Swing Nyos RS

The Nyos RS, Swing's current offering in the high-end B category, is presented as “the ultimate comfort-race machine for your XC adventures” - a wing to enable the pilot to remain comfortable when flying fast in strong conditions. So is that claim justified or hollow marketing hype? Here's my opinion.....

To put my review in context: I have 2500 hours airtime and fly around 160 hours per year, mostly XC in the Swiss Alps, often in robust conditions. I have moved away from EN C and D wings, now preferring gliders with relatively modest aspect ratios, to minimise fatigue and enhance concentration on long flights. So it appears that this glider could have been designed for me! I have no relationship with Swing or any other manufacturer.

First impressions

I acquired my Nyos RS in April 2018 and have now clocked up 100 hours on it in a variety of conditions. It's a size S, with a recommended all-up weight range of 75-95kg; my loading without any ballast is around the mid point of 85kg. It was delivered with the excellent Sherpa rucksack, tube bag, compression strap, manual, and cap.

Initial inspection reveals a well made glider, as one would expect from a long established manufacturer like Swing. The fabric appears shinier and somewhat lighter than average, but the wing is not a full-on lightweight. The leading edge has a traditional profile rather than a shark nose, and Nitinol rods are used to retain its shape. The risers are 12mm wide, with three main lines on each side, which are sheathed and colour coded, but the stabilo line and upper cascades are unsheathed, requiring some care to be taken at launch to ensure freedom from tangles. The risers look complicated at first glance due to the split As and Cs, and the C-bridge (of which more later), but are straightforward in use. The brake handles have swivels and are attached to their rear risers with magnetic clips rather than poppers. The standard of materials and finish is high, with some nice touches, e.g. Ronstan pulleys and a choice of brake handle inserts of different stiffness to cater for individual preference.

The “RS” in the wing's name means that it has been designed with “RAST” – a system developed by Swing to block chordwise airflow inside the canopy in order to decrease the extent of collapses and prevent them reaching the trailing edge. A comprehensive assessment of this innovation is outside the scope of this review, but I will refer to it later.

Early experiences

Before flying, I spent a little time ground handling, which was every bit as straightforward as one would expect for an EN-B glider with a flat AR of 5.7. I was pleasantly surprised at the ease which which I could accomplish forward inflations in nil wind, supporting Swing's claim that RAST helps back wind launches.

My first flight took place in late April in the Swiss Alps, with sharp edged 3-4m/s thermals and a robust valley breeze gusting up to 30km/hr. As I hadn't flown for seven months, it was a challenge for both wing and pilot! The brake travel is relatively short for an EN B, feeling to me more like an EN C's, providing an enjoyably quick response to inputs. I found it easy to tune in to the feedback and handling, and the wing provided enough information about the turbulent conditions for me to react to them appropriately, but without causing undue anxiety. Despite the choppy conditions, the Nyos RS felt stable when accelerated.

My next experiences were in the UK, on small hills and in gentler thermals, with a few strong wind launches. Although it comes up quite quickly for an EN-B, even just leaning back and guiding it up with the central A risers, it isn't difficult to control in breezy conditions. The original Nyos had a reputation as lacking performance in light lift, but I noticed no deficiency in weak conditions alongside other wings.

Getting properly acquainted

At the start of June, I returned to Switzerland and my flying season began in earnest. I start most of my flights from Fiesch, the country's premier high alpine XC site. This is a popular location, enabling me to compare the Nyos RS with a range of other wings. The area is famous for its robust thermals and valley winds, with the inevitable accompaniment of significant turbulence. I like to be well loaded in such conditions, so I ballasted up to 92kg, towards the top of the certified weight range (95kg). I found that this significantly improved my authority over the wing, especially in small strong cores, and further enhanced its stability. However, when flying other sites in gentler air, I prefer to be right in the middle, at 85kg.

The reluctance of the glider to deflate is impressive. I have found myself in some quite unpleasant air several times now, with feedback which led me to expect an imminent collapse, but only twice did the wing fail to remain fully open. That small a number of closures in almost 100 hours around Fiesch is evidence of remarkable stability, and both of them reopened immediately without the need for any input. I have had no deflations when accelerated.

I immediately took to the C-bridge system, having become completely accustomed on previous wings to using rear risers instead of brakes when on glide. This is a strap of webbing running horizontally between the split C risers. I quickly found that on leaving a thermal it felt natural to hook my fingers over it and use it in the same way as a normal C handle, and this has now become my default flying position when not in lift. Swing advises pulling on the side of the outer riser for directional adjustments, and the inner for pitch control. It took me some time to get dialled in to this technique, but it works well, and I discovered that in aggressive thermals it's even possible to make sharp corrective inputs by tweaking the outer C riser rather than pulling outside brake, with less loss of airspeed. Another Swing pilot told me that the C bridge can be used to pin the wing down when ground handling in windy conditions, but I haven't had an opportunity to test this out.

Thermalling

The Nyos RS responds to brake inputs without delay, and can be made to turn flat as tightly as a wing with an AR of 5.7 should, especially at heavier loadings, when it has excellent resistance to being pushed out of strong lift. Flown in the middle of the weight range, the wing remains pitch neutral when entering moderate thermals; if it's loaded near the top, only stronger lift is capable of inducing any rocking back. In the type of sharp-edged cores when every paraglider is getting pitched back to some extent, the Nyos RS (well loaded) appeared more resistant than any other B wing I flew alongside, and quite a few Cs as well. Its solidity in these conditions is exceptional; whilst pilots on higher AR wings can be seen working to prevent or minimise tip tucks and control pitch, it just remains calmly overhead without needing significant input. In small strong cores, it's not difficult to outclimb 2-liners due to its manoeuverability. In weak conditions, I found that it holds its own perfectly well with other Bs and Cs at mid-point loading, but when ballasted up I felt at a disadvantage. Perhaps I need to work on my technique here!

Gliding

There are plenty of long transitions around Fiesch, so I have had the opportunity to compare glide performance alongside a range of wings; however, one is never aware of the relative loading of these air buddies, nor of how much bar they may be pushing. In smooth air, the Nyos RS seems to glide as efficiently as any other B wing. Full speed bar appears to add 14-15km/hr to my trim speed (when loaded at 92kg). Adjusting acceleration to maximise the glide ratio number shown on my instrument suggests to me that it's only in the upper half of the range that L/D deteriorates significantly (but I don't think you'll find any B wing with a good top speed to which that doesn't apply).

However, the numbers are perhaps less important than the stability and comfort in rough conditions, which is truly exceptional and in my opinion one of the greatest strengths of the wing; the more it's accelerated, the more solid it feels. The severity of turbulence which induces me to back off on speed is much greater than with any other wing I've ever flown. After just a few hours, I discovered I was instinctively pushing half bar as soon as I left lift unless there was a reason not to do so.

RAST

This acronym is short for Ram Air Section Technology, an internal barrier located between the B and C attachments to reduce fore-aft airflow within the canopy. Its main purpose is to limit the extent of deflations. I was able to see it in action when I had a full collapse after falling out of a small 7m/s core straight into sink. Failing to check the dive in time to prevent slack lines, I was aware that a big hit must be imminent and looked up at the wing. The deflation stopped at the partition line, exactly as can be seen on the videos on Swing's website, then reopened immediately and the wing was flying normally again in the space of a heartbeat.

I have already mentioned how straightforward I find forward inflations, another claimed benefit of this technology, but reverse inflations in light conditions also seem easier than expected. The other characteristic which I noticed that could be caused by RAST is that the resistance (and response) to abrupt brake inputs seems to be much greater than normal, presumably because these deflect the whole of the rear section, rather than just the trailing edge.

Summary

Swing's claim that this is a great glider for XC in strong conditions is spot on. It thermals and glides in rough air with calm efficiency, damping out the effects of turbulence but still communicating well with the pilot. Whilst easy to fly, it doesn't feel “dumbed down”. It may not be a top performer in weak lift when heavily loaded, but in the middle of the weight range it doesn't lose out in this area. I doubt that there is another glider which is as comfortable to fly in turbulence that performs as well as the Nyos RS. Although Swing seem to be aiming it at experienced pilots who want a less demanding wing than they are capable of handling, I consider that it would also be suitable for competent pilots progressing from a low or mid B who want to focus on XC.