# NOTES ON 'TRANSITIONS' LEADING INTO FLIGHT ANALYSIS



#### Module 4a

**Transition:** referring to that part of a flight which entails getting from one place to another (in the most efficient way through effective height management)

Typical senario's that may be encountered on a cross country and often constitute the crux points of a flight.

- Valley crossings when in the mountains/hills
- Transiting from high ground/hills into the flats
- Inter thermal transitions
- An example which illustrates all three in a single flight from the Dales.



# Valley crossings (1)



# Valley crossings (2)



- Leave with height or a strong climb
- Try to leave from the best place on the ridge
- At base stay with climb and drift even at zero
- Work out the best line and place to contact the next ridge/high ground
- Once lift breaks up GO! Endure any strong sink use speed
- In the hills especially the higher you leave with the less the terrain drain.

# Flying from high ground into the flat

#### (Examples: Leaving the Lakes to the east, Dales into VoY, Peak District, North Yorks moors, etc)

- Descending air suppresses thermal activity
- Nature of the terrain changes brown moors/rock to more intensively farmed field networks

- Leave with height and if possible a working cloud.
- Try to have something to aim for
- Try to leave down a finger of high ground
- A gaggle is useful for searching again after the transition
- Use your glide field to find best line and best speed to fly.
- Be cautious give up your height grudgingly
- Before you get too low aim to be in an area where the best thermal chances may be
- Be prepared to thermal zero's
- Change gear for the flats once
- Established





# Flight data from transition section (reiteration)



Average glide ratio	13:1
Worst GR (at start)	8:1
Average speed	27kph
Max speed	52 kph
Mini top up points	3
Weak lift gain 74 + 11 ·	+ 10= 95M
essons?	

- Expect it to be a challenging section
- Expect thermal supression weak
- Worth working/drifting in any weak lift
- Don't dither in sink push on
- Work the speed bar
- Choose what looks a favourable line

# Inter thermal transitioning

- Clouds are stepping stones across the sky
- They have a life cycle
- Thermal gapping is the norm, but streeting can co-join them into strings
- Cloudbase and thermal strength generally determine frequency
- The time of day will determine <u>frequency</u>
- The airmass and solar heating will greatly impact on thermal development
- Most UK skies are a lot messier than this photo and it's not always easy to see the patterns.
- Blue days make it a lot harder again

What time of day (roughly) would you put this at?

# Thermalling under a good sky into sea breeze front



..... and now for something you may vehemently disagree with!



Transiting from thermal to thermal

- Choose your time to go stay with a cloud whilst it's still active
- Have a planned aim point another cloud, birds, gliders, good ground source
- Expect to encounter sinking air increase/decrease speed to get best glide
- Have some idea of the frequency can mark/note your start point on your gps
- Slight weave if on you're own; a gaggle needs to form line abreast not too far apart
- Watch for the troughing out and go to trim start to work/search any zero's
- Note frequency for future reference

# Notes on encountering thermals

# RIDGE, HILL or MOUNTAIN

• They feel stronger and punchier because:

i) they have already released from the source (but maybe not the hill)

ii) they are being accelerated by the dynamic ridge lift

- They can flatter to deceive once committed they can weaken and leave you stranded
- They can stay attached to the parent hill top
- The lee side terrain can be a great help or put you down quickly.

Examples of good lee terrain would be: Clough to Barton, Barton to the M6,

Dodd to Gt Whernside

Examples of bad lee terrain would be: Semerwater to Stags, Whitestones to Mallerstang

#### FLATLAND

- Weak low down if in early stages of release
- Broken, rough, punchy once released and still disorganised
- Require a determined and persistent approach.
- Useful to know albedo value of different type of surface
- The trigger is equally important and essential to thermal release

What can you learn from analysing your and other peoples flights?

# Part 1: emotional reflection

Soon after the flight , whilst it's still fresh. Think about how you felt, your decisions, dealing with a collapse, if you got sucked into cloud, mistakes , ability to think clearly etc . AND re-live the pleasure, satisfaction, achievement.

# Part 2: analytical reflection (you)

Study your tracklog. What does it say about your thermalling, the line you took. Can you can locate thermal hotspots for future reference?

# Part 3: analytical reflection (compared to others)

Overlay your flight against others from the same site that day. Various programs will provide information to allow you to make comparisons, do fly through's against others . Why might they have gone further? Been faster? Climbed quicker?

# Thermalling technique – effective pilots tend to have the following traits:



- Good at locating the next source of lift the best place to be
- Get established quickly into a thermal
- Centre and hold the drift line of the thermal well
- Can circle equally well to the left or right
- Get into sync with the day right pace and line
- Are able to work and hang onto weak, broken lift low down
- Have a lot of confidence in their chances of success.

# The UKPGXCLeague is a huge data base of flights worthy of study.

### FLIGHTS

- There are estimated to be over 50,000 flights covering the whole of the UK alone
- You can filter by date, area, club etc
- There is a replay, GE, charts and stats pages .... plus odd other features
- Each flight can be downloaded and studied with whatever software you have from REPLAY, DATA ANALYSIS, THERMAL TECHNIQUE, TRACK to TERRAIN etc
- Good to compare flights on the same day from the same site.
- Skyways on xcplanner has most flights from 2005 2011.
- You can drag and superimposed your own flight onto xcplanner
- You can mark likely good (thermal) spots and equally the (bad) sinky places that have been found by the numerous previous flights.

#### WEATHER

- You can get hold of the past two years (minimum) hourly synoptics, meteosat pics and rasp shots from the archive.
- \* Regard the weather as the canvas onto which you overlay the flights

# Actually analysing flight data is a huge topic and a subject in its own right

( ..... and it may not be for everyone)

## SKYWAYS from XCplanner

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- 16:30

# End of Module