



# SKYLINE S

MONTHLY NEWSLETTER OF SKYLINE SOARING CLUB, INC JUNE 2012

Masthead photo by Dick Otis

## President's Message



Congratulations to us all on another productive, safe, and fun month of flying! We now sit at 600 flights as of the third week in May, almost twice where we were at the same time last year, and there is lots to be happy about. It was great seeing everybody for the away day at Burner International, many thanks to Bill and Sharon for hosting, and to everybody who pitched in to make it all work. We got our 15 minutes of fame when Drew Tuma, the meteorologist from TV3 in Winchester, aired his piece on gliders and thermals – flattering if not completely factual. All the club aircraft are up and running,

though as I hope everybody appreciates, that doesn't happen by accident, so thanks to everybody that works hard to make it so.

We are now only a few weeks away from our Summer Week of Flying (25-29 June), and it looks like lots of folks are planning to come out and take advantage of the opportunity to fill in between two weekends with a full week of sustained operations.

We will have towpilots and several instructors every day, and it's a great way to get in some fun flying and concentrated instruction with continuity. Thanks to Bob Sallada and Jim Kellett for 'pushing on the rope' to get this together. We are still looking for a few more instructors and towpilots to volunteer to come out and share the load a bit -- we realize work schedules are hard to predict very far in advance, but if you can commit to even a day, it would help. We are doing this a few weeks earlier in the summer than previous years, I hope that helps beat the heat a bit, but it's important that we all be aware of the very real dangers of heat stress, heat exhaustion, and heat stroke. (You should know the differences!) Please be aware of your limitations, do not overextend yourself, stay hydrated, and watch each others' backs. If it hits you, the pilot standing next to you may notice it before you do -- if somebody tells you it might be time for a break, just do it. Ask me how I know some time....

Fly Safe, Fly Often, Have Fun!

# Burner International Away Day

This years Burner International field Away Day/Part was held on the first Saturday of May. There were tons of dual flights and quite a few people sampled Bill's 1-26 and Bergfalke. The Conditions precluded soaring but everyone that flew had a great time. The day ended with a wimper as rain slowly started and gliders were towed back to FRR.

Photos by Dick Otis unless otherwise credited



Photo by Sharon Childress



including the questions that will be asked by the examiner.

The SSC training syllabus will prepare a student very thoroughly for the check ride and to safely start the process of learning the art of soaring.

### The Value of Soaring for the student pilot.

A student glider pilot complained to me that he thought that he was wasting time working on thermaling when he could be working on other basic flying skills. On my check ride I started out the same as every other prospective glider pilot with the DPI asking lots of question. I demonstrated the hookup, takeoff and narrated everything I was thinking on the tow including my box. After release I did slow flight, stalls turns to a heading etc. I headed back toward the pattern entry point and at the pork chop shaped meadow we use for the entry point the glider went bump and the vario read 8 knots up. Marvin the inspector said "Take it!" I turned to the right and immediately centered the lift and rode it for 5 turns. Marvin scribbled madly as I circled I wondered if he was writing good or bad things but I had been told he would say explicitly you failed if I did something unsafe or not up to standards. You can't pass a check ride in one flight but if you are asked to thermal and can demonstrate the skill well you may not be asked to demonstrate specific tasks as many on the skills specified are to show the maneuvers required to thermal.



Soaring is a part of being a glider pilot and doing this well shows a mastery of the individual skills that are practiced for the rating check ride. Steep turns, good coordination, centering well and keeping track of where the field is and knowing ones altitude at all times show that you are ready for the rating.

The instructors each may stress different aspects of flying and aircraft control but they won't ask a student to waste time on maneuvers that aren't productive. Soaring is a part of gliding and is taught along with aircraft control. The SSAABC badges give an indication of the skills expected and required to successfully become a soaring pilot. It is possible to complete the ABC program before taking a check ride and doing this is another indication to the check pilot that the student has mastered the skills required for the rating.

Skyline Soaring Club recommends Bob Wanders guides for the check ride and my experience and the pilots I have asked indicate that the guide is pretty much a step by step indication of exactly what to expect the day of a rating check ride

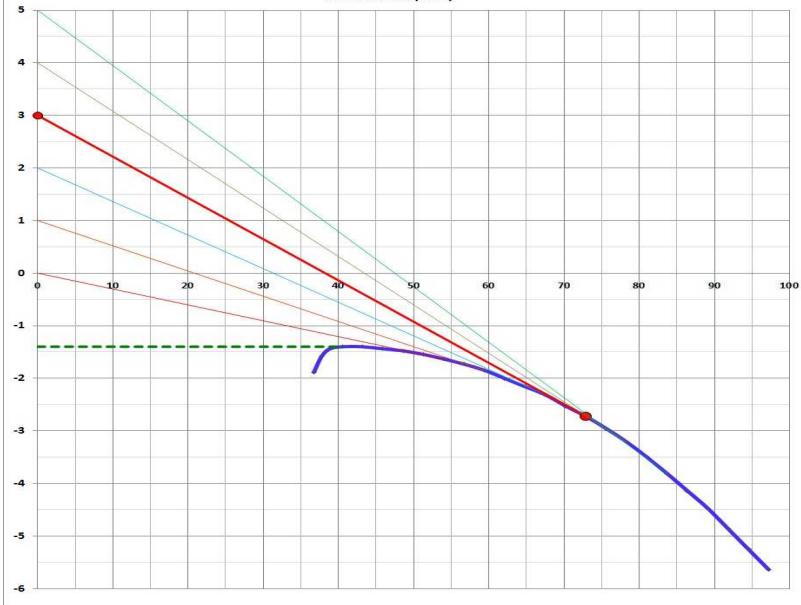
### Cross-Country Speed-To-Fly Theory for the Common Glider Pilot

by John Noss

It doesn't happen very often, but I love it when something I had thought was difficult turns out to be easy. I've been studying lots of material lately on sailplane racing and cross-country, trying to get my arms around MacCready theory and Reichmann's interpretation on speed-to-fly, and Cochrane's explanations of it, and it makes my head hurt. I recently stumbled across a concise 3-page article that makes it very easy to understand without having to rely on real-time glide navigation computers and/or MacCready rings, or fancy math. I was especially happy to find out that the cockpit cards I put together for the club gliders a couple of years ago already have everything needed to understand and practice speed-to-fly concepts for cross-country work. Ever notice the "Speed to Fly" boxes on the right side of the cockpit cards in our gliders? I put those together by plotting the glide polars, and deriving recommended airspeeds to fly in sink. Well, it turns out that if you use those very same plots and tangent lines from different vertical velocity points, you get not only the best speed to fly in that amount of sink, but the best speed to fly between thermals with that amount of average climb in thermals! It's a very close approximation, at least, according to the article "How Fast Can I Really Go?" by K.E. Draganovic (online at <http://files.leagueathletics.com/Text/Documents/2000/11101.pdf> ). I've checked this against other glide computations, and it's within a few knots. How could I not have known this after so many years? So let's take a look at the ASK-21 (dual) Speed-to-Fly numbers from the cockpit card:

Speed to Fly (Dual):						
Sink (K)	0	1	2	3	4	5
Airspeed	50	59	68	73	78	84
Glider Sink	1.5	1.9	2.2	2.7	3.2	3.8
Total Sink	1.5	2.9	4.2	5.7	7.2	8.8
Glide Ratio	33	21	16	13	11	9

Let's say you are out to try our mini cross-country course in the ASK-21 with an instructor in back, on a day when it looks like the average thermal is giving you a 3-knot climb rate. That means you would be using a MacCready setting of 3 on an airspeed ring if you had one, or in a flight computer if you had one. The best speed to fly in calm air between 3-knot thermals would be about the same as the best speed to fly in 3-knot sink, or roughly 73 knots, and the sink rate would be around 2.7 knots. That's probably faster than you might otherwise attempt, right? The table is derived from the polar out of the POH, and the plots are in the full electronic-copy version of the cockpit cards (online in the Skyline Soaring documents folder, [http://members.skylinesoaring.org/docs/Cockpit\\_Cards.pdf](http://members.skylinesoaring.org/docs/Cockpit_Cards.pdf)).



The tangent line from 3 knots vertical (above the origin) is pretty close to the polar curve anywhere between 70 and 75 knots horizontal. Of course, you also have to be honest with yourself about average climb in a thermal. Seeing 3 knots every now and then doesn't mean you are in a 3 knot thermal. If you fly with an electronic averaging variometer, it's a bit humbling to look at actual average climb rates. And, by the way, the point at which the tangent line crosses the horizontal axis is also close the average speed over the course, taking into account time spent in thermals and time gliding at the recommended speed to fly. So, in this case, in your 3-knot thermals with 73 knots between thermals, you might see an average speed on course of about 38 knots.

Do you need this to just go hang out over the rocks for an hour or two? No. But if you want to explore some of the amazing things that modern gliders can do, and think about working on a distance leg for a badge, this is really nice stuff to know and practice.

Incidentally, Paul Pruitt and John Noss are the only members so far to submit a time on the mini-course in a club glider, so Paul's the leader for the free tow to be awarded at the end of this calendar quarter (April through June). I'm posting scores at <http://noss.ws/ssc/xc.htm>. Times are handicapped based on glider performance, so any club glider is a contender. Private ships are welcome to enter, just not eligible for the free tow. I'll confess that the artificially high minimum altitudes at the turnpoints (for training safety) are best suited for a day with cloud bases (or blue thermal tops) to at least 5000 MSL, but the season for that is upon us now. Not sure how to get a log of your flight? Ask me at the field sometime -- if you have an iPhone or Android phone, or a hand-held GPS, or a few other options, you probably already have what you need.

## Student Intro to Skyline Soaring club operations

Welcome to the Skyline Soaring club. There are a few things to learn about the mission and operations of a club while learning to fly gliders. First is that Skyline soaring is a club, that means that all instruction, towing, maintenance and organization is by volunteers. The rental fees for gliders and rates for tows are much lower than at a commercial glider school and there is no money collected for instruction, however money is not the only form of debt that is incurred by students. Students are expected

to help push out and retrieve gliders which includes safe and swift push out, hook up and launch of the aircraft while keeping vigilant of possible hazards.



Photo by Dick Otis

Students should start with helping to push out the gliders with the supervision of experienced club members and should follow safety instructions including the following:

1. Pay attention to where to push on the glider: On the nose, wing roots vertical tail. At the wing tips only lift up, never push.
2. Keep aware of the tow plane especially the propeller.
3. Listen to the radio in the glider and listen for gliders coming in to land. They don't make much noise so we rely on their radio calls to inform us that they are about to land.
4. Walk on the grass to avoid the towplane.
5. If you see something that doesn't seem right tell someone especially leaving a tail dolly on or an accident about to happen.



Photo by Dick Otis

Things to remember to bring on a flying day:

1. Logbook
2. Soaring handbook
3. Sectional map – can be electronic
4. Lunch and snack
5. Water, at least a liter
6. Proper clothes:
  1. comfortable for the temperature and climbing in and

out of a glider

2. Hat – soft bucket hat recommended
3. Sunglasses
4. Sports shoes – lots of walking
5. watch
7. Cell phone, Smart phone w/gps better
  1. xcskies app available for Android
  2. flight log app
8. Bag to keep personal stuff organized

Nice to haves:

1. handheld aviation radio

Instruction is on a first come first serve unless the instructor of the day has been contacted the week prior to the weekend of flying. Arriving the day of instruction could result in waiting most of the day for a single flight or not being able to fly. Especially if a student arrives late in the afternoon after all instruction has been scheduled. Expect to spend most of a day each time you come out for flight instruction with lots of time lending a hand moving gliders and talking to other students and club member.

Plan to spend time at one end of the day or the other to take gliders out of the hanger or put them away. Since the clubs main mission is teaching most of the club aircraft are big two place gliders that need to be pulled out and put away each flying day. Any time your are unsure of what you should be doing, ask. Everyone in the club knows that our mission is teaching so if we know the answer we will take the time to answer. If we don't we usually know who to ask.

While the club has a very high tech system for keeping all instructors up to date on the progress of each student, initial progress will be faster if you fly with only one or two instructors for the first ten flights. Progress is delayed every time you fly with a new instructor while both the student and instructor get used to each other. Also note that occasionally two instructors will prefer techniques which are very different. Remember how each instructor flies or try to fly with the same instructor.

A day of flying starts with opening the hangers and getting the tow car out and hooking up the club trailer. The handhelds and laptop are loaded into the trailer. The batteries are put into the gliders, 1 in the Grob 103 and 2 in the ASK21. The canopies are cleaned and the wings are checked for bugs. Some crews forget to clean the wings after putting the planes away. The ASK 21 is usually pulled out first and towed behind the car and trailer. The Grob is next with the Sprite, and Cirrus pulled out if there had been a request or one of the early arrivals wants to fly the single seaters. As soon as the trailer is unhooked and parked by the office the card table is set up the net-book and hand-held radios are put on the table. The gliders are pre flight inspected and a positive control check is performed before flying each flying day. All of the club gilders have manually connected control linkages and may have been disassembled for an event or land-out so connections and function must be verified prior to any flights.

Gliders are pushed out to the runway with one person holding up a wingtip. If possible students are loaded into the glider prior to push out. It is easier to push down on the tail than to hold up the nose for the push out once a student is seated. Prior to push out the pattern is checked for landing gliders or power planes. Gliders are pushed out before the tow plane taxis out. The ADO or pilot will announce that the glider is moving (staging) out onto the active runway. The pilot of the tow plane

cannot see directly in front of the tow planes and cannot hear anything above the sound of the engine. Do not ever walk directly in front of a tow plane. Actual glider hook up is to be done by a club member that has safety training in ground operations. After the tow rope is hooked up NEVER stand in front of the glider. After pushing the glider out to the runway walk ON THE GRASS back to the staging area checking for landing gliders.



Gliders are towed back to the staging area after landing using either the tow car or ATV. The ATV is preferred of a glider landing on the grass. There should be a minimum of 3 people to tow a training glider back to the staging area.

At the end of the day gliders are put away starting with the ASK 21 and Sprite. The Grob is put away last. Batteries are removed and put on a charger. Bugs cleaned off the wings (bugs reduce gliding performance especially on trainers). Canopy covers are put on the gliders. The laptop and table are loaded into the trailer. Usually the gliders are pulled to the hangar after landing at the end of the day. The trailer is hooked up to the tow car and towed back to the hangar and the handheld radios are put on chargers. The car and ATV are parked and the doors closed.

Part of flying and soaring is learning about weather so watching the weather during the week is common for students and seasoned soarers. While conditions producing lift allow for learning to thermal and soar smooth air is preferred for initial training as aircraft control is easier when the air is not moving much. The air is usually smoothest in the morning so student operation start early enough to take advantage of the still air. Clouds only present a problem if they are too low to allow safe flight but weather in Front Royal are always different from the weather closer to the District of Columbia. The Duty officer instructors and tow pilots determine if the conditions are safe for instruction. If the weather is in question a email or text to the Duty Officer (DO) can prevent a wasted trip as the DO is required to arrive at the field early enough to notify students (by email) of conditions unsuitable for instruction.

Most club members that have completed fight training love to talk about flying, weather, thermaling and various glider they have flown. A way to get more insight to gliding is to talk to these club members. The mission of Skyline Soaring is teaching and every member is open to sharing their experience

with anyone that asks. Prior to soloing and the check ride is learning to assemble and disassemble a glider. The trainers are difficult to perform these operations but many privately owned single seat gliders are available for students to both watch and participate in assembly and disassembly. Ask a instructor to make an introduction as many private ships require specialized knowledge to set up and break down while others are straight forward to allow less experienced helpers to lend a hand.

After a glider has landed check for aircraft in the landing pattern (both power and gliders) then walk out to the glider and assist pushing the glider off the runway. Wait for trainers to be pushed off the runway before attaching tail dollies. Single seat gliders are easier to move off the runway with the dolly on. Pilots of single place gliders may require either assistance or patience while they dismount from their ships. If you are not sure what to do offer help. If the owner doesn't require assistance they will decline your offer and usually thank you for the offer.

The tow car is to be driven to pick up gliders on the access road. Gliders are towed back on the taxiway giving right of way to power planes. Please take a experienced club member with you the first time you tow a glider. Note that tail draggers (planes with the third wheel in the back) are blind straight ahead of the aircraft. Towing with the car is straight forward but care must be taken to drive smoothly slowly to maintain control of the glider in tow. Towing to runway 10 requires extra care as the taxiway sloped down at the approach end (close to the end) of the runway. Arrange the mirror to be able to see the instructor or student walking the wing. Offer to tow private ships but many require special handling to tow safely so if you are not sure ask the owner for special instructions. If there are private glider tail dollies in the tow car leave them out on the taxiway on the grass near the hangers for the owners to pick up after they have arrived.

Before operating the ATV get a "check out" to learn how to turn on and off the fuel petcock, start (kills switch on ignition on and transmission in neutral) shut off (using the ignition or kill switch) accelerate/brake and back up (push red R button and pull in the left brake handle to unlock the reverse gear and push down on the shifter). Be aware that the ATV weighs 500lbs and tipping over WILL result in injury.

Allow space for power planes to pass but not at the risk of running the towed glider into a hanger or taxi light. When allowing a power plane to pass brake gently to allow the glider to slow down without running into the tow car.

After soloing students are encouraged to get a checkout in the Grob and Sprite. Checkouts in the Grob and Sprite allow more flights for all students as fewer students will be waiting for the ASK21. Both aircraft have unique flying qualities that students need to be briefed about. Before getting instruction students are encouraged to read Skyline Soaring's "Transition to the Grob 103 for ASK 21 pilots" and "Transition to the 1-36 Sprite for ASK21 pilots" articles.

Students are encouraged to read (and re-read) as much as possible about flying, soaring, weather. One of the common things that all successful soaring pilots do is read.

Two of the most subtle and useful pieces of advice I got learning to soar are: 1) Turn tighter, the strongest part of a

thermal is in the center and 2) be patient. all of my longest flights there has been a ½ hour period when the lift got weak. I hung out in zero sink or ½ knot lift or even slight sink while I waited for the next thermal to "kick".

To quote the club president: "Fly safe and fly often"s

## Solos and Badges



15 year old member John Westenhoff performed his first solo today 05-26-12. John's solo appeared to be very smooth in all respects.

Landed runway 10, on the numbers, and stopped at the first intersection.

Good job.

--Shane Neitzey

Rufus Decker received his CFIG from Bermuda High the last week of May

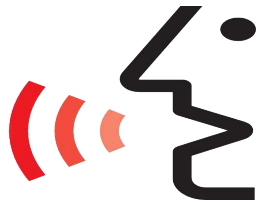
Trevor Roskind recieved his A badge this month for his solo last Fall

Paul Pruitt received his C badge in April

Douglas Hiranaka Completed the final task of taking the written to finish his Bronze in May

**Recycled  
Information**

**Worth  
Repeating**



## SAY AGAIN

The SSEF now has a new, simplified flight scholarship application form on its web site: [ssefva.org](http://ssefva.org).

--SpencerAnnear



President - John Noss  
Secretary - Jim Kellett  
Treasurer - Thomas Park  
Membership - Steve Rockwood  
Chief Duty Officer - Craig Bendorf  
Chief Tow Pilot - Martin Gomez

**Skyline Soaring Club, Inc.** Chief Flight Instructor - Piet Barber

Is a private, 501(C7) non-profit organization, Safety Officer - Charles Norman  
dedicated to the enjoyment and promotion  
of the sport of soaring. SSC is based at Skylines Editor - Douglas Hiranaka  
the Front Royal-Warren County, VA. Airport [duck\\_h@hotmail.com](mailto:duck_h@hotmail.com)  
and is an affiliate club of the Directors - Daniel Ernst  
Soaring Society of America Mike Christenson, Jim Kellett  
For information about the club go to: John Noss, Thomas Park  
[www.skyinesoaring.org](http://www.skyinesoaring.org) Steve Rockwood, Ertan Tete



Rufus fabricated and added wing wheels to the Grob so landing will be a bit quieter from now on.



One last shot of The away day by Sharon Childress