



# APCO SIMBA M

GREG HAMERTON FLIES THE SIMBA OUT OF PORTERVILLE, SOUTH AFRICA

I couldn't have hoped for better test conditions. There I was at cloudbase with my friends Craig and Craig, setting off on what was to become the first 100km+ flight of the Cape spring season. The day was gloomy and grey in town under the clutches of a passing cold front, but at Porterville we were playing in the sunshine. A long white cloud had built up all along the ridge ahead of us, the wind was light and quartering at our tails, and the speed-to-fly indicator said "go, go, go!" And it just so happened that I had a crispy new blue Simba overhead.

Following the success of the Bagheera (a standard setter in the performance class in 1999 and 2000), designer and test pilot Alex Louw set out to refine the wing for 2001. Apco boss Anatoly Cohn told me; 'Our goal was to produce a glider which would push the performance limits further into the territory of competition gliders, but without the necessity of compromising on safety. We set the limit for all our gliders as DHV 2/Performance Class as the

minimum safety level and would like to keep this as a rule.'

Released in February 2001, the Simba quickly gained a reputation for excellent glide and trim speed. Despite the lure of its DHV2 label, Apco have sensibly continued to market the Simba as being an advanced pilot's wing, with their Allegra catering for intermediate pilots. Anatoly told us; 'the DHV tests just prove the glider's passive safety. But the Simba is an advanced wing, and needs to be driven and watched. It is built for performance, first and foremost.'

The tried and tested Gelvinor cloth ensures that the 3 years / 250 hours fabric warranty isn't just marketing hype. The cell-construction shows a similar durability, with V rib reinforcements on every cell (extending only halfway along the chord), 40cm 'finger-ribs' along the entire trailing edge to provide a cleaner surface, U-bracing along the C-hangpoints, and ribbon-tape between every second cell on A's and B's. The trailing edge

near the centre of each brake fan is tensioned during turns by the brake lines passing through neat eyelets before taking purchase on the upper surface. The four-riser system offers a whopping 19cm of shortening on the A's with full speedbar. Thankfully APCO have replaced their proprietary speedbar system (which used to have a very long piece of cord to run through the harness) with the industry-standard connection eyelet just below the upper pulley.

On the ground the Simba sits slightly forward of overhead and has no tendency to drop back or lag on launch. It is fairly reactive to gusts, and requires quick dabs to keep it centred and to avoid tip collapses. It fills easily, though, and will present no problem to a pilot competent in groundhandling.

Brake pressure is high from the moment of engaging, and there is little feedback through the brake lines. Instead, most of the information about thermic currents comes through the risers, as the glider shudders its way through the rougher air. In ten hours of testing in spring



conditions, I never had any major collapses, but the Simba needs active piloting. Its rigid nature gives quite a bouncy ride - kind of like a hard-sprung rally car on a gravel road - but boy does it go!

The planform is designed with a higher aspect ratio than the Bagheera requiring thinner tips which Apco also wanted for improved handling. It is more agile than its predecessor, and I found it easy to get above the wing during wingovers, and easier to thermal tight. But the Simba shares the Bagheera's mellow circling characteristics, in that once you're in a thermal, the glider is pretty stable and doesn't surge or yaw much. It doesn't have quite the same finesse of say the Airwave Magic in the turns, but it does have good direct handling and predictable thermalling behaviour, with an exceptional climb rate.

The tips bend back and stall before the rest of the wing if you're turning too tight and slow, giving good warning before entering a negative spin. It is difficult to get the wing to go negative without the horseshoe shape, as the centre section of the glider prefers to fly straight and resists the spin well. Keep an eye on the tips, they'll warn you. The spin is fairly benign if you do get it in, and it recovers into an easy spiral.

When coming in for a top landing I found the Simba quick to approach stall - it shares the Bagheera's short brake travel. The brake pressure remains high, giving plenty of warning, and the tips bend back long before the main section actually stalls. It does pitch far forward when recovering, probably due to the high trim speed. But just as with the Bagheera, if you try to dampen out the recovery dive, it is very easy to stall the wing again - you must allow it to speed up.

Anyhow, back to that 100 km XC. Soon we were far away from the launchsite at Porterville, working broken thermals on the pyramidal Saron

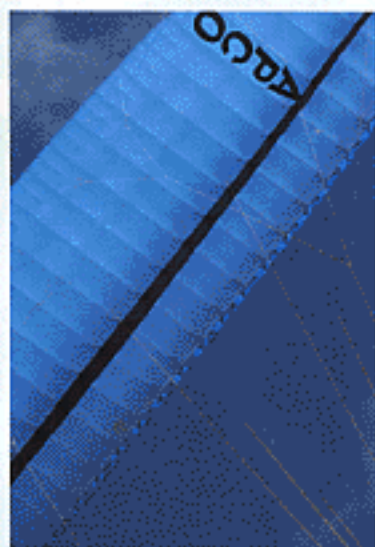
Peak after a long crossing. The rough thermic conditions on the ridge, combined with a cloudbase at only 1100m asl made crossing the large gap very challenging. The Simba excelled, with equal trim speed and glide to a serial racer on my wingtip (Nova Argon XL with thin lines), and a fraction faster at trim than an Airwave Magic M. To be fair, my Argon friend alongside should be handicapped for his cocoon harness, unsheathed lines and size advantage. I am positive the Simba has a slight edge over anything else in its class. I lost the wingtips on occasions while on 1/3 speedbar, and had to react quickly when feeling any bumps. Full bar might be at 52km/h in smooth coastal air, but I didn't feel the risk of a full bar blow out was worth chancing in thermic conditions.

I found a good section of lift at cloudbase, and avoided the 'white room' by inducing some big asymmetric collapses. 50% gone, and the wing whips around and dives before swinging out, sometimes fully inflated at precisely 180 degrees, other times with big ears, which need clearing. But it's simple to countersteer, and reinflates after two or three hefty pumps on the affected side.

A long, long glide with whistling lines. The Voelvlei Dam ahead glistened in the lowering afternoon sunlight, and an increasing wind streaked its surface. The roads veer away from the mountain at this point, so it's only worth continuing if you're sure you can make it to Wellington, 30km further. Both Craigs were up ahead, blasting along on speedbar. There was no question - we could make it!

After shivering along for half an hour in the consistent lift, I began to lose concentration and ventured too close to the clouds above. White out! I reached for the ears. As there is no split in the A-risers, it requires a long reach to snag the outer A lines. I pulled in the lines, and the tips collapsed but started to thrash around, building up drag and slowing down the wing. I let out some line, concerned that with such large big ears the glider might slow to deep stall. Slowly, the ground reappeared, and I skirted out to the edge of the cloud, further from the penetration problems caused by the mountain. A young black eagle dropped to inspect me from above, gave a teasing cry of disdain, and shot off on his own version of big ears and speedbar. A common problem among high-aspect ratio wings is that they become critical when a section of their lifting surface is lost, and the days of just hauling in big ears with no respect for the conditions or possible dangers are long gone. In subsequent testing in coastal conditions I had this reaffirmed to me: by pulling in very 'large' big ears, the glider slows to the mush point. Be careful!

Approaching the tricky technical section of Groenberg my friends elected to fly out into the flats and call it a day, but I chose to push on.



Such perfect conditions are rare, and it seemed a shame to leave the spectacular mountains around Paarl to the eagles alone. The day was cooling off, the sunlight angled through the gathering grey clouds with mediaeval artistry. I had to cling to the cliffs to wrestle the last few metres of lift from their imposing slopes. Anything to extend that imminent final glide. When slowed right down in light soaring conditions the Simba lost some of its responsive feel that it had earlier on when flown fast. But the sink rate remained very good, and I slowly scratched up to the misty shroud above the last peak.

I hovered around in the faint lift, then peeled off the peak downwind and laid back in the evening glass off. I crossed the 100km mark and selected a field 4km further, then chanced a quick phonecall to arrange retrieval. I'd had everything I could have hoped for in one day - rough thermals, clouds, comparative flying during big crossings, and so much spectacular scenery my mind had gone into 'warp' mode and couldn't take any more.

#### SUMMARY

The Simba is an excellent performer, with high trim speed, very good glide, and a low sink rate. It is an active wing suited to experienced pilots only, and I'd recommend it to those who enjoy solid brake pressure with low brake feedback. Its

agile, responsive nature is an improvement on its predecessor for thermalling and overall handling, though on speedbar it becomes susceptible to turbulence and does lose its wingtips. My congratulations to the Apco team for squeezing so much performance out of the wing while still passing the DHV2 rating. Souped up with microlines and Apco's modified competition risers (which offer greater range by accelerating the tips less) it is

going to be a hard beat in serial competition. **XC**

#### REVIEWERS SPECS

Greg Hamerton is a paragliding instructor and regularly flies XC in Cape Town, South Africa. He has flown over 75 wings to date, and prefers gliders with smooth, precise handling and light, crisp brake pressure. He maintains a website for free-flyers at [www.paragliding.co.za/hammer](http://www.paragliding.co.za/hammer), and is the author of two books on paragliding. He currently flies an Airwave Magic, after changing from a tired Freex Spear. He is fond of crows.

#### SIMBA M TECHNICAL SPECS

AFNOR Performance/DHV2	
Weight range (kg)	85-105
Reviewer's flying weight (kg)	97
Wing area (flat) (sq.m)	27.6
Aspect ratio (flat)	6.0
Aspect ratio (proj.)	4.7
Stall speed	24 kph
Trim speed	39 kph
Max speed	52 kph

Conditions during speed test -  
1000m, 15degC, clouds, 1010hPa

