

Ground Reference Maneuvers- S-Turns

Conditions: Dual /VFR

Objective: Introduce S-Turns to help develop the ability to control the airplane while dividing attention between a ground reference, the flight path, and the cockpit. Illustrate the effect wind has while trying to complete this maneuver and explain how to compensate for it.



Notes & Comments

Completion Standards

- Adheres to recommended safety precautions, clears the area, and select suitable emergency landing spot
- Understands the objective of S-turns and the affects of wind
- Divides attention between the outside & inside of the plane
- Holds altitude within 200ft and maintains to some extent, a constant radius.
- Uses Checklists

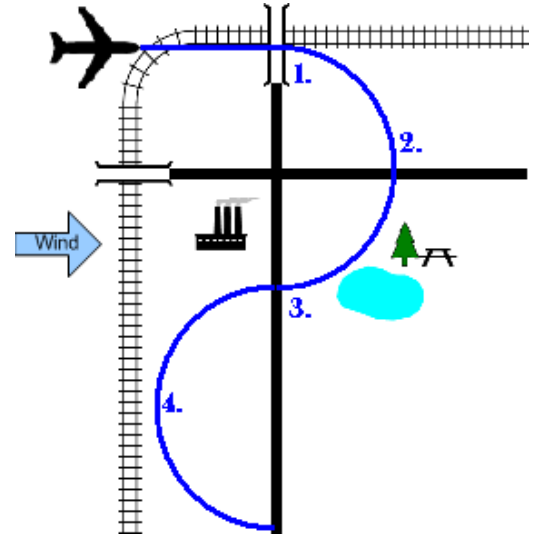
Air Echo Alpha 51, LLC



Preparation for Flight & Preflight Discussion

20- Min

- Equipment
 - Headsets/ Weather Briefing
- The Crew (*Pilot*)
- The Airplane (*Plane*)
- The Operation
 - Where- Practice Area
 - Why – Ground Reference Maneuvers
 - S-Turns**
 - Uniform 180° turns in opposite directions
 - Choose a long straight reference line & a emergency landing point
 - Determine wind direction
 - Enter maneuver on the downwind
 - Wings level upon crossing reference line
 - 1 Downwind-Steepest bank 45°max), highest GS
 - 2 Crosswind-Medium bank
 - 3 Upwind-Shallowest bank, Lowest GS
 - 4 Crosswind - Medium bank
- The Environment
 - Review expected wind
 - Collision avoidance – clear the area



Ground Operations

15- Min

- Preflight Inspection (*Plane*)
- Engine Start-up
- Taxi
- Before Take-off Checks
- Normal Take-off / Landing

Ground Reference Maneuvers - Turns about a Point

20- Min

- Clear the area
 - Airspace – Class E or G
 - Altitude – 600 to 1000 AGL
 - Airspeed – Va or below
 - No Traffic
- Determine wind direction
 - Aircraft drift, lake ripples, smoke, dust
- Choose a long straight reference line
- Determine Emergency landing spot
- Enter the maneuver on the downwind
- Wings level upon crossing the reference line
- Turn 1- Downwind, Steepest bank (45°max), highest GS
- Turn 2- Crosswind, Medium bank
 - Gentle transition between turns
- Turn 3- Upwind, Shallowest bank, Lowest GS
- Turn 4 –Crosswind, Medium bank
 - Gentle transition between turns

Post Flight

15-Min

- Engine Shutdown
 - Use of Checklists
- Parking & Securing the Airplane
- Logbook Entry
- Review & Critique
- Next lesson, assignments