VICTORIA FLYING CLUB

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Part II – Climbing and Descending

- Departure and Approach Climbs and Descents
- V-Speeds (POH)
- Flaps
- Balked Landings – Power, Attitude, Trim

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Review Basic Climbing and Descending

- Mentally perform a **basic climb** and **level off** and state all required actions.
- Mentally perform a **basic descent** and **level off** and state all required actions.
- How do we maintain our **airspeed** during a climb?
- How do we estimate our **glide path** during a descent?

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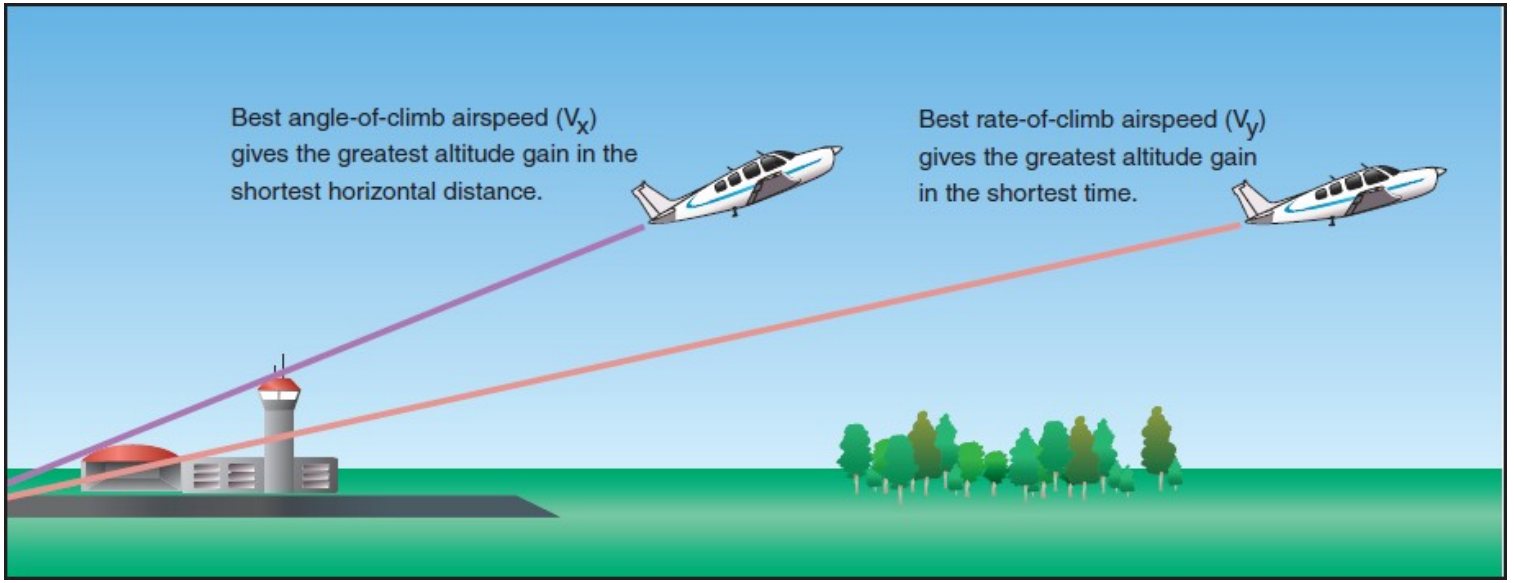
Departure and Cruise Climbs



- Best **rate** (*Vx*)– minimizes climbing **time**
- Best **angle** (*Vy*) – ensures best obstacle **clearance**
- **Normal** – improves forward **visibility** and engine **cooling**
- **En-Route** – targets **convenience** and **comfort**
- Prolonged climbs require heading or attitude changes for **lookout**

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Reference Climb Airspeeds

AIRSPEEDS FOR NORMAL OPERATION

Unless otherwise noted, the following speeds are based on a maximum weight of 2550 pounds and may be used for any lesser weight.

Takeoff:	
Normal Climb Out	75-85 KIAS
Short Field Takeoff, Flaps 10°, Speed at 50 Feet	56 KIAS
Enroute Climb, Flaps Up:	
Normal, Sea Level	75-85 KIAS
Normal, 10,000 Feet	70-80 KIAS
Best Rate-of-Climb, Sea Level	74 KIAS
Best Rate-of-Climb, 10,000 Feet	72 KIAS
Best Angle-of-Climb, Sea Level	62 KIAS
Best Angle-of-Climb, 10,000 Feet	67 KIAS

- Reference climb airspeeds can be found in the **POH** under *Section 4* **Normal Procedures**

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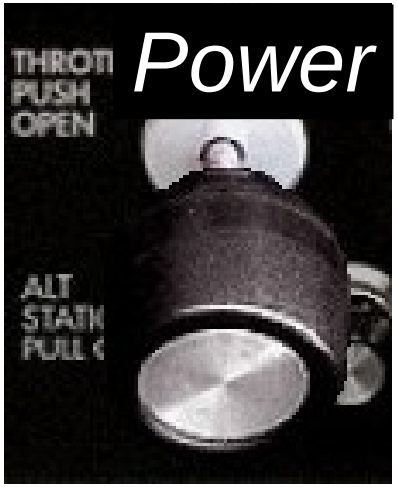
Establishing a Power-on Descent



- In cruise attitude **lookout** ahead and below
- Reduce **power** for estimated **descent airspeed**
- Keep straight and control **yaw** with **rudder**
- Decelerate to **descent airspeed** maintaining attitude
- Establish **nose-down attitude** and **trim**

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Maintaining a Power-On Descent

- Monitor **references**, **descent airspeed** and **rate of descent**
- Adjust **power** and **attitude** to attain desired **descent airspeed** and **rate of descent**
- Re-**trim** after power and attitude adjustments

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Reference Descent Airspeeds

Landing Approach:	
Normal Approach, Flaps Up	65-75 KIAS
Normal Approach, Flaps 30°	60-70 KIAS
Short Field Approach, Flaps 30°	61 KIAS
Balked Landing:	
Maximum Power, Flaps 20°	60 KIAS

- Reference descent airspeeds can be found in the **POH** under *Section 4* **Normal Procedures**

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Best Glide Airspeed

AIRSPEEDS FOR EMERGENCY OPERATION

Engine Failure After Takeoff:	
Wing Flaps Up	70 KIAS
Wing Flaps Down	65 KIAS
Maneuvering Speed:	
2550 Lbs	105 KIAS
2200 Lbs	98 KIAS
1900 Lbs	90 KIAS
Maximum Glide	68 KIAS
Precautionary Landing With Engine Power	65 KIAS
Landing Without Engine Power:	
Wing Flaps Up	70 KIAS
Wing Flaps Down	65 KIAS

- Best **glide** airspeed for power-off descents can be found in the **POH** under *Section 3* **Emergency Procedures**

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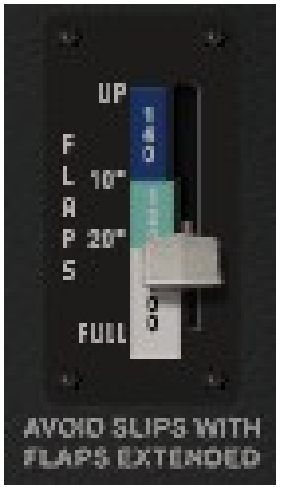
Operating Flaps



- Operate flaps only while **airspeed** in **white arc**
- Flaps permit **lower airspeeds** and **steeper angles** during climbs and descents
- Flaps support maintaining **terrain clearance**
- Retract **flaps in stages** within **white arc**

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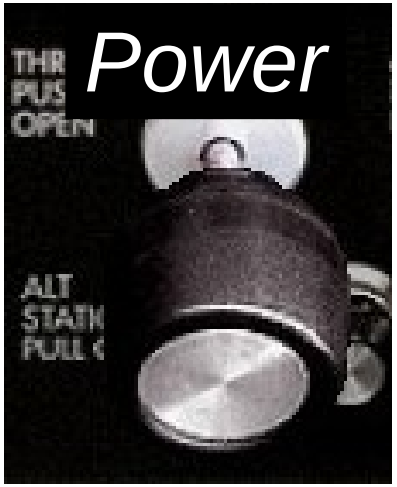
Balked Landings



- Apply **full power**
- Establish and maintain **nose-up attitude**
- Retract **flaps in stages**
- **Trim** and continue to monitor **climb airspeed**
- Consider **ground effect** during go around

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Summary / Quiz

- What is the Vx for a Cessna 172S?
- What is the Vy for a Cessna 172S?
- Mentally perform a **power-on descent** and **level-off** describing all required actions.
- Mentally perform a **balked approach** describing all required actions.

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Pre-Flight Briefing