

672NM on 49 liters of 95UL mogas

Peter How, Gariep Dam, South Africa

I had missed Sun N Fun last year due to bad weather, but this year we were promised dry hot days, and with the prospect of some good soaring, I thought it would be fun to fly there in our Stemme S10-VT motorised glider. I had done a couple of long flights to AeroClub/EAA events this year, but due to tight weather windows, I had to motor all the way, which is not a glider pilot's first choice. As some already know, we relocated to Gariep Dam some 10 years, the mecca for long distance soaring flight in South Africa.

I wanted to arrive at Brits in time on the Friday to secure a good parking spot for my 23m wing span, but first I needed to check that two new Stemme aircraft at Axella at Potchefstroom were ready for a very delayed SACAA inspection (2 months!). So I left Adamsfontein near Gariep Dam at 0600 local time, climbed to 095 on a flight plan, arriving 2 ½ hrs later at Potchefstroom.



Early mist along the Orange River



Ready to leave Potchefstroom

By lunch time, the cumulus clouds were popping and I launched at Potchefstroom and shut the motor down in a thermal 10 minutes later. Since it was Friday and Magalies gliding Club had probably not had their gliding airspace window activated, I decided to top the climbs off at FL100 and skirting the Johannesburg TMA arrived overhead Brits 77NM and about an hour later. I arrived like a glider should, ie dead stick, rolling up the end where there was a glider waiting to launch. I warmed the motor up and back tracked to my parking spot, with the tail wheel finding a young thorn tree in the mown grass. So far I had flown 336NM and used 37 litres of petrol.



Early Saturday morning at Brits



Only a small tent fits in a Stemme

I had escaped the big smoke for the quiet of the Karoo some 10 years ago, so it was great seeing all my old EAA friends again. The most frequently asked question when anyone

approached the aircraft was “where is the engine”. Stemme’s unique mid engine, long drive shaft and folding propeller which hides inside the retracting nose cone also had EASA officials scratching their heads. Eventually they certified the S10 and the new S12 series as a self launching glider, even though it outperforms many small planes under power.

Just in case, I decided to fill the tanks. Roel very kindly lent me his bakkie and two cans to fetch 50L of petrol, but I could only get 37L in. You might ask why I use 95UL when there is avgas on the field, but for the high ambient temperatures in the Karoo, I use synthetic oil, which cannot carry the lead of avgas away. And I am stingy – 95UL is much cheaper too.

Sunday’s soaring weather was forecast to be awesome, so I hit the sack early. Since the thermals were predicted to cut off at about 1700 local, I want to start soaring by 1100. But both the SA Weather Services AeroSport and my favourite SkySight showed that the really good weather ended on a line following the Hekpoort valley. First thermal climbs at Brits would only start around lunch time. So I decided to motor in the direction of Orient to get into the good weather by 1100. By now the MGC weather chat group was ablaze with talk of long distance soaring possibilities.

But first I had to sort out a flat tail wheel which I had only that morning discovered in the grass. Luckily I carry a complete spare tail wheel and tyre, just for those occasions. But I don’t carry a jack as well! But Arjan came to the rescue again with extra muscles.

With all the fuel and my camping gear I took off at gross at 10:08 local. Wing loading was about 46Kg/m², which is good for fast soaring. Over the hill on the west side of the airfield there were some bubbles, but they did not work and I kept the motor running. Just north west of Brits town I thought I had found useful climb, shut down at 6300ft, climbed 300ft, gave up and glided towards the Magaliesberg ridge on track for Orient 30 miles away. The 46:1 glide angle was not good enough to cross the ridge, so I had to restart. I found the first real thermal 5NM west of Orient at 1056. MGC had opened their airspace window to an optimistic FL185, so I took 3 climbs towards Klerkskraal Dam, only getting to 12500ft. Just outside the CTA, I reached the first clouds and got a 1000fpm climb to 16344ft. This was the highest climb of the flight, as the clouds became fewer and smaller on my track southwards. In contrast two pilots from Orient had declared 1000km out and return flights towards Postmasberg and they reported 19000ft cloud bases later that day. Yes, we do breath oxygen.

My route took me west of Bothaville, under various FL145 airways and the Bloemfontein CTA to Petrusberg. The summer central gliding airspace had already been activated so we were all on 123,6 which is a blessing since listening to the incessant airline traffic 20,000ft higher than us is really irritating for us small plane pilots. Why SACAA and ATNS don’t split the Johannesburg Central frequency into two according to level beats me.

By the time I reached the Johannesburg Central CTA, I had contacted nice small cumulus clouds again, but the FL145 ceiling hampered really high climbs which would give me a higher TAS, the secret for long distance soaring. Why are clouds important? Its where the moisture gets sucked up with a thermal and so mark their presence. Cruising in the blue means that unless you see a dust devil on the ground, you mostly bump into thermals by accident. By this time we are cruising at about 100knots, pulling up about 1000ft or so under each good looking cumulus. The trajectory is a slight zigzag, from one cloud to the next. Even if the thermal is not strong, slowing down and cruising through slowly straight ahead is still beneficial. We don’t normally pull more than 2G, otherwise the drag goes up.



The azure blue Kalkfontein Dam



Jagersfontein's big hole, established 1870

From Petrusburg I was now in more familiar territory. Soon Jagersfontein came up at the southern edge of the Bloemfontein CTA, but by now I did not need any more climbs and set off on what the flight computer said was a marginal 50NM final glide for Adamsfontein. Next, Gariep Dam came into view to my left and then the hills lining the Orange river. With long flat final glides like this, you just have to rely on the flight computer, since you cannot see the target. There were some bugs on the wing leading edge, so I dialed in a factor to reduce the published glide angle. There is nothing worse than getting so too low to make your field, just a few miles short. Anyway, as luck would have it, 20 miles from home the whole sky started going up and I arrived overhead Adamsfontein too high at 3000ft. This was just as well because not only had the QNH changed a lot in the past 3 hours, but the windssock had tied itself up in a knot and I had a problem working out which way to land.



My home town Gariep Dam



Final glide for Adamsfontein

I landed at 1614. The total distance was 337NM, of which 300NM was soaring. The flight logger showed 25 thermal climbs. Of my full tanks, I had only used 12 litres.



Tow back to hangar next to Lood's



Reception committee at the gate