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Part I – Basic Climbing and Descending

- Review Attitudes and Movements
- Basic Climbs and Leveling Off
 - Attitude, Power, Trim (APT)
- Basic Power-off Descents and Leveling Off
 - Power, Attitude, Trim (PAT)
- Instruments
- Summary and Questions
- Pre-Flight Briefing

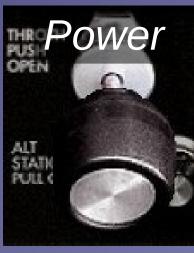
Review

- How do we establish a nose-up/down attitude?
- What external references change how?
- Which instruments change how?
- How do we maintain heading in straight flight?
- How do we maintain altitude in level flight?



Establishing a Basic Straight Climb

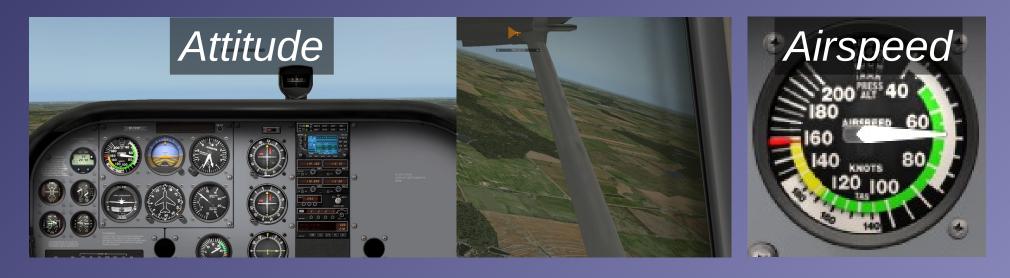






- In cruise-attitude lookout ahead and above
- Establish a nose-up attitude
- Apply full power maintaining selected nose-up attitude
- Keep straight and control yaw with rudder
- Trim and continue to monitor heading, airspeed and altitude

Maintaining a Basic Straight Climb



- Adjust attitude to attain desired climb airspeed
- Re-trim after complete attitude adjustment
- Continue to lookout and monitor heading, airspeed and altitude

Leveling Off from a Basic Straight Climb



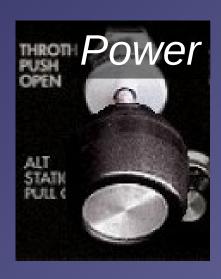




- Establish cruise attitude at desired target altitude
- Accelerate to cruise airspeed
- Reduce power maintaining cruise attitude
- Keep straight and control yaw with rudder
- Trim and continue to monitor heading, airspeed and altitude



Establishing a Basic Straight Descent







- In cruise attitude lookout ahead and below
- Reduce power to idle (power-off descent)
- Keep straight and control yaw with rudder
- Decelerate to descent airspeed maintaining cruise attitude
- Establish nose-down attitude and trim



Maintaining a Basic Straight Descent



- Adjust attitude to attain desired descent airspeed
- Re-**trim** after complete attitude adjustment
- Continue to lookout and monitor heading, airspeed and altitude

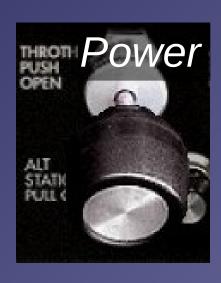
Estimating the Power-Off Glide Path



- References that move up cannot be overflown
- References that move down can be overflown
- References that remain steady are on glide path
- Farthest glide is achieved at best glide speed 68 KIAS



Leveling Off from a Basic Straight Descent







- In nose-down attitude lookout ahead and above
- Increase power to cruise power setting
- Establish cruise attitude and accelerate to cruise airspeed
- Keep straight and control yaw with rudder
- Trim and continue to monitor heading, airspeed and altitude

Instruments



Airspeed Indicator



Vertical Speed Indicator



Altimeter

- Airspeed indicator is the main reference instrument
- Monitor airspeed, vertical speed and altitude

Summary / Quiz

- Mentally perform a basic climb and level off and state all required actions. (APT)
- Mentally perform a basic power-off descent and level off and state all required actions.
 (PAT)
- How can we confirm the correct glide-path during a descent visually?

Pre-Flight Briefing

- Exercise
- Training Area
- Departure and Arrival Procedures
- Weather Briefing / NOTAMs
- Aircraft and Documents
- Time and Fuel Requirements
- Safety Considerations and Responsibilities

Additional Materials

- Additional materials for climbing and descending
- Flight Instructor Guide Exercises 7 and 8
- Flight Instructor Guide Lesson Plans 2, 3 and 4