

N692SP 172S MANEUVER GUIDE

Normal Takeoff

1. TAKEOFF CHECKLIST
2. PERFORM RADIO COMMUNICATIONS
3. LINE-UP ON RUNWAY
4. FULL POWER (RIGHT RUDDER AS NEEDED TO MAINTAIN CENTERLINE)
5. ROTATE AT 55 KIAS (ADD BACK PRESSURE AND LET THE AIRPLANE FLY OFF, DON'T FORCE IT OFF)
6. PITCH FOR V_y (74 KIAS, APPROXIMATELY 10° PITCH)
7. PERFORM CLIMB/CRUISE CHECKLIST WHEN APPROPRIATE

Private Standards Airspeed: -5/+10 KIAS

Commercial Standards Airspeed: ±5 KIAS

Normal Landing:

1. Complete 5 A checklist on arrival.
2. Complete GUMPS checklist on downwind.
3. Downwind: 1900-2100RPM; 90 KIAS
4. Abeam TD Point (or 3nm final): 1500RPM; 10° Flaps; 80-85 KIAS
5. Base (or 2nm final): 20° Flaps; 75 KIAS
6. Final (or 1nm final): 30°; 65-70 KIAS (*note add ½ gust factor)
7. Close Throttle prior to touchdown, let nose wheel down after slowing. Keep flying the plane all the way to ramp!

Private Standards Airspeed: -5/+10 KIAS TD Point: -0/+400 FT

Commercial Standards Airspeed: ±5 KIAS TD Point: -0/+200 FT

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. Elevator slightly tail low, lift off at 51 KIAS allow airplane to fly off runway
7. Pitch for 56 KIAS until over 50' obstacle
8. Pitch for V_y 74KIAS when clear of obstacles
9. Above 200ft, Raise flaps
10. Perform Climb/Cruise checklist when appropriate

Private Standards Airspeed: -5/+10 KIAS

Commercial Standards Airspeed: ±5 KIAS

N692SP 172S MANEUVER GUIDE

Short Field Landing

1. Complete 5 A checklist on arrival
2. Before Landing Checklist on downwind (GUMPS)
3. Downwind 1900-2100RPM; 90 KIAS
4. Abeam TD Point (or 3nm final): 1500RPM; 10° Flaps; 80-85 KIAS
5. Base (or 2nm final): 20° Flaps; 75 KIAS
6. Final (or 1nm final): 30° Flaps; 65 KIAS
7. Short Final 61 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.

Private Standards Airspeed: -5/+10 KIAS TD Point: -0/+200 FT Commercial
Standards Airspeed: ±5 KIAS TD Point: -0/+100 FT

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 will be needed to prevent tail strike)
 6. Lift off at lowest possible airspeed
 7. Promptly reduce pitch to maintain within 1 wingspan of the ground (Ground Effect) 8.
- Accelerate to V_x 62 KIAS
9. Climb at V_x 62 KIAS till 50ft, then Lower nose to climb at V_y 74KIAS
 10. Above 200ft, Raise flaps
 11. Perform Climb/Cruise checklist when appropriate

Private Standards Airspeed: -5/+10 KIAS Commercial
Standards Airspeed: ±5 KIAS

Soft Field Landing

N692SP 172S MANEUVER GUIDE

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; 85 KIAS
5. Base (or 2nm final): 20° Flaps; 75 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

Private Standards Airspeed: -5/+10 KIAS Commercial
Standards Airspeed: ±5 KIAS

Slow Flight

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Reduce throttle to 1500 RPM (maintain altitude)
3. Incrementally add flaps; 10° below 110 KIAS, 20° and 30° in the white arc.
4. Slow to just above stall horn (~55-60 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: Reduce AoA and apply Full Power, Flaps 20°
8. Level and accelerate Vy 74, Flaps 10°
9. At Vy 74 KIAS and Positive Rate, Flaps 0°
10. Return to starting altitude
11. Perform Cruise checklist when appropriate

Private Standards Airspeed: -0/+10 KIAS Heading: ±10° Altitude: ±100 FT Specified Bank: ±10° Commercial
Standards Airspeed: -0/+5 KIAS Heading: ±10° Altitude: ±50 FT Specified Bank: ±5°

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

N692SP 172S MANEUVER GUIDE

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Reduce throttle to 1500 RPM (maintain altitude)
3. Incrementally add flaps; 10° below 110 KIAS, 20° and 30° in the white arc.
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 Vy 74, Flaps 10°
8. At Vy 74 KIAS and Positive Rate, Flaps 0°
9. Return to starting altitude
10. Perform Cruise Checklist when appropriate

Private Standards Heading: $\pm 10^\circ$ Specified Bank(if any): $\pm 10^\circ$ Commercial
Standards Heading: $\pm 10^\circ$ Specified Bank(if any): $\pm 5^\circ$

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

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Reduce throttle to 1500RPM (maintain altitude) to slow to Vr 55-60 KIAS
4. Pitch for Climb & Power to 2000-2300 simultaneously (apply necessary right rudder)
5. At stall/buffet/horn: Reduce pitch to horizon
6. Accelerate to Vy 74KIAS or Maneuvering Speed if not climbing
7. Climb to starting altitude or momentarily if above
8. Perform Climb/Cruise Checklist when appropriate

Private Standards Heading: $\pm 10^\circ$ Specified Bank(if any): $\pm 10^\circ$ Commercial
Standards Heading: $\pm 10^\circ$ Specified Bank(if any): $\pm 5^\circ$

Steep Turns

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Reduce throttle to 2100 RPM, Slow to 95 KIAS
3. Choose visual waypoint
4. Roll into Bank 45° Private, 50° Commercial with Aileron AND Rudder, Maintain Altitude and Airspeed.
5. Increase to 2300 RPM
6. Roll out 20-25° ahead of entry heading with Aileron AND Rudder

N692SP 172S MANEUVER GUIDE

7. Verify clear of traffic and roll into opposite direction turn. (smoothly and immediately for commercial)
8. Roll out 15-20° ahead of entry heading
9. Cruise checklist when appropriate

Private and Commercial Standards Airspeed: ± 10 KIAS Heading: $\pm 10^\circ$ Altitude: ± 100 FT Bank: $\pm 5^\circ$

Turns Around a Point (Private only)

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Select appropriate ground reference and emergency field(s)
3. Descend to 800ft AGL (ACS says 600-1000ft)
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

Private Standards Airspeed: ± 10 KIAS Altitude: ± 100 FT

S-Turns (Private only)

1. Perform Pre-Maneuver Checklist and Clearing Turns
2. Select ground reference 90° to the wind and emergency field(s)
3. Descend to 800ft AGL (ACS says 600-1000ft)
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

Private Standards Airspeed: ± 10 KIAS Altitude: ± 100 FT

Power Off 180 (Commercial Only)

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, slow to V_g 68 KIAS 4. Configure aircraft and manage airspeed as necessary: Anticipate earlier turn if in windy conditions
Flaps may be increased on approach to steepen descent

N692SP 172S MANEUVER GUIDE

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)

Commercial Standards TD Point: -0/+200 FT

Accelerated Stall (Commercial Only)

1. Perform Pre-Maneuver Checklist and Clearing Turns
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

Commercial Standards Complete no lower than 3000 AGL

Steep Spiral (Commercial Only)

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 85 KIAS
 5. Adjust bank as necessary to keep point at a fixed distance up to 60° Bank
 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

Commercial Standards Bank: not to exceed 60° Airspeed: ±10 KIAS Specified Heading: ±10° Complete no lower than 1500 AGL

8's on Pylon (Commercial Only)

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°)

N692SP 172S MANEUVER GUIDE

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

Commercial Standards Bank: Not to exceed 40° Avoid Slips and Skids

Chandelle (Commercial Only)

1. Perform Pre-Maneuver Checklist
2. Throttle to 2300RPM, Airspeed to 105 KIAS
3. Select 90° Reference
4. Bank 30° 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 (If asked to demonstrate to right)
9. Perform Cruise Checklist when appropriate

Commercial Standards Heading: 180° ±10 Airspeed: Just above stall; Maintain momentarily while avoiding stall

Lazy Eight (Commercial Only)

1. Perform Pre-Maneuver Checklist
2. Select 45°, 90° and 135° References
3. Verify configuration (maintain altitude, 95KIAS and power 2200RPM)
4. Increase pitch & bank 1-2° per second (up to ~17° and speed should be near 60KIAS)
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 Other direction smoothly and immediately
9. Perform Cruise Checklist when appropriate

Commercial Standards Bank: Approx 30° at Steepest At 180° Point: Airspeed: ±10 KIAS Heading: ±10° Altitude: ±100 FT

N692SP 172S MANEUVER GUIDE

Unusual Attitudes

1. Use the attitude indicator to quickly determine whether the airplane is in a nose high or nose low attitude (cross check with altimeter, airspeed, and vertical speed indicators)
2. Recognizing a nose high attitude: nose up pitch on attitude indicator, increasing altitude on altimeter, vertical speed indicator shows climb, decreasing airspeed (possibly approaching a stall)
3. Nose High Recovery: add full power, simultaneously lower the nose to the horizon, level the wings, trim
4. Recognizing a nose low attitude: nose down pitch on attitude indicator, decreasing altitude on altimeter, vertical speed indicator shows descent, increasing airspeed
5. Nose Low Recovery: bring power to idle, level the wings to avoid overstressing the airframe, smoothly bring the nose to the horizon, trim
6. Perform Cruise Checklist when appropriate

Standards Recognize and perform the correct, coordinated and smooth flight control application to recover