

Silver Lining: Venturing Cross-Country in a Club Glider

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In my four years of active involvement in gliding, I've always erred on the side of caution. The glider that I flew most, Kranskop Gliding Club's Libelle H201B, ZS-GSD, does not have a trailer. I certainly did not want to run the risk of landing out. Even if there was no damage, I would still inconvenience the other club members inordinately, and we would be faced with loading the Libelle into a trailer that it was not designed for.

Most of my flights have therefore been around Brits airfield, always within gliding range or at least within easy reach of one of the adjacent airfields. An outlanding on an airfield would at least be recoverable by phoning for the tug plane to come and tow me back into the air, without having to disassemble the glider and spoil everyone's fun.

As a result, I've done very little cross-country flying. I entered a Rag-and-Tube competition in Welkom with my instructor Louw van Zyl in November 2017. Despite flying an ancient Ka7, we completed a 146 km triangle in just over three hours. I enjoyed it tremendously. In early 2019, I did a 340 km triangle with Uys Jonker in a Nimbus 4D. I was amazed to see what we could achieve with this high-performance glider, and was impressed by Uys's ability to read conditions. At one point, we were over 100 km from home after 17:00 local time. I was convinced we would land out. We didn't. Making use of the merest whiff of updrafts below wisps of cloud, we arrived home with enough height to do a flyby or two before landing in dusk conditions. My most recent exposure was in March with Andreas Siebold in his Nimbus 3DM, completing a 180 km triangle. Again, I was impressed to see the level to which his instincts have been developed.

With the recent acquisition of a motor glider with a number of partners, it was clear that a new phase in my gliding career was about to commence. I had done two flights in the Libelle early in this year, each lasting around four hours. I marveled at the wonder of being able to fly that long while burning only a single litre of fuel to get airborne.

I decided to take the opportunity to do one final flight in my favourite Libelle, and to attempt an FAI Silver badge. The Libelle used to be a world-beating glider, but it lags considerably behind modern high-performance sailplanes. It is also a Club Class glider, conforming to strict limitations including a 15 m wingspan. Club Class was an attempt to allow competition between simple and affordable gliders. It is nowhere near the highest level of achievable performance. Nevertheless, it is a much better performer than the motor glider I will have access to in future.

Planning

The Silver badge requires three things. The pilot must submit proof of having climbed at least 1000 m above the release height, having flown at least 50 km from the release point and having spent at least five hours in the air after release. The flight must also not infringe on controlled airspace and must not venture into night, as night flying in gliders is not permitted in South Africa.

I determined that Brits and Rustenburg airfields are almost exactly 50 km apart, so if I released east of Brits, I would be able to meet the distance requirement by simply flying to Rustenburg. Given the typical heights we can fly at and the specific glider's performance, there would only be a short period in which I would be outside gliding range of either Brits or Rustenburg.

The requirements for a Silver badge can all be met in separate flights, but I was hoping to cover all three in a single flight. It was a tall order, to be sure, as we only had one Official Observer at the club, and I would have to hope that one of the very few opportunities to do this flight would feature the requisite combination of weather conditions, tug pilot, observer and my own availability.

Nevertheless, on 3 April things finally came together. Louw lent me an Oudie flight recorder and arranged with our local Official Observer, Bennie du Plessis, to have the claim ratified. I did not have enough capacity to familiarise myself with the flight recorder, so I elected not to use its fancy navigation and performance-enhancing facilities. I would use it only as a recorder, relying on the Libelle's simple variometer and an old-fashioned paper map instead.

I had five objectives, more or less in order of priority:

1. Don't land out
2. Venture at least 50 km from home
3. Climb at least 1000 m above launch
4. Fly at least five hours after release
5. Set a personal-best score on Online Contest

Objectives 2, 3 and 4 would meet the requirements for a Silver Badge. However, I was careful not to allow these objectives to lure me into missing Objective 1...

If I could achieve all those objectives, the Silver badge would be in the bag. If not, I was hoping to at least have one or two of the tasks out of the way, for final completion at a later date.

The Big Day

After completing a 10 km mountain trail run earlier in the day, I was feeling somewhat the worse for wear. I hobbled around with slightly stiff legs, and did not look forward to spending five hours in the cockpit.

Unfortunately, preparations took longer than anticipated. Mieke, Gerhard and Allen were very helpful in getting the glider ready, but I was only ready for takeoff after mid-day.



Ducking while Allen installs the canopy before takeoff (Louw van Zyl photo).

I joined the queue at the holding point, and Louw finally towed me aloft at 12:07 local time. Conditions felt alive, and I released after only three minutes on tow. Releasing too high would make it unnecessarily difficult to climb by 1000 m. In fact, because I was using a GPS recorder rather than a barograph, I had to climb by at least 1100 m to be able to prove conclusively that I had met the standard.

I climbed to about 1800 m above ground, just east of Brits, before venturing westbound. 13 minutes after release, Objective 3 was in the bag! My plan was to fly to Rustenburg, which is exactly 50 km away, meeting the requirements of Objective 2 (and Objective 1, if the worst came to the worst...).

Flying high would be a useful tactic to avoid landing out. However, there is controlled airspace above us, starting at FL105, which I dared not infringe. I decided to go no higher than 1900 m above Brits, just to be on the safe side.

I made slow progress into a stiff southwesterly wind.

Just before launch, Louw had made a casual remark that I could fly some distance away from Rustenburg without risking an outlanding. In the hour or so it took me to get to Rustenburg, I investigated the options. Koster was almost directly in line, about 25 km further from Brits. As I passed Rustenburg, with Objective 2 in the bag, I set sail for Koster. I resolved to avoid going too low, so that I could return to Rustenburg in a pinch.

I had some anxious moments just after Koster, as I sank to less than 1000 m above ground. Fortunately, I found lift and returned to a more comfortable altitude. On the way to Koster, I had decided to visit Orient airfield, as it would provide the basis for a sizeable triangle on OLC. It would also be easier than the first leg to Koster, as I would now have a quartering tailwind.

To fit into the cramped cockpit, my map was folded in a way that hid the southern half from my view. I had to tear the map open to reveal the missing bits. I flew IFR (I Follow Railways) all the way to Magaliesburg. It was amazing to see so many gliders making use of the opportunities. At one time, I was climbing towards a cloud with two other gliders just above me. They were still well above me when I set sail at 1900 m...

At Magaliesburg, I took a detour to Orient airfield, the origin of most of these gliders. I turned over the threshold of Runway 18 to avoid entering the Johannesburg TMA. Venturing in there without a clearance would result in immediate negation of my entire flight for badge purposes. I then ventured into the valley west of the Hartebeestpoort Dam. The dam itself is under the TMA, making it out of bounds. In the valley, I sank dangerously. Fortunately, I soon found lift, climbing to a more comfortable height as I proceeded back towards Brits and further east with a handy tailwind.

I passed south of Brits, well within gliding distance. I was hoping to head to Freeway airfield, which is approximately 50 km east of Brits, just off the N1 freeway. I proceeded fairly uneventfully, with the comfort of proximity to Brits in case things went pear-shaped. With only two hours to sunset, I was reluctant to venture too far east. I still had a long way to return home, against the wind.

I eventually turned back just after Tshwaing Crater. As expected, I made very slow progress, making use of every lift opportunity and being visibly affected by the headwind. The proximity of Odi airfield to the south provided considerable comfort. The chatter on the radio allowed me to keep a finger on the pulse. I heard Mike and Allen returning to Brits, and heard Louw flying four training flights with different students.

With Objectives 2 and 3 well out of the way, and a great OLC triangle in the making, I set my focus on the duration. Five hours is a long time, especially if you take off after mid-day. I would have to land after 17:10 local time. It seemed feasible, but some resolve would be required. At one point, I was a little worried that I'd have to use the Odi option. I wasn't looking forward to it, as I would have to convince someone to come and tow me out. At least we wouldn't have to disassemble the glider and load it onto a trailer.

Mindful of the need to stay alert, I occasionally nibbled on some dates, raisins and nuts. I also gradually emptied my water bottles. I was constantly calculating the odds, weighing up the height against the time remaining. I gradually drifted towards Brits as sunset approached, determined not to get caught with my pants down. As it eventually became clear that I was going to make five hours, the thought of aiming for six hours gradually formed. Some vigorous mental arithmetic and a look at my sunset table indicated that I had a very slender window. Six hours after release would be at 18:10. Official night would commence at 18:14. I would have to be in close proximity to the airfield and make a determined descent to ensure that I could land in that window. In fact, if I could land in the last minute of daylight, I could even stretch it to 6,1 hours. I just had to guard against the temptation to overdo it, as landing a minute later would invalidate the entire flight.

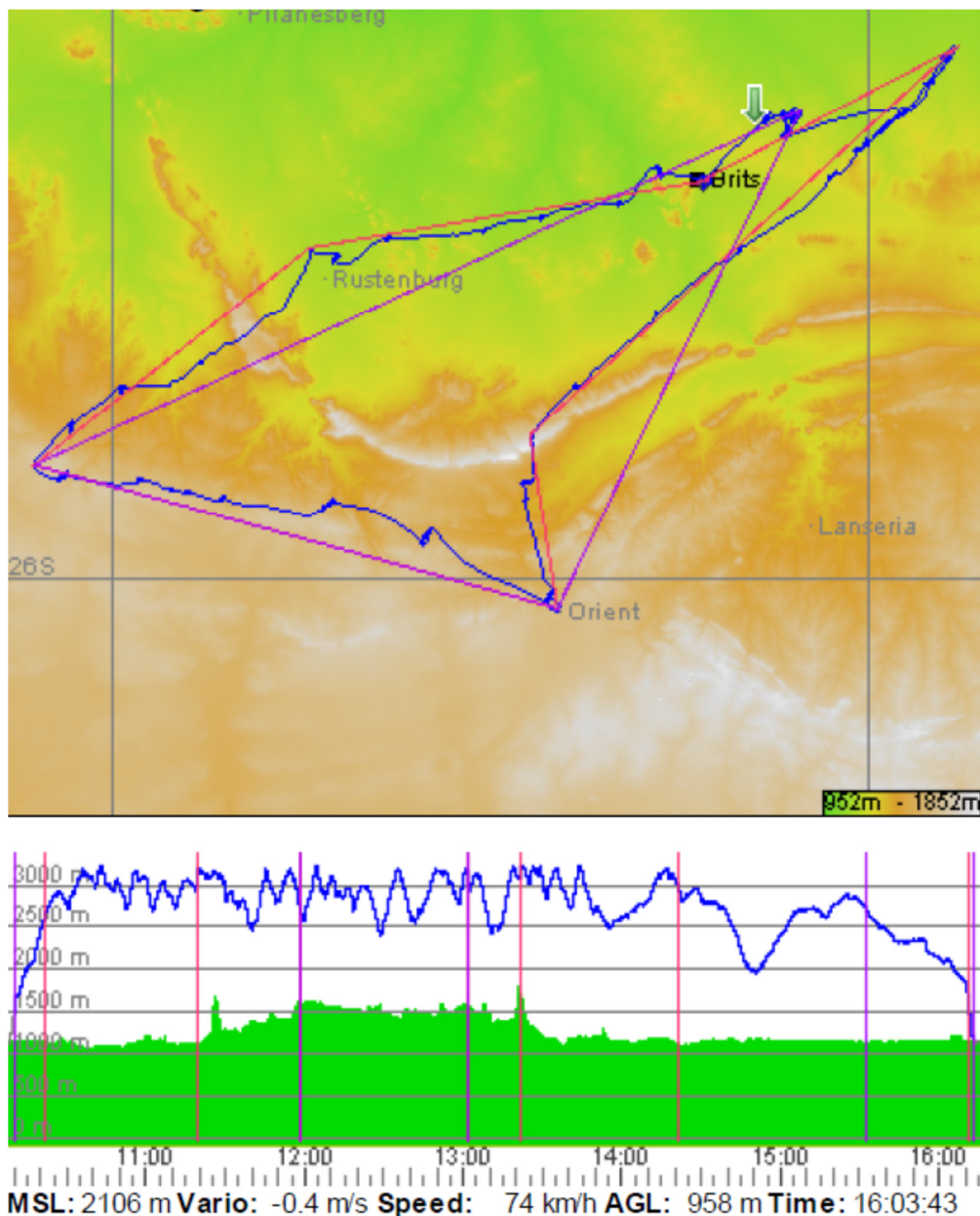
In the last hour or so, I heard Louw launching twice. He had some success finding lift on the first flight, but none on the second. Brits airfield was already in shade, so it made sense that there was little thermal lift. I was able to stay up using scattered cloud. It was the first time ever that I was able to use cloud-generated lift to a significant degree. I'd watched both Uys and Andreas do it, but I'd always had more success with thermal and orographic lift.

Three minutes before landing time, I was 700 m above the field. When the time came, I took full airbrake, descended aggressively and landed. The landing was within 30 s of the planned time. My legs were wobbly, as a combined result of the trail run that Walter tempted me into and sitting strapped into my seat for over six hours. Gerhard and Mieke helped me to vacate the runway, with Tshepo landing the tug just behind me. All the objectives were in the bag!

Only one concern remained: Would the recorder yield the precious recording? I returned home, acutely feeling the effects of fatigue. I suppose it played a role in an encounter with an unmarked traffic island. A great vegetable meal at an Indian restaurant later, I dropped Mieke off at home. Once I got home, I downloaded the log file with great relief. I uploaded it to OLC¹ and Skylines². I also sent it to Bennie for ratification.

¹ <https://www.onlinecontest.org/olc-3.0/gliding/flightinfo.html?dsId=8292518>

² <https://skylines.aero/flights/129078>



The Online Contest map and profile

I slept the sleep of the dead, waking refreshed on Sunday morning. During the day, I looked at the rankings on OLC. I was amazed to notice that the score was the highest in Africa for the day and around 20% down the worldwide list. In the Speed League, I was not in such good shape. Stretching a three-hour flight to six hours has its drawbacks.

The Aftermath

Stating that this flight was the highlight of my gliding career is putting it mildly. Four years of gliding, a lot of reading and pondering, a lot of practice, support from various individuals (most notably Louw) and a great day conspired to produce a truly memorable experience. I'm not sure what the future holds, but I expect to enter a new phase that will involve a lot more motor gliding and a lot more instructing. Officially, the next step is a Gold Badge. I'll have to do a 300 km trip—not a massive jump from this flight—and a 3000 m climb. The latter would have to be far from home to avoid the congested airspace around here, and will involve learning how to use oxygen properly. Time will tell.

For now, I relish the thought of having flown 300 km and more than six hours³ after burning just one litre of fuel to get airborne. It really appeals to my basic craving for efficiency. My only longer flights have been in a Gulfstream III jet, both from Khartoum to Pretoria. Believe me, we burned a lot more than one litre of fuel on those occasions!

The paperwork took some time to resolve. With help from Louw, Bennie and Pieter Nouwens of the Soaring Society, I eventually received my Badge Book. There are many open spaces for Gold and Diamond badges. I'll definitely have to do something about those empty spaces. A lot of learning will be involved, and I look forward to expanding my horizons some more.

What's Next?

There is another aftermath in the making. Simon, who had been talking to me about a joint effort to complete a Silver badge, was somewhat miffed that I'd completed this project without him. Unfortunately, he awaits access to the motor glider before he can resume regular gliding, so I had an unfair advantage. However, I've thrown down the gauntlet by announcing that the race is still on. I am in the process of learning how to fly hot air balloons, and have suggested that I would try to complete an FAI Silver badge on balloons before he completes his Silver badge on gliders.

This time, Simon definitely has the upper hand. There is only one balloon Silver badge in the country, and there are no Official Observers. It will be a challenge to build a suitable system to allow me to complete the Silver badge. Pieter and Sandra Strydom of the Aeroclub have been very helpful in answering my questions. There is quite a bit of interest in ballooning circles, and I'm hopeful we'll pull it off in the not-too-distant future. Once the system is built, I'll have a lot of learning to do before I can tick off the four requirements on a balloon. Let's hope I can give Simon a run for his money.

³ OLC lists the distance as 308 km and the triangle as 256 km, for a total of 393 points. Skylines lists a distance of 304 km and a triangle of 257 km, for 389 points.