

A Step by step  
Maneuvers  
Guide for the  
Cessna 172

- The New Industry -  
Standard

▶ Cessna 172  
Quick Reference Guide  
2019

Standardizing maneuvers based training will allow flight instructors to move between other instructors students knowing that they are being taught the same procedures all be it by different instructors. All large academies use standardization in their flight instructor indoctrination so that every CFI teaches the maneuvers the same way. For the student, standardization of maneuvers based training allows them to see the procedure ahead of time and practice it in a simulator, procedural trainer or by "chair flying". This Cessna 172 Quick Reference Guide contains all of the Private - Commercial maneuvers in the current ACS. It also includes the flight instructor demonstration stalls required in the Flight Instructor ACS.

I hope you find this guide useful in standardizing yourself, students or other instructors.

**WARNING:** The procedures in this document are not intended to provide the user with flight instruction. Always insure that any procedure or technique you use from this guide is approved by a flight instructor prior to performing it.

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## Maneuver Guide Set-Up Procedures:

### Prior to any flight maneuver other than those in the traffic pattern:

1. Clear the area using either two, 90 degree turns in opposite directions, or one 180 degree turn.
2. Using traffic avoidance, make sure the area is clear of traffic.
3. Perform a flow check from the left side of the panel to the throttle/mixture then down to the fuel selector to insure the airplane is configured properly. (Primer in and locked, Master Switch On, Ammeter not discharging, Magnetos Both, Avionics Master On, Circuit breakers in, Lights On, Throttle and Mixture set, Flaps up, Trim Set, Fuel Selector Set)

During the Landings section, the Maneuver guide uses a memory aid titled BGUMPS. This means to insure the following items are set correctly for landing: Boost Pump, Gas, Undercarriage, Mixture, Propeller, Seatbelts

**NOTE:** The Cessna 172 does not have a boost pump, retractable gear or controllable propeller; however developing a routine using BGUMPS will allow an easier transition to a complex or high performance airplane later where it is possible to use the same memory aid.

## Slow Flight

1. Reduce to 1500 RPM
2. Mixture throttle to full rich
3. Increase pitch to maintain altitude as airspeed decreases
4. Carb Heat ON
5. Slow to 80 kts
6. Slow in 10 kt increments, extend flaps in 10° increments, to 30° and 50 kts. Anticipate... elevator pressure changes
7. Add throttle to maintain altitude, 2000 RPM,
8. Maintain coordinated flight (increased right rudder at low speed and high-power settings)
9. Perform straight / level and turns (15° bank or less)
10. Use power to maintain altitude and pitch to maintain airspeed
11. PPL: Altitude  $\pm 100'$ , heading  $\pm 10^\circ$ , airspeed  $+10/-0$  knots, specified bank  $\pm 10^\circ$  (Com: Altitude  $\pm 50'$ , heading  $\pm 10^\circ$ , airspeed  $+5/-0$  knots, bank  $\pm 5^\circ$ )

## Slow Flight Recovery

1. Full power, flaps to 20°, reduce pitch to maintain altitude
2. Full power, Carb Heat OFF
3. Retract flaps to 10° accelerating through 65 kts TRIM
4. Retract flaps to 0° accelerating to 73 kts TRIM
5. Level off as instructed (pitch, power 2300 rpm, trim)

## Cross-controlled Stall (demonstration)

1. Clearing turn at or above 4500 feet AGL (min 1500 feet AGL)
2. Reduce Power to idle
3. Mixture full rich
4. Maintain altitude until 65 kts, TRIM
5. Carb Heat ON
6. Do not extend flaps (NO FLAPS)
7. Medium bank turn: 30°
8. Smoothly apply rudder to stop the turn (Slipping condition)
9. Use aileron to maintain bank angle and rudder to keep the airplane from turning
10. Increase elevator pressure until stall
11. Nose down, excess rudder out, wings level
12. If a spin happens use the spin recovery procedure in the POH
13. Power 2000 RPM, 90 Kts
14. Carb Heat OFF

## Secondary Stall (Demonstration)

1. Set up for any of the previous stalls, such as Power-On or Power-Off
2. Once the airplane stalls, reduce angle of attack slightly to break stall
3. Then, immediately apply excessive angle of attack again such as a pilot trying to recover with overly aggressive inputs to stall again
4. Recover by reducing the angle of attack

## Reference Air speeds/kts

Vr 55 Short Vr 55 Normal Vso 40 Vs1 48

Vx 62 kts with 10° flaps, 59 kts with no flaps, Vy 74 kts

Vno 129 Vne 163 Vfe 85 Vg 70 flaps up, 68 flaps down

Va 105 @ Max Gross Wt., 98 at mid-range weight, 90 when very light