

Skylines

Skyline Soaring Club
Front Royal, Virginia
June 2026



Photo taken May 9, 2026, at VG55

The President's Corner

Many hands make light work, and teamwork makes the dream work! I'd like to thank everyone who came together to help shepherd the Ks through their annuals at the beginning of this month, especially Joel, Larry, John, Andrew, and Brian. I'd also like to take a moment to introduce and thank some of our newer volunteers! Cindy is our merchandise meister, assisted by Fritz, so please feel free to reach out to them if there's any SSC-branded merch that you're dying to have. Fritz has also volunteered as our social coordinator, so if there's a restaurant (or winery or brewery or other activity) near Front Royal that you'd like the club to check out, please feel free to suggest it! We are currently talking to potential Safety Officers and Trailer Meister (whom I look forward to introducing next newsletter), but we are also looking for a new volunteer Treasurer, so if you are interested, please let Ralph and me know!

On a related note, the Board has been discussing volunteer requirements. It's already in the ops manual to expect to volunteer 4-6 days per year and also that members should expect to start training on ADO duties within about 3 months of joining the club. The Board has decided to enforce this by tying full membership to ADO (or other duty roll) qualification. We also will be reviewing the (automatically generated!) list of members who have flown recently but have not fulfilled duty recently at each board meeting. I would love

nothing more than to have nothing to decide on, because everyone is volunteering regularly! Please help make it happen!

Notes from the Board

I have not received an official report from the Board, but I will provide the following useful information. The runway/taxiway resurfacing is now scheduled for Sept/Oct 2026 (KFRR will be closed during this work). Similar airports have completed this work in just over 30 days, however the process is weather dependent and could take longer—considerably longer. The taxiway was paved some 20 years ago, also scheduled for a month of work that wound up taking nearly a year to complete. But that didn't result in the closure of the airport. To our benefit, Bill and Sharon Burner have graciously offered SSC the use of Burner field (VG55) and its hanger for the duration of the KFRR closure. Operations are planned, however they may be somewhat limited.
[Editor]

Safety

Complacency: Merian-Webster definition: a calm sense of well-being and security; the quality or state of being satisfied especially; satisfaction or self-satisfaction accompanied by unawareness of actual dangers or deficiencies.

When it comes to safety, complacency can be dangerous.

I recently noted the safety incident on a club daily report where somebody forgot to check for ballast prior to flight and inadvertently flew with a miscalculated (or assumed) weight and balance. Luckily, they were able to maintain control of the aircraft and landed without incident. This followed just a week after a crash at KFRR of a light sport aircraft resulting from fuel exhaustion on takeoff because the pilot forgot to turn on a fuel valve (NOTE: This is from hearsay and not based on the NTSB or other investigation). And, as reported at this year's safety meeting, there was a glider crash last year because the pilot did not connect the elevator.

This is a disturbing number of completely preventable errors. In each of these situations, the required action was on a checklist which was ignored by the PIC. Why? Ignorance? I don't think any rated pilot gets to plead ignorance of checklists. No, I think it's complacency. Most likely, the pilot either believes they know everything on the checklist and do not need a "checklist" or believes that the checklist items are not important.

Suffice to say, there is a reason checklists evolved and why they are required. Unfortunately, we get reminded of how important they are every few months. Be wise and learn from the mistakes of others. Please use your checklists, it may save your life. [Chris Wuerker, Safety Officer]

Instructor Talk

Food for Thought—Turns on Tow: Nearly every glider pilot flying today was brought up hearing that, in a turn on tow, we should aim at the outside wingtip because that is the proper position, procedure and technique. After all, it is written in the FAA Glider Flying Handbook:

"The tow pilot normally makes climbing turns using shallow bank angles. During turns, the glider pilot observes the towplane, matches the bank angle in a coordinated turn, and aims the nose of the glider at the outside wingtip of the towplane. [Figure 7-10]" But note carefully the text in the diagram: *"During a turn, the glider flies the same path through the air that the towplane flew."* That text in the diagram is actually the more important part. Your proper position on tow in a turn is defined not by

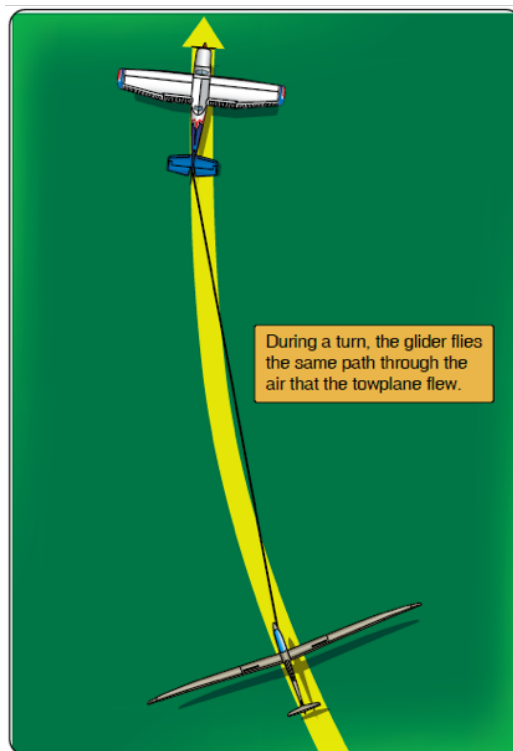


Figure 7-10. Aerotow climbing turns.

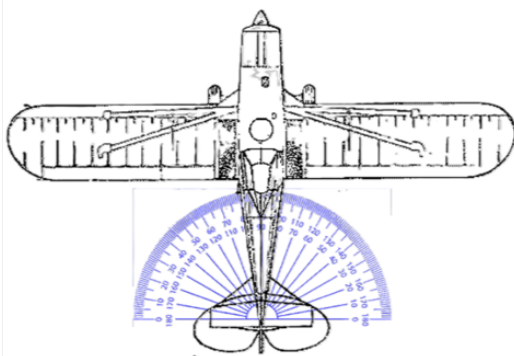
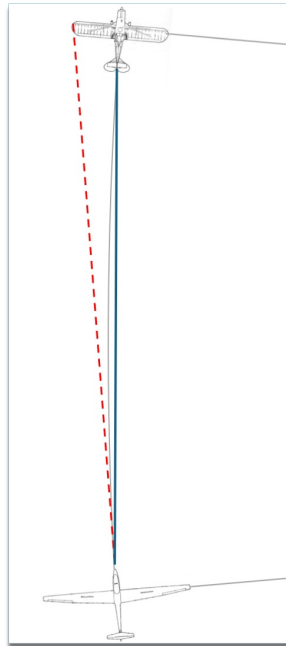
where your nose is pointed, but where the glider is located relative to the towplane and its flight path! You could be directly below the towplane pointed straight up at his wingtip, but that would not be in position. You could be way outside the turn and level, pointed at his wingtip, and that would not be in position. If you are flying the same arc in a typical turn on tow, an artifact of being in position is that your nose will point near the outside wingtip of the towplane. But that does not mean that merely pointing at his wingtip is sufficient, or the best way to get into position.

Let's look at some geometry. Like most diagrams in the Glider Flying Handbook, proportions and angles are not to scale, usually exaggerated to make a point and save space. I have tried here to draw them very close to scale. (Yes, math and aerodynamics were involved.) In a typical 20 degree banked turn at typical airspeeds we tow at, the radius of turn is about 1000 to 1200 feet, depending on altitude and speed and temperature and towrope length and rudder use by the towpilot. With a typical 200 foot towrope, you and the towplane are about 10 degrees of arc apart, with about 10 degrees of heading difference. Given the towplane wingspan and distance away, that puts your nose pointed close to his wingtip—once you are stabilized in proper

position!

As a more direct way of judging what that proper position is relative to the towplane, I suggest looking at the angle you are off his tail. With most towplanes, including our Pawnee and Husky, that typical 20 degree banked turn, with you flying the same arc, will put his rudder about on the outside edge of his fuselage, as viewed from the glider. That is very easy to see, and very effective as a way to efficiently get into the proper position relative to the towplane.

Conveniently, from the top of the rudder, lined up on the outside of the fuselage of the towplane, that puts you about 10 degrees off his tail, which is just about right. In a more shallow turn, flying the same arc as the towplane, you would be offset less from the tail of the towplane, and pointed inside the wingtip. In a steeper turn, you would be offset more from the tail of the towplane, and pointed well outside the wingtip. When the towplane is flying straight, you should be directly behind it and the towplane's rudder should be centered on his fuselage (and your nose would be pointed at his tail).



Back to the age-old debate about the difference between procedure and technique, we should be

clear that in turns on tow, flying the same arc (and therefore the same speed) is the procedure. Pointing at the outside wingtip is a technique, but it is not the only one, and perhaps not the best one, and depends on many variables. Being pointed at the outside wingtip is just evidence of being stabilized in proper position (in a typical 20 degree banked turn, in typical weather conditions, at typical speeds, on a typical 200 ft rope).

Sorry if I made your head hurt...

*** Bonus question: Why do we say 20 degrees of bank is a typical turn on tow? Read Skyline Soaring Ops Manual para 3.4.5 "Turning on Tow," and at the SSA website find <https://www.ssa.org/takeoff-climb/> (part of their online Tow Pilot Course). [John Noss, Chief Instructor]

Turns off Tow: After getting some experience with straight flight and speed control, the next thing you learn is to make turns. Turns introduce flight control in three dimensions as they require control inputs to all three axes of rotation. You are often introduced to shallow turns during your first or second lesson. But perfecting your turns can take some time. In fact, the maneuver is complex enough that we need continuously to seek perfection for as long as we may fly. Before you get too far into turns, you should perfect your ability to coordinate the controls. I strongly suggest the exercise that I wrote about in last month's *Skylines*.

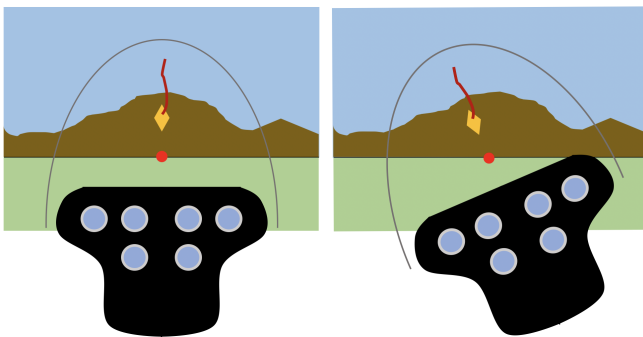
In order to make an aircraft turn, a horizontal force acting in the desired direction of the turn must be applied to the aircraft. This comes from the lift force when the wing is not perfectly horizontal (we say it is banked). The lift force acts perpendicular to the wing. Thus, when the wing is banked, the lift force acts both in a direction opposing gravity, namely vertically up (this keeps the aircraft from falling out of the sky), and horizontally in the direction of the turn. Because the lift force must act in both directions in a turn, yet maintain an adequate vertical force to oppose gravity, it must increase in a turn. This is accomplished by increasing the angle of attack of the wing in proportion to the increase in the bank angle.

Unlike a car where the steering wheel position determines the radius of a turn, the radius of a turn in an aircraft is determined by the aircraft's speed and bank angle. But an aircraft has no control that sets the bank angle. Instead, a bank angle is achieved by "rolling" the aircraft using

the ailerons. Ailerons do not control the bank angle, they control the roll rate of the aircraft. Changes in bank angle are achieved by the roll rate (determined by the aileron setting via the control stick input) and the duration of the control input. Thus, very small control inputs can result in very large bank angle changes if the control input lasts a long time. Conversely, large control inputs lead to large bank angle changes very quickly. The aircraft will turn with a decreasing radius as the bank angle is increased and as the lift is increased to maintain a constant airspeed.

Now you may think that all turns require is to push the control stick in the desired direction of the turn, and increasingly pull it back to maintain a constant airspeed as the bank angle increases. Alas, it's more complicated than this. When the ailerons are moved to obtain the desired bank angle, they alter the drag produced by the wings in such a way as to "yaw" the aircraft in a direction away from the turn. This yawing force can actually cause the nose to point away from the direction of the turn and it severely impacts the rate at which the turn commences. To counter this effect, referred to as "adverse yaw," a coordinated rudder input is required. This is why I advocate coordination training before getting seriously into training in turns.

So, now that we have some understanding of the physics behind a turn, let's look at the steps required to make a perfect turn. You may want to refer to the figure below.



1. Before starting a turn, you must clear the area for traffic in the intended direction of your turn. To do this, you need to turn your head and look at where you intend to go. It should be clear of conflicting traffic (and solid objects such as a mountain).
2. Turn your head back to look straight ahead and focus on a point on the horizon that

is directly in front of you (the red dot, typically on a vertical line intersecting the yaw string attachment point). Let's call this your "reference point." This is the only point that you will be able to use to guide your control inputs as it is the only landmark that is independent of your bank angle (notice how the horizon moves up or down at every point except at the red dot as the glider is rolled into a bank). Also note that the horizon is not at the top of the mountain, but rather at the base of the mountain corresponding to where the line between sky and earth would be at an infinite distance.

3. Using your reference point as the guide, smoothly move the aileron control in the intended direction of the turn while simultaneously applying rudder in the same direction. As you begin to roll the glider, the reference point should not move. If the reference point immediately appears to move in the direction of your turn, you need to apply more rudder in the direction of the turn. If the reference point immediately moves opposite to the direction of the turn, you are applying too much rudder in that direction. The yaw string is a backup indicator to the motion of the reference point, but I pay more attention to the reference point as I initiate the turn.
4. At the same time that you are initiating the turn with Step 3, smoothly apply just enough back-pressure on the control stick to prevent the nose from dipping down. Insufficient back-pressure will be detected as the reference point moving up in reference to the yaw string. Too much back-pressure will be detected as the reference point moving down in reference to the yaw string.
5. Maintain your control inputs with slight adjustments as necessary until you obtain the desired bank angle. At this time you should neutralize the aileron and rudder controls to prevent the bank angle from continuing to increase. This may actually require some opposite aileron together with a coordinated rudder input.
6. Once stabilized in the turn, you should trim to null the aft control stick pressure, and resume looking for traffic, primarily near your altitude and in the direction of your turn. Trim is

important because it relieves you of needing to maintain back-pressure on the stick, which will lead to over-controlling in pitch.

7. Recovery to straight flight is essentially the reverse of the above steps. Again, with your focus on your reference point, begin by applying coordinated aileron and rudder inputs to recover to a wings-level attitude while maintaining a constant pitch attitude. You will notice that the recovery maneuver requires considerably more rudder input than did the entry maneuver. I rely mainly on the yaw string to determine proper coordination during the recovery maneuver.
8. Back in wings-level flight, be sure to trim to compensate for the reduced back-pressure necessary to maintain constant airspeed and resume your scan for conflicting traffic.

What are the typical mistakes most of us make? The mistake that I notice most in beginning students has three parts. First, the student turns her head to clear for traffic. Second, without turning back to see where she is going, she applies aileron input to the stick. However, what most students do is they combine their aileron input with a back-force on the stick while at the same time failing to use the rudder. Because she is not looking at her reference point, this all goes unnoticed resulting in an uncoordinated nose-high attitude yawed away from the turn and with the yaw string screaming for rudder input. Noticing this lack of coordination, the student stomps on the rudder to alleviate the pain the yaw string is experiencing. This causes the glider to swivel about the now-tilted yaw axis resulting in the glider rotating into a nose-down attitude. And, from here, we enter a growing pitch instability that persists throughout the turn. This problem can be completely eliminated by learning coordination first and by focusing on the reference point while entering and exiting the turn, and with an occasional glance at the reference point to assure that you have a correct pitch attitude. From here it's just a matter of improving your precision. Once again, you can practice this maneuver on the ground sitting in a glider with your eyes closed and going through the control inputs as you imagine making a turn.

Next month, I will discuss lift in greater detail so that you have a better understanding of what the controls do. [George Hazelrigg]

Tow Pilots' Squawk

Do you know all of the prelaunch and inflight signals? They are given in Chapter 7 of the FAA Glider Flying Handbook (FAA-H-8083-13B). This handbook is free and can be downloaded at: https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/glider_handbook. These should be committed to memory.

The Students' Desk

No input received for June.

Kudos

Kudos go this month to Tom Flynn for fixing the Gator, to Bill and Sharon Burner for hosting an amazing away day with great (but highly unpredicted) weather, and to Rob Jacobsen and Tenko Dimanov "for running a tight ship today and for the whole crew for scurrying to put everything away before the squall came through."

Please join us in recognizing and congratulating Sebastian Noessner on his appointment as our newest Assistant Duty Officer (ADO). As we head into the summer season, remember that the Club relies on all of us. If you haven't completed your ADO or DO training yet, now is a great time to step up and be part of the team that keeps Skyline running.

Let's also recognize Shane Neitzey for his successful competition in the Sports Class Nationals flying a Club Discus. He came in 9th out of 22 contestants. Go Shane!

Our Members

Meet Tenko Dimanov

The following is an interview with Tenko Dimanov by Marcelo Morichi.

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

A: SSC was the closest glider club to me, and I discovered it through an online search.

Q: How long have you been a glider pilot? Where



did you learn to fly gliders?

A: I started flying gliders at age 16 in Europe. After a break of more than 40 years, I resumed flying with SSC.

Q: *What ratings do you have?*

A: PPL-G

Q: *When did you fly for the first time? What do you remember about that experience?*

A: My very first flight was with my father in a Ka-26 coaxial helicopter when I was in the third grade. I was amazed by how maneuverable the aircraft was—and by what an incredible pilot my father was! My first flight at SSC was a FAST flight with George Hazelrigg on August 27, 2017. It was an incredible experience to be back in the air after such a long pause.

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

A: My commute is a little over an hour. I typically take Route 28 South to I-66 West, then drive through Front Royal to reach the airport.

Q: *Who were/are your mentors at SSC?*

A: My primary mentors during my certification were George Hazelrigg and Ron Wagner. They provided invaluable guidance and shared their extensive knowledge and experience. I've also had many memorable flights with Piet Barber, John Noss, and Chris Zaboji. All the instructors I've flown with have been incredibly supportive and generous in helping me learn to soar safely and effectively. I'm very grateful for their continued support.

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

A: I especially enjoy working thermals and ridge lift over the Shenandoah Valley. The combination of terrain and atmospheric conditions offers great opportunities to stay aloft through careful energy management, while also enjoying the scenery when time allows.

Q: *What is your more memorable glider flight? When did it happen? Why do you remember it?*

A: It's hard to choose just one, but flying solo in a thermal at around 10,000 feet AGL is always memorable. Those moments combine focus, independence, and the pure joy of soaring.

Q: *Any close calls? If so, please provide a brief description.*

A: I've had a few flights where I wasn't entirely sure I would make it back to KFRR. Every glider pilot knows that feeling—and the importance of staying calm, making good decisions, and always having a plan.

Q: *What do you do for a living (or did, if you are retired)?*

A: Currently I am working for Comcast as Data Scientist/Sr. Software Developer.

Q: *Where did you grow up?*

A: I was born and raised in one of the oldest continuously inhabited cities in Europe—Plovdiv, Bulgaria.

Q: *What do you like the most about SSC?*

A: I appreciate the strong safety culture at SSC and the welcoming community. It's a place where you can enjoy gliding while learning from and connecting with great people.

Q: *What's on your gliding bucket list?*

A: Fly more, stay up longer, and continue enjoying the experience.

Q: *What do other members might not know about you? (i.e., you are fluent in another language, lived overseas, a hobby, etc.)*

A: I am fluent in Bulgarian. Gliding is my favorite hobby—if you can call it that.

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

A: There is definitely light at the end of the tunnel. SSC has many highly experienced and supportive instructors who can help you get there. Stay patient, keep learning, and fly as much as you can.

Miscellaneous Chatter

Behind the Scenes of the Skyline Roster—How "Fairness" and Math Keep Us Flying: If you've checked the Skyline Soaring Club Duty Roster recently, you've seen a calendar layout showing who is serving as Instructor, Tow Pilot, Duty Officer, or Assistant Duty Officer on any given weekend. It looks simple, but beneath the surface of skylinesoaring.org runs a highly sophisticated piece of machinery built on our custom Manage2Soar platform.

Generating a schedule that balances club

operations with the busy lives of dozens of volunteers is a massive logistical puzzle. To solve it, our platform utilizes an advanced optimization algorithm designed with one primary goal in mind: fairness.

The Logic of “Fairness”: Behind the scenes, the code evaluates a complex web of parameters. It tracks how often you’ve served in the past, honors your specific day preferences (such as preferring Saturdays over Sundays), and respects your monthly assignment limits. It even cross-references complex pairing rules to ensure compatible crew combinations.

By analyzing thousands of potential combinations, the algorithm ensures that the burden of running the airfield is distributed equitably across the entire active membership. No single person gets overloaded, and everyone contributes their fair share.

The Critical Catch: Garbage In, Garbage Out: However, even the most brilliant algorithm is only as good as the data it is given. The scheduler operates under a basic assumption: if you haven’t explicitly stated you are busy, you are assumed to be available.

This is where the blackout calendar becomes your most important tool.

Maintaining your personal blackout dates is a fundamental responsibility of membership. If you leave your calendar blank, the system will assume you are completely free. The inevitable result? You will eventually be scheduled for a duty weekend that is highly inconvenient for you. To prevent this, make it a habit to log into the system monthly. The interface is simple: click on the weekend dates you know you can’t make, add an optional note if you like, and hit save.

What If Plans Change? We know life happens. If the roster gets published and an unforeseen conflict arises, Manage2Soar has a built-in safety valve. You can initiate a Duty Swap Request directly through the roster platform. This allows you to seamlessly offer your day to other qualified members and orchestrate a switch without clogging everyone’s email inboxes.

Ultimately, Manage2Soar is a community tool. The elaborate code does the heavy lifting to keep our operations fair and transparent, but it needs your input. Take five minutes today to update your availability, keep the system smart, and help us keep Skyline Soaring flying smoothly!

How to Update Your Blackout Dates: Ready to log your upcoming conflicts? Follow these quick steps to update your profile:

1. Log into your account on *skylinesoaring.org*.
2. Open the *Duty Roster* drop-down menu from the main navigation bar.
3. Click on *Request Duty Blackouts*.
4. Scroll to the upcoming months and click the weekend dates you are unavailable (marked with an X).
5. (Optional) Scroll down to adjust your day preferences, monthly caps, or pairing preferences.
6. Click the green *Save All Changes* button at the bottom of the page.

[Thanks to Piet Barber]

On Clothing: Land’s End is the best way to go for LOGOs, and misc. John Noss and Phil Jordan were very helpful in tracking the merchandise history. We now have an account with them.

Away Day: As the well-known Kellett adage goes, “*If you ain’t at the airport, you don’t know what the weather is like at the airport.*” As of Wednesday, May 6, the prospect for a successful Away Day at Burner field was looking rather grim. Rain, thunderstorms, high winds, yuck! And this persisted through Thursday encouraging Tim Moran to issue his “warning” that the winds were threatening to be above club limits. However, Friday looked a little less grim, with the storms holding off until early afternoon and the winds more or less tolerable. The day was a “go”!

Masha and Jose flew the ferry flights to VG55 under the tutelage of Uwe and Ron respectfully arriving between 9:30 and 9:45 AM. Hugh stayed behind at KFRR assembling the Discus. He didn’t arrive at VG55 until 12:08 after a flight of 1 hour 41 minutes. We flew a total of 24 flights, including the ferry flights, with the last flight down back at KFRR at 17:26. Everyone who wanted a ride got up, with some getting multiple flights for a very successful day.

Now, as to that weather. Rob rode out to VG55 with me musing about the weather, which seemed to be getting better by the minute. We agreed that it was likely to get sunny at some point. But that happened much faster than we thought, and it wasn’t lacking lift altogether—witness Hugh’s ferry flight. The winds, still forecast to be “brisk” turned

out to be a few light breezes. The temperature hovered just a bit below 70°. An exceptionally pleasant day. At one point mid-afternoon while I was sitting in the hangar, I heard what sounded like someone driving on the gravel surrounding the hangar. Turned out it was actually raining (lightly) while the sun was shining. The rain lasted all of three minutes, and that episode made the forecast for rain technically correct.

Robb Hohmann flew over in his taildragger, and toward the latter part of the day, Melanie flew in sporting a beautifully restored 1947 Piper Cub. Her departure allowed Robb to demonstrate a no-electrical system engine start—hand flipping the prop. All-in-all, it was a wonderful day with near ideal weather. Let this be a lesson to those of you who bowed to the weather purveyors, which apparently succeeded in scaring many of you away. Eat your hearts out. You missed a great soaring day and a wonderful learning opportunity.

Once again, we cannot thank the Burners enough for hosting the event. These “Away Days” are a true highlight of our soaring season. I’m going to add one more plug for this event. As I grew up in New Jersey with easy access to good Italian food, I’m often sad that I cannot find it anywhere near the Beltway. Woodstock, on the other hand, has a Jersey Mike’s with excellent hoagies. I’ll see you all again at the next Away Day. [George Hazelrigg]

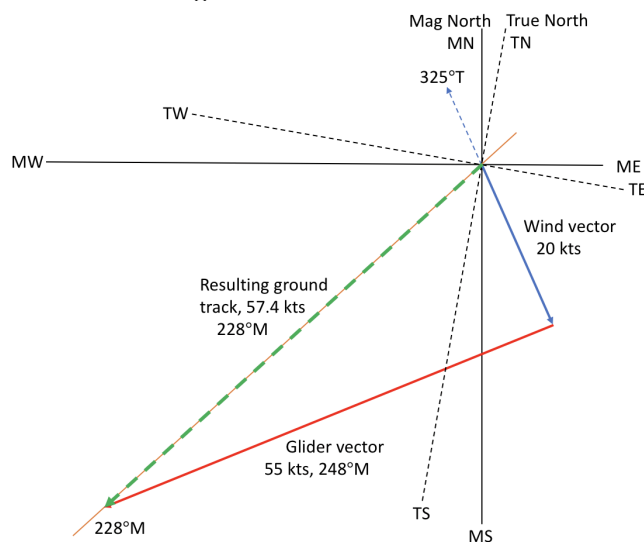


Challenge Problem

The following is the solution to last month’s challenge problem. To repeat the problem, you are planning a flight from FRR to LUA. You plan to fly direct on a magnetic course heading of 228° at an airspeed of 55 kts and are given the winds aloft to consist of a quartering tailwind of 20 kts at 325°.

Question 1: Will the tailwind result in a groundspeed greater than, equal to or less than 55 kts?

To the mathematically challenged, this problem might seem a bit overbearing. But, take heart, the problem can be easily solved using a graphical approach that requires no mathematical operations. I refer to the figure below.



To begin, I draw a coordinate system based on the cardinal magnetic directions of North, South, East and West. Remember the cardinal directions: North=0° or 360°, East=90°, South=180° and West=270°. These coordinates are shown by the solid black lines and labeled accordingly. We now can draw our proposed course line, oriented to a heading of 228° with respect to these coordinates. Next, for the trick in this problem. We fly magnetic headings because that’s what our compass tells us. But winds aloft are given in true-north coordinates. So we must convert the wind heading from true to magnetic. We could do this simply by adding the variation obtained from a nearby isogonic line. It’s the dashed magenta line crossing the course line on a sectional chart (see skyvector.com), 10° West. We can do this conversion either of two ways, either simply add 10° to the wind direction or draw a coordinate system based on true North as I have done here. This system is rotated clockwise by the 10° variation (“West is best, East is least”). And we can plot the wind directly with respect to this coordinate system. I’ve chosen to draw a dashed (blue) arrow in the stated direction of the wind, 325° true. But, remember, the wind blows from (not to) that direction, so we draw a wind vector in the opposite direction to my arrow (the solid blue

line).

Now we need a ruler with a scale on it. I prefer the metric scale because, well, it's metric—it's based on our decimal system. Decide on a scale, for example, one knot equals one centimeter, and mark the length of the wind vector (from the origin of the coordinate system) as equal to the wind speed, 20 kts. That would make the solid blue line 20 cm long. Then get a piece of paper and mark off the length of the glider vector (still one centimeter equals one knot) along an edge. Put one end of this scale at the end of the wind vector and rotate the paper until the other end of the scale (55 cm away) precisely intersects the orange course line. Then simply measure the length of the resulting course-line segment (shown by the dashed green line). The distance in centimeters is the on-course ground speed, 57.4 kts. And, here we've solved a tricky math problem without a single equation. That's all there is to Question 1. The remaining questions are trivial.

Question 2: If the glider you will be flying has an L/D of 38 at a true airspeed of 55 kts, what will be your effective L/D on course to LUA? The answer to this question is simply the no-wind L/D times the ratio of the on-course ground speed divided by the true airspeed: $38 \times 57.4/55 = 39.7$.

Question 3: What will your compass heading be correcting for the wind? This is obtained simply by measuring the magnetic heading of the glider vector (the red line), 248° .

Knowing how to solve this problem will come in handy when you are asked to plan a cross-country flight for your practical test.

I recognize that some of you are math geeks, disappointed by my simple graphical solution. So, if you're up on your trigonometry, go ahead and work out the math. Here's the Mathematica code I wrote to solve this problem. a is the crosswind component of the wind and b is the tailwind component. c is the on-course component of the glider velocity vector.

The June Challenge Problem: It's a nice summer evening around 5 PM. You are flying the K-21 over the fish ponds working a weak thermal. Suddenly, the thermal stops working and you find yourself at 1,900 feet MSL. The wind is out of the northwest at 5 kts and you are in 1 kt of sink (vario showing 3 kts down). What's your plan?

A: Fly upwind to the north at 55 kts to land out in a large field just north of the river.

```
(*Program to compute ground speed and heading*)
hdgc = 228; (*Course heading, deg*)
iso = +10; (*Magnetic variation, deg W*)
tas = 55; (*True airspeed, kts*)
ws = 20; (*Wind aloft speed, kts*)
wdir = 325; (*Wind direction, deg true N*)
wdirm = wdir + iso; (*Magnetic wind direction, deg*)
phi = wdirm - hdgc - 90;
lod = 38; (*Glider L/D at given tas*)
a = N[ws * Cos[phi * Pi / 180]];
b = N[ws * Sin[phi * Pi / 180]];
x = ArcSin[a / tas];
theta = N[x * 180 / Pi];
hdg = hdgc + theta;
c = tas * Cos[x];
gs = c + b; (*Ground speed, kts*)
lodw = lod * gs / tas; (*Actual L/D*)
Print["Ground speed = ", gs, " kts"]
Print["Effective L/D = ", lodw]
Print["Compass heading = ", hdg, " deg"]

Ground speed = 57.4148 kts
Effective L/D = 39.6684
Compass heading = 248.35 deg
```

- B:** Head back to the field at minimum sink speed for a normal pattern to land on Runway 28.
- C:** Head back to the field at 60 kts on a left-base entry to Runway 10.
- D:** Head back toward the field at 55 kts with the intent to land in the field north of the pork chop if it appears that you might not make it to KFRR.
- E:** Look for another thermal to gain altitude to make it back to the field with altitude to spare.

Email your answers to me at ghazelrigg@verizon.net with an explanation of your choice. I'll publish answers anonymously in the July newsletter.

The Photo Gallery

I'm devoting this month's photo gallery to our Away Day at VG55.

Operations

- Note that gliders use right-hand traffic in order to remain unconflicted with airplane traffic, which uses left-hand traffic. All gliders flying with the Skyline Soaring Club have radios and announce takeoffs and landings on 123.00.



Expect that gliders will be using runway 28 unless winds dictate the use of runway 10. Also, gliders are approved for use of the grass area to the north of the runway for landing.

- Be aware that skydiving operations may be conducted concurrent with SSC operations depending on the weather. Operations are announced on 123.00 beginning about five minutes prior to jump time and at *jumpers away*. Please avoid the area directly over the airport and to a radius of one mile until all

jumpers are clearly in sight. Jumpers typically land in the grass areas directly adjacent to the taxiway on both north and south sides. Gliders can safely fly a normal approach to runway 28 while jumpers are in the air, but should stay north of the tree line on downwind leg. Jumpers will strive to remain clear of the grass area where gliders land.

Upcoming Events

- The June SSC Board meeting is tentatively set



for the 24th. Stay tuned for updates. Members are invited to attend via Zoom.

- Application for the 2026 week of training is now open. We are seeking 12 students, 4 or more tow pilots, 4 to six instructors. Rated pilots interested in “follow-the-leader” for XC Training are welcome to come to the week of training.



Sunday 5 July 2026: Ferry gliders from Front Royal to Petersburg WV

Monday 6 July - Friday 10 July: Week of Training

Friday 10 July 15:00 - 18:00: Return equipment to Front Royal.

Applications:

<https://wot.skylinesoaring.org/application>

Details are available at:

<https://wot.skylinesoaring.org/wot-bible>.

This is a special intensive training event led annually by Piet Barber.

- The KFRR Great Pumpkin Drop, anticipated during October, will feature a pancake breakfast and a pumpkin drop from airplanes.

Notice: Help Wanted

Club Treasurer: The position of Club Treasurer will be open starting January 1, 2027. Now is the time to volunteer to take on this role with the club. Take advantage of hands-on training for the next eight months, making you fully trained. It would be best to step forward now, at your discretion, rather than wait until the last minute and enter the role under-prepared. Contact Ralph Vawter for



more information (treasurer@skylinesoaring.org, or vawteralph@gmail.com)

For Sale

This section is to allow SSC members to post items (preferably, but not limited to, aircraft-related stuff) that are offered for sale or as freebies.

Rolladen-Schneider LS1-f, N6108J, 1974, based at Warren County Front Royal airport (KFRR). Contest number 6E. 2863 hours TT, June annual (will re-inspect before sale). Borgelt and Winter varios, Dittel VHF radio, one-man rigger & Mountain High O2 system. 1995 Anschau KOMET trailer. Trailer and glider in good condition. Offered to SSC members at \$18,000. For information, call: Evan Dosik (703-338-4688) or Tim Moran (202-247-8820).



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