

MANEUVERS  
**COMMERCIAL**



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# STEEP TURNS

Bank =  $50^{\circ}$

Altitude  $\pm 100$  FT

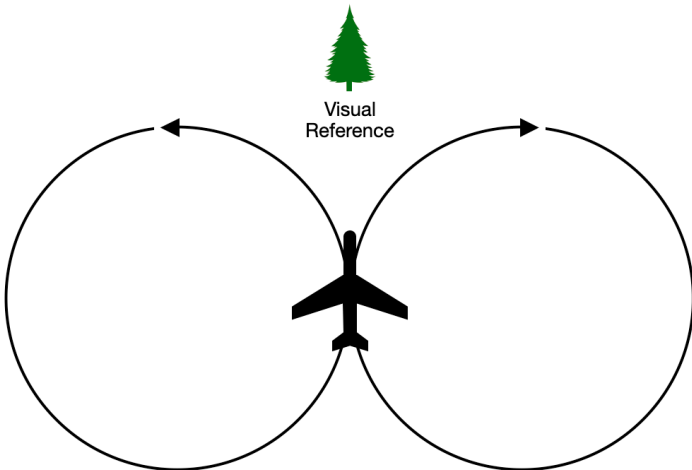
Speed =  $\pm 10$  kts

Heading  $\pm 10^{\circ}$

## Procedure

### Pre-maneuver flow

1. Identify visual reference / set HDG bug
2. Bank Left  $50^{\circ}$
3. At visual reference stop turn
4. Bank Right  $50^{\circ}$
5. Level off at visual reference

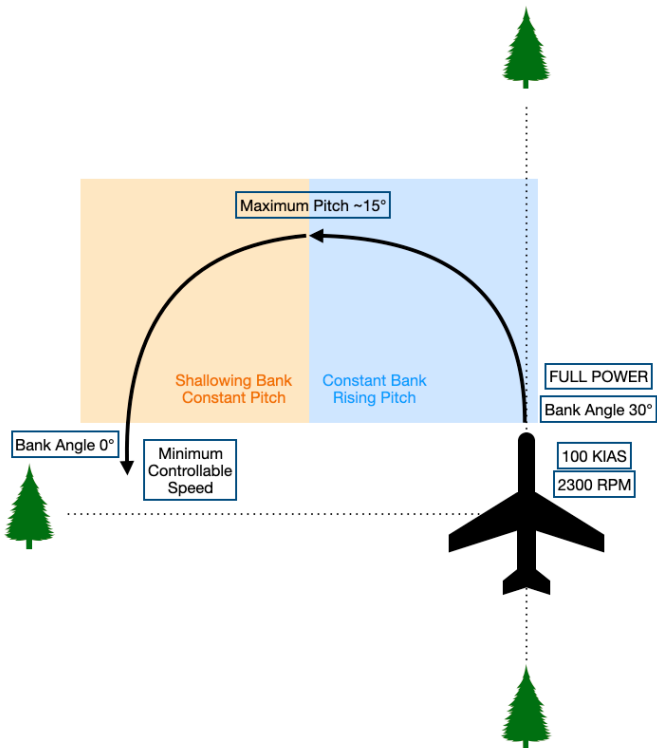


# CHANDELLES

Heading  $\pm 10^\circ$  of 180 from original heading

## Procedure

1. Identify visual references  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$
2. Stabilize at cruise speed
3. Bank  $30^\circ$  / Full power
4. Increase pitch attitude
5. Max Pitch at  $90^\circ$  visual reference
6. Maintain pitch attitude
7. Reduce bank angle
8. Wings level at  $180^\circ$  visual reference
9. Minimum Controllable Speed & Recover

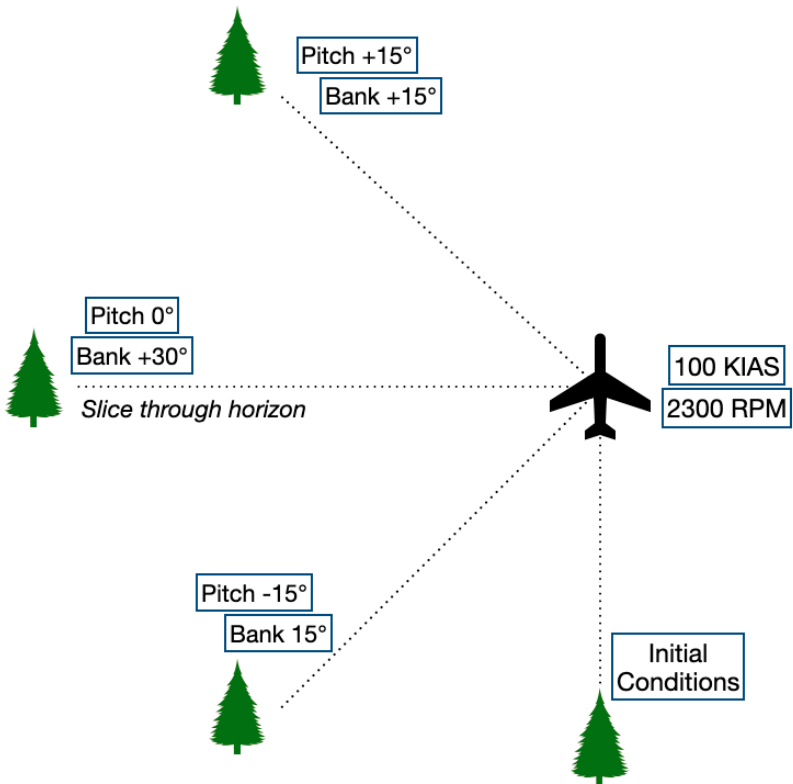


# LAZY EIGHTS

End Heading  $\pm 10^\circ$ , Speed  $\pm 10$  kts, Altitude  $\pm 100$  FT

## Procedure

1. Identify visual references  $0^\circ$ ,  $45^\circ$ ,  $90^\circ$ ,  $180^\circ$
2. Stabilize at cruise speed
3. Increase bank and pitch slowly
4. Reach  $45^\circ$  point with bank/pitch at  $15^\circ$
5. Increase bank to  $30^\circ$  to slice horizon at  $90^\circ$  point
6. Shallow bank to reach bank/pitch at  $-15^\circ$  at  $135^\circ$  point
7. Return to initial conditions at  $180^\circ$  point

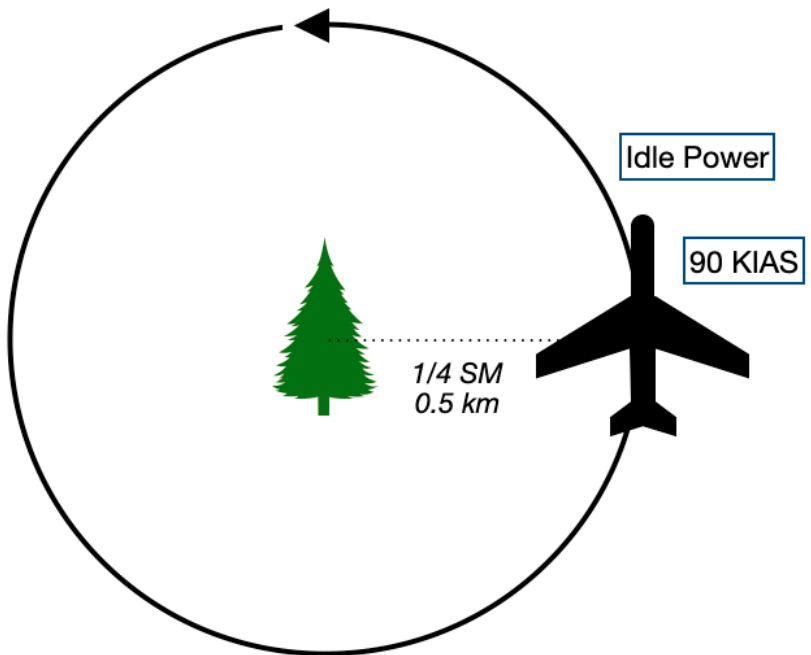


# STEEP SPIRALS

Heading  $\pm 10^\circ$ , Speed  $\pm 10$  kts

**Procedure** (must complete  $>3$  turns)

1. Identify visual reference (1/4SM or 0.5KM)
2. Idle Power, Pitch for 90 KIAS
3. Maintain constant radius from reference
4. Clear engine once every turn
5. Complete three turns
6. Exit at initial conditions



# EIGHTS ON PYLONS

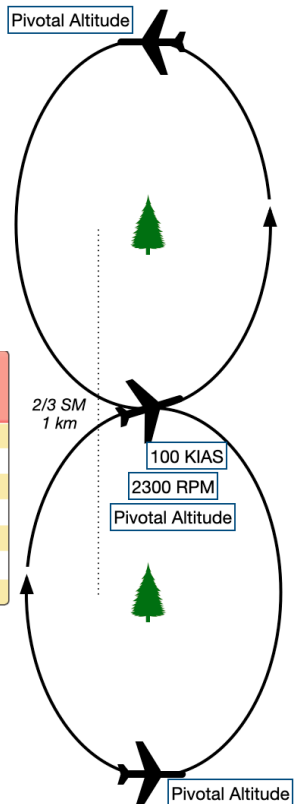
Maintain Pivotal Altitude

## Procedure

1. Identify 2 points
2. Calculate Pivotal Altitude
3. Begin maneuver at 45 intercept
4. Maintain pivotal altitude
5. Forward of tip, pitch down
6. Aft of tip, pitch Up

$$\frac{\text{Ground Speed}^2}{11.3} = \text{Pivotal ALT Ground}$$

Groundspeed		Approximate Pivotal Altitude
Knots	MPH	
87	100	670
91	105	735
96	110	810
100	115	885
104	120	960
109	125	1050
113	130	1130



# **POWER OFF 180**

Within 200 FT of touchdown point

## **Procedure**

1. Choose landing spot
2. Power Idle
3. Manage energy to touchdown point
4. Flaps as necessary
5. Speed as necessary