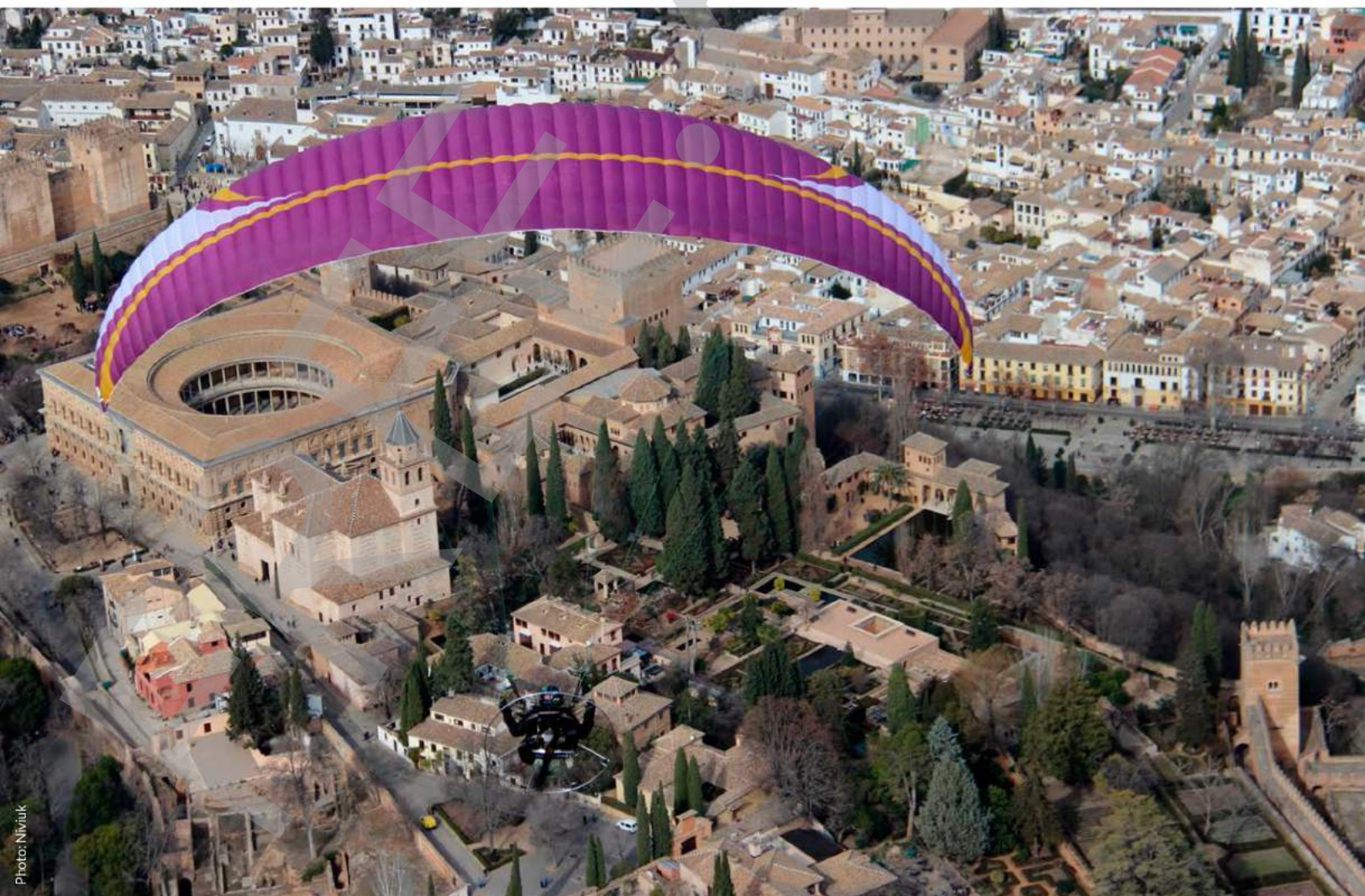


TEST NIVIUK KOUGAR 2

The Kougar 2 uses all the tried and tested new technology.
Photo: Niviuk



KOUGAR 1



Photo: V.Burkhardt

KOUGAR 2



Photo: Niviuk

The Kougar 1 from 2011 had an aspect ratio of 6. The new version has slightly less (5.9), it lost 300 g in size 23, but gained a SharkNose, mini ribs and stiffening...

UNPACKING

The Kougar 2 in the test was 20 m², but looked fairly imposing in its bag, and not particularly light at 5.2 kg. Niviuk advocate attention to detail and the quality of construction of the Kougar 2 is in fact exceptional! It has SharkNose technology thanks to a pair of leading edge rods cleverly crossed, and all reinforced with Mylar.

You can also see the stitching for the 3D-shaping on the upper surface: it limits the folds in the fabric when the wing is flying by optimising the shape which develops. The lines are numerous but very thin, which guarantees that the profile is ideally maintained. On the risers, a little cord passes through a loop allowing the central Ds to be released when the wing is accelerated, which is another step towards optimising the shape of the profile depending on the stage of the flight.

The trimmers have little T shaped handles which allow them to be handled easily, even with big gloves. The trimmers have less travel, but the travel on the accelerator is greater.

Lastly, the Kougar 2 is equipped with double lines on each brake handle: when you bring your arm towards your chest only the tip of the wing is affected, which allows you to turn when you are untrimmed and accelerated. The centre of the wing is braked when you move your arms apart.

When braking normally, it will thus have an effect on both. Only the central line passes through the pulley. Its sixty cells, its 5.9 aspect ratio and the slender profile clearly show its niche: performance!

IN FLIGHT

Performance: a word which can mean everything and nothing, I hear you say. So is it fast? Manoeuvrable? Efficient? Yes, its performance comprises all of these things.

At first glance the Kougar 2 seems to have sufficient performance for classic competitions, where the wing needs to be fast, economical AND manoeuvrable...

We tested it with a small 15 HP 80 cc engine. This combination suits classic competitions. There was nil wind. Although it's fairly easy to inflate, the Kougar 2 isn't an arrow. It comes up more like a school wing, evenly, and without a tendency to overfly or horseshoe. This side of it is pretty cool!

Hit the throttle. Brilliant! Even with only 80 cc, I'm airborne in a few steps. Immediately there is a unique sensation which is difficult to describe: The Kougar 2 has a great glide, a characteristic which you often find on high performance paragliders. The impression of floating, of gliding, a real feeling of being airborne! Those who have flown the Viper will know what I mean! The climb rate is incredibly good with my 80 cc motor; this wing only needs a little bit of throttle.





Photo: Niviuk

KOUGAR 2 - TECHNICAL DATA

Manufacturer : NIVIUK - Web : www.niviuk.com Tel: 33 608 17 68 48				
YEAR	2014	2014	2014	2014
SIZE	20	23	25	28
CELLS	60	60	60	60
FLAT SURFACE AREA [m ²]	20	23	25.5	28
PROJECTED SURFACE AREA [m ²]	17.28	19.88	22.04	24.02
FLAT WINGSPAN [m]	10.86	11.65	12.27	12.85
PROJECTED WINGSPAN [m]	8.88	9.53	10.03	10.51
FLAT ASPECT RATIO	5.9	5.9	5.9	5.9
PROJECTED ASPECT RATIO	4.56	4.56	4.56	4.56
ROOT CHORD [m]	2.25	2.41	2.54	2.66
HEIGHT OF LINES (m)	6.75	7.25	7.55	7.99
ALL UP WEIGHT [kg]	70-120	80-140	90-160	100-180
ALL UP WEIGHT PPG [kg]	70-140	80-160	90-180	100-200
WEIGHT OF THE WING [KG]	5.2	5.8	6.4	6.8
CERTIFICATION EN/LTF	926-1 DGAC			
MATERIAL	S9017-E77A 40 g/m ² Dokdo N20DMF 35 g/m ²			
PRICE [€]	3 300	3 300	3 300	3 300

Cruising only requires a few revs, thus confirming in part its performance. When turning, the Kougar 2 is consistent on all its axes. Manoeuvrable and very precise, it turns without you having to pray; it doesn't hold any surprises and doesn't over react. I do a little slalom near the ground, alternating the turns to the right and left, playing with its pitch and its low fuel consumption. This is a great way to learn to anticipate and to handle the axes.

Untrimmed, the Kougar 2 really accelerates, despite the short travel. Its paragliding side then gives way to its paramotoring side: the pitch is a lot more damped and the controls become stiffer. It remains nevertheless totally flyable with the brakes, in this configuration.

Coming out of a tight bend, the Kougar 2 pitches backwards a lot less than when it is trimmed. This is a positive point which shows that it will be demonstrative in thermals when it's trimmed, (being lightly damped in the pitch is essential with a tendency to nose up during an input of external energy) and will handle nicely

when it is untrimmed (strong damping in the pitch is essential, with a tendency to eliminate the pitch backwards at the end of the turn).

Whether trimmed or not, to optimise the turn and make it efficient and aesthetic, it's worthwhile to first of all brake the wing tip, and then follow with the main brake. In the same way, the wing tip controls are effective at countering pendular rolling movements. The accelerator bar is easy, not physical, which is great for long flights in a competition or for not being late for beer o'clock. It reduces even further the pitch backwards at the end of a turn, for example when you're doing 'pylons', even though the Kougar 2 isn't designed for that.

The wing is very solid and predictable, has no nasty tricks and doesn't feel fragile even when being pushed to its limit. A few big wingovers confirm that. The SharkNose seems to play its role, and the profile doesn't seem particularly fragile within the limits of normal flight, whether with a large or small angle of attack.

Two weeks later, flying in weak thermals, trimmers closed to have the minimum sink rate and the least damping in the pitch. It was easy to visualise the little bubbles thanks to the feedback through the controls and the harness. Even if the conditions were weak, I managed to battle on with my vario reading more than +0.5 m/s with the motor cut. I managed to climb a few hundred metres with the motor off. Very good.

The Kougat 2 can turn relatively flat to make the most of its projected surface, but its good manoeuvrability allows it to easily find the core of a thermal and make the most of it. The light controls are a non trivial advantage, and you can turn for a long time without wearing out your arms. Once at cloudbase, you just need to de-trim or accelerate to move on quickly towards the next thermal. I have the same sensation: it goes fast, but the glide doesn't seem to suffer at all in this type of flying, contrary to most reflex wings where the glide is then completely degraded. The glide here is excellent. Niviuk seem to have found a really efficient profile.

CONCLUSION:

The Niviuk Kougat 2 is a wing which is accessible to pilots looking for, above all, performance and excellent passive safety.

This reflex wing sits with most other reflex wings, as it has low consumption at every stage of the flight. Fast and very economical, it can quickly cover long distances. Manoeuvrable and with light controls, the pilot can really enjoy himself. All in all, it offers a very high level of passive safety, which makes it accessible to pilots coming out of school who are progressing fast.

You're looking for a wing for gliding? To get points in a classic style competition? For playing about close to the terrain? The Kougat 2 is without a doubt made for you! 🙌

Video:

www.youtube.com/watch?v=hfA1Jy7TMYY

