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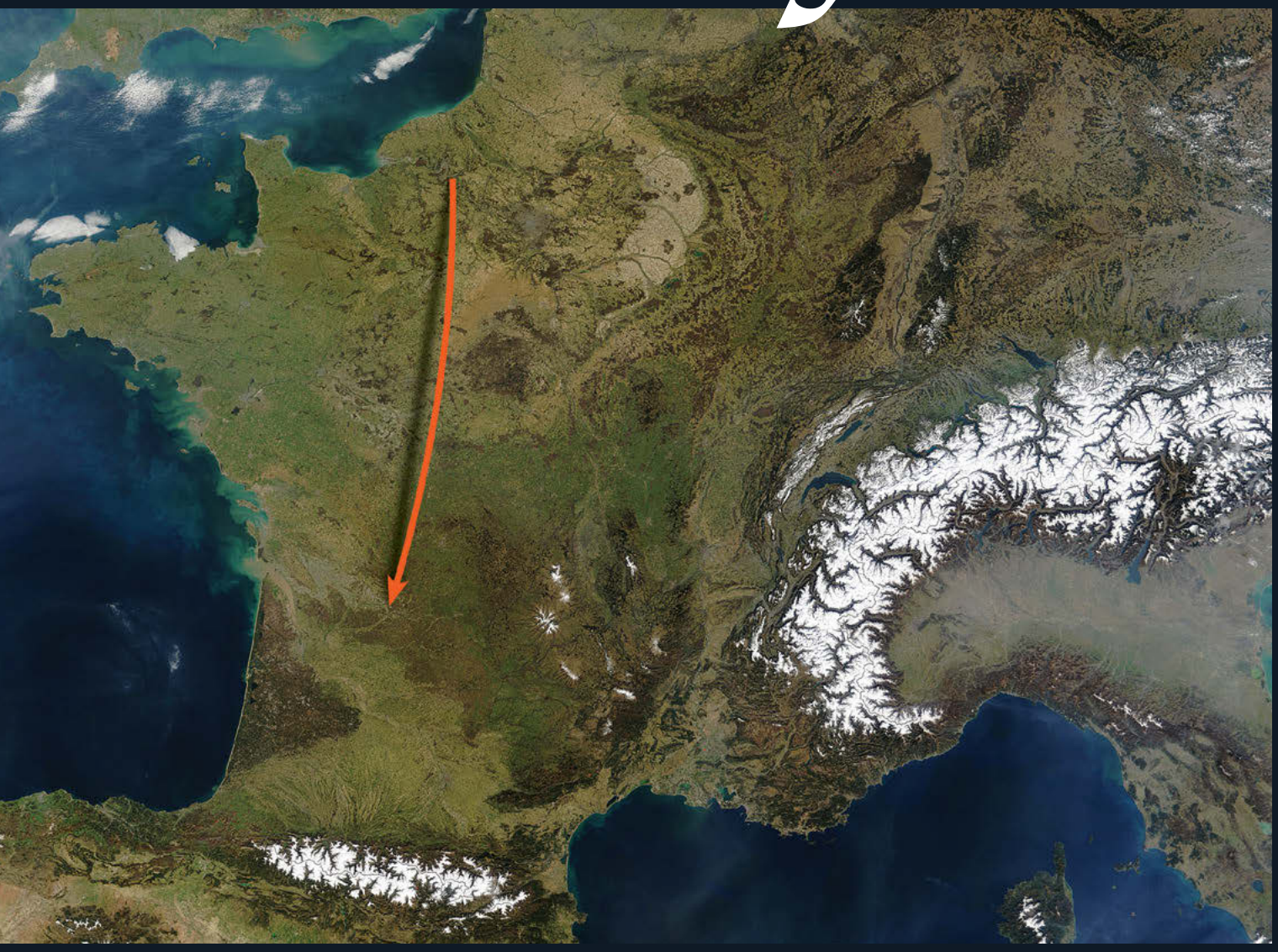


BREAKING 400KM IN FRANCE

Martin Morlet on his quest for the 'Holy Grail of European paragliding'

TRIPLE SEVEN KING

Does Triple Seven's new three-line performance XC wing checkmate the others? Hugh Miller finds out

▲LAUNCHABILITY
This is a wing aimed at advanced XC pilots who want performance and comfort, those who don't want to be constantly applying the type of corrective input that can leave you frazzled. It's a classic three-liner, but with added benefits...

▶CLASSIC THREE-LINER
"Throughout, the King remains placid, taut across the span, pitch stable, ready for your next input. It has an unimposing, unobtrusive manner and in the light conditions I found it to be one of the most reassuring of the new breed of D-class wings I've flown," writes Hugh.

All photos: Mads Syndergaard

I've been lucky enough to fly nearly all the current high aspect three-liners over the last two years. The Advance Omega X-Alps and Ozone M6 impress with their speed and all-round, 'four-wheel drive' capability, while the UP Trango XC3 and BGD Cure are standouts in terms of the joy factor. When deciding on my wing for 2016, though, delightful handling isn't at the top of my tick-boxes.

The fact is I'm just not as 'with-it' as I might once have been. Just this evening I realised I'd been wearing my pants the wrong way round all day. Last time I flew I took a pair of extra-warm socks, but in my haste to get off the ground I only remembered to actually put one on. I'm getting a bit dozy. So when it comes to flying, that means I can put up with a slightly more docile feeling glider, a labrador rather than a whippet, if you like, as my priority really is trying to stay in the air and fly as efficiently as I can for five or six hours at a time.

Last issue, Sasha Serebrennikova showed just how much stress levels fluctuate during a flight. One thing stuck with me: when we're over-stimulated with racing hearts and sweaty paws we can't think properly or make good rational decisions, and not only that, we won't even remember the flight – our brain is too busy just coping with all the stress hormones flooding its system. Last year, flying my two-line R12, I found I was often just too stressed to enjoy the flying. So this year, bring on the safe, bring on the stable… bring on the aircraft that can let me relax, and doesn't need the kind of constant corrective input that can leave me frazzled.

▲**AT YOUR COMMAND**
"With that slightly more subtle style of feedback, I would recommend flying it with a responsive harness – a seatplate will help you feel that little bit more as you search for the core"

Released early in 2014, the M6 has been such a wing, an easy-to-manage efficient XC wing with remarkable performance. Could the King, Triple Seven's first high aspect three-liner, be a step up from Ozone's benchmark?

After flying the King for 30 hours, including two 200km XCs and a few out-and-returns, I think I can confidently and emphatically say 'yes'.

Build

The King arrives in a well-designed concertina bag, complete with blow-up folding pillow, meaning it won't take up valuable space in your harness. Plastic rods run the length of the chord of each cell wall, and the line layout is similar to the M6's, with three risers, and three A-lines and three B-lines on each side.

This, plus the internal construction, gives a solid, taut canopy. There's a slight lag on inflation as the glider rises up to the overhead position, but it's not as marked as on say the Triton 2, and was just something to note – a little added pull on the As is all that's needed to correct this.

In the air

The King is a kindly companion. It's a bit like flying with your own personal butler guessing what you're trying to achieve. A bit like Siri, but far more helpful.

"Yes we do seem rather low at present. More bank? Excellent idea. You pull in and I'll make sure the outer leading edge remains nice and tight."

"Aha, yes, I can see you'd like us to glide efficiently to the next cloud, and what a lovely looking cumulus that is too, if you don't mind me saying so..."

"I couldn't agree more. This is rather a wafty, elusive climb. 10 degrees of bank – a very wise choice."

Throughout, the King remains placid, taut across the span, pitch stable, ready for your next input. It has an unimposing, unobtrusive manner and in the light conditions, I found it to be one of the most reassuring of the new breed of D-class wings I've flown, I think. That's not to say it's unexciting – its turn rate is excellent, but it's a soft, cushioned experience, far removed from the bouncier, livelier rides of CCC wings or the Gin GTO2, for example. This made me wonder if it might not make an easier 'step-up' for those flying powerful, but lower aspect wings.

With the M6, it feels like you're connected right to the leading edge, and you can surf and bump your way around the climbs, getting little nudges

here and there in pitch as the sharknose bites. The King offers a little less of this information – it's as if you're connected a little further back on the chord, but it's also a slightly more comfortable ride, with less work needed in all but the more punchy, lively cores. The King cuts into a turn nice and quickly, perhaps quicker than an M6. However, with that slightly more subtle style of feedback, I would recommend flying it with a responsive harness – a seatplate will help you feel that little bit more as you search for the core.

Talking to Triple Seven's Matjaz Klemencic at the Stubai Cup in February, he said the Valic brothers had tested it extensively against the M6 to make sure it performed better. An area they particularly focused on was pushing hard along thermic ridges, getting its pitch stability and ability to 'surf up through the sets' completely nailed.

On my second cross country, I tried a 70km out-and-return, using the hills of the South Downs in England as triggers. I was flying with Mark Watts on his Enzo 2. We took off almost vertically, punched cross-wind for two hours, and then back again, and landed going slightly backwards. It was uncanny being able to fly closed circuits on a paraglider in these kinds of conditions.

At the end of the day, Mark, who's not known for being over-stated, just said, "yep, that King's very respectable."

It's bizarrely pitch stable. I say this because it just feels so markedly different from any other wing of this aspect I've flown. It just doesn't budge. The result is you really don't need to make many adjustments on the brakes when thermalling. That's a bit Germanic isn't it? "Make adjustments on the brakes." But that's how it feels. The King is more muted.

In fact, if we were talking volume levels, the GTO2 would be turned up to 11, the M6 would be around 8, and the King around 5. Yep, around half as much feedback as the GTO2. Is that a bad thing? I'm not so sure. I'm so used to being jostled about, moved this way and that, told this, then that by the wing, that actually it's quite refreshing to have a more relaxed mind, able to think more clearly about where the core might be.

On glide

Using our Flymaster TAS probe to make comparisons, we found the King M is a little quicker both at trim, and at full bar, than the Ozone M6 and Gin GTO2. At 4kg below the top of the weight range, it is 1-2km/h faster at trim, and 2-3km/h faster at full speed.

▼NEW BENCHMARK
"My experience is that the glide performance of the King M is better than any other current three-liner certified in the C or D class"

MEET THE DESIGNER: ALJAZ VALIC

The glider feels taut and stable across the span and chord... there's very little movement or 'wriggling' in the sail. Can you explain how the internal construction of the canopy helps with this good behaviour?
The main secret is in the special skin tensioning, which distributes ballooning according to the stress on the wing at different locations. The internal straps and D-rib technology, and of course the canopy angle and differential twist across the span, all contribute too.

You've met your aim of creating a safe, accessible, but still high performing wing. What were the main challenges in achieving this?
Personally, the main challenge was climb-ratio and straight-flight float versus glide-ratio at high speed. We tried many different protos with different line geometries, including radical line length savings. In the end we finished with a quite classic line geometry, which gives the best stability and performance in really unstable air, which are the conditions we really fly.

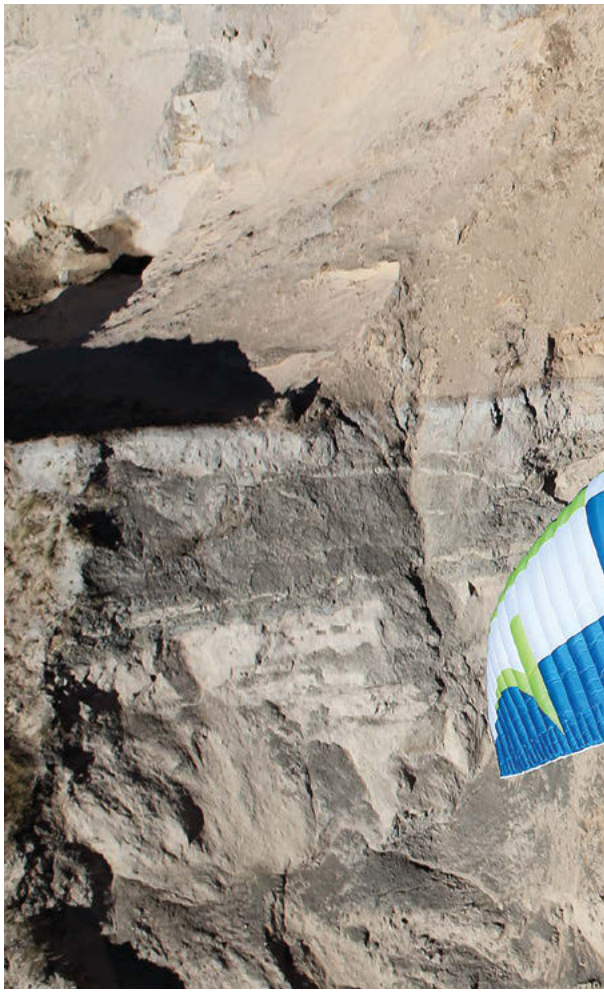
What style of harness do you recommend pilots fly to make the most of the King?
The King can be flown with every type of harness, but as it likes coordinated turns with hip kicks, we think it's best to fly it with today's modern comp pod harnesses.

The wing is very neutral in pitch as you glide through turbulence, and also as you thermal, which makes it very relaxing to fly – a characteristic shared by the Rook 2. Can you tell us your thinking behind designing wings in this way?
If you want to do eight-hour flights in alpine conditions close to rocks and dangerous places and still have a clear mind to think about your next move, you'll know why you need a balanced wing above you!

My only two criticisms are these, if you'd like to comment? Firstly, on take-off in winds of above 5-10 km/h, the wing 'stops' a little before coming fully overhead...
This is a classic pure three-liner problem: it needs constant pull until the zenith, otherwise the trailing edge reflexes up and stops the wing early.

Secondly, the brake handles are really soft – with this style of wing, it would be nicer to have harder handles that give more direct feedback.
We decided to use the softer brakes because when you're making a long floaty glide in calm air with your hands and arms tucked in, the thin handles oscillate less and produce less drag.

Using a Flymaster TAS probe, we measured a top speed around 2km/h faster than any other EN-D three-liner we've reviewed – do you agree with this finding?
Yes we agree. We focused on reaching as high speed as possible, and we managed this due to quite soft reactions during the certification manoeuvres.



The glider bites into climbs a little better when loaded, but not quite as much as the M6. In fact, I flew it at 99kg, and then at 106kg, and didn't notice much difference in the handling, turn rate or pitch control.

In the glides, because of the pitch stability and the fact you feel like you're hanging from the whole chord of the wing – well, perhaps the front two-thirds of the wing – rather than the leading edge, it's a little harder to feel exactly what the air's doing, or about to do, to your leading edge.

I got one one-third collapse on half-bar which I thought I'd have more warning about, but it was snotty air, and I was pushing my luck a bit to see what would happen.

It might not be so easy to hold speed on this wing as with a two-liner, but I was confidently pushing half to three-quarters bar just to get across the bitch of a wind.

During this and other flights, I had the chance to glide against several other wings. My experience is that the glide performance of the King M is better than any other current three-liner certified in the C or D class, including the M6. I wasn't accelerating as hard as Mark on his Enzo 2, which

repeatedly pulled away from me, but pushing at half-bar the difference over longer glides was noticeable against the M6 – in fact, on one hard push, the M6 landed while I arrived at the next climb with 200-300ft.

After four hours of hard, head-banging work, myself and the Enzo 2 landed back at take-off, coming down almost vertically. I've got to say I was left mightily impressed that there was enough performance – and comfort – in this wing to make such a journey in the conditions.

A couple of weeks later we hoofed off to Wales for an epic-looking day. For seven hours I grinned and whooped and hollered as we flew 200km back towards home. It was a proper, strong, sucky day, with climbs often averaging 4-5m/s, and my trace shows periods where we were dolphin flying, pushing bar hard through lift.

Again, the Enzo 2 had the slight edge, but when the clouds got really stucky, I loved the ability to pull big ears and push bar – something you can't do on many CCC wings. It gives you the confidence to glide a little more directly down your course line.

Conclusion

The King has a calm, quiet temperament. It's like the unflashy estate car with an absolute beast of an engine under its bonnet. Yes, we say bonnet here. An Audi RS4, perhaps? The King gives a subtle amount of feedback through the brakes, and it's a nice, damped ride, with still enough information to sniff out a weak core, but one that will really be appreciated when flying the mountains.

In fact, as Aljaz Valic says, if you've ever flown for eight hours across rocky peaks and places that leave you gulping for air and needing three litres of water to rehydrate your very dry mouth afterwards, you'll understand why a balanced, solid wing is so important. In terms of its personality, I think you'd find the King in the corner of the bar having a quiet chat with the Omega X-Alps while the GTO2 gyrates seductively in the centre of the dancefloor.

The King is probably the best performing three-liner ever made – it's certainly the fastest, according to our Flymaster TAS tests. It's a refined performer, a measured character, and it'll whisper in your ear rather than shout for attention.

The King: more a sailplane than a stunt plane. XC

Manufacturer's specifications

What Triple Seven say: "Our main goal was to produce a wing that will feel very safe in the hands of the wide range of pilots flying in D class ... It's a classic three liner."
Use: XC flying
Pilot level: Advanced pilots
Sizes: S, M, L
Flat area (m²): 18.5, 20.5, 21.9
Take-off weight (kg): 75-95, 90-110, 105-125
Cells: 72
Aspect ratio: 6.98
Weight (kg): 5.1-6.2
Certification: EN D
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