating market hunger for lighter equipment has been to classify their gliders as either DLS – 'Durable Lightweight Structure' – or ULS – 'Ultra Lightweight Structure'. Their long-held reputation for high-quality products notwithstanding, these classifications highlight the inevitable trade-off between durability and the pursuit of minimal weight.

Advance say that the DLS series is weight-optimised without measurable loss of durability compared to their 'full fat' forebears. Where the 25m Iota 2 M weighed 4.85kg, the Iota DLS 25 comes in at 4.35kg – a significant 500g less and, equally important, packing down noticeably smaller due to its construction (more later).

In mid-summer I spent several weeks in Switzerland, and was fortunate to have the opportunity to spend some time with the Iota DLS. Just to set the scene, up to that time I'd had the worst spring and early summer in almost 25 years of flying. For reasons beyond the remit of this piece, I'd been flitting between UK and Switzerland, spending as much time in the latter as the 90/180 rule allows. It seemed that every time I was in the UK the flying conditions were sub-optimal, and vice-versa when I was in Switzerland! When the Swiss long-term weather prospects finally looked promising in mid-August, I contacted Advance and the test glider was promptly delivered.

With my 4kg Supair Delight4 Sport harness I was flying the 29m Iota DLS bang in the middle of the ideal weight range. This proved to be fortuitous because a late-summer heatwave, with temperatures nudging 37C, had brought very strong valley winds to the usually (relatively) benign Val de Bagnes in Valais, where I like to fly review gliders.

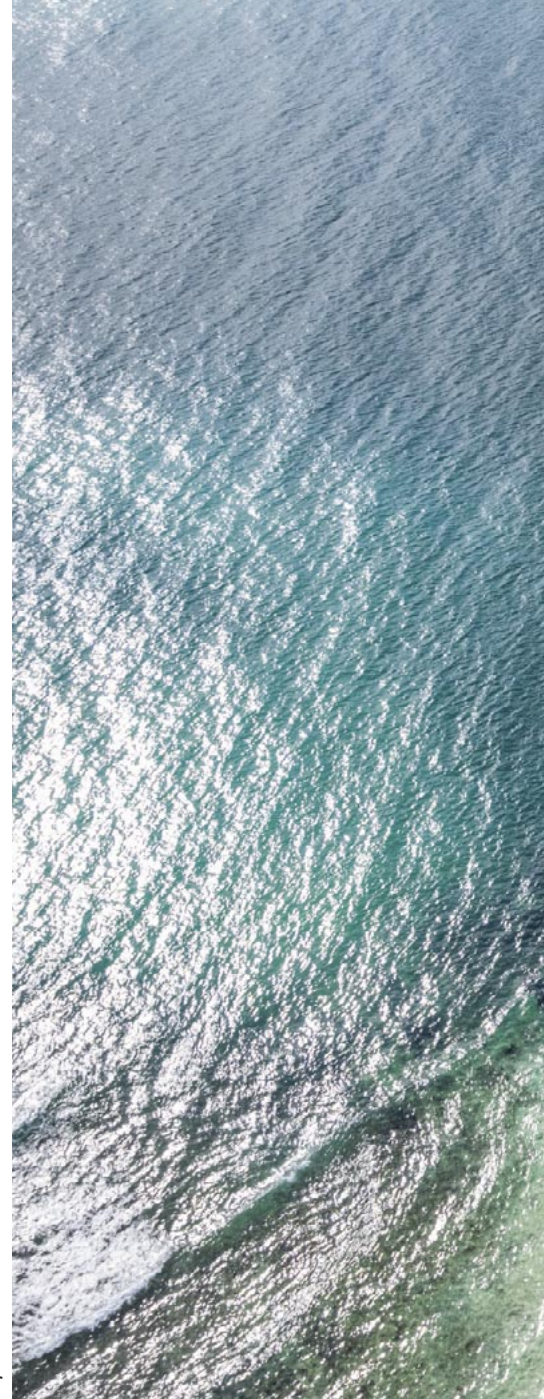
Construction

The first point of note is that, whilst some manufacturers' high-B gliders have recently gone to a hybrid '2.5' line set –

the traditional three-line layout reducing to two lines at the tips – Advance have stuck with three lines across the arc. When I asked Advance's Valéry Chapuis about this he said that they had seen no benefit when comparing 2.5-liner and 3-liner protos. The final 3-liner selected for production met their design manifest precisely, without resorting to the long plastic rods which are needed to support the longer chords that lower-aspect 2.5 liners tend to have.

This choice not to go to long rods is very much a personal preference for me. The flat aspect ratio of the Iota DLS is 5.6, which is right in the middle of the spectrum for high EN B gliders. Valéry went on to say that hybrid 2.5-liners can have a greater tendency to cravatte and be more aggressive in collapses, which clearly is important for certification.

As mentioned, the Iota DLS weighs in at around 500g less than its predecessor, itself no real heavyweight. This significant weight saving has been achieved by the use of a combination of light and mid-weight materials, a mixture of Skytex 27 Classic with 32 and 38 Universal. 38g/m² cloth is used in the critical leading edge area, 32g/m² on the top surface and 28g/m² on the lower surface, the area subject to least abrasion. Manufacturers are always at pains to point out that the really clever work is done on the internal



All photos: Advance



Standard-weight riser and pitch control system

structure, and here all of the internals too have been weight-optimised.

Those familiar with the brand will recognise the speed-to-fly markings on the standard risers (lightweight risers are available as an option, saving around 150g). As one would expect for a high-quality product, the riser speed system has large Harken pulleys with neoprene shrouds to protect them from dirt. As with its predecessor, the brake handles are secured by magnetic poppers. Rounding off the risers is the C-steering system, which doesn't have a bar or handle but is simply initiated by pulling back the Cs above the strapping between the C and B risers. Later I realised that a bar or handle isn't really needed and certainly wasn't missed, especially when sorting out the risers at take-off.

Finally, the lineset is all unsheathed Aramid, namely Edelrid Pro Dry, which Advance claim to be very stable in length and resistant to failure even after long use. Gone are the days of having to re-stretch shrunken lines on gateposts!



In the air

After a long wait for the right conditions I was keen to fly the Iota DLS. The Sigma 11 I'd flown late last year had really impressed me (see *Skywings*, April 2023), and whilst it had been stressed to me that the Iota DLS was no Sigma 'baby brother', there was some shared DNA. A well-informed source had suggested that the Iota DLS was the 'best climbing glider Advance had ever produced', and Ziad and other notable testers also raved about its agility and climbing ability.

All my flying for this review was done from les Ruinettes at Verbier, ranging from very strong mid-afternoon conditions to calm evening glass-offs. My first foray was a mid-afternoon flight, with choppy thermals of 5-6m/s up to an inversion at around 3000m.

Laying out the DLS for a reverse launch, it had the feel of a lightweight glider but without that annoying tendency that some ultralights have: lifting up from the

trailing edge and being generally unruly. I waited for the right point in the thermal cycle, and up it came with no drama at all, very steady and controlled above my head. I always instinctively take a wrap on taking off, although on some gliders, particularly those of a higher rating, this can feel unnecessary and I have to back off. However here the brake tension with a wrap was perfect and I maintained this throughout my time on the glider.

At this particular site the main thermal source - 'la Pompe' as I've heard it called - is just a short flight - 75m or so from take-off, so there's just enough time to get settled in your harness and ready yourself for the thermal when it inevitably comes. Very soon the wing pitched forward slightly and bit into a strong thermal. Given the strength of the conditions, it was very apparent that the glider was quite pitch stable compared to my own Gin Explorer 2 and to, say, the Sigma.

The thermals on that day tended to keep close to the hillside, and tight turns were

needed initially to keep me out of the trees and, once above the tree line, in the core of the thermal. It was clear that the glider's reputation as a great climber was not hyperbole. In tight turns the wing goes round as if on rails. I had a most enjoyable ride with this thermal to the inversion at over over 800m, and then set off on a transition across the valley.

Once away from the slope and the thermic air I was able to sit back in my harness and go onto the Cs. Readers will appreciate that C-steering on B gliders is a relatively recent development. On some gliders I have not been entirely convinced that C-steering was very usable or indeed effective. Some I have found to be very heavy and needing a good deal of effort to initiate. I fly a lot on bar, and for me efficient C-steering - being able to control pitch whilst on bar without brake - is highly desirable. As I pushed the bar and went for the Cs, I was surprised at just how light and easy the C-steering was. Far lighter than on my own glider and very effective too. Chapeau Advance!

This first flight was about getting the feel for the Iota DLS, and I can report I found it to be mild mannered, pitch stable (in a very good way) and agile. In short, a joy to fly in somewhat testing conditions.

On my next flight I deliberately picked a time when the air had calmed and glassed off. On this occasion a forward launch was needed, and again the wing came up nicely in a single block with no horseshoeing. In the more benign conditions I was able to try some manoeuvres: pitch control, spirals and big ears. Big ears went in easily and popped out with no tendency to stick. Spirals (soft) were addictive as they were so easy to initiate and control.

I had several flights in the following days, all at the same site, including putting in some small triangles. The DLS performed predictably and impeccably in far from easy conditions.

Conclusions

In my view, the Iota DLS will meet the expectations of the most demanding high-B pilot in terms of performance, but with agility and predictable behaviour that will put a smile on any pilot's face.

With its excellent thermalling characteristics, allied to easy and efficient C steering, the Iota DLS will prove to be a very successful XC glider in the right hands.

I'd recommend the DLS to any aspiring XC pilot already flying a low-B confidently. A pilot dropping down from the C category will not be disappointed and may even see his or her XC kms go up.

The Iota DLS inspires confidence, a most important factor in achieving XC success. Having had little flying to speak of in 2023 prior to picking it up, and flying in testing conditions, I was delighted to be flying it. Advance have really made a statement in the high-B category.

Specification

Model	21	23	25	27	29
No. of cells	59	59	59	59	59
Area (flat, m ²)	21.78	23.48	25.18	27.23	29.24
Span (projected, m)	8.80	9.10	9.42	9.80	10.15
Aspect ratio (flat)	5.6	5.6	5.6	5.6	5.6
Aspect ratio (projected)	4.15	4.15	4.15	4.15	4.15
Max. chord (m)	2.45	2.54	2.63	2.74	2.84
Glider weight (kg)	3.90	4.10	4.35	4.60	4.9
Certificated weight range (kg)	60-77	70-88	80-100	92-114	105-128
Ideal weight range (kg)	65-75	75-85	85-97	97-110	110-125
EN/LTF Certification	B	B	B	B	B
Guarantee	3 years materials and workmanship				
Price*	£4,449	£4,449	£4,449	£4,449	£4,449

* + £229 for custom colours

UK distribution: Available from all UK Advance dealers, or go to www.advance.ch (test glider supplied by Advance, Thun).

