



Maneuver guide for Piper Seminole PA44-180

Cruise checklist:

- Power 22", 2300 RPM (22, 23)
- Lean mixtures
- Fuel Pumps Off (Check positive pressure for both engines)
- Landing light Off
- Cowl Flaps As Necessary

Pre-Maneuver Checklist in the Takeoff configuration

- Fuel selectors On
- Mixtures Rich
- Props Full Forward
- Fuel pumps On
- Landing light On

Pre-Maneuver Checklist for the Landing configuration

- Landing Gear Down
- Fuel selectors On
- Mixtures Rich
- Props Full Forward
- Fuel pumps On
- Landing light On

Short Field Take Off

- Normal flap settings (0 degrees)
- Utilize maximum available runway
- Hold brakes, increase full power and verify engine gauges in Green
- Release brakes and accelerate to rotation speed of 70kts
- Pitch for Vx 82kts
- Upon positive rate, raise landing gear
- Upon clearing obstacle, pitch for Vy 88kts

****If maneuver is done with flaps 25 degrees, rotation speed is 67kts and flaps will be reduced to 10 degrees after clearing obstacle. Flaps up at safe altitude after reaching Vy ****

Short Field Landing

****On final****

- Ensure flaps at 40 degrees
- Maintain 82kts
- On short final, decrease speed to 75kts
- **Upon landing, reduce flaps to 0 degrees and simulate maximum braking**

Slow Flight

- Perform two 90 degree clearing turns
- Pre-maneuver checklist as designated for takeoff or landing configuration
- Regardless of takeoff or landing configuration, lower landing gear below 140kts
- Reduce power to 15", maintain altitude
- **** IF Landing configuration, introduce full flaps in increments to 40 degrees****
- Adjust power and pitch accordingly to maintain + or - 50ft at minimal airspeed
- On recovery, apply full power and maintain altitude
- Raise landing gear below 109kts
- ****If in landing configuration, raise flaps to 25 degrees before raising gear)**
- Cruise checklist

Steep Turns

- Perform two 90 degree clearing turns
- Cruise checklist
- Reduce power to 20", maintain altitude
- Upon reaching maneuvering speed, 135kts at 3800lbs and 112kts at 2700lbs, increase bank to 50 degrees (45 degrees for PPL applicants)
- Increase 2-3" of manifold to maintain speed and altitude
- 20 degrees prior to starting point, repeat steps 4-5
- **Upon completion, perform cruise checklist**

Power On Stalls

- Two 90 degree clearing turns
- Pre-maneuver checks for takeoff configuration
- Reduce power to 15", maintain altitude
- Upon reaching 75kts, simultaneously increase pitch (no more than 20degrees) and increase power to 20"
- At first indication of a stall, (FULL stall for PPL applicants) increase full power and lower pitch to accelerate
- **Upon completion, perform cruise checklist**

Power Off Stalls

- Two 90 degree clearing turns
- Pre-maneuver checks for landing configuration
- Reduce power to 15", maintain altitude
- Introduce full flaps in increments below 111kts
- Upon reaching 88kts, reduce pitch to maintain 88kts and lose 100ft
- After descending 100ft, simultaneously increase pitch (no more than 20 degrees) and decrease to idle power (simulate flare)
- At first indication of a stall (FULL stall for PPL applicants), decrease angle of attack, increase full power and establish a positive climb rate
- Pitch and maintain 88kts on climb, decrease flaps to 25 degrees and raise landing gear
- Reduce flaps to 0 degrees
- **Upon completion, perform cruise checklist**

Emergency Descent

- Reduce idle power, props full forward, mixtures: full rich
- Lower landing gear below 140kts
- Pitch down for 130kts (Simulating Vle Down at 140kts to reduce stress on gear bay doors)
- Perform 90 degree clearing turns or 360 spiral during descent
- Upon reaching 300ft prior to target altitude, roll wings level and pitch up to maintain target altitude
- Raise landing gear below 109kts (Vlo)
- **Upon completion, perform cruise checklist**

Engine Out Procedures

- Maintain directional control, pitch attitude, and airspeed (Ball, Bank, Blue-line)
- Mixtures, Props, Throttles FULL FORWARD
- Verify flaps up, landing gear up
- Identify dead engine with dead foot
- Verify dead engine with the throttles
- Troubleshoot checklist (Altitude permitting)
- **Secure:** Close throttle, reduce propeller to the feather position, and mixture cutoff for the dead engine and set fuel for cross-feed

Troubleshoot checklist:

- Verify fuel selectors on
- Verify mixture is full rich
- Verify prop is full forward
- Verify fuel pump is on
- Verify magnetos on
- Increase dead engine throttle to a ¼ inch
- Start engine
- ****If engine fails to restart, secure the dead engine****

Vmc Demo

- Two 90 degree clearing turns
- Pre-maneuver checks for takeoff configuration
- Reduce power to 15", maintain altitude
- Upon reaching 100kts, reduce left throttle to 13" to simulate windmilling prop
- Maintain directional control, pitch attitude, and airspeed (ball, bank, blue-line)
- Upon reaching 88kts, increase right throttle. Maintain directional control
- Increase pitch attitude to lose approximately 1kt per second
- At first indication of loss of directional control (i.e full deflection on control surfaces, buffet, or stall horn), decrease to idle power and lower pitch
- Maintain directional control and apply full right throttle to establish 88kts
- Upon positive rate of climb, set both throttles to 20"
- **Upon completion, perform cruise checklist**