

# Circuits

## 20160108

### Circuit Legs

1. Upwind
  2. Crosswind
    - The cue to turn onto crosswind from upwind is 500ft AGL.
    - Level off at 1000ft AGL.
  3. Downwind
    - The cue to turn onto downwind from crosswind is 0.75 to 1.0NM from runway.
    - In C172S out window, runway is 2/3 up the strut.
  4. Base
    - The cue to turn base is 45 degrees from runway threshold.
    - Reduce power.
    - Begin descent.
  5. Final
    - Turn at ~600ft AGL.
    - After turn, wings level at 500ft AGL.
    - Don't overshoot turn because parallel runway at YBAF.
    - Use power for airspeed.
    - Attitude for aim point on runway.
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### Checklist at Holding Point

- Strobe & Landing ON
- Pumps (as required)
- Transponder

- Standby
- Altitude
- Heat
  - Pitot Heat (as required)
  - Cabin Heater

### **Circuits in C172S**

#### **Take-off**

- Full-power
  - Section 4 in manual
  - Static power 2300rpm minimum
  - Check Pressures and Temperatures
  - IAS increasing
- 55KIAS rotate
- Attitude ~ cowl on horizon
- $V_x$  ~ 62KIAS
- $V_y$  ~ 74KIAS
- At  $V_y$ , raise nose slightly higher
- 300ft take-off checks
  - Full power
  - = 2300rpm
  - 74KIAS
  - Flaps up
  - Landing light off
- Lookout, 500ft begin climbing turn onto crosswind
- Use heading bug
- Use reference point
- Level off @ 1000ft

### **Levelling off**

- Attitude
- Power
- Trim

### **Turning onto downwind**

- Radio call immediately
  - Callsign
  - Downwind
  - Touch and go (or Full stop)

### **Downwind Pre-landing Checks**

- Brakes
- Under-carriage
- Mixture full rich
- Fuel quantity
- Instruments (Pressures and Temperatures)
- Switches e.g. landing light ON
- Hatches and harnesses

### **Abeam runway threshold**

- Reduce power to 2000rpm
- Flap 10 degrees (< 110KIAS)
- Trim
- Turn base at ~85KIAS, 45 degrees from runway threshold

### **Base turn**

- Roll
- Power, reduce to ~1500rpm

- Flap at 20 degrees (< 85KIAS)
- Trim
- On base, half sky-half ground attitude
- Should give ~75KIAS
- Half-way around, half-way down (750ft when half along base)

### **Turning final**

- Approach Work Cycle
    - Aimpoint - aim at runway numbers, use attitude
    - Aspect - how the runway appears
    - Airspeed - 70KIAS for 20 degree flap, 65KIAS for 30 degree flap
  - Flare
    - At ~50ft AGL
    - Idle power
    - Runway threshold markers about to disappear
    - Attitude from nose down to straight and level
    - Look away from runway numbers to far end of runway
  - Hold off
    - horizon at dash cowling
    - let the aircraft land
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### **Work Cycle**

- Height
- Speed
- Heading
- Spacing