



Managing Margins

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2010

Spring Safety Meeting

Why Fly?

- Challenge
- Bragging Rights
- Education
- Proficiency
- Enjoyment!



Balancing

“Too bold and we cause emergencies and have accidents. Too timid and we destroy the utility and let our skills atrophy. Then pretty soon we have to be more timid still.”

- Wolfgang Langewiesche *(from the intro to Weather Flying)*



What We Balance

- **Benefits**

- Bigger Goals
- Less Work, More Proficient
- Longer Flights, Lower Costs
- Taking Friends for a Ride

- **Risks**

- Short Flight
- Landouts
- Damage
- Injuries / Death



August, 2009, First Flight Event

Where Is the Balance?

On each of the following subjects we will talk about what the balance is and about how finding *the center of the cost benefit tradeoff (i.e. our enjoyment vs. risk tradeoff)* controls the **margins** (in time, space, distance, speed, direction, plan, etc) for considering and taking actions that will result in a successful outcome.

1. Speed On Final

- **Fast**
 - Landing space issues
 - Controls are sensitive
 - Ground bumps are worse
- **Slow**
 - Poor margin over stall
 - Poor wind penetration
 - Control authority is poor



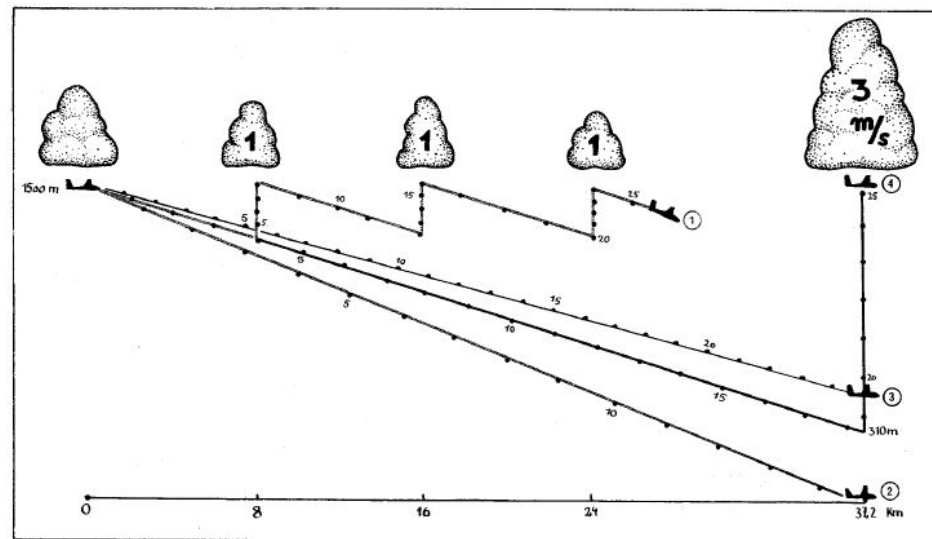
Slide 6

TAW6

here's another place -- at least in the notes -- where you're mixing all the terms: "balancing the benefit and costs;" "balance of margins and control the balance"
Thomas A Wilkin, 2/7/2010

2. Speed to Fly

- High McCready setting gives more X/C speed
- Low McCready setting gives lower land out risk



3. Field Selection

- **Small**
 - More field choices
 - Harder to get into
- **Large**
 - Easier to land in
 - Few and far between
 - Can avoid obstructions



4. Takeoff and Tow

- Alignment to Runway
(particularly in snow!)
- Obstruction Clearance
- Weight, Temperature, Tug
- Checklist Timing



5. Pattern Energy Management

- Higher Energy
 - longer final
 - higher turn to final
 - more accurate touchdown
 - more options in case of ...
- Lower Energy
 - more gliding time
 - easier to see touchdown area
 - more susceptible to curl and shear
 - better speed control needed

6. Pattern Positioning

- Quarter runway length away ?
 - limited reaction time
 - + local obstructions?
- One runway length away
 - + time to assess and plan
- Two runway lengths away
 - didn't account for wind?



7. Landing Location

- Choices: Left, Center, Right, Runway
- Choices: Edge, Hangar, Long



STERLING (3B3) 459' 2SW. 42°25.51'N 71°47.47'W. (978) 422-8860. Att days; ngts on req. WTAG 580. →Aerobatics. Gldrs use rgt tfc to rwy 34L. Calm-wind (blo 5 kts) rwy 34R. **Noise Abate.** Before Xing turf rwy, stop & check for gldr tfc.
DEP: Turn 20° rgt to avd homes NW or school SE.
Bcn. *PCL: 122.9 - Bcn, 16L/34R (3x).

CTAF	APC
122.9	BOS Cntr
	123.75

TPA
MSL: 1500

REC INFO (978):

C of C 840-4300
Wachusett Mtn Ski Area 7 mi 464-2300
 (Mon-Fri)

FSS: BRIDGEPORT
 122.2

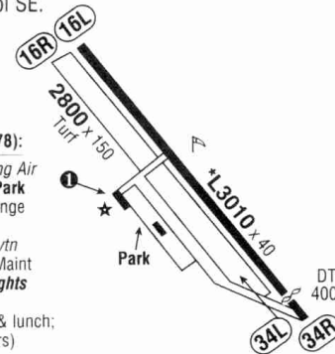
VOR FREQ RAD NM
GDM 110.6 135° 14
PUT 117.4 019° 28

F.T.L. (978):

Sterling Inn & Rstrnt
 1 mi 422-6333
Chocsett Inn
 2 mi 422-3355

ON FLD (978):

① Adm Sterling Air
 422-8860 **Park**
Tx 100 Lounge & supplies
 Liebfried Avtn
 343-6536 Maint
Plane Delights Rstrnt
 (Breakfast & lunch; wknds wntrs)



Margins Recap

Balancing our Margins *is not* about a particular way to do something (e.g. a landing pattern). It *is* about a way of thinking about the choices you make while flying in terms of cost benefit analysis - *and ultimately about your safety!*

Balancing our Margins is a cognitive tool to use to judge your own flying behavior as you seek to improve your overall skills.



Closing Story

Sugarbush Trees

When I go to contests at Sugarbush in our pilots meetings we sit at picnic tables under a few trees. The trees provide a pleasant shady environment for our meetings. I have fond memories of my son climbing these trees as he grew up...

Trux Pratt
David Shapiro



Fly Safely!