

SKYLINES

Newsletter of the Skyline Soaring Club for December, 2023

THINGS I LEARNED TODAY

Jeff Windam

This is a short story of how lack of research and planning caused me to not qualify for the Gold Distance. Hopefully, this will prevent others from making the same mistake.

It was a normal week at work and I had no plans to fly that weekend. I was also on call for work. Then Piet sent out the email that the ridge was looking really good and that getting the Gold Distance would be really easy. A "Cake Walk" he said. I read the email and was somewhat intrigued. But I didn't think I could find coverage. But a ridge day and Gold! Maybe just maybe. No, it wouldn't be right to ask someone to cover. This went on in my head all night. The next day, I asked and got coverage. Great, now I can fly!

Here is where I started down the road of missing out on the Gold. Research and planning are always important. I usually live by this. Not this time. I did

go to the SSA website and briefly looked around. I searched the Records & Badges FAQ's. Under "Are Electronic Declarations Required?". In the very first sentence it stated that "Electronic declarations are not required for Gold Distance." I was set! Just like my Silver Distance, the Flight Recorder will show everything. I had looked at Piet's task and knew the turn points. I was ready to hit the Ridge.

The morning of the flight while rigging my glider, I briefly considered creating a task. But I didn't because it was not required. So, I took off, made it to the ridge and flew what I believed was the task and had a great time. The Ridge was working really well and there were a few other gliders out enjoying the Ridge also. Even, Piet was there and said how happy he was that I was doing the task. Well, I thought I was doing the task but NO. I'll explain a little later.

I went up and down the Ridge for a total of 452.03 km with 5 hrs and 19 minutes total time from release to landing. I got this! My first indication

that I might not get the Gold was from Piet. He had kindly agreed to be my observer. When he reviewed my flight, he warned me that it could be denied because I had not exactly flown the task nor had I electronically declared it.

I completed the paperwork and sent it in. The SSA Badge & Records Office sent an email back asking if I had declared the flight. Uh-oh! I admitted that I had not. After a few emails back and forth, it was over. No Gold! But I did get my Silver duration and that finished My Silver Badge.

So, some may ask, what about the FAQ's where it noted that an electronic declaration was not required. Here is where more research would have paid off. Instead of relying on an answer given under FAQ's. I should have read the requirements listed in the Sporting Code. It clearly spells out, in several places, what is required. The pilot must create and declare a task in the flight computer prior to attempting the Gold Distance.

So, there you have it. I can't blame anyone but myself. However, I have my 5 hrs out of the way and it was a blast flying the Ridge. By the way, Piet was right, getting the Gold Distance on the Ridge is a "Cake Walk". But please, do your homework, talk with senior pilots who have done this and get things in order before takeoff.

Now you have the story, some may say "I knew that you big dummy" or just by chance, there is someone out there who doesn't. And just maybe, I'll prevent him or her from making the same mistake.



I know everyone has had at least a few "Things I Learned Today" experiences, so pass them on! - Skylines Editor

A-MAZE-ING TRAINING

Chris "Filter" Baughman

How does every good flying story start? "So there I was..." at 17,000 feet on a crisp day above northern Virginia in 2021, flying a test mission in an unpressurized DA42 at altitudes up to 18,000 feet. Despite careful preparation, attention to detail with my supplemental oxygen system, and frequent equipment checks – I began to experience hypoxia symptoms a couple hours into the flight, confirmed by my pulse oximeter reading in the low 80s. The loud drone of the diesel engines on top of my noise-cancelling headset had completely drowned out the "deedle-dee" tones coming from my O2 regulator that was trying to tell me that there was a low flow of oxygen coming from the bottle. Unbeknownst to me the O2 bottle had shifted in flight, creating a kink in my supply line. I readjusted the bottle and reestablished good flow, and my saturation returned to 100% along with the subsiding of my symptoms. The rest of the mission was uneventful. That the story has a boring ending is one of several examples that has given me a concrete appreciation of the value of high quality training throughout my flying career.

My initial hypoxia training was in 2004 at Laughlin AFB, where all new pilots go through the altitude chamber and earn the coveted "chamber card," an essential stepping stone to the cockpit. In the chamber, we breathed 100% oxygen for a period of 30 minutes to prevent the onset of decompression sickness (DCS), then did a series of cognitive tasks in the low pressure environment to examine the effects of hypoxia while identifying symptoms. We also practiced donning our oxygen masks and gangloading our regulators. In all we spent a little over an hour in the chamber, which ended with a bang as we experienced a rapid decompression from 28,000 feet to ambient pressure. I walked away having a healthy respect for the high altitude environment with an added boost of confidence in my life support equipment.

After seven years of not having experienced a loss in cabin pressure or malfunction of my equipment, I once again came due for recurrent altitude

training. This time, I experienced a more modern and efficient training tool – the Reduced Oxygen Breathing Device (ROBD). The ROBD streamlined hypoxia training tenfold. It was a simple setup consisting of a single seat cockpit simulator hooked up to an oxygen supply dilution system. After strapping into a simulator cockpit and connecting my oxygen hose, I was instructed to taxi for takeoff, and climb to 30,000 feet. Though the technician did his best to not lead the witness, I knew what was about to happen. As I passed through FL220, the technician diluted the concentration of oxygen, and my hypoxia symptoms started. I took the corrective action to gangload my regulator, thus restoring the flow of 100% O₂. My hypoxia symptoms went away almost instantly. For my part, I was glad to be able to knock the training out in just a couple of minutes versus an entire day in the chamber. The symptoms I felt were pretty much the same as they had been before, and I thanked the physiologists and went home. Little did I know at the time that this reinforcement learning would come in handy some 10 years later.

Fast forward to a few weeks ago, when Tom Ward sent a blaster out to the SSC mailing list about an FAA road show for the Portable Reduced Oxygen Training Enclosure (PROTE) that was going to be right in my own backyard at Manassas airport. After my own hypoxia event, I had it on my to-do list to try and schedule myself for the altitude chamber at Andrews AFB for another refresher. Naturally, other priorities got in the way. Tom's email was like the Kool-Aid man busting through the wall – this training opportunity removed the barriers of spending an entire day in training and having to fight traffic to get to and from Andrews. Best of all, the FAA was going to offer this training for free.

The PROTE offers the best of both worlds between the altitude chamber and ROBD. By mixing nitrogen into the enclosure, the PROTE can simulate the oxygen concentration at high altitudes while maintaining ambient air pressure, thus eliminating the need for pre-breathing, and the risk of DCS. Five participants enter the enclosure at a time with one safety observer, and the instructor

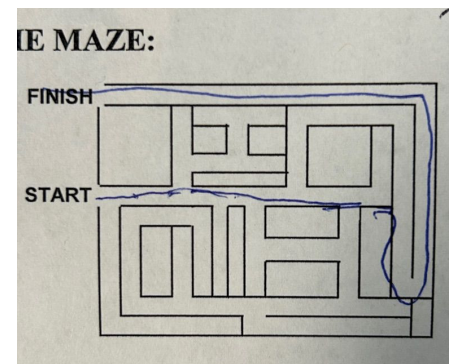
guides the training by talking to the trainees from the outside via microphone. Each participant wears a pulse oximeter and records O₂ saturation and heart rate at one minute intervals on a clipboard that also has a number of cognitive exercises such as math problems, a crossword puzzle, and a maze. A list of hypoxia symptoms are also provided and participants are asked to check which ones they are experiencing. There is also a color wheel on the wall that is used to illustrate how vision is affected by hypoxia.



Figure 1: The PROTE at KHEF

After one minute in the PROTE, my O₂ saturation dropped to the upper-80s and I started to feel a bit of lightheadedness. I was able to solve the first two math problems, but by the time I got to the third, I found it to be more difficult than it should have been and began to lose interest in solving it. The instructor asked simple arithmetic problems to different individuals, or to do simple tasks like counting backwards from 100 by 3s. By the time he got to me, we were 3 minutes in. My O₂ saturation was now in the low 80s, and my lightheadedness continued. He gave me a simple fuel calculation, to which I could barely provide even a verbal “let me think about that...” I gave up and looked down at my maze, which looked more attainable at the

time. I drew a line from the start to the finish and thought to myself that it was pretty easy. Air hunger started to creep



in, and as I looked at my pulse oximeter I was now in the 60s. The safety observer tapped me on the shoulder and instructed to don the O2 mask that was in my seat. Breathing oxygen brought my saturation back to 100% within a few seconds and my hypoxia symptoms subsided almost instantly. After about five and a half minutes in the enclosure, we exited. We had a short five minute debrief with our instructor, during which I took another look at my maze. Turns out it wasn't as easy as I had previously thought. There were lines on that maze that I did not remember seeing just a few minutes prior that I crossed through, and my path looked like it was drawn by a three year old. Now, imagine that level of cognitive ability while trying to fly an airplane! In short, my hypoxia symptoms start with lightheadedness and progress into reduced cognitive function quickly followed up by air hunger. Reinforcing this into my brain is a valuable lesson that I learned in a controlled environment at 1g and zero knots groundspeed.

That the FAA makes this training accessible and free is an opportunity that I would encourage anyone to take advantage of. I would be remiss if I left out the one disadvantage. Currently the FAA requires a current medical certificate (BasicMed included). Since a medical is not required to fly gliders, there exists a population of glider pilots who are not included. I believe there's room for improvement here, and that our club should advocate through SSA and the Soaring Safety

Foundation to find a reasonable way to allow for rated glider pilots who do not have a medical certificate to qualify to attend this training. Doing so would have a tremendous upside while not incurring any additional risks.



OF COURSE I ONLY READ THE ARTICLES
 Certainly Not Just the Centerfold

But the exploits of our own Piet Barber made the centerfold of SOARING magazine!! Well done!!



Skyline Soaring Club, Inc.

is a private, 501(c7) non-profit organization, dedicated to the enjoyment and promotion of the sport of soaring. SSC is based at the Front Royal-Warren County, Va. Airport and is an affiliate club of the Soaring Society of America. For information about the club go to www.skylinesoaring.org

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