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EN/LTF C

ARTIK 5

Time to raise the bar

When ambition and passion come together, excellence is born. The famous Niviuk XC touring wing is reinvented in a paraglider that has the highest performance with maximum accessibility - ready to take you beyond your imagination on all your cross-country flights.

Discover the most Amazing Adventures on our Facebook and Instagram:

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The new Tequila 5 from Skywalk in a magnificent setting.

Translation by Ruth Jessop

CONTENTS

Photo : Brune Lavit

6000 m² of exhibition space with 200 international exhibitors, we discovered many new products and interesting technological developments.

COUPE ICARE 2018 SAINT HILAIRE

The 45th edition of the Coupe Icare took place from the 20th to the 23rd of September 2018. As always, it was the biggest free flight festival in the world. It was also an extremely interesting showcase for the entire paragliding and paramotoring market.

The exhibition covered an area of 6000 m² with 200 international exhibitors. We discovered many new products for paragliding and paramotoring.

In the next issue, we will show you in detail the latest equipment, the most interesting technological developments and explain how the framework of our sport is evolving....

Look out for the next issue, later on this month: Special Coupe Icare 2018 and the first trends for 2019, stay tuned and subscribe for free on:
http://en.free.aero

Photo : Valentin Burkhardt

A huge celebration, a successful show, but also worthwhile and productive meetings, as seen here between the highest officials of the DHV, the FFVL and the FSVL...

Photo : Sascha Burkhardt

Photo : Valentin Burkhardt

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www.free.aero

SUPAIR DELIGHT 3

DELIGHT 3
The Delight 3 is an XC harness designed for pilots who want a lightweight harness, which is precise to fly and with the maximum amount of passive safety.

It builds on the success of the Delight 2 (see our review of this harness in the previous issue), whilst improving back support, safety and the accessories.

Available in four sizes, it has a plate (foot and seat) in carbon which is also available in two sizes. The size M, ready to fly weighs 3.7 kg including the harness, carbon foot-rest and seat, pod and reserve handle and with a bumpair for protection.

According to Supair, it has a new chassis to give more feeling and safety, with improved back support.

Light, nicely finished, 'feeling in flight' and safety were the key words in the development of this worthy successor to the Delight 2.

The Delight 3 can now be ordered for 1,350 € (including taxes).
www.supair.com/en/produit/delight-3/

DON'T GIVE UP THE DREAM

"I started in free flying 40 years ago and soon got into competitions. After some time, friends started asking me to make their wings. So I decided to do it. And I've never looked back. Designing, testing, manufacturing, competing, travelling, laughing and crying – it's my life."

– Gin Seok Song, Gin Gliders

GIN

www.gingliders.com

Photo : Adi Geisegger

ADVANCE XI

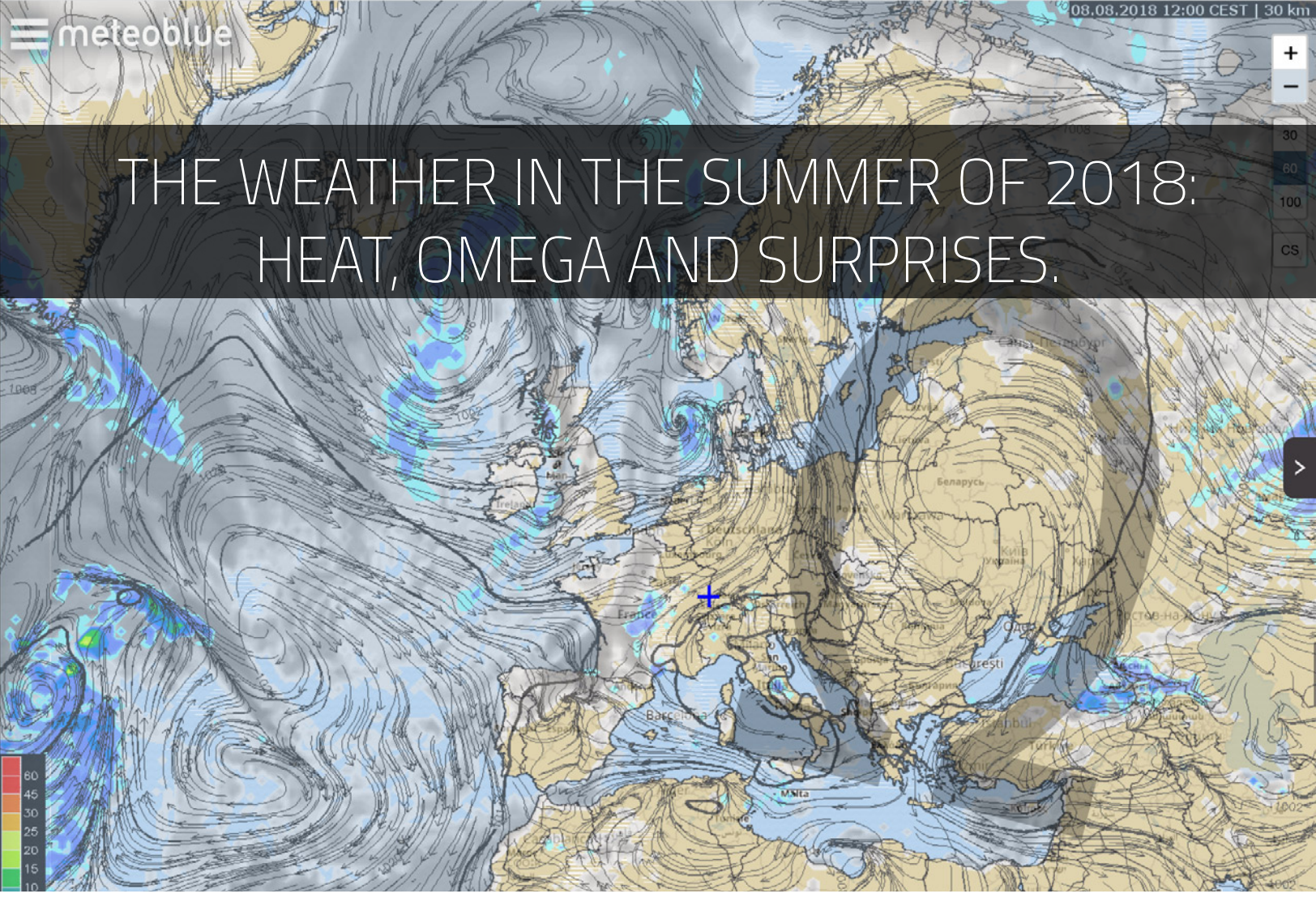
A LIGHT STAR IS BORN - ADVANCE XI (EN/LTF B)
A lightweight high-end EN/LTF B wing which was, up until now, missing from Advance's range of paragliders. The XI fills this space!

According to this Swiss manufacturer of quality products, the name for this new intermediate high-performance wing, comes from the Greek Xi, which symbolises the pleasure of free flying combined with maximum performance in its category. The XI combines the OMEGA XALPS 2 genes with those of the PI 2 in one single product and benefits from a level of safety and performance comparable to an IOTA 2. The most modern characteristics and technology – Pitch Control via the C/B lines, mini-ribs, short C-Wires to reduce the volume when packed, double 3D shaping and Advance Air Scoops, leaves no room for doubt: the new lightweight Advance wing is a fully state of the art wing.

Capable and flexible, it is clearly aimed at pilots doing both distance and thermic flying, as well as at those doing hike & fly and going places. An interesting fact: with its weight starting at 3.4 kg, the XI could well be one of the lightest models of paraglider available on the market in its category. The first models will be available from Advance dealers from the end of August.

For more information:: https://www.advance.ch/en/xi/

THE WEATHER IN THE SUMMER OF 2018: HEAT, OMEGA AND SURPRISES.



From the second week in August, the omega isobar shaped block moved to the east. The blocking situation lasted for months.
Photo: www.meteoblue.com

At the end of July and beginning of August there was still an endless heat wave with an anticyclone which should have stifled all the thermals.
But no, the 'roasting' conditions brought high cloudbases, long distances and turbulence...

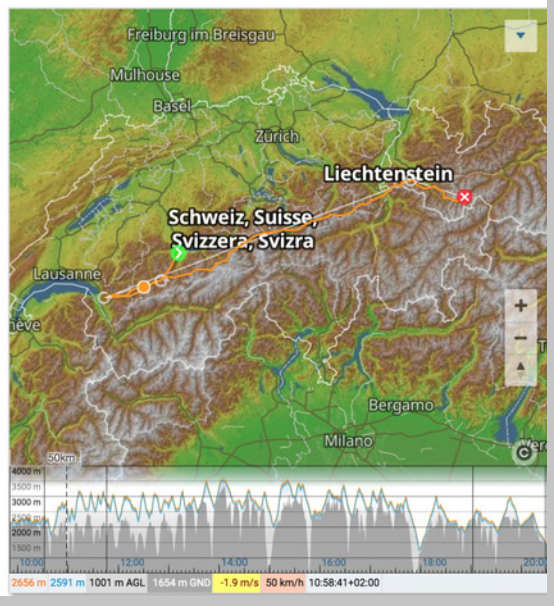
Photo : Sascha Burkhardt

We explained this again recently: global warming can bring hotter summers. But this omnipresent heat 'at all levels,' should stabilise the atmosphere more, stifling the thermals under a leaden veil or rather under an 'anticyclonic cushion.' But this wasn't the case.

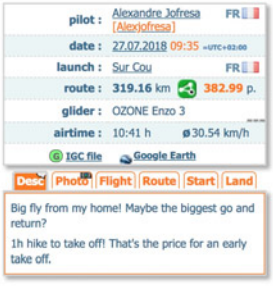
HEAT WAVE

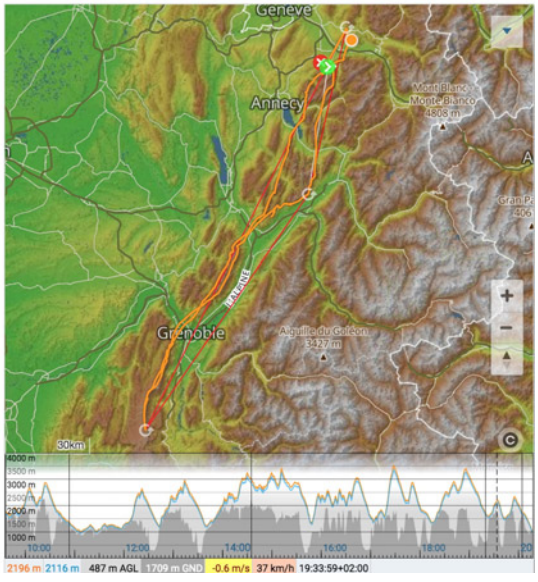
In the summer of 2018, we in fact observed a new heatwave which could be, at least partially, due to global warming. Moreover, it was the length of the weather pattern in particular which was unusual. Already at the end of the winter, with the isobars in an omega shape a blocking situation started to develop, with an anticyclone above Scandinavia surrounded by depressions in the south. This situation brought an initial dry period and heat especially in the north of Europe. But weather descending from the North East often brought bad weather to the Alps, situated at the 'foot' of the omega block.

Then this anticyclone system, still in an omega form, but in a modified version, protected the central Alps and the Pyrenees better as well. At the end of July Oceanic fronts were still blocked by this system, but under the crushing heat, the strength of the thermals surprised a lot of pilots. Pilots who were not very experienced were frightened or worse (there were worrying accident rates), but those doing XCs clocked up the kilometres. On the 27th of July alone, seven pilots flew more than 300 km in Switzerland and France on the XContest website.



Two of the record flights flown on the 27th of July. Click on the map to see the flights in detail.





XXLite2

Higher trim speed | Accelerator system | Excellent flare & landing behavior
Improved comfort in-flight | More compact and agile handling

THE WORLDS LIGHTEST AIRCRAFT:
XXLite2 + B*Lite rucksack + F*Lite harness = 1.5 kg

The XXLite 2 is a single-surface ultra-lightweight mountain wing designed for serious Hike & Fly pilots and alpinists. This all-new design delivers significantly improved performance and handling with a higher trim speed and easier landing, compared to its predecessor.

WWW.FLYOZONE.COM

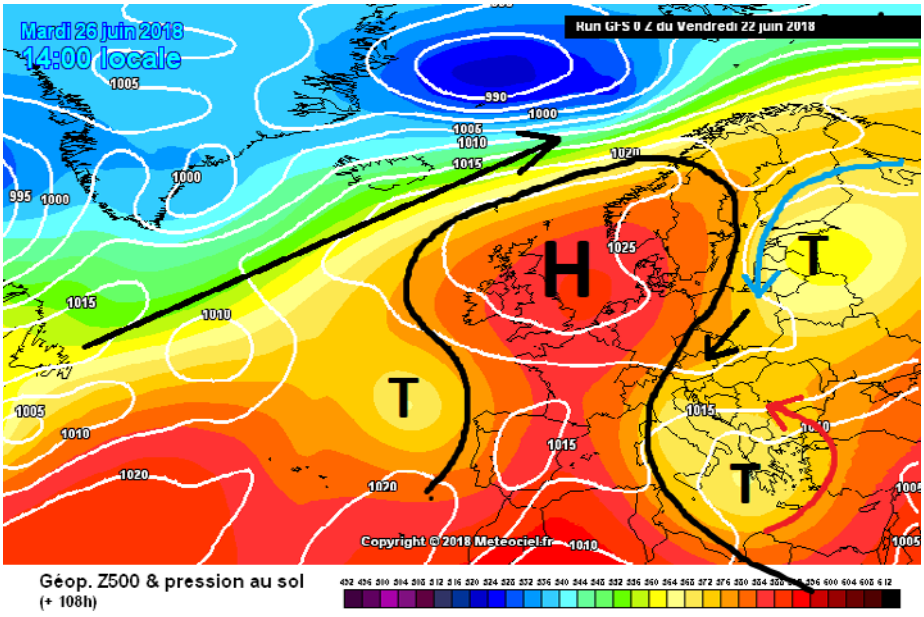
Pilots: **Honorin Hamard** Photo: **Luc Armant** Location: **France**

How was it possible that, despite this crushing heat under a strong anticyclone, the thermals were well developed? Normally, under an anticyclone, after 2-3 days, the air becomes stable. Lucian Haas, scientific journalist, paraglider pilot and blogger explained it well on his site (luglidz.blogspot.com).

THE POSITION OF THE ANTICYCLONE.
The anticyclone wasn't positioned over Central Europe and the Alps but, instead, a lot further north. It migrated between Great Britain, Scandinavia and Russia, whilst keeping its strength since the spring time. It blocked the big Oceanic fronts, but at the same time, with its omega shape, it let fronts pass underneath. So, in the east of the Alps, the good conditions only started later. In the central Alps, we definitely found ourselves protected by this anticyclone, but not in the centre, only at the edges. The pressure sometimes fell to under 1020 hPa. The air mass therefore didn't have time to 'grow old' but continued to be eroded, especially by the winds high up. As a consequence, the thermals weren't crushed by a mass of descending air with its harmful stability.

THE DROUGHT
The very dry ground everywhere (with the exception of some regions in the Southern Alps) did not use the sun's energy to evaporate the humidity but transformed it immediately into heat which was transmitted to the air mass near the ground. Despite the omnipresent heat, the contrasts were therefore high because the ground heated fast and very well.

And this continued all day long. Even at the end of the afternoon, the dry ground heated rapidly, even as the sun went down. Also, the dry air was clearer, less misty and let the rays pass through more easily.



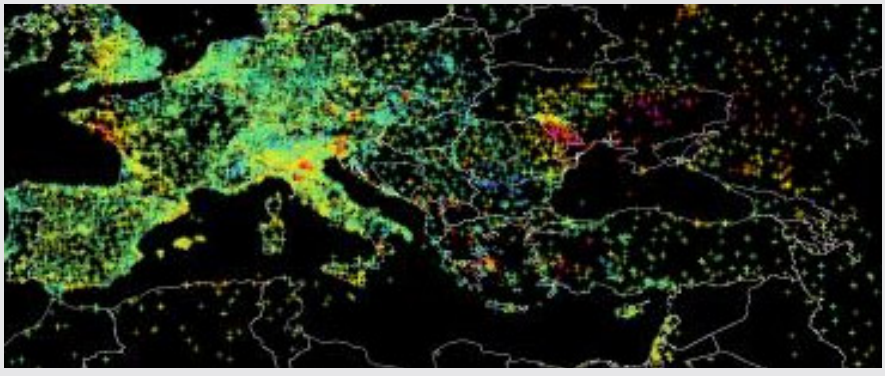
At the end of June, the omega blocking situation brought instability to the eastern Alps. Great Britain continued to swelter under the sun's rays: http://www.wettereck-triestingtal.at/ diagram: http://www.meteociel.fr

In the anticyclonic regions, we flew in good conditions, with unstable conditions in the evening in some of the mountainous regions.

Photo : Sascha Burkhardt

This is why numerous pilots were surprised by the strength of the thermals, even after four or five o'clock in the evening. If the weather continues to play in this same manner, we will also have some surprises now in the autumn. In which case, the thermic season above this dry ground will continue for longer than normal, despite the constantly decreasing sunlight in the autumn.

Another effect of the drought: throughout the day, whilst the east facing slopes are in the shade, as there is only a small amount of humidity storing the heat, they cool down faster due to radiation. As a consequence, descending breezes start earlier. When it reaches the valley at sunny areas, these air masses, which are relatively cool, raise up and amplify the thermals.

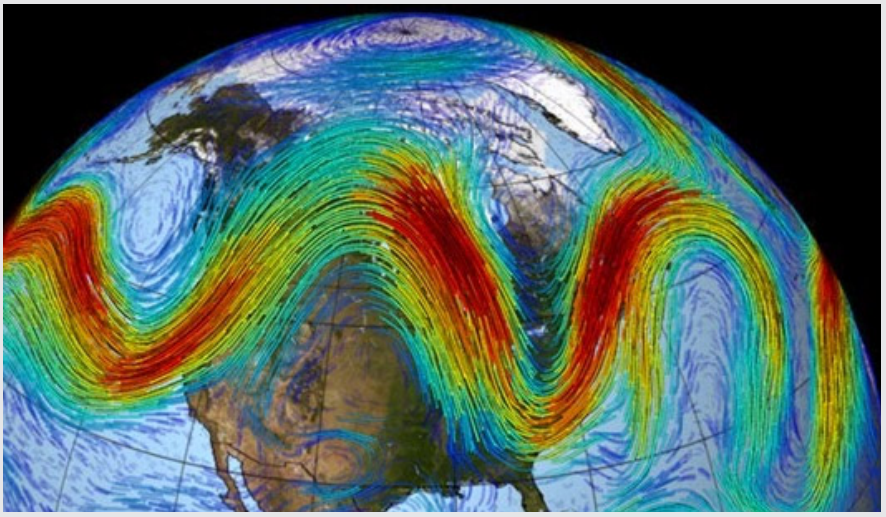


A NEW MODEL

The Meteoblue service has inaugurated and successfully validated a new way to calculate their forecasts. Meteoblue's Learning Multi-Model (MLM) uses more than 25 different forecasting models, as well as the observations of more than 50,000 stations, to calculate the most probable forecast. What's new, according to Meteoblue is that the model now updates its forecasts itself, faster and in real time, as a function of observations from the stations; therefore, it learns faster.

During the unusual heat wave this summer, the system would have been put to the test. Exact temperatures are difficult to forecast, because the statistical methods aren't correctly adapted to such extreme events. But the MLM did an amazing job, even in this situation, forecasting the temperatures to within two degrees at 80% of the sites (image above), three days in advance. The old models only managed 53%.

Used for temperatures at the moment, the model will soon be extended to take in other parameters, such as the wind www.meteoblue.com.



THE INFLUENCE OF THE JET STREAM

The Jet Streams are winds which blow from west to east at the top of the troposphere and which can exceed 360 km/h. According to recent studies, the decline of these currents increases the blocking situations which we are experiencing more and more often. The duration of heat waves or bad weather should increase. Whilst they blow in a straight line, the Jet Stream can easily carry a succession of fronts across Europe or elsewhere. On the other hand, when they start to dissipate, their north/south undulations increase, and they transport the air masses less rapidly. As a consequence, the weather situations remain stationary above our heads for longer, whether they are fronts or anticyclones. According to the specialists, this increase in the amplitude of the meander of the Jet Stream currents and their dissipation could be caused by the warming of the poles…

Lucian Haas

3) THE ROLE OF PLANTS

Plants also play a role in the diurnal increase of the thermic conditions. Due to the dryness, they close their pores at the hottest times of the day to avoid evaporation. At the end of the afternoon, they reopen and moisten the atmosphere. As the humid air is lighter, they encourage rising movement and the restitution is stronger. We therefore find 'magical lines' at the end of the afternoon!

BUT THAT ISN'T THE END OF THE SURPRISES.

We're certainly not at the end of the surprises, nor for the rest of the season, nor for future years. More than ever before, we can't rely on what is 'normal,' but instead we need to carefully analyse the weather and areological conditions every hour, every day for the better, with the kilometres we clock up, or for worse, with the conditions that can be stronger than forecast, exceeding the capabilities of less experienced pilots…

Photo : Sascha Burkhardt

FLYING IN STRONG THERMALS...

Photo : Urs Haari

Strong thermals require a different flying technique to weak thermals. Here's a bit of advice from Philippe Lami…

Thermals often go hand in hand with the turbulence which comes with them, when you enter, when you leave or when you climb. You need to be aware and vigilant about four things.

HAVE ENOUGH SPEED TO GET INTO THE THERMAL.

It's better to have a wing which bites i.e. the capacity to go forward by transforming entry energy into a climb. Not all wings are equal when it comes to this game. The latest technology considerably helps the pilot particularly in this aspect (leading edge rods, smooth and efficient profiles, a Shark Nose which takes without deforming… this is not an exhaustive list).

Photo : Markus Gründhammer

Entry is usually done with hands up and paying a lot of attention to the angle of attack, ready to counter pitch movements if necessary.

2) PITCH CONTROL

As soon as I enter a thermal, I slow down so that I spend more time in the rising air. For a short amount of time I often manage to slow my wing down a lot to stay in the best zone and stay close to a position of minimum sink rate. In this case, I make the most of the time spent in the lift zone, at the expense of the sink rate, but it's worth it. When, on the other hand, it's wide, strong and working well, I leave it to fly a lot more, but I am always ready to counter an abrupt pitch movement. Obviously, you have to manage the action with the correct rhythm, and therefore the surges.

3) 3D VISION, KEEP ALL YOUR SENSES ALERT.

Look up, down, right and left before turning in a thermal.

Photo : Jerome Maupoint

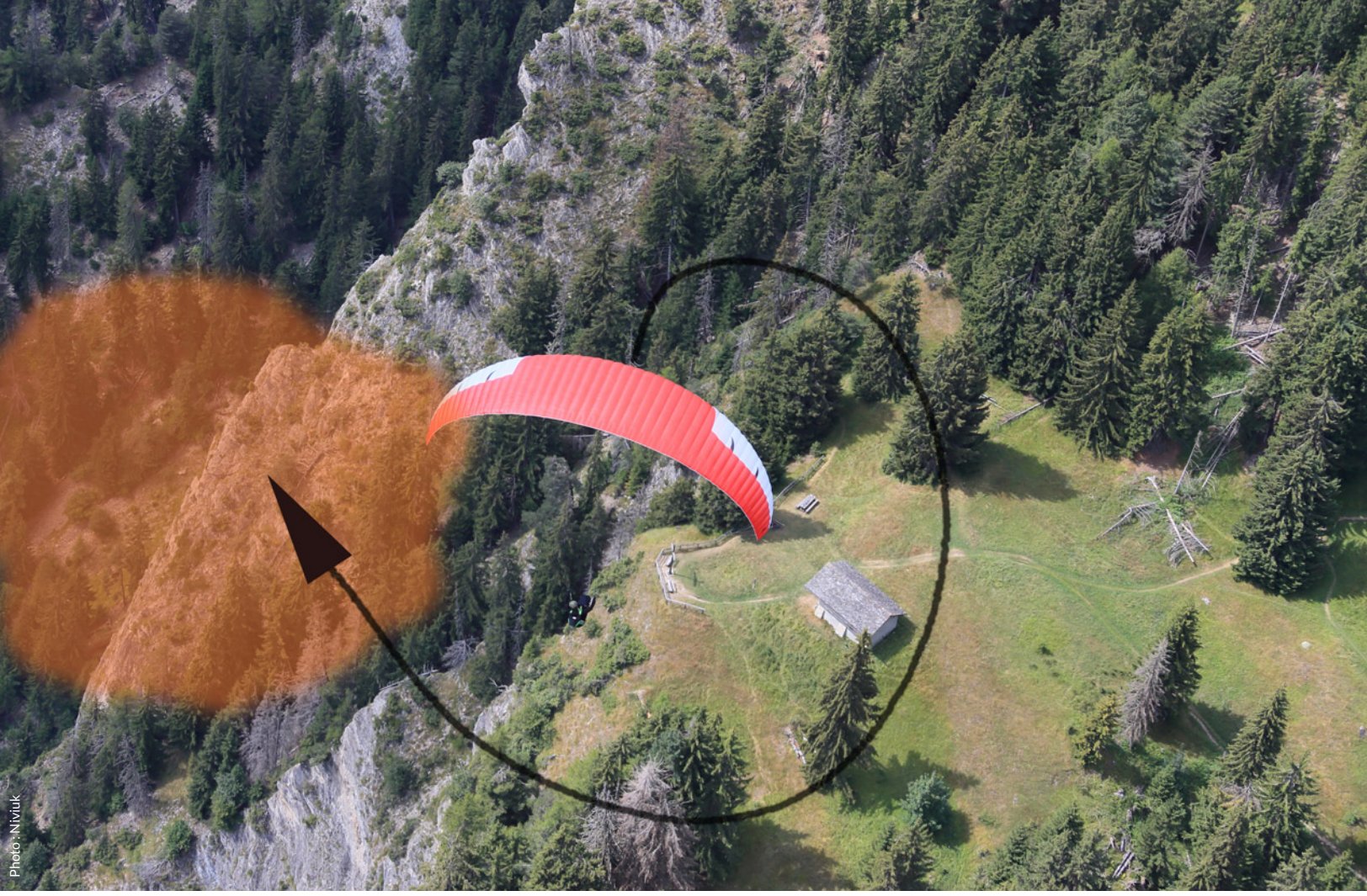


Photo : Niviuk

4) PUT THE WING INTO A TURN, ON THE SIDE WHERE IT DOESN'T WANT TO GO!

This is where the conditions are best. If, by lifting the left side of your wing, a thermal throws you violently to the opposite side, in other words, to the right, don't try and force a turn to the left when you are tilted to the right. Instead, make the most of this turn, finish off a 270° turn and come back, bit between the teeth facing it, with your hands up in the thermal. The turn can sometimes be clean, when you turn in the core of a thermal (it's often the case in strong conditions).

Conversely, in weak conditions, wait a bit, go forwards a few dozen metres to feel the lift better.

When it's turbulent, it's always better to be in the thermal, with better defences when you are installed in a turn with an excess of speed.

But be careful, it's up to you to know your limits in turbulence. Learn to recognise the air masses, messy, disorganised, friendly, frank or nice air masses. When you fly, you sometimes need to force yourself to regularly fly in rough air to learn how to manage it and how it feels. But the limit, above all, should be guided by your own enjoyment. There is nothing worse, when you are learning, than a climb that you can't control, the memory and anguish of which stays with you for a long time. Take the time to get to know the thermals, gently at first, before trying to fly in strong conditions. And of course, always, fly a wing which you honestly feel corresponds with your level… It's better to use an EN B wing to its maximum than to go backwards on a C or a D that you can't control…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LIFE IS IN THE AIR
EONA 2
PROGRESSION WING
5 SIZES
3 COLOURS
DESIGNED IN ANNECY
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FLYING IN JORDAN

Photos by Dan Burton

The desert gives a totally different dimension to our flights.

Dan Burton obtained special authorisation to fly over some famous protected sites in Jordan. Here he shares with us some photographs of his trip.

The most challenging part of the trip was Petra. The ancient city is set amongst a huge range of rugged mountains. We were told it was almost impossible to fly there due to the challenging winds.
The team crawled out of bed at 4 am, there was absolutely no wind, so my take off was a long and never-ending marathon to get off the ground. It was quite a strange feeling being able to fly through such a famous city. I could imagine flying this city back in 5 Century BC and just wondered what the locals would have thought!
The Monastery is well worth checking out but involves a long and arduous climb up 900 steps or 2 hrs hike through a hot rock canyon. This time I could fly and the journey took just 15 mins.The journey does involve flying up a nerve-racking rocky gorge, not a place you would want an engine out as there is nowhere to land!

In the stunning, immense desert landscape, to avoid the complex aerology, you normally fly early in the morning or late in the evening. Unforgettable aerial tours in surreal surroundings.

As some flying sites were at 5000ft ASL, we all had to tinker with our carbs and richen them up, otherwise none of us would have got off the ground and probably blown a few pistons!

Dead Sea, the lowest place on earth. Our take off-site was at -1000ft ASL at a local airfield run by the Royal Jordanian Aero Club. We had travelled 6000ft in vertical height, so again we had to make opposite adjustment to our carbs, as our engines were all running roughly.

We left the airfield and made a left turn as soon as we flew over the water. Our local guide made a point about only turning left, as if we turned right we would have gone over the Israel border which was within a few hundred meters!
We all flew in formation along the salt incrusted shoreline.

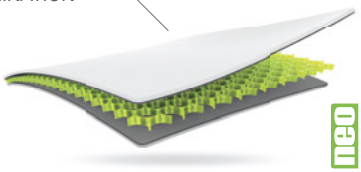
Jordan as a flying destination is a relatively unexplored site for paramotoring making it a hot new destination to visit. With its amazing culture, it is a perfect place to bring your friends and family if you decide to visit for a non flying visit. Dan Burton is now totally trusted by the local authorities and plans to start running guided paramotor & paragliding tours starting at the end of 2018.
Visit www.paramotoradventures.co.uk or call 07767446250.

made in france

string cover leg

WEIGHT: 715 g

SANDWICH: TEXTILE LAMINATION

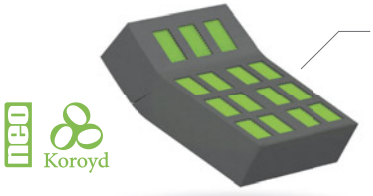


Koroyd

stay up

WEIGHT: 1.45 kg

PROTECTION: NEO Koroyd 2.0

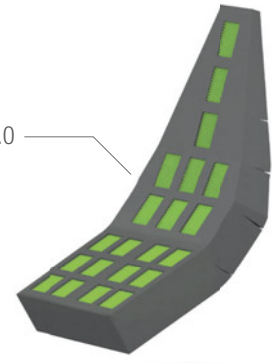


Koroyd

suspender

WEIGHT: 3.85 kg

PROTECTION: NEO Koroyd 1.0



Koroyd

www.flyneo.com

KORTEL

KOCKPIT PHOTO

Kortel Design have, for a long time, sold a well-designed instrument case for amateur photographers. A Cockpit photographic compartment with room for a digital SLR plus two lenses. There is also space for flying instruments and, it is closed with a zip fastening, or faster, with magnets.

Practical! After flying it converts into a shoulder bag.

It weighs 850 g.

For more information:
www.korteldesign.com/spip/?Kockpit-Photo

STOLEN MOMENTS

Stolen moments 3, the new book by Jérôme Maupoint is now available.

Discover some of the most beautiful paragliding and travel photos by Jérôme Maupoint taken between 2012 and 2018.

Stolen Moments 3 is a top-quality album of 175 pages. Price: 35 €. The first two hundred and fifty copies are signed by Jérôme.
www.jeromemaupointphotography.com

There are some photos from the book on the following page which show how Jérôme transmits, in addition to the feeling of flying, the ambience before and after, which play such a part in our aerial adventures.

STOLEN MOMENTS #3

PORTFOLIO PARA-PHOTO

Obviously, you also have to be there at the right time and in the right place! Photo: Karen

We are often asked 'how do you take beautiful photos of paragliders?' This is a difficult question to answer: the best photographers have, in addition to their technique, a feeling for the right moment, the right place and the right lighting. The harmonious composition of a photo is a feeling, which can't always be explained, and even if 'the grammar of a beautiful photo' exists and is learnt in books, a beautiful photo can sometimes break all the generally accepted rules.

We have gathered together some great photos and put explanations with them. In addition, in response to our request, some photographers have chosen one of their favourite photos and told us its story themselves. An interesting observation: they haven't necessarily chosen their most spectacular photos.
We weren't able to include all the top paragliding photographers. You will find others in a later issue.

TRISTAN SHU

"'We had the idea of this photo with JB Chandelier whilst using hyperfocal techniques, knowing how to adjust the lens so that everything is very close up and sharp (60 cm in this case) up to infinity. All that remains is to find a young lady who will still be pretty despite the distortion from a wide angle lens (focal length 20 mm, 60 cm from her face!) JB went backwards and forwards at from Saint Vincent les Forts, soaring for twenty minutes, until everything was perfect. The flare of the sun in the lens which is reflected in JB's wing and Aurore's hand, link the two dimensions and make the illusion possible and credible. As if the Goddess of wind gives a helping hand to our paraglider pilot."
Models: Aurore Ghiliano and JB Chandelier

JÉRÔME MAUPOINT

It's impossible to choose a single favourite photo from my twenty years of paragliding photographs.The most beautiful photo after so many fantastic moments, sharing, memories of places, waiting, despair then magic. The most beautiful photos are in my heart, they are linked to the moments which were more emotional than the others. A beautiful photo, all on its own, doesn't carry as much weight, it isn't enough. A great photo tells a story, you need to be able to feel the context. It is part of a series of events which already carries weight. I love portraying paragliding in a unique, magical way, a beautiful moment, in a one-off place where we don't fly every day. The impression of being in the right place, with the right person, that makes a great photo.

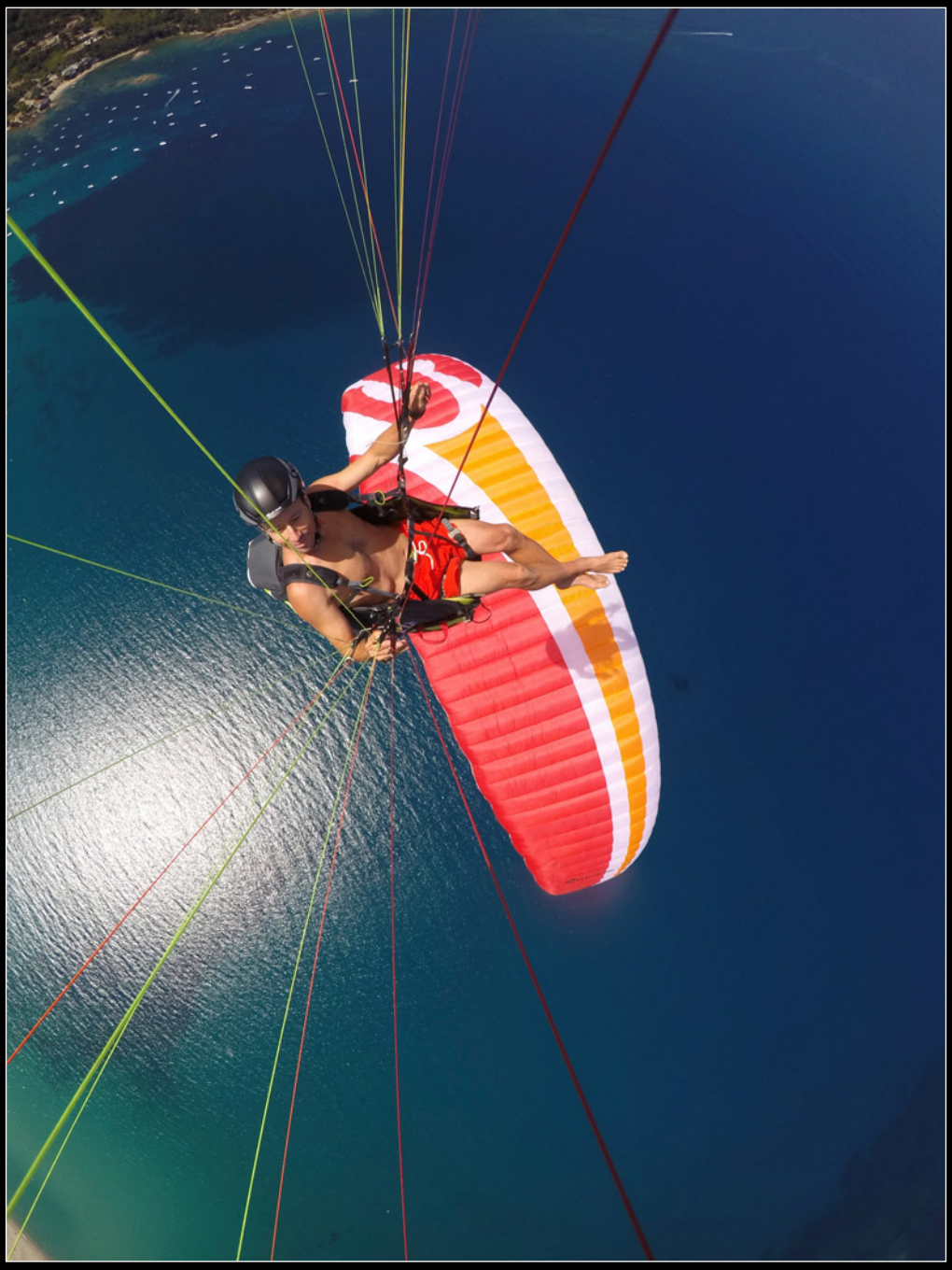
In this photo, it has just gone twelve o'clock, I was with my best flying friend Marc Boyer, at 4100 m above Lac du Portillon. We spent all afternoon between 3700 and 4500 m, and we flew over Aneto.

However, the summer was complicated, I had already come from the Alps to the Pyrenees twice, and we still hadn't managed to cross the chain in July. And then, bingo, that amazing day happened, the 22nd of August 2017. We slept on the crête at 2 700 m. We arrived at the Maladetta at the moment when the first wispys were appearing and we went up to 4500m above the Pyrenees. Two days of paragliding that dreams are made of.

URS HAARI

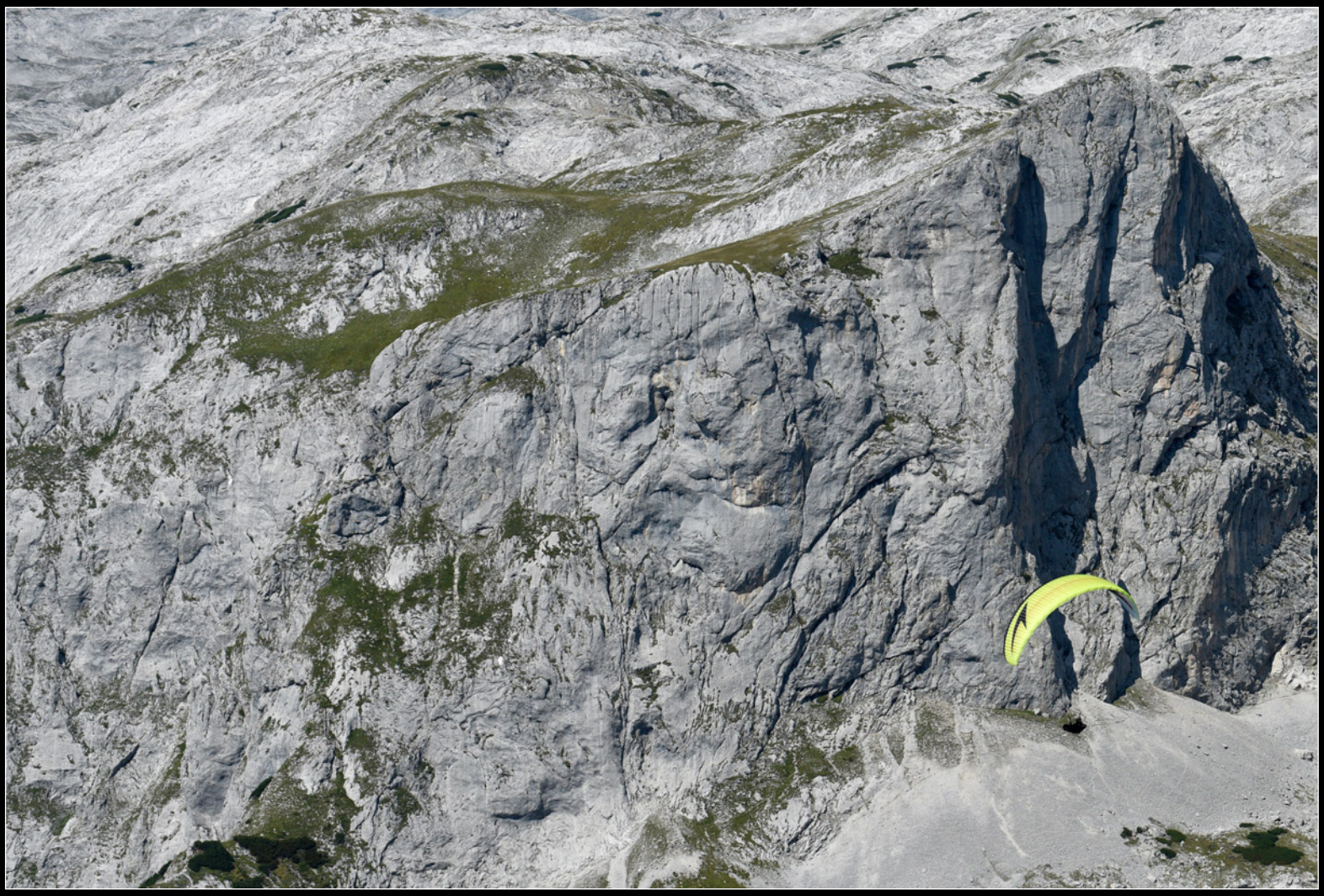
This photo is composed in a fairly classic fashion: the paraglider is in the first third on the left, it's prudently placed because it invites your gaze to wander across the rest of the scene. In addition, the wing is flying in the normal reading direction (left to right). The photographer explained:

"I love this photo, because it gives me inner peace. It depicts perfect interaction between technology and our Mother, the Earth!"



JACQUES PAUL STÉFANI

This photo is my only incursion into a fashionable world I don't really like: the Selfie. Everyone takes photographs of themselves continuously, but it's rare to get one which is creative. I want to avoid doing what too many pilots do: look at the camera; with a very trendy hand movement (giving thumbs up or some another sign); a sponsor's logo too much in evidence; a boom or some other technical instrument in the photo; post processing of the image. I love this photo because it is naturally void of any superficiality: (it had no after treatment) no flying instruments are in view: the only clothing (I couldn't be naked...) matches the wing below. My shadow on the upper surface proves that it isn't trick photography. No technical position or impressive backdrop: it makes you want to fly. The absence (or almost) of landmarks in the background gives the impression that I am floating in no man's land as if the photo was taken in a photographic studio or in outer space.



GUDRUN ÖCHSL

The photo chosen by Gudrun doesn't correspond at all to 'the grammar of photography.' The paraglider is too far off-centre, a bit too far away, and the subject is flying in the wrong direction (the opposite direction to the direction we read). But it was taken in such a way, that the photo transmits a message: our aircraft are tiny against the massive landscape in which we play.

MICHAEL NESLER

There is no doubt that Michael has chosen this photo because it brings back memories of a very unique flight: a little snow storm at 2500m. The perspective is typical for an aerial photo: another wing photographed at about 45° below the photographer, lets you see at the same time, the upper surface, the pilot and the landscape they are flying over. In this particular case, you can't see much either...

WALTER NESER

This type of photo isn't taken by chance: often the photographer and the models need to fly together several times to get the results they are hoping for. Sometimes they communicate by radio, but often, practice leads to the ideal line up and the photo happens naturally. Pictured here, two Apco Hybrids; these are single skins with a double skin leading edge.

JASON WHITEHEAD

Karen Skinner and her partner Jason Whitehead fly regularly at the Costa Brava in Spain. Often low clouds come in from the sea forming amazing landscapes, which are easy to use and with little turbulence. Here, the depth of a 'hole' in the clouds is amplified by the alignment of the paragliders.

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NEW DIGITAL TOOLS

Almost all photographers, whether amateur or professional, work digitally. Therefore, more than ever before, they want to know how to post-process their photos. On a computer, you can massively touch up faults on a photo.

Enlightened amateurs, along with the experts, often work with Adobe Lightroom (to manage photo albums as well as the 'development' of raw images from the camera), then with Adobe Photoshop for more complex work on parts of the photo (cropping, correction of certain colours and accentuation).

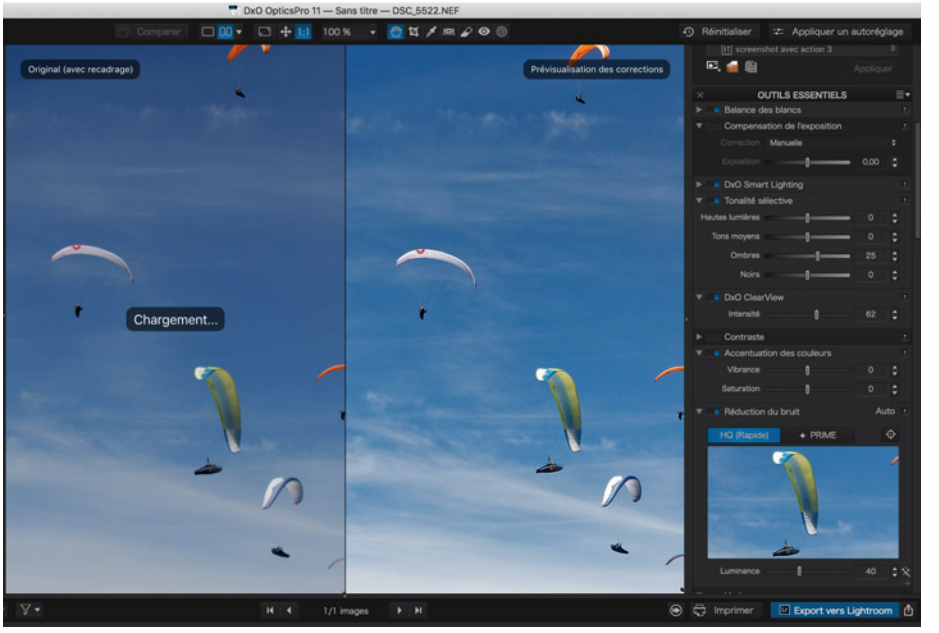
This hegemony has become expensive since Adobe has moved to a 'subscription' model, forcing the user to pay at least 11.99 € per month for the continued use of its software.

'Open Source' software certainly provides an alternative, but it often lacks functions which the users are used to, in particular for Photoshop.

More and more professional photographers have chosen an interesting alternative to Photoshop: Affinity Photo. This software only costs 55 €, payable once, and really doesn't faze Photoshop users. We can confirm that after a short period of time getting used to it, you can manage completely without Photoshop.

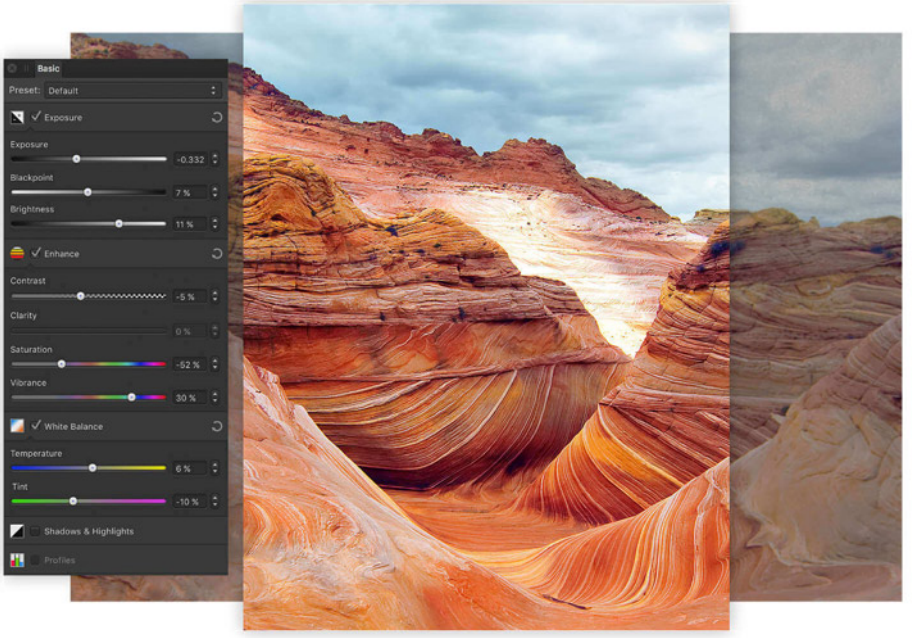
For developing raw images directly from the camera, there is another essential specialist: DxO Photo Lab (previously known as "DxO Optics Pro"). This software works particularly well with reflex or bridge cameras, even low-quality ones can give raw images (raw from the sensor).

DXO Photo Lab has a database with most combinations of camera/lens and knows their faults perfectly and applies an appropriate correction. The results are amazing.



DxO Optics, which has become "DxO Photo Lab", has done wonders in 'development,' especially of raw images which are available with more and more cameras. The standard version 129 € (amateur and expert cameras), and the Elite version 199 € (professional cameras). Mac and PC, trial versions are available. https://www.dxo.com/en

Affinity Photo can also develop photos, but it excels especially as a very successful alternative to the famous Adobe Photoshop, which has become too onerous for lots of users.
A 'life time' licence is 55 €. Mac and PC trial versions are available. https://affinity.serif.com/en-gb/photo/



TEST

DUDEK REPORT'AIR

Photo : Véronique Burkhardt. Pilote : Sascha Burkhardt

Dudek have launched a wing called the Report'air. One of its preferred uses is for aerial photography, with corresponding stability. But at the same time, this wing can in no way be regarded as a bus. It's playful side shone through too!

By Marc Coffinet

With the Report'air, Dudek wanted to create a "back to the roots reflex" wing, which would offer the legendary stability of the first reflex wings, whilst at the same time offering the flying ability and manoeuvrability of a modern wing. The Report'air will be an intermediate wing situated just below the Nucleon XX. According to Dudek, it is very damped in roll, pitch and yaw, 'ideal for long journeys or for photographing our beautiful planet.' With a good compromise between agility and efficiency, the wing also has a 2D steering system which allows the pilot to optimise going into a turn by pulling on the stabilo. When they were developing it, the team at Dudek worked with aerial photographer, Kacper Kowalski, who has won the World Press Photo award several times (2009, 2014, 2015). He has always used paramotor wings like the Dudek Nucleon for his work.

RESULT

A Report'air which was a 'go anywhere' wing for clocking up the kilometres without worrying about the rest. And in fact, it didn't disappoint us at all...

INFLATION

It has an even and linear pull-up with no surprises... I used a little bit of brake every time to avoid it over flying me. I took off fully trimmed and with 3 cm less, without noticing any real difference. Some pilots criticise it for being slow to pull up in nil wind, but I didn't notice this.

Photo : Véronique Burkhardt. Pilote : Sascha Burkhardt

LOAD TAKE-UP
Very fast and fairly surprising given the size (22, I have an all up weight of 114kg) and I always take off using the throttle progressively. The wing copes well with level acceleration near the ground to increase speed and climb after transition on the right side of the power curve.

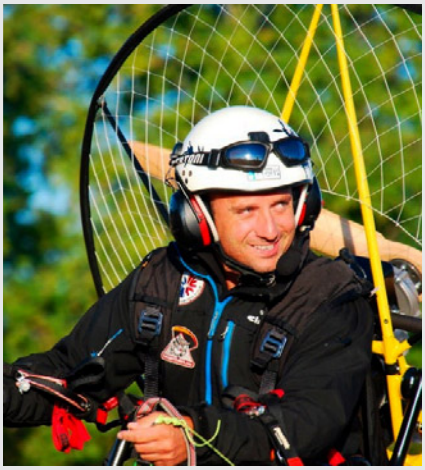
FIRST IMPRESSIONS
Lots of stability, correct speed, safe. Fully trimmed: when left to fly, the axis is maintained and there is no parasitic movement, neither in pitch nor in roll. This good impression was also confirmed when it was untrimmed. I was definitely flying a reflex wing. The speed increased very cleanly and it flies in a straight line as if on rails... even more so once accelerated (careful, only to be done with the trimmers open).

TURN
In my opinion, this is the parameter which distinguishes this wing. With Dudek's usual logic, there are three different ways to start the turn, which one you use depends on the size of radius you want and also the flight regime (with or without trims/with or without accelerator). As a result, there really are lots of possible combinations. You need to explore this so that you can optimise your flying depending on the circumstances. A pilot who is used to a classic wing will feel at home straightaway. They will just need to spend a bit of time learning the different systems so that they can fly this wing to its full potential. But without a doubt, it turns really well! You just need to use the right technique at the right moment!

Photo : Véronique Burkhardt. Pilote : Sascha Burkhardt

In summary, it's a wing which is aimed at a wide range of pilots as it is very accessible, stable and has good performance. It will suit a lot of pilots. Initially designed for photographers, it has, nonetheless great potential to be playful depending on the size you choose (top of the range), and above all, mastering the systems for initiating a turn.

One last detail: from an aesthetic point of view it is a great success and the level of finish is perfect..

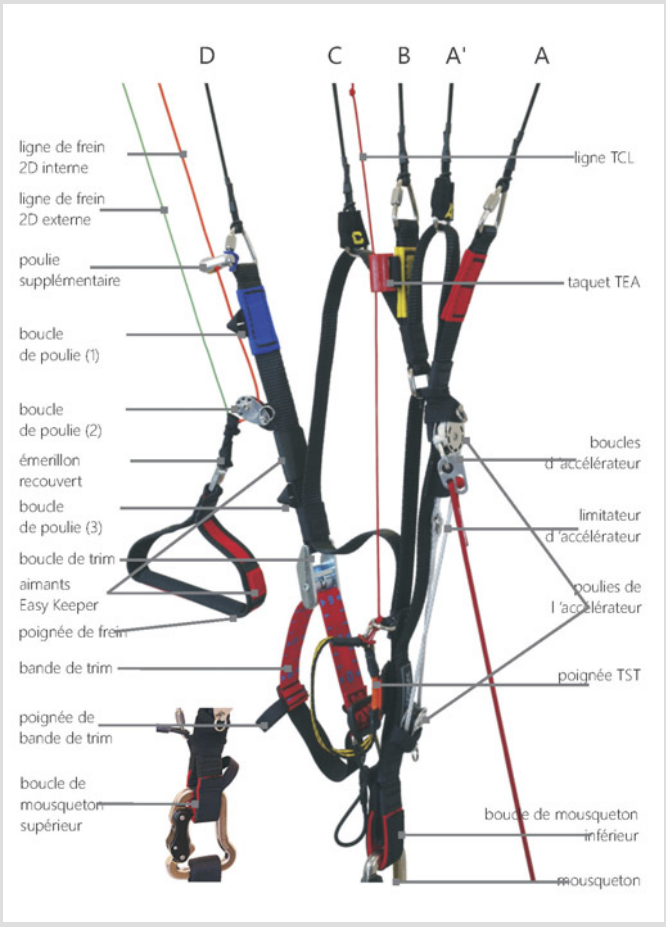


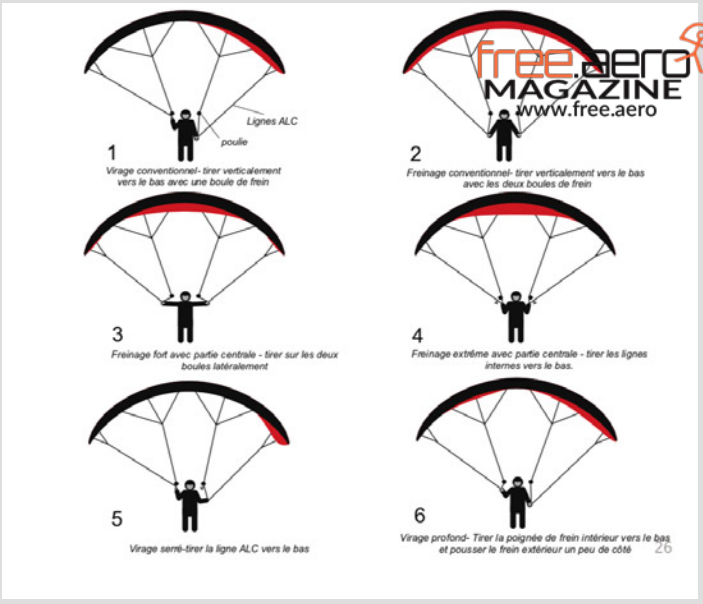
OUR TEST PILOT:
MARC COFFINET
Marc Coffinet is an environmental engineer at Perpignan, he has been flying paragliders and paramotors since 1996. He is a Paramotor instructor, paraglider and paramotor tandem pilot, flies three axes microlights, planes and autogyros and is also a parachutist... He also has a gite with a lot of character at the foot of Montagne du Canigou with its own microlight landing field.
www.moulindecanterrane.com.

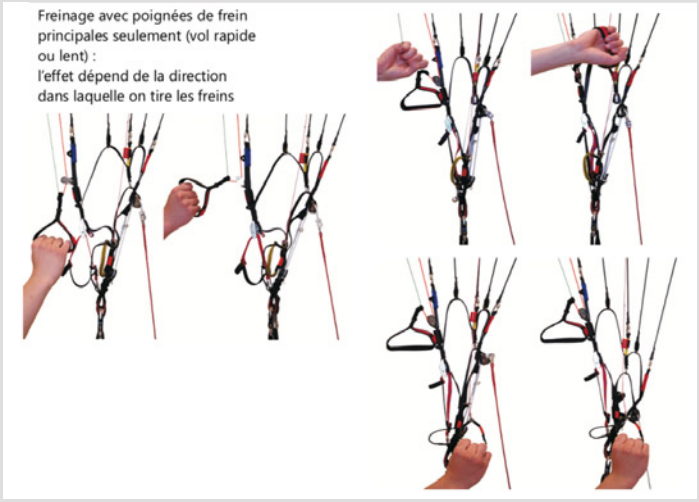
Photo : Véronique Burkhardt. Pilot : Sascha Burkhardt

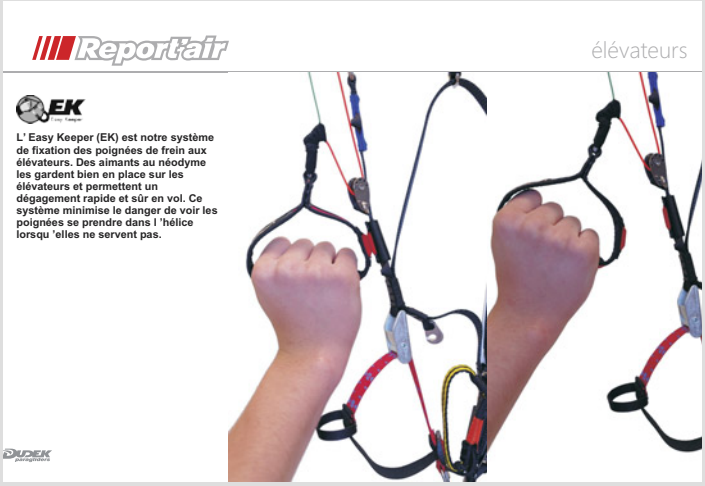
DUDEK are on the TURN!

These extracts from the manual show that Dudek have put all their usual complexities into the steering system, which has in the end, turned out to be fairly intuitive, once you understand it. And in addition, even when using only the brake handles, this wing is already fairly playful for a paramotor whose number one strength is its stability.







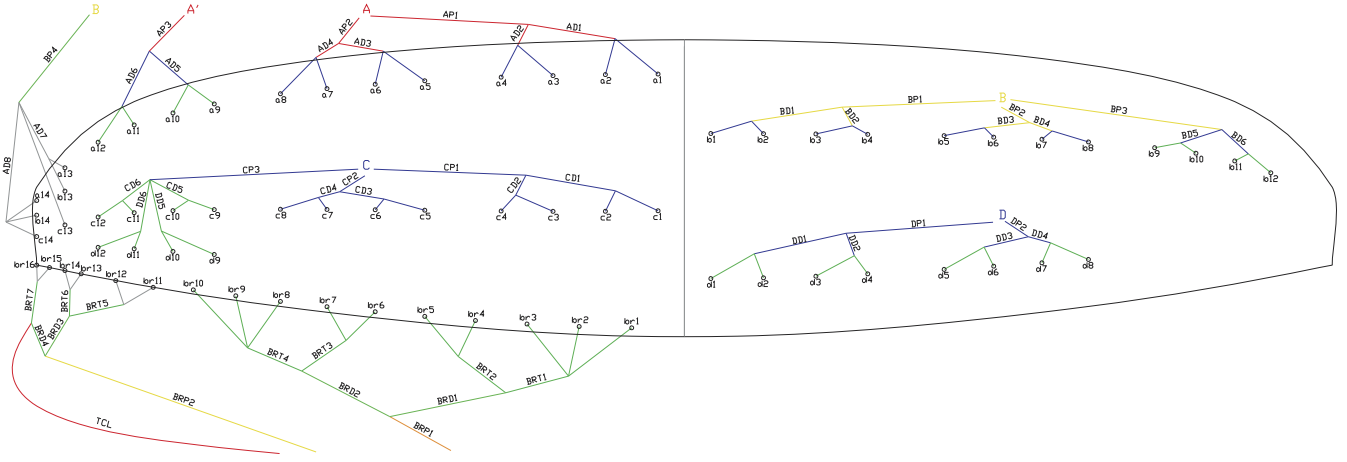


REPORTAIR
TECHNICAL DATA

MANUFACTURER: **DUDEK**
Web : www.dudek.eu/en/products/reportair.html

DATE	2016	2016	2016	2016
SIZE	22	24	26	28
CELLS	60	60	60	60
FLAT SURFACE AREA [m²]	22	24	26	28
FLAT WINGSPAN [m²]	11.10	11.59	12.07	12.52
FLAT ASPECT RATIO	5.60	5.60	5.60	5.60
ALL UP WEIGHT [kg]	85-120	95-130	105-145	115-160
WEIGHT OF THE WING [kg]	5.80	6.20	6.50	6.90
PPG CERTIFICATION	DGAC	DGAC	DGAC	DGAC
PRICE [€]	3420	3460	3520	3580

MATERIALS: Porcher Sport 38 g/m²
Dominico Tex 34 g/m²
Porcher Sport Hard 40 g/m²



The Report'Air is delivered with a spacious, well thought out bag, as well as a Pouf-Bag.

Dudek is one of the rare manufacturers to apply, as Ozone stipulated, a sticker attesting to the origin of the invention of the SharkNose.

Photos : Véronique Burkhardt

DA VINCI XCHORD

AND FLOW XCRACER

An unknown make has brought out an EN D two liner which is very similar to the Ozone Zeno and is identical to another wing on the racing machine market. Here's our test of the new high-performance wing and a partial response to the question: who inspired who?

Text: Philippe Lami

I have been flying for nearly a year on an amazing Ozone Zeno, which up until now has been the undisputed Queen of certified high-performance wings. Just out, the Da Vinci XChord, which is clearly keen to fly in the same zone as Ozone, and in particular, the Zeno, has to be ordered from Russia as there are no French importers.

Da Vinci, is a manufacturer which has recently set up in South Korea, and is gradually building up to offer a full range. We know that for some models in their catalogue, for example the tandem, Da Vinci have been accused of taking too much inspiration from other wings on the market – to be verified. For the XChord, we noticed that it does take some inspiration from the Zeno, but it isn't an identical wing.

On the other hand, the Ozone designers that we contacted didn't seem particularly bothered about it, in fact the market leader had a totally relaxed attitude and weren't particularly worried. They know that in the wake of their success, there are bound to be copies.

What seems certain is that the XChord itself is 100% identical to the Australian model, the Flow XCRacer, but this is an official cooperation. At the French Championships in 2018, Erwan Didriche's great result, coming twelfth, the highest placed pilot on an EN D, was on a Flow XCRacer. Moreover, it testified to the performance and flexibility of this wing.

A beautiful wing, clearly inspired by the Zeno, but nonetheless different.

The XChord spread out on the ground at first glance looks very similar to the Zeno. I had plenty of time to compare the two wings, both on the ground and in the air. The aspect ratio on the Da Vinci is greater (6.95 for 82 cells compared to 6.9 and 78 cells on the Zeno). Brighter colours, and different fabric (a bit heavier). It has flexible rods which run almost the length of the chord, uncluttered risers with large handles, and low friction rings…

This real two-liner, equipped with an amazing homemade Shark Nose is noticeably heavy to inflate in nil wind. In stronger wind, the XChord takes its shape but it is necessary to speed it up a bit using the front risers, and then damp it cleanly. The Zeno is easier to handle in comparison, with a cleaner inflation, lighter and more efficient controls in the inflation.

The wing, once it has taken off, has a completely different character to the Ozone Zeno. The pitch stability is comparable, but the controls turn out to me more precise and it turns differently to the Zeno. The piloting precision and especially the rhythm are more obvious on the XChord. For me, this is the big advantage of this wing. As far as pure performance is concerned, in glide it holds up in the comparison. When flying pulley to pulley, it can reach a speed of 58 km/h; steering with your hands on the little wooden bars, it flies in a straight line as if on rails.

As far as its behaviour in strong conditions was concerned, the wing seemed to me to be even more serene, well damped in pitch, but also more dynamic if you let it do its own thing a bit. The recovery after an incident on the XChord seemed to me to be more 'fun' and more frank than on the Zeno. Steering through the harness was more productive and it reacted better.

Be careful though, at low speeds and especially at the stall point, it clearly gives less warning than the Zeno.

Flexible rods run almost the length of the chord.

A homemade SharkNose. It isn't clear whether it is as efficient as the original.

XCHORD
TECHNICAL DATA

MANUFACTURER: DA VINCI
Web : http://www.dv-gliders.com/index.php

SIZE	S	M	ML	L
CELLS	82	82	82	82
FLAT SURFACE AREA [m²]	21.75	22.8	24.75	26.55
FLAT WINGSPAN [m²]	12.36	12.66	13.19	13.66
FLAT ASPECT RATIO	6.95	6.95	6.95	6.95
ALL UP WEIGHT [kg]	75-95	85-105	95-115	105-125
WEIGHT OF THE WING [kg]	5.3	5.7	6.3	6.4
FREE FLIGHT CERTIFICATION	EN D	EN D	EN D	EN D
FF CERTIFICATION LAB		Air Turquoise		
PRICE [€]			4390	

Fabric upper surface: Dominico N30D MF / Porcher 7000 E71
Lower surface: Porcher 7000 E71

Photos : véronique Burkhardt

The XChord is a bit heavier to inflate. The Zeno, in comparison, is easier to handle, having a more frank load take up, lighter and more efficient controls during inflation.

With a bit of wind, we were, all the same, able to play, with lots of precision, with the front and back risers on the XChord.

A detail: the little wooden bars to pilot it were well placed on the rear risers. The finish is amazing.

We may, in the end, find that the SharkNose on the Da Vinci doesn't do its job as well as that on the original Ozone. Remember, the SharkNose needs to bring an improvement to both extremities of the speed range.

I was very happy with some of my flights on the XChord, a standard wing, with its own character and excellent performance, which plays very efficiently performance wise at the top of the D classification.

At the moment, there isn't a distributer for the XChord in France, whilst the XC Racer, its clone from the Australian Flow Gliders, is sold through Scorpio. Price: 4 390 € compared to 5 900 € for the Zeno MS, which is a sizeable difference.

Bingo, we've found it: the remains of a very large roman villa and it's elaborate layout, from photos.

AERIAL AEROLOGY

Paramotors are still used for aerial photography and reconnaissance, for example, to find archaeological remains.

One would think that interest in aerial photography would have waned with the availability of drones, as well as satellite images on the internet. But in reality, there are activities where having a flesh and blood pilot is still the best way, as when photographing archaeological remains: you have to fly far and wide to find anything ...

The German pilot Josef Klein has made it his passion and shares some examples of his adventures with us (following page).

Josef Klein on the hunt for remains with his flying bike, the Fresh Breeze Flyke.

The countryside that we love flying over is subject to dramatic changes over time. In addition to the climatic, natural and geographic processes humans have been changing the look of our countryside by their actions for thousands of years. What we see is therefore only an intermediary step in an ever-changing environment.

Since the birth of aviation, people have taken cameras into the air to paint pictures of the most amazing things, that nobody has ever seen before.

As somebody interested in archaeology, I always take a camera with me when I am flying, and I have gradually become an aerial archaeologist. The first few years were frustrating. I found almost nothing. Or fairy rings that we took for ancient burial mounds, for example. Disappointing. But having discussed this with other enthusiasts, I began to understand where and how you need to look. And it has become extremely interesting...

The best chance when the plants are growing most vigorously. If in addition, it is a dry period, as in the summer of 2018, the results will be even better. Because on top of buried walls, the roots can't develop as they do elsewhere. The plant grows more slowly or is discoloured. The differences are therefore clearly visible on an aerial photo.

And even if you aren't spectacularly successful in your search, it isn't a tragedy, after all, you can still enjoy a nice flight!

A fairy ring: good for finding mushrooms, but useless from an archaeological point of view.

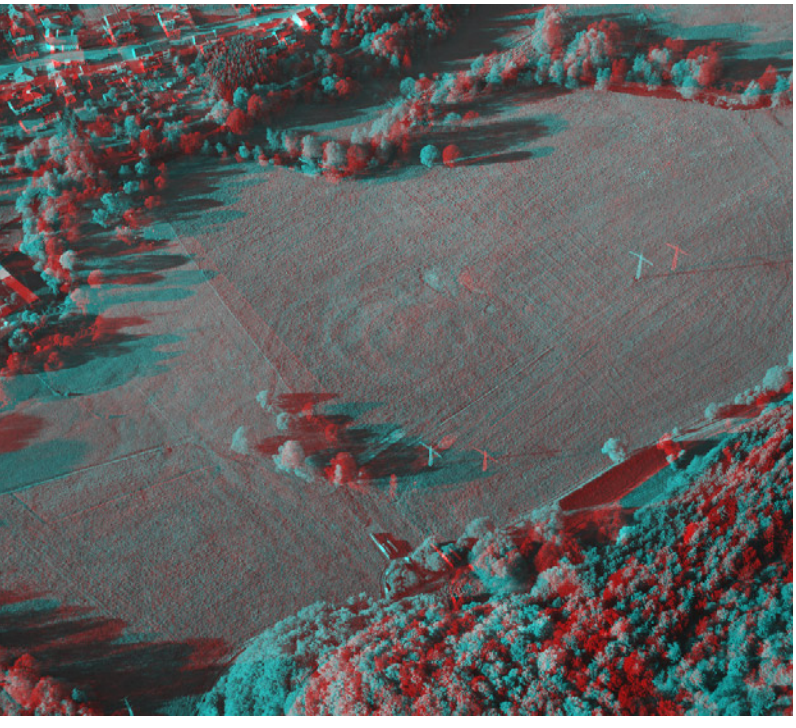
Here, I had better luck: the traces of a medieval tower.

Not a real discovery, but interesting all the same: A sacred Roman spring.

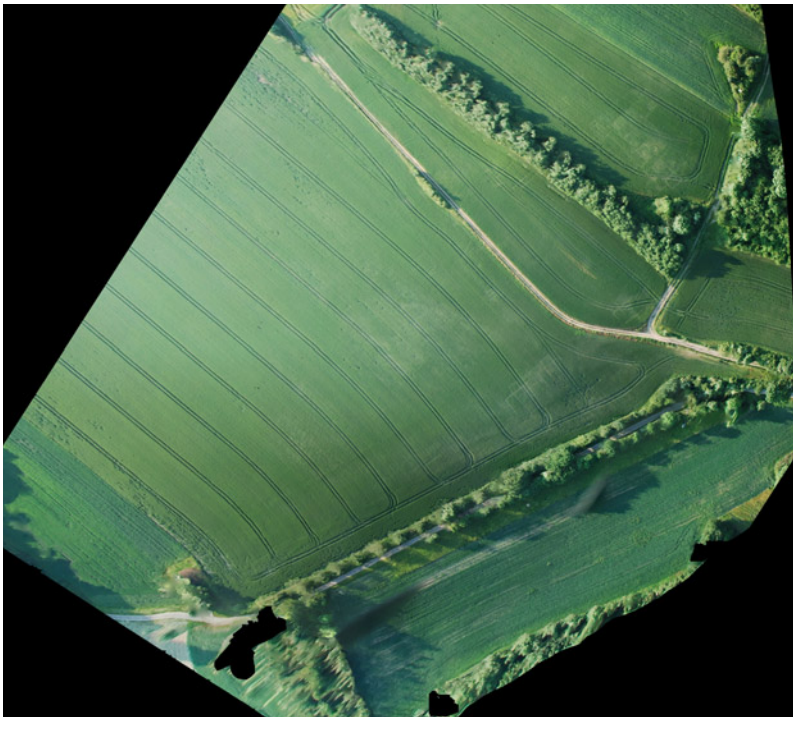
Clearly visible, and just as impressive: a former monastery.

Clearly visible: the walls of a roman villa, discovered by Josef Klein. The foundations were uncovered thanks to a dry period. Moreover, in England, the summer of 2018 allowed archaeologists to make numerous new discoveries.

Sometimes, Josef Klein uses stereoscopy to transmit in an even more realistic manner the results of his explorations.



The photos which are used to elaborate plans are manipulated by specialist software like Agisoft PhotoScan, to give an orthophoto. Once the bias angle has been removed, it can be imported into Google Earth to be superimposed onto the satellite images, and also for calibrated measurements.



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FABRIC KARABINERS

SOFTLINKS VS SOFTLINKS

A few things worth knowing about these fashionable connectors…

Softlinks made their debut onto the market in about 1993, not in paragliding, but amongst parachutists. The French company 'Parachutes de France,' were the first to make these links to replace maillons.

PARACHUTES

The principle was at the same time both simple and ingenious. Whilst in the past, the lines were always connected to the risers by metal maillons, today flexible connectors are a lot lighter and can be made more easily. In the beginning, the parachutists weren't enthusiastic, they were worried about the connector's life expectancy and strength. Metal seemed more reliable.

TRIBUNE

Guido Reusch

Guido Reusch has been the Secretary of the Paraglider Manufacturers Association, the PMA, since 2016. He is also the former director of the EAPR testing house.

The PMA brings together numerous manufacturers and suppliers from the paragliding world. It isn't just politically involved in the regulatory framework of our sport, but also on a technical and practical side from a safety point of view. From now on, in our magazine, Guido Reusch will be regularly explaining various technical aspects and rules.
Some subjects which may seem a bit dry at first glance often affect us more than you would think … The views expressed in this column don't necessarily reflect the opinion of the editor.
www.p-m-a.info

This only changed when the American company, Performance Designs (in Florida) started producing softlinks for their main parachutes and reserves. They were (and still are), leaders in the world market for jump parachutes.

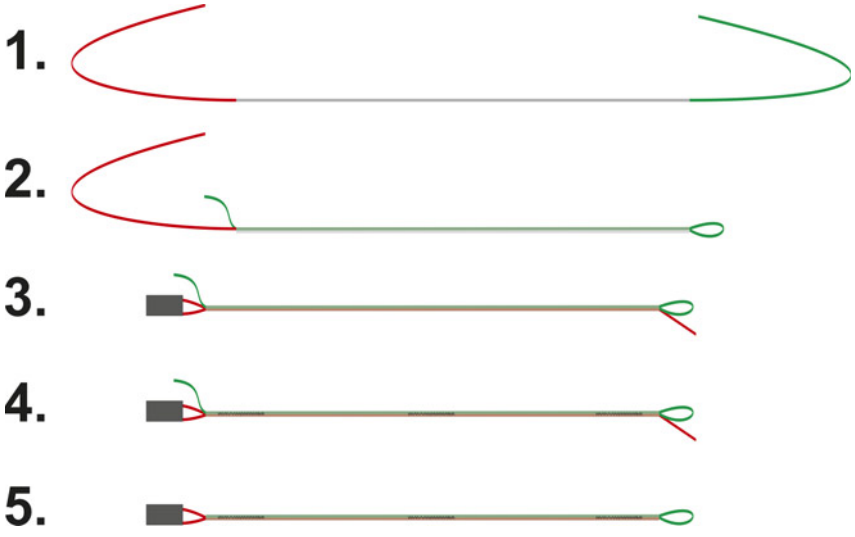
Performance Designs offer two different variations. One for the main parachute (white label) in a version which is slightly lighter, and the other for reserve chutes in more resistant material (yellow label).

Initially, the buckle to fasten it was a ring, then textile buckles took over. Both variations work really well.

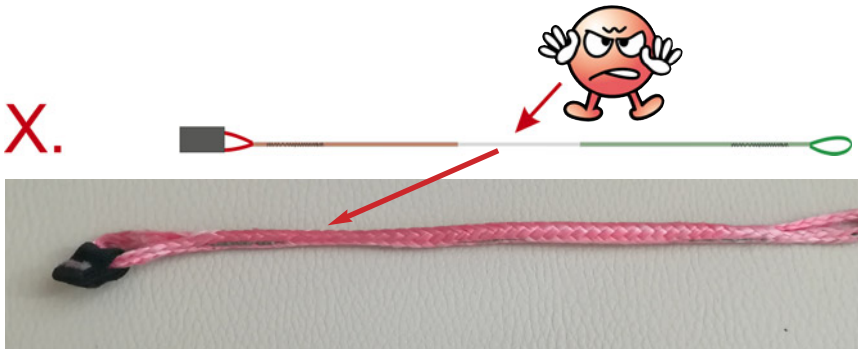
On the other hand, some 'modern' copies can be made in a more random fashion.

Photos et schémas : Guido Reusch

The principle implies that during manufacture, the Dyneema strand passes three times through the whole connector, see diagram opposite.



On the other hand, if the manufacturer makes the connector from two loops whose strands don't go the whole way round, the strength of the connector is limited to the strength of a single strand in the middle. The passage of both strands into a single one can even weaken the whole thing. In addition, the auto blocking principle of the strand which tightens above itself isn't respected everywhere.



You can recognise these bad softlinks by the difference in thickness, as long as the dyneema in the connector isn't sheathed. In any case the sheath can end up not only being superflu-ous but can even be counterproductive.

A cordura sheath can be abrasive when it rubs polyester straps, to the point where it saws through them in an extreme case! It brings nothing apart from a psychological factor: the smooth dyneema doesn't require protection from an extra sheath. Laboratory tests carried out by the PMA have confirmed this. Unsheathed dyneema on unsheathed polyester doesn't normally provoke any abrasion. The ideal is always a dyneema – dyneema – dyneema link.

Opposite, an example of a fairly badly made connector.

Unnecessary extra stitching (arrow).

Photos : Guido Reusch

The use of Velcro (abrasive!)

The connector is made with a single thread in the middle. Above all, once put together, the weak part will be in a place which is heavily used.

CHOICE AND USAGE

The pilot needs to be careful when choosing connectors, to buy ones

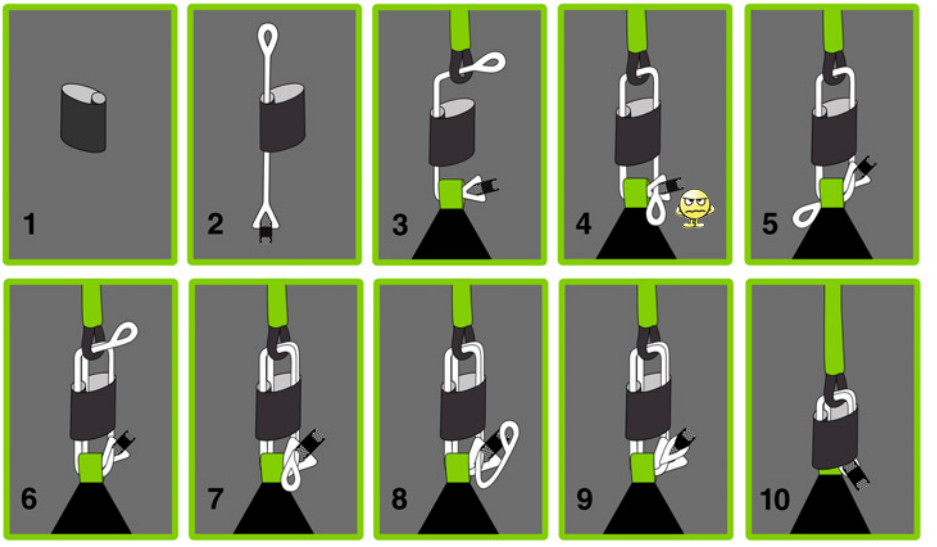
- which the manufacturer advertises and clearly guarantees the strength.
- a product which has a good user guide. It is imperative to follow to the letter the advised procedure, but unfortunately, manuals are not always clear. When I was responsible for the EAPR testing house, I demanded that for each connector that we tested that there was a perfectly understandable manual.
- a product whose length is adapted to its use.

Explanation: the more play there is in the final connection, the more risk there is of wear. Not really on the connector itself, but on the polyester straps which it links. Softlinks for parachutes form loops which are so narrow that you can't open or close them without special tools.

Not ideal: a connector which is too long which has lots of play.

Photo: Sascha Burkhardt

The material used for parachuting is a lot better: very narrow buckles, almost impossible to do up without tools.



A good manual is essential. It is equally important that the softlink will double fasten. On the other hand, in this example, the way that it is threaded through the loop the first time, in point 4, isn't good. It puts unnecessary stress on the fastening system.

WELL DONE UP

The double turn of the softlink guarantees that stress isn't put directly on the fastening system. This last one is always a weak link and must be protected. On the right, a good example of a manual.

Be careful, don't use softlinks to link the spreaders on a tandem, unless the whole system together is recommended by the manufacturer. Because often, the spreader bars are made with very wide straps, which are at odds with the fine strands of the connectors. Therefore it is a combination which would massively weaken the polyester spreader bars. We have seen cases where each of the parts (connectors, spreaders) on their own perfectly supported the required load, but the combination would only support 50% of the load before breaking…

Flexible connectors are a great way to connect things, as long as they are manufactured and seriously tested, then correctly used by the pilot following the manufacturers recommendations.

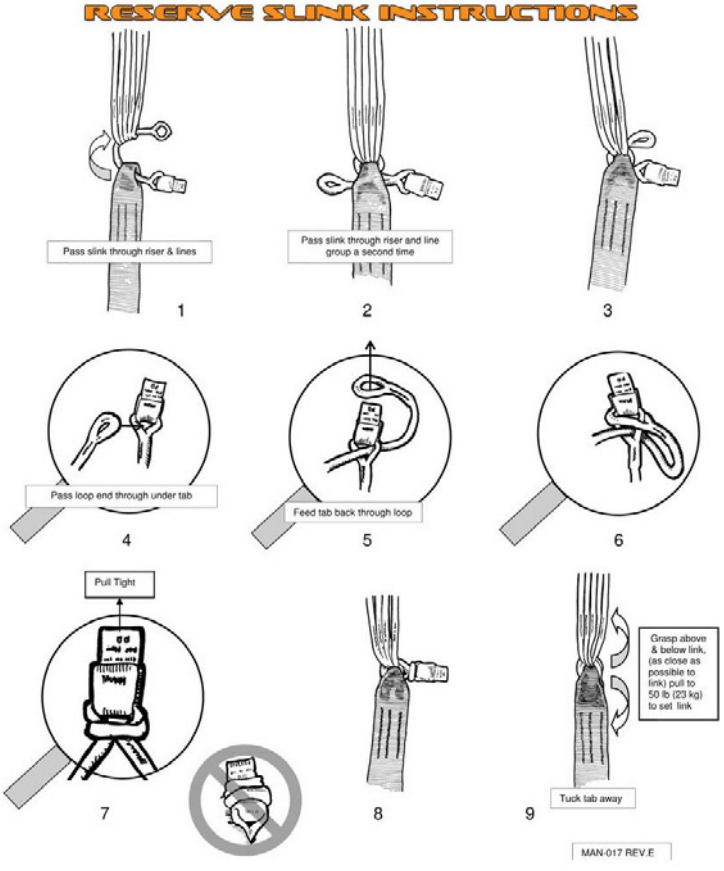
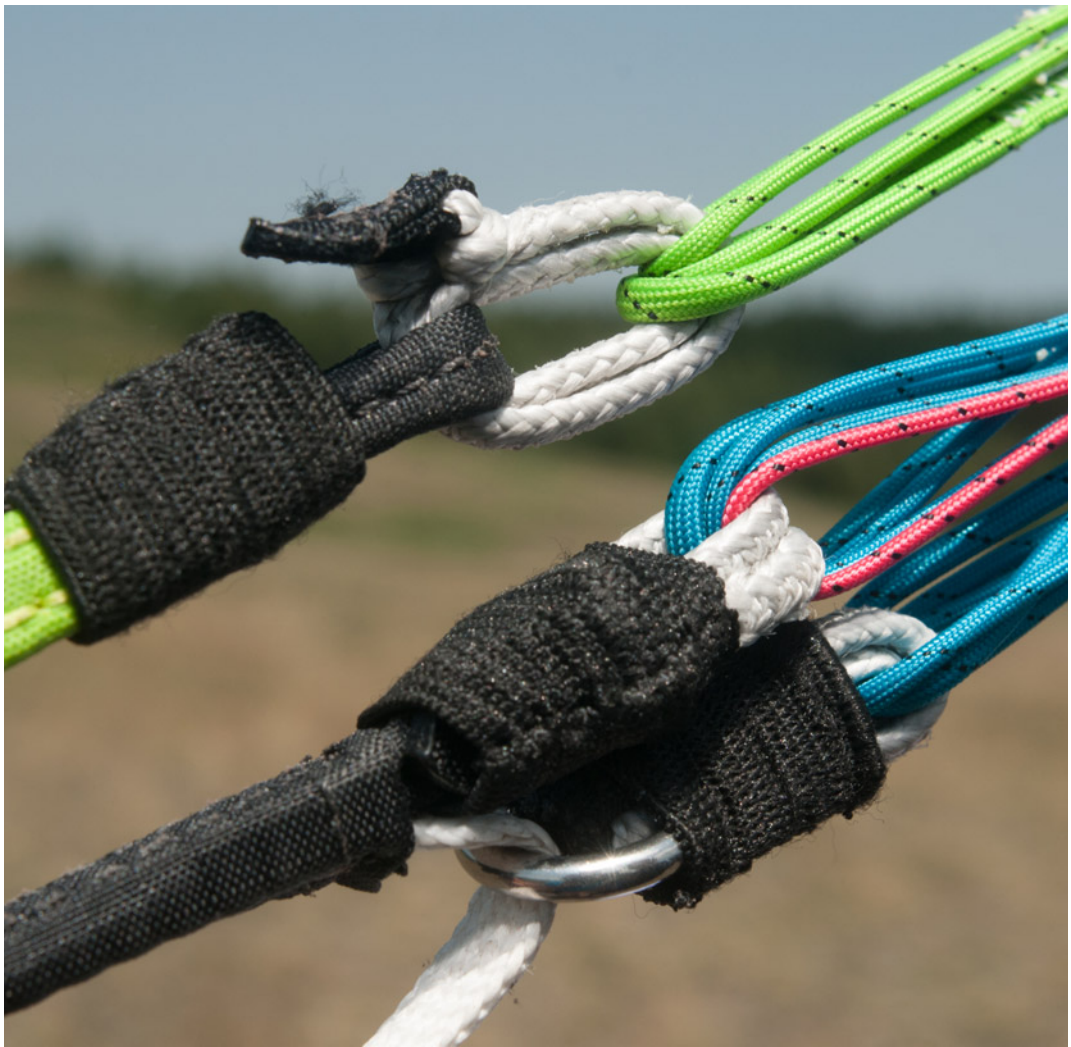


Photo: Sascha Burkhardt



The size of the loop shown here represents a compromise between 'the smallest possible' and 'the most practical possible.'

Photo:Niviuk

TEST
NIVIUK ARTIK 5

We have already given our first impressions. Here, as promised, are the full results of our tests...

The Artik 5 clearly shows its colours, definitely high tech right to its wing tips! In size 24, it has a flat aspect ratio of 6.3 for 66 cells, 267 metres of unsheathed lines and a weight of 4.7 kg in the standard version (4.45 kg for the lightweight version with soft risers and karabiners). We are waiting for the Plum version which will be lighter still!

Photo: Philippe Lami

TAKE OFF

It's easy to lay out and inflation is academic. It comes up in a block, a bit heavy but docile. In strong wind, a cobra or a ball works very well.

The general dynamism is immediately obvious, the wing sings, bites in lift but has improved damping in the pitch.

It goes into the turn cleanly and immediately with a real presence through the brakes and marked firmness. The general rigidity of the wing, with a very solid leading edge, makes you think of a modern competition wing. The Artik 5 advances really well in turbulence, by transforming its pitch movement by biting, which is a way of gaining energy. It's exciting and using the accelerator keeps the wing a bit more on its trajectory (maximum glide ratio around 11, with a bit of acceleration). The Artik 5 cuts through air masses like a sharpened blade, without any marked deterioration with maximum acceleration.

THERMALING

It is stunningly efficient, requiring very little brake and has excellent handling. The damping of small pitch movements gives real comfort and efficiency.

Photo:Niviuk

The communication through its firm controls is crystal clear. However, be careful, it has brake travel of about 60 cm before it stalls, whilst the usual range of brake travel is between 10 and 30 cm. Hands up, the speed with my wing loading of 93 kg, is about 39 km/h. The maximum glide ratio is close to 11 and is reached with a third of the accelerator, about 41 km/h.

The Artik 5 which I fly using a lot of accelerator, pulley to pulley on long transitions, didn't flinch one iota, holding the C handles, which fall right into your hands. Maximum stable speed 56 km/h. But you need to constantly pay attention, concentrate in rough conditions, ready to take the brake controls with your hands if necessary. In heavy turbulence, the Artik 5 is very communicative, and doesn't close even a wing tip, despite the rough air.

At low speeds, the parachutal phase is clean and easy to use before the stall, at about 26 km/h.

The ears on the Artik 5 are not nice, but more docile than on the version 4 which preferred the B3s. They end up getting stuck under the wing. Reopening is spontaneous when they are released, if a little slow.

The Artik 5 still has good performance in accelerated flight.

Photo: Philippe Lami

It goes into a spiral fast, with a high sink rate and an exit which has to be countered, even though the wing doesn't show any tendency to instability in the spiral. In brief, a wing which you have to pay attention to when flying.

The Artik 5 is a real sports wing, hot blooded, solid like an (open class) competition wing and very efficient. Its capacity to fly fast, without reducing the glide ratio excessively, is a major plus point in strong conditions. It transforms turbulence into energy! I found the Artik 5's behaviour reminded me of the Peak 4, with very similar performance and above all, less demanding to fly, and more restful in rough conditions.

However, be careful, it is aimed at pilots who are already experienced and are looking for a dynamic wing. It is really different to the version 4: it has better performance, it is more precise, but it needs to be handled correctly.

Its weight, top of the range materials chosen, its high tech position, make it a wing which will stand out in 2018 for flying XC in strong conditions, with hands constantly on the brake handles...

Photo: Philippe Lami

Photo:Niviuk

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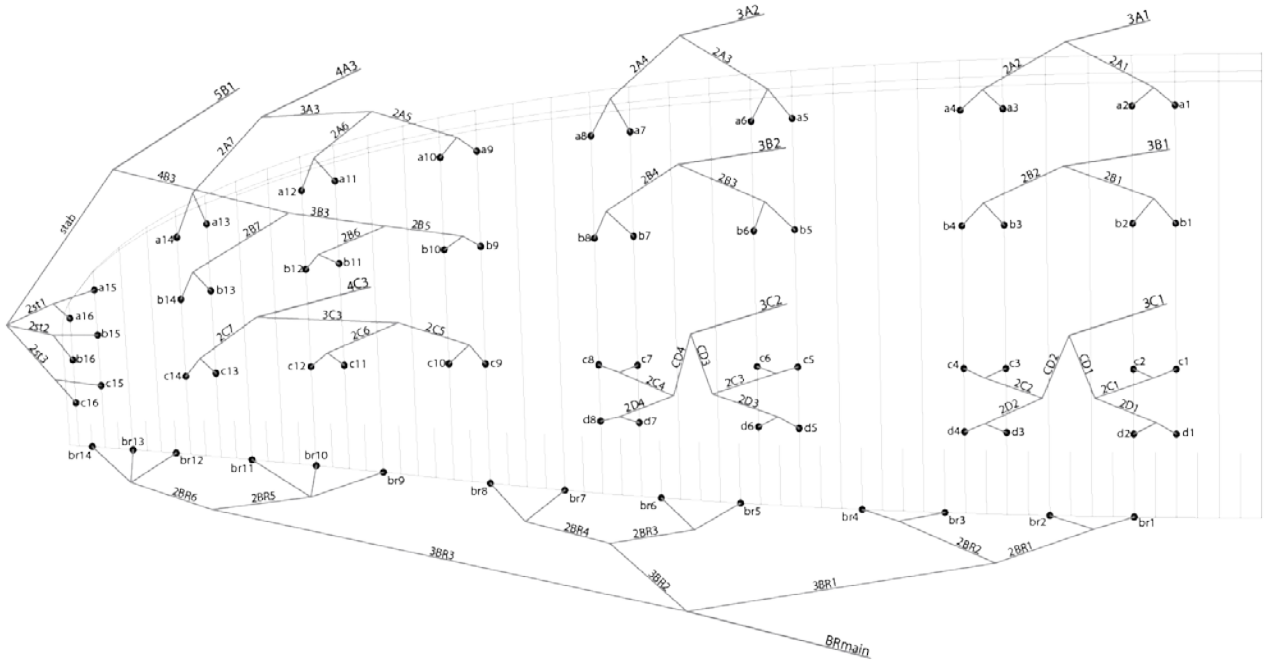

MEASUREMENTS OF THE NIVIUK ARTIK 5

SIZE TESTED	24 (75/95 kg)
TEST WING LOAD	PTV 93 kg => 3,88 kg/m²
TRIM SPEED	39 km/h
MAXIMUM SPEED	56 km/h
STALL AND BRAKE EFFORT	26 km/h @ 7kg
MAXIMUM GLIDE	>11 @ 42 km/h
MINIMUM SINK RATE AND EFFORT	< 1 m/s @ 38 km/h
INSTRUMENT USED	Compass C EVO & C-Probe

ADVANTAGES

- Fast, sporty wing with lots of options.
- High accelerated performance

DISADVANTAGES

- The controls are a bit heavy
- The ears are tiring

ARTIK 5
TECHNICAL DATA

MANUFACTURER: **NIVIUK**
http://niviuk.com/en/cross-country/artik-5

DATE	2018	2018	2018	2018
SIZE	22	24	26	28
CELLS	31	31	31	31
FLAT SURFACE AREA [m²]	22.2	24	26.3	28.8
FLAT WINGSPAN [m²]	11.83	12.30	12.87	13.47
FLAT ASPECT RATIO	6.3	6.3	6.3	6.3
ALL UP WEIGHT [kg]	60-80	75-95	90-110	105-125
WEIGHT OF THE WING [kg]	4.3	4.7	5	5.3
WEIGHT OF THE WINGkg] EXTRA LIGHT	4.05	4.45	4.75	5.05
CERTIFICATION	C	C	C	C
LAB CERTIFICATION	AIR TURQOISE 8.5.2108	AIR TURQOISE 8.5.2108	AIR TURQOISE 8.5.2108	AIR TURQOISE 8.5.2108
PRICE [€]	4400 €	4400 €	4400 €	4400 €

Fabric: upper surface: Porcher Skytex 38 g/m².
Lower surface Porcher Skytex 38 g/m²

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