Palmetto Sky Flight School Maneuvers Sheet

Purpose: This manual provides standardized procedures for the execution of maneuvers required for the Private Pilot Airplane Single-Engine Land (ASEL) certificate, in accordance with FAA Airman Certification Standards (ACS) and the Airplane Flying Handbook.

CRAAC Procedure Format:

- **C**learing Turns
- **R**eference Point
- **A**ltitude
- **A**irspeed
- **C**onfiguration

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1. Steep Turns

Objective: To perform two 360-degree turns at a high bank angle/ load factor, using outside and inside references, while maintaining a selected altitude and airspeed, and rudder coordination.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Select a reference point near the horizon
- **Altitude:** Select an altitude at least 1,500’ AGL
- **Airspeed:** 87 KTS
- **Configuration:** Cruise

Execution:

- Increase power by 100 RPM
- Smoothly roll into a 45° bank to the left while maintaining altitude and airspeed
- Maintain coordinated flight with the rudder
- Use elevator back pressure to control altitude and adjust power <u>if necessary</u> for airspeed
- Roll out 360° on the selected reference point and repeat to the right

- Upon completion, return power to normal cruise
- Roll out on entry heading ±10°, altitude ±100', airspeed ±10 KTS, bank ±5°

Completion Standards: Per ACS, see AFH

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2. Slow Flight

Objective: To understand the airplane's flight characteristics and how it handles in a high angle of attack, near stall condition.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Select a reference point near the horizon
- **Altitude:** Select an altitude at least 1,500' AGL
- **Airspeed:** 50 KTS
- **Configuration:** Landing

Execution:

- Reduce power and extend flaps 40°
- Maintain altitude as airspeed decreases
- Approaching 55 KTS, increase power to maintain altitude
- Use the region of reverse command: pitch controls airspeed, and power controls altitude
- Make shallow turns and small, quick corrections
- Recovery: Full power, retract flaps to 10°, accelerate to hold Vy and retract the rest of the flaps
- Return to cruise
- Maintain altitude, ±100 feet; heading, ±10°; airspeed, +10/-0 KTS; and specified angle of bank, ±10°.

Completion Standards: Per ACS, see AFH

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3. Power-On Stalls

Objective: To simulate a stall during departure and demonstrate recognition and recovery.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Select a reference point near the horizon
- **Altitude:** Select an altitude at least 1,500’ AGL
- **Airspeed:** 75 KTS
- **Configuration:** Take-off

Execution:

- Reduce power to 1500 RPM and maintain altitude as airspeed decreases
- Smoothly apply full power and increase pitch to induce stall
- Verbalize stall recognition, recover by reducing AOA
- Minimize altitude loss and finish in a climb at Vy
- Maintain heading, ±10° if in straight flight; maintain a specified angle of bank not to exceed 20°, ±10° if in turning flight, while inducing the stall.

Completion Standards: Per ACS, see AFH

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4. Power-Off Stalls

Objective: To simulate a stall during approach and demonstrate recognition and recovery.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Select a reference point near the horizon
- **Altitude:** At least 1,500’ AGL
- **Airspeed:** 66 KTS
- **Configuration:** Landing

Execution:

- Reduce power to 1500 RPM, extend flaps 40°, and maintain altitude as airspeed decreases
- Establish a descent (100ft) to simulate final approach at 66 KTS
- Power idle and increase pitch until stall occurs
- Verbalize stall recognition and recover (reduce pitch, apply full power, bring flaps to 10°, climb at Vy, and retract flaps to 0°)
- Finish in a climb at Vy

- Maintain a specified heading ±10° if in straight flight; maintain a specified angle of bank not to exceed 20°, ±10° if in turning flight, while inducing the stall.

Completion Standards: Per ACS, see AFH

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5. Turns Around a Point

Objective: To develop the pilot's ability to maintain a constant radius turn around a ground reference point.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Select a point off the left side of the airplane to circle roughly between .75 and 1 mile
- **Altitude:** Select an altitude 600–1,000' AGL
- **Airspeed:** 87 KTS
- **Configuration:** Take-off

Execution:

- Enter on downwind leg
- Maintain constant radius using wind correction
- Adjust bank angle as needed for wind (faster ground speed=steeper bank and vice versa)
- Maintain altitude ±100', airspeed ±10 KTS

Completion Standards: Per ACS, see AFH

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6. S-Turns

Objective: To develop the pilot's ability to compensate for wind drift during symmetrical ground track maneuvers.

CRAAC:

- **Clearing Turns:** Complete clearing turns
- **Reference Point:** Straight line feature perpendicular to wind (straight road or power line)

- **Altitude:** Select an altitude 600–1,000’ AGL
- **Airspeed:** 87 KTS
- **Configuration:** Take-off

Execution:

- Enter on downwind
- Begin turn with steep bank, adjusting for wind throughout each half-circle
- Cross reference line wings level at 180° heading each time
- Maintain altitude ±100’, airspeed ±10 KTS

Completion Standards: Per ACS, see AFH

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7. Engine Failure (In Flight)

Objective: To simulate and respond to an engine failure during cruise flight using the ABCDED mnemonic.

Execution:

- Airspeed: Establish and trim for 74 KTS
- Best Field: Select a suitable emergency landing site
- Checklist: Execute flow check:
    - Fuel Selector – Switch
    - Carb Heat – Hot
    - Mixture – Full rich
    - Fuel Pump – On
    - Primer – In and locked
    - Mags – Restart
- Declare Emergency: “Mayday Mayday” on 121.5/ Squawk 7700
- ELT: Activate
- Door: Open prior to landing
- Maintain Airspeed ±10 KTS, demonstrate safe approach to simulated landing spot, then go around before reaching unsafe altitude

Completion Standards: Per ACS, See AFH

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8. Emergency Descent

Objective: To execute a rapid, controlled descent to a lower altitude due to fire, smoke, Hypoxia, medical problem, or other in-flight emergency.

Execution:

- Bring throttle Idle
- Establish appropriate bank and nose down to establish descent at 122 KTS
- Turn Fuel Selector off
- Bring Mixture cut off
- Flip Magnetos off
- Declare emergency (Squawk 7700, Contact ATC)
- Windows and cabin vents: Open
- Bank 30°- 45°; airspeed: +0/-10 KTS; altitude: ±100

Completion Standards: Per ACS, see AFH

References:

- **FAA Airplane Flying Handbook (FAA-H-8083-3)**
- **Private Pilot Airman Certification Standards (ACS-6B)**
- **Pilot's Operating Handbook (POH) for specific aircraft**