

- If you can see more and more of the terrain on the other side.
- Always approach at an angle to allow turn toward lower terrain.
- Can commit to cross the ridge when in a position that allows a power-off dive to reach the top of the ridgeline.

10. FLYING CANYONS

- Path through mountain drainage – Fly the updraft side.
- Avoid shadows if possible—usually the downdraft area. If can't gain altitude on one side, try the other.
- Turn around prior to the point-of-no-return; gain additional altitude to continue.
- Avoid the center – wind shear possible and poor position to turn around.

11. ESCAPING DOWNDRAFTS

- Transition to Vx.
- Turn toward lower terrain.
- If the rate-of-descent exceeds the expected rate-of-climb at that density altitude, transition to cruise airspeed (or maneuver speed, if turbulent) to escape the downdraft faster with less overall altitude loss.

12. TURBULENCE PROCEDURES

- Reduce to Va.
- Visualize what is causing the turbulence and reposition to avoid.
- Maintain aircraft control – Fly attitude, not altitude.

13. HAZARDS

- Flying Blind – Climb 2,000 feet above the highest terrain
- Snags – Avoid flying within 100 feet above timber.
- Power lines may be invisible, look for support structures.
- Dirty windshield – especially when the sun is at a low angle to the horizon.

14. CONTOUR SEARCH

- Spacing interval from terrain – 500-feet vertical and 500-feet horizontal. Avoid gullies and narrow ravines – cut across and mark map for Drainage Search. Caution-snags and power lines.
- Search in good light – shadows eliminate contrast.
- Risk factors – wind and precipitous terrain.
- Start at top – fly each contour at CONSTANT altitude, then drop down 500 feet.

15. DRAINAGE SEARCH (OVER-THE-TOP)

- Check for obstacles, power lines (structures).
- Approach top at slowest, safe speed.
- Use flaps and reduced power.

16. FINDING AND INVESTIGATING A CRASH

- Mark and write down position and altitude (use GPS or prominent landmark).
- Course reversal – Teardrop pattern (avoid race-track pattern).

17. DEMONSTRATION OF “POINT-OF-NO-RETURN”

- Fly up canyon (plenty of room to turn around).
- Have student determine point-of-no-return (should be no lower than 400- to 500-feet AGL).
- Reduce power to idle and turn around – determine terrain clearance at end of turn.

19. BOX CANYON EMERGENCY TURN

- Should **never** need this maneuver if you follow the basic premises!

- Slow down – Trade extra airspeed for altitude.
- Make steep bank.
- Use flaps – If not structurally limiting (turbulence), or if there are no altitude constraints.
- If airspeed is SLOW, make steep bank with ½ flaps. If there is sufficient altitude, trade altitude for steeper bank (need to descend to maintain airspeed).

20. PRECAUTIONARY / FORCED LANDING

- Precautionary – Mechanical problem, un-forecast weather, wind, turbulence.
- Forced - Engine Failure – best glide, select spot, troubleshoot as time permits.
- Keep the vital structure intact.
- Tree landing – Normal landing configuration – don't drop it in. Human body cannot withstand compression forces as well as lateral forces.

21. FALSE-HORIZON ILLUSION

- Illusion due to gradually climbing terrain that is used as the horizon.
- Use base of mountains 6-8 miles away to represent horizon.
- May have to use peripheral vision for base of mountains.

22. TRACKING RIVER

- Observe aileron/rudder coordination.
- Smooth transition from bank-to-bank.

23. CHECK OUT AIRSTRIP

- Surface condition – frost (slippery), wet spots, where everyone else touches down.
- Game or livestock.
- Other aircraft operations.
- Planned approach (and departure) path.
- Possible emergency landing spots for approach and departure.
- Miscellaneous – gradient, wind direction and velocity, surrounding terrain & obstacles.

24. LANDINGS

- Airspeed control.
- Eliminate visual illusions – Spot Method to determine use of power.
- Constant pitch attitude and power for constant performance.
- Windscreen mark aligned with aiming point.
- Non-mechanical slip to maintain runway alignment (without thinking of a slip).
- Landing distance increases by square of the ratio of the touchdown speed to the normal touchdown speed. 10% increase in approach speed = 21% increase in landing distance.
- Always use the same indicated airspeed for landing at high altitude airports.

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