

Column: Condor Corner

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Title: Exciting Training Developments at Harris Hill + My Condor Story + Thank you Frank Paynter

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Introduction

In this issue of Condor Corner, I provide a sneak preview of exciting developments in the flight instruction program at the Harris Hill Soaring Center, feature one of my cyber-students in the next installment of “My Condor Story”, and express my thanks to Frank Paynter.

Harris Hill

The Harris Hill Soaring Center (HHSC) in Elmira, NY is one of the premier soaring clubs in the U.S., and has a very well established and highly successful program for training young glider pilots; the Juniors program.

Almost exactly a year ago (September 2013), Tom Berry, the advisor for the Juniors program at HHSC, contacted my Condor Corner co-author Frank Paynter, looking for a copy of my Flight Lesson Sequencing (syllabus) document. Being the helpful and generous guy he is, Frank copied me on Tom’s request “and” volunteered me for a presentation to HHSC on the topic of simulation-based glider flight instruction. The presentation hasn’t happened yet, but the introduction did lead to an ongoing exchange of ideas and information, and an interesting series of updates on the trials, tribulations, and successes of integrating flight simulation into the flight instructional program at HHSC.

Tom writes a blog (<http://sinkhappens.blogspot.com/>) to help organize his thoughts. In his March 25th and April 30th 2014 postings, he very eloquently details the challenges of providing glider flight instruction in a club environment, and makes a very compelling case for the adoption of flight simulation. He has graciously agreed to share his thoughts with all of us.

Before continuing with this article, I encourage you to connect to Tom’s blog and read those two posts. They provide the background and foundation for what follows here; Tom’s most recent update on events at HHSC.

On July 11, 2014 Tom Berry wrote:

Here’s an update on our program:

We conduct simulation training with both Senior and Junior members. We started by meeting with several CFGs to show them what simulation could do and how it might help with training. At the end of that meeting, we agreed to conduct test training with a small number of Senior and Junior members. Our CFGs provided the oversight and guidance, while I took care of the technical details and learned how to teach the primary lessons.

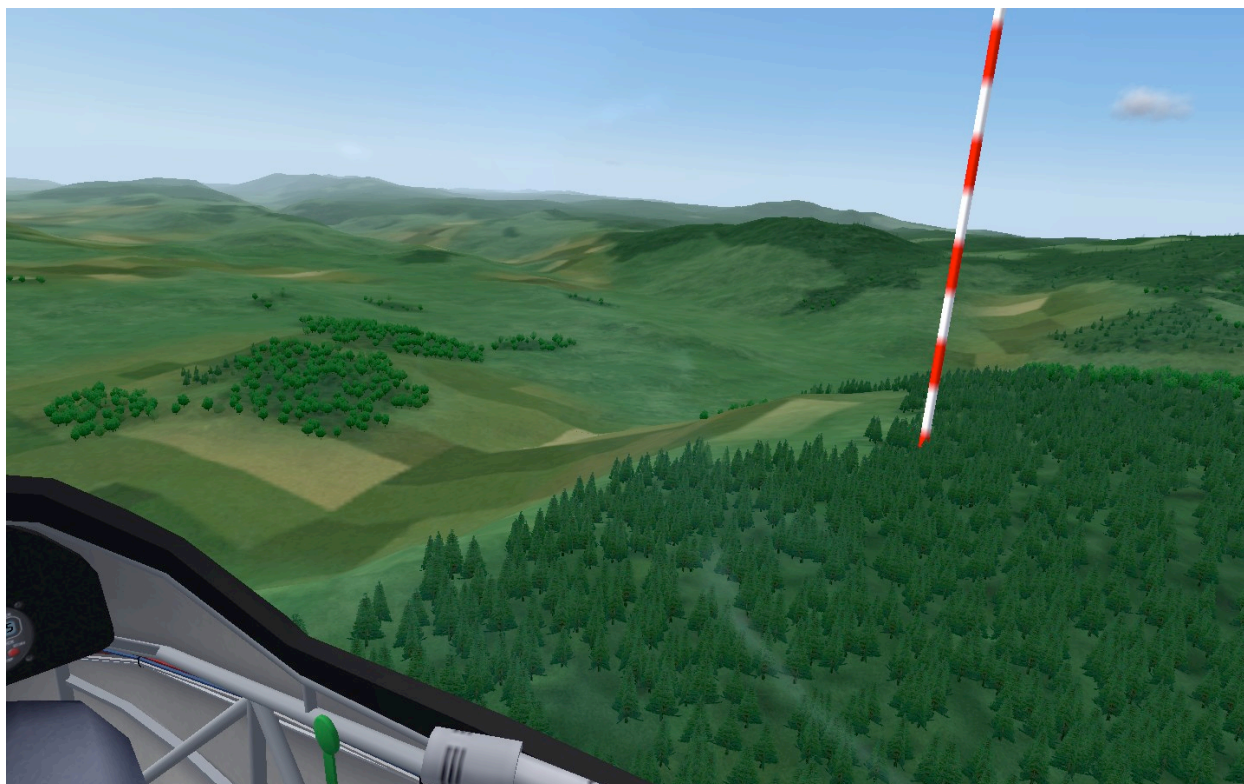
Initial results have been promising with the students being quite excited about using simulation. Rather than viewing it as an obstacle to flying, they see it as great way to practice for the real thing. We decided our first step would be to create a “Pathway to Primary” training program for all new students. The training syllabus covers flight controls, airspeed control using pitch attitude, shallow turns, medium banked turns, steep 720-degree spirals, forward slips, and stalls. Students are required to go through the simulation-based program until they demonstrate proficiency (4-5 sessions is typical). After new students complete the Pathway to Primary training, they are signed off and sent out to the flight line to train in the actual gliders.

The requirement to complete a simulation-based primary course may seem like an obstacle to real life flying, but our students don’t view it that way. They like being able to stop, ask questions, visually track their progress using the smoke trail, and get extended amounts of simulated flight time. In addition, our students really haven’t missed as much real training as you may think. We do simulation training in any weather, while our real flight training has been cancelled several times for weather since we began. Since some students come from quite a distance away, they appreciate being able to depend on scheduled training.

What I see are students excited about the flight training process, rather than slogging through the lessons and competing for CFIG time. They are quite engaged in the process and we have a number of deep discussions before, during (just hit Pause) and after the training sessions. They have a real incentive to finish the Pathway training so they can get to the flight line, but I have not encountered impatience with the process. They all think it is well worth it.



Condor Simulation – Downwind at Harris Hill



Condor Simulation – Downwind at Harris Hill

The Junior program is a little bit different. Since we run a 7-day a week operation in the summer, the Juniors are mostly flying the real gliders during that time. However, as we go into the winter, we will concentrate on teaching them a full syllabus of training so they will be ready to progress quickly next spring. There are two benefits to this. First, we subsidize Junior flying so, if we can get them to solo with fewer flights, it will save the membership money. Second, it will allow them to restart their flying in the spring, as we can schedule around the many school events they have, allowing them to progress more quickly than in the past.

Another benefit is that the economics of simulation are very attractive. I've been tracking the hours we train our students and, if you assume a regular glide from 2,000 ft. AGL, a typical training flight lasts about 12 minutes. At club rates, it would have cost our students approximately \$1,700 to fly the equivalent hours in real life. I think this is a conservative estimate since primary students do not pilot takeoffs and landings, meaning they fly perhaps 7 minutes of actual stick time for each flight. Of course, some flights are in lift and go longer, but you get the idea.

How well does simulated flight translate to real flight? Feedback from CFIGs on the line is encouraging. They see a difference in the quality of the primary students they are teaching and students report their real life flights are more meaningful because they have already spent time learning what they are supposed to do. We also have return students who have advanced to the real glider, but come by to ask for help on maneuvers they are learning in the real glider or to practice them in simulation.

Other bonuses are that new members are engaged with the club in a way I have not seen before. When several are at a simulation training session, they learn as a group and at a pace that is dictated by the lesson, not the flight time. We have also managed to multiply our instructional staff. I have been tutored by our CFIGs on the Pathway to Primary lessons and I teach between 1 and 5 students at a time. That allows the CFIGs to stay in the aircraft while we do simulation training on the ground. Everyone progresses faster.

Peter Smith at The National Soaring Museum (NSM) has been incredibly generous to let us use their suite of 5 simulation stations for training, and it has turned out to be ideal. Even if a club had just one simulation station, it would be worth it. Because Condor was designed to run on older systems, older computers will work just fine with it. There is no need to buy a new system; an old laptop makes an ideal simulation station.

What's next for us? Our initial results are very promising, but we are still learning. Over the winter, we hope to continue to bring some excitement in simulated flying even when real flight operations are nearly halted. We will be able to start strong in the spring and expect a full season of benefits from incorporating simulation into our training curriculum.

-Tom

In closing:

Having spent the last 6+ years promoting the benefits and potential of flight simulation within the soaring community, the success story coming out of HHSC is music to my ears. I suspect there is more and even better music to be made there, and I look forward to reporting on it in the future.

For more information on Harris Hill Soaring Center and their Juniors program, connect to:
<http://www.harrishillsoaring.org/HHSC/Juniors.html>

My Condor Story

By Robert Kidd – Utah Soaring Association

I am pro Condor, and have read many an argument as to why using Condor is good. I don't want to rehash the debate, but would like to relate my story and why I'm in favor of using Condor as a learning tool.

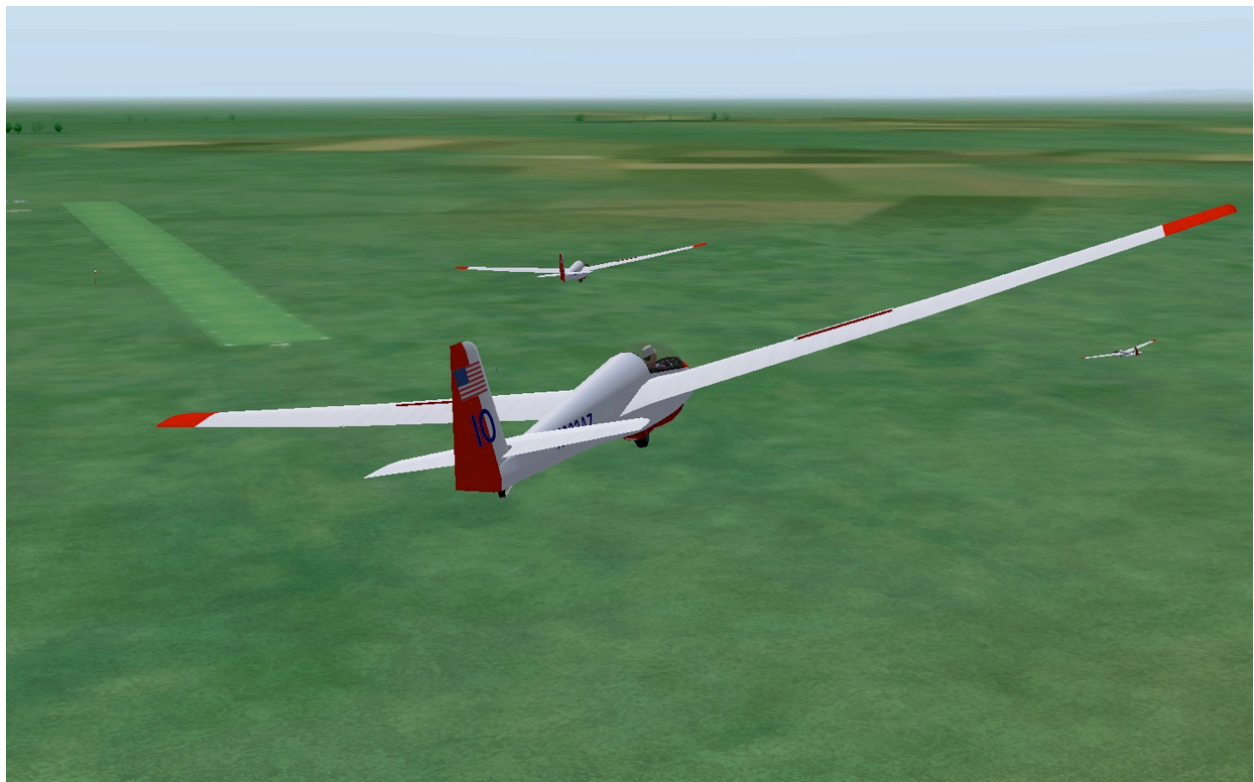
For most of my 57 years I have had an interest in airplanes and flying, but figured I would probably never be able to afford to participate. Back in 2010, I took my first two glider rides in a Blanik L-13. Aside from wanting to part company with my lunch, I was hooked, and joined the local soaring group. Shortly thereafter, the Blanik AD grounded the trainer. It took a couple of years before the club acquired another trainer; a Schweizer 2-22. I managed to get 6 flights in the 2-22 in 2012 before the local group disbanded and we joined the Utah Soaring Association in 2013; gaining access to some Grob trainers. I logged two flights in a Grob; one with Tim Taylor, the local cross country expert. Tim and I flew for 4.5 hours; just about equal to my total

accumulated dual instruction time of 4.7 hours (9 flights, ~ ½ hour/flight) over the previous 4 years.

On the flip side, life was busy. I suffered a back injury that took me completely out of commission for 3 months during peak soaring season, and it has taken nearly 3 years to return to near-normal. For the past two years, I've also spent most of my resources and spare time pursuing private pilot privileges in an airplane, with hopes of adding on a glider rating. Between work, family, church, trying to mesh schedules with a busy flight instructor, and running on a tight budget, progress has been slow.

In the spring of 2012, I purchased Condor with pedals and stick from Cumulus Soaring. Because I am inexperienced with soaring and Condor, it was intimidating trying to set it up, as there is a language barrier, as well as a learning curve to deal with. I played around with it, but soon let it slip on my priority list.

Sometime in the late summer of 2012, I chased down Scott Manley and asked if he would consider taking me on as a student using Condor. We waited until the regular season ended, and as the ice settled in, I became another test subject for Scott's curriculum. Using Skype and the Internet, we went through the basics of setting up Condor and started with basic lessons.



“In simulation, it was possible to stop things in midair and discuss”

Simulation-based flight lessons were very different from learning to fly in a real glider. In simulation, it was possible to stop things in midair and discuss whatever question I might have. I felt like there was less going on when compared with the overload that seemed to occur in real

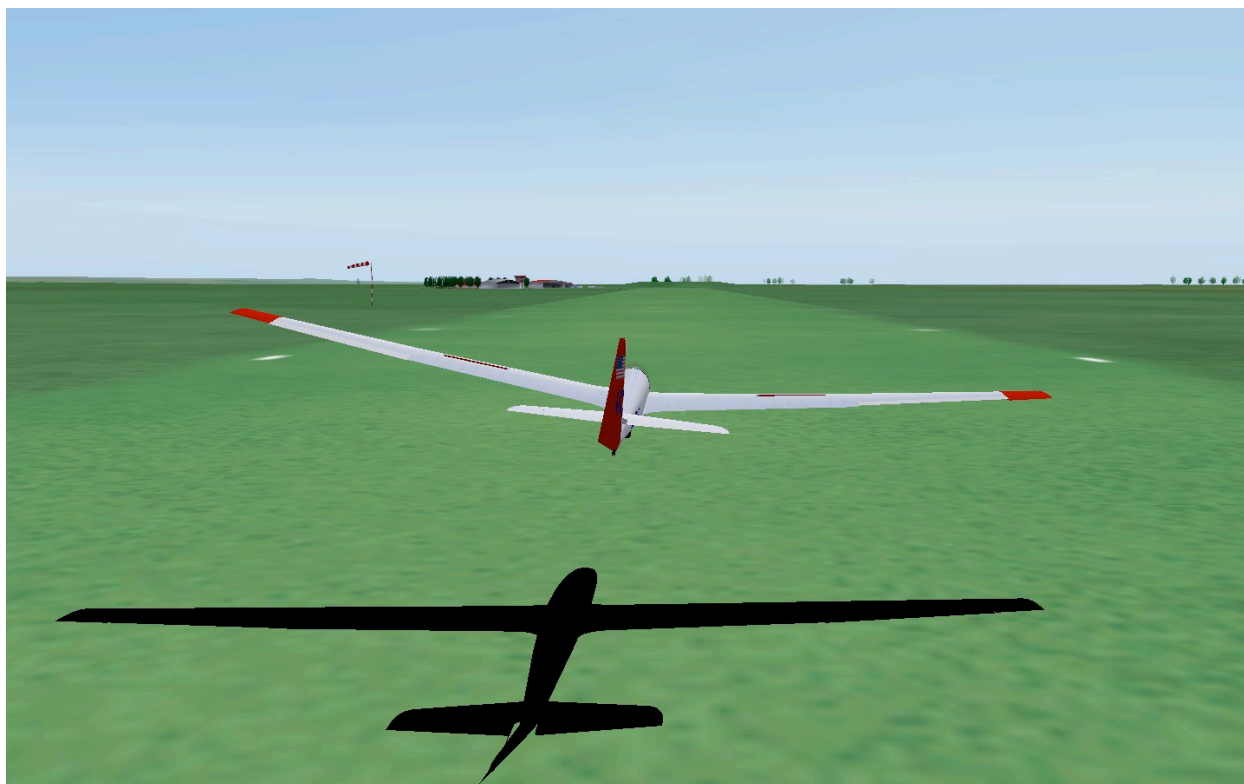
life. In simulation, I was more easily able to concentrate on the specifics of the lesson. I should mention I cannot juggle, and have a hard time multitasking. So simulation-based training was a relief and allowed me to work on a specific aspect of flying, and then add to that as we went.

There was also a more relaxed atmosphere (as I'm sitting in my bedroom...), and we could take time for Scott to answer my questions, and explain things to me, without the overload of a progressing flight.

Often, rather than simply answering one of my questions, Scott would have me fly a scenario that represented my question. I remember specifically asking "What happens if you try to stretch a glide?", and Scott said "Let's try it", so I did. In retrospect, I lived to tell about it, and the replacement plane wasn't too difficult to acquire. I don't think I'll forget that lesson any time soon.

Eventually I completed all the basic lesson material, and during the second winter we worked together, I was in for a treat; I got to select the topics including:

- Flying in a thermal with another glider
Lesson: Keep the other guy on the far side of the thermal from you, and keep an eye on him at all times.
- Runway incursions
Lesson: Never assume the other guy knows what he is doing or even cares if you are already in the pattern.
- Flying on a ridge
Lesson: If I have the mountain on my left and another glider is approaching head-on, I have to make room for him.
- Crosswind takeoffs and landings
Lesson: Think about how the wind is going to affect your takeoff, emergency planning, landing pattern, and landing technique.
- Premature Terminations of the Aerotow
Lesson: At some point, even with full dive breaks, slip, and using the nose skid, there may not be enough runway left to land on... Know where that point is, and ALWAYS have an emergency landing plan based on the current situation.
- Landing Out
Lesson: Even if you think you've got it made to get back to the airport, there may be sink lurking in the background just waiting for you to try to get home; plan accordingly.



Visualizing a Crosswind Landing

And the list goes on: Checklists, Stalls (recognition and recovery), Loops, Aerotow Signaling, Release Failures, Slack Rope Recovery, Aero-towing (Condor uses a 100' rope vs. the usual 200' rope; 'makes it difficult to follow the tow plane, but great practice for the real thing), Winch Launching, all discussed and practiced, many times with video to watch as a concept presentation.

As I was progressing with my powered flying, I found my simulation-based glider training paying dividends. Steep turns, slips, flying best L/D in emergency power out landings; all made more sense. Condor allowed me to learn the "sight picture" for many of these lessons; a great help.

Scott has talked to my real life glider flight instructor at a CFI refresher clinic. Both are interested in knowing the extent to which simulation has improved my real life training. Since I don't have the background experience to know what I don't know, we shall see how my real life lessons progress as I complete my airplane flight training and focus on glider flying.

Rod Machado, in the June issue of AOPA Pilot, suggested using simulation to learn to fly before you pay for lessons in a real airplane; that you could save a lot of time and money compared with learning everything in a real aircraft. Rod's suggestion seemed like a novel concept, until I realized Scott and I had the exact same discussion more than two years ago when we started my simulation-based training.

Since I have a very limited budget to work with, I am of the opinion that Condor has been a great benefit and a tremendous tool to help me confront some of the thinking that was going on in my head. I think I am much better prepared than I was; time will tell. I hate to contemplate how much just the aerotows would have cost me to do the equivalent training in real life.

As an aside, and as a newbie to the glider community, my hat is off to the great people who fly gliders. I've seen many of them sacrifice their resources and time to advance the sport of soaring. I'm especially indebted to Scott Manley, Adam Kite, Tim Taylor, Dan Wroble, and Wayne Paul. Thanks to all of you.

About the Author

Robert Kidd has been a joy to work with. His desire to learn all he can, about anything he undertakes, has been inspiring.

Last minute update:

As this article was about to go to press, Robert informed me he had just passed the practical test for Private Pilot Airplane Single-engine Land. Congratulations Romeo Kilo!!

Thank you Frank Paynter

I met Frank Paynter for the first time at the S.S.A. convention in Little Rock, AR. I was having trouble getting my network connections working for my two presentations and rapidly running out of time. Frank literally saved my bacon that day; leaving his convention floor booth space to help me out of a jamb.

At the Philadelphia convention, it was Frank who introduced me to Chuck Coyne, and by agreeing to co-author an article in Soaring Magazine, provided me with a venue from which to advance the idea of using simulation to improve glider flight instruction. The name of the article "Condor Corner" was Frank's idea.

Over the last five years, Frank and I have worked together to provide the soaring community with information, technical support (Frank's forte), and both primary and advanced simulation-based flight training. We have exchanged ideas, reviewed each other writings, and encouraged each other to continue the hard work of introducing change. I have come to admire and respect Frank more than I can say, and greatly appreciate all he has done for me and for the sport of soaring.

Frank has decided to end his authorship of Condor Corner. The June 2014 issue was his last.

Please join me in saying "Thank you Frank Paynter!" Better yet, send Frank a note at paynterf@gmail.com.

Condor Corner Frequency

With Frank's departure from Condor Corner, and because after 4+ year I have pretty much said everything I wanted to about simulation-based glider flight instruction, Condor Corner will now appear only as events and new information warrant. I believe Frank and I have met our objective

of introducing the benefits of flight simulation to the soaring community and making Condor a household word. I, and others, will continue to keep the ball rolling; and maybe even speed it up a little.

Scott Manley recently traded his DG-303 and a few more Euros for an Alisport Silent 2 Electro. The back of his pilot's license reads: Commercial pilot: airplane single-engine land & sea; instrument airplane; glider. When not migrating along the 75 F isotherm, he flies as a commercial pilot and glider flight instructor for Sylvania Soaring Adventures in Beloit, Wisconsin. He also provides simulation-based glider flight instruction at-a-distance to glider rating candidates nation-wide.

Feel free to contact him at: smanley@wisc.edu or **gliderCFL.com**