

Theory Brief 8: Advanced Manoeuvres

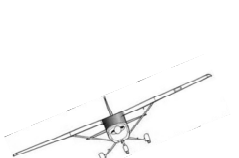
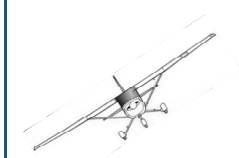
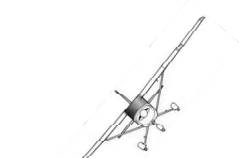
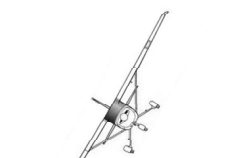
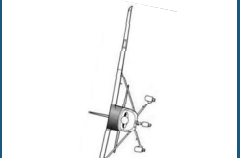
Steep Turns

- A steep turn is said to be a turn with the wings at 45 degrees or more.
- This has the effect of increasing the Load Factor, with the passengers experiencing G's through the turn.
- It will also increase the stall speed
- In order to overcome the additional drag created from trying to produce more lift, extra power may be required to maintain altitude.
- NOTE: It is better to give up a few feet in altitude to maintain a proper flying airspeed during a steep turn.

Objectives:

Steep Turns (45° Angle of Bank)

1. To understand the definition of a steep turn
2. To understand the effect of load factor on stalling speed
3. To be able to maintain height with correct power and attitude adjustments for a steep turn

Angle of Bank	 34°	 48°	 60°	 75°	 85°
Factor by which stalling speed is increased	1.1	1.2	1.4	2	3.4
Factor by which lift is increased	1.2	1.5	2	3.86	11.5

WARNING

1. RAAus aircraft are not engineered to fly at high Angles of Bank.
2. RAAus Pilot Certificate holders are trained to 45° Angle of Bank only.
3. Passengers are not expecting you to fly at excessive Angles of Bank.
4. Stalling in the turn is a dangerous event and should be avoided at all times.

Air Exercise : Steep Turns

To turn the aircraft at 45° angle of bank using co-ordinated aileron and rudder, maintaining balanced flight and not changing altitude.