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## **Cessna 172SP Maneuvers --- Quick Reference** rev 4/1/20

### Slow Flight

1. Clearing turns, Select Emergency Landing Spot, Recover at or above 1500 feet AGL
2. Power 1500 rpm • flaps 10° (below 110 kts.)
3. Increase pitch to maintain altitude as airspeed decreases - TRIM
4. Extend full flaps (in white arc)
5. Upon reaching 50 kts increase power to maintain level flight approx 2000 rpm
6. Maintain coordinated flight (increased right rudder at low speed and high power setting)

### Recovery

1. Apply full power, flaps 20°
  2. Retract flaps to 10° accelerating through 55 kts - TRIM
  3. Retract flaps to 0° accelerating through 60 kts - TRIM
  4. Accelerate to normal cruise or as specified and reduce power as necessary.
  5. Cruise Checks
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### Power Off Stall (Approach to landing Stall)

1. Clearing turns, Select Emergency Land Spot, Recover at or above 1500 feet AGL
2. Reduce Power to 1800 RPM
3. Flaps 30
4. Establish 1500rpm/70 KIAS descent
5. Power set to idle
6. Pitch 70kts
7. Apply back pressure to maintain altitude
8. Announce cues of impending stall
9. Recover promptly when stall occurs

### Power Off Stall Recovery

1. Reduce pitch, full power, wings level with coordinated rudder and aileron
2. Retract flaps to 20° establish climb pitch attitude
3. Retract flaps to 10° accelerating through 55 kts TRIM
4. Retract flaps to 0° accelerating through 60 kts TRIM
5. Stabilize climb out at Vy (74 kts.)
6. Level off as briefed
5. Cruise checks

### Power On Stall (Departure Stall)

1. Clearing turns, Select Emergency Landing Spot, Recover at or above 1500 feet AGL
2. Power 1800 slow to 74kts
3. Simultaneously increase pitch and Add power to no less than 2350 rpm (min 65% power)
4. Smoothly increase the pitch to induce stall.
5. Announce cues of impending stall
6. Recover promptly when stall occurs

### Recovery

1. Simultaneously set Full power, reduce pitch then establish  $V_y$  pitch attitude
2. Accelerate to and maintain  $V_y$  74 kts
3. Level off as briefed
4. Cruise Checks

### Steep Turns

- 1 Clearing Turns, Select Emergency Landing Spot
2. Bug heading (outside visual reference point)
3. Establish airspeed at 95 kts approx 2300 rpm
4. Roll into a 45° bank turn ( two 360 turns)
5. Trim
6. Add power

### **Ground Reference Maneuvers**

#### Turns Around a Point

1. Clearing turns, emergency landing spot, 600'-1,000'AGL
  2. Enter downwind at approx 100 kts ,2200 rpm
  3. When point is under wing, begin left turn of approx. 30°\* (steepest bank)
  4. At crosswind, reduce the bank to compensate for decreasing tailwind
  5. At upwind, bank will be shallowest due to slowest groundspeed
  6. At crosswind, increase bank to maintain equidistance from ref. point
  7. Complete two circuits Altitude +/-100' A/S +/-10 Kts. Hdg. +/-10°
- \*The maximum and minimum bank angles will vary according to wind speed and distance from the point

#### S Turns

1. Clearing turns, emergency landing spot, 600'-1,000'AGL
2. Enter maneuver downwind stabilized at approx 100 kts approx. 2200rpm
3. When reference line is under wing, roll into left turn (steepest bank)
4. As you turn past the 90° point, reduce bank to track a symm. half circle
5. Cross the 180° point with wings level and parallel with reference line
6. Repeat 1-4 but in a right turn. Altitude +100' A/S +10 Kts.

## **Short Field Takeoff and Landing**

### Takeoff (10° Flaps)

1. Taxi onto runway centerline (use all available runway)
2. Hold brakes
3. Apply full power, announce “ Engine instruments in the green”
4. Release brakes
6. Announce “airspeed alive”
7. Accelerate and rotate at Vr 51kts
8. Climb at Vx (56 kts) until obstacle is cleared
9. Announce “obstacles cleared” pitch for Vy, retract flaps above 62 kts,
10. Continue climb at Vy (74 kts)

### Short Field Landing

1. Select runway touchdown point
2. Abeam touchdown point (power 1500rpm, 10° flaps-below 110 kts)
3. Pitch for 80 kts.
4. When touchdown point is 45° off shoulder turn base.
5. Apply 20° flaps and pitch for 70 kts.
6. Turn final, extend 30° flaps, and pitch for 61 kts.
7. Smoothly reduce power so as to land on the selected point on the runway (must be at or beyond specified point, within 200 feet)
8. Upon landing, retract all flaps, apply maximum braking (no tire skid), full back pressure on yoke

## **Soft Field Takeoff and Landing**

### Takeoff

1. Flaps 10°
2. Keep rolling , apply full power
3. Announce (engine instruments checked)
4. Reduce back pressure to allow nose wheel to remain 2 inches off ground
5. Announce “airspeed alive”
6. When airborne, lower nose in order to remain in ground effect
7. No obstacle - accelerate to 56 kts, pitch for Vy, retract flaps above 62 kts, Continue climb at Vy (74 kts)
8. Obstacle – accelerate to and climb at Vx-56 kts until clear of obstacle
9. Announce “obstacles cleared” pitch for Vy, retract flaps above 62 kts, Continue climb at Vy (74 kts)

### Landing

1. Abeam touchdown point (power 1700rpm, 10° flaps-under 110 kts)
2. Pitch for 80 kts.
3. When touchdown point is 45° off shoulder turn base.
4. Extend 20° flaps and pitch for 75 kts.
5. Turn final, extend 30° flaps, and pitch for 65 kts
6. Approaching touchdown, begin flare, using power to minimize sink rate and touchdown as gently as possible
7. Apply full back pressure on yoke to keep weight off nose wheel.
9. Keep flaps down, use aerodynamic braking only