

Contest Scoring 101

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21 July 2013



Photo by Baude Litt "LBL"

Outline

- Introduction
- General Rules
- Start
- Flying the Task
- MAT's and TAT's
- Airspace
- Finish
- Sample Score Sheets

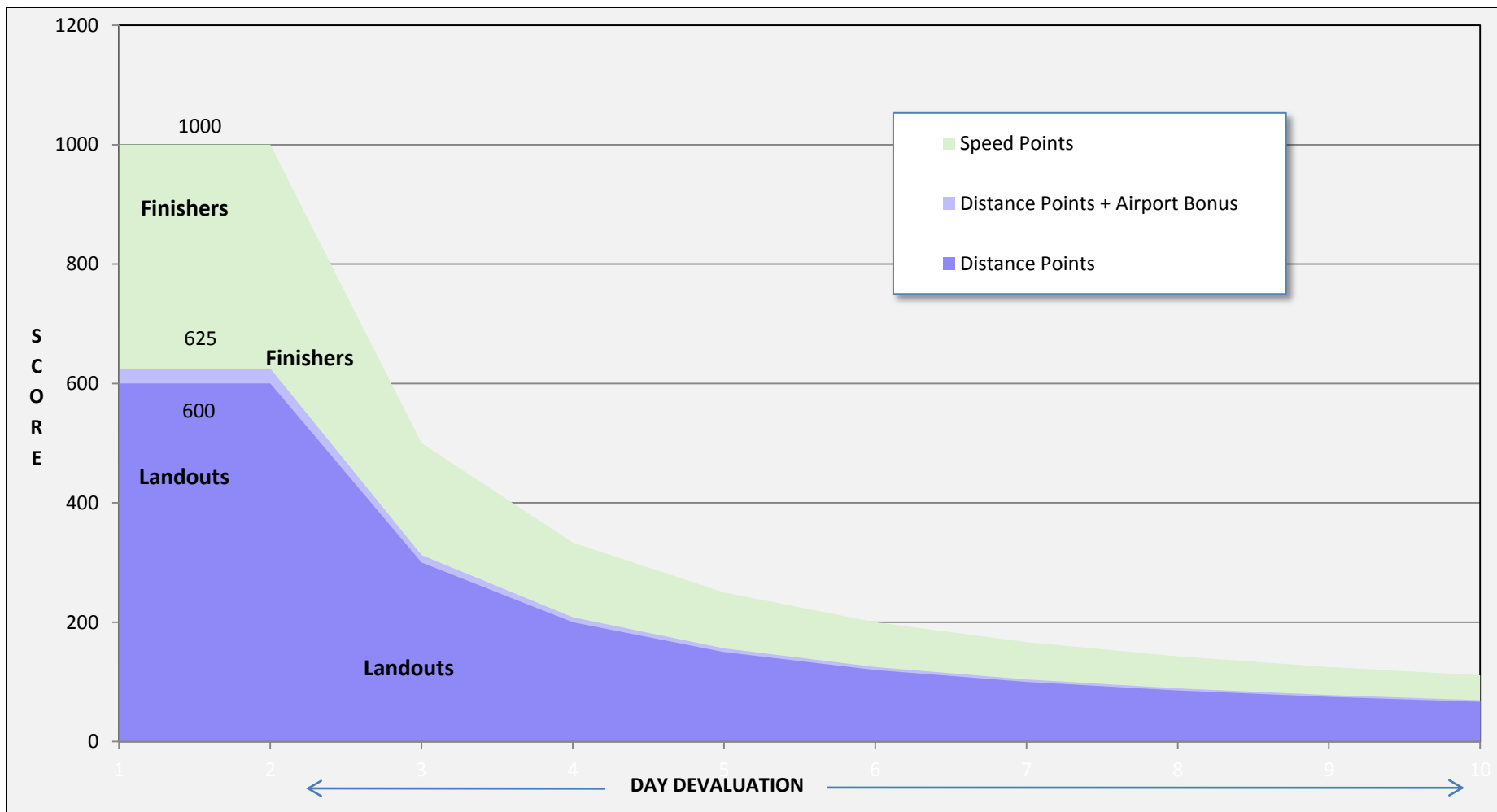
Introduction

- Scope: SSA Regional Sports Class rules plus M-ASA “adjustments”
 - Indicates where different from FAI (15m, 18m, etc.)
 - Where changes have been made for 2013
- Handicap applies for Sports Class and multiple FAI classes (recent trend)
- Will cover these for each section:
 - Rules
 - Strategy/Tips
 - Penalties
- Q&A during discussion

General Rules

- Scores are based on handicapped speed (finishers) or handicapped distance (non-finishers).
- No formulas! (Ok, maybe a couple.) Winscore computes all scores and penalties.
 - Speed, distance – Computed and applied automatically
 - Penalties – Computed automatically but applied manually at scorer's discretion.
- Statute Miles (Not NM)
 - SM - Task Day, contests
 - NM - airspace

“Big Picture”



Starts

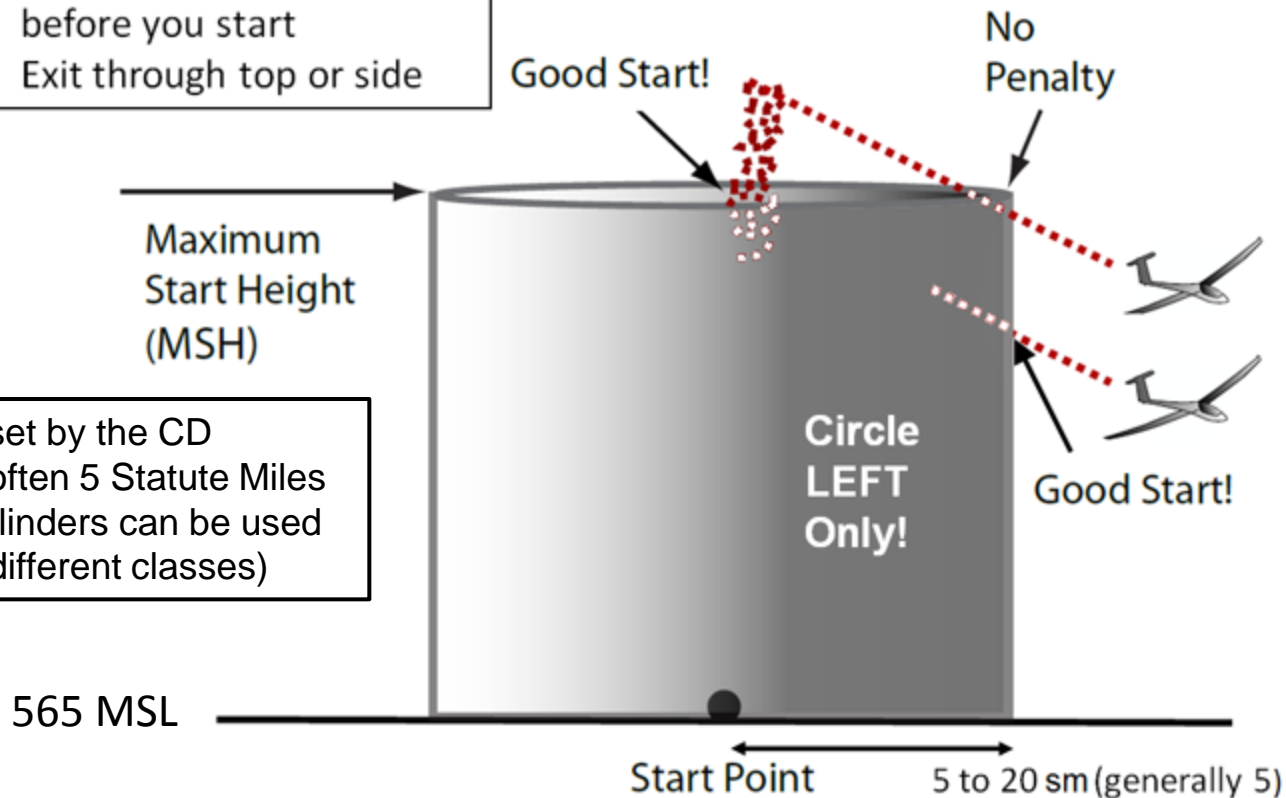
- **Rules**

- Start Cylinder Radius – 5sm at M-ASA
- Top - 5000' AGL (5565' MSL at M-ASA)
 - Set by CD
 - May be lower or higher
- May be multiple start cylinders. M-ASA has two cylinders.
 - Normal: 99Start
 - TFR in Effect: Gettysburg (W05) or Aux Start
- Left turns only
- Start gate open time.

Starts

1. Start after the task opens!
2. Stay below MSH for 2 min before you start
3. Exit through top or side

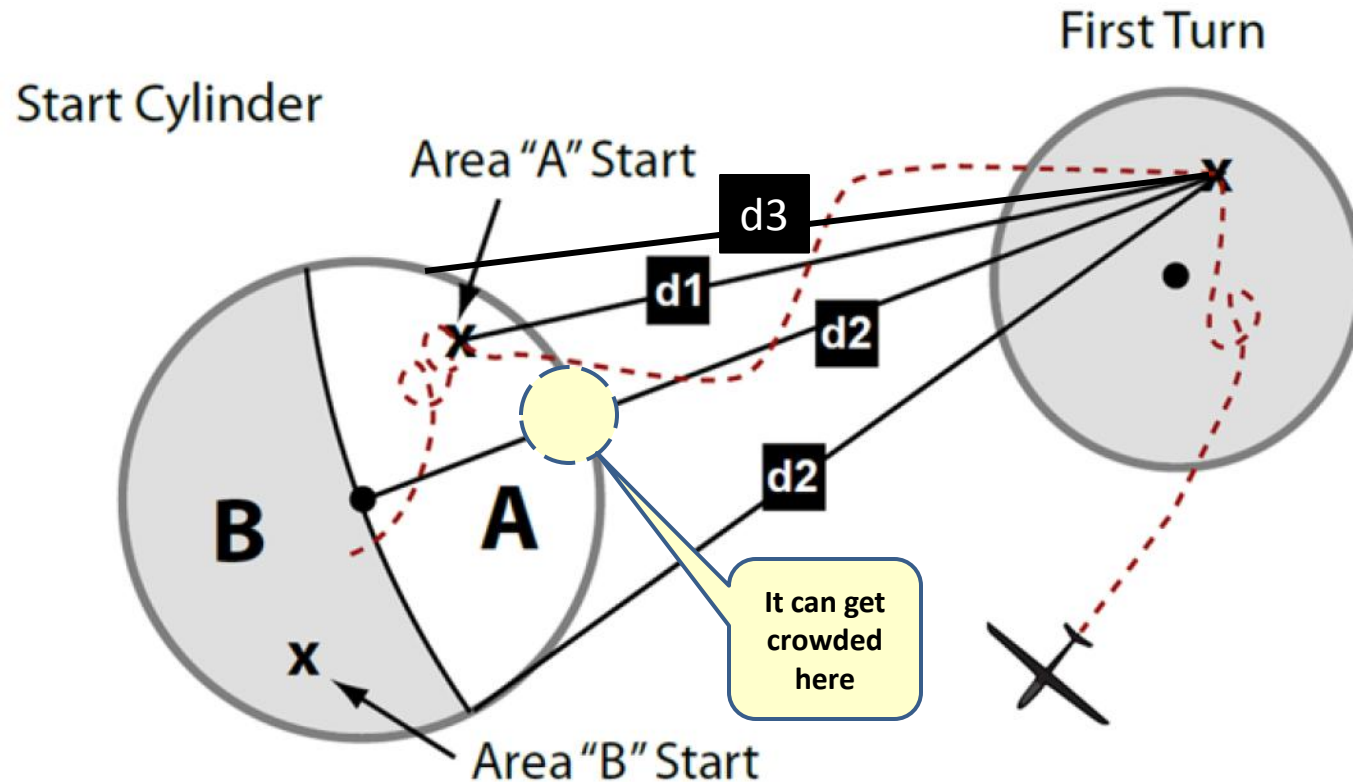
- Height is set by the CD (as MSL)
- Base is at ground level (565 MSL)
- Top is often is 500 feet below expected cloud base
(remember those pesky FAR's)



- Radius is set by the CD
- Radius is often 5 Statute Miles
- Multiple cylinders can be used
(often for different classes)

Exit the Start Cylinder Through the Side or Top

Starts



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

Area B Start gets $d2$ distance from Start Time

Starts

- **Strategy/Tips**

- Start anywhere on the front half of the start circle.
- Restart if you want to. Check the time to make sure the scorer uses the latest start time (Usually latest start time is best.)
- Start out the top if you find a “boomer” greater than the expected MC for the day.
- Don’t “leach” unless you’ve coordinated with other pilots...then it’s not leaching. It’s acceptable practice to follow loosely.
- If you find a “boomer” just outside the start cylinder, then start and go back to that known good thermal.
- Keep track of time of day and expect things to go soft about 4:30-5:00pm. You need to complete the task after the task time and before about 5:00pm.
- Let the wind help. Start on windward side of first leg if possible.
- If you started too soon, restart.
- Give yourself an altitude margin at top of start cylinder in case of differences between GPS, Barometric and Corrected altitude.

Starts

- **Penalties**

- Starting too soon – Not a valid start (NVS)! Zero points for the day!
- Height penalty – Must be below MFH for 2 minutes
- “Starting” outside the start cylinder
- “Wandering” out the top without starting
- Too fast ($IAS < 115\text{mph}$) inside start cylinder
- Wrong start point. There’s only two at M-ASA. For TFRs we use Gettysburg (W05) start circle.
- Note: Wincore picks the start time. But Scorer can assign different start times to produce the best score even with penalties.

Flying the Task

- **Rules**

- Go into each turnpoint. At least one fix required in a turnpoint to achieve the turnpoint.
 - Up to a 1-mile miss distance generates a penalty.
 - Greater than 2-mile miss => missed turnpoint. Land out.
- Stay out of forbidden airspace.
- Try to use up all your time.
- If you can't finish, you get a 25 point bonus for landing at a published airport (sectional chart).
- Finish above the Minimum Finish Height.

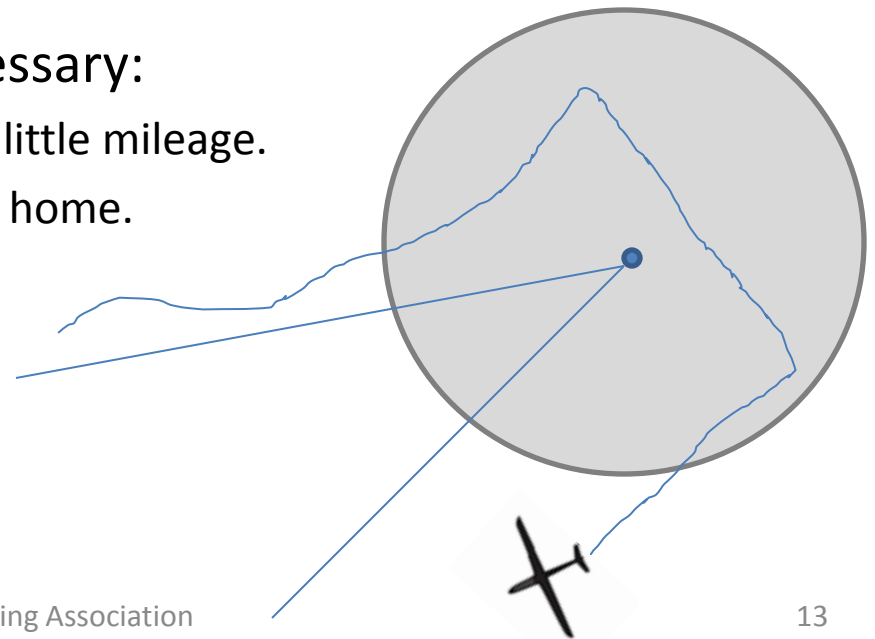
Flying the Task

- **Strategy/Tips**

- Finish
 - Finishers almost always get more points than non-finishers.
- Use up all the Min Task Time
- You have to go your (handicapped) Min Task Distance to be a finisher.
- Less than Standard Min Task Distance/2 => No score
- SMTD at M-ASA is 50sm.
- Your scored speed is determined by the larger of:
 - Min Task Time
 - Actual Time on Course
- Your scored distance is your actual distance adjusted for handicap (Sports Class)
- Weak or undercalled days get devalued.

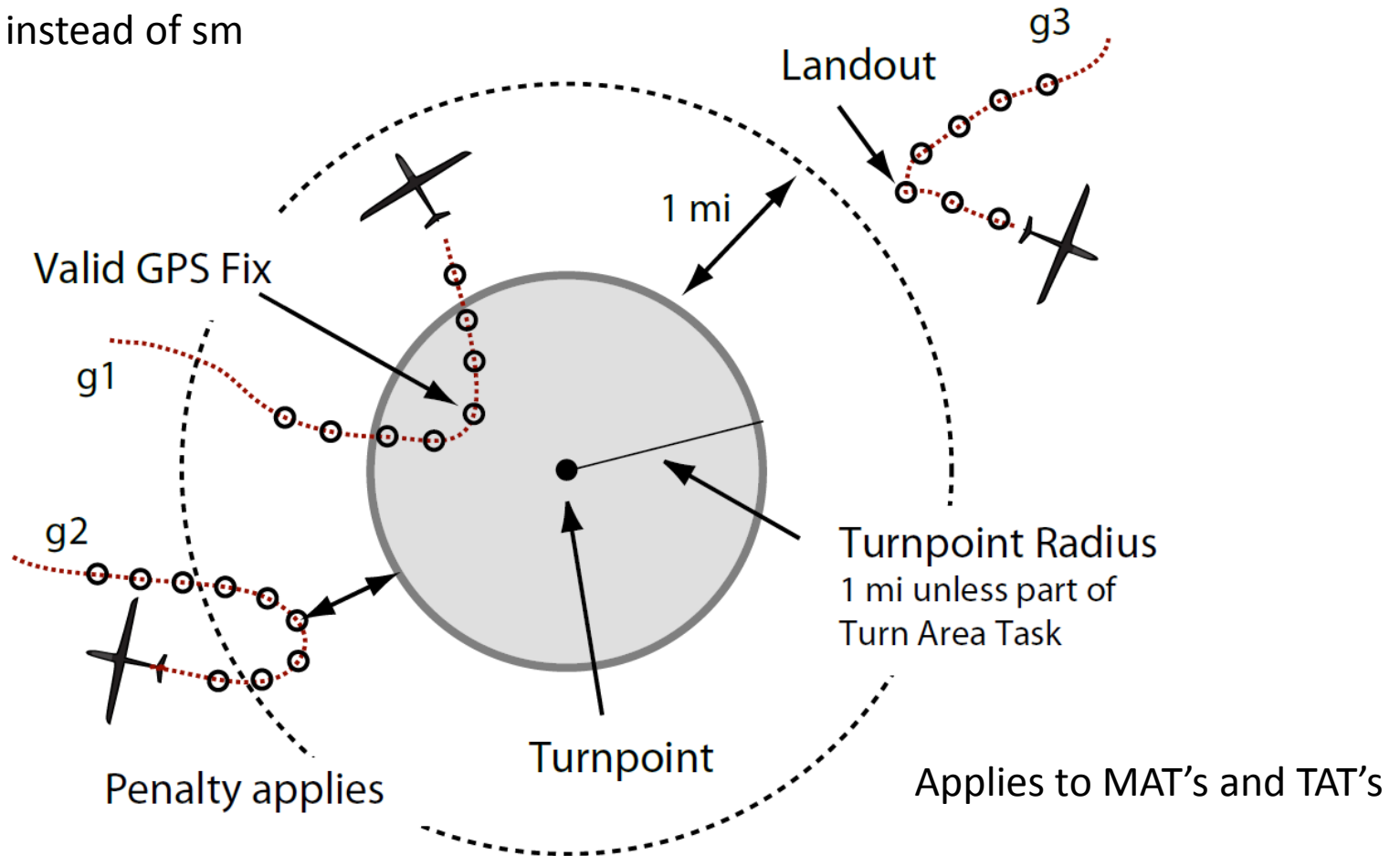
Flying the Task

- **Strategy/Tips**
 - Go deeper into a turnpoint (MAT or TAT) only if the added distance will increase your average speed or use up Min Task Time.
 - Turnpoints are recorded at the furthest point within a turn circle (MAT or TAT).
 - Don't do this unless it's necessary:
 - Wastes time and accumulates little mileage.
 - Do it to find lift in order to get home.

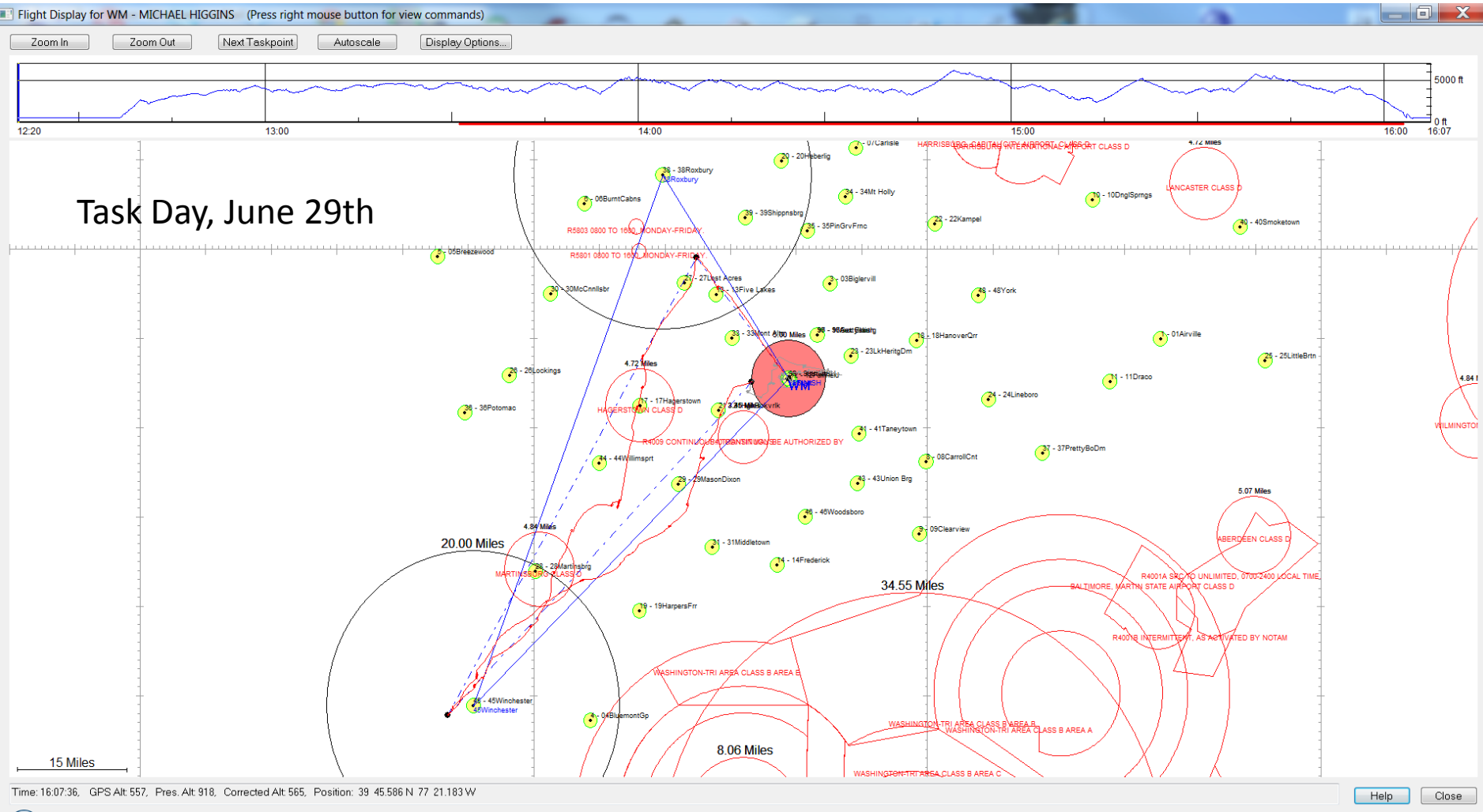


Turnpoint Control

Most problems result from
using nm instead of sm



Flying the Task



Flying the Task

- **Penalties**
 - Slightly missed turnpoint – up to 1 sm
 - Missed turnpoint >2 sm => missed turnpoint, land out
 - Airspace (a big deal!!)

Flying the Task

- **Airspace Penalties**

- For a penalty free contest flight, your flight log must show you were at least 500 feet below the defined limits of any Class A, B or C airspace. There are graded point deductions for being near (milder penalty) or in (severe penalty) Class A, B or C airspace.
- You may not enter any Restricted or Prohibited airspace, but you may fly in MOA's (As a safety measure, check to see if MOAs are active)
- Overhangs of Class C airspace are usually low – rarely useful to fly under them
- Even though on a recreational flight you may fly above Class C airspace if you have permission, communications and a Mode C transponder, you may not do so in a contest flight.

Flying the Task

- **Airspace Penalties**

- Penalties for being within closed airspace are severe: loss of all points on the day of the flight (could be -1000 points) and -100 points on the next day (up to -1100 points off of your total score).
- Flying through Class D airspace is common at some contest sites, talk to the tower.
- Flying through certain Class D airspace may be the fastest route. Your radio should be programmed to tune to the tower frequency quickly. Class D airspace becomes Class E airspace if the tower is closed (*times are on your chart*).

MAT's and TAT's

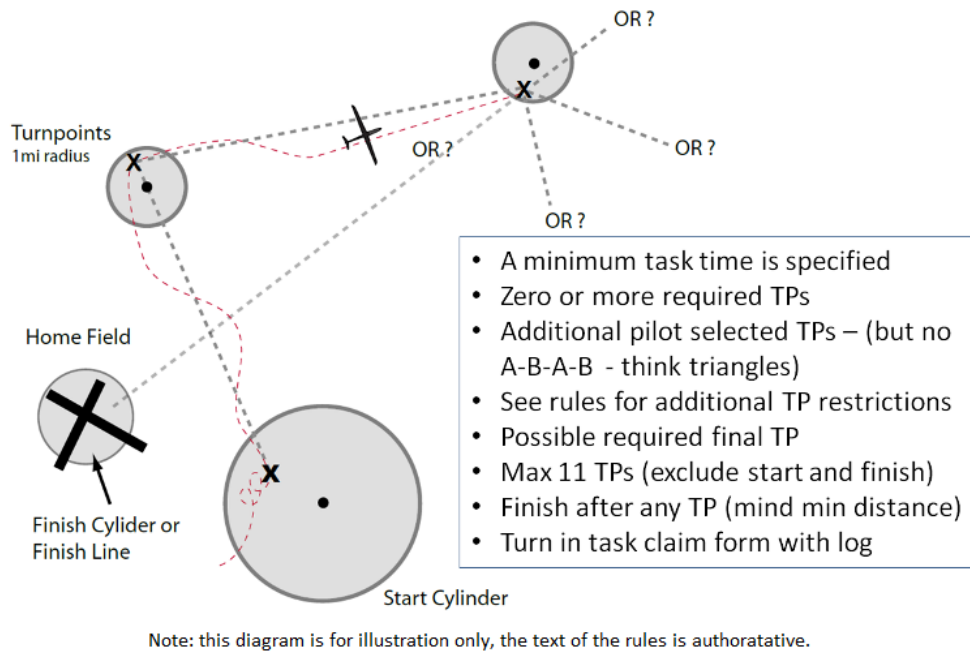
- **MAT's**

- CD can designate 0-11 turnpoints and a Minimum Task Time
- CD may designate a first and/or last turnpoint.
- CD may designate the max times a turnpoint may be used.
- Used when the weather is difficult to predict or a large difference in sailplane performance.
- Can “bail out” any time and fly home.
- Can add new turnpoints only after achieving mandatory turnpoints.
- Includes a Minimum Task Time.
- Cannot repeat turnpoints. Think triangles.
 - A-B-A-B is prohibited
 - A-B-C-A-B-C is permitted (triangle)

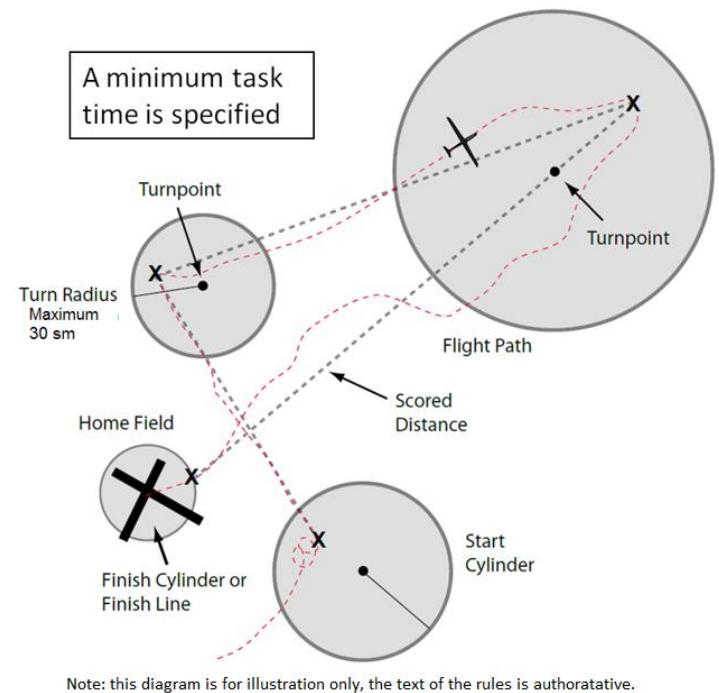
- **TAT's**

- CD designates several cylinders, not greater than 30sm.
- Includes a Minimum Task Time.
- Task Areas shouldn't overlap...it confuses the computer and the pilot and pisses off the scorer.

MAT's and TAT's

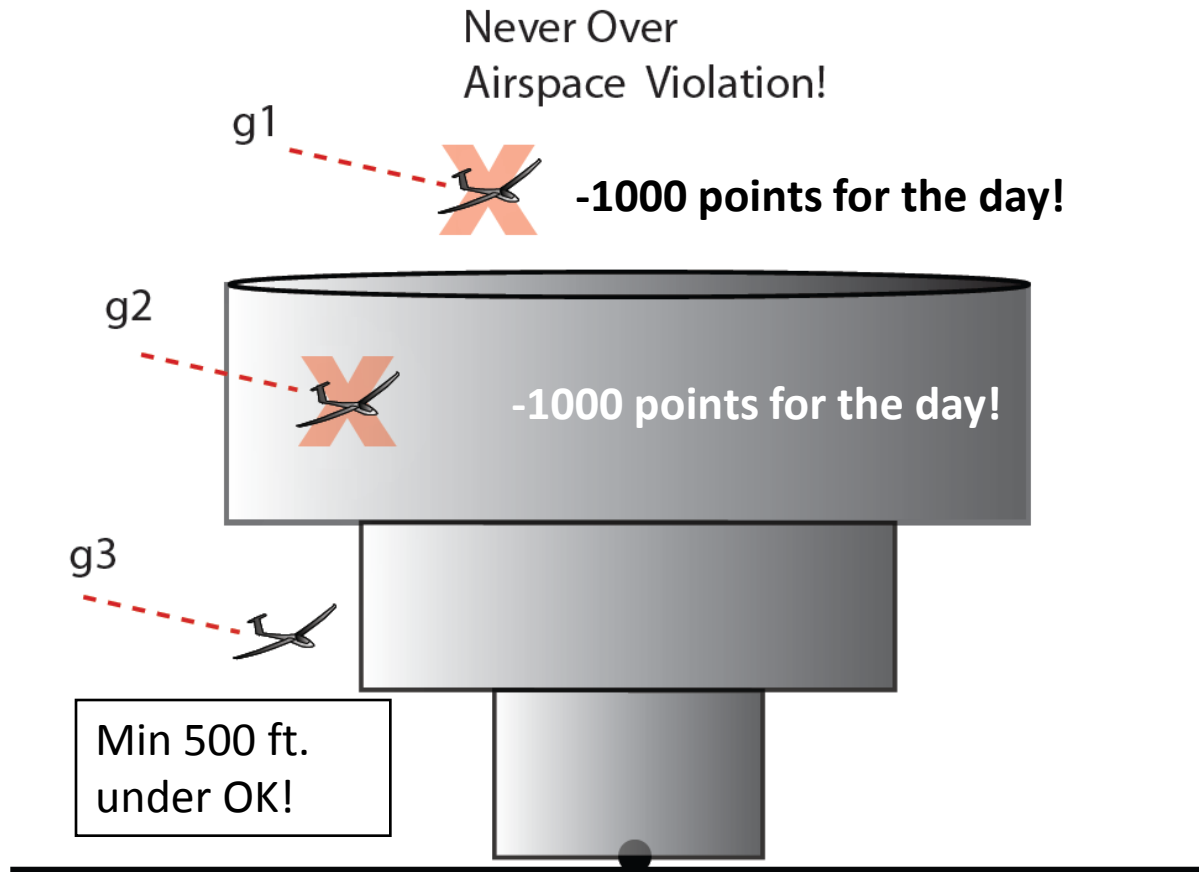


Modified Assigned Task



Turn Area Task

Forbidden Airspace



Airspace and SSA Contests



Differences Between the FAR's and SSA Contest Rules

Flights Under Federal Regulations

Class A IFR, Communications, Mode C
Class B* Clearance, Communications, Mode C
Class C* Communications, Mode C
Class D Communications

Flights Under SSA Contest Rules

Do not enter – up to a 1100 point penalty
* Do not enter – up to a 1100 point penalty
* Do not enter – up to a 1100 point penalty
Can Enter – talk to tower
*Airspace above is also prohibited

Note - For a penalty free contest flight, your flight log must show you were at least 500 feet below any Class A, B or C airspace..

Finish

- **Rules**

- Finish Cylinder is 1sm in radius. 3sm if a TFR is in effect.
- Finish at or above Minimum Finish Height. 735 AGL (1300 MSL) at M-ASA (Change for 2014)

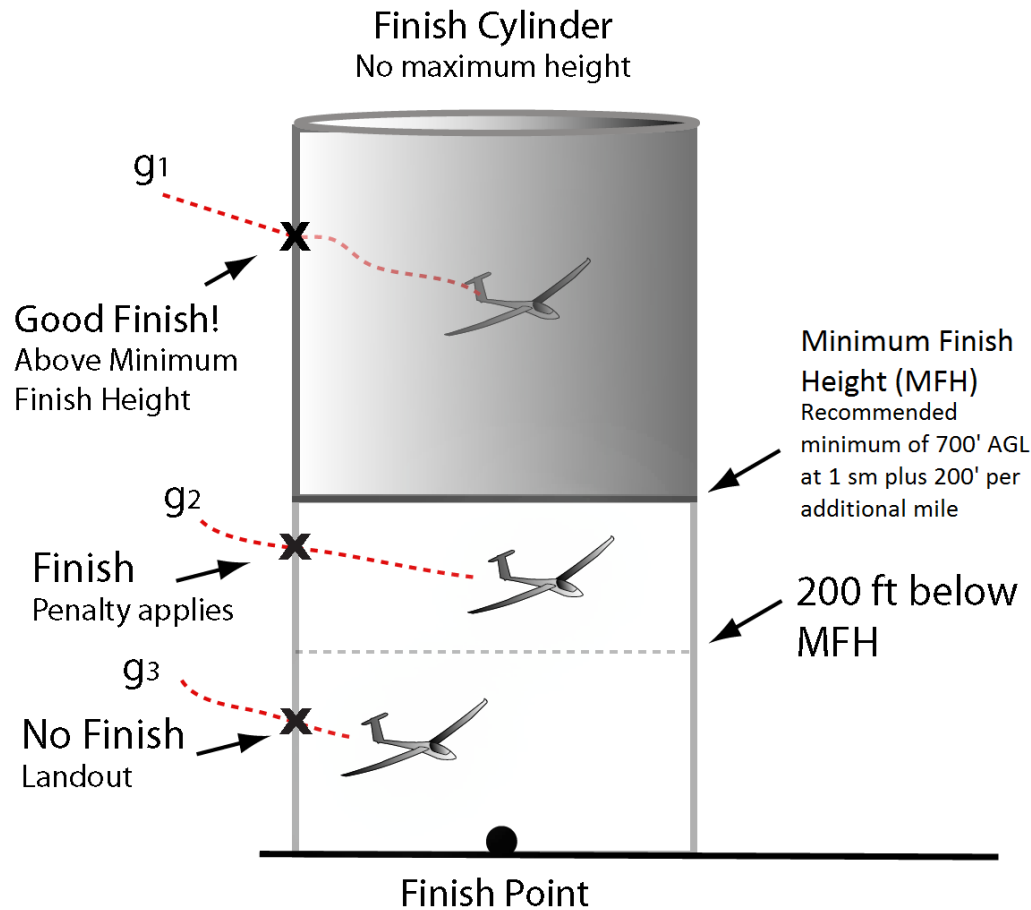
- **Strategy/Tips**

- On a fast final glide, predict the altitude you will cross the finish cylinder. If low and fast, trade airspeed for altitude to avoid a height penalty.
- Don't "button hook" the finish cylinder.

- **Penalty**

- Above MFH => no penalty
- Up to 200' below MFH => prorated penalty, up to 45 points
- Below 200' below MFH => Distance points only.

Cylinder Finish



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

Usually the home airport

The Only Formulas You'll Ever Need

- **Finishers**

- **Points = Your Speed / Best Speed**

- Max: 1000 pts

- **Non-Finishers**

- **Points = Your Distance / Best Distance**

- Max 625 pts

- Big Caveat: These formulas are modified when the contest day is devalued for:

- Low percentage of finishers (typically weather related)

- High percentage of finishers under minimum time (undercalled task)

Most Common Penalties

- Early or high start
- Slightly missed turnpoint
- Low finish
- Flight documentation not turned in a timely fashion (not at M-ASA)
- Airspace (a big deal)
- Minimum Distance

Sample Score Sheet

Classic Racing Day

Open Class Contest Day 7 Official

Cumulative			Pilot		Day							Penalty		
Rank	Points	ID	Name	Glider	Rank	Points	Speed	Distance	Start Time	TOC	TrnPts	Code	Points	IGC Filename
1	6524	SS	Tabery, Ron	ASW-22BLE	1	1000	88.87	315.98	14:15:48	03:33:20	20,18,3,34			373I0611.IGC
2	6350	DB	Butler, Dick	Concordia	2	906	80.52	300.76	14:24:57	03:44:07	20,18,3,34			373V7FK1.igc
3	5791	98	Walters, Richard	Arcus	9	782	69.49	275.87	14:19:39	03:58:11	20,18,3,34			2013-07-03-NKL-10U-01.IGC
4	5768	DT	Coggins, David	Nimbus 3-24.5	5	839	74.56	275.07	14:15:35	03:41:22	20,18,3,34			373C3AP5.IGC
5	5743	HW	Weissenbuehler, Heinz	ETA Biter	6	815	72.39	276.11	14:16:12	03:48:51	20,18,3,34			2013-07-03-NKL-0UX-01.IGC
6	5674	VJS	Leonard, Steven	Nimbus 3-25.5	4	869	77.22	280.04	14:20:34	03:37:35	20,18,3,34			373C0ZN1.IGC
7	5631	YO	Nadler, Dave	Antares 20E	2	906	80.50	316.92	14:14:54	03:56:13	20,18,3,34			373G8FH1.IGC
8	5004	RED	Athuil, Philippe	ASH-25M	10	695	61.73	281.15	14:20:38	04:33:17	20,18,3,34			373C3MX1.IGC
9	4864	GE	Evans, Gary	ASH-25E	8	793	70.49	263.74	14:07:18	03:44:30	20,18,3,34			373V7CP1.igc
10	4577	GJ	Milner, Brian	Nimbus 4	7	800	71.13	249.80	14:07:21	03:30:42	20,18,3,34			2013-07-03-NKL-0V1-01.IGC
11	3256	8H	Tyler, Al	ASG-29-18	11	0							W, F	
12	2567	F8	Gawthrop, Bill	ASH-26E	11	0							W, F	

[Click here to show/hide task details and scoring parameters](#)

Turn Area Task		Turnpoints				Code	Description	Score Calculation Parameters	
Min Distance	196.22	#	ID	Name	Radius	W	Withdrew from contest.	STD Min Task Dist.	60.00 Miles
Distance	303.04	Start	50	50 START FIN	5.0	F	No flight log.	STD Min Task Time	03:00:00
Max Distance	417.54	-	20	20 Littlefld	30.0			Scored Completion Ratio	1.000000
Min Time	03:30	-	18	18 Lamesa	20.0			Short Task Factor	1.000000
Task Open Time	14:04	-	3	03 Andrews	15.0			Max Speed Points	1000
		-	34	34 Seagraves	5.0			Max Distance Points	600
		Finish	50	50 START FIN				BESTDIST	316.920 Miles
								Number Of Contestants	10
								Number Of Finishers	10
								% Contestants > SMTD	100.0%
								Best Speed	SS with 88.869 Miles/Hr
								TOC Best Speed	03:33:20
								Best Distance	YO with 316.920 Miles
								Num Finishers > 15min undertime	0

coresheet created on Friday July 05, 2013 - 16:31 by Winscore - Rev 0

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Sample Score Sheet

Devalued Day

Sports Class Contest Day 4 Official

Cumulative		Pilot				Day		Speed		Distance					Penalty		
Rank	Points	ID	Name	Glider	Rank	Points	Hndcp	Actual	Hndcp	Actual	Start Time	TOC	TrnPts	Code	Points	IGC Filename	
1	3161	GL	Leslie, Gregg	ASW-20	1	788	52.77	58.50	85.11	94.37	14:32:37	01:36:47	29,27,29,27,29			36SV0SH1.igc	
2	2313	TD	Seifried, Paul	LS-4	3	657	44.04	46.83	70.96	75.45	14:32:59	01:36:40	29,27,29,27,29			36SV1871.igc	
3	1885	FZ	Zepek, Daniel	SZD-55-1	6	339			46.79	49.73	14:32:30		29,27,29	AB		2013-06-28-XCS-AAA-01.igc	
4	1638	5K	Monroe, Clay	Discus cs	4	483			68.34	74.43	14:36:13		29,27,29,27,29	AB		2013-06-28-NKL-111-01.IGC	
5	1392	2K	Ashcroft, John	Pegasus 101A	5	389			54.28	56.84	14:32:43		29	AB		36SXZK01.igc	
6	1325	JD	Dezzutti, John	ASW-27	2	681	45.61	51.44	67.95	76.63	14:34:06	01:23:56	29,27,29,27,29	MT		2013-06-28-NKL-120-01.IGC	
7	1175	GR8	Kaletka, Richard	PW-5 Smyk	9	0								F			
8	940	WC	Cramer, James	H-201 Standard Libelle	7	282			38.35	37.60	14:41:46		29,27	MD, AB		36SXVK01.igc	
9	769	W2	Janney, Bob	LS-4A	9	0								F			
10	710	K1	Hanson, Bill	Pegasus 101A	9	0								F			
11	633	CY	Smith, Mike	ASW-28	8	137			16.75	18.42	14:40:29		29	MD, AB		2013-06-28-NKL-021-01.IGC	
12	468	U	Michalowski, Roman	ASW-28	9	0					14:39:10		29,27			36SXQK01.igc	
13	208	4X	Cotter, John	Ventus 2ax	9	0								W, F			
14	163	HPT	Teuber, Peter	Carat A	9	0								F			
G	0	FD	Mazzeo, Frank	LS-3-15	9	0								F			
15	0	PC	Herrmann, Jim	Discus b	9	0								F			

[Click here to show/hide task details and scoring parameters](#)

Turn Area Task		Turnpoints				Code	Description	Score Calculation Parameters	
Min Distance	55.08	#	ID	Name	Radius	AB	25pt Airfield Bonus.	STD Min Task Dist.	40.00 Miles
Distance	143.02	Start	1	01 Start	5.0	MT	Flight time less than minimum time.	STD Min Task Time	01:30:00
Max Distance	230.99	-	29	29 Polis	12.0	F	No flight log.	Scored Completion Ratio	0.375000
Min Time	01:30	-	27	27 OtavilPrs	4.0	MD	Flight less than minimum distance of 40 Miles	Short Task Factor	1.000000
Task Open Time	14:32	-	29	29 Polis	12.0	W	Withdrew from contest.	Max Speed Points	788
		-	27	27 OtavilPrs	4.0			Max Distance Points	571
		-	29	29 Polis	12.0			BESTDIST	85.113 Miles
		Finish	2	02 Finish	1.0			Number Of Contestants	8
								Number Of Finishers	3
								% Contestants > SMTD	75.0%
								Best Speed	GL with 58.505 Miles/Hr
								TOC Best Speed	01:36:47
								Best Distance	GL with 94.371 Miles
								Num Finishers > 15min undertime	0

Sources

- SAA Regional Sports Class Rules for 2013
- Brief by Jim Garrison (T) “Airpsace.pptx”
- Brief by Jim Garrison (T) “Start.Fin.pptx”
- Brief by Jon Godfrey (QT)
“QT_Convention_2010_updated.pptx