VICTORIA FLYING CLUB

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Slow Flight

- Review Flight for Endurance
- Definition and Motivation
- **Slow Flight** in Clean and Landing Configuration
- **Slow Flight** Climbs, Descents and Turns
- Summary and Questions
- Pre-Flight Briefing

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Review Flight for Endurance

- *Attitude plus power equals performance!*
- Mentally configure the aircraft for maximum endurance flight and state all observations and required actions.
- What particular observation applies to the control inputs compared to normal cruise flight?

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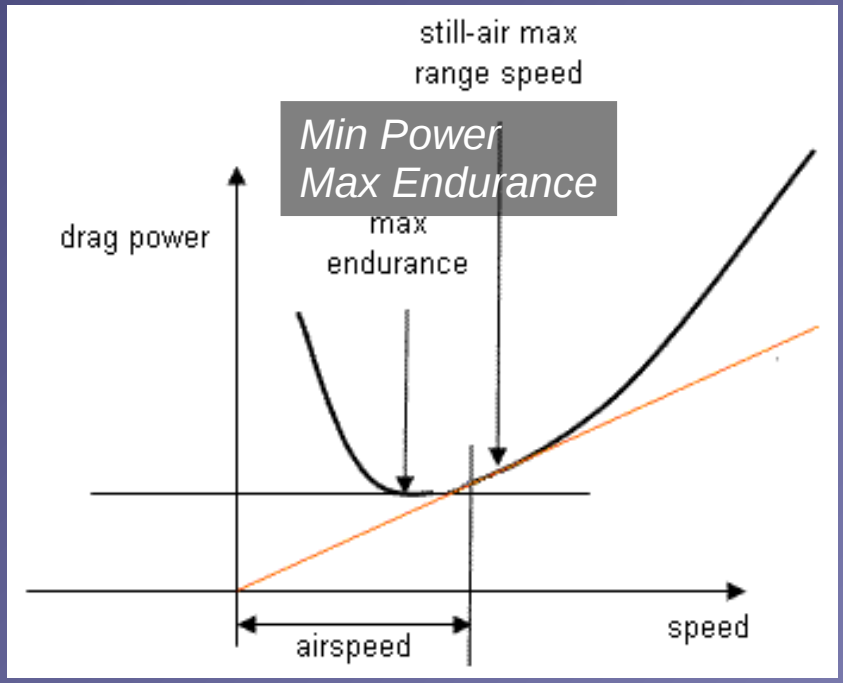
Definition and Motivation



- Flight at airspeeds in the **range** **below** the **maximum endurance** speed down to just above the stalling speed
- Dominating **induced drag** requires **more power**
- **Control** **surfaces** are **less effective** at slow airspeeds
- (Soft Field) **Take-offs**, **Landings** and **Go-Arounds**

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Safety Considerations

- High **nose-up** attitude maneuver
- Limited forward visibility
- **HASEL**, **lookout** ahead and below
- **Maintain** good **lookout** during maneuver
- **Attitude** and **power** is to be precisely controlled
- **Yaw** is to be controlled precisely with **rudder**
- **Remain coordinated** at all times

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Entering Slow Flight (Clean) from Flight for Maximum Endurance

- Configure the aircraft for **maximum endurance** flight
- Apply **elevator back-pressure** and establish a **more nose-up** attitude to **decelerate** into the slow flight range
- **Increase power** as required to keep the airspeed stable controlling **yaw** with **rudder** maintaining **altitude** and finally **trim**

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Entering Slow Flight (Clean)

- **Reduce power** and **decelerate** into slow flight range
- Apply **elevator back-pressure** and **increase nose-up attitude** as required to maintain **altitude**
- **Increase power** as required to keep the airspeed stable controlling **yaw** with **rudder** maintaining **altitude** and finally **trim**

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Maintaining Slow Flight (Clean)

- **Stall warning** audible and **ailerons** are much **less responsive**
- More **power** in slow flight produces more **yaw** and requires **continuous rudder input** to remain **coordinated**
- *Attitude plus power equals performance!*
- **Pitch** controls **airspeed**, **power** controls **altitude**

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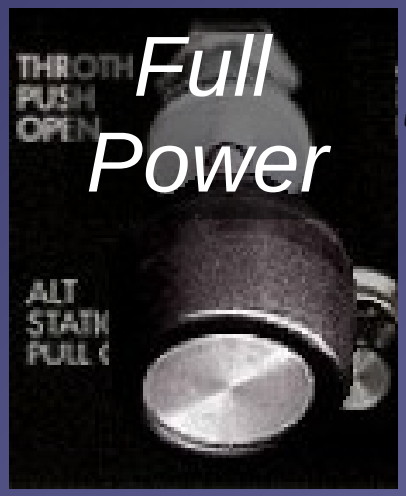
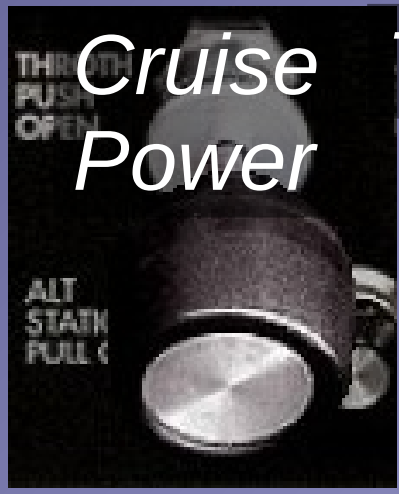
Recovering Slow Flight (Clean)





- Apply **full power** controlling **yaw** with **rudder** to remain **coordinated**
- Apply **elevator forward pressure** to lower the nose *gradually*
- Establish **cruise attitude** and **accelerate** to **cruise airspeed**
- **Reduce power** to **cruise power** setting and finally **trim**

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Entering Slow Flight (Flaps)

- **Reduce power** and **decelerate** into slow flight range
- Apply **elevator back-pressure** to **increase nose-up attitude** as required to maintain **altitude**
- Extend **flaps in stages** to desired setting while in **white arc**
- **Increase power** as required to keep the airspeed at the bottom of the **white arc** controlling **yaw** with **rudder** maintaining **altitude** and finally **trim**

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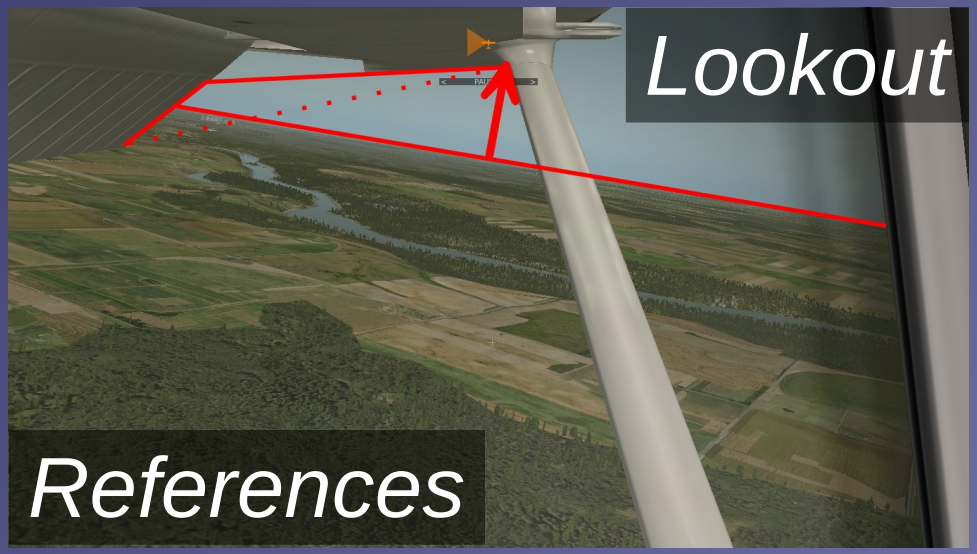
Maintaining Slow Flight (Flaps)



- Additional **flaps** create **more drag** and require **more power**
- **Stall warning** audible and **ailerons** are much **less responsive**
- More **power** in slow flight produces more **yaw** and requires **continuous rudder** input to remain **coordinated**
- *Attitude plus power equals performance!*
- **Pitch** controls **airspeed**, **power** controls **altitude**

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Recovering Slow Flight (Flaps)

- Apply **full power** controlling **yaw** with **rudder** to remain **coordinated**
- Apply **elevator forward pressure** to lower the nose *gradually*
- Raise **flaps in stages** to up while in **white arc**
- Establish **cruise attitude** and **accelerate** to **cruise airspeed**
- **Reduce power** to **cruise power** setting and finally **trim**

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Climbs and Descents in Slow Flight

- *Attitude plus power equals performance!*
- **Increase power** as required to initiate **climb**
- **Reduce power** as required to initiate **descent**
- **Adjust attitude** to maintain (slow flight) **airspeed**

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Turns in Slow Flight

- **Ailerons** are **less responsive** and cause **more adverse yaw**
- **More rudder** is required to compensate **yaw**, support **turns** and remain **coordinated**
- Establish and maintain banked attitude (up to ***30°***) with ailerons and **continuous rudder support**
- Right turns require more rudder than left turns

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Summary / Quiz

- Define slow flight and give examples for when slow flight is applicable.
- Mentally enter a slow flight in landing configuration from cruise flight and state all observations and required actions.
- Mentally perform a turn to the right in slow flight and state all observations and required actions.
- Mentally recover from a slow flight in landing configuration and state all observations and required actions.

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Pre-Flight Briefing

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

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Slow Flight Ex. 11 LP. #5

- Objective
- Review
- Motivation
- Howto
  - Entry, Maintain, Recovery
- Summary / Questions
- Preflight Briefing

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Familiarization Demonstration

- Employ an obvious and dramatic example
- Stall: Power Idle, increase nose-up attitude while maintaining straight-and-level, control yaw and demonstrate falling leaf / nose-drop