



## CESSNA 172 S/R MANEUVER GUIDE

\*Disclaimer: This guide is to be used as reference only and does not preclude checklist usage, pilot operating handbook or flight instruction\*

### Normal Takeoff:

1. Takeoff Checklist
2. Perform Radio Communications
3. Line-Up on Runway
4. Full Power (Right rudder as needed)
5. Rotate at **55 KIAS**
6. Pitch for  $V_y$  (**74 KIAS**, approximately  $10^\circ$  pitch)
7. Perform Climb/Cruise checklist when appropriate

### Normal Landing

1. Complete an Approach Checklist prior to pattern entry
2. Before Landing Checklist
3. Downwind: **1900-2100RPM; 90 KIAS**
4. Abeam TD Point (or 3nm final): **1500RPM;  $10^\circ$  Flaps; 80 KIAS**
5. Base (or 2nm final):  **$20^\circ$  Flaps; 80 KIAS**
6. Final (or 1nm final):  **$30^\circ$ ; 65 KIAS** (\*note add  $\frac{1}{2}$  gust factor)
7. Close Throttle prior to touchdown, maintain positive pitch attitude



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## Short Field Takeoff

1. **Flaps 10°**
2. Takeoff Checklist
3. Perform Radio Communications
4. Line-Up on Runway using **max available runway**
5. **Hold Brakes**, Apply **Full Power** (Right rudder as needed); **release brakes**
6. Rotate at **55 KIAS**
7. Pitch for **56 kts** until over **50' obstacle**
8. Pitch for **Vy 74kts** when **clear of obstacles**
9. Above 200ft, Raise flaps
10. Perform Climb/Cruise checklist when appropriate

## Short Field Landing

1. Complete an Approach Checklist prior to pattern entry
2. Before Landing Checklist
3. Downwind **1900-2100RPM; 90 KIAS**
4. Abeam TD Point (or 3nm final): **1500RPM; 10° Flaps; 80 KIAS**
5. Base (or 2nm final): **20° Flaps; 80 KIAS**
6. Final (or 1nm final): **30° Flaps; 65 KIAS**
7. Short Final **60 KIAS** (to prevent floating \*note add ½ gust factor)
8. Close Throttle ~200ft prior to desired TD Point to minimize float, **land on TD Point**
9. Slowly bring nose to the runway, apply **maximum braking**.

## Power Off 180

1. Complete an Approach Checklist prior to pattern entry
2. Before Landing Checklist - Select Touch down Point
3. Abeam Touch down Point, throttle smoothly to idle
4. Configure aircraft as necessary:
  - Anticipate earlier turn if in windy conditions
  - Flaps may be increased on approach to steepen descent
  - Forward slip may be used to steepen descent
5. Aim 100-200ft prior to Touch down point (go around may be initiated if necessary)
6. Land with no sideload and proper pitch attitude (crosswind correction as necessary)



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## Soft Field Takeoff

1. **Flaps 10°**
2. Takeoff Checklist
3. Perform Radio Communications
4. Line-Up on Runway with **FULL Aft Elevator**
5. Apply **Full Power** (Right rudder and **relief of some back pressure** may be needed to prevent tail strike)
6. **Lift off** at **lowest** possible **airspeed**
7. Promptly reduce pitch to **maintain** <1 wingspan of ground (**Ground Effect**)
8. **Accelerate** to **Vx 67kts**
9. Climb at Vx 67kts till 50ft, then Lower nose to climb at Vy 74kts
10. Above 200ft, Raise flaps
11. Perform Climb/Cruise checklist when appropriate

## Soft Field Landing

1. Complete an Approach Checklist prior to pattern entry
2. Before Landing Checklist
3. Downwind **1900-2100RPM; 90 KIAS**
4. Abeam Touch down Point (or 3nm final): **1500RPM; 10° Flaps; 80 KIAS**
5. Base (or 2nm final): **20° Flaps; 80 KIAS**
6. Final (or 1nm final): **30° Flaps; 65 KIAS**
7. Transition the airplane attitude to ensure a **soft touchdown**, throttle at or near idle
8. Slowly **increase back pressure** to full elevator authority (**DO NOT tail strike**)
9. **Maintain** back pressure **until off** “soft” surface

## Slow Flight

1. Perform **Pre-Maneuver Checklist**
2. Reduce throttle to **1500RPM** (maintain altitude)
3. Incrementally add flaps; verify **landing configuration**
4. Slow to just above stall horn (~**50 KIAS** depending on weight)
5. **Pitch for Speed, Power for Altitude** (significant power increase may be necessary)
6. Perform level flight, turns, climbs and descents as required (apply necessary rudder)
7. Recovery: Full power. Maintain altitude, raise flaps incrementally
8. Perform Cruise checklist when appropriate



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## Power-Off Stall (Stall can be to first indication or full)

1. Perform Pre-Maneuver Checklist
2. Reduce throttle to **1500RPM** (maintain altitude)
3. Incrementally add flaps; verify **landing configuration**
4. Initiate **stabilized descent @ 60 KIAS**
5. Throttle **idle**, increase **pitch to maintain altitude** (apply necessary rudder)
6. At stall/buffet/horn: **Reduce AoA** and apply **Full Power, Flaps 20°**
7. **Level and accelerate** to Vx 67 or Vy 74, Flaps 10°
8. At Vy 74kts, Flaps 0°
9. Perform Cruise Checklist when appropriate

## Power On Stall (Stall can be to first indication or full)

1. Perform **Pre-Maneuver Checklist**
2. Reduce throttle to **1500RPM** (maintain altitude) to slow to Vr 55kts
3. Verify **Takeoff Configuration**
4. **Increase Pitch (20-25°) & Power** simultaneously (apply necessary rudder)
5. At stall/buffet/horn: **Reduce AoA** to horizon
6. **Accelerate** to Vx 67kts or Vy 74kts (as necessary)
7. Perform Climb/Cruise Checklist when appropriate

## Accelerated Stall (Stall can be to first indication only: BUFFET/HORN)

1. Perform **Pre-Maneuver Checklist**
2. Reduce throttle to **1500RPM**
3. Slow to **80 KIAS** (Use pitch to hold Altitude)
4. Bank to **45°** and add extensive back pressure
5. At first indication: **Reduce AoA**, apply **Full Power** and **Level Wings**
6. Perform Cruise Checklist when appropriate



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## Steep Turns

1. Perform **Pre-Maneuver Checklist**
2. Reduce throttle to **2200-2300RPM**, Slow to **95 KIAS**
3. Bank **45°** Private, **50°** Commercial, Maintain Altitude and Airspeed (**~+200RPM**, add **elevator/trim** as necessary) \*if high overbank by 5°; if low underbank by 5°\*
4. **Roll out 15-20° ahead** of entry heading
5. Verify clear of traffic and roll into **opposite direction turn**.
6. **Roll out 15-20° ahead** of entry heading
7. Cruise checklist when appropriate

## Steep Spiral

1. Perform **Pre-Maneuver Checklist**
2. Establish flight path into **Upwind**
3. Select ground **reference point**
4. When directly over the point, reduce **power to idle** and slow to **80kts**
5. Adjust bank as necessary to keep **point at a fixed distance**
6. After completion of **each 360°** turn **Clear Engine** (power to 2000rpms momentarily)
7. Exit maneuver on specified heading, resume normal cruise
8. Perform Cruise Checklist when appropriate

## 8's on Pylon

1. Perform **Pre-Maneuver Checklist**
2. Establish flight path **45° left of downwind** (bug entry heading)
3. Throttle to **2300RPM**, Airspeed to **105 KIAS**
4. Establish **Pivotal Altitude**
5. Select ground **reference point** (road, barn, small pond)
6. Begin **bank** when point is abeam wing (no more than 40°)
7. Use **pitch to maintain point** on reference line (pitch smoothly)
8. After completion of a **left 270°** turn maintain straight and level flight
9. After **5-7 seconds**, perform steps 4-7 to the **right**
10. Roll out on bugged heading
11. Perform Climb/Cruise Checklist when appropriate



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## Chandelle

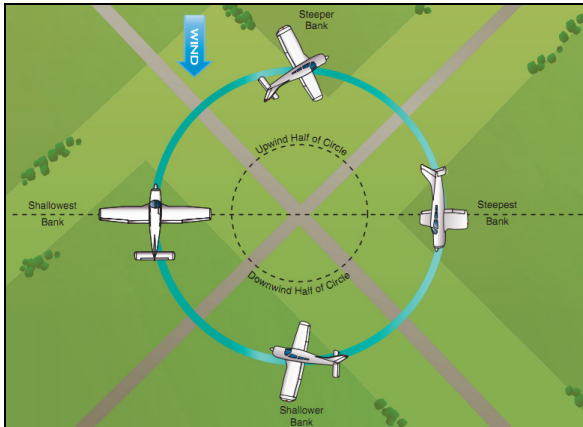
1. Perform **Pre-Maneuver Checklist**
2. Throttle to **2300RPM**, Airspeed to **105 KIAS**
3. Select **90° Reference**
4. **Bank 30°** left then apply **Full Power**
5. Slowly increase **pitch** to **15-17°** (should reach max pitch and hold at 90° point)
6. **Maintain pitch** and slowly **reduce bank** angle to 0° at 180° point
7. Slowly **reduce pitch** to maintain level flight and accelerate to cruise
8. Repeat steps 3-6 to the **right**
9. Perform Cruise Checklist when appropriate

## Lazy Eight

1. Perform **Pre-Maneuver Checklist**
2. Select **45°, 90° and 135° References**
3. Verify configuration (maintain altitude, **105kts** and power **2300RPM**)
4. **Increase pitch & bank 1-2° per second** (up to ~17° and speed should be near 60kts)  
**45°: 15° bank & max pitch up**
5. **Relieve back pressure, increase bank**  
**90°: 30° bank, level pitch**
6. **Increase back pressure** slowly (maintain nose low attitude), **reduce bank**  
**135°: 15° bank & max pitch down**
7. Level off @ 180° from start at entry altitude, airspeed and reciprocal heading
8. Repeat steps 4-7 to the **right**
9. Perform Cruise Checklist when appropriate

## Turns Around a Point

1. Perform **Pre-Maneuver Checklist**
2. Select **appropriate ground reference** and emergency field(s)
3. Descend to 800ft AGL
4. Throttle to **2200RPM**, Airspeed to **95 KIAS**
5. Enter maneuver on **downwind**, use bank to correct for wind  
(High Ground Speed = Steep, Low Ground Speed = Shallow)
6. Exit upon returning to entry heading
7. Cruise checklist when appropriate



## S-Turns

1. Perform **Pre-Maneuver Checklist**
2. Select **ground reference 90° to the wind** and emergency field(s)
3. Throttle to **2200RPM**, Airspeed to **95 KIAS**
4. Enter maneuver on **downwind**, use bank to correct for wind  
(High Ground Speed = Steep, Low Ground Speed = Shallow)
5. Exit upon returning to entry heading
6. Cruise checklist when appropriate

