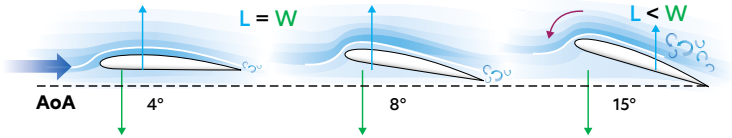
Basic stalling

Objectives

- To control the aeroplane to the point of stall, recognise the symptoms of the approaching stall, experience the stall itself, and recover with minimum height loss.
- To control the aeroplane to the point of stall, recognise the symptoms of the approaching stall, and recover at stall onset with minimum altitude loss.

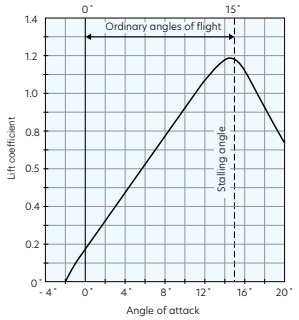
Principles of flight

- L = angle of attack x airspeed
- Smooth airflow over the wing breaks down and becomes turbulent
- Breaks away from upper surface, aeroplane sinks, nose pitches down



At the stall

- When the wing stalls there is a ↓ in L and large ↑ in D
- Aeroplane sinks, C of P moves rearwards → pitch down



Airmanship

- No pax
- Awareness of aircraft configuration, position and other traffic
- HASELL checks
- HELL checks
- Recognise symptoms

H	Height
A	Airframe
S	Security
E	Engine Ts & Ps
L	Locality
L	Lookout

Air exercise

Entry

- HASELL checks and reference point (high)
- Carb heat HOT
- Close throttle
- Keep straight with rudder
- Maintain altitude with ↑ backpressure
- Through _____ kts (or stall warning sounds), carb heat COLD

Symptoms

- Low and ↓ airspeed
- High nose attitude
- Less effective controls - higher stick forces
- Stall warning - if fitted
- Buffet (turbulent air from wing striking tailplane)
- Control column will be fully back - no further control movement

At the stall

- Aeroplane sinks and nose pitches down

Recovery

To unstall

- Check forward with control column to reduce angle of attack
- Do not use ailerons
- Aeroplane will descend
- Recover to S+L with **PAT**

To minimise height loss - max of 100'

- **Power + Attitude = Performance**
- Unstall, as above, check forward
- Apply full power - balance with rudder
- Raise nose to the horizon (stops sink and allows acceleration)
- Accelerate to _____ kt, then adjust attitude to maintain speed
- Regain starting altitude and S+L

Recovery at onset

- Normal situation - when not training
- Recover at stall warning / buffet
- Height loss - 50 ft maximum

Aeroplane management

- Smooth but positive throttle and control movements
- Preflight - no loose objects
- Carb heat use

Human factors

- More practice and exposure the better
- Plenty of time between stalls to orientate
- Sick bags