



VICTORIA FLYING CLUB

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- Bookings, Questions



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# Illusions Created by Drift

- Review Circuits and Slipping
- Definition and Motivation
- **Visual Illusions – Low Flying**
- Summary and Questions
- Pre-Flight Briefing

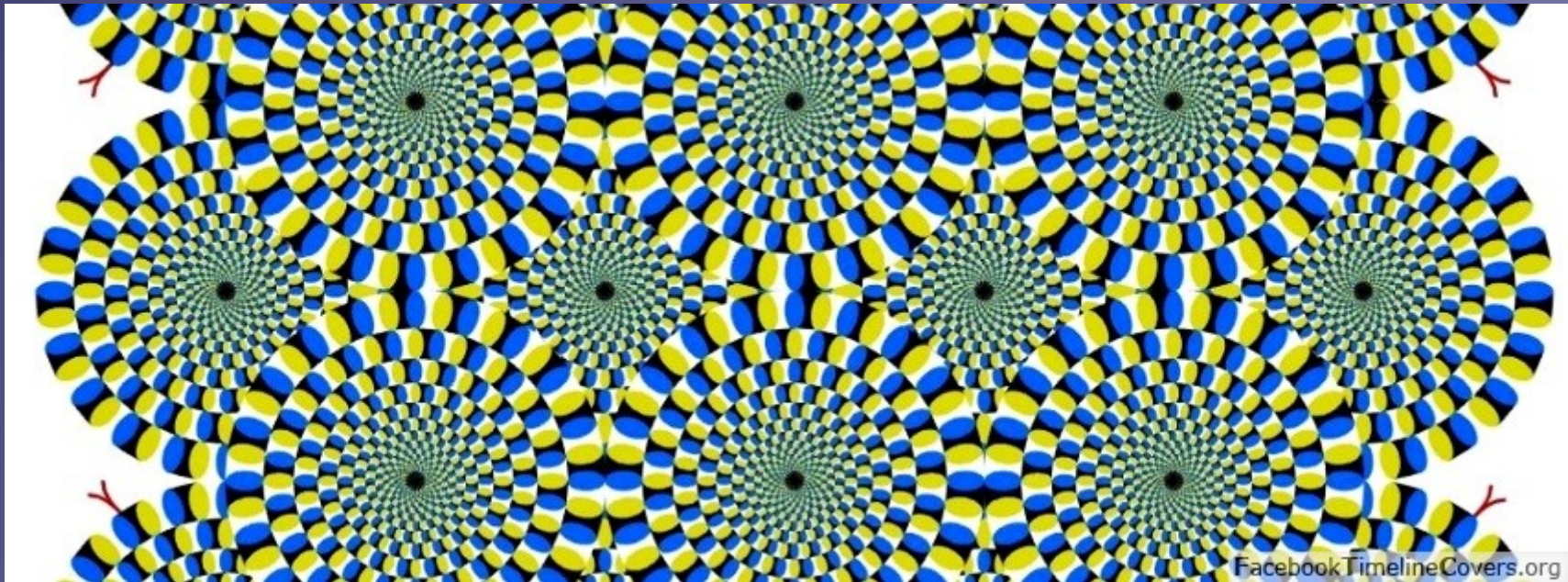


# Review Circuits and Slipping

- What are the legs of a standard aerodrome traffic circuit?
- What would be the ideal direction of the wind with respect to the circuit and why?
- What is slipping and how do we recognize it?
- Where would the nose be pointing to in a slipping and skidding turn, respectively?
- How do we correct an inadvertent slip or skid?



# Definition and Motivation



- **Visual cues** may lead to *wrong* assumptions and reactions
- **Drifting at low altitudes** due to **wind** may create **visual illusions**
- Knowledge about illusions and proper reactions increases safety
- Low-level flight: **circuits, arrivals and departures, low ceilings** (*Special VFR*), **forced or precautionary landings**





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# Downwind Flight

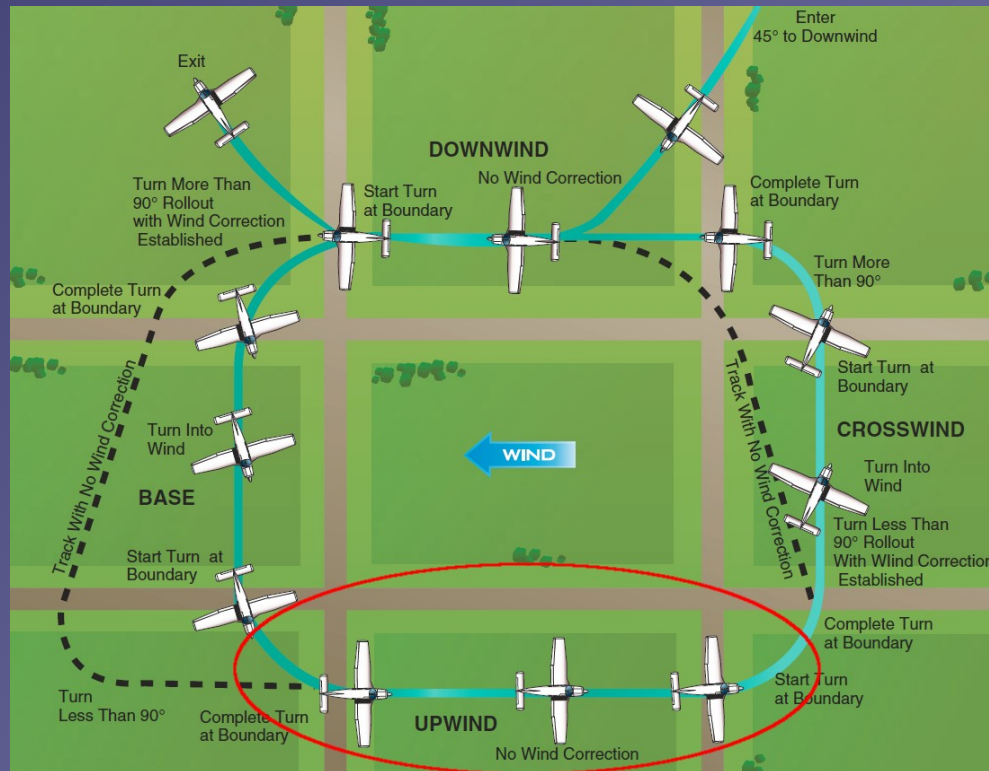


- *Illusion* of being too **fast**, *false* desire to decrease power
- Trust your **airspeed**, **tachometer** and **engine sound**
- **Avoid** inadvertent entry to slow flight or stall (bottom of arcs)



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# Upwind Flight



- *Illusion* of being too slow, *false* desire to increase power
- Trust your **airspeed**, **tachometer** and **engine sound**
- **Avoid** exceeding any limitations (red lines)



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# Downwind Flight



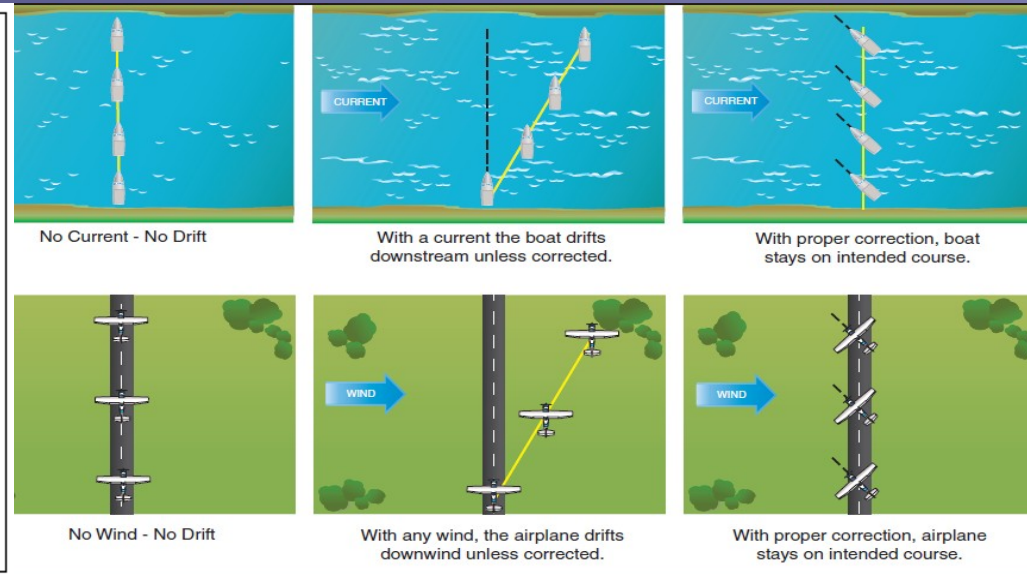
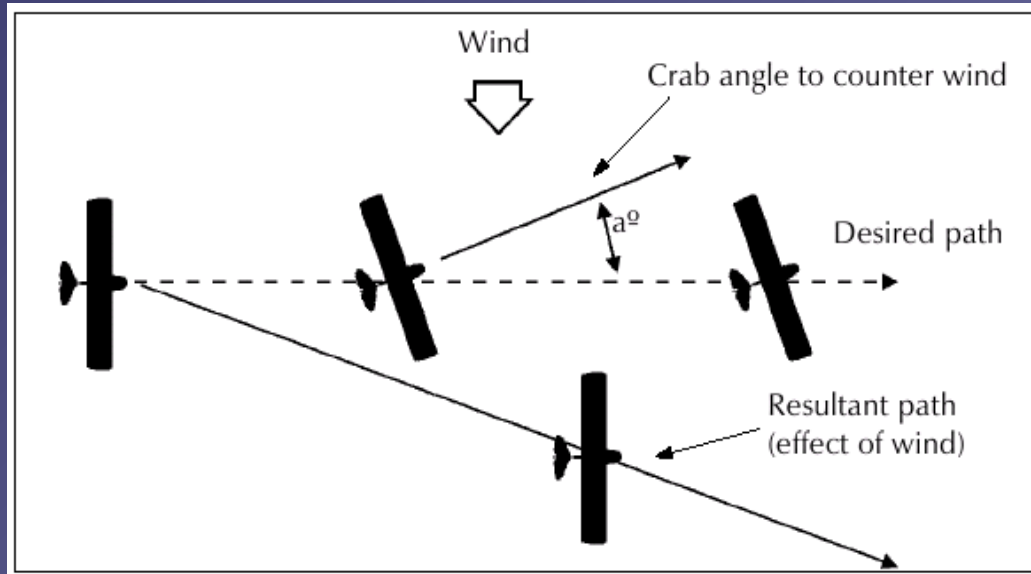
- *Illusion* of being too **fast**, *false* desire to decrease power
- Trust your **airspeed**, **tachometer** and **engine sound**
- **Avoid** inadvertent entry to slow flight or stall (bottom of arcs)





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# Crosswind Flight



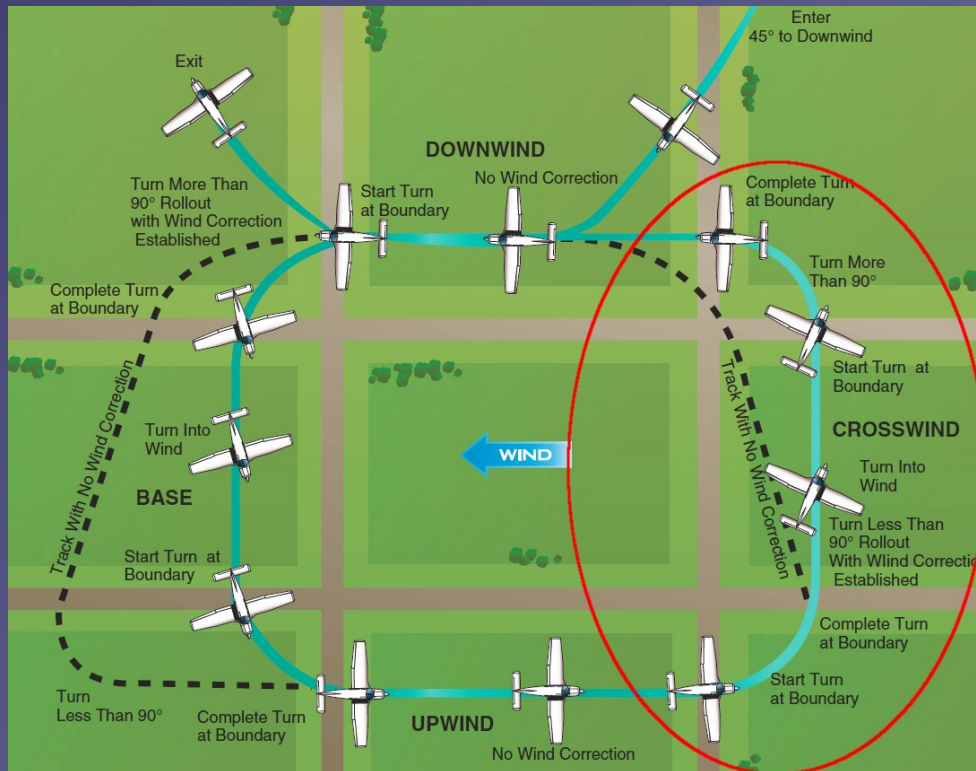
- *Illusion of incorrect track, false desire to adjust heading*
- Trust your **path** over ground, verify **landmarks** and **chart**
- **Avoid** inadvertent drift off-course





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# Turn – Upwind to Downwind



## Slipping Turn Overhead



- *Illusion* of slipping into the turn, *false* desire to apply rudder
- Trust your **turn coordinator** and resulting ground track
- **Avoid** inadvertent skid

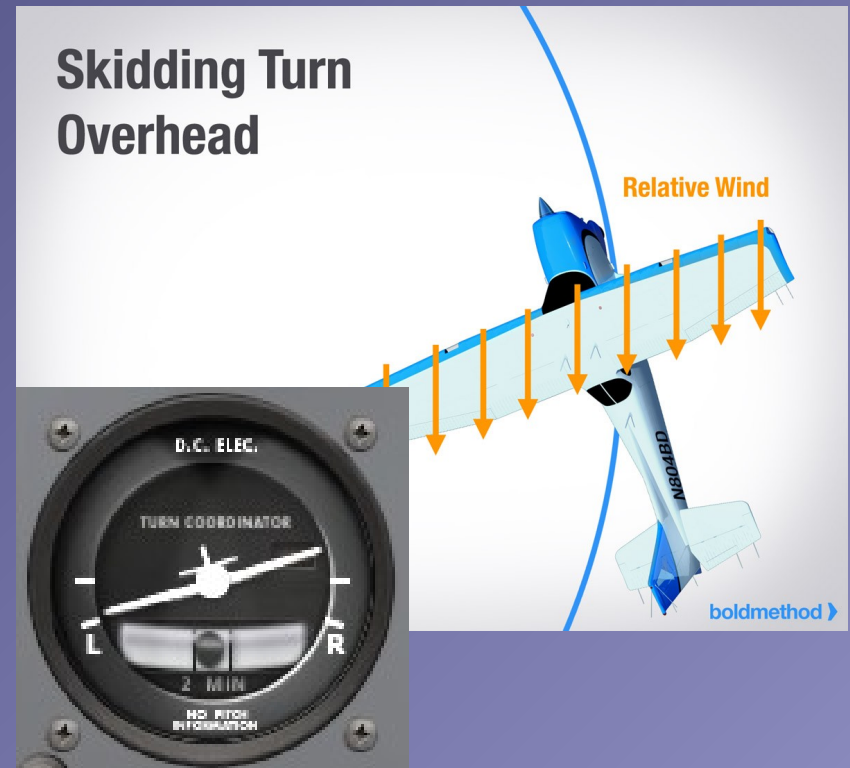


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# Turn – Downwind to Upwind



## Skidding Turn Overhead

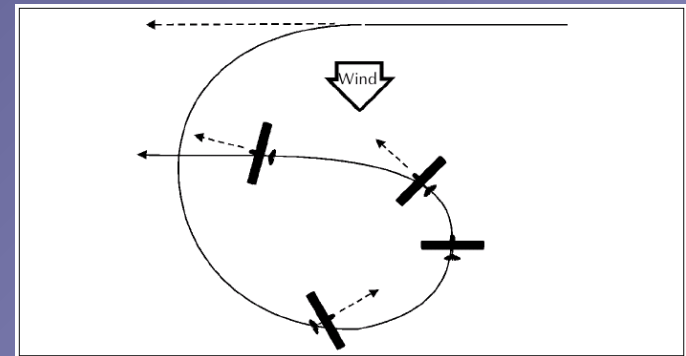
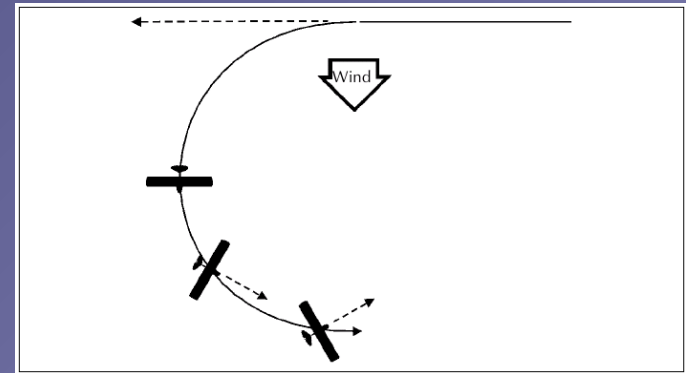


- *Illusion* of **skidding** into the turn, *false* desire to apply rudder
- Trust your **turn coordinator** and resulting ground track
- **Avoid** inadvertent slip



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# Turn – Crosswind

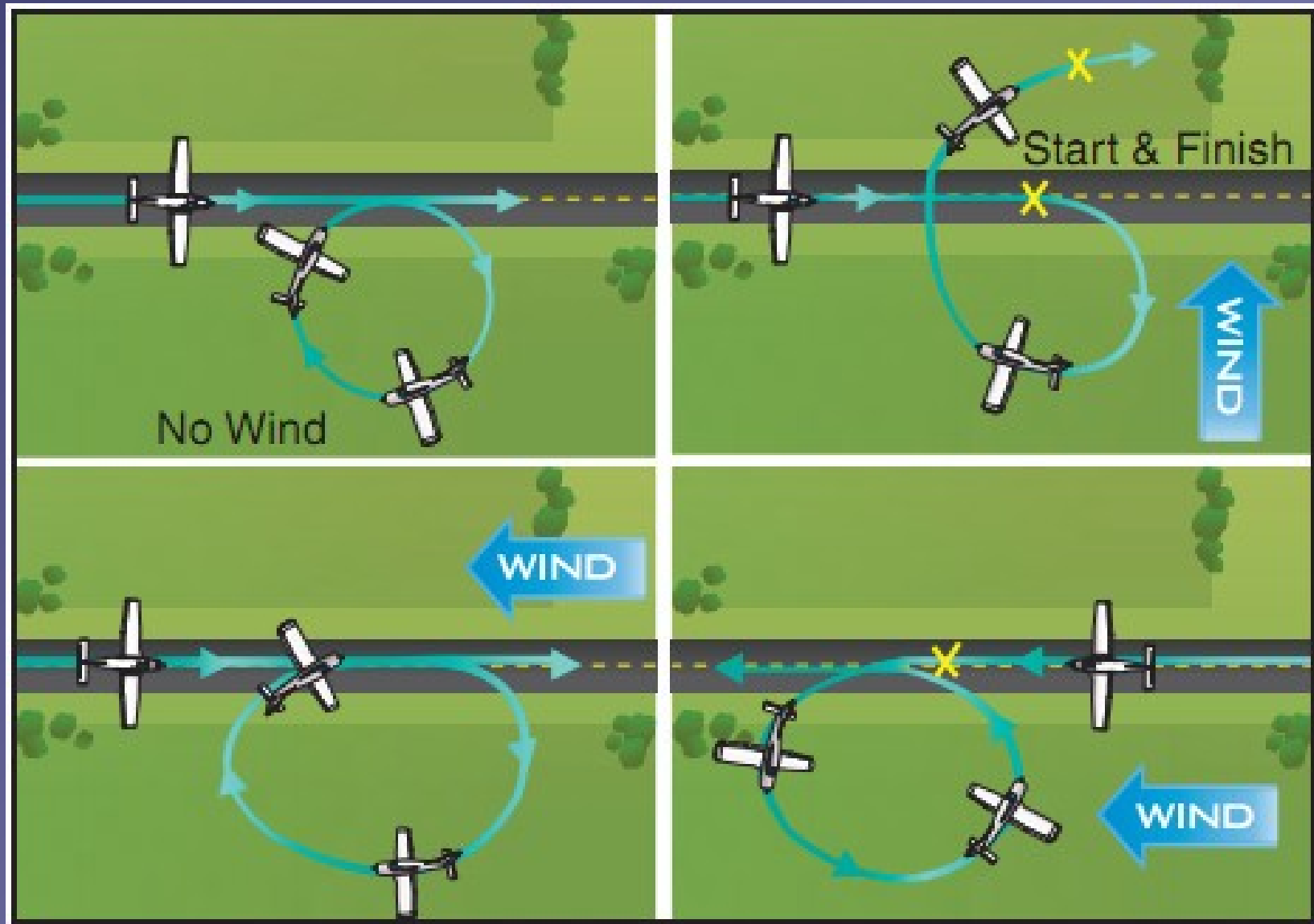


- Anticipate drift over ground
- Anticipate turns with wind and use **crabbing** on legs
- **Avoid** overbanking and skidding particularly turning to final



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# Turn – 360°







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# Forward Visibility – Speed and Flaps

*Clean*



*Flaps*



- Forward visibility decreases at slower airspeeds
- Flaps reduce the required pitch angle by increasing the wing camber and angle of attack
- **Flaps improve forward visibility** at slower airspeeds



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# Safety Considerations

- Maintain a *safe* **airspeed**
- Maintain a *safe* **height**
- Maintain a *good* **lookout**
- Turn accurately and **coordinated**
- Anticipate turns and **compensate drift** on legs
- Do *not* **overbank** or **skid**
- Practice exercise *only with* **flight instructor**



## Summary / Quiz

- In what situations and conditions do we have to be particularly aware of visual illusions caused by drift?
- When turning from or to the crosswind leg of a circuit, what illusion will most likely be experienced?
- When turning from or to the base leg of a circuit, what illusion will most likely be experienced?
- What instruments may help to prevent false reactions caused by visual illusions.



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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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# Illusions (Ex. 20, LP. 24)

- Objective
- Review
- Motivation
- Howto
- Summary / Questions
- Preflight Briefing



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# Climbing and Descending with Wind