

Strategic Decisions To Optimize Your Speed



Jerzy Szemplinski

Any pilot from first 3 had chance to win

1. Darroze, Olivier FRA	6853	100%
2. Termaat, Ronald NLD	6755	-1.5%
3. Staryszak, Karol POL	6606	-3.6%
4. Leucker, Hermann GER	6315	-7.9%



To be in the first 25% we can't give up more than
12.5% of winner points

1	EW Darroze, Olivier FRA ASG 29	6853
2	XTC Termaat, Ronald NLD Ventus 2cxa	6755
3	PL Staryszak, Karol POL ASG 29	6606
4	MS Leucker, Hermann GER ASG 29	6315
5	RB Brigliadori, Riccardo ITA Ventus 2cxa	6191
6	HE Heinonen, Erkki FIN ASG 29E	6172
6	WO Janowitsch, Wolfgang AUT Ventus 2c	6172
8	PX Krejcirik, Petr CZE Ventus 2cxt	6150
9	MO Hoelgaard, Mogens DNK Ventus 2cxT	6148
10	E1 Cheetham, Russell GBR ASG 29E	6144
11	XG Szemplinski, Jerzy CAN ASG 29	6109
12	DJ Jacobs, Doug USA Ventus 2cxa	6043
13	10 van Nes, Hadriaan NLD LS 10	5996

WHY ARE TOP PILOTS ABLE TO OUTPERFORM ?



Better ground crew ?

France 10, Poland 10, Canada 3



Better Equipment ?



Better Training ?
Yes, but in which areas?



Physical and mental state?

Highly probable



Other possible elements of outperformance

More accurate weather forecast ?

Accurate weather provided by organizer

Luck ?

8 races - low probability of luck

Local knowledge ?

Maybe, but winners were not locals

Information from the ground ?

Maybe, but limited by VHF range.

Weather reading ?
Highly Probable



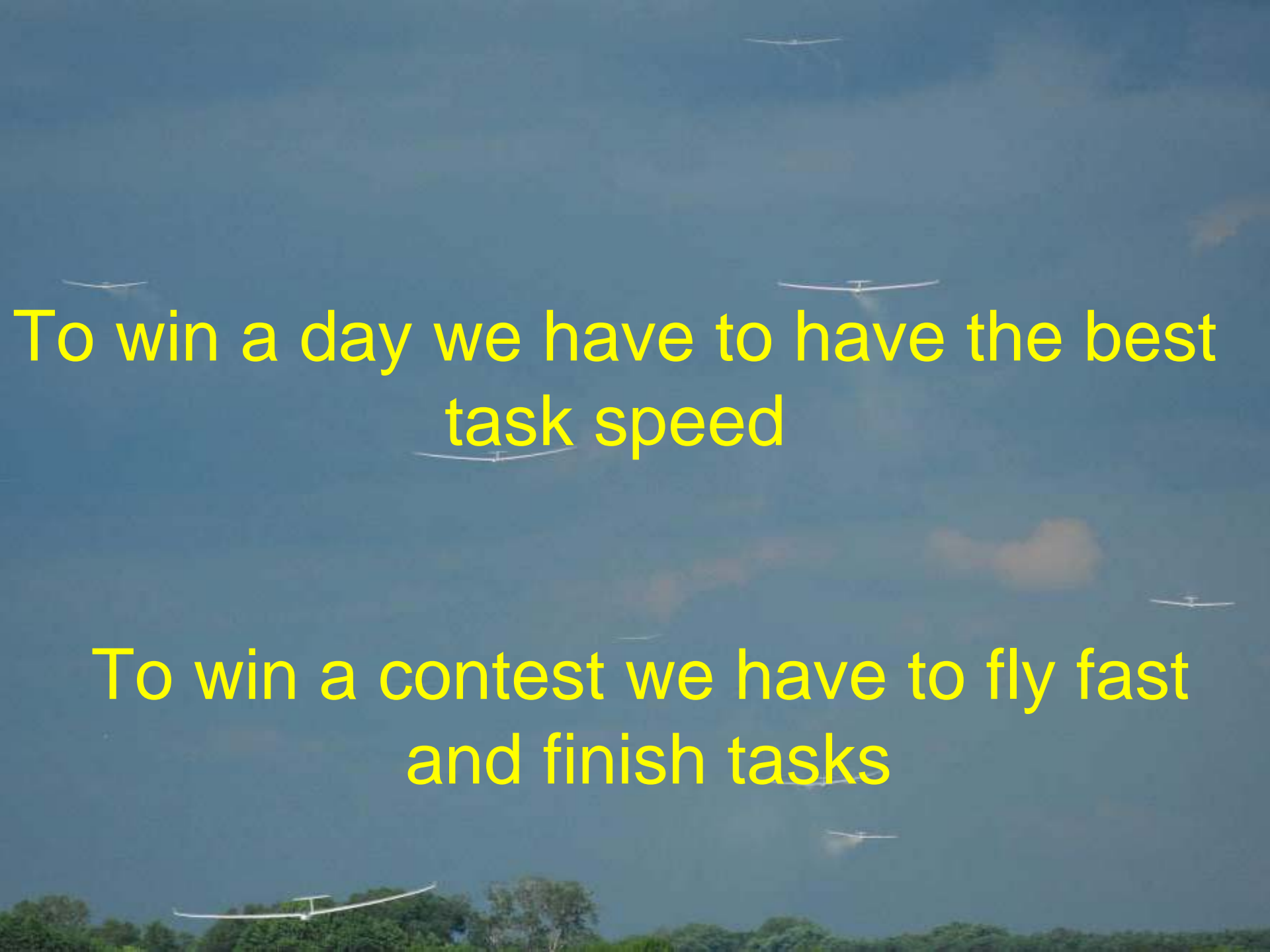
All winners have common elements:

They fly faster on XC

and

They finish tasks





To win a day we have to have the best
task speed

To win a contest we have to fly fast
and finish tasks

XC speed depends on weather
and where we fly.

100 km/h in Ontario is very good
speed



100 km/h on the ridge is slow



A scenic landscape featuring rolling hills and a sky filled with large, dramatic clouds. The foreground shows dark green, forested hills, while the background consists of more distant, lighter-colored hills under a bright, overcast sky.

How to improve our XC speed

Two elements influence our XC speed

- Decisions and activities on the ground
- Decisions in the air

Make notes from interesting flights:



CollegeHumor

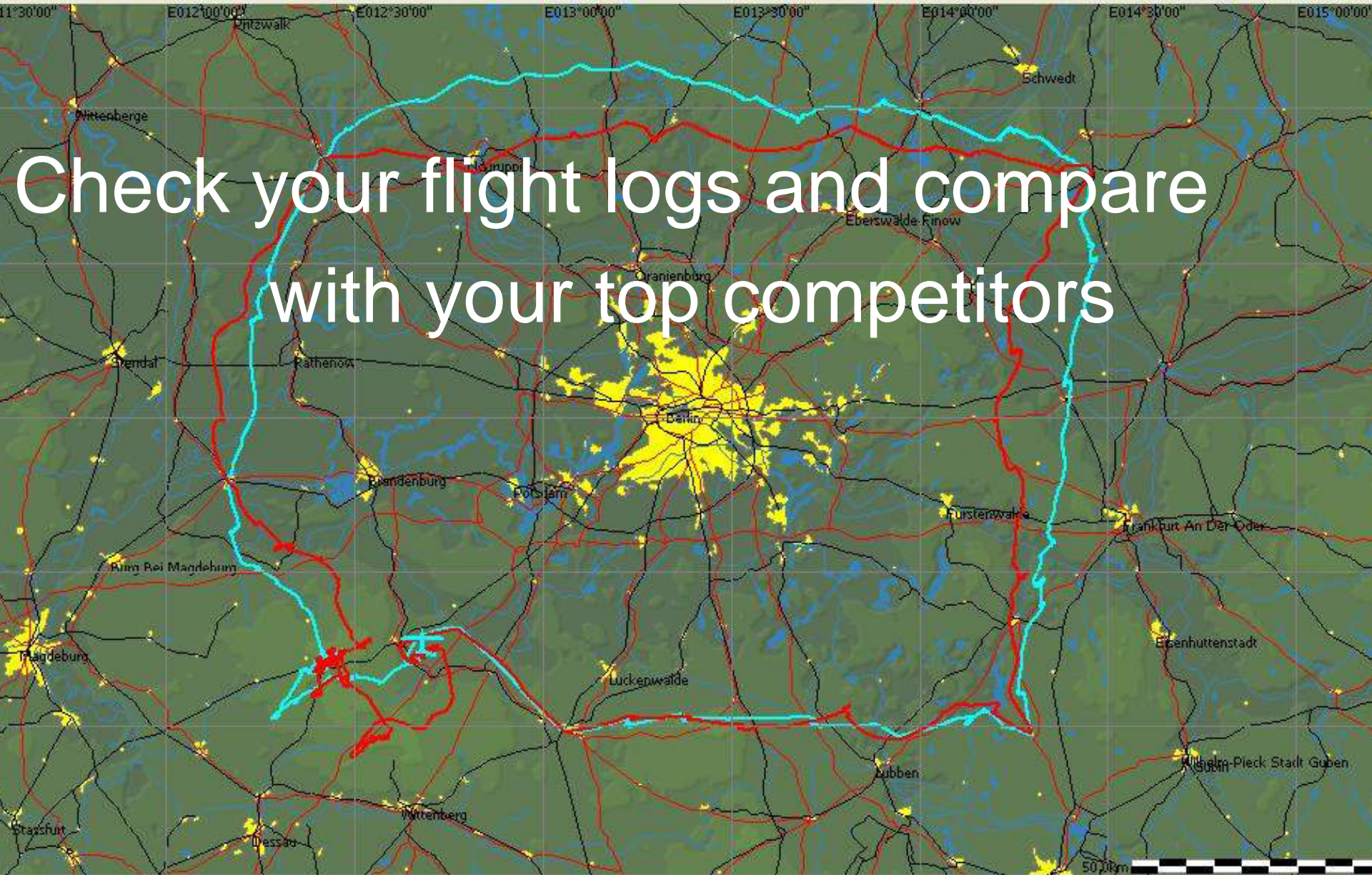
Analyze your old notes and compare how they change due to new experience





Ask other experienced pilots opinion
about your mistakes

Check your flight logs and compare with your top competitors



Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind
08:15	63m	---m/s	---km/h											232°/32k
08:51	61m	---m/s	---km/h											256°/27k

N52°24'18" E011°39'38" 71m, D=74.9km E=-9421

A scenic view of a mountain valley. The foreground shows dark, forested hillsides. In the middle ground, there are rolling hills and a valley. The sky is a deep blue, filled with large, white, fluffy clouds. The text is overlaid on the sky and hills in a bright yellow color.

Make notes about weather observation,
specific conditions for the area you fly,
lift generators, fields selection,
final glide terrain.

Other ways to improve our XC speed

Each flight has to be a task.

Badge flights

Short assigned tasks

Area tasks



The best way to improve our
performance

FLY CONTESTS

Region 2

Mifflin, PA, May 2005



Photography © 2005 Maria Szemplinska



CONTEST IS FUN

A photograph showing two individuals in flight attire standing on a tarmac next to a white aircraft. The person on the left is wearing a white cap, a blue long-sleeved shirt, a dark vest, and khaki pants, and is looking down at something in their hands. The person on the right is wearing a white cap, a white long-sleeved shirt, an orange safety vest, and dark pants, and is looking towards the first person. The aircraft's fuselage and wing are visible, with a large white spherical object in the foreground. The background shows a clear blue sky and green hills.

Contests give us the best possibility to compare if we fly fast.

OLC gives us possibility to compare if we use weather to the maximum , speed is secondary in OLC results.



Flying just around the airfield
will not improve our XC speed.

Benefits of contest flying

Each national contest gives us 3 years extra XC experience

Each provincial or regional contest gives us 1 to 2 years XC experience.

Decision to fly particular level of contest should depend on our level of experience

An aerial photograph of a rugged, mountainous landscape. The terrain is characterized by deep, winding canyons and steep, rocky slopes. A prominent, dark blue river flows through the center of the valley, curving as it descends. In the distance, a small white airplane is visible, flying over the river. The overall scene is one of a vast, natural, and somewhat desolate environment.

Decisions in the air to optimize
our speed

There is interaction in the air between weather and pilot's decision



Decisions, Decisions

An aerial photograph of a large, dark blue lake surrounded by green fields and a small town. The sky is bright blue with scattered white clouds. The text is overlaid in yellow.

Our decision should be made based on the weather conditions.

Actions of other pilots should have no influence on our decision.

Weather components influencing our decisions.

- Lift strength
- Cloud base
- Wind speed and direction
- Significant weather changes
- Working band
- Duration of soaring condition
- Cloud streets
- Blue thermals

Wind - your friend or enemy

In most cases thermals are lined close to wind direction

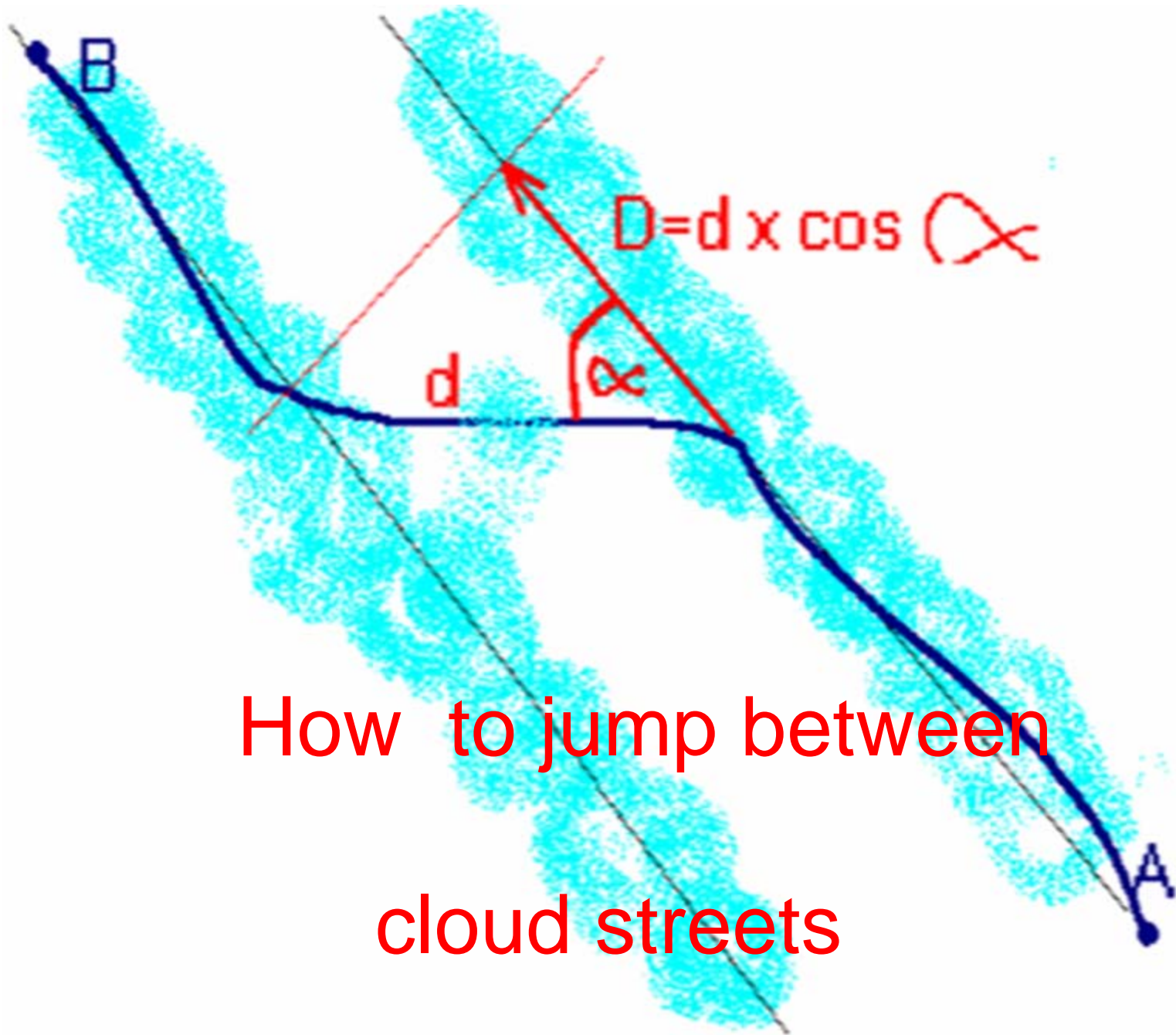


Going upwind - avoid thermaling at any cost, make S turns, milk lift, slow down in lift, stay in lift in straight flight as much as possible , make connections between lift.

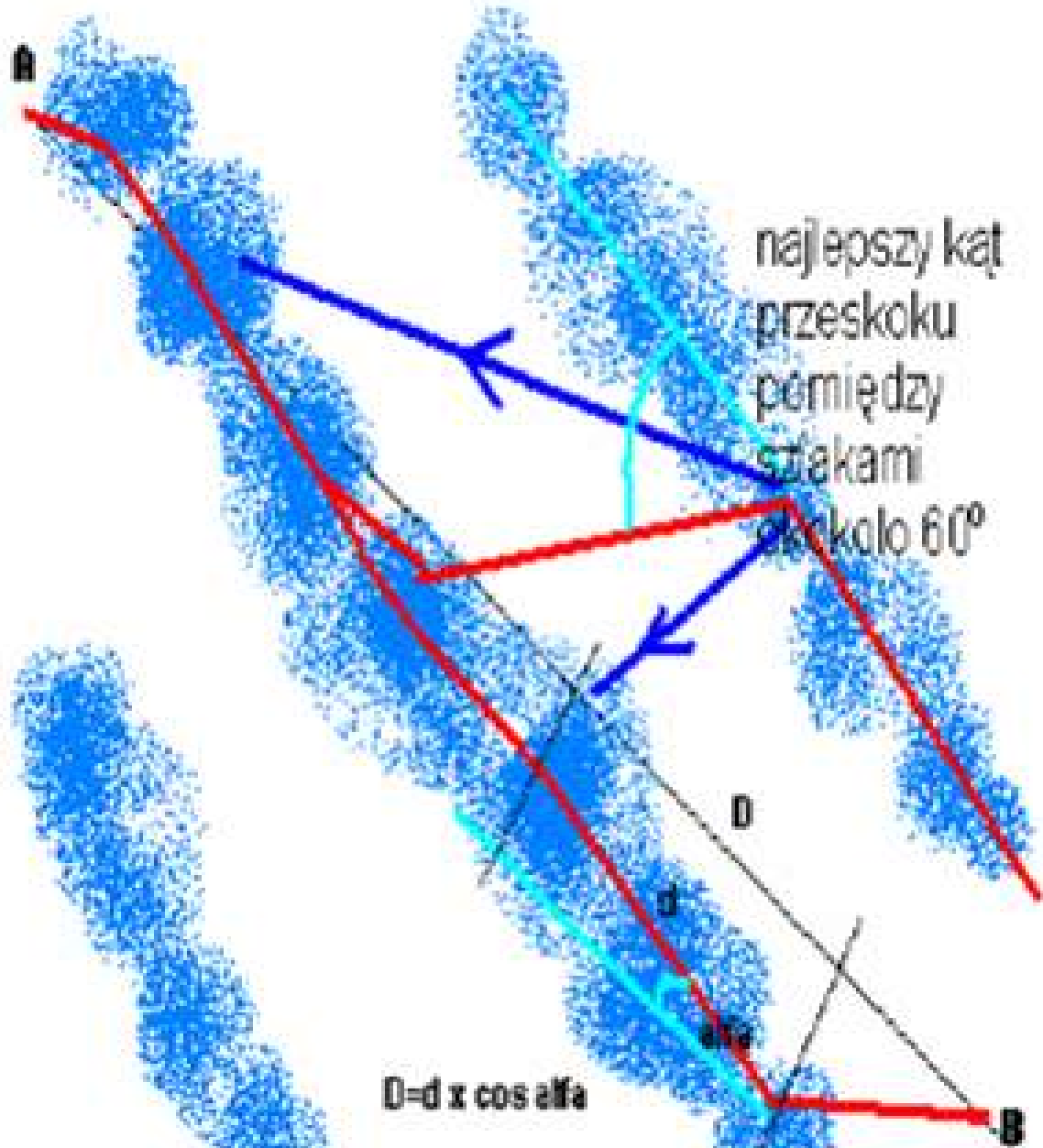
Stay high, use cloud streets as much as possible

Jump from cloud street to cloud street



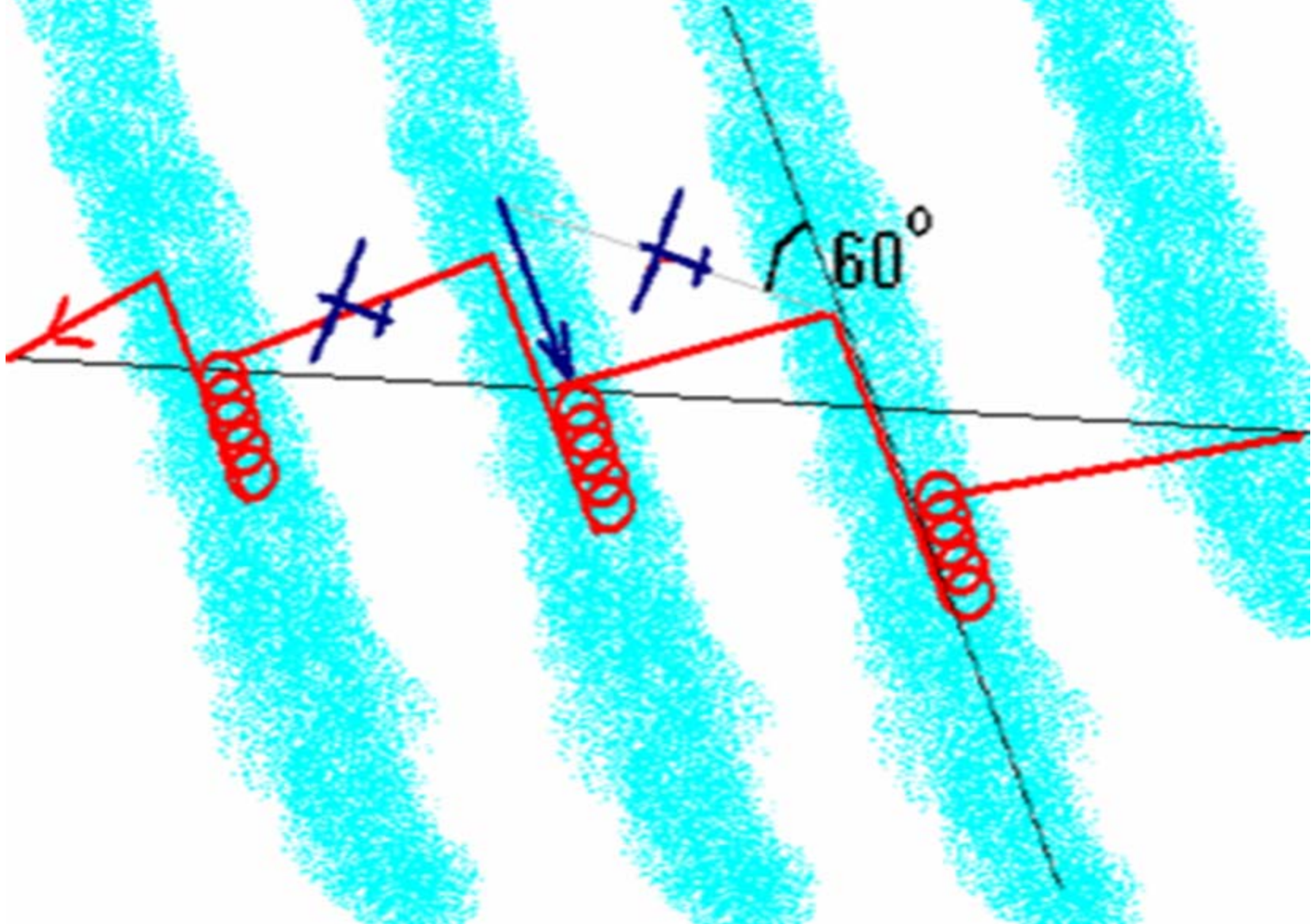


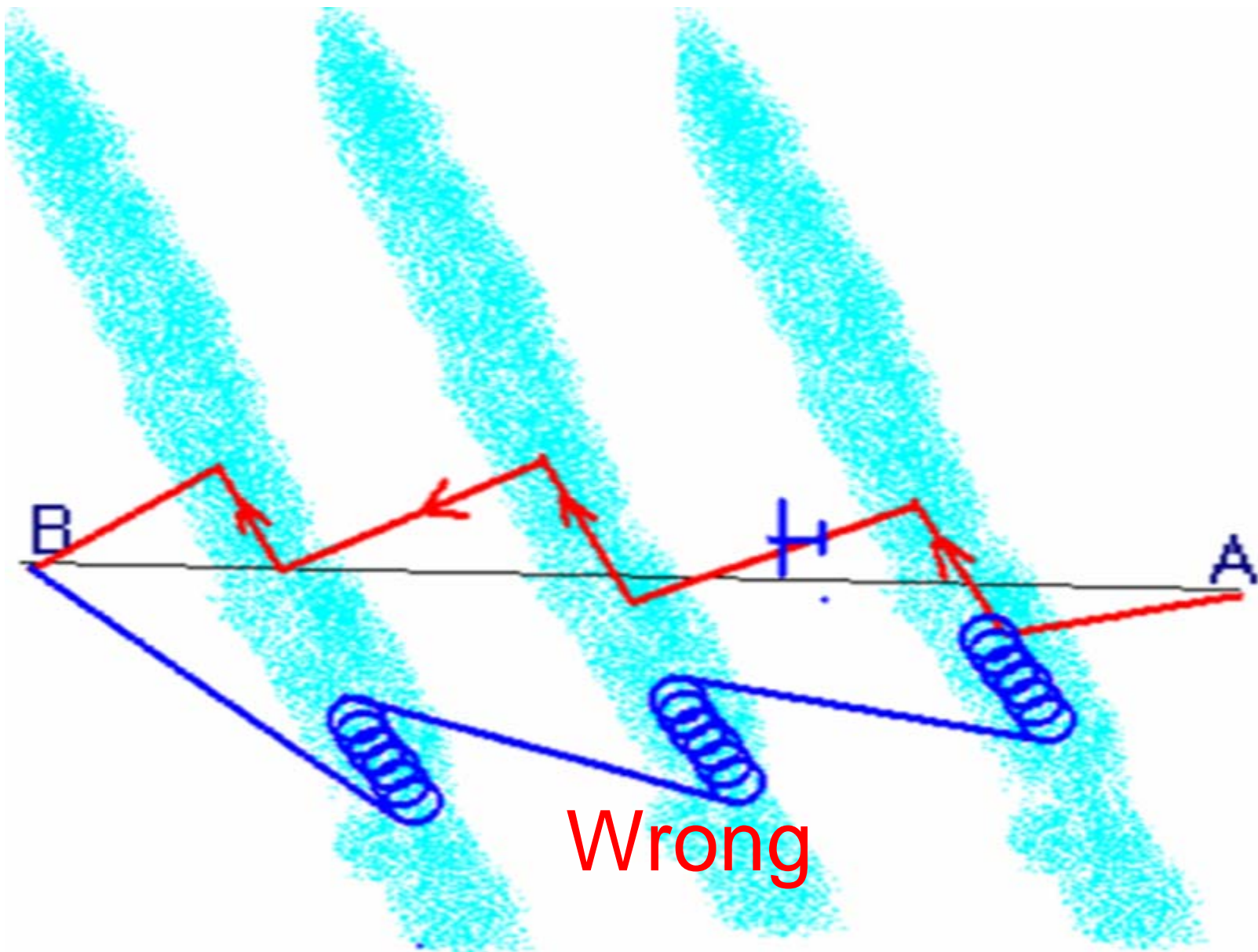
How to jump between
cloud streets



60 degrees is the best angle

Stay upwind





What about Thermals

Thermals

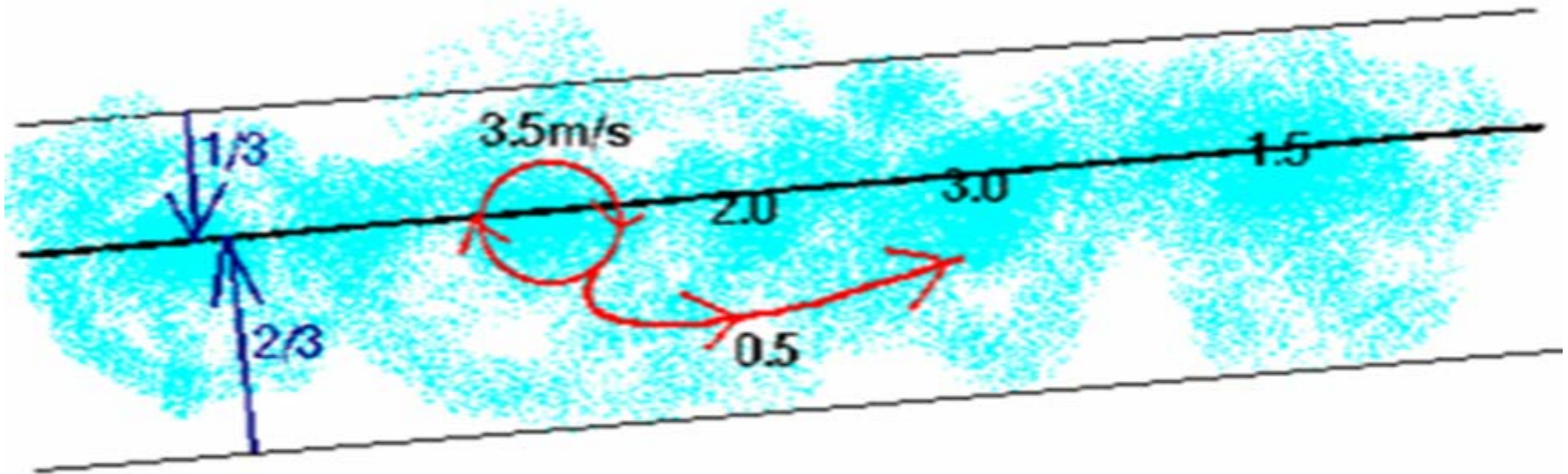
Lift areas

Sink areas

Low sink area

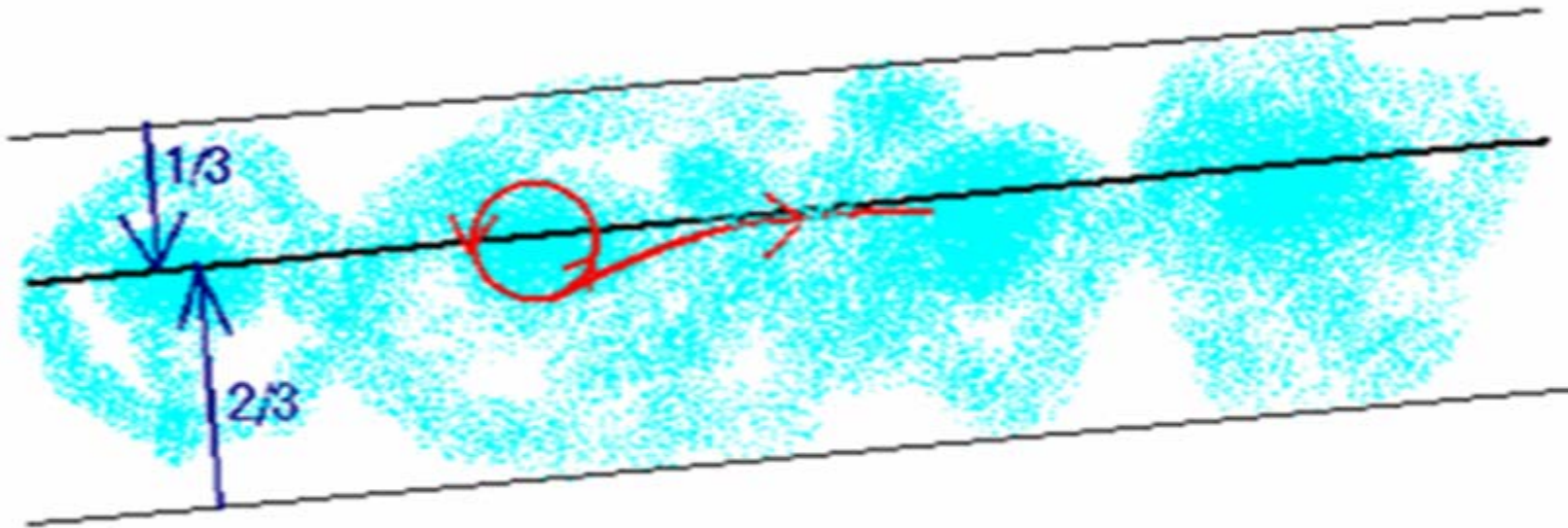
WRONG

Loss of efficiency



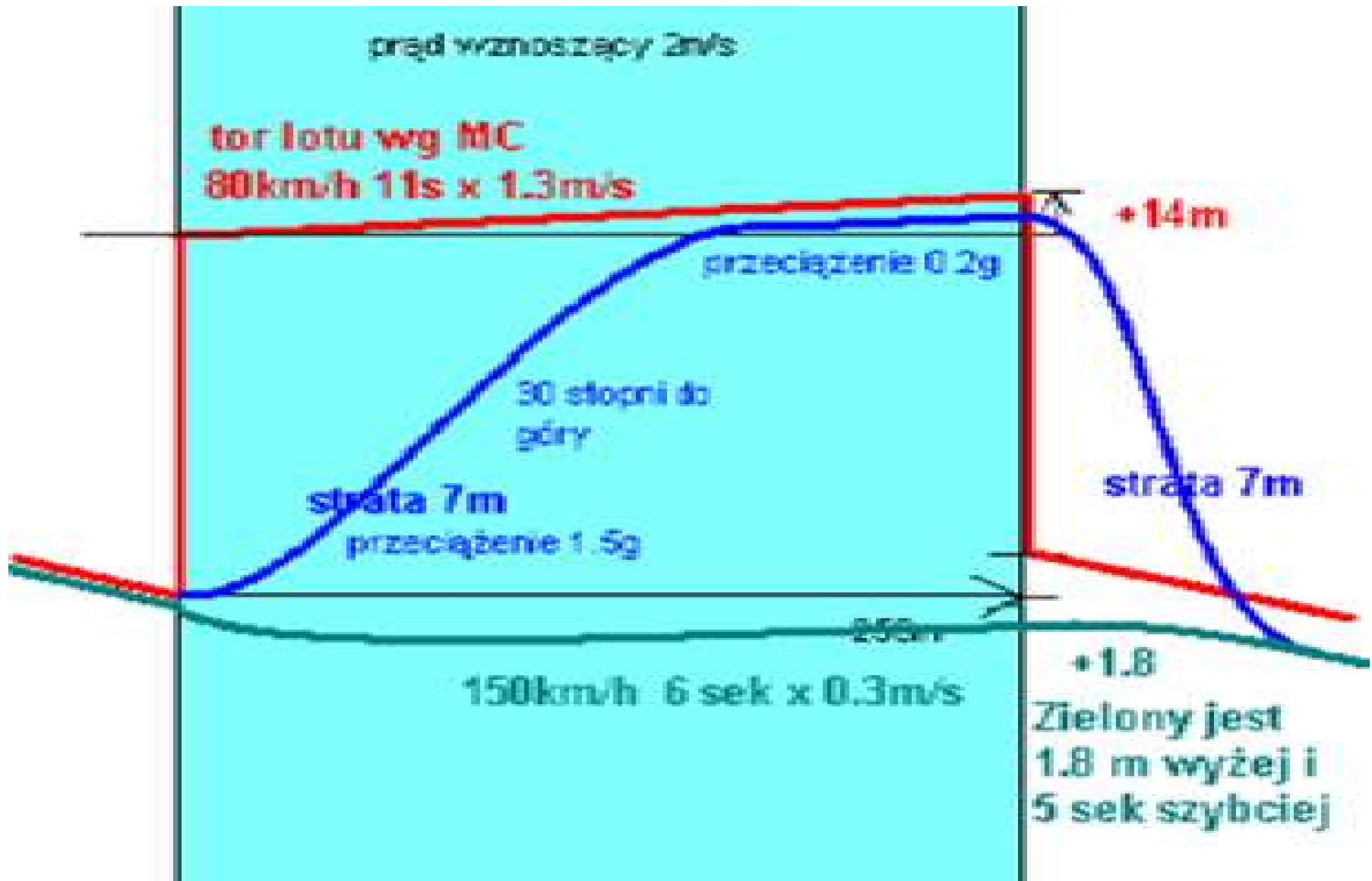
UNSAFE

10% gain if we are able to recognize
when and how to leave thermal



SAFE

We can gain or lose
5 sec in each pull up



If we stop in thermal our forward
speed is **0 km/h**

If we stop, we lose 100% forward
speed.

Will you trade loss of 100% for
90%

90% loss is better than 100%

We can cut 10-20% of our loss if we

centre thermal on first try.



Thermal technique must be perfect

10% gain if we stay within 65% of cloud base.



But what about our 100% how to keep it.

DO NOT TURN

A white glider is shown in flight, soaring over a lush green valley. The background features rugged, reddish-brown rock formations and cliffs. The glider's wings are spread wide, and it appears to be in a steady, forward-moving path.

In perfect no wind condition if we don't turn in thermal our speed will be equal to indicated speed.

The best method to have a good speed

DO NOT TURN

DO NOT TURN.??????

Wave, Ridge, Cloud streets
Convergence, Sea Breeze



Extend your glide as much as possible

Fly energy lines

Fly lift areas



If you have to fly through sink

fly through lowest sink areas

DO NOT TURN

Useful ideas:

- If you're in crisis - your opponents may have hard time also.
- It is better to have 1 kt in the air than 5 kts on the ground.
- If you are alone:
 - you are the fastest
 - the slowest,
 - you took a different route.
- Don't waste your time to confirm which ones apply to you, just fly .
- Fly according to the weather not to other contestants.

„As long as you are in the air
anything can happen”

„There is time when you race
and there is time when you
stay in the air”

ALWAYS FLY THE GLIDER :)