

# SKYLINE

MONTHLY NEWSLETTER OF SKYLINE SOARING CLUB, INC

JANUARY, 2005

## President's Prerogative

*George Hazelrigg*

I am proud to announce that we have successfully closed out one more flying season. No accidents, no injuries, no incidents. Thanks to Bill Vickland and Eric Litt, our Pawnee functioned (almost) flawlessly all year. True, we have had an increasingly difficult time starting it, but we did not miss a day all year because of Pawnee problems. Thanks as well to the Front Royal Aero guys, Sean and John, who have worked tirelessly to keep it up and flying. Also, our ASK-21 and Grob kept us in the air every flying day. And we have several accomplishments to look back on over the year.

I have to admit that too often we see what has been totally obvious all along only when something hits us over the head. In my case, it was with a bit of fatherly pride that I chose to announce George's engagement in our newsletter, and to hide this just a bit in the guise of a "Significant Events" column. But the simple fact is that many of our members have had significant events throughout the year. Knowing full well that I will miss most, I'll mention several.

Steve Wallace and John Barry completed their service to the Nation through their participation with the team that investigated the Space Shuttle Columbia accident. I can vouch from what I have heard and seen that this has been a very thorough investigation, and one that deserves a great deal of recognition.

Piet Barber (new father-to-be) and I got our CFI-G ratings and together have done over 300 instructional flights. Thanks here to instructors like Spencer Annear and Dave Weaver for getting us through this program. And, on the topic of instruction, I estimate that across the Club we flew over 700 instructional flights this year (I'll report again after the official count is in). Piet, of course, has gone on to become our Chief Flight Instructor.

We have a great cadre of young people in our club, all with their personal challenges and achievements. Four of our members began soaring at the age of 14, and three of them soloed this year: Matthew Brewer, Dan Noonan and AJ Dunn. Loring Ross, the fourth, is not far behind. Joe Clark, a student at GWU, joined us in the fall, and soloed the Grob just before Thanksgiving. We'll be seeing these people in future competitions.

Several members got glider ratings during the year. The ones whom I can think of right off hand include Curtiss Wheeler, George

## Significant Events

*January 2005*

**Dan Noonan**, at age 14, accomplished his first solo flight. A great accomplishment. Congratulations to Dan.

**Steve Wegner** solos his LAK-12. Two great flights, with his first lasting over an hour. Good going Steve!

**Robert Link** added a glider rating to his PPL-SEL. Robert did a great job on his practical, and then flew a celebration flight with Frank Banas as his first passenger. Congratulations to Robert.

Our annual party, hosted by **Bill and Lynne Wark** was a spectacular event in a beautiful setting. Many thanks to Bill and Lynne for a wonderful evening.

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Ross, Steven Wegner and our most recent PPL-G, Robert Link. To the best of my recollection, all our candidates for ratings made it on their first try this year. This and our record of solos for the year are a great tribute to our instructor staff. Steve Wegner went on to solo his LAK-12, which had been waiting for him for about two years. Congratulations to all of you.

Our annual party was hosted by Bill and Lynne Wark at the Canary House in Clifton. And this was quite an accomplishment. Bill and Lynne stretched our imaginations with outstanding decorations and foods. I would fall quite short of the mark if I tried to describe the party. Suffice to say that we were overwhelmed by their home and the wonderful foods they prepared. If you weren't there, all I can say is that you chose to go to the wrong party.

Looking back on the year, I wonder why I hadn't thought to include a "Significant Events" column in every edition of our newsletter. So, here's my invitation. Send in to our editor or me anything that happens in your life that you consider to be a significant event. We'll see that is gets published, and maybe we will all recognize better what a great group we have.

Our final day of flying this year took us to Petersburg, WV (W99). The game plan was to tow the ASK-21 over and to do instruction in the wave. Dave Dawood, Brian Collins, Kevin Fleet

and I were at Front Royal at about 7 AM to get things moving, and several others headed directly to Petersburg. But things, of course, didn't go according to plan. First, the Pawnee refused to start, and we wound up calling Larry Stahl for a tow over. Dave and I then drove over towing 6E with us. We arrived at about 10:30, just in time to see the K arrive. Alas, it was dead calm and overcast, and not a hint of lift, let alone wave. But, as the day progressed, the sky cleared, and we got in eight instructional flights. A great experience for all those who had previously been limited to flights out of Front Royal. After flying, Larry had a great spread of food, and we all enjoyed a great meal, compliments of Larry and friends. The day at

W99 was a great experience, and we all felt very welcome.

Soaring is a sport in which we are always stretching to new heights and new goals—learning to fly in a new location, learning to navigate, learning to cope. We plan all the time, and then we watch our plans get dashed by equipment failures, weather and anything else that can come along. I am beginning to refer to soaring as the Plan B sport. We do it alone, but only as a team. We work together, struggle together, train together, do landout recoveries together, and then we enjoy our sport alone, lying on our back in the sun—at 8,000 feet.

Happy landings 2005. 

## Brief Overview of PC-Based Soaring Simulators

*Carlos Roberts*

As the weather turns cold and our tow plane goes down for its annual, my interest in soaring simulators awakens once again. I've had experience with several of these programs. I thought it might be interesting to review a few of them, just skimming the surface.

Let's start by classifying the available programs into three groups: a) general flying simulators that can be adapted to soaring (think Microsoft Flight Simulator, or X-plane), b) "lite" soaring simulators (like Micro Flight or Hangsim), and c) "heavy-duty" soaring simulators developed exclusively for sailplane soaring (SFS, Sailors of the Sky, and Silent Wings).

The advantages of the general purpose flying simulators is that they are widely available and supported, and have lots of scenery available for them, worldwide. This is particularly true of Microsoft's Flight Simulator (MSFS), which has been around for many years. All kinds of add-on scenery is available for it, mostly free, but some on a commercial basis. In particular, I can highly recommend the package called "VFR Photographic Scenery", which is available covering most of the UK. The resolution of this scenery is 10 cm (4"), which means you can distinguish (barely) something that small on the ground. So even at low flight elevations, a lot of detail is preserved.

But the problem with MSFS, and with X-plane also, is that these are general purpose simulators. The programs include a wide variety of aircraft, including fighters, bombers, airliners, general aviation, and —almost forgotten—gliders. As a result some key features for soaring purposes are not built in to the program, and have to be added. One small such "detail" that is generally omitted is thermals. For MSFS, there is an outboard shareware program that you can add to provide thermal activity, called "Cross Country Soaring 2004", and it is available from <http://x-c.home.att.net>. Another valuable link for MSFS users is Wolfgang Pipers home page: [http://www.fsglider.de/frset\\_e.htm](http://www.fsglider.de/frset_e.htm), where he has a large number of gliders (over 30) available for free downloading for use in MSFS. With appropriate add-ons, MSFS gliders can be winch-launched or aero-towed.

I won't say much about X-plane, because I haven't used it much lately. The scenery is generally very unrealistic-looking, but a lot of pilots like the flight characteristics of the planes. Again, it is a general purpose simulator, not designed specially for soaring. (You can fly on Mars, for example)

Let's move on to what I call the "lite" simulators. These are programs that while mostly aimed at the large soaring community, are not limited to sailplane soaring. They include, for example,

ultralights and hang gliders, and often other types of aircraft. I believe Hangsim is the oldest of these programs, since it came out in 2000. It is mainly focused on hang gliders and ultralights, although it does have a sailplane included. It has the required thermals and allows for ridge soaring, but has pretty unrealistic scenery. Not worth spending your money on this one, in my opinion.

The other program I have used in this category is Micro Flight. I have version 3, but the current version is Version 5, which has a number of improvements. This program is aimed at all types of flying, including power, but has a number of soaring-related features. I find it to be one of the easiest ones to get started with, as the user interface is very user-friendly. I also suspect, however, that it doesn't have all the features of the soaring-only programs. One pretty cool thing it does have is a neat thermal visualization, which can be turned off by the pilot. When this is on, thermals are shown as a swirling transparent series of funnels, increasing in width with altitude. This makes it much easier to locate and center the lift, of course. While other programs have thermal indicators, I find this one to be one of the best.

Moving on to the heavy duty soaring-only programs, we have three that I know of: SFS (Soaring Flight Simulator) is the original one of these, and was developed in Germany by a pair of aeronautical engineers, and thus features very good aerodynamics. Reviewing this program, well-known glider pilot Richard Johnson had this to say: "In my opinion this new Sailplane Flight Simulation – Version 4 is a whole lot more than just another enjoyable computer game. It can both significantly reduce the amount of flight training that a pilot needs to safely solo, and it can help experienced pilots learn more and maintain their proficiency. Hopefully, its use can help reduce the deplorable start-of-the-season sailplane accidents that we too often see each spring."

There's no question that SFS is a good program. It is all about soaring, so it lets you do things that some other programs can only dream of, like program in the frequency with which random rope breaks can occur. (!) But it has a couple of significant drawbacks, in my opinion. First, the scenery is limited to Germany, and, even worse, it is not photo-realistic at all. It's more like cartoons,

*NASA Dryden Flight Research Center*



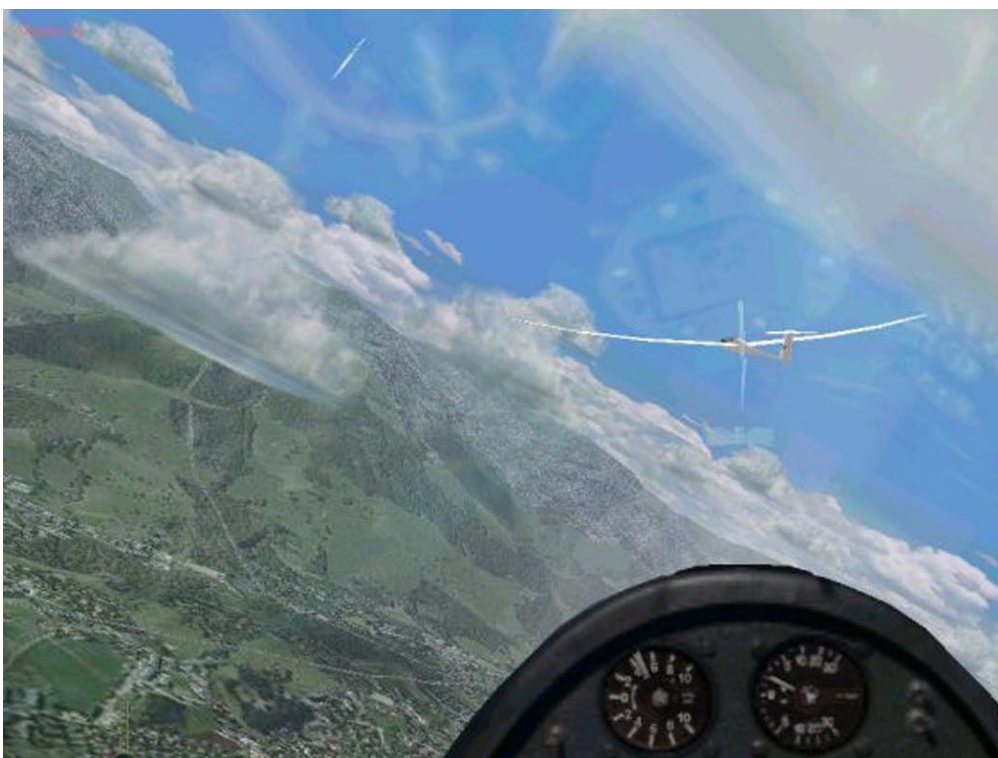
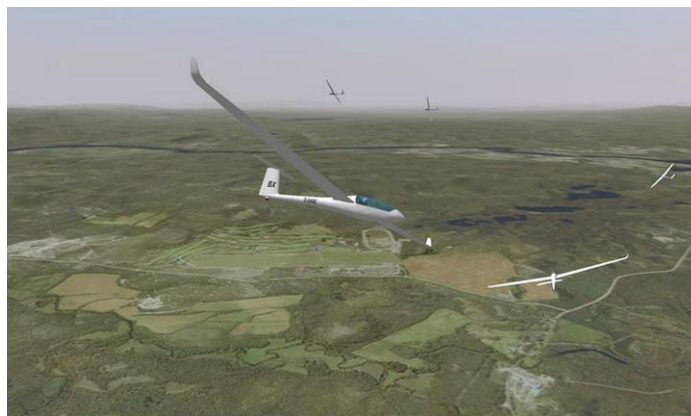
*World's absolute speed record, 4,520 mph, Pete Knight, X-15, 10.3.67.*



albeit very nice cartoons. To me, that detracts significantly from the fun of flying this simulator. (The authors are working on a new version that will supposedly solve this problem) The other major problem is that the program is so centered on Germany that it detracts somewhat from its usability by non-German pilots. Not only is all the scenery German, but the majority of their forum posts are in German also, which obviously doesn't help the average US pilot. If you want to check it out anyhow, go here to download their free demo program: <http://www.sfspc.de/englisch/downloads.htm>.

OK, I'm saving the best for last. About 18 months ago a new soaring simulator, Sailors of the Sky (SOTS), popped up out of nowhere. Developed and programmed by a Spanish engineer and pilot, I would argue that this represents the current state of the art in mature soaring simulators. It may not have every bell and whistle possible, but it has a lot of features. The amount of realism is excellent, even including such things as canopy reflections of the instruments. (see the picture for an example).

This program is still in beta development, but if you have a high-speed internet connection, you can download the full beta program for free. (Over 200 mB when I did it) Just to whet your appetite, here's a few screenshots from Silent Wings:



*Cockpit view from Sailors of the Sky*

SOTS has very realistic scenery, but only for a limited number of areas. However, those are scattered worldwide, and the user forum is conducted in English. There are over 20 different types of gliders available, and also some power aircraft also. A number of challenging tasks and contests are built into the program, and you can even fly simultaneously with other pilots worldwide, linked together over the internet. (I haven't tried that aspect yet) More info is available at <http://www.sailorsofthesky.com>, including a free downloadable demo of the program. The cost for the full program is very reasonable, only 29 Euros. (right now about \$39, but rising steadily, so hurry!)

Finally, for a glimpse into the future of soaring simulators, go to <http://www.silentwings.no>, and look at Silent Wings. There you will find the most realistic looking scenery to date, and (at least according to the authors) the most sophisticated aircraft, imaging, and weather models available.



*(Top) Thermalling in a gaggle (looks like a picture, doesn't it?)*

*(Middle) Doing a loop over the Nevada desert*




*(Bottom) Under tow (note the droop in the towline)*

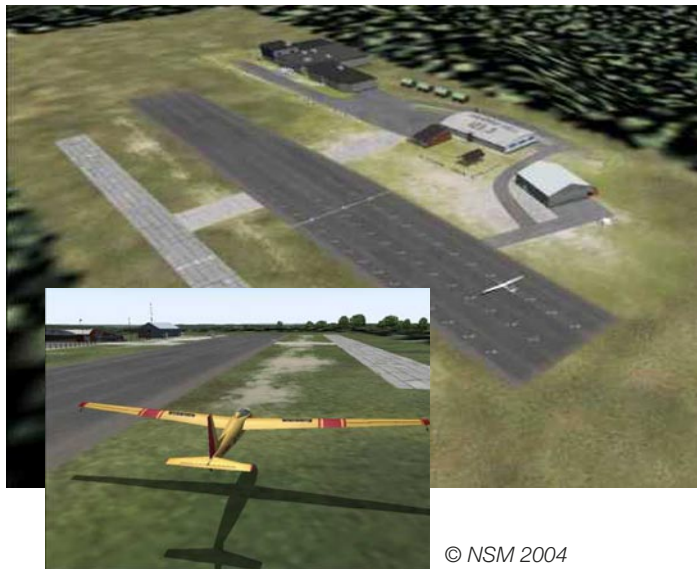
As you can see, the graphics from this program are simply amazing. And, because of the technology used, you can generate real scenery, based on aerial photographs of your favorite parts of the country. I'm anxiously awaiting the commercial release of this one.

Finally, a note about equipment required. While not all programs mandate this, I would strongly suggest the use of a set of rudder pedals. You can get these for less than \$100, and they definitely add to the realism of the simulation. You need a PC, of course, and the faster the better. Any of the newer machines with over 2 GHz CPU's will probably do well, but even slower machines often work fine. Try your computer on one of the free demo downloads before you buy. If you really get hooked and have time and

money to spend, you can get an IR-tracking headpiece that senses which way you are looking, and changes the view on the screen as you turn your head. (I don't have one of those, though it sounds like fun). Even better, some games support multiple screens— you can have a really wide view, just by using multiple monitors. So, now you know what you can do with those old leftover monitors

when you convert your office PC's to flat-panel displays!


I hope this brief overview of soaring simulators was helpful. I think it's a great way for beginners to learn some of the aspects of flying, and for experienced pilots to have some fun and keep the rust from developing during the upcoming cold months, until we can get back in the (real) air. 



### **Add-On File for Microsoft Flight Simulator 2002 and 2004**

Downloads Section <http://www.soaringmuseum.org/> Harris Hill

This file will make the National Soaring Museum and Harris Hill Soaring Club structures appear in Microsoft Flight Simulator. Thermal soaring and ridge flight are also possible in the immediate vicinity of Harris Hill. For the ultimate test of piloting skill, try the Snowbird spot landing competition!

The add-on is provided as a compressed ".zip" file. This will shorten the download time. (About 6 minutes with dial-up internet access.) Most newer computers come equipped with the appropriate program (Winzip) to uncompress this type of file. If your computer does not have Winzip, or if you are not sure, go to [www.winzip.com](http://www.winzip.com) to download a free copy. Once the file is uncompressed, you will see a collection of files and folders. Open the text file named "Readme" for further instructions. If you have problems, contact Ryan. Downloads Section 




### **Schweizer 1-26 Simulator Update**

*National Soaring Museum News*

In our quest to provide interactive education at the National Soaring Museum, we have begun construction of one the most advanced flight simulators in any upstate New York aviation museum.

Currently, the project is roughly halfway completed, now that the major components have been acquired. A Schweizer 1-26B fuselage was donated by Pat DeNaples of the Caesar Creek Soaring Club in Ohio. The original wings were damaged in an accident, so a new set of wings with a 12-foot span is being constructed. The fuselage will receive a new coat of paint, as shown in the accompanying computer rendering. The veteran 1-26, built from a kit in the 1970s, is mounted on a "three degrees of freedom" motion platform provided by John Sarnicola, of Sarnicola Simulation Systems in Binghamton, New York. The motion platform will communicate with the computer to match the attitude of the sailplane in the flight simulation software. In other words, if the "pilot" moves the glider's control stick to the left, the motion platform will bank left as well, up to 30 degrees. "Three degrees of freedom" refers to the platform's ability to move in three ways: pitch, roll (bank) and "heave," or vertical up and down motion. Future plans include mounting a projection screen in front of the pilot, to display a virtual flight environment, allowing a user to see a photo realistic view of the earth below.

The NSM's current flight simulators are extremely popular with kids of all ages (even the ones with gray hair!) and we are excited to be working on a new version that will raise the bar of the soaring museum's simulator program!

**Thanks to Judah Milgram for recommending this article and Julie Munson and the NSM for allowing its use.** 



Text and photos © NSM 2004



## A Golden (altitude) Day of Soaring

Brian Collins

It was 2pm on a rainy Thursday afternoon and I was spending my time pulling my 30+ foot glider trailer in slow moving traffic around the Beltway. Normally, being in heavy traffic would have been particularly frustrating for me, but not this day. My motto has always been that a bad day away from the office is always better than a good day at work. And, tomorrow I intended to be flying the ridges of Pennsylvania, Maryland, West Virginia, and maybe Virginia. So as I wound my way around Washington D.C., I let my mind wander a bit (inasmuch as I could given the weather, the traffic, and my bulky trailer).

My thoughts went back to earlier in the week. Starting the week before the weather maps showed a system moving into the area bringing with it sustained Northwesterly to Westerly flow for tomorrow. I had been checking on this system every couple of days and by the past Monday, it looked pretty certain that Friday was going to be the day. Unlike good thermal days, a good ridge day can be forecast (with pretty good reliability) as much as a week or more out. Still I had moments of doubt as the sheets of rain fell from the sky during my drive that afternoon. However, my only real worry was that the winds might be too strong. In the past 24 hours, the forecast had gotten progressively stronger and stronger. The question now was whether it would be too windy.

Unlike thermals where stronger is always better (as long as it isn't a cu-nim), ridge soaring has a useful upper limit. Optimal conditions exist with winds perpendicular to the ridge at about 15-25 mph at ridge top. With this kind of wind most modern day gliders can sustain flight at redline; however, those with a healthy respect for life (or at least the value of their glider) will choose a speed somewhere between the maneuvering speed and the upper gust limit. The speed is usually derived from the amount of rattling to which the pilot wants to subject themselves. The faster you go, the closer to the ridge you will be and the bouncier it will be. However, once the winds exceed 30-35 mph at ridge top, ridge soaring conditions actually begin to deteriorate. Since the glider cannot travel any faster (you're already at the maximum safe airspeed) and you will need progressively larger crab angles (in order to keep from getting pushed into the ridge), your ground speed begins to decrease. To make matters worse the increased wind speeds make the air close to the ridge even more turbulent with stronger gusts (it is not uncommon to watch the g-meter bounce between +5 and -3 g's about every 3rd second..., all day long). As a result, most glider pilots end up flying higher and slower on the really windy days. Additionally, the stronger winds make it more difficult to jump gaps of any distance, or even worse to jump upwind. In a modern glider, unbelievable amounts of altitude can be lost penetrating just a couple miles in the sink behind an upwind ridge when 40+ knot headwinds are blasting into you. In a less capable glider, the task can be impossible. The airspeed indicator reads 100 kts. The wind noise sounds like 100 kts. Your ground speed should be 115 mph, but instead the earth is just crawling past the canopy. On the bright side, the transitions downwind are a breeze (even a 1-26 becomes a 50:1 glider). However, while very strong winds can put a damper on ridge soaring, they often times open up the skies for wave conditions to very high altitudes. But the price for enjoying this experience is the beating of your life during aerotow, and once again when you land. If chosen wisely though,

you can often times mitigate this by getting in the air before the winds descend close to the ground in the early to mid-morning hours and then stay aloft until things settle down later in the afternoon or early evening. Since this could mean a flight of 6-14 hours, an adequate supply of water, food, clothing, and bladder relief facilities must be on board.

Thinking about all of this on my drive made my stomach tighten in anticipation. I pulled into Julian, PA just a little bit after dark, dropped off the trailer in a choice assembly spot, unloaded my stuff in the bunkhouse, and headed down the road to the local foodmart for tomorrow's breakfast and lunch. By the time I returned, the once empty bunkhouse had begun to stir to life with the arrival of several pilots who were also looking forward to tomorrow's flying. As is always the case, the pilots covered the whole gamut of experience—some were soaring experts, some were beginners. Some had been here dozens of times. For some, this was their first time. Old-timers pulled up chairs and began to relive past flights, and new pilots/first-timers just sat there sucking it all in (trying to figure out whether they were going to burst with excitement or get nauseous just thinking about it all). And, of course there are always a couple pilots with their laptops out, pulling up the best soaring forecast websites, and planning the next day's flight on their SeeYou software. Nothing calms the nerves better than reviewing cold, hard weather facts—min temps, max temps, winds aloft forecasts, precipitation, cloud layers, etc.

But, too soon the weather forecast is put away and the topo/sectional maps are broken out..., and that pang in the stomach is back again as you think about your flight. Should you play it safe and stay on the main ridge (about an 80 mile nearly unbroken stretch), or should you risk making the jumps at the gaps in the ridge at Altoona (4 mile gap) and Bedford (10 mile gap), and maybe Cumberland (20 mile gap) or even Covington (20 mile gap)? Every jump provides another opportunity to land out, and even worse, reduces your odds of making it back to Julian. If you think it's hard to jump these gaps headed South (downwind), then the return trip (into the wind) will really get your attention. Sometimes lifting conditions simply do not provide a return trip home.

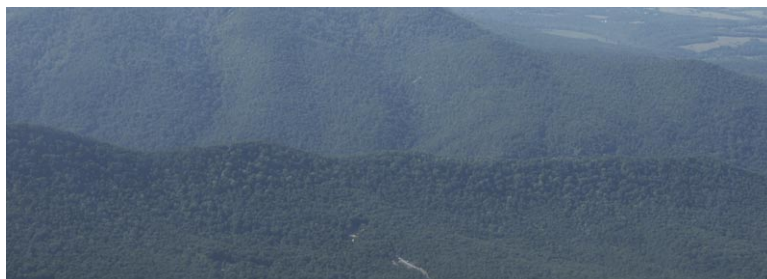
But enough of this stuff, it's time to go to bed. Even at 10pm I am the first one to hit the sack. Maybe these other folks don't need much sleep, but I'm going to be a little short myself when that clock rings at 5:30 a.m. I've been here at Julian a dozen times in the past year, and yet the promise of an exciting day makes sleep come so slowly, but eventually it finds me.

Yep, 5:30 a.m. is just too darn early for glider pilots. The smell of coffee only helps a little. As I get up, I quickly realize that I am the last to awake, so I hurry about getting myself ready, and then

rush out to assemble the glider with the help of my headlights and some other eager pilots. By the time I am done, the dark morning sky has turned to daybreak. It's a pretty sight—calm, serene, and beautiful, but boy I sure do miss those noontime launches in Texas and Nevada (and the warm temperatures as well). I hustle to the launch line, finish the last-minute checks, and then wait my turn. The first launch is slow getting off as they double-check their electronic flight declaration for a national or world record flight attempt. The next one is a self-launcher and the cold morning air isn't helping the motor start up, but eventually it does. It's been about 30 minutes now and the once calm air is beginning to rotate and swell near the ground. The wind sock starts to oscillate between 5 and 15 knots (fortunately down the runway). A radio call from ridge top (just 1300 feet above us) reports winds in excess of 40 knots. It won't be long now before the wind really starts to pick up on the ground, and since the runway is parallel to the ridge (perpendicular to the winds just above our head) take-offs will be getting juicy real soon.

Firmly strapped into my glider (very firmly), I waggle my rudders and we are off. The ground roll goes well and we lift-off with ease. Tom Knauff stays in ground effect with his towplane to pick up speed before we begin our climb into the winds above us. Unlike an earlier flight where I watched the westerly winds rotate the towplane into a 90 degree bank to the east, the transition into the winds aloft that morning went relatively smoothly. I say relatively because the tow was far from being what one would call pretty.

Generally speaking, the objective is to keep one's nose pointed at the towplane's tail, maintain the glider somewhere within the box-the-wash, and prevent a loop in the towrope from encircling your glider. I succeeded in meeting all three of these objectives. Be-



*George Hazelrigg*

yond that, I was very happy to feel the welcome kick of the ridge lift as this meant that I could get rid of the towplane. With a quick pull of the release, it's now just me and the ridge. And, apparently I wasn't the only one who was happy to be done with the tow. Tom made his way back down, bounced around the pattern, successfully landed, taxied to the hangar, and put the towplane away. The next two hours he said they just sat on the ground and listened to the wind literally scream through the treetops like a freight train. There were others desiring tows that day, but that wasn't going to happen at that airfield, not with Tom's plane.

Meanwhile, the turbulence coming off the ridge was amazing—120 kt ridge top running was entirely out of the question. I maintained 60-70 kts to ensure adequate controllability in these conditions and begin to feel out the ridge. Crab angles were a good 30 degrees or more. At least it made visibility good since my view out the side canopy was much better than my split-canopy view out the front. Fairly quickly, I worked my way up to a 1000 feet off the ridge where the turbulence subsided considerably (as did the lift). Since I had no desire to land in these conditions, I played it safe for the next hour. I slowly cruised down the ridge. Given the crab angle and my nose bleed altitude of 1000 ft above the ridge, my achieved speed was only 40 mph, but at least I wasn't going to land anytime soon. About halfway to Altoona, PA (approximately 40 miles to the south), I climbed in some ridge/ro-

tor to 4000' MSL and began to explore the wave and slowly climb. Shortly thereafter, from nearly 8000' MSL I was feeling pretty good..., until I realized I had maneuvered 6-8 miles downwind of the main ridge and the primary wave. With winds estimated at 60-70 kts at this altitude, I was hoping that the sink would not be too significant.

For the next 30 minutes I slowly worked from the tertiary wave to the secondary wave, only to end up back at that tertiary wave again. Even for a pilot with no agenda for the day, I was starting to get a little miffed about my inability to regain the main ridge, so I did what I should have done 30 minutes ago. I buried the nose and headed straight into the wind. My initial speed of 80 kts provided a laughable ground speed. Finally, at over 100kts I was able to achieve a nearly respectable 40-50 kt ground speed. In 7.5 minutes I lost 3500' and covered a whopping 6 miles. That works out to a 450 fpm sink rate and a 9:1 glide ratio (in a 42:1 glider). But, I was finally back on the front ridge and just short of the primary wave.

By this time I had been in the air for a little over 2 hours and was looking down on the town of Altoona. Now normally, I am a 6-8 hour kind of bladder guy, but apparently the cold temperatures were allowing fluids to be processed faster than normal because it was obvious I was going to get the opportunity to try out my new relief system on this flight in awhile, but not yet. I searched around the town of Altoona for the best area of wave and finally learned my best lesson of the day—ignore the clouds. Normally, my wave

experience in California/Nevada has shown that the wave clouds just downwind of the Foehn gap are perfectly stationary and make a great reference point. Stay upwind of them and you are doing just great. However, these clouds were different, and it took me

awhile to figure out why.

Stationary wave clouds aren't actually stationary, but rather they are continuously being formed at the same distance downwind of the wave source. So while the clouds are moving downwind, the fact that they continuously regenerate at the leading edge of the wave cloud makes the cloud mass appear to be stationary, but not these clouds. Whether it was changes in moisture content, wind speed or direction, or some other factor a cloud would form and then move downwind and another cloud would not immediately form behind it. Since my focus at the time was on the cloud rather than the ground, it was not obvious at first that I was drifting downwind. I would stay just upwind of this new cloud, but then 5 minutes later it would dissolve and a new cloud would form a quarter mile upwind of my present location. Unfortunately, most of my previous wave experience was more of a hindrance than a help. Had there not been any clouds (as in some times prior) I would have simply focused on a ground reference. Of course, then I wouldn't have learned such a great lesson. After more than one iteration of this (I won't say how many for fear of losing all credibility), I finally figured it out and reverted to ground references and my GPS data. I found the best lift, pointed myself dead into the wind, and slowed down until my groundspeed approached zero. In fact, towards the end of my climb I was so successful bringing my GPS ground speed to zero that my data logger actually shut itself off and started another data file as it thought I had

landed and come to a stop.

Starting from just under 7000' MSL I steadily worked my way up to just under 18,000' MSL in about 41 minutes for an average climb of 260 fpm. Not exactly the 10 kt climb rate that I might average out west, but it sure was pretty and quiet (and a whole lot smoother than the ridge 16,000 feet below me). On the way up I had estimated the wind speed at about 100 kts as it took about 70 kts indicated at 18,000' to maintain a near zero ground speed. From that altitude the sky was a beautiful blue and you could grasp a hint of the dark blackness of space many miles above. The cloud layer below was scattered at about 12,000' MSL. Of course, I was on oxygen by this point. In fact, once I was firmly entrenched in the wave I had transitioned to oxygen at about 9000' MSL. And now that I was above all general aviation traffic (though I did see two commercial airliners making contrails across the sky), I turned my attention to what really mattered—ridding myself of the morning's liquid consumptions. After just 10 minutes of concerted, focused effort, I was successful. And, while mundane for some, this was an accomplishment for me as it was the only remaining obstacle to later flights that I hope will exceed 10 hours in duration.

By this time I was 3.5 hours into my flight and just tickled as could be. The temperature at that altitude was cold (like -20 or -30 degrees cold), but my t-shirt, long-sleeved shirt, and 2 pull-overs were keeping me quite warm (thanks in large part to the bright sun at that altitude beaming through the canopy on me). I later learned just how dramatic the sun was to my heat reserve when I turned parallel to the wave generating source (minus a 30+ degree crab angle of course) and begin to do some high altitude cross-country flying. My left leg was in the sun, but my right thigh was hidden behind the center console. It's an odd sensation to have one thigh warm, and the other freezing.

For the next 1.5 hours I cruised back and forth with impunity from Altoona to near Cumberland (another 40 miles to the south). Given my flight altitude, there was absolutely no apprehension about the gaps that stood between me and the gliderport. They could be crossed with literally miles of extra altitude, so I continued flying circuits in the strongest lift. While I had great success maintaining the wave when flying to the north, I was

somewhat less successful when flying to the south. As a result I did not venture much past Cumberland. And, since I had instructional duties in Front Royal the next day I couldn't afford a land-out. Additionally, the cloud layer south of Cumberland transitioned from scattered to mostly cloudy and since it was not my intent to descend amongst the clouds (albeit they were still some distance below me), I stayed up to the north.

After 5 hours in the air, I decided that it was time to start thinking about wrapping up the flight (keep in mind that I am still 3 miles vertical). For the next 65 minutes I enjoyed a 120-mile final glide to a point 20 miles north of Julian to an altitude just a few thousand feet above the ridge. Initially the glide was accomplished at speeds of 80-90 kts; however, the altitude wasn't burning away fast enough so for the last 20 minutes speeds were in the 120-130 kt range. The final analysis showed an average speed of 110 mph at a 50:1 glide slope—now that's more like it.

I wrapped up the flight with some ridge top running (by this point the winds were much more reasonable though by no means gentle). And for the first time all day I enjoyed some truly enjoyable air temperatures (around 60 degrees). By the time I got to Julian I was warmed up quite nicely. It was quiet at the gliderport as I performed an overhead circuit and approached to land. The approach was not easy, but it was far better than I expected. I did see a 25 kt wind shear (loss of airspeed) on high final. As a result, I did a grass landing in case a crosswind on the ground should attempt to weathervane me. The paved runway is just a short distance from the glider trailers, but the grass area is further away providing an extra margin of safety. As it turns out this was not necessary so I veered back towards the paved strip during my roll-out. I hopped out as quick as my laden bladder would allow, pushed the glider out of the way with some help, and scurried off to the bathroom (at the time I thought my relief system was at capacity).

I had been in the air 6.5 hours and yet it was only 2:30 in the afternoon. After setting myself in order, I leisurely cleaned and disassembled the glider, relayed the day's exploits to those on the ground, and then started my drive back home to the family. There was a plus side to these early morning starts after all—for once, I would be getting home early.

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## Curmudgeon's Corner

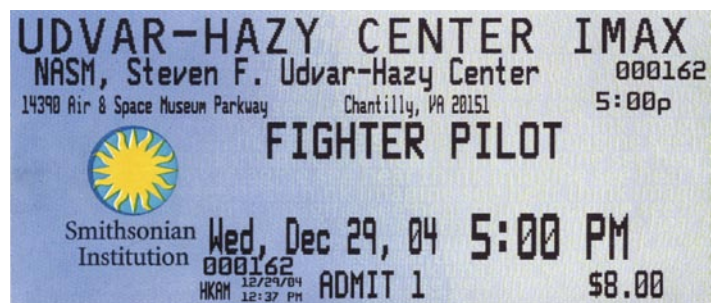
Oh, Why Worry About Grammar??? (Read the Following Quickly...)

Iednuolt blveiee taht I cluod aulacly uesdnatnrd waht I was rdanieg. The phaonmneal pweor of the hmuan mnid aocedrnig to a rscheearch at Cmabrigde Uinervtisy, it deosn't mttaer inwaht oredr the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rghit plcae. The rset can be a taotl mses and you can sitll raed it wouthit a porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Amzanig huh? Yaeh, and I awlyas thought spleling was ipmorantt.

Sigh.

—Jim Kellett, Resident Curmudgeon

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<http://www.fighterpilotfilm.com/>

One of the things your Editor was doing instead of *Skylines* was an all day tour of NASM/U-H. I highly recommend the above movie. This thing will blow your socks off.

For those of our members who do fly and have flown these kerosene roman candles, this may be a bit tame with butt firmly on the ground. But for the rest of us, bring a barf bag.

It is especially gratifying seeing so many sailplanes. The Frank Kelsey build Hawley Bowlus Super Albatross sits among the heavy metal, under a Junkers, looking towards the sky.

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**Copy  That!** *Selected flotsam and jetsam from the editor's daily Tsunami of e-mail*

**Some Suggested New Years' Resolutions**... remembering it's far better (really!) to give than to receive!

1. Get another rating... work toward the CFIG or getting towplot-qualified.
2. Volunteer for, AND WORK AT, a special project for your Club, or for your Society, at either the National or Regional level... (Do you have to be a Director to serve on a National Committee? NO!!)
3. Crew for a fellow Club member working on his cross country badges or a contest.
4. Offer to help someone assemble/disassemble a glider.

—**Jim Kellett**

Welcome new member **Craig Sutherland** who soloed on December 12th.

**The Feb/Mar issue of Air & Space** will have a story on vintage soaring. Below is a fairly complete list of the featured gliders: Schweizer TG-2, Laister-Kauffmann 10A, Dittmar Condor, Schweizer 1-21, Weihe, Baby Albatross Kirby Kite Kirby Petrel, Slingsby Grasshopper

**Hello**, I was somewhat surprised when I happened to do a google search for myself a week or so ago and found that the top hit was the July edition of your newsletter, featuring an email I wrote about the space ship one flight I attended in Mojave. I'm not bothered that you printed the email (which I just sent to family and friends) but I was curious about how it came to be in your newsletter! (*from Carlos Roberts-ed.*) It's kinda exciting to be published... I just never thought it would be inadvertent! If I'm ever out in Virginia, maybe I'll give you guys a call... perhaps even go for a flight? (I'm a student pilot right now, but I want to keep learning... faster higher, more diverse aircraft.. everything). Take care.—**Nathan Saichek**

**Newspaper features pilot Jim Kellett**, Region 4 Director-elect and his passion for soaring was the subject of a nice feature article in his local Virginia Newspaper, The Winchester Star. Star writer, Linda McCarty, ended her article on Kellett with his words, "If flying was the language of man, soaring would be its poetry. We encourage all SSA members to consider making contact with their local newspapers, which are frequently anxious to run unusual human interest stories. Invite a local reporter and photographer out to your gliderport, and give them a ride! The piece can be viewed at: [http://www.winchesterstar.com/TheWinchesterStar/041208/Area\\_flying.asp](http://www.winchesterstar.com/TheWinchesterStar/041208/Area_flying.asp)

—**Soaring Society of America e-Newsletter**

Frauke Elber (SSA Club News) asked Dan Noonan to write her about his solo. This is what he wrote:

"When we left for the airport, it looked like a good day to solo. Light winds, partly cloudy, and cool. I was a little nervous, but having fifty flights with nine of our club's instructors, I felt confident that I was ready. By the time we arrived at the field the weather had taken a turn for the worse. The sky was now overcast, but more importantly, the wind was coming from the south, and the



Dan wingup with CFI-G Fred LaSor photo by Dan noonan, the Elder

crosswind condition made my chances of soloing look pretty bad. My instructor decided that we should take a couple of dual flights and see how the day would go. Of course, on our first flight, we had a simulated rope break, but that went Okay. Our second flight was a pattern tow, but the crosswind was getting too strong, and Instructor Fred said we would have to wait for the wind to die down if I was going to solo. For the next three hours I waited for the wind to improve. Finally the wind started to lessen and the next thing I knew I was being pushed to the flight line in the club's ASK 21 and the back seat was empty. The takeoff and tow went Okay, although without my instructor I wasn't as confident in my location. After releasing from tow, I practiced my turns and air-work. The pattern and landing went pretty well. After the flight everyone congratulated me, but it wasn't until I was holding my shirttail with everyone's signatures on it that I realized I had actually done it.

Thanks to everyone at Skyline Soaring Club for all of their help and encouragement. "

*A lady goes to the post office to buy stamps for her Christmas cards. She says to the clerk, "May I have 50 Christmas stamps?" "What denomination?" the clerk asks. "Oh my God! Has it come to this then?" asks the lady. "Well okay, give me 6 Catholic, 12 Presbyterian, and 32 Baptist."*



**SKYLINES**

January, 2005

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**Skyline Soaring Club, Inc.**

<http://www.skylinesoaring.org>