SKYLINES

The Skyline Soaring Club Newsletter | July 2019

President's Message

Dick Garrity

Heat Index, Sirius, Dog Days of Summer, Density Altitude...

As my DO assigned day approached, I noticed the heliacal rising of Sirius. No, I'm not talking about the satellite radio system but the star. Sirius is associated with the Dog Days of Summer which is the hottest and most uncomfortable part of summer. What causes the discomfort is the level of humidity and coupled with high temperatures you naturally think about the HEAT INDEX. Don't you?

My Duty Day turned out to be forecasted the hottest day of the summer so far. At the Safety Briefing we (I) talked about the weather and the Heat Index. I have established a personal policy is that I may suspend operations should the Heat Index reach the EXTREME CAUTION Range. The mention of the Heat Index and its Extreme Caution Range was unfamiliar to some attending the briefing. Why? So, the Heat Index and its four ranges were discussed. Caution, Extreme Caution, Danger, and Extreme Danger are the four ranges. If this is new or strange to you, please google "Heat Index". The results will have good explanations and you'll see a printable NOAA Heat Index Chart — I carry a copy of this chart in my soaring flight bag.

Temperature and Humidity are also components of DENSITY ALTITUDE which effect aircraft performance. This too was discussed at the Safety Briefing and the tow pilots expressed their established limits for towing as the Density Altitude increased. From the FAR AIM, 'The further effects of high temperature and humidity are cumulative, resulting in an increasing high-density altitude condition...', which are

'...determining criteria in performance capability of an aircraft.' The Husky tow pilot had a 2,500 ft Density Altitude MAX to tow a two-place glider, especially with two occupants. This Safety decision didn't affect our operations as the Husky concentrated in just towing single place gliders. Everybody was happy and Safer.

Density Altitude is announced by the AWOS. Your wiz wheel will also figure that number for you. Then on our Club web site there is AWOS History, which includes the Heat Index levels. So, if you forget to bring your sling psychrometer you can still determine the Heat Index number.

With knowledge of the Heat Index number and the Density Altitude, you have control of managing your personal comfort and capabilities to have a safer flying operation.

Fly Smart, Fly Often, Fly Safe

Dick

Installation of ADS-B Out in Skyline Soaring Club Aircraft

Keith Hilton

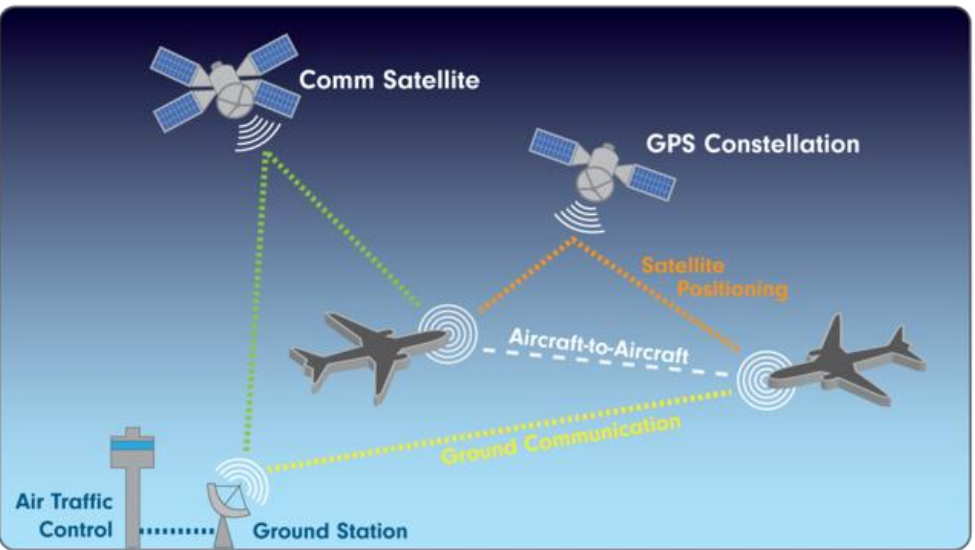
Most likely, everyone read the many emails between members this Spring about club member near misses with commercial aircraft and the benefits of transponders and ADS-B equipment, both for our gliders and tow planes. The SSC Board has held several discussions on the topic and is moving forward with plans to implement these capabilities in our fleet. I wanted to take a moment to provide an overview of the technology and our plans for it's use.

What is ADS-B? Well, it's definitely not a communicable disease spreading throughout our Club! Short for Automatic Dependent Surveillance-Broadcast, ADS-B is an element of the United States Next Generation Air Transportation System (NextGen), a network of ground stations, satellites, Air Traffic Control (ATC) facilities, and aircraft transponders used to manage air traffic. Eventually replacing radar as ATC's primary tool for aircraft separation, aircraft use ADS-B Out to self-report their GPS position in a networked environment. Additional ADS-B In equipment can provide weather and traffic into an aircraft cockpit.

How did they come up with the name ADS-B? AUTOMATIC – ADS-B equipped aircraft automatically report their position without need for a radar interrogation. DEPENDENT – ADS-B depends on aircraft having an approved Wide Area Augmentation System (WAAS) GPS on board and an ADS-B OUT transmitter. SURVEILLANCE – It is a surveillance technology that allows air traffic control to watch airplanes move around. BROADCAST – Aircraft broadcast their position information to airplanes and Air Traffic Control.

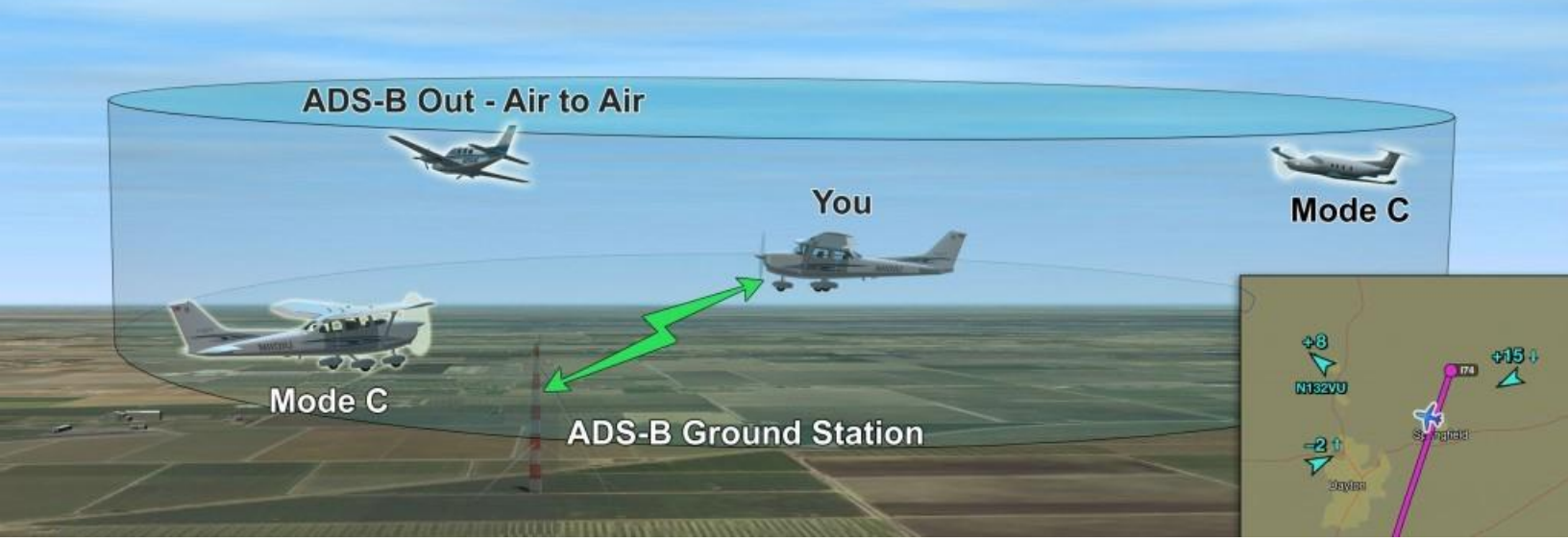
How does ADS-B work? ADS-B is dependent on a network of ground stations and GPS satellites to receive aircraft reports and send them back to Air Traffic Control. ATC radar becomes a back-up system. Ground stations also transmit weather and traffic back to properly equipped aircraft with ADS-B receivers . There are currently over 400 ground stations operating around the United States.

Graphic: FAA NextGen Overview



ADS-B OUT transmitters report an aircraft's position, speed, and altitude once per second. This information is received by Air Traffic Control as well as nearby aircraft properly equipped to receive the information.

ADS-B IN receivers allows aircraft to receive transmissions from ADS-B ground stations and other aircraft equipped with ADS-B OUT. It also allows the aircraft to receive subscription-free weather and traffic.



Graphic: Appareo Aviation

Air Traffic Control Changes. The whole point of ADS-B is air traffic control. It was designed to reduce aviation's environmental impact, improve safety, and increase capacity at airports. ADS-B is much more accurate than radar. Thus, it allows separation minimums to be reduced and can provide aircraft more direct routing. Since it doesn't require radar, air traffic control will be available in many remote areas that cannot be served by radar. It will also give controllers another tool to prevent runway incursions and ground traffic conflicts.

Regulations. In accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 91, §91.225 and §91.227: By 2020 all aircraft (see glider exception below) will be required to have ADS-B OUT equipment to fly in Class A, B and C airspace, plus Class E airspace above 10,000 feet but not below 2,500 feet. The ADS-B OUT transmitter must be panel-mounted and certified. No portable ADS-B OUT transmitters are allowed. An approved WAAS GPS source is required to make sure your reported position is accurate. There is no mandate for ADS-B IN equipment.

Glider Exception. As summarized by AOPA, the regulation 14 CFR 91.225(e) allows aircraft not certificated with an electrical system, including balloons and gliders, not equipped with ADS-B Out to operate within 30 nautical miles of a Class B primary airport—basically, within its Mode C veil—while remaining outside of any Class B or Class C airspace. These aircraft can operate as high as 17,999 feet MSL except above Class B or Class C airspace; they also can operate beneath Class B and Class C airspace.

So Why Do I Care? ADS-B is probably the most important technological change we will have to deal with as pilots over the next two decades! The ADS-B OUT requirements will impact SSC directly for the Pawnee and Husky, which will require ADS-B OUT transmitters as a minimum to fly to other controlled airports for repair (Yes, they could get a waiver, but do we want to have to do that?).

The most important reason, however, is SAFETY! KFRR and the area we fly in is right in the approach path for Dulles International Airport. Several of our members have experienced close encounters with business jets and other fast-moving powered aircraft. As you may know, the Club Duty Officer notifies Potomac TRACON every day before we start operations where and how high we plan to fly. However, this does not prohibit any aircraft from flying through the designated area — TRACON only provides an ADVISORY to approaching aircraft.

The best protection we can get from having ADS-B Out equipment in our ships is its integration with Traffic Collision Avoidance Systems (TCAS) found on most commercial jet aircraft. TCAS can automatically route an airliner so equipped around another aircraft based on its ADS-B location. (Jim Kellett described what appeared to be an incidence of this in the last newsletter.)

So what's our plan? Your Board of Directors has taken this issue very seriously. The Board has had lengthy discussions over the past few months about Club member's concerns about a recent near mid-air collision and the recommendation to install transponders or transponders with ADS-B into Club ships. The Board members agreed with the members that installation of transponders is necessary to enhance safety. There was much discussion whether we should install standard transponders or transponders

TT22 Transponder with TN72 GPS Source - Use mainly in Experimental Aircraft					
					
Transponder Trig TT22	Wiring Harness Cable-TT22-TC20-1-TN72-1 or Cable-TT22-TC20-3-TN72-1	Antenna Cable Cable-Ant-LMR240-BNCm-TNCm-3	Transponder Antenna RAMI-AV-22 or RAMI-AV-74-1 or AAE L2	GPS Trig TN72	GPS Antenna Trig TA50-1m or Trig TA50-3m

with ADS-B IN/OUT. The Board's consensus was to upgrade ships with standard transponders or install new transponders with ADS-B OUT in all club gliders and tow planes. The cost difference to equip the fleet with ADS-B transponders vs standard transponders was insignificant for the benefits gained.

The proposed plan for the glider fleet is to install a Trig TT22 Transponder ($2,125), Trig TN72 GPS Receiver ($355), TA-50 GPS Antenna = $69, L2 Transponder Antenna ($99), and Harness ($195). The total for the equipment would be around $2,965 per ship including taxes.

The Trig TN72 WAAS GPS source is in question right now. The receiver is intended for experimental and light sport aircraft. The TN72 ($355) is 3.54" x 2.48" x 1.18" and weighs 3.7 ounces. The Trig TN70 WAAS GPS source for certified aircraft ($1,875) is 6.5" x 4.13" x 1.6" and weighs 15.7 ounces. So you can see that the TN70 is larger, heavier, and WAY more expensive. On-Wing is trying to get a reading from the FAA on the use of the TN72 on gliders.

Prioritized Equipment Installation List and Costs

Aircraft	Equipment	Cost
Pawnee	Radio & Transponder with ADS-B OUT	$8,000
ASK-21 N321K	Trig 22 Transponder with ADS-B OUT	$5,000
Sprite	Install Grob Trig 21 – Upgrade to ADS-B OUT later	$2,000
Discus	Trig 22 Transponder with ADS-B OUT	$5,000
ASK-21 N341KS	Upgrade the TRIG 21 Transponder with ADS-B OUT	$3,000
Husky	Upgrade to ADS-B OUT	$3,000
Total		**$26,000**

Paying for the upgrades. The Board developed a prioritized list for the installation of ADS-B OUT transponders in our Club fleet. The challenge is how to pay for the upgrades. We currently have $10,300 in the avionics fund, so that would leave us a deficit of approximately $16,000 that we would have to come up with. With the recent acquisition of the Discus, Pawnee, and ASK-21, we don't have a lot of excess cash available in the Club treasury.

We are looking at a balanced approach that includes (in descending order of appeal):

- The Club has a CD worth over $51,000 that matures in August
- Club member loans
- Member donations. Very little response to earlier email on this topic.
- Member assessment of up to $200 each (max to pay for entire deficit). In the history of the Club we have never had to resort to assessing the members, so the Board looked for other options.

Next Steps. So, the plan is to…

Upgrade the Club ships that don't currently have a transponder. First, we'll use the Avionics fund to pay for a new radio and the ADS-B Out equipment for the Pawnee. Shane has been working with On-Wing in Winchester to get estimates and schedule the Pawnee in for the upgrade. Once the FAA decision is made on the TN72 GPS receiver, we'll purchase and install a WAAS GPS receiver and TT22 transmitter in the N321K. Next, we'll upgrade and install the Trig TT21 from the Grob (yes, we have removed it) and WAAS GPS receiver into the Sprite. Finally, we will upgrade the TT21 in N341KS and install a WASS GPS receiver and finally we will purchase and install equipment in the Discus and upgrade the Husky.

To sum up, the Board believes the ADS-B transponder upgrade to our tow planes and gliders is important to the overall safety of Club operations and maintains the goal of upgrading the entire fleet by the start of the normal 2020 Club soaring season.

Week of Training 2019

Pete Maynard

Now that we've had a few days to get settled back into our routines, savor our victories and heal some of our wounds..... I want to take a couple minutes to recap some highlights and events that made the Week of Training (WoT) 2019 another success.

First and foremost is the people. The students who came prepared, eager and motivated. The parents who not only provided financial resources for the students but who also gave so much personal support to their student member and so much of their time. A lot of parents think throwing money at kids is the end of their responsibility. No amount of money can buy the type of support and the shared experience shown by the parents during WoT. There was never an example of bad parenting, never a moment when the kids were alone and never a moment when if I felt I needed a hand, somebody wasn't there to help. THANK YOU. Of course, each SSC member volunteer contributed to the success of the WoT. Without the Instructors, Tow Pilots and ground staff none of this would be possible.

When the concept of an off-site WoT was first discussed and the first WoT Bible drafted we purposely included a section stating that a large portion of the benefit of WoT would be the opportunity to actually get to know the other participants. The concept of

Photo: Jim Permutter

an evening dinner at the campsite a couple evenings of the week was envisioned. That is what happened the first two years. However, THIS year not only raised the bar, but I think has set it at an unmatchable height. Although not able to participate as a staff volunteer, on Monday Joe Revelli (one-eyed joe),

Photo: George Hazelrigg

showed up with an amazing assortment of beverages to facilitate the first daily hotwash. There were more than enough to go around and also quenched some thirsts later at the first evening meal. Steve Wallace prepared a lasagna dinner with all the sides. Steve also brought plates, silverware, napkins, etc., which would last much of the week. Thanks Steve!

Keeping with the dinners, Tuesday Peter and Sergei Ross made a grilled chicken dinner that had so much food we had enough for lunch on Wednesday. Wednesday evening was Mexican night at the campground with Teri and Ava Dunphy treating us to chicken and steak fajitas and on Thursday Dano Murphy gave up his flying spot to make sweet and hot Italian sausage. Every meal was truly outstanding, with side dishes accompanying the main course. They were inspired, exquisitely planned and flawlessly prepared and served. THANK YOU ALL!

While we are on the food and friendship aspect of WoT, a good number of participants made the morning pilgrimage to Sue's Country Kitchen for breakfast. The food was good, the service great and the local citizens..... entertaining.

Photo: Jim Permutter

We had more than a few challenges to overcome and I think we rose to each one. Collectively we:

1. Got all the equipment, and aircraft to W99 and back with sufficient volunteers helping on each end.
2. Were able to get all the people who had to get back and forth between FRR and W99 by ground shuttle. In past years, that was accomplished using the Husky but with now having to reimburse for all flight time, a single round trip which could only move one person, would cost about $125 which would be added to the cost split by the students. Todd Morris and Teri Dunphy did the shuttles.
3. Kept the tow planes towing, in spite of some maintenance problems — Pawnee magneto and left wing strut fairing; Husky right tire swap and brake replacement. Leslie Melanson bought brake parts and drove them halfway to W99 where they were picked up by Andrew Neilson and Stephanie Zilora to complete the trip. Peter Melanson, assisted by Andrew Nielson and Sergei Ross, did the work at W99.
4. Were prepared for eventualities. Sergei Ross took Piet Barber's truck and drove it to FRR to get the ASK-21 trailer and towed it back to W99 in anticipation of needing it for the repositioning on Friday. Fortunately we were able to air tow back to FRR, probably enabled because we were prepared to trailer it! Andrew Neilson towed the trailer back to FRR with Piet's truck.
5. Got ELECTRICITY!!! Tom Ward and Sergei Ross were able to connect the generator to the main service line into the campsite allowing anything in the building to be powered, although not everything at the same time.

Photo: George Hazelrigg

6. Dealt with the weather. Rain and wind forced several halts to operations, but were taken in stride. Training resumed when conditions allowed. We used one weather break to get instructor flight reviews and currency flights accomplished.
7. Taught people to straighten their tables and push in their chairs in the FBO building.

Photo: George Hazelrigg

I am sure there are individual contributions that I haven't mentioned. Outstanding performances and generous acts of support were everywhere. I wish I had a better memory or had the time to make notes during the week, but I don't and I didn't, so simply please accept my thanks for ALL that everyone did to contribute so a SAFE and SUCCESSFUL Week of Training.

Safety-Related Decisions and Practices During the WoT

Steve Wallace

Apart from a very high number of instructional flights, the students during the WOT were exposed to an operation with a clear and constant focus of safety. There were weather challenges every day including overall wind limits, turbulence, rain, and actual or threatening thunderstorms. This is a list of some of the safety-related decisions and practices that I observed.

- Extremely detailed flight profile for tows over prepared with conservative altitudes and land out options.
- Thorough morning safety briefings with emphasis on weather; the operating environment at W99; special considerations for the day, and the need to stay fed, hydrated, and protected from sun.
- Specific discussions about how to work in safely with Brian Collin's winch launch training, with landings downwind one day and into the wind and from a different start point another day. Constant communication with Brian.
- Safely accommodating transient traffic, including moving equipment when necessary. Aircraft included a Pilatus PC-12 dropping off passengers, a Piper Malibu, and a medevac helicopter which refueled and discussed with us conditions for crossing the ridge to the west.
- Weather stops for parts of most days for high winds, rain, thunderstorms.
- Training on effects of rain on glider performance as several training flights encountered light rain. Gliders wiped clean after encountering rain in the air or on the ground.
- Decision to change the practice of the tow planes waiting on the grass near the hook up point to having them drop the rope there and cross the runway and wait on the other side. This left the grass option for the gliders open and removed concerns about an aircraft close to the paved runway with extensive student operations. Also clearly necessary to accommodate winch launch operations.
- A stop on Thursday when there was a 100% consensus among the four instructors that severe turbulence on tow was making student training unproductive. During the shutdown interval four instructors who were getting close to the deadline for their flight reviews made three flights each with another instructor in back to complete these reviews. Normal training resumed when conditions improved.
- Worn tire on Husky reversed so that stronger tread was on the outside. New tire and tube shipped overnight (but not installed since tire was not showing any cord and towplane landings were all on the grass).
- Severely worn brake pads noted on Husky; new pads delivered from Winchester and installed by A&P Peter Melanson. Peter also methodically lubricated exposed control system linkages and hinges on all aircraft with aircraft grade lubricant
- Thorough hot wash briefing at the end of each day.
- While moving gliders perhaps too quickly, Todd Morris got a good bump on the head from one wing tip. DO called a safety stand down with the basic message to slow everything down. Also assigned someone to review concussion symptoms and monitor Todd's condition. (Black eye with no lasting damage as Todd completed his practical on the Saturday following the WOT.)
- In preparing for return ferry flights, Andrew Neilson said winds at FRR were at the edge of his comfort level. A perfect example for the students of setting personal limits by a tow pilot they had watched fly very well all week. Kudos to Andrew Neilson. Decision was for Tom Ward to fly the Husky back and Steve Wallace the Pawnee. (Thanks to Teri Dunphy for driving us back to W99 to get our vehicles!)
- Thorough discussion among glider pilots and tow pilots for return flights, including routing, altitudes, speeds, and tow position.
- Transponder equipped glider towed with no transponder towplane (KS behind Pawnee) and vice versa (1K behind Husky) so each pairing would have a transponder.
- While not a safety decision, a good interpersonal decision to present flowers to Joan Stahl and a gift card to Larry Stahl at the end of the week. They clearly enjoy having us, appreciate the way we operate, and will welcome us back any time.

WoT Collage

George Hazelrigg &
Jim Perlmutter

Membership News

Tim Moran

We are well into the soaring season now, and you may have noticed a number of new faces at the airport. To help everyone learn some of the new names, below is an introduction of the new members who have joined so far this year.

Youth and College Members

Skyline works hard to encourage the growth soaring in the next generation, and has welcomed Ava Dunphy, Andrew Melanson, Amy Rose, Max McGowan and Family Members Kira Hamburg, Alex van Weezendonk and Josh Barber to the fold. Ava, Josh, Andrew and Max all took part in the Week of Training, and Josh made his first solo flight there.

Waitlist for Instruction

Due to the popularity of Skyline Soaring Club in the DC area, we continue to use a waitlist in order to moderate the flow of new members who need flight training. Pilots who already hold a glider rating can join Skyline immediately and bypass the waitlist. Currently, we have about 20 people on our waitlist, which is a substantial improvement from the beginning of the year, when we had about 30.

Jim McCulley Remembrance

Joe Rees

The Jim McCulley I knew at Skyline Soaring was a quiet, unassuming gentleman. He was one of the charter members of SSC and, during my first term as president, Jim was incredibly generous with his time and we had many long conversations about the club and the issues we faced. I invariably came away from those conversations with more knowledge and a better understanding of whatever topic we discussed. I knew that he had flown in the Korean war but it was not until he told me that one of his victories was driving a MiG into the ground. It was not until I met his daughter that I learned that was only one of his four victories and that he had won two Distinguished Flying Crosses and seven Air Medals. Jim would have been too modest to tell me that.

If there was one thing Jim loved more than flying for the Air

Skyline's Recent New Members

Dano Murphy

Dano already had his PPL-SEL when he joined Skyline and is now working on his glider add-on. He attended the Week of Training, where he certainly made substantial progress.

Teri Dunphy

Teri had started working on her power license, prior to joining Skyline, and is the mother of Ava Dunphy. Ava and Teri were both at the Week of Training.

Mark Moran

Mark has been interested in aviation since he was a kid, and is now working hard towards attaining a glider rating. Mark is Tim Moran's brother (duh!) and also took part in the Week of Training.

Lee Olyniec

Before joining Skyline, Lee had previously flown with Southern Eagles Soaring in Warm Springs, GA, and is both a commercial glider and power pilot.

Mike Atherton

Mike is a power pilot with 1000+ hours, flying out of Manassas, and now wants to add a glider rating to his repertoire.

Ron Wagner

Ron is a former Air Force pilot who flew in the Presidential Wing at Andrews AFB. He also holds ATP and CFI ratings and recently added a CFI-G to his belt. Ron was part of the duty crew at the Week of Training giving instruction.

Richard Starke

Richard is a rated glider pilot and CFI-G who recently moved to Virginia. Richard flew previously in both California and South Africa.

Todd Trimpert

Todd is a military aviator with 3000+ hours in rotary-wing. Todd is one of our newest members, and I'm sure we will be seeing him at the field often in the coming months.

Justin Mensen

Justin is a rated glider pilot who has just moved from California to the DC area. Justin is a tow pilot as well, and has towed for the Las Vegas Valley Soaring Association and the Antelope Valley Soaring Club in California.

Force, it was his family and when there was a conflict between the two, he retired from the Air Force and settled in the Washington area. Jim came to soaring at the old Warrenton Soaring Center where he added a glider rating to his certificate. He bought a sailplane, served on the board of directors for the Skyline Soaring Club, and became a tow pilot. But that does not do justice to the role he played in the early development of the club. His work ethic, concern for safety and the mentoring he offered, set the tone of the club we maintain to this day.

In an anecdote from his flying biography, Jim revels both his early flying acumen and wry sense of humor while practicing three-point spot landings that had to straddle a horizontal line.

"I had discovered during practice for this event that the T-6 would sink at a significantly greater rate if you slowed it only a few miles per hour below the proper speed on final and that this was not something that could be detected by observers if done slowly and smoothly early on final once you knew you were just a little high to arrive at the desired touchdown point. I found that by deliberately setting the base leg just a little closer in and thus turning final just a little too high to make the white line, I could adjust the situation to straddle the line a high percentage of the time. I never told my instructor about this and even though he was among the several judges grading the landings, none of them ever detected it!

The outcome of the competition was that I won by being the only one to achieve 3 out of 3 perfect touchdowns. The embarrassment of it all was that I couldn't accept a beer at the Officers Club from the losers because I was underage at only 20!"

Jim was still flying into his early '80s and his daughter said he was still chopping five cords of wood each year by hand for his wood stove. May we all be as successful in aviation and family relations as our late friend Jim McCulley.

Sierra Sierra Book Review

Ron Wagner

"The wind. Great God, the wind!" Thus begins *Sierra Sierra*, by John Joss, a novel of two themes of air combat. One is a soaring tale told against the treacherously beautiful forces of nature as Mark Lewis, the fictional hero, makes a predawn to after-sundown record soaring flight from Seattle to Yuma. The other is against the equally treacherous but darker forces of man, as Mark reflects back on his combat experience flying F-4 Phantoms in Vietnam. John Joss weaves these together seamlessly in a timeless story of the beauty and art of flying.

This book is not autobiographical, I had to keep reminding myself, it is fiction, Yet the technical realism and John's heartfelt understanding of soaring and of military aviation carried me into the story so deeply that I lost track of that fact . It became real to me and that's the best you can ask from a novel.

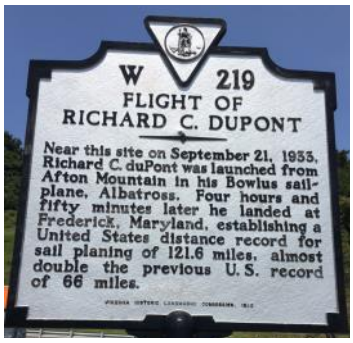
As a brand-new glider pilot who is passionately trying to move up into the world of soaring pilots, the page-turning *Sierra Sierra* gave me an intimate familiarity with ridge lift, wave lift, and thermals on a gut

level that I otherwise wouldn't get without years of flying gliders myself.

I've become friends with John Joss and he's planning to come visit SSC with me someday soon. I highly recommend *Sierra Sierra* as perfect summer reading.

Record Breaking Flight — Soaring History in Virginia

Reynolds Renshaw



While traveling on Rt 64 in Afton, Virginia recently, I found an historical marker.

Being a Virginia taxpayer and avid glider pilot, I wanted to know more. The most succinct description of the flight was provided on a website "Little Bits of History Along U.S. Roadways" written by a Presbyterian minister from Front Royal, Virginia. I would like to thank him for the fine article but cannot because his name is not listed and his blog ends in 2013. Therefore, *I will award a 3,000 foot tow to the Skyline member who positively identifies the author*.

From the blog:

Richard Chichester duPont was a member of the prominent Delaware duPont family. Born in 1911 to Alexis F. duPont and Mary Chichester, his father was the vice-president of the E. I. du Pont de Nemours & Co. Richard developed an interest in aviation at an early age.

He started piloting gliders in 1929. By this time he had already logged some 1,000 hours as an airplane pilot. He learned skills for flying gliders through the Soaring Society of America at Elmira, N.Y. While at the University of Virginia (only about 20 miles from this marker) he founded a campus soaring club. He studied aviation in 1932 at Curtiss-Wright Technical Institute while in the same year with his sister, Alice flew a open-cockpit airplane up the Amazon River.

Following a soaring meet in Elmira, N.Y. Richard du Pont was discouraged by few days of favorable winds for soaring and he and others thought there had to be other soaring sites in the eastern U.S. He had been studying maps and he was certain the Shenandoah Valley of Virginia offered an ideal solution for an alternative soaring site. To test his theory Dick duPont invited other pilots to an informal meet centering at the Swannanoa Country Club near Waynesboro, atop the Blue Ridge in western Virginia. On September 20, 1933, Emerson Mehlhose of Wyandotte, Michigan took off from Rockfish Gap in a wind that nearly tore his wings off, soared up the Shenandoah Valley 71 mi. for a new U. S. distance record. (Old record: 66.7 mi., by Martin Schempp, from Elmira, N.Y..) Richard duPont on the next day started on Afton Mountain at Rockfish Gap, he passed Mehlhose's landing place, kept on soaring, crossed the Maryland line, started to head into Pennsylvania when rain and fog forced him back to Frederick, MD, a distance of 121.6 mi. — 14 mi. short of the world record.

The sailplane that Richard duPont used on his record breaking flight was his Bowlus sailplane, Albatross. This sailplane was designed and built by William Hawley Bowlus who was quite well known as a sailplane designer from San Fernando, California. Mr. Bowlus was the Superintendent of Construction on Charles Lindbergh's aircraft, the Spirit of St. Louis. He also gave gliding lessons to both Charles and Anne Lindbergh. William Hawley Bowlus is probably better widely known in non-aviation circles for his key role in the design of Airstream travel trailers.

Richard with his brother, Felix established All American Aviation Company an airmail service eventually covering parts of Pennsylvania, West Virginia, Kentucky and Ohio. Six years after Richard's death, the air service began passenger service and become Allegheny Airlines, which was the precursor to today's US Airways. I remember the old Allegheny Airline planes on trips to the old Pittsburgh airport. These were the days prior to airport security where you went through the gate walked across the tarmac, up the stairs into the plane, generally all outside regardless of the weather.

During World War II, the U.S. established the American Guilder Program. Richard duPont was special assistant to General "Hap" Arnold and placed in charge of the glider program after the death of director Lewin B. Barringer. During a demonstration flight on September 11, 1943 at March Air Field in California, duPont and other passengers were killed in a MC-1 glider. William H. Bowlus who was also a passenger managed to parachute out to safety before the glider crashed.

Richard's brother, Major Felix duPont, succeeded him in the glider program. This marker is in the approximate area for the start of his flight in 1933 and is close to the southern entrance to the Skyline Drive.

Both Richard C. duPont and William H. Bowlus were inducted in the Soaring Hall of Fame in Elmira, N.Y.

Useful links for this article and Richard C. duPont:

http://littlebitsofhistory.blogspot.com/2009/10/flight-of-richard-c-dupont-nelson.html

https://www.soaringmuseum.org/files/iy6_duPont.pdf

http://blog.modernmechanix.com/richard-du-pont%E2%80%94millionaire-glider-fan/

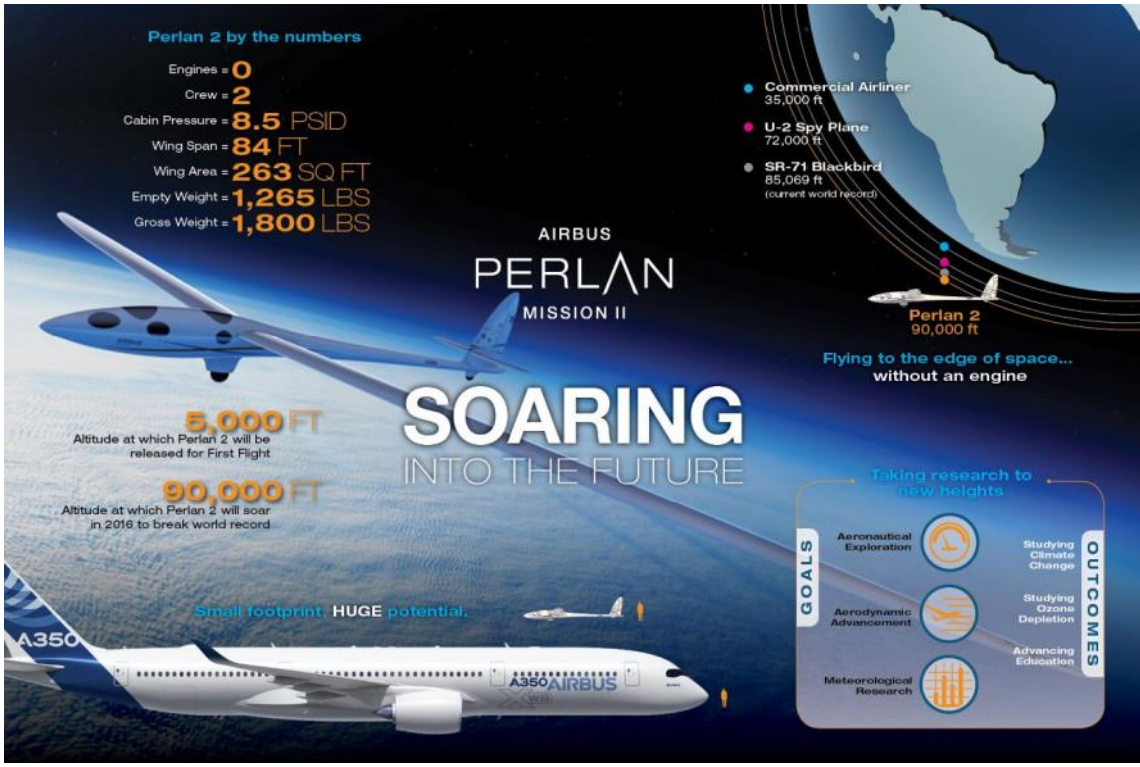
The Perlan Project

Bill Burner

SSA's Soaring Magazine has recently printed a couple of great articles about the Perlan project (stratospheric soaring in the Southern polar vortex.) I visited Windward Performance in Bend Oregon in September, 2012, when the Perlan sailplane was still under construction and wrote something about the trip for the Skyline newsletter. Here is a reprint now that the project is well underway and making the news. I suggest you follow it up with a read of the recent Soaring articles!

A Visit to the Perlan Project (2012)

How would one define the ultimate end of the performance spectrum, for winged manned flight? Most sailplane designers would probably be thinking in terms like a little faster, a little better L/D, longer wings. Not Windward. Owner Greg Cole, the designer and builder of the Perlan glider, set his horizon on 90,000 feet and Mach 0.3. The glider, which Greg is confident can reach that altitude by flying stratospheric mountain waves, already exists. Almost all of the pieces have been fabricated. They are positioned in huge jigs in his Windward Performance shop at Bend, Oregon, awaiting final assembly. Greg gets serious when discussing this challenge. "If we cannot agree that a rapid decompression at 90,000 feet would be fatal then we might as well stop talking now." Having looked at the problems of full pressure suits, which Steve Fossett and Einar Enevoldson experienced on their record flight to 50,000+, the Perlan team has decided that those suits are not practical for a longer duration flight to 90K. Unlike U-2 and SR-71 pilots, who use the same suits but not fully inflated, at 90K the suits would be as rigid as the ones astronauts use during extra vehicular activities. The suits are so cumbersome when inflated that the pilot cannot even touch his hands to each other. Even the smallest movements are a major effort. Their hands are of little more use than clubs. Steve and Einar had to have a large, cantaloupe sized ball on the top of the control stick so that they could reach it with either hand. Hence the Perlan attempt to 90K will be made in a pressurized cabin without back up pressure suits. No decompression allowed! There will be a lot riding on the structural strength of the pressure hull, but that has already been proven. The project needs about a million dollars to go on. Greg points out that that amounts to a tax deductible donation of $1,000 each, from a thousand glider pilots. Windward is considering offering placards citing such a donation which would be on board the Perlan during its historic flight and then visible to the public once it goes on display in the Air and Space Museum, or wherever it winds up. The Perlan project is open to additional pilot sponsors, who would fly on these historic missions. Yes… it could possibly be you, for a substantial donation! Greg says much of the soaring world sees this as an American project, since it is located in Bend. But it is a project that the whole soaring world will take pride in. The project is a lot further along



than we realized. The technology issues have been addressed and all the plane's components are finished. It is basically ready for final assembly. Most of the funding is needed for the actual attempt itself. Testing is a real problem. There are no tow planes that can take the Perlan to altitude for test flights, so the record attempts will also serve as the flight testing. This turns the record challenge into a major expedition – to Argentina, probably, or New Zealand. That is how most of the money will be spent. Why not soar to an even 100,000 ft? Greg believes that the wave could take the Perlan that high. But the aerodynamics get really tough above 90K. In explaining this out came a bunch of Reynolds numbers, temperature gradients, Mach numbers, flutter problems etc., that left us weak kneed and humbled. Bottom line is that building a transonic or supersonic glider is not in the cards. It may be in Greg's fertile mind, but it is not within the budget constraints that Windward is working under. Frankly, we were thrilled just to walk among the components that are someday going to 90K and feel that we were, well not part of history but at least watching history in the making. Even in pieces and with an unfinished coat the Perlan is breathtakingly beautiful. What a thrill it will be to see it take wing!

Greg Cole

You would probably guess that the driving force behind the extraordinary stuff we saw at Windward Performance is some kind of a super intellectual, wild eyed unapproachable nerdy engineer incapable of forming sentences that are not half filled with numbers and equations, and with a business mind like a steel trap. A modern day, more practically oriented Einstein. What else could possibly put something like Windward Performance together and achieve what it already has? That is not Greg Cole. He comes across as an ordinary guy who appears to be in his mid 30s (but that cannot be true), affable, easy to talk to, generous with his time, and genuinely enthused with what he is doing. A next door kind of guy whom it would be fun to drink a beer with and talk about sports, or whatever. He spent a couple of hours with us, after we just walked in on him, unannounced. He was not at all hurried, patient with our questions and informal. At the end we got to talking about families and it emerged that he is as enthusiastic about his two adopted sons as he is about the works of Windward. He and his wife, Neva, journeyed to the furthest outreaches of northeast Siberia (seven hours from Vladivostok) to pick them up from an orphanage. He talked about how he and Neva went over there "all in." They were fully committed to adopting the boys even before first meeting them. The story of the previous life of their sons, who are brothers, is tragic. It has been the thrill of a lifetime to watch them make the slow and still, after two years, difficult transition into their new lives. It has been a series of challenges for Greg and Neva, but one they enjoy and are dedicated to. It was clear to us that Greg has as much to look forward to when he goes home after a day at Windward as he does in the morning going back to work.

More information about the project is at https://perlanproject.org.

Around the Pattern and Beyond

Books in the Hangar

Our local curmudgeon Jim Kellett reminds us that the club has a 'free library' of soaring (and other aviation) books on the credenza in Hangar 5, right next to H3's trailer. Check it out!

1985 DG-300 N8RX (SF9) for Sale

Beautiful, extraordinarily well maintained, A&P owned; $37,500 Located at KFRR N.B., DG300 is renowned as agile, safe, great climber. One of few single place gliders big/tall pilots fit comfortably. SF9 has: All Automatic hook-ups; Power FLARM; ClearNav II GPS (controls in joy stick); Two Variometers: ClearNav, Tasman; Trig TT21 Transponder; Becker VHF; Tip wheel Winglets; Dual Batteries; Mountain High O2; New Belts. Fresh transponder cert and annual at sale. Cobra trailer: Imron paint + new tires. Full suite of one man rigging, and GHE. (703) 989-4299, ChristensenMW@verizon.net. NOTES: This is a known SSC plane. Bruce moved to Maine. Mike bought a tow plane. Erik has two gliders.

New Lawnmower

Reynolds Renshaw recently purchased a used lawn mower and put it in the hanger for use around gliders parked in the grass. It runs and cuts but likely needs an oil change and definitely needs a new blade. To start, push the primer 3x then pull the cord. Merry mowing!

Club T-shirts

It's hot at the field now, right? (It was 93F this afternoon!). Here's a suggestion - did you know the Club sells (to members only, please - not the general public!) the perfect shirt for such days?

Long-sleeved poly white shirts, with a small club logo on the front and a large one on the back. Wicks perspiration, protects from sunburn, reflects sunlight, and good-looking as well!

You can pick one up in the hangar and pay the Duty Officer for it or put it on account!

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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