



Glider Competition 101 Seminar

Chris Ruf & Wally Berry
Feb 11, 2017

Much of the Content is based on the SSA Guide to Competition



SES Glider Competition 101 Seminar

**Beginners learn how to comfortably fly their first race day
& have fun too!**

What: Seminar to prepare pilots to fly their first contest. Not focused on how to win, but on how to avoid a lot of common beginner mistakes.

Who: **Any glider pilots interested in learning how take the leap into racing - now or in the future.**

Why: Pilots who learn to fly XC & Racing tend to get more out of soaring , stay in the sport longer, and enjoy years of camaraderie with fellow racers. Racing hones your cross country soaring skills and will take your flying to the next level. Beginning racers are often impressed by how much their flying improves and by how far they can fly on days they once considered marginal.

Use advice and content at your own risk! Read and talk to your instructors.

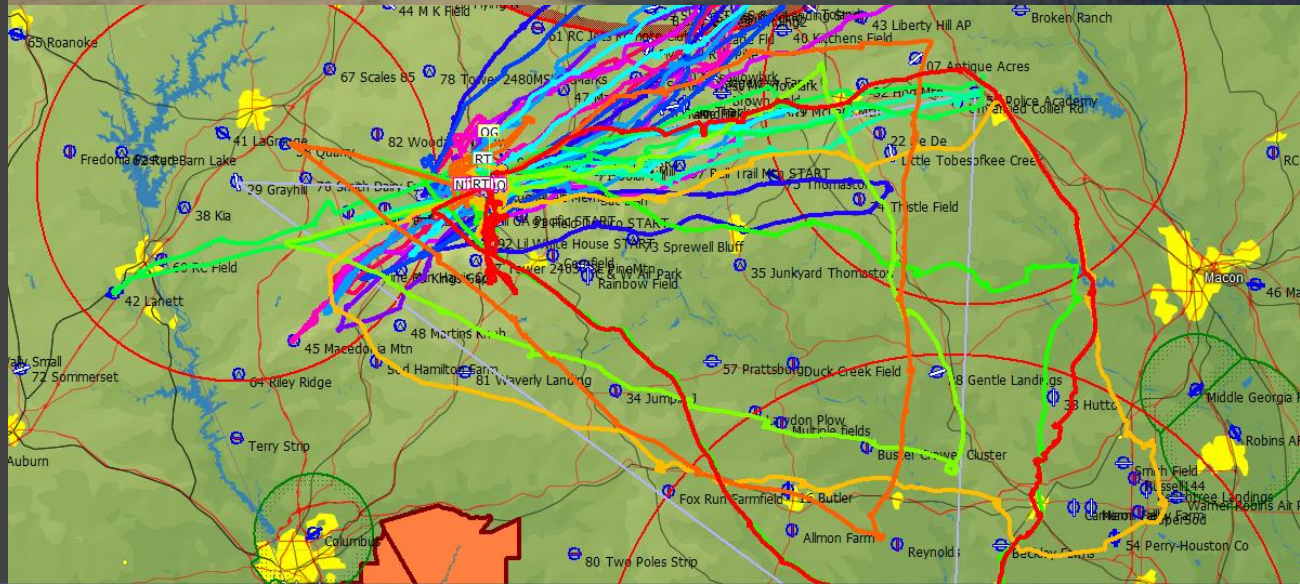
Introductions of presenters & attendees

Name:

Where you fly:

What you fly:

Goals this year:



What do I need for my first contest?

- **What is glider racing?**
- **Where and when are races held?**
 - How to formally enter a race
 - Paperwork
- **Skills and Experience**
- **Glider and Tow Vehicle**
 - Glider prep
 - Trailer
 - Required equipment
 - Instrumentation
- **Equipment**
 - Tie downs
 - Rigging aids
 - Ground handling equipment
- **Crew?**
- **Rules**
 - Written
 - Unwritten
 - Etiquette

Contest Organization and Daily Routine?

Contest personnel

- Manager
- Director
- Operations
- Weather guesser
- Scorer

Daily Schedule

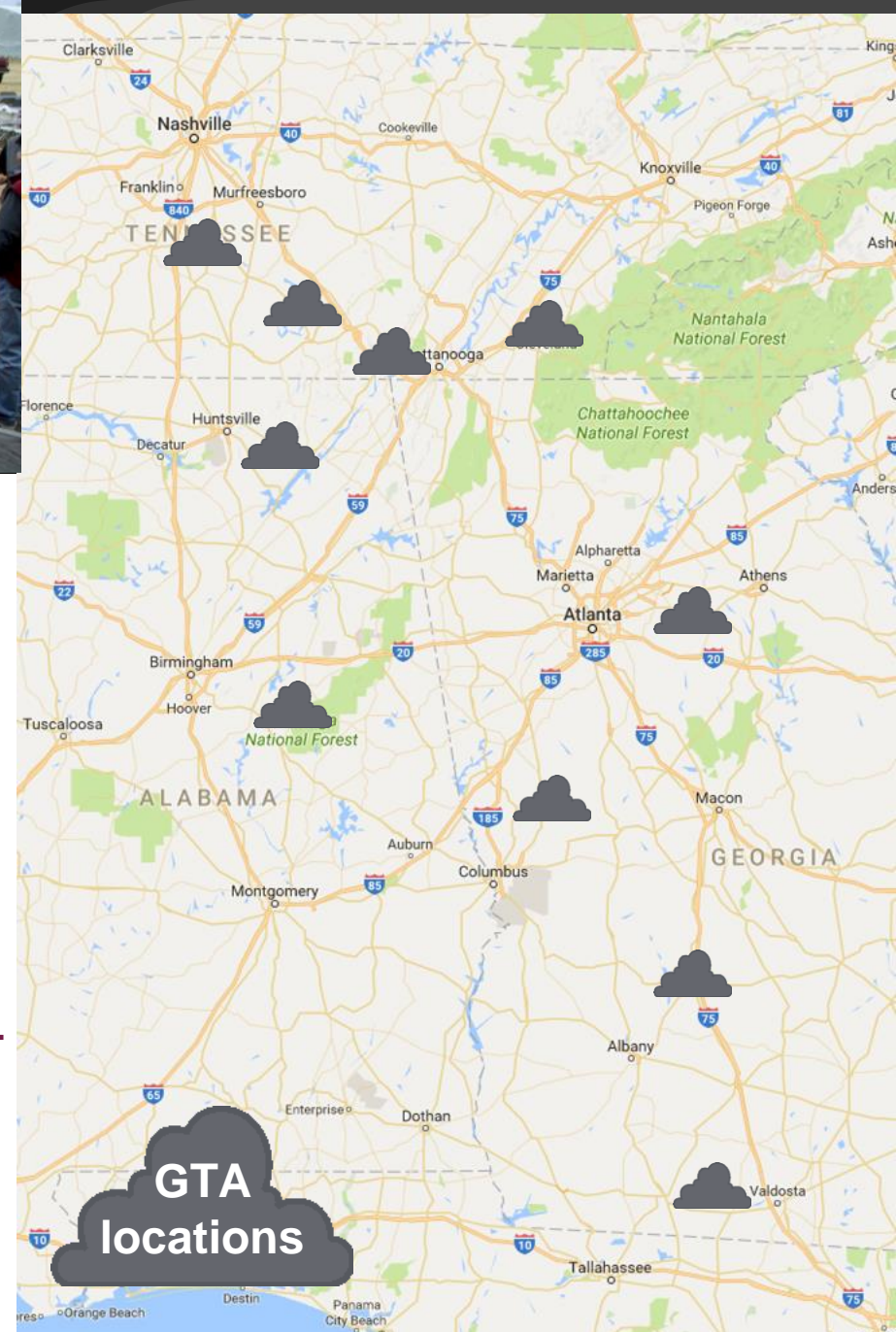
- Glider Assembly
- Pilots meeting
- Gridding
- Launch
- Start
- Finish
- Scoring





Why racing?

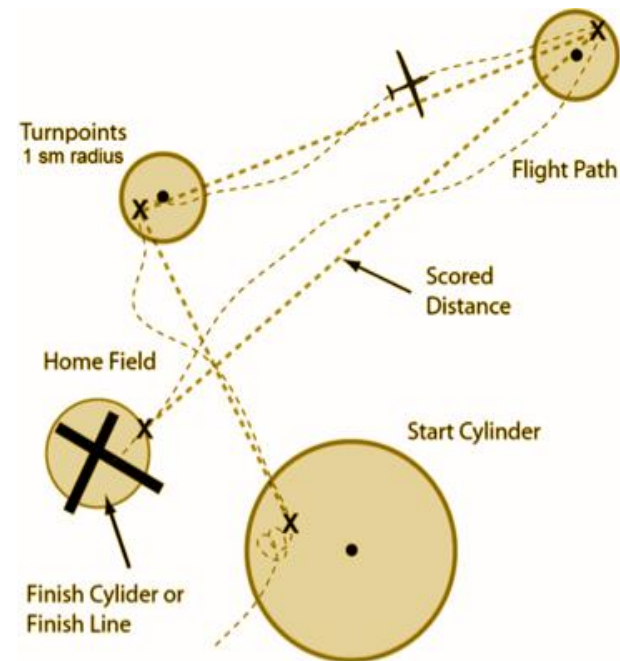
- Racers & XC record and badge pilots stay in soaring longer and enjoy it more.
- Explore different soaring sites = many learning opportunities.
- You will learn more, faster, flying with other pilots.
- Amazing to see what other pilots can do.
- Camaraderie with fellow racers.
- Great memories & Stories



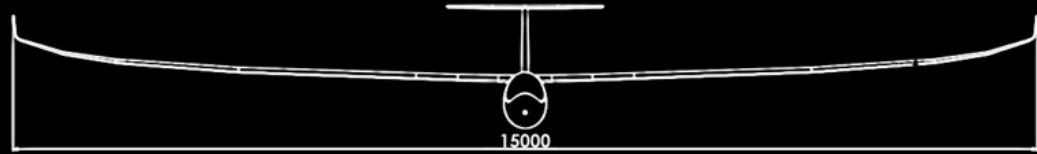
What is a glider contest?



- Closed course
 - Conventional race: Uses a rally start where pilots choose start time as part of strategy
 - Grand Prix: Uses a Regatta start. Not common (yet)
- Contest classes based on wingspan and presence or absence of flaps, number of seats. Also handicapped classes to allow gliders of widely varying performance to compete.



Competition Classes



- **Sports:** Anything, Handicapped, MAT & TAT: Cirrus, Ka-8, SF-34, Duo Discus, ASW-20, PW-5, Ventus, Quintus, L-33, 1-26
- **Club:** 15m max, Narrow handicap range .890-1.020, includes Assigned Tasks: Ventus .890 to 201 Libelle 1.020, Cirrus 1.000, ASW-20, 304CZ, Mosquito
- **15 Meter:** ASW-20, ASW-27, JS-3, Ventus 2ax
- **Standard:** 15m no flaps. Cirrus, LS-4, LS-8, Discus 2, ASW-28
- **“Combined FAI” 15M&Std:** any of the above 2, handicapped
- **18 Meter:** ASG-29, Ventus 3, DG-808, JS-1
- **Open:** <850Kg: Concordia, ASH-30, Nimbus 4, JS-1, Quintus, 1-26 ;-)
- **20 Meter 2 seater** soon: Duo Discus, Twin Shark, DG-1000, ASG-32
- **126 Class:** Only true “1-design” class.
- World Class RIP 2012, PW-5. Replaced with the 13.5 meter class.

When & Where are the contests?

The SSA website has a schedule for nearly every race in North America

Membership Number: 170127 Password: Remember Me: Sign In | Login Help

SOARING SOCIETY OF AMERICA

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Contest Calendar

Select Type of Event [Visit the graphical calendar](#)

SSA Contests (Click here for contest results) **ICAL**

Fun Meets, Camps, & Other Flying Events **ICAL**

Conventions, Seminars, & Meetings **ICAL**

Check these 2 boxes for more events!

Events

Click on an event for additional details

Date(s)	Preferential Entry Date	Event	Location
3/11/2017 - 3/17/2017	1/10/2017	Senior Soaring Championship	Groveland, FL
4/17/2017 - 4/22/2017	2/16/2017	Region 5 North	Perry, SC
5/15/2017 - 5/20/2017	3/16/2017	Region 7	Albert Lea, MN
5/20/2017 - 5/28/2017	3/21/2017	Sports Class Nationals	Reedsville, PA
6/5/2017 - 6/14/2017	4/6/2017	2017 15 Meter, Open, and Standard Class Nationals	Cordele, GA
6/12/2017 - 6/17/2017	4/13/2017	2017 Region 8 Super Regionals	Ephrata, WA
6/19/2017 - 6/24/2017	4/20/2017	Region 6 South	Waynesville, OH
6/20/2017 - 6/29/2017	4/21/2017	Club Class Nationals	Hobbs, NM
6/22/2017 - 6/29/2017	4/23/2017	Region 9 Super Regional	Hobbs, NM
6/25/2017 - 7/2/2017	4/26/2017	The 2017 Nephi OLC Games	Nephi, UT
7/2/2017 - 7/8/2017	5/3/2017	Region 3	Elmira, NY
7/3/2017 - 7/8/2017	5/4/2017	US Junior Camp Contest	Elmira, NY
7/10/2017 - 7/15/2017	5/11/2017	Air Sailing Sports Class Contest	Reno, NV
7/17/2017 - 7/22/2017	5/18/2017	Region 11 FAI Class	Truckee, CA
7/20/2017 - 7/28/2017	5/21/2017	2017 1-26 Championships	Midlothian, TX
7/20/2017 - 7/27/2017	5/21/2017	Region 10 Low Performance Contest	Midlothian, TX
8/1/2017 - 8/10/2017	6/2/2017	18 Meter Nationals	Uvalde, TX
8/28/2017 - 9/2/2017	6/29/2017	Region 10 Championship	Waller, TX

To have your event listed in the calendar send an email to webmaster@ssa.org

Contest Committee
Home
News
Members

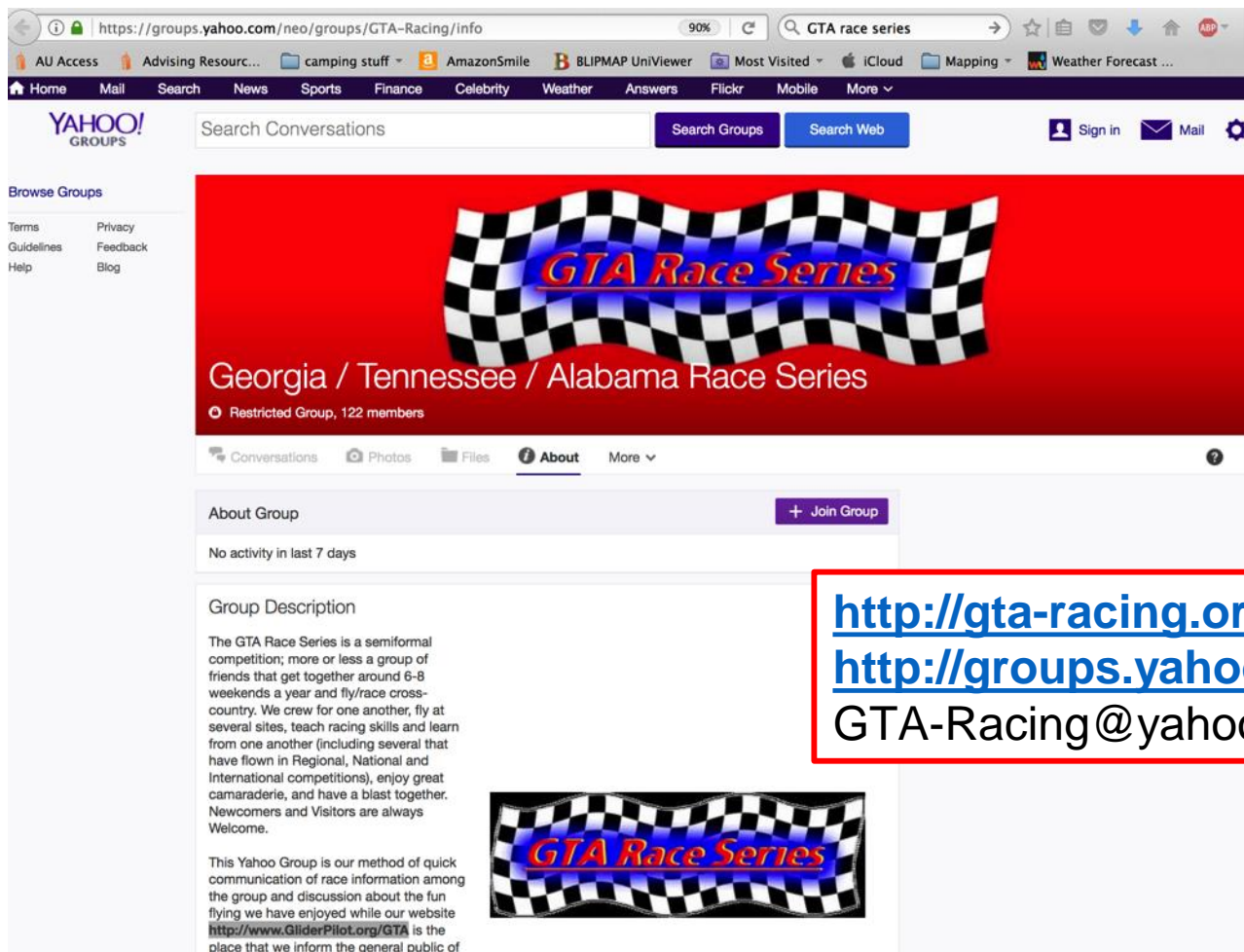
Persistent Links
SSA Contest Forms and Resources
Retention of Commercial Rights
Scoring Programs, Turnpoints and Ranking
Contest IDs

Search Posts
Search for posts by keyword:

Recent Posts
Juniors Receive Rebate on Contest Fees
Pilot Opinion Poll Open Until Nov. 5th
2010 SSA Contest Forms Minor Update
US Contest Pilots, Register Online in 2009
Contest Resources
Rules Committee Election and Poll

When and Where to Race?

GTA is a local race series that provides a perfect way to begin racing.



The screenshot shows a web browser window displaying the Yahoo! Groups page for the "GTA-Racing" group. The browser's address bar shows the URL "https://groups.yahoo.com/neo/groups/GTA-Racing/info" and the search bar contains "GTA race series". The page features a prominent banner with a checkered flag and the text "GTA Race Series" in a stylized font. Below the banner, the text reads "Georgia / Tennessee / Alabama Race Series" and "Restricted Group, 122 members". The page includes navigation tabs for "Conversations", "Photos", "Files", "About", and "More". The "About" tab is selected, showing the "About Group" section with a "Join Group" button and a note that there is "No activity in last 7 days". The "Group Description" section contains the following text: "The GTA Race Series is a semiformal competition; more or less a group of friends that get together around 6-8 weekends a year and fly/race cross-country. We crew for one another, fly at several sites, teach racing skills and learn from one another (including several that have flown in Regional, National and International competitions), enjoy great camaraderie, and have a blast together. Newcomers and Visitors are always Welcome." Below this, it states: "This Yahoo Group is our method of quick communication of race information among the group and discussion about the fun flying we have enjoyed while our website <http://www.GliderPilot.org/GTA> is the place that we inform the general public of". A smaller version of the "GTA Race Series" banner is visible at the bottom of the page.

<http://gta-racing.org/>

<http://groups.yahoo.com/group/GTA-Racing/>

GTA-Racing@yahoogroups.com

Your First Contest

- Smaller regional - not a “Super Regional” contest or National. (NOT Perry with 65 gliders!)
- GTA is ideal. Usually only 4-8 gliders
- Regional with 6-12 in sports class.




Georgia-Tennessee-Alabama
Sports Class Sailplane Race Series

Where real soaring fun in the South begins!

How do I formally enter a contest?

SSA Website
has a contest
registration
webpage...



SOARING SOCIETY OF AMERICA

Welcome, Wallace | [My HomePage](#) | [My Profile](#) | [Log Out](#)

Your membership will expire at the end of the month. [Click here to renew online.](#)

[f](#) [t](#) [e](#) [+](#) [0](#)

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SSA Contest Registration

Step 1 of 3 - Select your contest

Register for upcoming SSA Sanctioned contests. Start your entry by selecting the contest you wish to enter from the pull down list of contests then click NEXT to go to Step 2.

CHOOSE WHICH CONTEST TO ENTER:

Check here to automatically fill out your entry using your most recent information.

Your current contest entry status is:

Contest	Contest Dates	Your Entry Status	
Club Class Nationals	6/20/2017 - 6/29/2017	New Registration	<input type="button" value="Edit/Update >>"/>


Notes:

- You can edit or update your entry at any time once registered.
- Your entry will not be finalized until the organizers receive your documents and deposit. Your completed Entry and Waiver along with a handy document summary checklist can be printed in Step 3. Please mail your documents to the contest organizers immediately.

For questions or comments please [contact the SSA](#).

Contest Committee

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Persistent Links

[SSA Contest Forms and Resources](#)
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[Scoring Programs, Turnpoints and Ranking](#)
[Contest IDs](#)

Search Posts

Search for posts by keyword:

Recent Posts

[Juniors Receive Rebate on Contest Fees](#)
[Pilot Opinion Poll Open Until Nov. 5th](#)
[2010 SSA Contest Forms Minor Update](#)
[US Contest Pilots, Register Online in 2009](#)

Paperwork Required for SSA Regional, National, or GTA

You should ensure that all paperwork is available and in order:

- Airworthiness certificate
- Aircraft registration
- Pilot license
- Insurance policy front page (as proof of coverage)
- SSA Membership card (valid through the last day of the contest)
- Pilot logbook (showing current BFR)
- Aircraft logbook

A really good plan is to collect the first five of these items and make an electronic image of them (by scanning or taking a photo of them). This makes it easy to email copies, which is often more convenient than hard copy. For a comprehensive list of the items (paperwork, etc.) that the rules require you to bring to a contest, check out the document on Pilot Requirements under Contest Forms on the SSA website

Flying Skills needed for Competition flight



A Silver badge is a good prerequisite or guideline for when you are ready to start contest flying.

SSA FAI Badge Record Home Page

BADGE FLYING



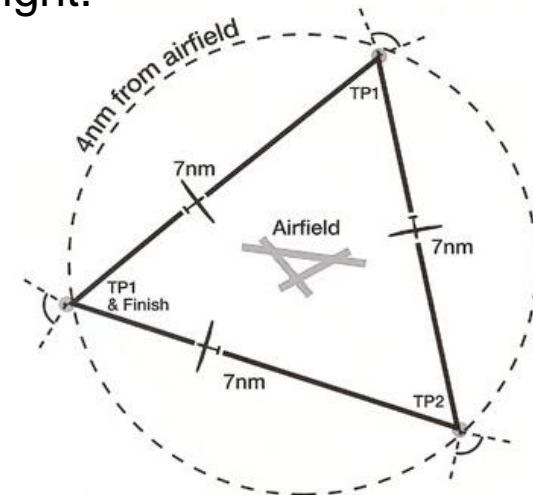
FAI Silver Badge

3 required elements.

1. Silver Altitude is a 1,000-meter (3,281-foot) altitude gain above an in-flight low point.
2. Silver Duration is a **5-hour** flight time after tow release.
3. Silver Distance is a **50-km** (31.07-mile) cross country flight.

New habit: log your miles & speeds not just hours.

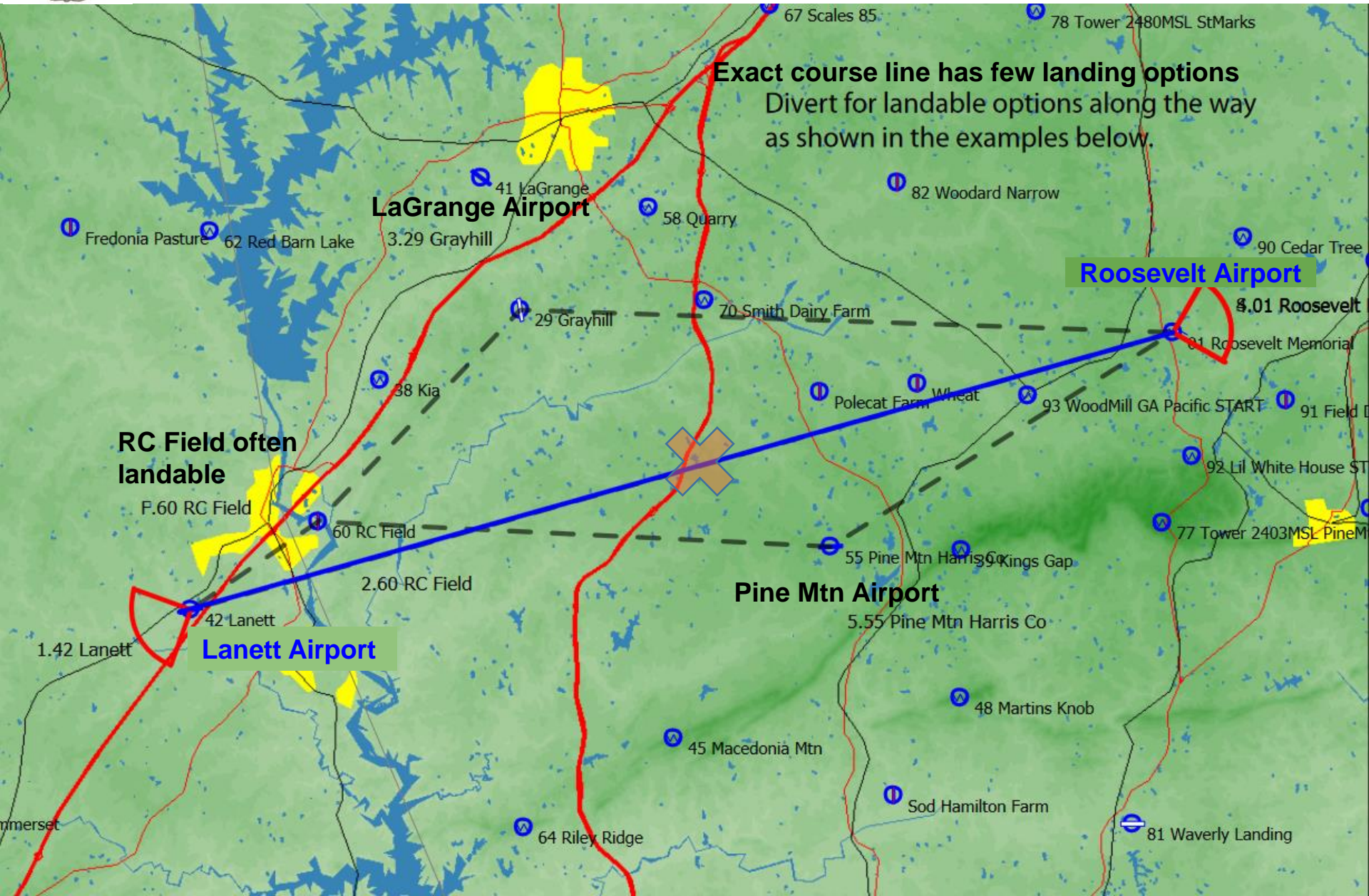
Prior to a Silver pilots should work on their readiness for cross country, work on skills as outlined in the Bronze Badge. Practice cross country courses even while staying close to home as shown here:





FAI Silver Badge Course Example

Warm Springs Roosevelt to Lanett = 51.9km (32.2miles) one way



Exact course line has few landing options
Divert for landable options along the way
as shown in the examples below.

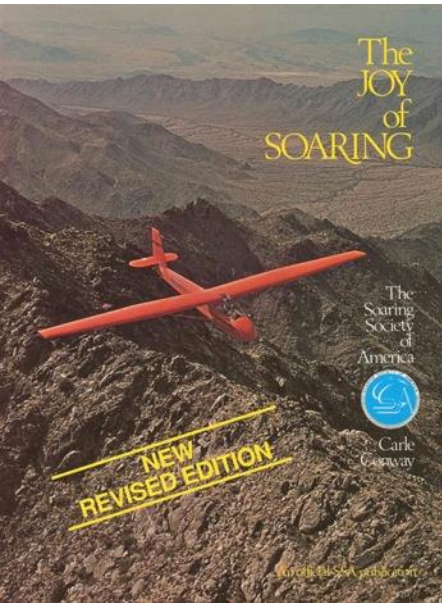
RC Field often landable

Roosevelt Airport

Lanett Airport

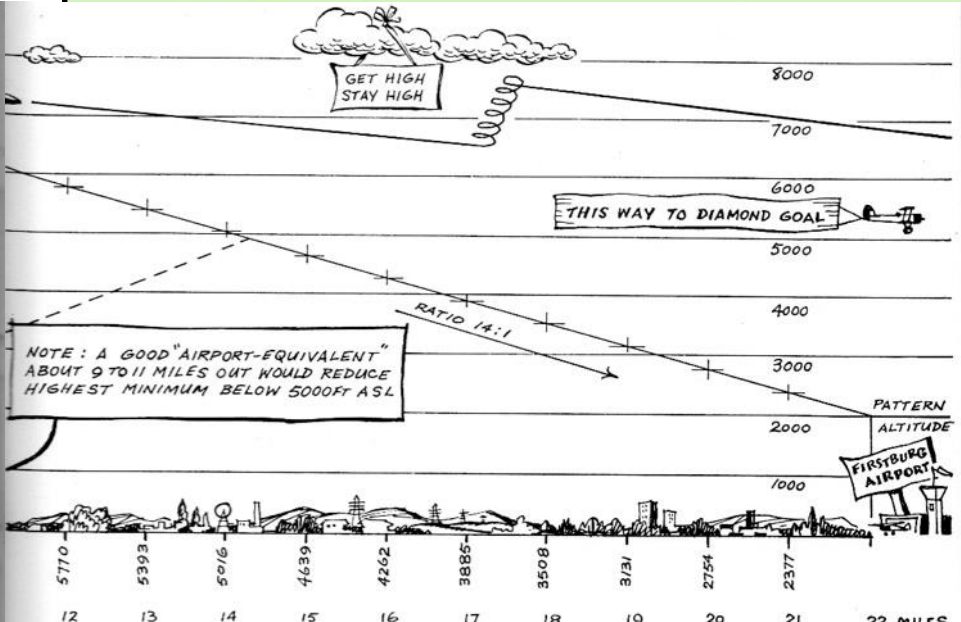
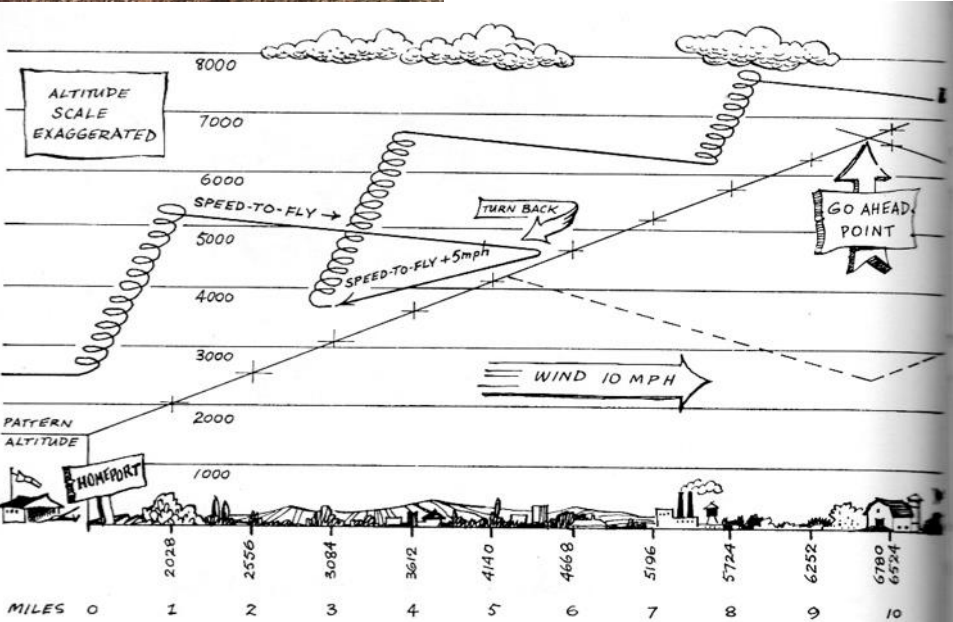
Pine Mtn Airport

Read...



Cloud base or top of convection

	Blue Sky	Cumulus Sky	MacCready
1/3	Stay on track	Intercept all active cumulus clouds within 15 to 20 degrees on either side of track	Set to expected average climb rate in next thermal
1/3	Consider small track deviations to align track with likely thermal sources.	As above but include clouds further off track. Accept average lift.	as above
1/3	As above but accept greater track deviations	Look for lift upwind of cloud and accept average lift to get up again	Reduce MacCready setting to extend range



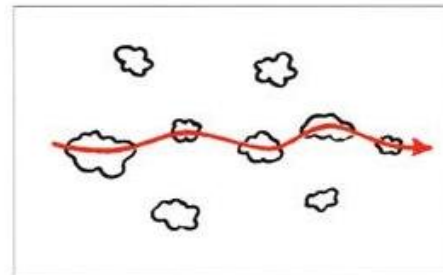
Read more...

HELMUT REICHMANN CROSS-COUNTRY SOARING

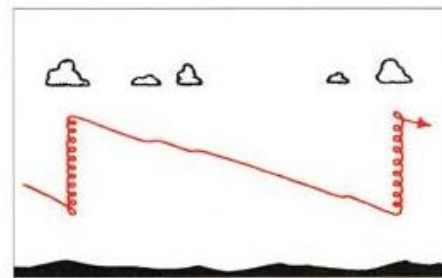
(STRECKENSEGELFLUG)



REVISED EDITION



18. Small changes of heading can save height and therefore minimize time spent circling.



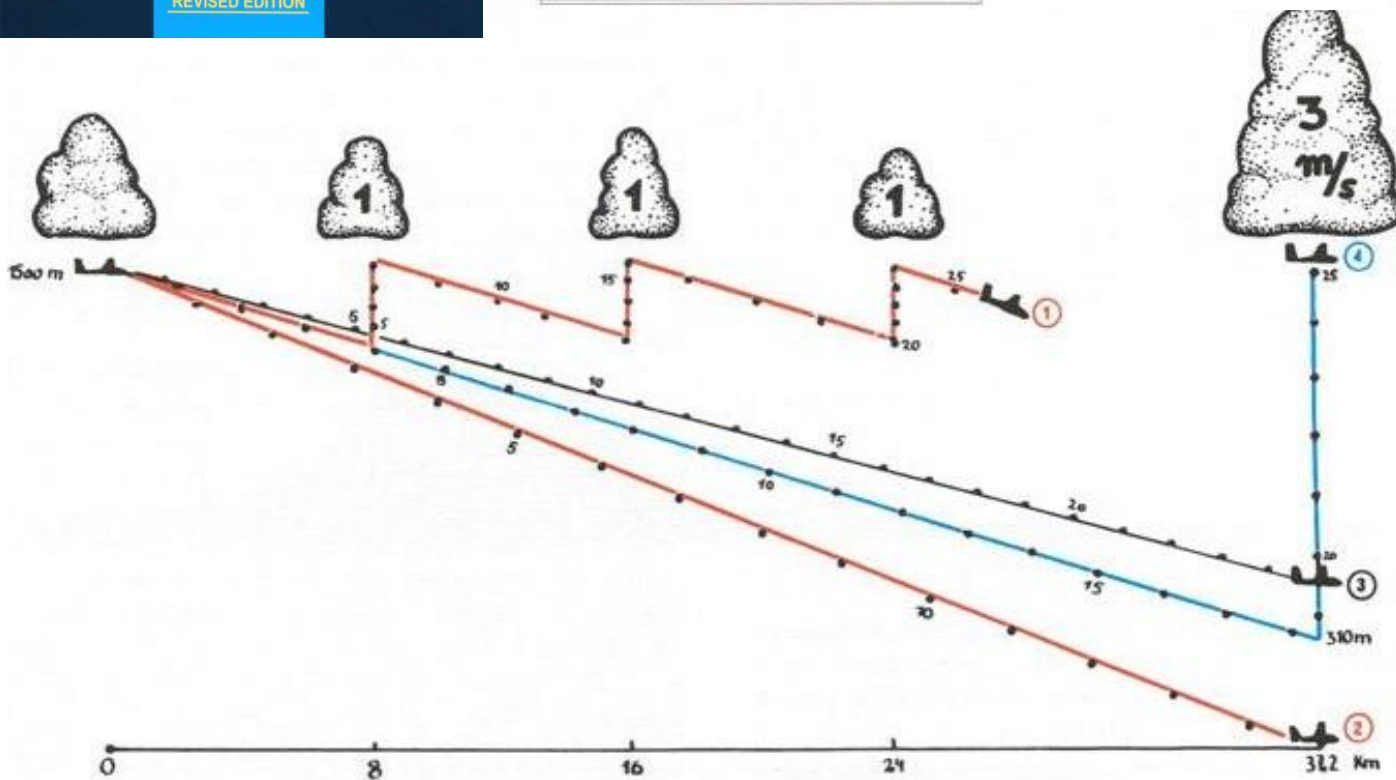
19. To improve average speed by reducing time spent circling in thermals and therefore time spent getting established and centered in them. Practice in "tactical undersetting of speed-to-flying."

Leo and Ricky Brigliadori

Competing in gliders

2nd EDITION

Winning with your mind
As seen from Lima Bravo and Romeo Bravo



Preparing Your Glider

- **Performance tuning hardly matters** for your first few contests. It's more important that the ship trim & fly well with no annoying distractions to divert your attention.
- A good **audio vario** is essential for contest flying.
- Your **trailer & tow vehicle** should function well
 - with **gas & keys**.
- Wing stands, tie down ropes and spikes.
- Ground handling equipment:
 - tail dolly, wing wheel, towbar, or *at least a rope!*

Equipment



- A good **audio vario** and a moving map navigation system are essential for contest flying.
- Need not be state of the art or expensive!



Equipment

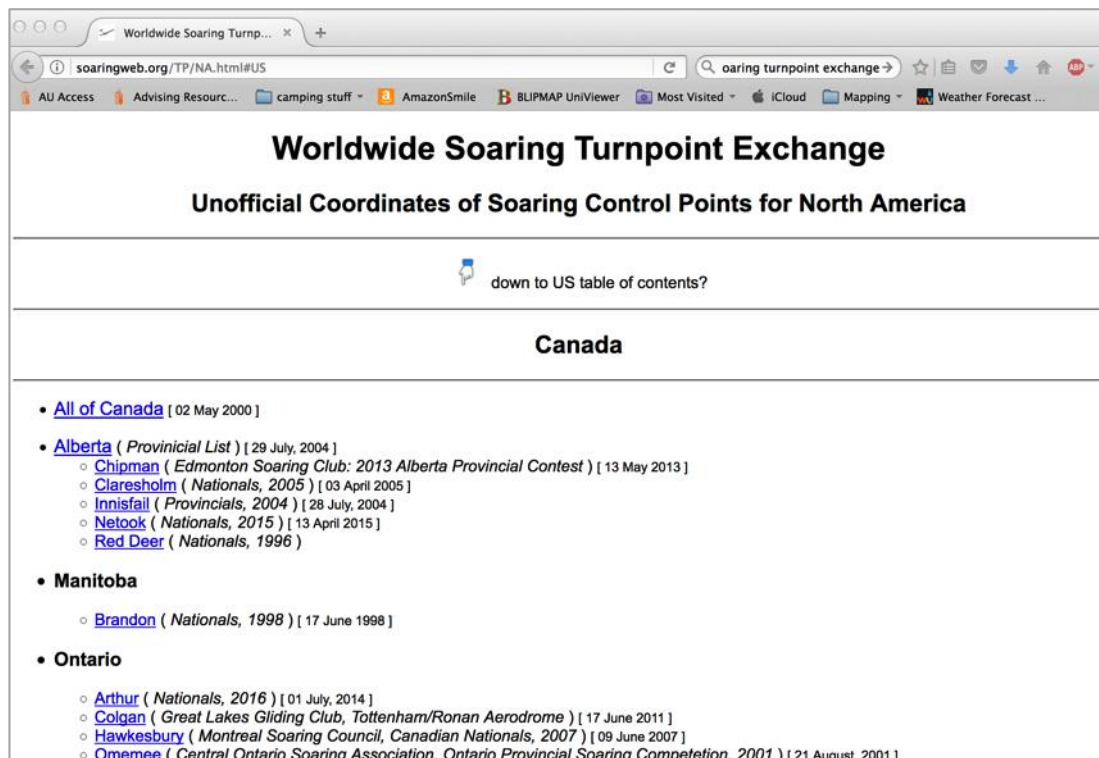


- Nav systems



Preparing Your Glider

- Don't forget to download the updated contest site files to your nav system!
 - Free at soaringweb.org/TP/NA.html#US

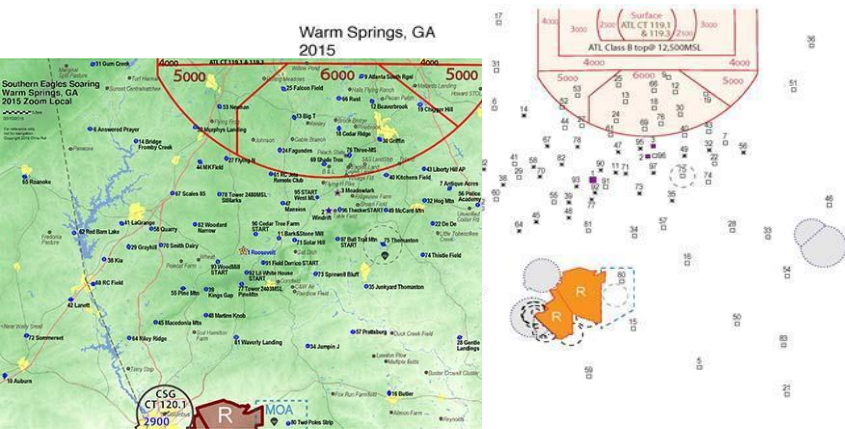


The screenshot shows a web browser window with the address bar displaying soaringweb.org/TP/NA.html#US. The page title is "Worldwide Soaring Turnpoint Exchange" and the subtitle is "Unofficial Coordinates of Soaring Control Points for North America". Below the subtitle, there is a link with a globe icon and the text "down to US table of contents?". The main content is under the heading "Canada" and lists several contest sites:

- [All of Canada](#) [02 May 2000]
- [Alberta](#) (*Provincial List*) [29 July, 2004]
 - [Chipman](#) (*Edmonton Soaring Club: 2013 Alberta Provincial Contest*) [13 May 2013]
 - [Claresholm](#) (*Nationals, 2005*) [03 April 2005]
 - [Innisfail](#) (*Provincials, 2004*) [28 July, 2004]
 - [Netook](#) (*Nationals, 2015*) [13 April 2015]
 - [Red Deer](#) (*Nationals, 1996*)
- **Manitoba**
 - [Brandon](#) (*Nationals, 1998*) [17 June 1998]
- **Ontario**
 - [Arthur](#) (*Nationals, 2016*) [01 July, 2014]
 - [Colgan](#) (*Great Lakes Gliding Club, Tottenham/Ronan Aerodrome*) [17 June 2011]
 - [Hawkesbury](#) (*Montreal Soaring Council, Canadian Nationals, 2007*) [09 June 2007]
 - [Omemee](#) (*Central Ontario Soaring Association, Ontario Provincial Soaring Competition, 2001*) [21 August, 2001]

Charts/Maps/Turnpoint maps

- Marked up Sectionals & printed maps are still helpful (sectionals are still required equipment)
- Situational Awareness & frequencies.
- Chart prep = learn contest area.



Equipment

- Your **trailer & tow vehicle** should function well
 - Adequate tow vehicle!
 - **WITH gas & keys!!!!**
 - Lights working
- Proper hitch and ball
- Spares and tools



Equipment

- Wing stands, tie down ropes and spikes.
- Ground handling equipment:
tail dolly, wing wheel, towbar, or *at least a rope!*

Ground handling equipment becomes absolutely critical if you are without a crew!



Equipment

Tie Downs: For glider and trailer



Equipment

Rigging & Ground Handling (**Don't leave home without it!**)



Label with your contest #



Self Rigger is optional
- plenty of help around



Tow bar and wing wheel allow you to grid yourself.
Using just a rope requires 2+ people.

Required Equipment, Restricted Equipment

Required:

1. **Glider - club glider, partnership, borrow, or your own.**
2. **Parachute**
3. **Emergency Location Devices:**
Emergency Locator Transmitter (ELT) or Position tracker like Spot
4. **Aircraft-band VHF radio.**



Prohibited from carrying:

1. **Any instrument which:**
Permits flight without reference to the ground = Artificial Horizon.

Outlanding Preparations, Landing Out, reporting in, tracking systems & ELTs

Get a tracking system & register it on SSA's "Sailplane locator". FYI there are 2 tracking systems on SSA, the "locator" is better for friends & family to find you.



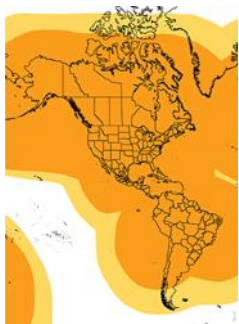
SOARING SOCIETY OF AMERICA



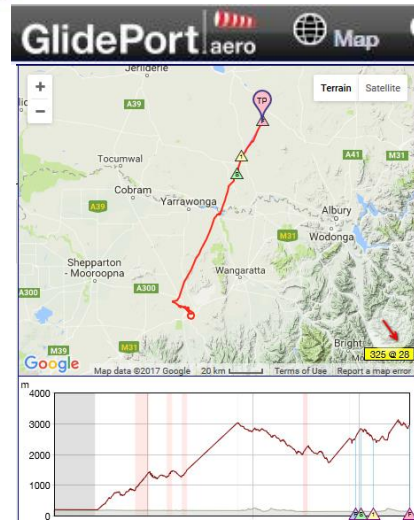
ACK 406/121.5 MHz ELT



SPOT Gen3 Satellite Messenger



DeLorme inReach Explorer 2-way Satellite Communicator with GPS & Navigation



Checklists

Suggested checklists:

- Equipment to take to the contest (it's discouraging to find that you left your battery charger at home)
- A thorough assembly checklist
- A pre-flight checklist
- A pre-landing checklist
- A trailering checklist (showing how to hook up your trailer and start your tow vehicle)
- Cell phone belongs on checklist.

Your pre-flight checklist should include several contest-specific items, such as the need to ensure that a task sheet and outlanding card are in your cockpit, and that the keys to your tow vehicle are not in your pocket. Your landing checklist is one you may wish to commit to memory, since contest landings can get busy

Checklists

Best Practices Pilot & Crew Checklist



This checklist was originally developed for world championship flying and included as part of the U.S. team Best Practices series. This copy has been substantially modified for domestic use. PLEASE NOTE & UNDERSTAND: Checklists need to be updated for each individual's circumstances and that errors and omissions in this checklist are the responsibility of the user.

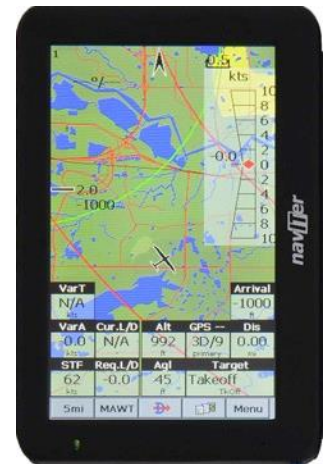
Sailplane, General:

- All systems working?
- GPS flight recorder
- Parachute (note repack date)
- Seat cushion

www.skysoaring.com/members/TR_Pilot_Crew_Checklist.pdf

Flight Documentation

- Flight Documentation = fancy way of saying .igc flight recording.
- Many software & hardware options.
- iPhone and Android apps for GTA & regionals (XCSoar, iGlide, SeeYou Mobile)
- Input your Name, Contest Number & Glider type to make a scorable .igc file.



Staying comfortable, and Safe:

- Drinking Water
- Snacks keep your blood sugar in the right range, and backup food for a landout.
- Pilot Relief
- Oxygen in Western US

Crew

Crews help a lot, and crewing is a good way to learn - try it.

Now common to create a ***Crew-for-Each-Other-Group*** as secondary plan.

Nobody has been left in a field forever as far as we know.



The Rules

- Regionals & Nationals

ssa.org/ContestRules

- Good Idea to read them at least once - might save you from losing all the points for a day.
- **Guide to the Rules** at the end are really helpful.
- Pay particular attention to the rules concerning turnpoint control, starting, finishing, & penalties.
- Left Circling within 5 miles of the contest site or within an active start cylinder.

Rules: Site Specific

- Every race site has their own unique operating procedures and rules.
 - Provided on the contest website and in printed documents made available before or at the contest.
 - **READ THEM!**



Fly Cordele

Welcome

About

Flying the contest

Site information

Contestants

A banner for a glider race. On the left, a glider is shown in flight against a blue sky with white clouds. The glider has 'ROY' written on its fuselage. On the right, there is text in a dark blue font.

Come Race Cordele!

Whether you are a pilot who wants to spread your wings and give contest flying a try or are an experienced racing pilot, Cordele will provide the challenges to meet your level of competitive desires. And most of all, you'll have fun! So, join us!

15 M, Standard and Open Class Nationals 2017

The Unwritten Rules

For any sport, the rules that aren't written can be as important as those that are. A brief list of the things you should be trying to achieve in soaring competition, in decreasing order of importance. The first four should be considered mandatory on every flight.

- **Don't endanger people on the ground**
- **Don't endanger other pilots**
- **Don't endanger yourself**
- **Don't endanger your glider**
- Learn from the flight
- Enjoy the flight
- Score well



Airport Etiquette



Beyond the published airport rules, there is contest etiquette that all pilots (and crews) should observe:

- **Around the airport, drive at moderate speed (don't terrify pedestrians or stir up dust)**
- **Don't leave cars or gliders where they block others**
- **If your car might block anything, leave the keys in it.**
- **Drive around, not across, runways, unless you are certain it is allowed and safe**
- **Display your contest ID on your car & trailer (makes them easier to find)**
- **Whether on foot or in a car, always defer to aircraft**
- **Treat contest workers politely (remember, they are *volunteers*)**
- **Be considerate of non-contest airport traffic (so the contest gets invited back next year)**

Contest Personnel roles



Competition Director, the head honcho – the one who calls tasks, and is responsible for ensuring that the contest is a safe, fair soaring competition.

Contest Manager, responsible for administration of the contest. The CM organizes all the volunteers, ensures that there are enough towpilots, towplanes, towropes, water faucets, porta-potties, etc.

Weatherman, responsible for monitoring weather observations & forecasts, and presenting this information to pilots each day. As we all know, meteorology is an inexact science, and it often pays to be a bit skeptical of the day's forecast.

Scorer, keeps track of the results achieved by all pilots every day, entering these into a computer, and producing scoresheets.

Retrieve Office, group of volunteers who take phone calls from pilots that have outlanded.

Preparation for the day

- Prepare early; then relax before the flight.
- Work your checklists.

Typical:

8:00 show at glider

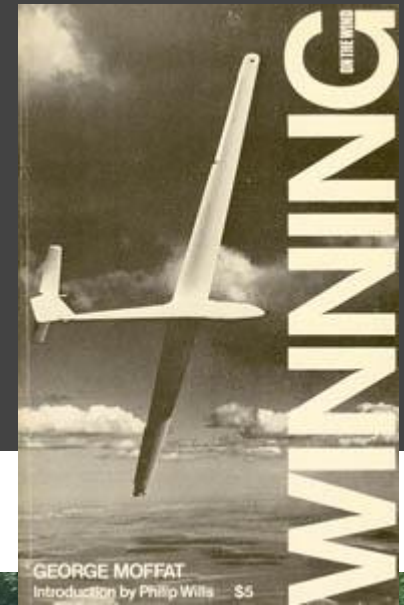
9:30 Pilot meeting

11:30 glider near/next to grid

12:00 on grid spot

12:10 grid meeting

12:25 first launch



Pilot's Meeting



Gridding, Launching & Relighting



Gridding, Launching & Relighting



You're doing it wrong!

Gridding, Launching & Relighting



Typical Contest Launch

Water Ballast



- Water Ballast - not needed for sports or club class

Radio Usage

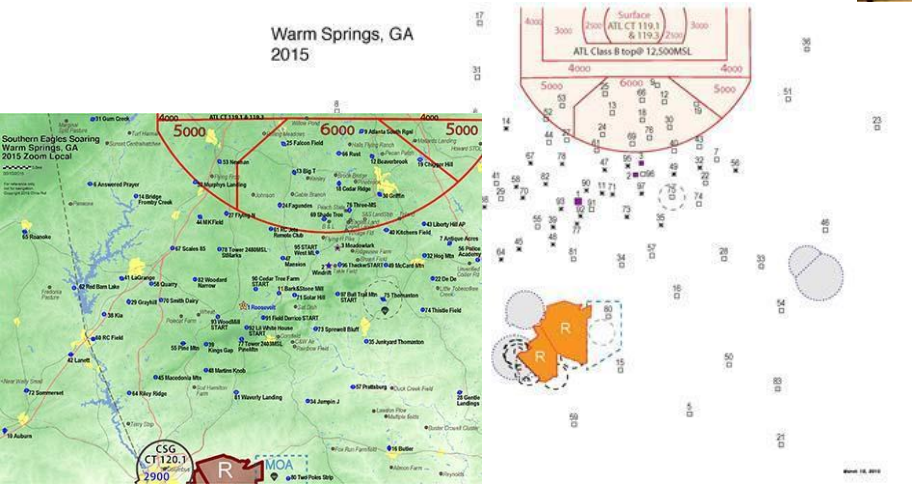


- 123.3 Contest, CD, Pilot to Pilot Safety
- 123.5 Pilot to Crew
(pilot must initiate - cannot start with crew calling pilot.)
- Unicom at public airports

Charts/Maps/Turnpoint maps

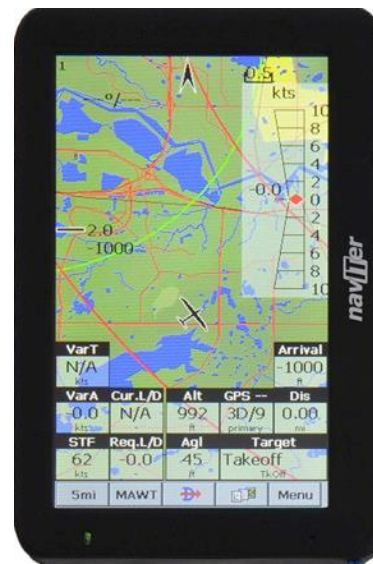
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Warm Springs, GA
2015

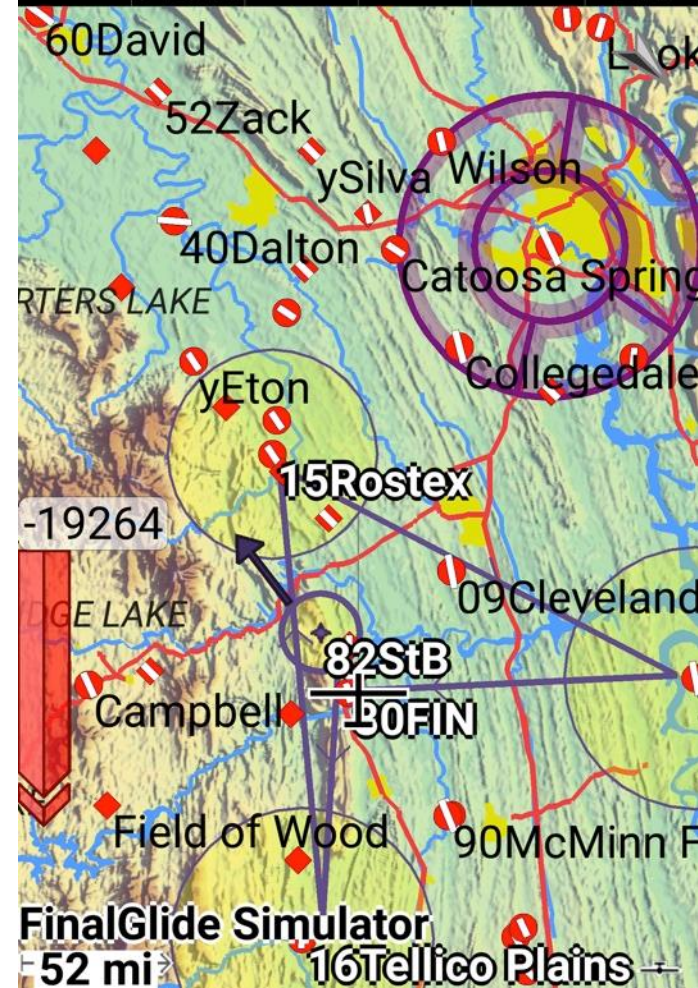


Navigation

- GPS flight recorder is required so you'll have GPS.
- A moving map is massively helpful - to understand Start, Finish, Turn Area points, and staying out of Airspace.
- What system is not as important as knowing how to use it well. Practice on the ground in Simulator mode.



82StB «37° Start P	82StB 2.51 mi «37°	WP Alt -1198 ft	AAT 05'00	dTAAT 113 mi	DtMC 3.8 kt 75 kt	MA
Fin Dis 115 mi	Altn 1 01Chill	(GR Avg +++	GR Cru ---	Fin GR +++	H AGL 29 ft 9 m	



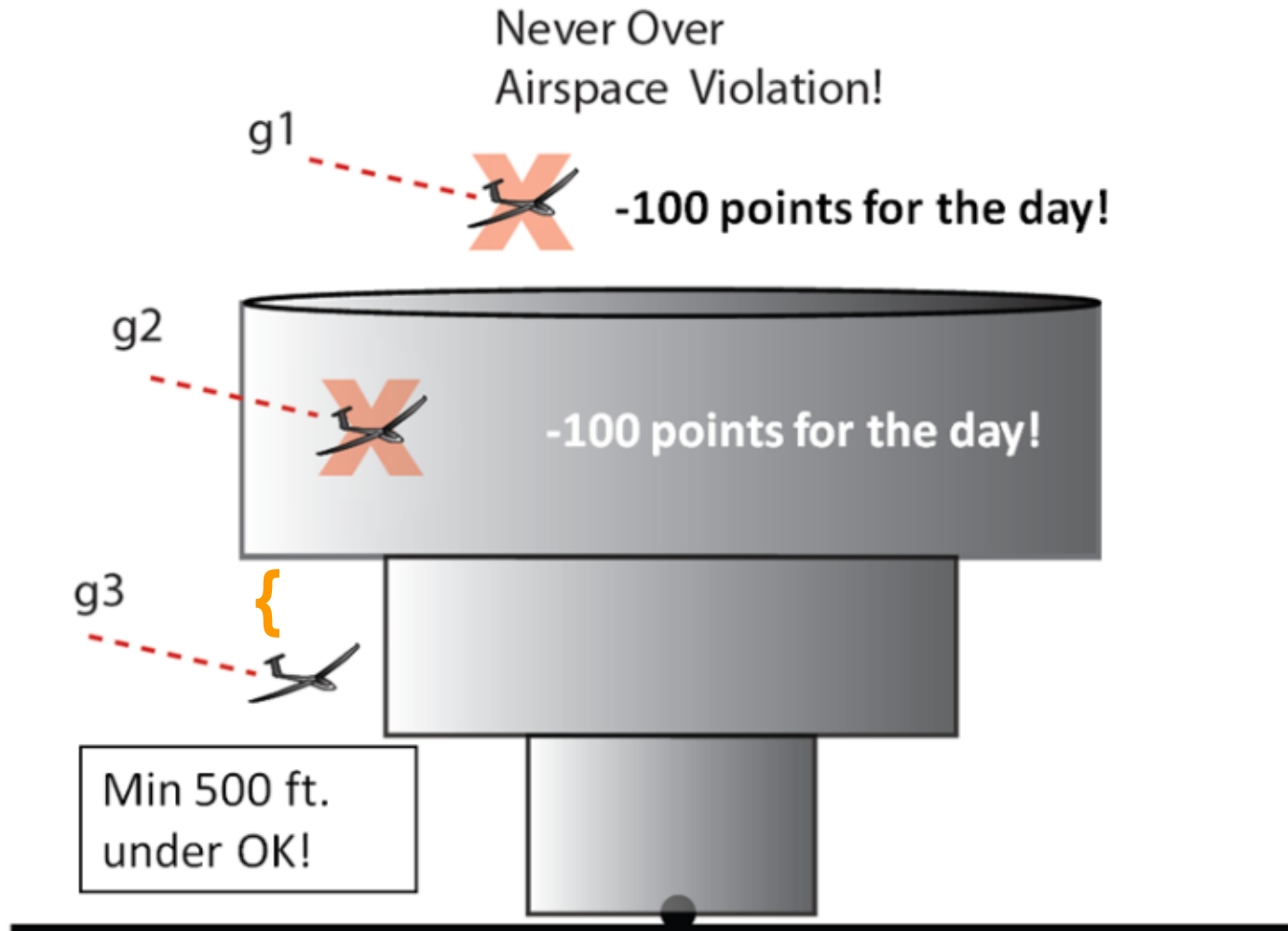
FinalGlide Simulator

52 mi

16Tellico Plains

Airspace

How to earn Minus 100 points for the day!
(Lose all your points for the day & 100 more).



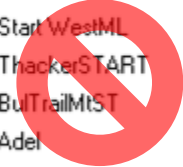
Note: this diagram is for illustration only, the text of the rules is authoritative.

Closed Airspace Clearance Requirements

Start Points, vs Turnpoints & Finish points.

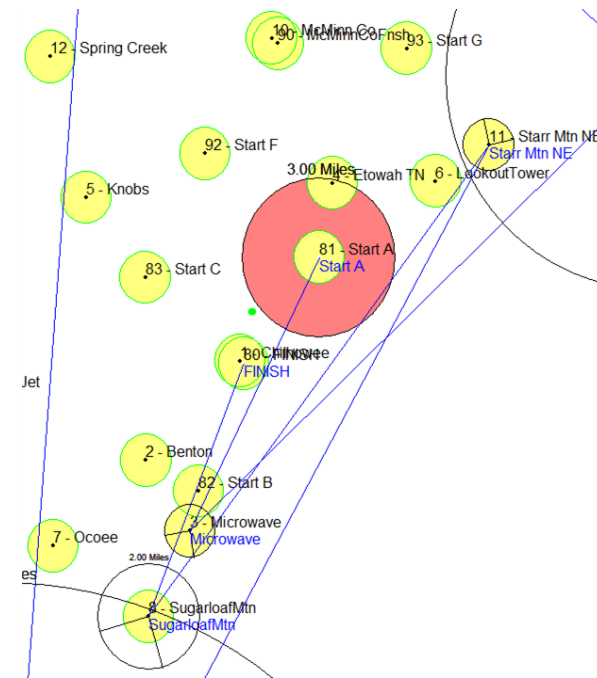
- Important to understand that waypoints have various attributes. Some have multiple attributes.
- Some are Turnpoints, Start, Finish, non-turnpoint airports.
- Do not use a point with only Start Point attribute for a turnpoint.
- Turnpoints lists that have the Number at the beginning of the name cause the least confusion.
- Remain skeptical of airport attribute.
- Worldwide Soaring Turnpoint Exchange: soaringweb.org/TP

ID	Name	Attributes	ID	Name
91	91 FldDrcST	S	91	FldDericO ST
92	92 LWhtHsST	S	92	LiWhtHo ST
93	93 WdMIIGPcf	S	93	Wood Mill ST
95	95 STRTWmdwl	S	95	Start WestML
96	96 ThckrSTRT	S A	96	ThackerSTART
97	97 BIITrIMtn	S	97	BulTrailMtST
100	Adel	A	100	Adel
101	Albany	A	101	Albany
102	Alcovy	A	102	Alcovy
103	AllendaleCnt	A	103	Allendale



ID	Name	Lat (ddmmmm)	Lon (ddmmmm)	Attributes
1	01 RSVLTMMRL	32 56.317 N	84 41.783 W	H S F A T
2	02 Wndfrtrdr	33 02.500 N	84 25.933 W	S F A T
3	03 Meadowlrk	33 05.233 N	84 24.317 W	S F A T
4	04 AlexandrC	32 54.883 N	85 57.783 W	A T
5	05 Americus	32 06.650 N	84 11.333 W	A T
6	06 AnswrdPrr	33 15.233 N	85 10.217 W	A T
7	07 Antiqucrs	33 06.000 N	84 03.517 W	A T
8	08 Ashland	33 17.050 N	85 48.533 W	A T
9	09 AtIntSRgn	33 23.400 N	84 19.867 W	A T
10	10 Auburn	32 36.900 N	85 26.033 W	A T
11	11 BrkndStnM	32 58.250 N	84 35.183 W	T

ID	Name
1	ROOSEVELT
2	Windrift
3	Meadowlark
4	AlexanderCty
5	Americus
6	AnswerdPray
7	AntiqueAcres
8	Ashland
9	AtISouthRgnl
10	Auburn
11	Bark&StoneMI



Landing Out

Decide early:
stop soaring
start landing.

HELP message: Please send help Soon. Chris Ruf needs to be retrieved from my adventure.

33.55889 latitude, -81.23071 longitude

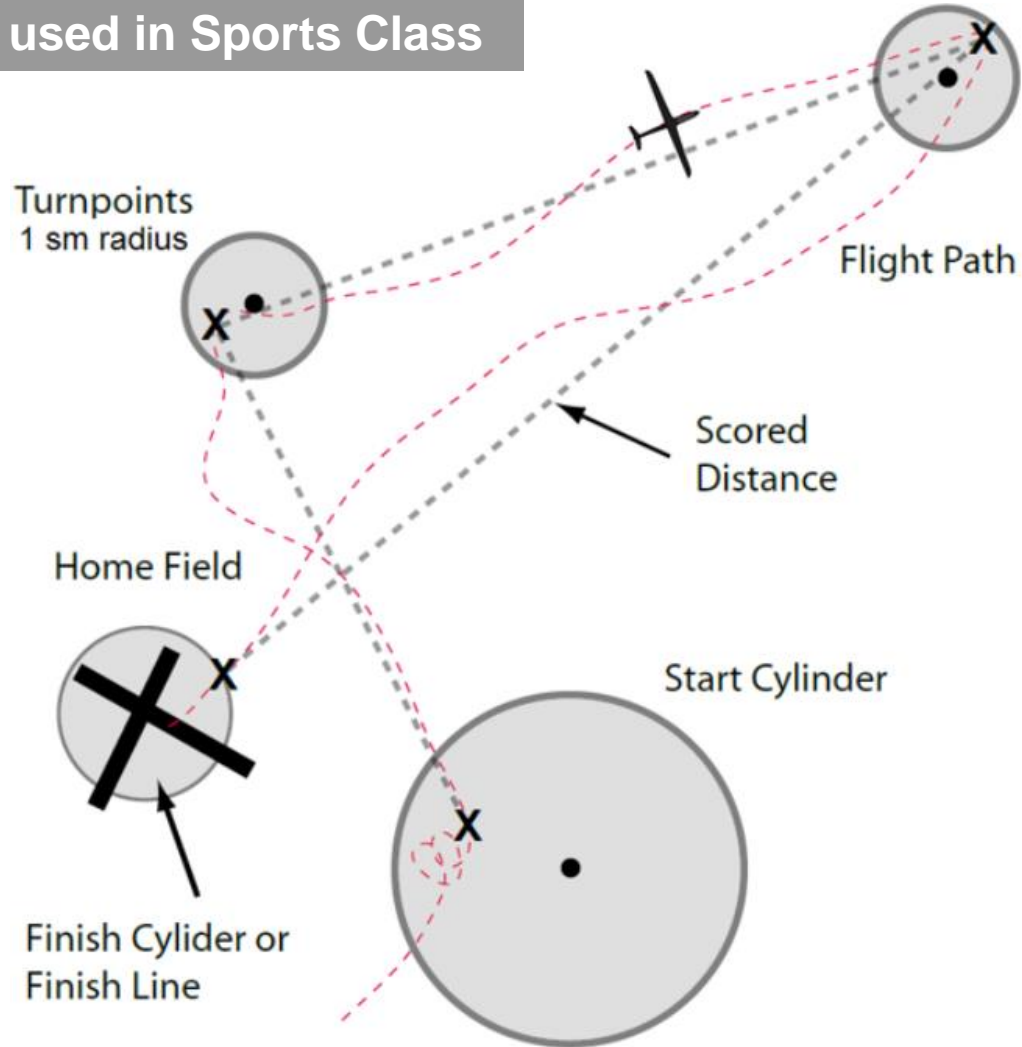


Wires
Wind
Slope
Surface

You should already be comfortable with landouts.
Steep approach & pattern at home like landout every time.

Task Types & Planning AT

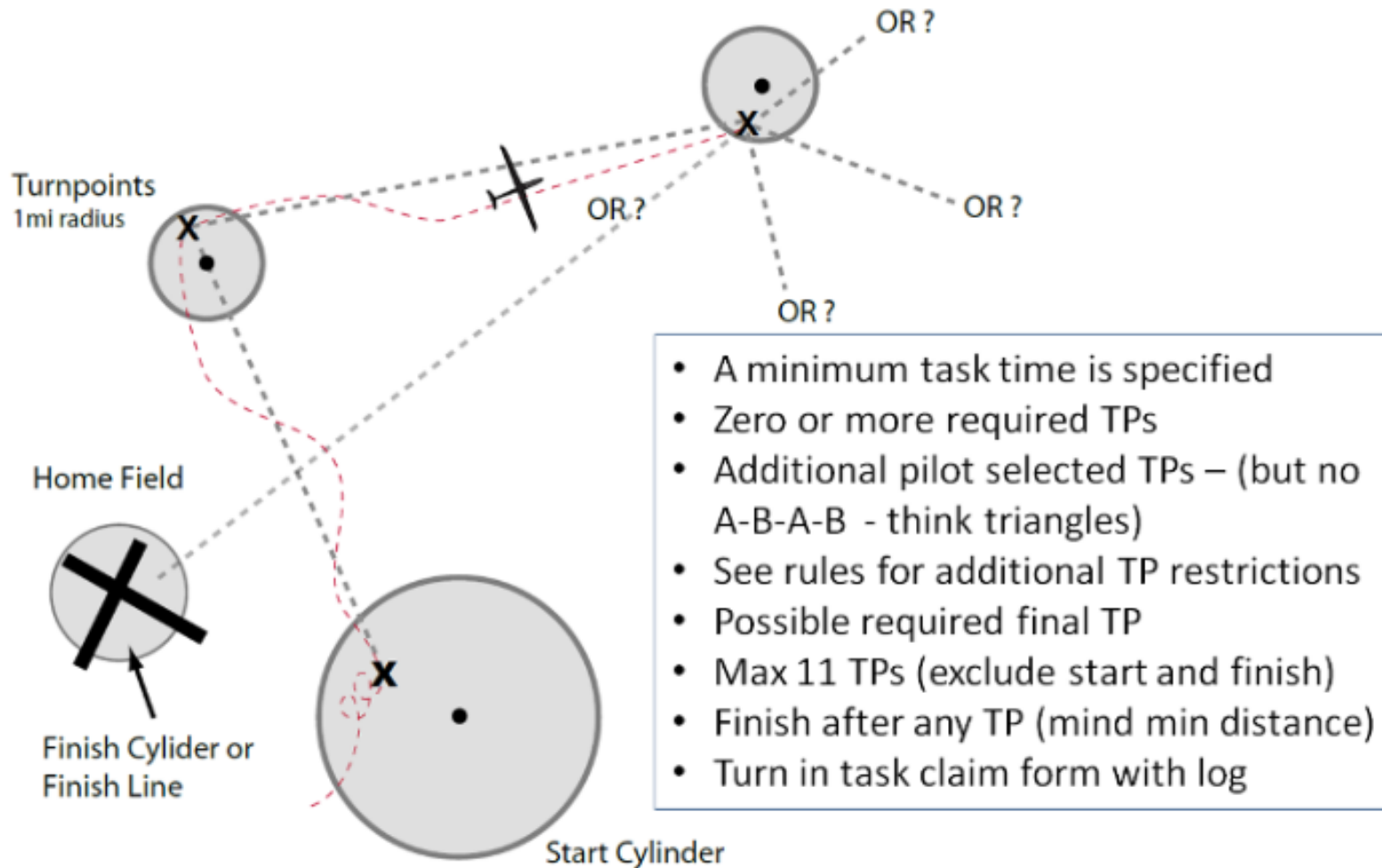
Assigned Task Not used in Sports Class



Note: this diagram is for illustration only, the text of the rules is authoratative.

Assigned Task Overview

Task Types & Planning MAT



Note: this diagram is for illustration only, the text of the rules is authoritative.

Modified Assigned Task Overview

Task Types & Planning MAT

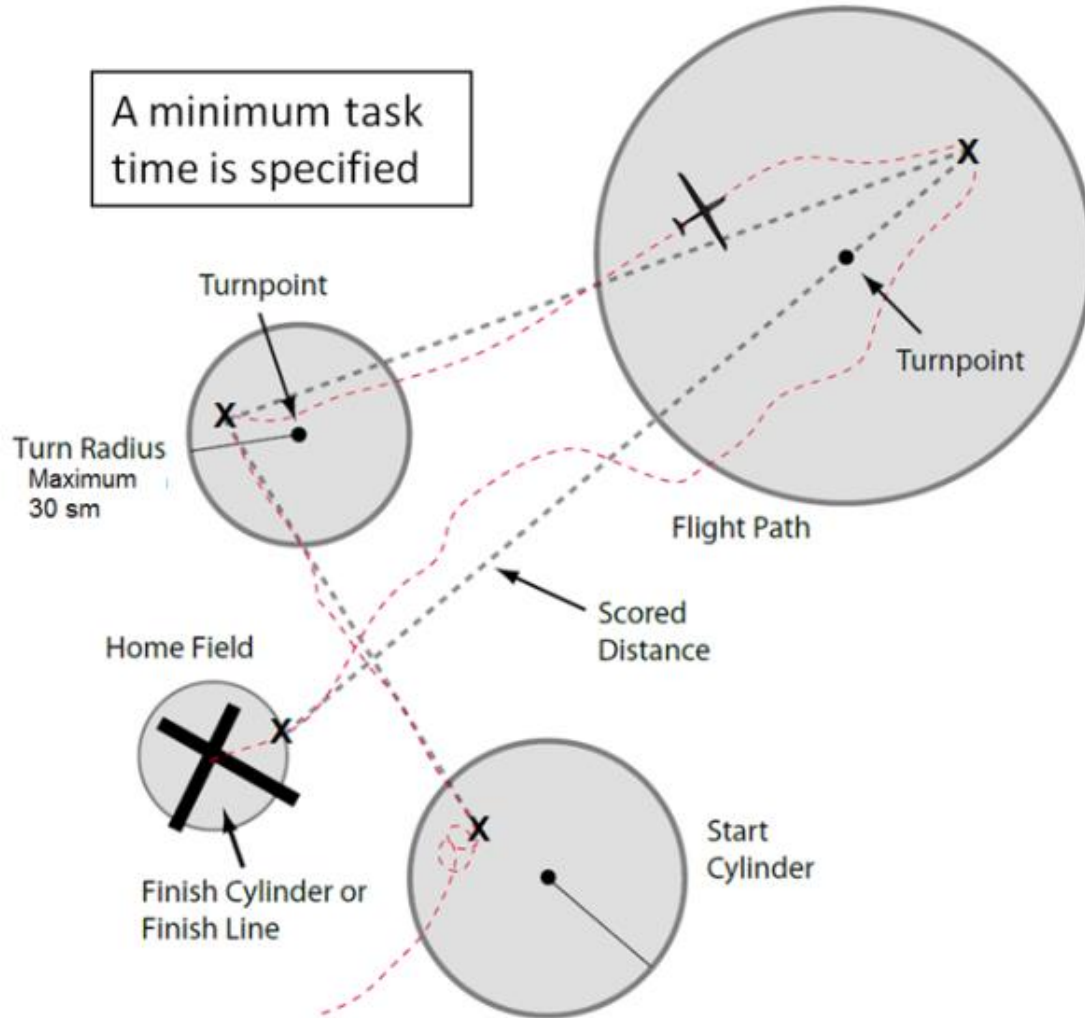
2016 Sports Class National Championship		Wednesday August 10, 2016																																																																									
Location: Garner Field Airport (UVA)		Max Start Altitude: 7,000' MSL	Finish Cylinder Floor 2,000' MSL																																																																								
Field Elevation: 942' MSL Lat: 29° 12.680' N Long: 099° 44.615' W		Start Cylinder Radius: 5 sm	Finish Cylinder Radius: 2sm																																																																								
Email Log files and questions to: ssa.scoring@gmail.com		UVA CTAF 122.800	Sunset: 20:15 (8:15 PM) local																																																																								
Retrieve: Primary 830-279-1191 Secondary 830-591-4554		UVA AWOS-3 124.175	Contest frequency 123.3 10sm from finish frequency 122.8																																																																								
SAFETY FINISH REFERENCE ALTITUDES: @10sm from airport (9sm from cylinder edge): 3,800' MSL @5sm from airport (4sm from cylinder edge): 2,800' MSL		TASK A: Modified Assigned Task Minimum Time 4:00																																																																									
<p>Uvalde</p> <table border="1"> <caption>Uvalde Altitude Data (Estimated from Graph)</caption> <thead> <tr> <th>Time</th> <th>NOAA MH (ft)</th> <th>NOAA TDPD (ft)</th> <th>TOPM (ft)</th> </tr> </thead> <tbody> <tr><td>10:00 AM</td><td>3800</td><td>2800</td><td>3000</td></tr> <tr><td>11:00 AM</td><td>4800</td><td>3800</td><td>4200</td></tr> <tr><td>12:00 PM</td><td>6200</td><td>5000</td><td>5500</td></tr> <tr><td>1:00 PM</td><td>7000</td><td>6000</td><td>6200</td></tr> <tr><td>2:00 PM</td><td>7800</td><td>6800</td><td>6800</td></tr> <tr><td>3:00 PM</td><td>8500</td><td>7500</td><td>6800</td></tr> <tr><td>4:00 PM</td><td>9000</td><td>7800</td><td>6800</td></tr> <tr><td>5:00 PM</td><td>8800</td><td>7800</td><td>6800</td></tr> <tr><td>6:00 PM</td><td>8500</td><td>7800</td><td>6800</td></tr> <tr><td>7:00 PM</td><td>8200</td><td>7500</td><td>6000</td></tr> <tr><td>8:00 PM</td><td>7200</td><td>6800</td><td>3500</td></tr> </tbody> </table>		Time	NOAA MH (ft)	NOAA TDPD (ft)	TOPM (ft)	10:00 AM	3800	2800	3000	11:00 AM	4800	3800	4200	12:00 PM	6200	5000	5500	1:00 PM	7000	6000	6200	2:00 PM	7800	6800	6800	3:00 PM	8500	7500	6800	4:00 PM	9000	7800	6800	5:00 PM	8800	7800	6800	6:00 PM	8500	7800	6800	7:00 PM	8200	7500	6000	8:00 PM	7200	6800	3500	<table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> <th>Distance (Miles)</th> <th>Radius</th> </tr> </thead> <tbody> <tr><td>3</td><td>StartB</td><td>0.00</td><td>5.0</td></tr> <tr><td>50</td><td>Dilley</td><td>43.83</td><td></td></tr> <tr><td>46</td><td>CarrizoSprings</td><td>83.98</td><td></td></tr> <tr><td>29</td><td>Anacacho</td><td>138.03</td><td></td></tr> <tr><td>1</td><td>FINISH</td><td>168.41</td><td>2.0</td></tr> </tbody> </table>		ID	Name	Distance (Miles)	Radius	3	StartB	0.00	5.0	50	Dilley	43.83		46	CarrizoSprings	83.98		29	Anacacho	138.03		1	FINISH	168.41	2.0
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Wed 8-10, 2016 Noon winds sfc: SEE 8 5:00 PM winds sfc: SE 10 Trigger: 85 @ 10 AM		Comments: overnight stratus likely to disappear during breakfast, or earlier. CU very likely throughout the day, streeting possible but with max winds aloft of 10 kts SSE through 5 PM. Heat index maxes with 107 at 4 PM today. Average lift of 3.5 + average through 3 PM, then perhaps some softening, perhaps as low as 2.0 average balance of day.																																																																									
Outlandings: remember – you are trespassing and a guest of the owner whose property you land upon. Please be a good ambassador for soaring																																																																											

TASK A: Modified Assigned Task Minimum Time 4:00

ID	Name	Distance (Miles)	Radius
3	StartB	0.00	5.0
50	Dilley	43.83	
46	CarrizoSprings	83.98	
29	Anacacho	138.03	
1	FINISH	168.41	2.0

TASK B: Same as "Task A" Minimum Time 3:30

Task Types & Planning TAT



Note: this diagram is for illustration only, the text of the rules is authoritative.

Turn Area Task Overview

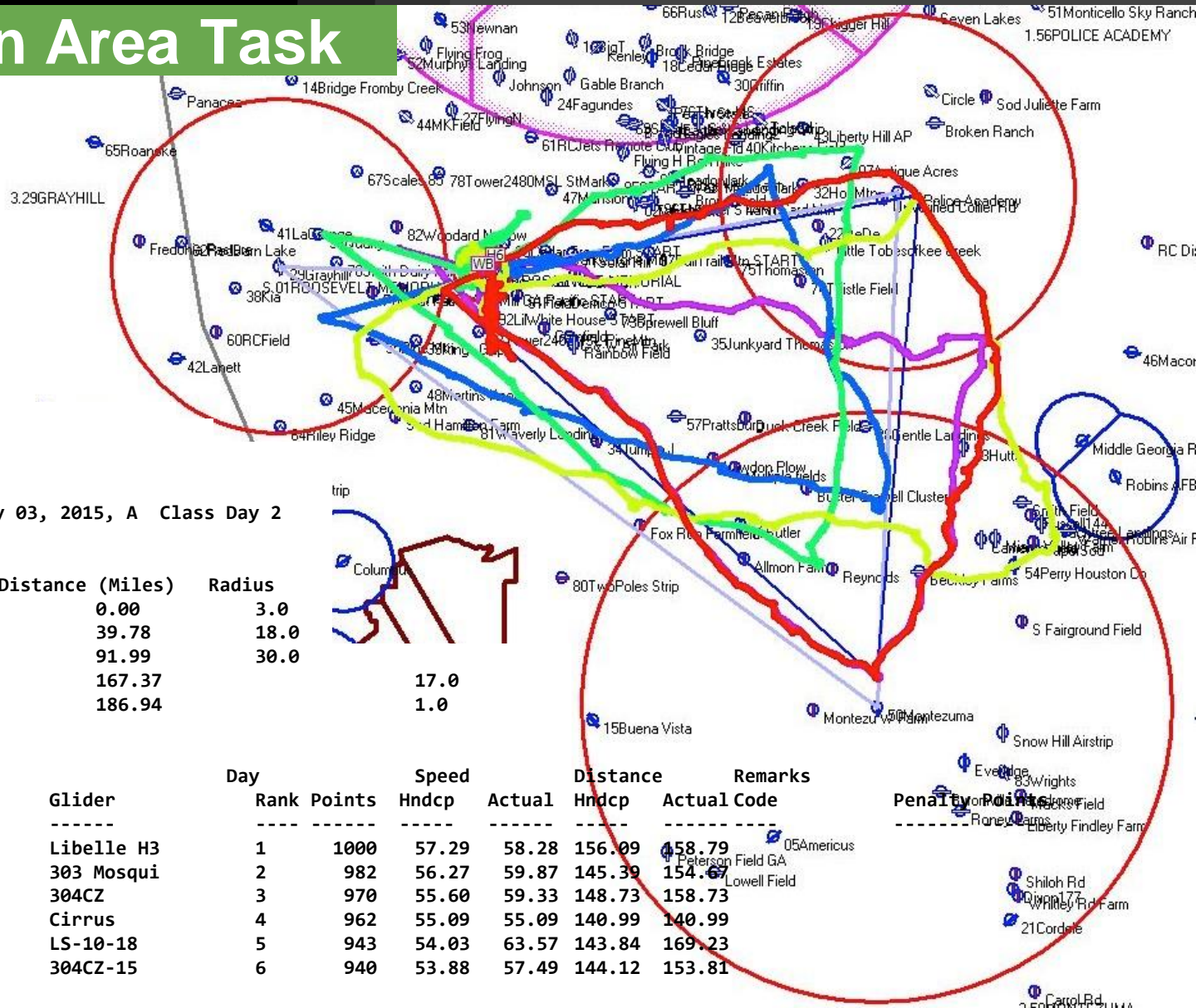
Task Types & Planning TAT

2016 Sports Class National Championship REVISED		Tuesday August 9, 2016																									
Location: Garner Field Airport (UVA)		Max Start Altitude: 7,000' MSL	Finish Cylinder Floor 2,000' MSL																								
Field Elevation: 942' MSL Lat: 29° 12.680' N Long: 099° 44.615' W		Start Cylinder Radius: 5 sm	Finish Cylinder Radius: 2sm																								
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Tue Aug 9, 2016 Noon winds sfc: SE 7 5:00 PM winds sfc: SE 10 Trigger 88 F @ 11:30AM		Distance (Miles)- 217.84 Min: 138.98, Max: 305.9 TASK B: Same as "Task A" Minimum Time 3:00																									
Comments: The only threat of rain is late and near the coast. Lift will average 3.5 Kts +. Winds aloft will be a bit stronger today and increase over the course of the PM from 7 kts at 1400 to about 14 Kts at 1900 (SE flow). A heat index of 110 is likely. CU likely. Streeting possible, but more likely later than earlier.																											

Outlandings: remember – you are trespassing and a guest of the owner whose property you land upon. Please be a good ambassador for soaring

Task Types & Planning

Example Turn Area Task



GTA Warm Springs 2015, Sunday, May 03, 2015, A Class Day 2

Task: Turn Area

ID	Name	Distance (Miles)	Radius
1	ROOSEVELT MEM	0.00	3.0
56	Police Academy	39.78	18.0
50	Montezuma	91.99	30.0
29	Grayhill	167.37	17.0
1	ROOSEVELT MEM	186.94	1.0

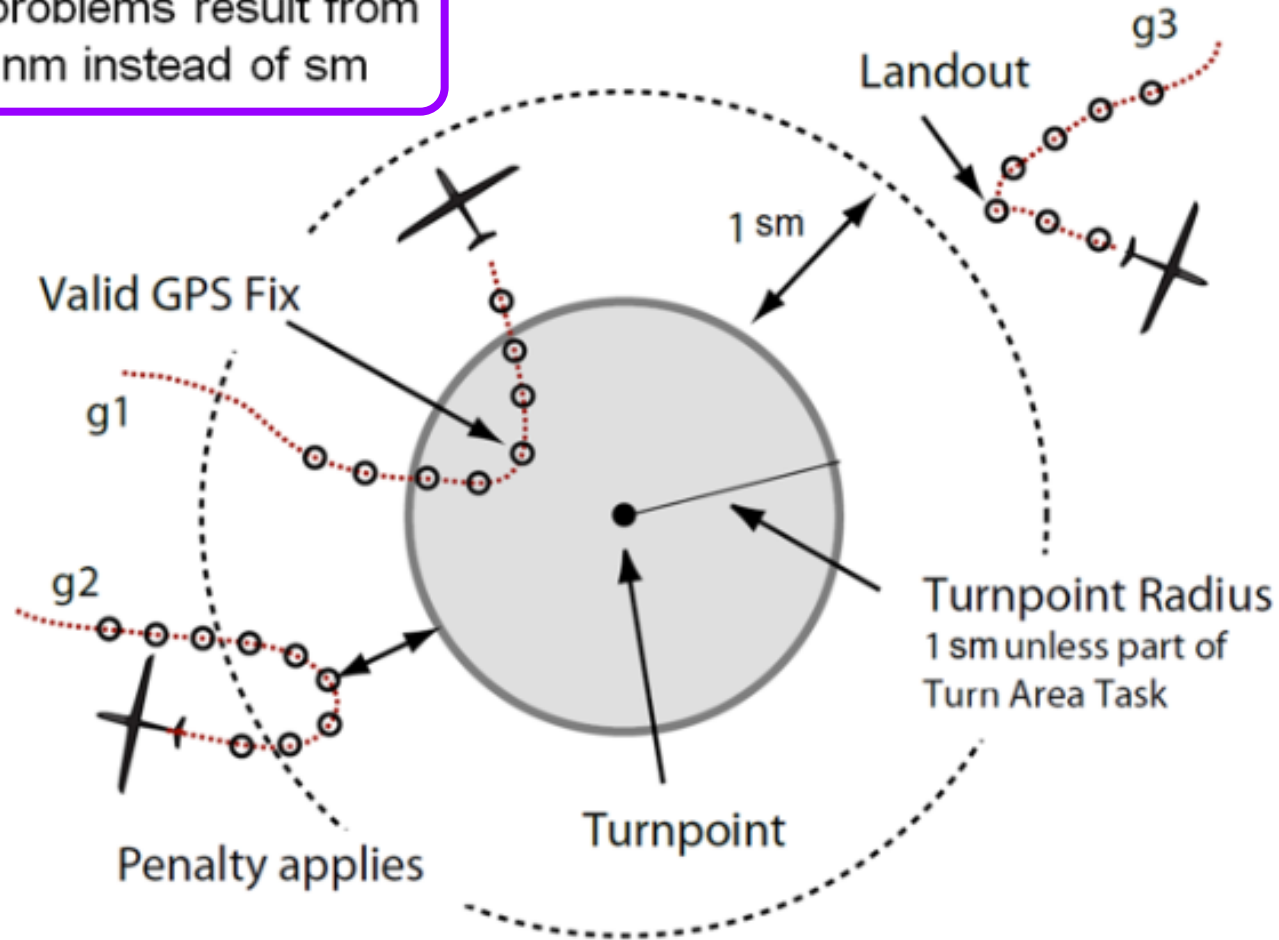
Minimum Time 02:30

Cumulative				Day		Speed		Distance		Remarks
Rank	Points	ID	Name	Glider	Rank	Points	Hndcp	Actual	Hndcp	Actual Code
1	1000	WB	Berry, Wally	Libelle H3	1	1000	57.29	58.28	156.09	158.79
2	982	H6	Ruf, Chris	303 Mosqui	2	982	56.27	59.87	145.39	154.67
3	970	1FL	Larsen, Tim	304CZ	3	970	55.60	59.33	148.73	158.73
4	962	OG	Jaeger, Dieter	Cirrus	4	962	55.09	55.09	140.99	140.99
5	943	J4	BoJack, John	LS-10-18	5	943	54.03	63.57	143.84	169.23
6	940	2EZ	McGowin, Tim	304CZ-15	6	940	53.88	57.49	144.12	153.81

Penalty Points	
05	Americus
06	Peterson Field GA
07	Lowell Field
08	Shiloh Rd
09	Winnley Rd Farm
10	21 Cordale
11	Carol Rd

Turnpoint Control

Most problems result from
Using nm instead of sm

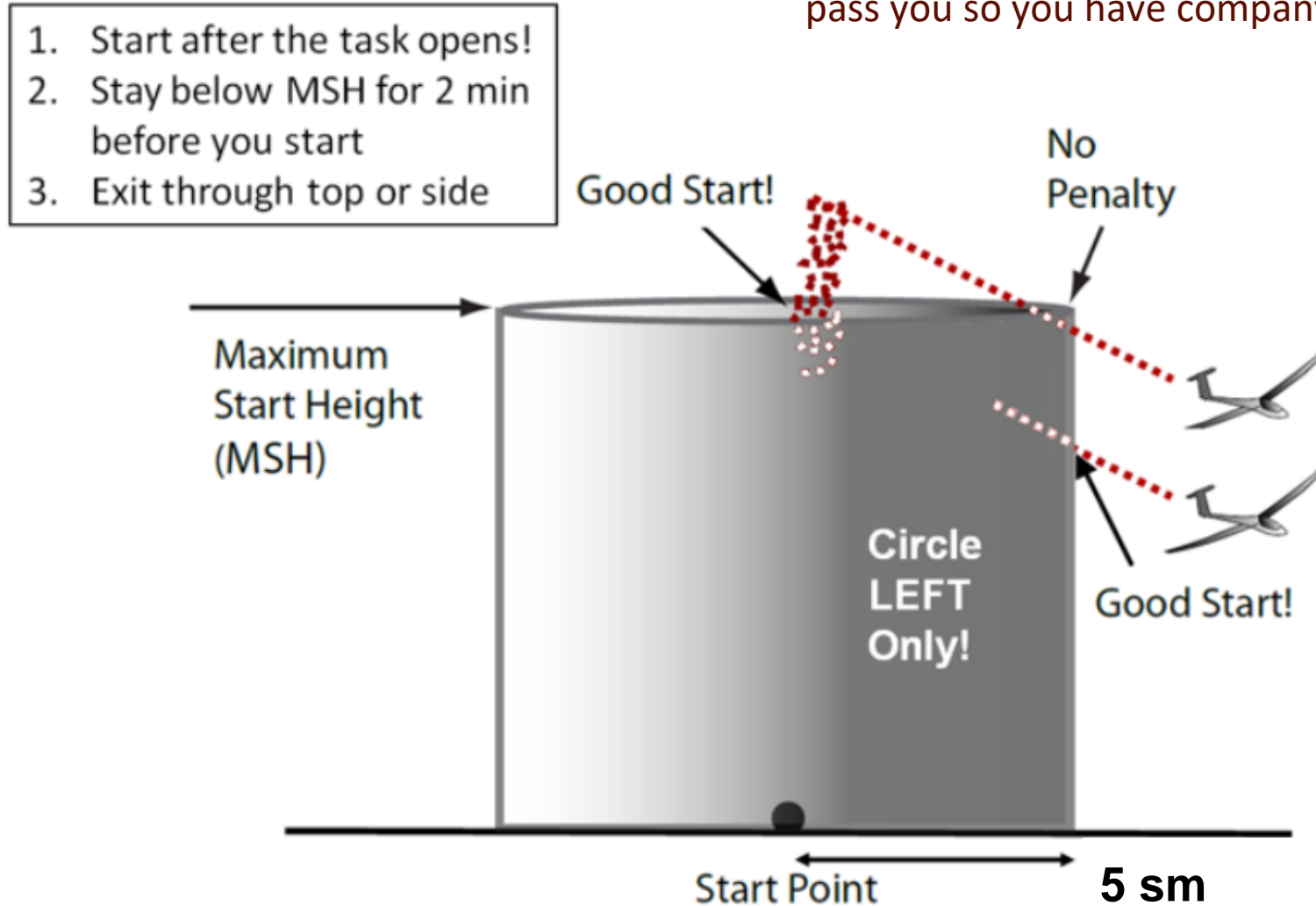


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Turnpoint Control

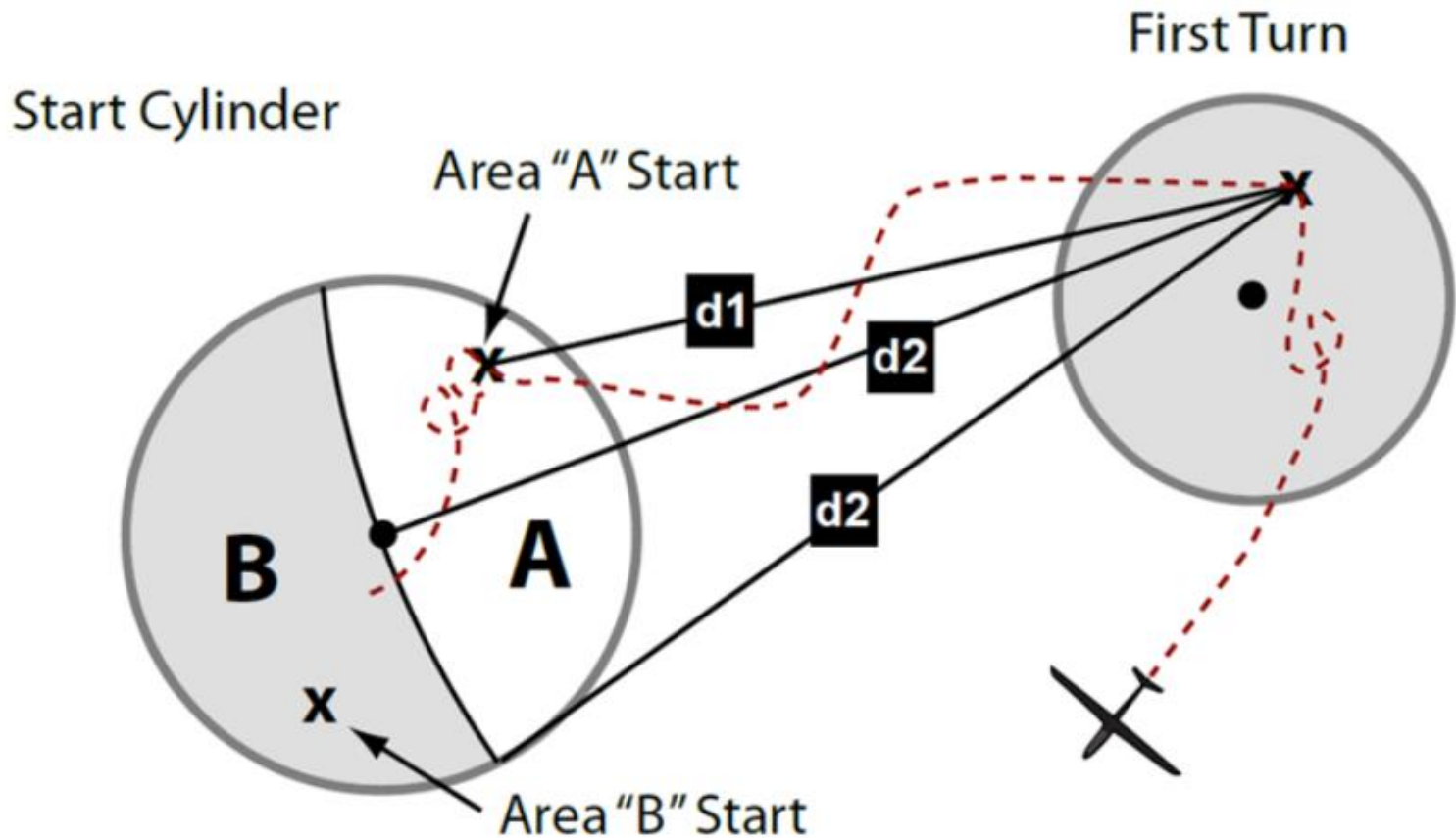
Starting

Start early as beginner, let pack catch and pass you so you have company.



Note: this diagram is for illustration only, the text of the rules is authoritative.

Starting



Area A Start gets full $d1$ distance from Start Time

Area B Start gets $d2$ distance from Start Time

Note: this diagram is for illustration only, the text of the rules is authoritative.

Gaggles



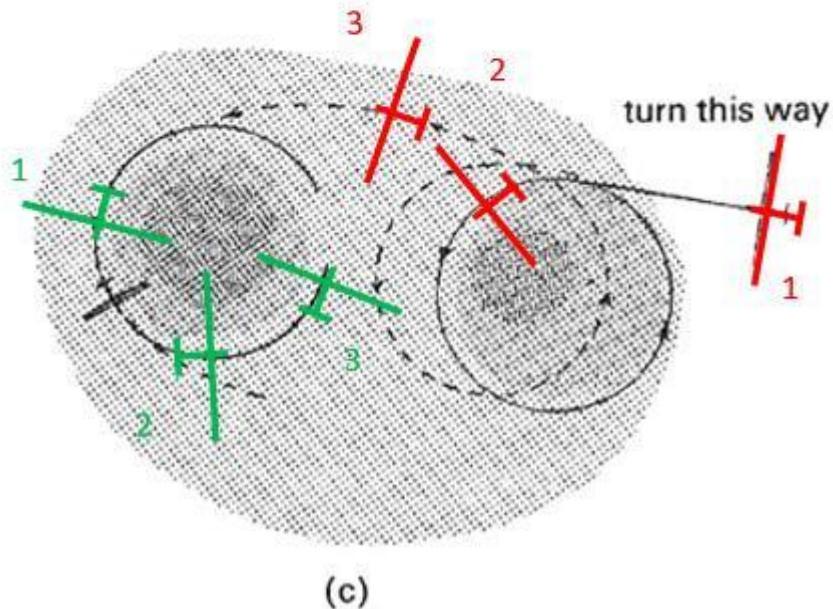
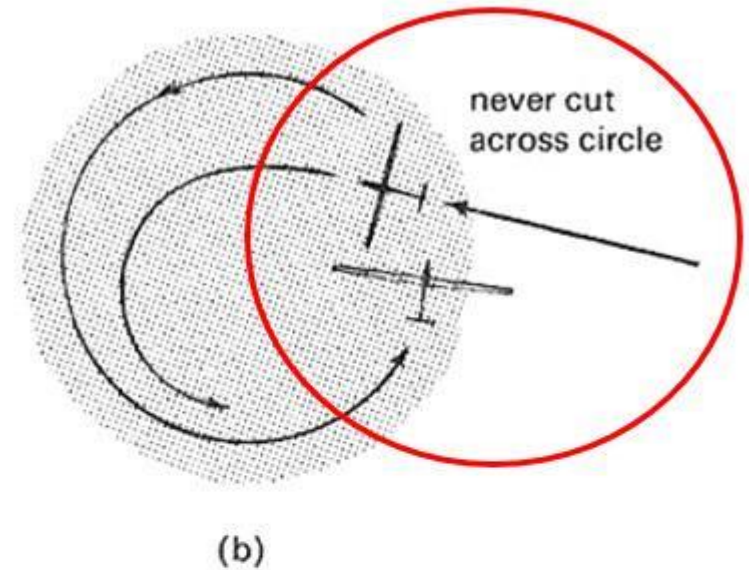
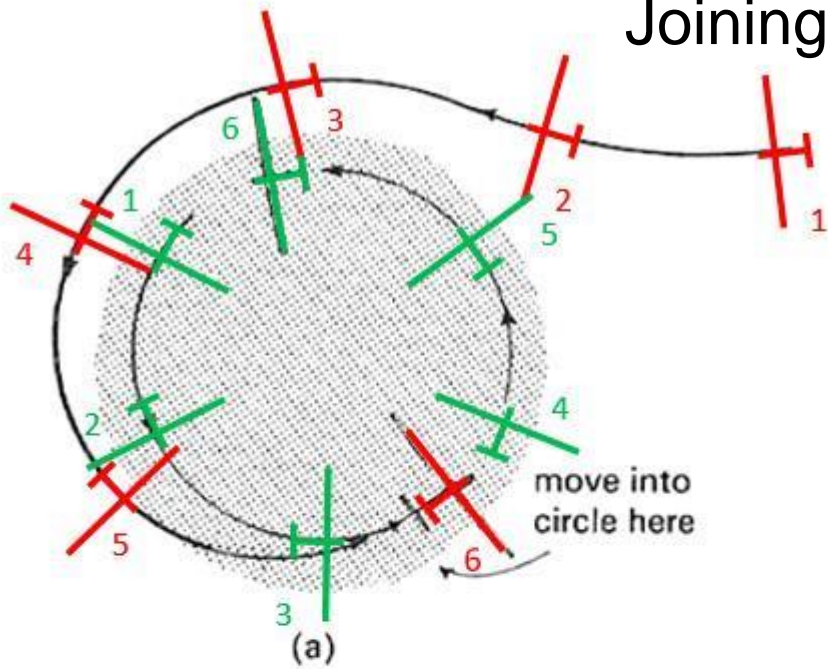
Gaggles

Gliding Safety Videos 1 Cutting In

<https://www.youtube.com/playlist?list=PLg2FFq0MZjyNkboxgE0RvDrQ1Z8QvGktZ>



Joining Gaggles



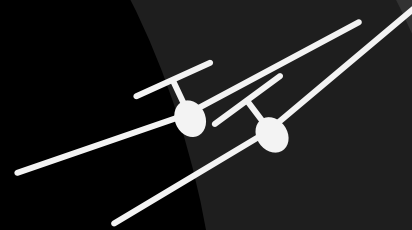
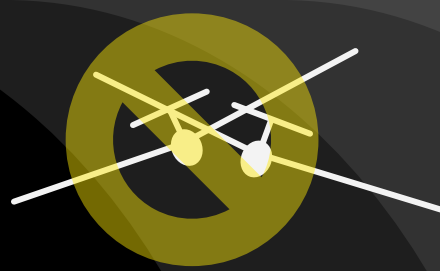
(a) Always join outside their circle and only move in when on the opposite side.
[Notice when red glider is at position 6 the green glider is 180° across circle]

(b) Never join by cutting across another pilot's circle or pulling up into the circle.

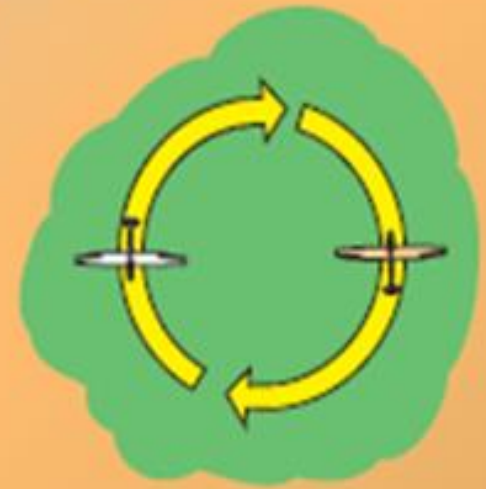
(c) Always circle in the same direction as any nearby glider to make joining each other safe and simple.

Joining Gaggles

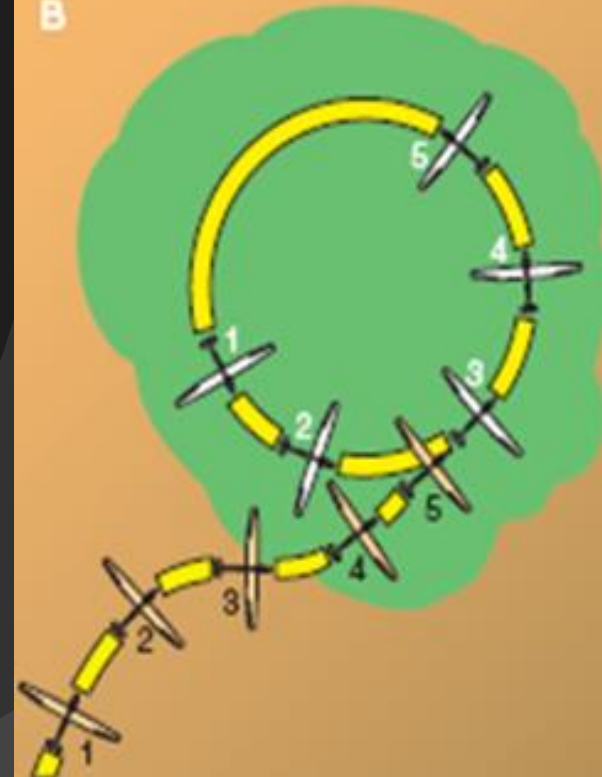
- Enter from the side, don't aim for the middle
- Vary your bank to fit yourself in
- Turn in the same direction of the first sailplane in, usually above
- Avoid just above or just below positions
- Passing, avoid cutting across the nose of a slow climber
- Don't bomb through the center upon leaving, *no matter what the books say*



A

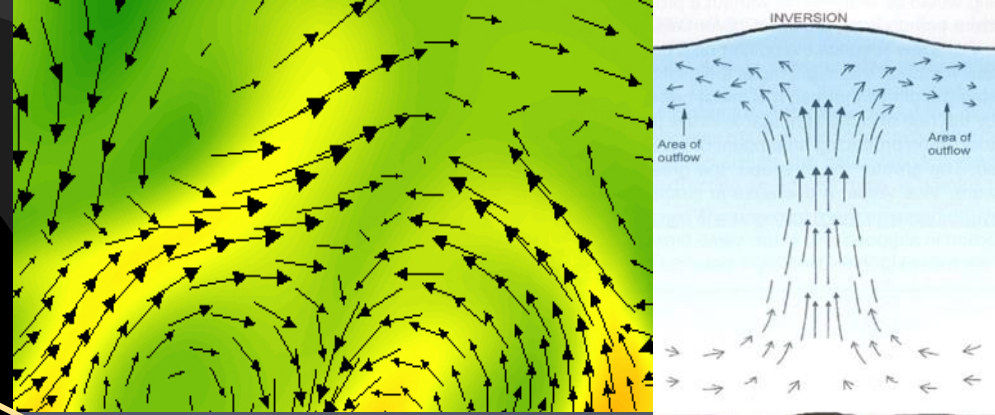


B



Thermalling Low

- Low saves are a fact of soaring
- Routine in ridge flying
- Very difficult much below 1000 feet – and that's for experts
- Typically very narrow with sharp boundaries between sink and lift
- Typically very turbulent
- And dangerous as hell with any wind speed



Notice down low the air movement is vastly horizontal inflow - don't expect much upward motion to save you.



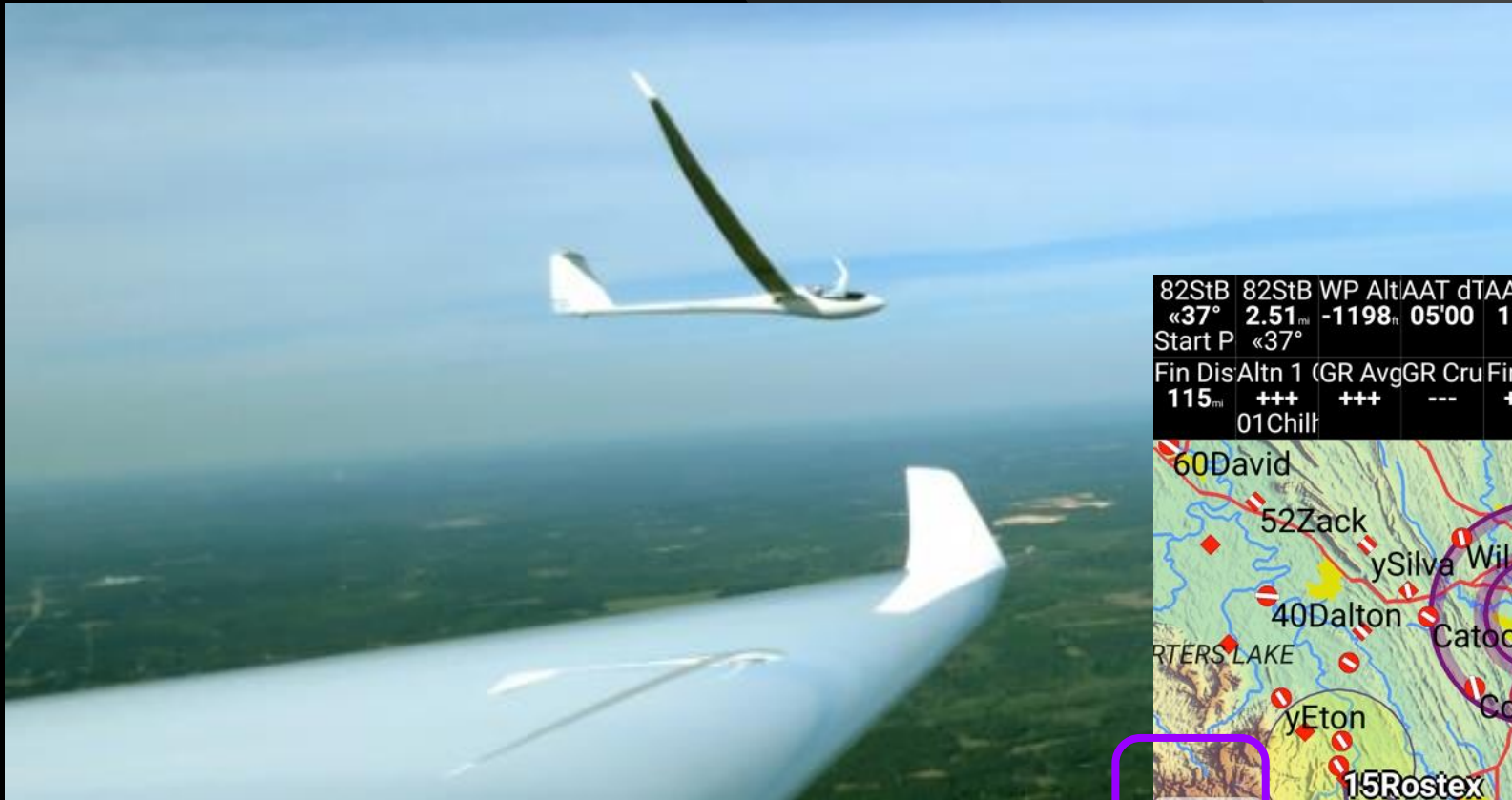
Remember, look outside for:

- Birds or other gliders circling,
- Change in wind direction on the ground,
- Dust devils, Fires, Tractors,
- Newly forming clouds
- Find the trigger, go to the high ground.

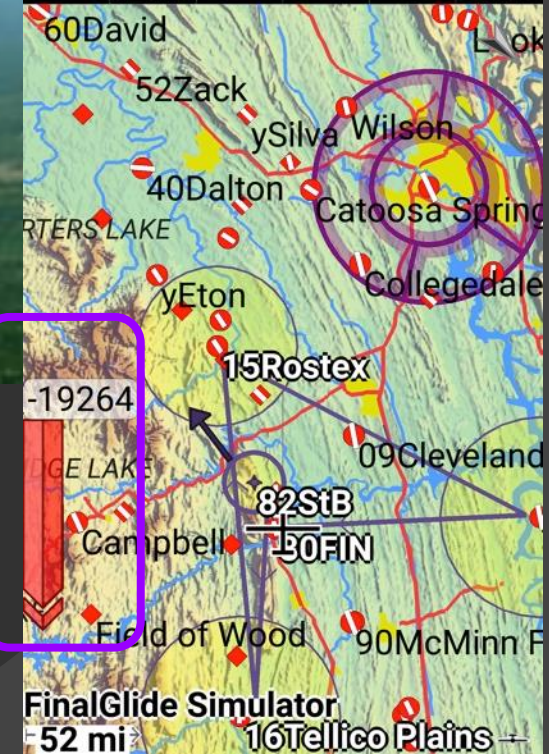
So:

- Have a field picked
- Add a bit more speed
- Expect to be in and out of sink
- Look for positive average climb
- Stay with what you got – it'll probably get better
- Make small circle adjustments

Final Glides

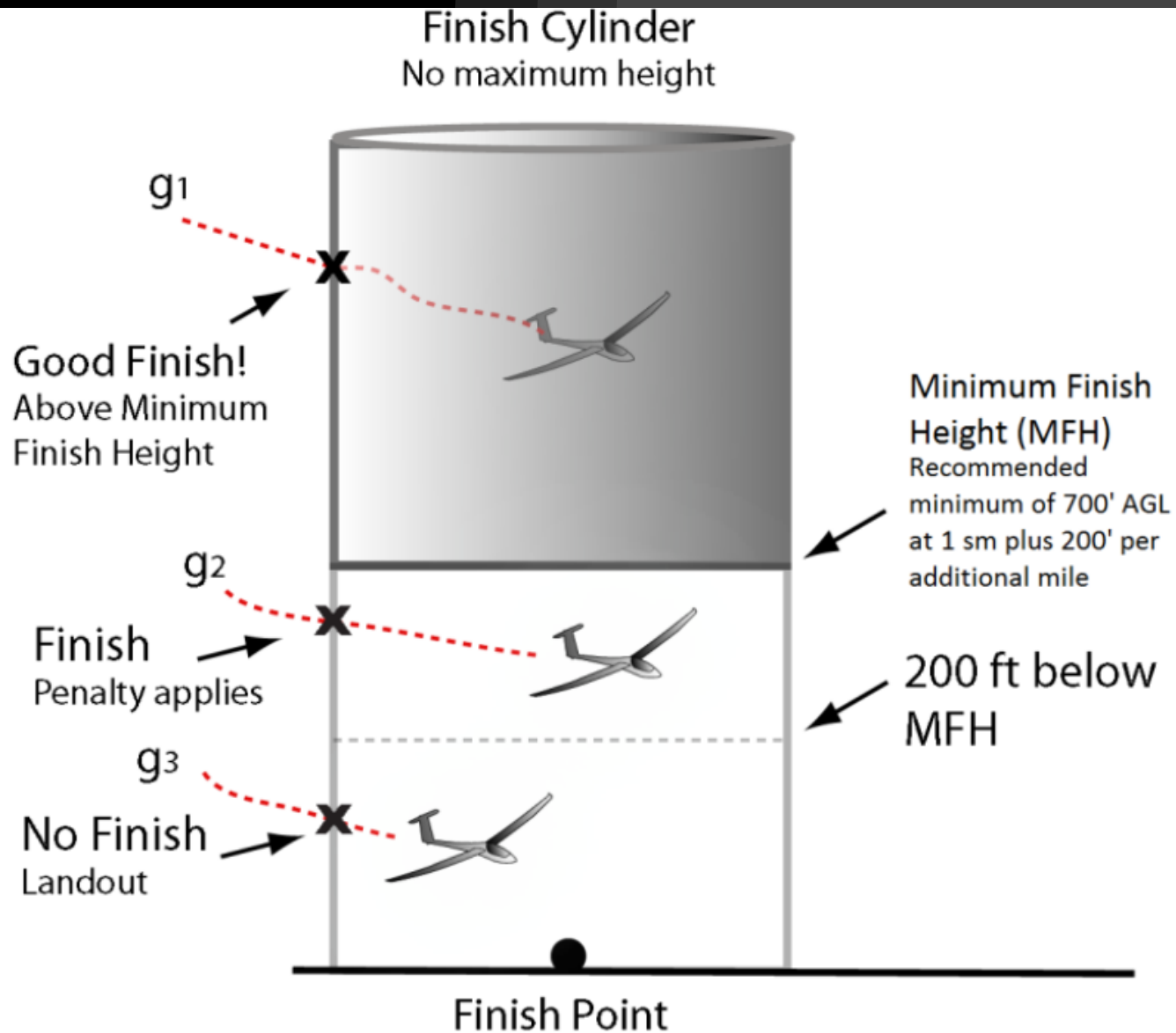


82StB	82StB	WP Alt	AAT d	TAAT Dt	MC MA
«37°	2.51 _{mi}	-1198 _{ft}	05'00	113 _{mi}	3.8 _{kt}
Start P	«37°				75 kt
Fin Dis	Altn 1	(GR Avg	GR Cru	Fin GR	H AGL
115 _{mi}	+++	+++	---	+++	29 _{ft}
	01Chill				9 m



Conservative:
 1,000+AGL finish & 3.5+McCready,
 Or even more so to start with.

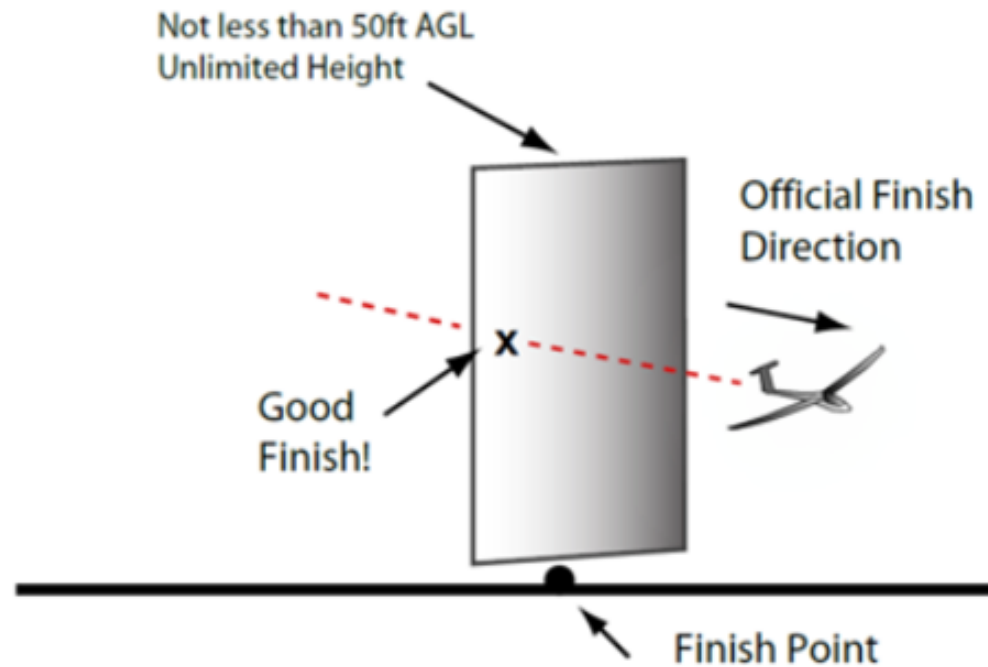
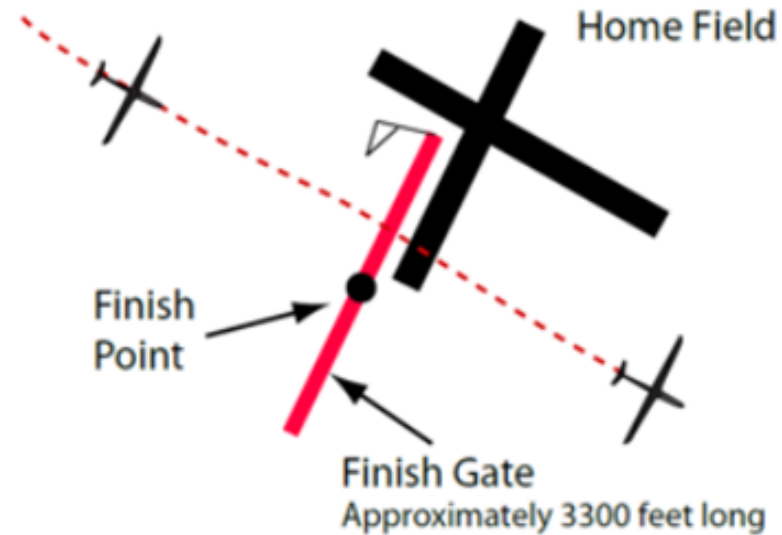
Finishing - Finish Cylinder



Note: this diagram is for illustration only, the text of the rules is authoritative.

Finishing - Finish Gate

Finish Gate Not used in Sports Class

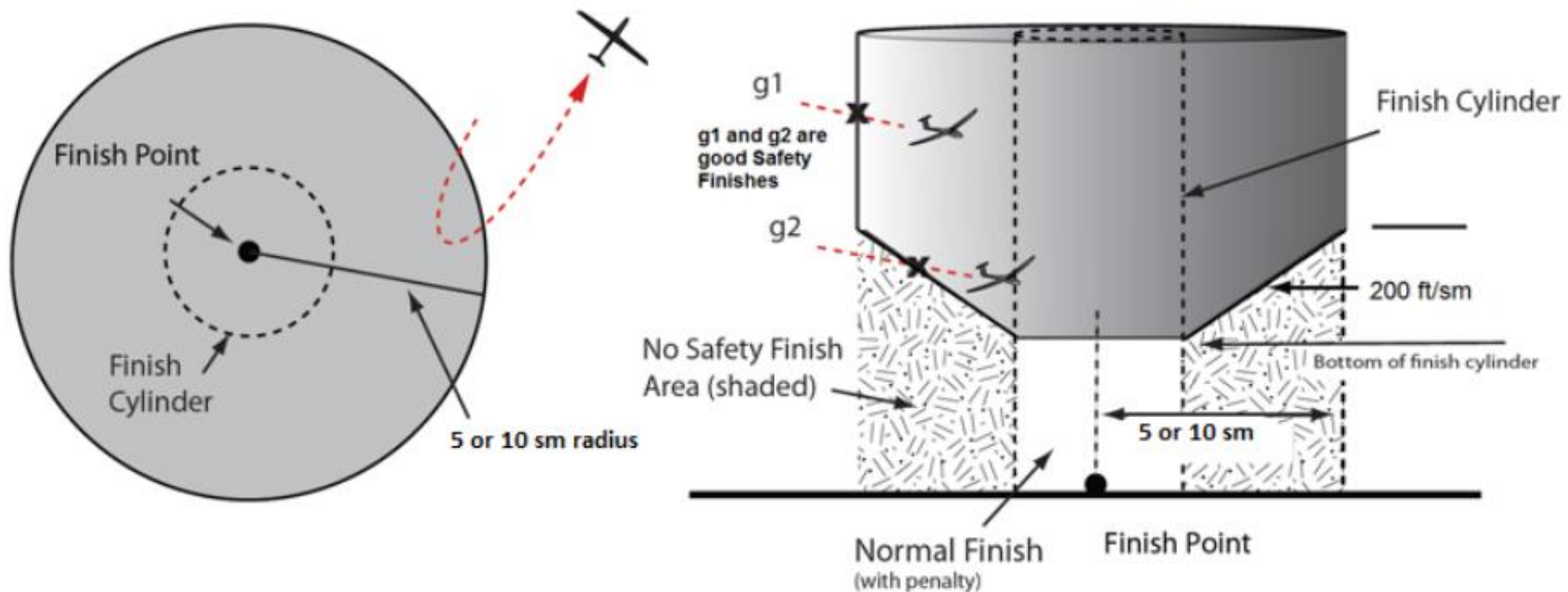


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Finish Gate

Safety Finish

Rarely used

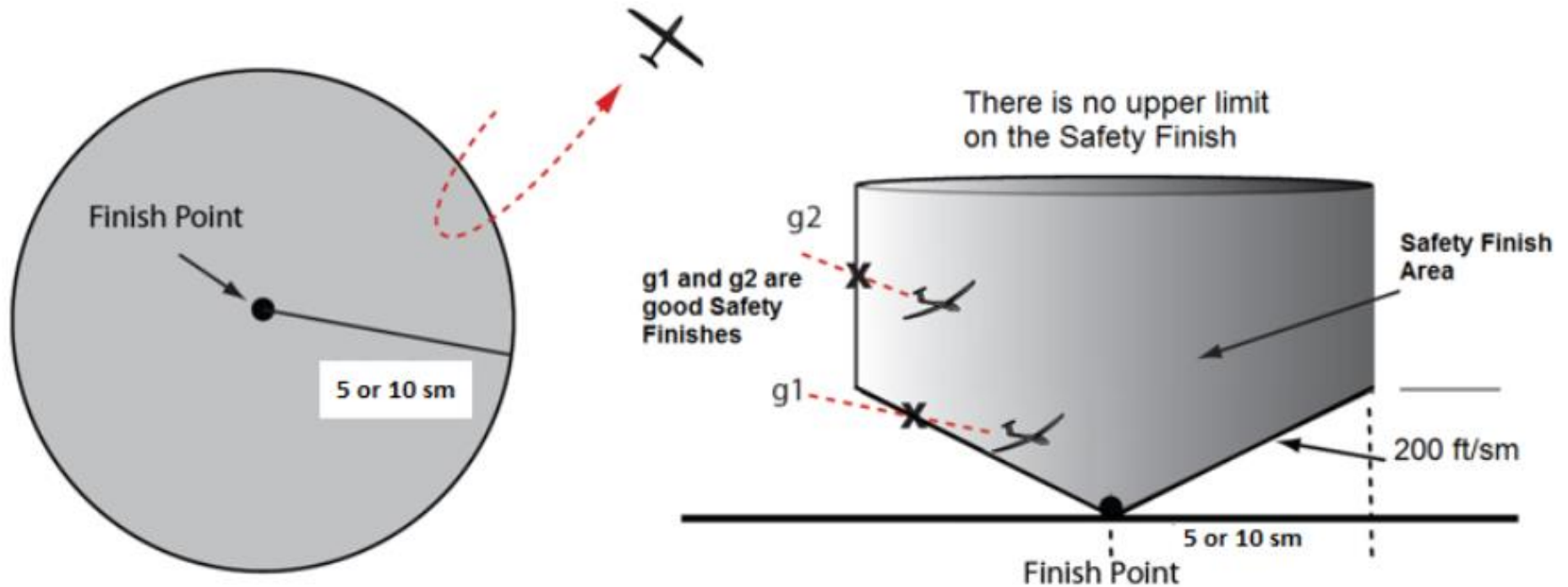


Note: this diagram is for illustration only, the text of the rules is authoratative.

Safety Finish when using a Finish Cylinder

Safety Finish

Rarely used



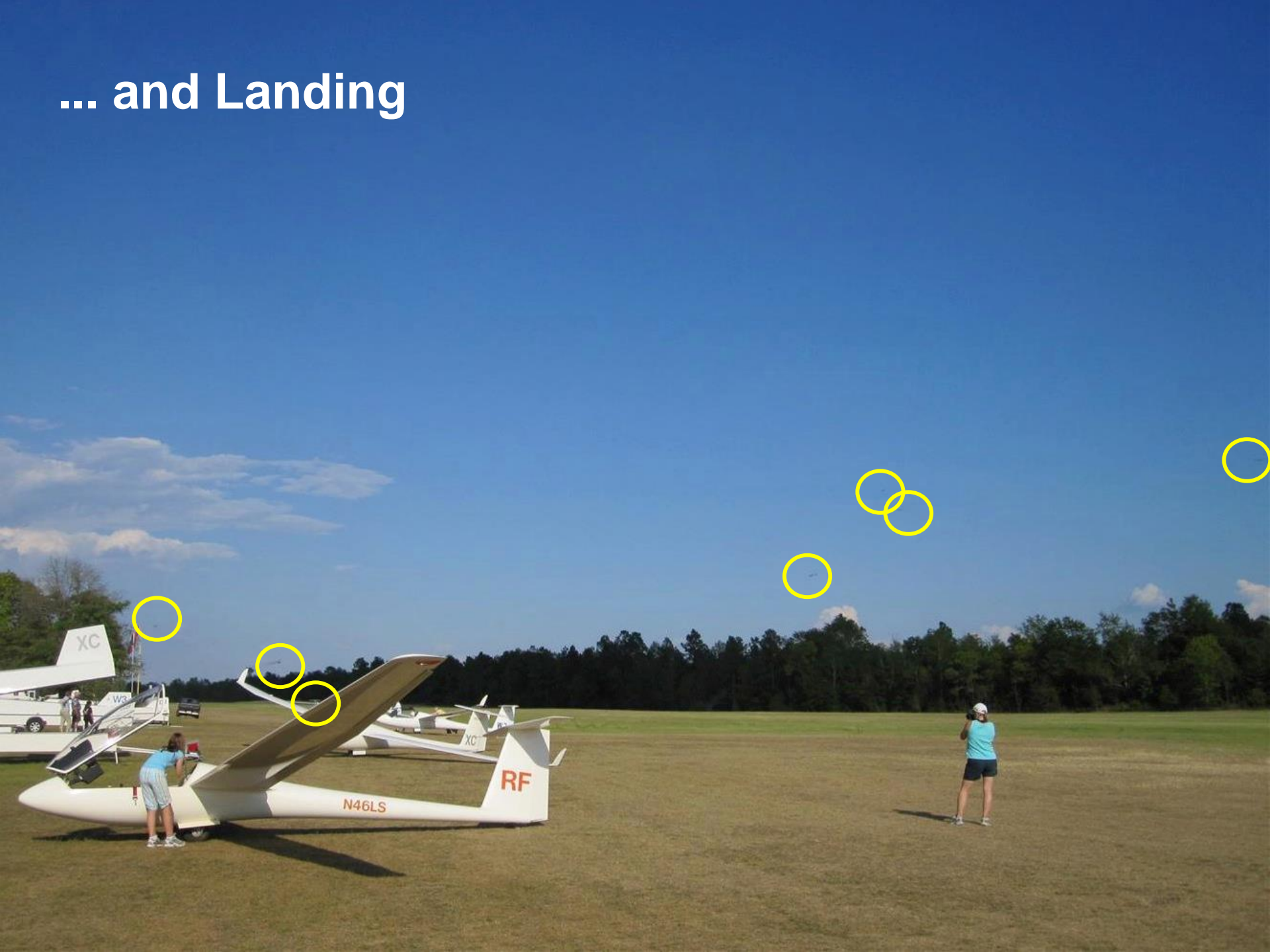
Note: this diagram is for illustration only, the text of the rules is authoratative.

Safety Finish when using a Finish Gate

Finish & Landing



... and Landing



Racing to learn

- GTA

B Beginner class

A Advanced class

- SSA Regional Competitions

- Contest Calendar ssa.org

- OLC onlinecontest.org

- Calling a task any weekend



THE INNER GAME

- Sportsmanship
- Pressure & Pacing
- **Following as a learning technique** - pair/group flying
- **Fly in Duo with KS or JG...**
- Thinking about Safety
- Ask for Help
 - most pilots are glad to help, find a mentor or two.



Flight Analysis

If you can't measure it, you can't improve it.

Peter Drucker

- SeeYou flight analysis
- Task Planning
- % climb
- Achieved climb rates
- Achieved L/D
- Distance achieved
- OLC onlinecontest.org

FILE: To Corvara

Thermals

1.3 2.3 2.0

0.6

Task Statistics

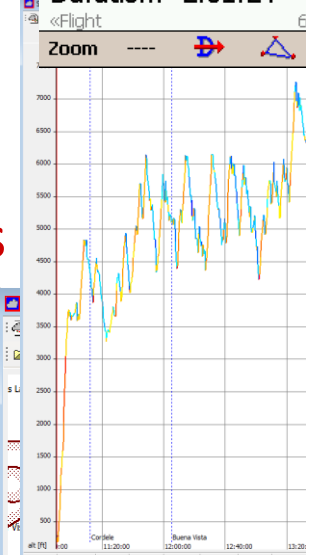
Avg. vario: 1.2m/s
 Avg. speed: 74.3km/h
 XC speed: 74.3km/h
 Dis. flown: 150km
 Circling: 28%
 Duration: 2:01:24

Cordele - Buena Vista - Thomasville - Alma - Cordele

Distance: 512.2km
 Start: 11:12:16 at 4353ft
 Finish: 17:23:01 at 1717ft
 Duration: 06:10:45
 Speed: 44.73kts, XC Speed: 43.71kts

Circling:	Time	Vario	Alt.Gain	Alt.Loss	Thermals
Total	02:10:28 (35%)	3.2kts	46207ft	-4344ft	54
Left	01:14:08 (57%)	3.1kts	25417ft	-1991ft	27
Right	00:45:44 (35%)	3.4kts	17428ft	-1870ft	23
Mixed	00:10:36 (8%)	2.7kts	3363ft	-482ft	4
Tries (<45s)	00:04:36 (1%)	1.7kts	1339ft	-538ft	13

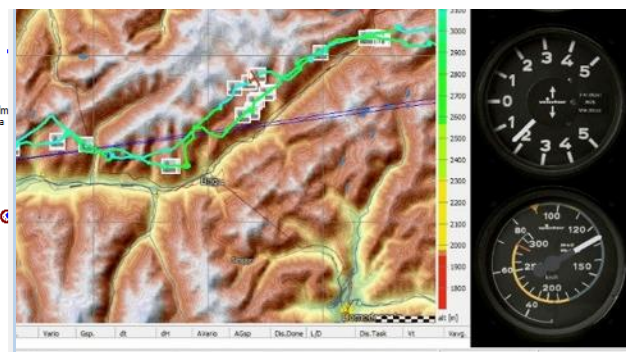
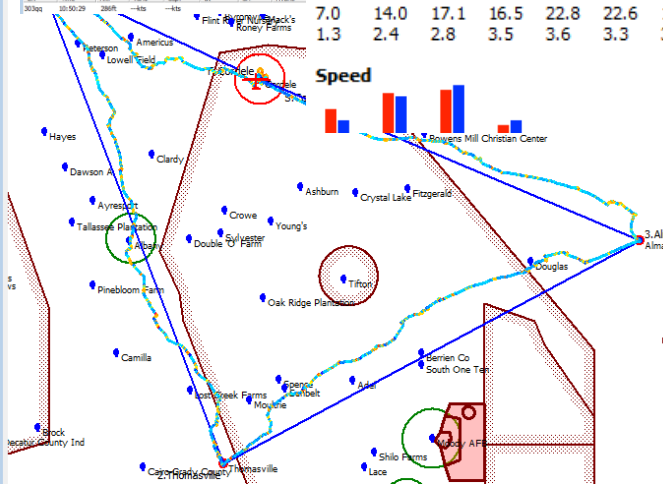
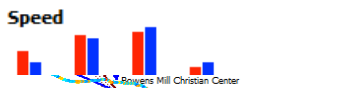
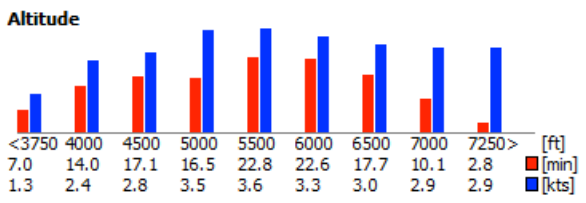
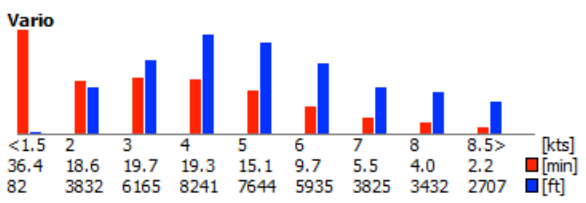
Straight:	Time	Dis.Done	Alt.diff	Netto	Avg.GS	IAS	Glides	Avg.Glide	Mean L/D
Total	04:00:16 (65%)	552.8km	-44495ft	0.5kts	74kts	69kts	55	10.1km	41
Rising	00:59:40 (25%)	117.7km	26358ft	5.3kts	64kts	60kts			-15
Sinking	03:00:36 (75%)	435.0km	-70853ft	-1.0kts	78kts	72kts			20
Netto rising	02:00:52 (50%)	263.9km	14094ft	3.5kts	71kts	66kts			-61



Wind

← ← ← ← ← ← ← ←

<3750	4000	4500	5000	5500	6000	6500	7000	7250	>	[ft]
19.9	35.7	43.1	57.1	69.3	66.6	50.1	24.1	4.9		[min]
105°/6	110°/7	101°/7	86°/6	77°/6	85°/5	64°/4	46°/5	38°/5		[°/kts]

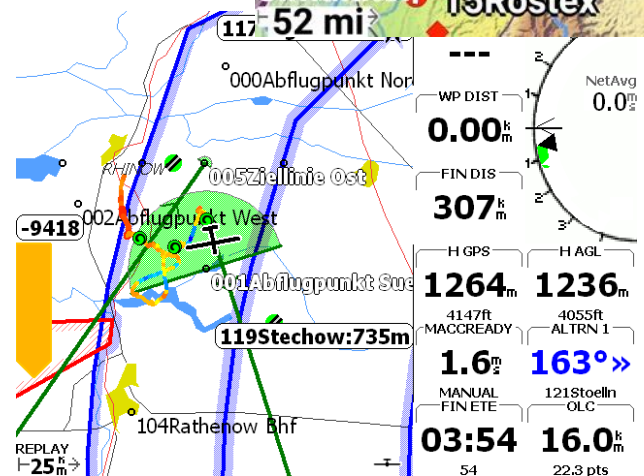
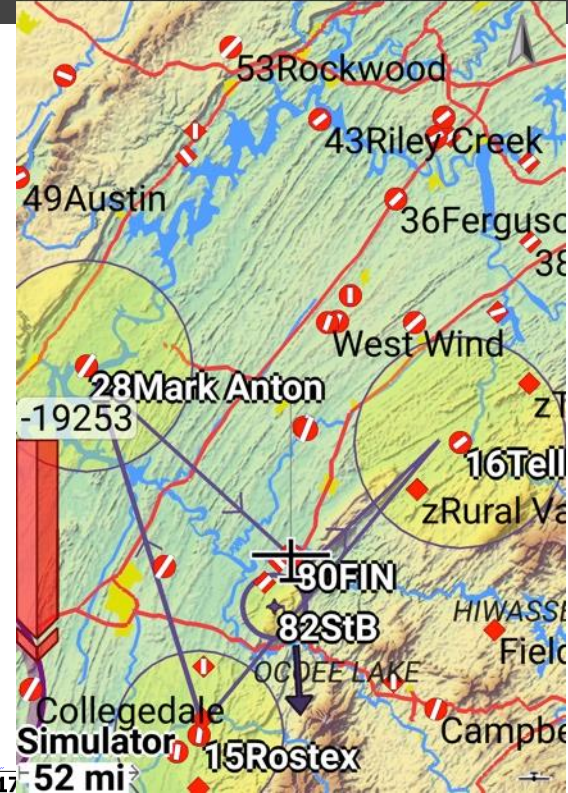


Flight Computer/Software



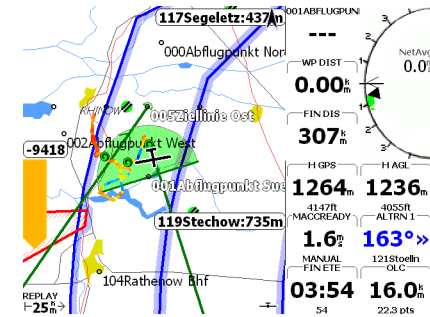
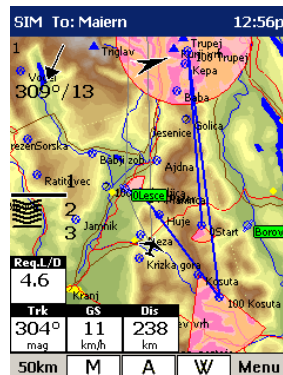
- Glide Range - altitude needed to reach goal.
- Above or below glideslope.
- Where are alternates?
- Wind
- Airspace
- Flight recorder > Regionals, OLC & SeeYou
- Xcsoar.org

82StB	82StB	WP Alt	AAT dT	T Avg	MC MA
177°»	2.44 _{mi}	-1187 _{ft}	05'00	---	3.8 _{kt}
Start P	177°»				75 kt
Altn 1	Altn 1	(GR AvgGR Cru	Fin GR	H AGL	
«»	0.0	---	---	+++	32 _{ft}
01Chill	01Chill				10 m



Flight Computer/Software Suggestions

- use 12V external power when possible, or backup battery
- use canopy or panel mount - not loose in cockpit
- use WGS84 datum
- Worldwide Turnpoint Exchange has waypoint files
- use interval for track log of 1,2,4 seconds
- use track up orientation for map
- **Simple setup so you don't get stuck with heads down time.**



Social Aspects of Races



**This is our second family,
Come on in and join the fun!**



Dinners, socials, kegs, rain day tour aircraft factory/museum, shoot skeet, RC, bonfires, friends, family, stories...



*Faster, Further,
Higher, Funner*

*This Year...
What is YOUR
Goal?*



END





Appendix 1 - Links

Much of the Content is based on the [SSA Guide to Competition](#) &

[How to Prepare for and Fly your First Contest](#) by Hank Nixon

<http://www.ssa.org/ContestRules>

Calendar <http://www.ssa.org/ContestCommittee?show=blog&id=3110>

<http://www.dragonnorth.com/djpresentations/> Andy Davis' articles and others

www.skysoaring.com/members/TR_Pilot_Crew_Checklist.pdf checklist

Xcsoar.org

• <http://gta-racing.org/>

<http://groups.yahoo.com/group/GTA-Racing/>

GTA-Racing@yahoogroups.com

Gliding Safety Videos <https://www.youtube.com/playlist?list=PLg2FFq0MZjiyNkboxgE0RvDrQ1Z8QvGktZ>

• World Wide Soaring Turnpoint Exchange <http://soaringweb.org/TP/NA.html#US>

<http://www.fai.org/igc-documents>

Agenda

Syllabus: Based on the SSA GUIDE TO SOARING COMPETITION, with discussion and explanations by Wally & Chris - interactive Question & Answer throughout.

PREPARATION

Flying skills needed for Competition flight

Your Glider or borrowed glider, and required equipment, Emergency Equipment

Checklists

Paperwork needed

Charts/Maps/Turnpoint maps Start Points, vs Turnpoints and Finish points.

The Rules, Competition Classes

Flight Documentation - fancy way of saying .igc flight recording. We will discuss software and hardware options. XCSoar demo and setup.

Water Ballast --- not needed for sports or club class

Staying comfortable: Pilot Relief &

Drinking Water, etc

Crew

Airport Etiquette

Contest Personnel roles

Radio Usage

Navigation

Outlanding Preparations, Landing

Out, reporting in, tracking systems &

ELTs

The Pilots' Meeting

Gridding, Launching & Relighting

Starting

Task Types and Planning

Gaggles [play flight safety videos]

Final Glides

Finishes, Safety Finish and Landing

THE INNER GAME

Pressure & Pacing

Sportsmanship

Following as a learning technique

Thinking about Safety

The Unwritten Rules

Weather - minimums for a contest, weather resource websites

GTA & SSA Regional Competitions & calling a task any weekend.

Social aspects of races.

End of Program - Lunch and if the weather is good we go fly.