



HORIZONTAL SHIFT

Marcus King flies the Vista III, the latest EN B from Apco Aviation

I'm scratching down low, it's pretty stable down here and others around me are sinking down to the landing. Pilots up high show there are some escape routes to the clouds so it's just a case of finding that elusive express lift.

As I cross over a small ridgeline the wing surges forward then jumps up and we are off. Wow this is a screamer; I bury the brake and hold on tightly to the core. The scenery spins and falls away. With stable air all around the edges are hard and I have to be careful not to miss the turn but my wing is sitting above my head without too much pitching. The clouds and airspace are arriving quickly. Time to leave the elevator – hold on, over the falls, and we are off... gliding with much less fuss than I expected.

I'm flying Apco's latest EN B wing and the new

Vista III, billed as a wing that is "easy and simple to fly with extremely high passive safety that continues the Vista legacy." I had reviewed its predecessor in issue 140 and was interested to see what new technology had brought to the mix.

New technology

When unrolling the wing on take-off it is obvious this isn't a minor evolution of the previous model, but instead introduces many new ideas. The previous Vista sported Apco's HIT valves on the leading edge just above cell entries. These were designed to let air into the cells when the angle of attack is low, that is, in accelerated flight. In the new wing an Automatic Pressurised Profile, known to you and me as sharknose technology, has replaced these. The intakes are set further

▲DOWN LOW

"Easy and simple to fly with extremely high passive safety," is how Apco bill the wing.

All photos: Charlie King

back and angled more against the airflow on the undersurface in the same way as the scoop on some cars. This is designed to give increased internal pressure regardless of the angle of attack.

At the leading edge you will find nylon wires that Apco pioneered using back in 2001 on the Keara. The rods are quite soft, meaning you don't have to be quite so careful packing the wing. Apco however supplied our test wing with their new concertina-packing bag, and that works a treat.

There is no sign of any 3D shaping at the leading edge with no extra seam. At the trailing edge the Vista III now includes mini-ribs, technology that Apco have been using for 20 years since it was introduced on the Bagheera, but up until now reserved for their higher end wings.

Fewer lines

The Vista II saw a large reduction in lines from its predecessor. The III continues the trend and sees the wing becoming a true three-liner with the removal of the D tabs. There are now nylon reinforcements around the C tabs to spread the load. Apco have used a slightly different take on their drag-reducing line attachments on the Vista III. Rather than sewing the top lines directly into the seams they are using 'microtabs' made from line rather than tape. The lines themselves are unsheathed with only the main brake lines sheathed.

Apco have used their bullet risers on this wing. The idea is to reduce the drag created by the risers without reducing the strength by using thin webbing as many manufacturers do. What

Apco have done is folded 25mm webbing in half to create an aerofoil shape and sewn this so it sits correctly in the airflow. This means the drag is much less than traditional risers and also less than the skinny risers seen on current generation wings.

The Vista III brake pulley extenders are elasticated and I asked designer Adam Wenschler what the idea behind them was. He told me they allow for more precise control: "Pulling in increases the roll while pushing out produces a flatter more efficient turn.

"It also means you are less likely to unintentionally pull down the C riser with the brake, which can hurt performance and handling. It also allows the brake attachment to move up under acceleration." The handles are attached to the risers by material-covered magnets. I have to say I found them a little weak so they fell off a bit too easily for my liking, Apco say this is something they will improve.

No scaling

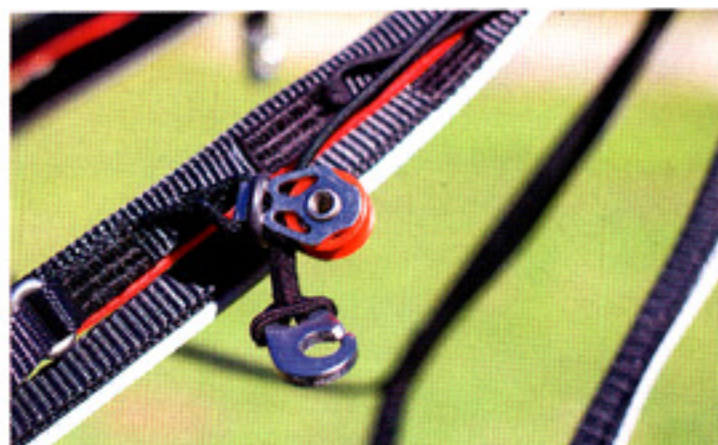
A quick look at the specs will show you that Apco have used their method of adding or removing cells rather than simply scaling the wing to create the different sizes. Some say that this creates a wing with different handling across the sizes but Apco have always argued that the small reduction in aspect ratio of the smaller sizes makes the wings retain the same level of dynamics and safety. They say: "Our experience proves that even though traditional scaling (zooming) seems to be logical and easy to understand – it does not automatically produce the best results when changing the size of the wing.

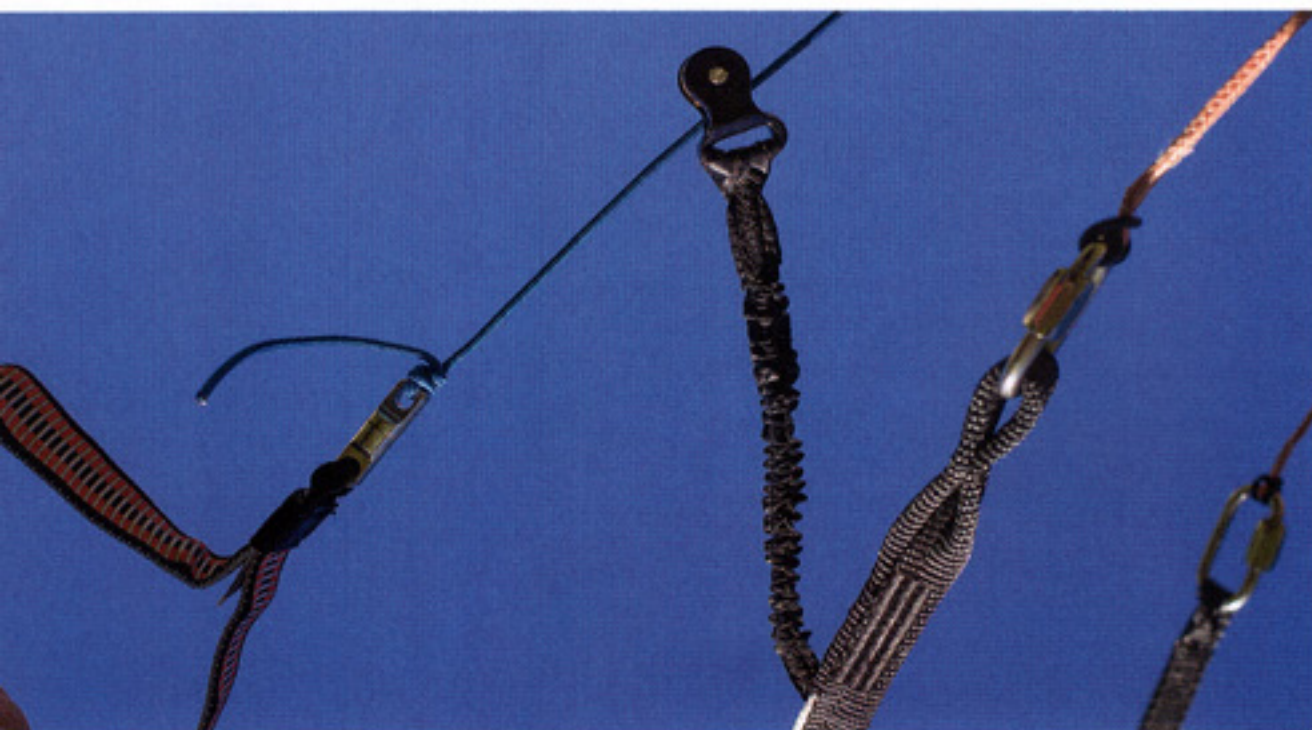
▼ DETAILS

Lines are sewn in using microtabs, made from line rather than tape.

Speedbar pulleys

Sharknose technology at the front.





▲ INNOVATION

The idea behind the elasticated brake pulleys is more precise piloting. "Pulling in increases the roll, while pushing out produces a flatter, more efficient turn," Apco say.

Bullet risers decrease drag.

The number of lines has been reduced, meaning less drag. The glider is a true three-liner.

"While the wing is scaled many of the other parameters and forces, such as pilot drag, line diameters etc are not scaled. This means when a wing is zoomed it can be difficult repeating handling and safety of the wing in all sizes."

Adam told me they had produced prototypes using both methods of sizing and chose the ones that produced the best results.

Back on glide

Back to the flying and after the climb I pushed out from under the clouds with my airspace alarm screaming and still going up. Big ears and bar meant I stayed the right side of legal and I escaped the suck.

Apco gliders have always had a reputation for going well in a straight line and it was soon obvious the Vista III continues in the same vein. As I pushed further south I was joined by an older EN D and relatively new EN C wing searching for climbs over the plateaus. I felt I was keeping up fine, but what was more impressive was the pitch stability of the wing

on glide: it required very little control, especially as the bar was pushed. I could concentrate on spotting the climbs and route planning rather than keeping the wing under a tight rein.

Back to thermalling

A few days later I was at Gourdon on a classic early autumn day in the south of France. Perfect conditions to get to know the wing in proper thermals rather than rockets. To be honest in the past I haven't been a huge fan of Apco's handling but they have improved this side of their wing immensely in the more recent models and the Vista II had great handling. I immediately noticed the III had firmer brakes than its predecessor, which were very light, and I am sure the Vista III will be more to most people's liking.

In the thermals the wing's pitch stability shines through again and once turning there is very little movement of the wing to control. It really is a case of hooking into the turn and concentrating on where the core is and climbing out.

In the thermal the information feedback to the pilot is on the subtle side. I don't know if it is the more constant internal pressure from the sharknose but I found the wing reacts more as a single wing and the differences between the sides is more subtle, something I have noticed on similar wings from other manufacturers. The info is all there – it just takes a little getting used to especially if you come from a wing that is very talkative.

Overall the handling is maybe not as sharp as some people would like but there is a nice level of tolerance in the brakes. It's a compromise and I think Apco have got it about right for the level of wing and the target pilots.


When reviewing the Vista II I did notice it hung back sometimes when turning in thermals; the Vista III has no sign of this and sits above your head all the time with no real pitching.

Pushing into wind

The wind was a bit off to the west. I found myself tempted to push round onto a face that runs west from the highest part of the site at Gourdon. Here the shallow slope below means there is very little

height to play with, so a good glide is needed to get to where the thermals tend to break off in front where the slope steepens again. The Vista III feels nicely driven and seems to cut through the smaller bumps nicely – really noticeable when pushing into wind. Any rocking back can ruin your glide, but the Vista showed its mettle here against a C wing and one of the latest hot Bs.

Wrapping up

Apco have made a definite step up with this newest member of the Vista family, improving it in areas that needed it but at the same time maintaining the ease of use. This is a proper EN B that won't stretch the pilot's skills too much, but has the performance to take you on long days out cross country flying. The use of the latest technologies has enabled Apco to create a wing that feels solid with good pitch stability – and that translates to a relaxing ride and smooth efficiency. 

Marcus flew the M size with a Advance Impress3 harness at 105kg all-up. Testing was done in the Southern Alps of France

MANUFACTURER'S INFO

What they say: "The stronger the conditions are, the brighter this wing shines!"

Sizes (m²): 24.8 (XS), 25.7 (S), 27.5 (M), 29.3 (L)

Take-off weight (kg): 55-80, 75-95, 90-110, 105-130

Cells: 49, 50, 52, 54

Aspect ratio: 5.3, 5.4, 5.6, 5.8

Weight: 5.2kg-6.0kg

Certification: EN B

www.apcoaviation.com

▼ SIZE MATTERS

The glider is not scaled for different sizes. Rather, Apco prefer to remove cells to make different sizes of the wing. They say this retains the same level of dynamics and safety.

