



## **Commercial Maneuvers for PA28RT-201**

### **Cruise checklist:**

- Power 23", 2400 RPM (23, 24)
- Lean mixture
- Fuel Pump Off (Check positive fuel pressure)
- Landing light Off

### **Pre-Maneuver Checklist in the Takeoff configuration**

- Fuel selector on fullest tank
- Mixture Rich
- Prop Full Forward
- Fuel pumps On
- Landing light On

### **Pre-Maneuver Checklist for the Landing configuration**

- Fuel selector on fullest tank
- Landing Gear Down (Verify and announce "gear down three green" before continuing)
- Mixture Rich
- Prop Full Forward
- Fuel pump On
- Landing light On
- Full flaps below Vfe 108kts

## **Short Field Take Off**

- Flaps set to 25 degrees
- Utilize maximum available runway
- Hold brakes, increase full power and verify engine gauges in Green
- Release brakes and accelerate to rotation speed of 60kts
- Pitch for Vx 77kts
- Upon positive rate, raise landing gear
- Retract flaps to 10 degrees
- Upon clearing obstacle, pitch for Vy 87kts
- Upon reaching safe altitude, retract flaps to 0 degrees

## **Short Field Landing**

**\*\*On final\*\***

- Ensure flaps at 40 degrees
- Maintain 75kts
- Upon clearing 50ft obstacle, close throttle
- Upon landing, reduce flaps to 0 degrees and simulate maximum braking**

## **Soft Field Take Off**

- Flaps set to 25 degrees
- Upon entering runway environment, maintain full aft on the yoke (Do not stop on the runway)
- Once aligned with the centerline of the runway, apply full power
- Rotate into and maintain flight within ground effect until reaching 70kts
- Pitch for Vy 87kts
- Upon positive rate, raise landing gear
- Retract flaps to 10 degrees
- Upon reaching safe altitude, retract flaps to 0 degrees

## **Short Field Landing**

**\*\*Normal landing\*\***

- Upon landing, increase aft yoke pressure to alleviate weight on the nose gear with minimal braking**

## **Slow Flight**

- Perform two 90 degree clearing turns
- Pre-maneuver checklist as designated for takeoff or landing configuration (Whichever specified)
- Regardless of takeoff or landing configuration, lower landing gear below 130kts
- Reduce power to 15", maintain altitude

### **IF in landing configuration, introduce full flaps to 40 degrees below Vfe 108kts**

- 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**

- Above Vx 77kts, retract all flaps
- Upon completion, perform cruise checklist**

## **Steep Turns**

- Two 90 degree clearing turns
- Cruise checklist
- Reduce power to 20", maintain altitude
- Upon reaching maneuvering speed, 121kts at 2750lbs and 96kts at 1863lbs, increase bank to 50 degrees
- 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 77kts, simultaneously increase pitch (no more than 20degrees) and increase power to 20"
- At first indication of a stall, 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 below 108kts

- Upon reaching 80kts, reduce pitch to maintain 80kts and lose 100 feet
- After descending 100ft, simultaneously increase pitch (no more than 20 degrees) and decrease to idle power (simulate flare)
- At first indication of a stall, decrease angle of attack, increase full power and establish a positive climb rate
- Upon establishing a positive rate, decrease flaps to 25 degrees and raise landing gear
- Upon reaching 87kts, 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 130kts
- Pitch down for 130kts
- 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 (V<sub>lo</sub>)
- Upon completion, perform cruise checklist**

## **Steep Spirals**

- Two 90 degree clearing turns
- Pre-maneuver checks for takeoff configuration
- Designate point of interest closest to pilot side
- Once abeam of the point, close throttles
- Pitch for and maintain best glide 79kts
- Keep point of interest between the wing and 45 degrees behind the pilot by varying bank angle in order to compensate for winds
- \*\*Maneuver can be completed with the landing gear down if asked to conduct steep spirals to a landing\*\*
- 100 ft prior to reaching assigned altitude, level wings and perform cruise checklist**

## **Power Off 180 Accuracy Landing**

- Ensure aircraft is 1000ft AGL or above before continuing
- Pre-maneuver checks for takeoff configuration
- Designate point of landing
- Abeam of designated area, close throttle
- Pitch for and maintain best glide 79kts
- Initiate a short approach (U-Turn) to the runway depending on altitude and winds
- Once landing is assured at designated landing area, lower landing gear (Verify and announce "gear down three green")
- Lower flaps as necessary**

## **Chandelle**

- Two 90 degree clearing turns
- Pre-maneuver checks for takeoff configuration
- Adjust power to maintain maneuvering speed (121kts at 2750lbs and 96kts at 1863lbs)
- Designate identifiable landmarks at the current heading, 90 degree, and 180 degree point
- Increase bank to 30 degrees (left or right)

**The goal of increasing pitch is to achieve minimal airspeed by the completion of the maneuver**

- Upon reaching the designated landmarks at the 90 degree point, slowly decrease bank and pitch until reaching designated landmark at the 180 degree point
- Once achieving a complete 180 degree turn, aircraft should be at minimal airspeed
- Upon completion, accelerate and perform cruise checklist**

## **Lazy Eights**

- Two 90 degree clearing turns
- Cruise checklist
- Adjust power to maintain maneuvering speed (121kts at 2750lbs and 96kts at 1863lbs)
- Designate identifiable landmarks at the current heading, 45 degree, 90 degree, 135 degree and 180 degree point
- Note starting altitude
- \*\*Simultaneously increase bank and pitch to 15 degrees to the left or right

**The goal of increasing pitch is to achieve minimal airspeed between 45 – 90 degrees of the maneuver**

- \*\*After the 15 degree point, increase bank to 30 degrees while simultaneously decreasing bank to 0 degrees (Nose of the aircraft should be transitioning through the horizon) upon reaching the 90 degree point
- \*\*After the 90 degree point, decrease to 15 degrees pitch down and decrease bank to 15 degrees upon reaching the 135 degree point
- \*\*After the 135 degree point, increase pitch to 0 (Stay within 100 feet of starting altitude) and decrease bank to 0 upon reaching the 180 degree point
- Repeat \*\* steps in the opposite direction
- Upon reaching original starting position, perform cruise checklist**

## Eights On Pylons

- Two 90 degree clearing turns
- Ensure starting altitude is at pivotal altitude ( $\text{Groundspeed}^2/11.3 = \text{Pivotal altitude in AGL}$ )
- Pre-maneuver checks for takeoff configuration
- Select two landmarks within two miles of each other
- Enter 45 degrees through the middle of the two landmarks with one of the landmarks on the left closest to the pilot side
- \*\*Once abeam of the point, initiate a bank to keep the landmark off the wing
- \*\*Using pitch, adjust aft or forward pressure to keep point off the wing (If point is ahead, pitch forward. If point is behind, pitch aft)
- Upon reaching the midpoint between the two landmarks, level wings until the next point is off the right wing
- Repeat \*\* steps
- Upon completion, perform cruise checklist**