



*Newsletter of the Skyline Soaring Club for April, 2021*

### **OTHER WAYS TO FLY (AND SOAR!)**

Hugh McElrath

*(No real man owns only one aircraft – Lee Buell)*

I recently got an invitation to tow hang gliders at Blue Sky Hang-gliding northeast of Richmond (on an ad hoc basis). \*The\* place to get checked out in the Bailey-Moyes Dragonfly, specially designed and built to tow hang-gliders at 35 mph, is from...Bobby Bailey, who designed and builds them, here at



Wilotree Flight Park in Groveland, Florida - 5 miles north of Seminole Lake glider port, on the edge of the Green Swamp and a world away from the

theme parks around Kissimmee. It's a paradise: huge grass field suitable for takeoff and landing in almost any direction, big oaks with Spanish moss, camping, RV park, clubhouse, swimming pool and lake with only one 3-foot alligator remaining (they killed the rest, including an 8-footer), pretty girls, a restaurant that serves frog legs and gator tails right off the end of runway 18 (except there are no runway numbers), excellent flatland soaring conditions and a plethora of landable fields (but \*not\* in the Green Swamp). Hence: Paradise Airsports, the "FBO" if you will.

Although the hang-gliding demographic may be slightly younger than the sailplane one, it's not as young as one might think (I started at 50), but the instructor and towpilot corps at "tow parks" is post-college. The development of equipment and technique for aerotowing hang-gliders revolutionized the sport, enabling, flatland flying, tourist tandem discovery flights - the source of revenue that supports the whole enterprise - and dual instruction. With the advent of the Light Sport rule, time accrued in the Dragonfly can be logged

and credited toward advanced ratings including Air Transport Pilot, so young towpilots can be seen studying in preparation for exams and practical tests under the oak trees and in the clubhouse. These “flybums” rarely wear shoes, live in tents, bunkhouses and old trailers - and some of them are also elite competition hang-glider pilots who represent the U.S. (and other nations) in FAI-sanctioned contests.

I did some of my hangliding ratings at Wilotree, so it was pleasantly recognizable from the air. On one of my first cross-country hangliding flights about 10 years ago, with Wallaby Ranch, a rival hang-glider center 12 miles southeast as my goal, I orbited for an hour in weak but reliable lift over Seminole, afraid to proceed over difficult terrain.

This was my first and only experience urinating in flight: I found it possible only while climbing in a thermal; if I was on glide searching for lift, I was too nervous and couldn't concentrate.

I did find lift and got to the final obstacle, a 5-mile stretch of woods with Wallaby on the other side. But I was sinking out! Below was an attractive-looking field, but I had been warned that it contained a grid of 10-foot tall sprinklers like punji sticks, a defunct orange grove. Death!

So I picked the adjacent field, unzipped my harness and deployed my landing gear/legs. Then, I smelled orange blossoms - and I knew I was going up! I rode that orange-blossom special to 5000 and arrived at Wallaby with 3500 - took a while to get down...

Bobby Bailey is an excellent instructor and aerobatic pilot. He soloed me in the Dragonfly the first day and gives me tasks. I fly for awhile while he works in his shop, a baroque mess (if he needs a tool, all he has to do is look down to the floor), then come back and report; he gives me advice, and I go practice some more: stalls, slips, simulated engine outs with 180 degree turns to land back losing no more than 200 feet (holding it to 100 feet altitude loss is quite doable).

Bobby puts on quite a show when he gives rides: multiple spins, loops, hammerhead stalls, slow-flying the runway in a pronounced slip, rolling down the runway on one wheel, maneuvers near trees and other obstacles. He's probably my age (70), so this isn't youthful bravado; he is just very skilled. I have made clear this stuff terrifies me; I scream while watching from the ground. But I think he will torture me by making me do spins and other “emergency procedures” (sounds ominous) at an appropriate altitude. It makes a difference having no structure around you... But I am getting more comfortable in the Dragonfly every day and it is a stable and forgiving airplane - but it can be spun and spin-stall accidents do occur.

There being no fuselage, cockpit, or panel, your attitude reference is your feet on the rudder pedals: toes on the horizon is level flight, heels on the horizon or higher for stalls. There is a Hall Brothers airspeed instrument, a graduated tube with a button floated by ram air pressure. A digital display near one's left thigh shows engine rpm, altitude, vertical speed, cylinder head and exhaust gas temperatures. Towline release is a bicycle brake lever on the stick. There is a huge mirror mounted on the left side and I spend most of my time towing staring at that mirror. Unlike in the sailplane world, the towplane adjusts to keep the glider in the correct position: if he's low, speed up/reduce pitch; if he's high, slow/pitch up.



Hang-glid-ers launch out of a three-wheeled cart for

aerotow. (Foot launch off mountains is alive and well, often preferred. But there are no mountains in Florida, or the Delmarva Peninsula...) They land on their feet, with a pronounced - almost vertical - flare. Just like Buzz Lightyear! (But it doesn't always work out - blooper videos are a staple of hang-glider parties.) My sacrificial victim for



rookie towing was Pedro Garcia, originally from Spain, a world-class competition hang-gliding pilot. (My Spanish grandfather was Manuel Garcia, so we are cousins!) Bobby instructed me to do a stall while towing, which gave Pedro a slack line, so he released.

Being weight-shift controlled, it is possible for hang-gliders to “lock out” - their attitude can depart beyond the pilot’s ability to correct, breaking the weak link and leaving the glider in an extreme attitude - so that’s another experience for me - similar to deceleration of the Pawnee from a somewhat vigorous slack line recovery. I am working on flying slow enough to make it comfortable for even a lower-performance single-surface glider. Pedro of course flies a slippery competition glider with a higher speed range - they can do 70 mph on final glide to goal without sacrificing too much altitude. I want to fly everything (balloons?) and SSC is a big and growing part of my life, especially since injuries (from paragliding - hang-gliders never bit me that bad) and age forced me to give up foot-launchable flying five years ago. I had to cut myself off from the hang- and paragliding forums because it made me crazy when they were discussing plans for the day and I wasn’t going. So it’s great to be reconnecting with what is a very close fellowship. HG aerotow protocols (e.g. weak link specifications) are derived from those developed by the sailplane community. I’ll be towing on an ad hoc basis at Blue Sky, northeast of Richmond. A field trip has been mooted to see what goes on. We may catch Brian Clark down there: he’s “this close” to his Novice rating!



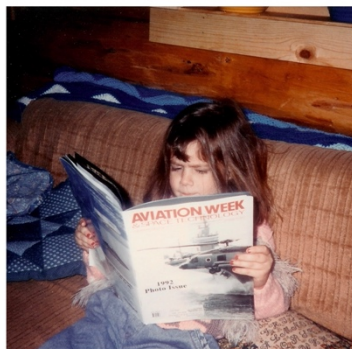
### MEET A NEW SAFETY COMMITTEE MEMBER

Allison Diaz

As a member of the newly-formed SSC safety committee, I figured it was time to formally introduce myself, particularly for those of you who I’ve yet to meet.

Thanks to my dad, a captain for American Airlines and active GA pilot, and my grandfather, RCAF Top Gun and United Airlines captain, I grew up surrounded by airplanes and cannot remember a time when I wasn’t fascinated with flight. Photographic evidence of this love affair exists in a snapshot of my 5-year-old self, brow furrowed, intently studying the pages of Aviation Week and Space Technology magazine.

how it started:



how it’s going:



I started flying lessons at age 16 at my local airport, Auburn Municipal (AUN), nestled in the foothills of Northern California, after receiving a scholarship from the local pilot association. I’ve been eating, sleeping, and breathing aviation ever since. Shortly after finishing my PPL the next year, I began working on aerobatics and a tailwheel endorsement in a Super Decathlon. My instructor, Bear, a former Blue Angel and later a test pilot for McDonnell-Douglas, quickly became a mentor and a very dear friend. On an October morning early into my senior year of high school, he and a student were killed in a stall/spin accident in the Decathlon.

This was my first experience of loss in the aviation community. It devastated me, but also ignited an interest in accident investigation and safety. By dumb luck and serendipitous timing, I found a flyer for NTSB internships haphazardly hung in our “ready room” my junior year in college. I applied to *all* of the offices (at the time, Seattle, Denver, Dallas, Chicago, and Ashburn), thinking that I might at least get a call back from one of them. I interviewed and was offered an unpaid internship in Ashburn, which I initially turned down because I couldn’t afford to live in Northern Virginia for a summer on the money I’d made part-time flight

instructing over the school year. They called me back about a month later, having found funding to make the internship paid, and asked if I was still interested (duh).

I spent the summer organizing evidence files, helping with data entry, and had the opportunity to travel to my first on-scene investigation, a Twin Otter that crashed during takeoff from Hyannis, MA (probable cause: the pilot's failure to remove the control lock). I was invited back to the NTSB after graduation to continue my internship and hired as an air safety investigator after about 2.5 years of hands-on investigative training, while also completing a masters in aviation human factors. April 2021 marks 12 years with NTSB. During that time, I've served as investigator-in-charge of over one hundred general aviation accident investigations and assisted on many others. It is truly a dream job - difficult but also extremely rewarding - that has taken me all over the country, introduced me to some amazing people (including my husband, Dennis), and given me the opportunity to have a small impact on aviation safety.

Despite my proximity to some of the world's best soaring conditions growing up, I didn't start flying gliders until the summer of 2019. I laugh when I think about this now, but I thought it would be boring (!) and intended to just take a lesson or two; however, I fell in love with it and completed my commercial add-on at the Truckee-Tahoe Soaring Association in Truckee, CA. In addition to glider, I hold commercial ASEL and AMEL, instrument, and flight instructor single-engine ratings.

I joined Skyline shortly after completing my add-on rating - being a part of the SSC community and spending weekends soaring above Front Royal has been crucial to my mental wellbeing during COVID times. I'm looking forward to bringing my safety experience to the safety committee, and I am excited to add a -G onto my CFI soon.



## THE "LEANS"

William O. Bank

I am a Devout Devourer of **Pilot's Tip of the Week** from <[PilotWorkshops.com](http://PilotWorkshops.com)>. The Tips provided usually apply to power pilots, but occasionally there is overlap with soaring. Recently I received their installment entitled: ***Involuntary Control Inputs***. It started with a question from "José R." who asked: *"Sometimes when I look back to the instruments after tuning a radio or checking my charts, I find that the airplane has started a gentle turn or begun to climb or descend. It happens despite the airplane being perfectly trimmed. But other times, it doesn't happen at all. Why is this?"* —

The responding instructor, Bruce Williams, replied: *"When you reach to twist a knob, move a control, or even just look away to check a chart on your iPad, you're unconsciously nudging the flight controls. It's almost impossible to suppress these involuntary inputs. They're especially insidious when you're in IMC or flying at night, and if you don't catch the deviation quickly, a gentle bank can lead to a spiraling descent or other prelude to a loss of control, especially if you also experience the first symptoms of spatial disorientation.*

*The key to avoiding subtle control inputs is opening your hand before you turn your attention away from the instruments—or the big horizon outside the window when you're flying visually.*

*Don't completely let go of the yoke or stick. Just consciously relax your fingers and arm so that you don't make roll or pitch inputs while you're performing a cockpit flow check, switching fuel tanks, changing frequencies, or loading an approach.*

*I teach my instrument students always to pause briefly before they turn their focus away from the primary flight instruments. Waiting a beat to confirm that they're not holding the reins too tight helps them avoid wandering off heading and altitude and then making abrupt inputs when they resume their scan. With repetition, this habit*

*becomes almost as automatic as the involuntary inputs that cause the problem in the first place."*

As I said, the Tips usually apply to power pilots, but certain elements caught my attention. First, when José R. said "...the airplane has started a gentle turn ...", what he really should have said was, "... While distracted I **inadvertently started a turn** ...". But that is a semantic issue of causal attribution. However, a glider pilot, Daniel E Olson commented:

*"My ASW-27 glider does not have an autopilot. To be smooth, just use 2 fingers. That is all it takes. In a Huey, which has hydraulic controls and no "feel," just rest the heel of your hand on your thigh and use 2 fingers."*

At first, I thought of the elements of control involved in flying a glider. The fact that early in my days as a student pilot (an introduction to flying provided by the US Navy for Student Naval Flight Surgeons in which we were taken from first flight through solo in T-28C trainers), during which I was admonished to ease my death-grip on the stick: "If that were a tube of toothpaste, you wouldn't be able to see out of the canopy !"

By the time I transitioned to gliders I understood the importance of using two fingers on the stick, and from reading articles by George Moffatt I had learned the benefits of reducing the motion of all controls to a bare minimum: the reduction of inadvertent drag pays off at the end of each soaring day. I also learned that, when my workload in the glider was high, *relaxing my shoulders* was critical because my shoulders really were not doing anything important.

But to me, the Tip itself and all the comments it evoked, missed a central element hidden in the question: all of it related to the inner ear and the semicircular canals. These canals are, in fact, three fluid-filled semicircular tubes positioned at 90° to each other within the inner ear. They measure changing acceleration in each of the three cardinal axes. If you think of those axes in relationship to flying they measure yaw, pitch and roll.

For pilots, the problem is that there is a motion or acceleration threshold for the semicircular canals

*below which nothing is perceived.* If the initiation of very slow turn is below that threshold, you will not feel that turn at all. And if you *slowly and progressively* roll into a steeper bank while distracted by whatever, that change will fail to be registered by the seat-of-your-pants. When you finally look at your panel (or the horizon outside), and appropriately correct to straight-and-level flight, *that change* back to straight-and-level will be felt — in fact, *felt as an abrupt turn*. You now have "**The Leans**" — your inner ear will continue to tell you that you are turning while your panel will tell you that you are straight-and-level. This sensation will last until the fluid in your inner ear has had enough time to stabilize — and this can take a long time when flying in turbulence, especially if flying in instrument conditions.

We seldom fly gliders on instruments. Our "panel" is usually an unobstructed view outside the canopy, and the visual input from outside can overpower and reset the spatial disorientation quickly. BUT this wonderful system is also deeply connected to our GI tract. Think: "stomach awareness" (i.e., nausea, retching, vomiting, profuse sweating). Those GI reactions are not immediately reset by our view outside the canopy and can interfere with our decision making (landing pattern, need for more spoilers or less spoilers, crosswind correction).

And another thing about our outside-the-cockpit panel: if the distraction went on long enough that we end up spinning our glider, the view outside can be so confusing that there is no "reset" of our spatial disorientation.

Sensitivity to our semicircular canals is dramatically taught to Student Naval Flight Surgeons in a circular, room-shaped centrifuge, one door, no windows: the class sits against the wall with instructions to sit upright and not to move. The start of rotation of that room is imperceptible, and the speed of rotation increases slowly and smoothly to the point that, if one throws a tennis ball at the student directly across the room, it describes a *curved flight path* to a student at their 90° position. Then the instructor has everyone cock their heads abruptly, putting their right ears

on their right shoulders, suddenly changing the semicircular canal subjected to the rotation of the room. Rotation of fluid stops in one canal and starts suddenly in another. The sensation is similar to what you feel when you do a forward flip — and the sensation lasts. Many docs were severely nauseated; none actually vomited.

So, lessons I learned from that “Tip of the Day”?:

1. Treat all your controls gently. Remember that a **rapid correction** often leads to an **over correction**. And,
2. Remember that a very slow change in yaw, pitch or roll may be imperceptible to the semicircular canals, the locus of your seat-of-the-pants awareness.



Welcome new Skylines Associate Editor, Marcelo Morichi, who will be writing columns interviewing Skyline Members!

## MEMBER SPOTLIGHT; KEITH HILTON

Interview by Marcelo Morichi

When did you join SSC? How did you learn about the club?

*I used to work with previous Club member, tow pilot, and instructor, Paul Seketa. I twisted his arm until I convinced him to give me a glider ride in June 2012. After that flight I was hooked. I joined that same day.*

How long have you been a glider pilot? Where did you learn to fly gliders?

*I learned to fly gliders at Skyline Soaring Club. I joined the Club in June 2012 and with the expert instruction from our instructors I earned my Private Pilot-Glider rating on the hottest day of July 2013.*



What ratings do you have?

*Private Pilot-Glider, and Private Pilot-Single Engine Land.*

How long and what is your commute like to the airport (routes you take, time you leave home, and favorite places to stop along the way)?

*I live North of Dulles International Airport in Broadlands. In the mornings I take highway 15 to 66 to 55 and to the airport. When I go home at night I can't handle the stress of 66, so I take the backroads North from the airport to 522 to Dinosaur Land then 340 to 7 to 15 past the Leesburg airport and back to my home. It takes about one hour in the morning on 66 and an out 1:15 to get home at night on the scenic route. If I don't go to dinner with other gathered members, I frequently stop at Rancho Nuevo in Front Royal on the corner of North Royal Avenue and North Commerce Avenue to eat. The food is great and the service is great, unlike some places in town.*

Who were/are your SSC mentors?

*There are a bunch of amazing members of the Club, but several stand out. My mentors have been John Noss, Bob Sallada, Piet Barber, and Chris Zaboji. They all just happen to be outstanding instructors. See below for just one reason John is my mentor. Additionally, he always takes the time to explain things and helps out with such things as weighing the gliders and calculating weight and balance. Bob Sallada was an excellent instructor and motivator. He would try to nail me down by asking what my soaring goals were. I always told him I wanted to have fun. Piet Barber was my first instructor. I've always enjoyed flying with him and discussing issues with him. I've also included a story below about a memorable flight with him. Chris Zaboji motivated me to earn my glider rating. I never even dreamt I could actually become a glider pilot. Chris prodded me to finally schedule my check ride. We made a deal that we would complete our check rides on the same day. We at least tried to. We both started on the same day, but because of weather I had to suspend my check ride after the first flight until the next day. Chris was 16 and I was.....well a lot older! Chris still mentors me flying my Comanche. He recently completed my flight review.*



What do you like the most about flying in the Front Royal area?

*The soaring is pretty good. You can thermal, work the ridge, or catch wave. The scenery is beautiful.*

What is your more memorable glider flight? When did it happen? What do you remember about it?

*I can't limit my memorable glider flights to just one. Four flights stand out in my memory. I think I tell everyone this story but I will tell it again. The first was with Shane Neitzey in November 2012. Shane took me for a flight on the ridge. We flew South to the gap then turned around and headed back to Front Royal. All the time Shane would point out places to land out. I thought well, that's nice. We got back to a little South of Signal Knob. We were below the ridge on the West. I told Shane: "I'm not sure we're going to make it back to the airport. Shane replied "Me too." Shane took the controls and worked tiny pockets of lift until we made it around the North end of Signal Knob (still below the ridge) and back to Front Royal. In the summer of 2015 John Noss coached me cross-country in his ship while I was in my LS-3. John kept telling me that I had cut the apron strings and get beyond the airport. We flew South about ten miles (at least until I could no longer see the airport). He continually asked me if I could glide back to the airport from the altitude we were at. We would thermal and continue on. Over and over again, John coached me and confirmed that we could make it back to the airport. I was so nervous that I could barely change my radio back to 123.0 as we approached Front Royal. I thought I was too low to continue on so I headed back to land as John continued on. I was actually able to gain altitude and was able to stay aloft for about an hour longer. Thanks John! In October 2015 I had the pleasure to fly with Piet Barber in QQ. We flew WAY Southwest of Front Royal. Piet kept asking me "are you still having fun?" I responded yes. When we were WAY Southwest we got pretty low. I was sure we were going to have to land out, but I was not worried because Piet was at the controls. I was not sure at that time that I was still having fun! However with Piet's skills we were able to recover and were able to fly Skyline Drive back to Front Royal. We had a great 2:56 flight. A short flight in Piet's book! If you*

*are ever offered the chance to fly with Piet in QQ, don't give it a second thought. You will enjoy it and learn a lot. I don't remember the date of the last memorable flight, but it was with Bob Sallada. I told Bob I wanted to practice a slip to landing. We went way East of runway 28 and began our slip on final around 2,500 feet AGL. We called that we were on final, but another glider staged on the runway to launch. We determined that we would have to land in the grass safety area. We ended up screaming in and touched down really fast. Bob was in the back seat laughing and laughing. When we stopped and got out of the glider I asked Bob why he was laughing. He told me: "I always laugh when I'm nervous."*

Any close calls? If so, please provide a brief description?

*On a launch in my LS-3, the tow plane was going slower than normal. I felt like I no longer have control of the glider because of a disconnected flight control surface. I released and*



*landed on the remaining portion of the runway. We always announce to our instructors or ourselves: I could land straight ahead, straight ahead, etc. but we never think we will have to. I was about 10-20 feet off the ground when I released. The end of the runway came up REALLY FAST. Even though there was nothing wrong with my glider I was glad I did release.*

What do you do for a living?

*I work for the United States Air Force doing research, development, flight testing, and fielding of new systems. This June will be the 41st year working for the Air Force in one way or another. I was an enlisted Aircraft Armament Systems Specialist for 24 years and 10 days. I have been working for the Air Force since I retired from the Air Force in 2004. I guess some of us just can't leave our fellow airmen and the honor of serving our great country.*

Where did you grow up?

*I grew up in the small town of Trempealeau, WI. The population was around 750 when I joined the Air Force. I actually have property in Trempealeau where I plan to build my retirement home.*

What do you like the most about SSC?

*The camaraderie of all the amazing members of the Club. When I fly my Comanche I'm usually by myself. I really enjoy the teamwork in soaring. Our Club has members that are students, plumbers, test pilots, professors, lawyers, commercial pilots, doctors, architects, and many other occupations. Just talking to other members when not flying is worth it all. For example, one member makes the internet work. One previous member was a staff architect in the Gerald Ford White House. He snorkeled one summer morning in the north lawn fountain as a survey assignment. Another member was on a German submarine during WW-II, did a dance show with Fred Astaire, and knew Buzz Aldrin, Rusty Schweickart, and Sally Ride. Where else can you meet people like this?*

What's on your gliding bucket list?

*Many of our members are competitive, enjoy contests, and work toward earning SSA badges. I just want to have fun and soar for the pure joy of flying!*

What other members might not know about you?

*The first time I ever flew on an airplane I was in fourth grade. I was so scared that I was given some of my aunt's tranquilizers (small pieces anyway) to calm me down. Since then I have flown millions of miles on commercial airliners, have over 167 hours in gliders (141 PIC) and nearly 200 hours as PIC in my Comanche. I used to Curl (the sport you may have seen on the Olympics) when I was in high school; I lived in Germany for two years and Korea for one year while in the Air Force; and I own a 1926 Ford Model T.*

What would you tell a student pilot who struggles to see the light at the end of the tunnel?

*This is another story I tell almost all new members. When I started glider flying I couldn't stay behind the darn tow plane. I was ready to give up, because I just couldn't do it. Other members*

*would say you will catch on, just give it time. It may take ten flights or so. Wouldn't you know it. At about ten flights it just clicked and I wondered why it was so hard before. So my advice is don't give up. It will come and the time and effort is more than worth it!*



#### **FROM THE TREASURER**

Skyline has added PopMoney as an electronic payment system for Skyline members.

Download the PopMoney app onto your mobile device and link it to your bank or credit card. When you send payments, direct them to my Gmail email address listed in the club member listings. The money will be directly deposited into the Skyline bank account.



On another note, please remember that Skyline Soaring is a club organization. Skyline operates under a cash basis, paying our bills as they are incurred. This means that members need to keep their accounts current also. Some members choose to place funds in their accounts in advance of their flying activities. When the DO asks if they are paying by check or "On Account", this is for members who have a prepaid balance with Skyline. If you choose not to carry a prepaid balance with Skyline, please bring your checkbook with you or use the PopMoney App to settle any expenses incurred.







***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](http://www.skylinesoaring.org)***

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