Private Pilot Maneuver Guide

Piper Warrior II

HANSCOM
FLIGHT TRAINING CENTER

Version 1.0

The information in this guide is for reference only. It is intended as a supplement to, and does not replace, Federal Aviation Administration documents and the manufacturer's Airplane Flying Manual.

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Maneuver Guide

General

This guide contains step by step instructions for completing various maneuvers in the applicable Airman Certification Standards (ACS) or Practical Test Standards (PTS) documents. The maneuvers described do not represent every Task in the ACS / PTS. Rather, this guide focuses on maneuver Tasks performed in the airplane. This information is tailored to the designated aircraft make and model for more specific guidance than is found in the Airplane Flying Handbook or ACS/PTS. Recommended power settings, airspeeds, etc. may require adjustment based on actual conditions.

Key elements of the ACS / PTS standards for each maneuver are included for easier reference. Although maneuver standards are designated by the FAA, individual Instructors / Examiners have latitude in their preference for how specific maneuvers should be accomplished. This guide provides generally accepted procedures but is individually tailorable.

This guide is for reference only and does not replace actual instruction or official publications.

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      i. Runway remaining: Land on available runway
      ii. <500': Land in Forward 45° (~Straight Ahead)
      iii. 500' – 1000': Land in Forward 180°
      iv. >1000': Turn back toward airport possible
   i. Abnormal / Emergency after takeoff (other than engine failure):
      i. Advise ATC and return for landing
2. Complete all pre-takeoff checks and once cleared by ATC, taxi onto the runway
3. Position ailerons as required for crosswinds (full deflection into the wind)
4. Position elevator slightly aft of neutral
5. When ready and cleared for takeoff, release brakes and smoothly apply full power
6. Maintain runway centerline with rudder pedals
7. Call "airspeed alive" and "normal" after checking airspeed indicator and engine gauges
8. For crosswind takeoff: gradually reduce aileron deflection as airplane accelerates
9. At Vr (55 KIAS) gradually increase back elevator pressure
10. Establish a positive angle of attack (nosewheel raised slightly)
11. Allow the airplane to fly off the runway (do not "pull" the airplane off the runway)
12. Establish a Vy pitch attitude and maintain Vy during the initial climb (79 KIAS)
13. Apply and hold sufficient right rudder to maintain the airplane in trim
14. Maintain runway alignment until above 500' AGL and clear of the departure end of the runway
15. Turn on course (or as directed by ATC)
16. 500' AGL: Establish cruise climb airspeed (better visibility and engine cooling)
17. 1000' AGL: Complete the climb checklist

Private Pilot ACS Standards
Rotate at Vr
Establish and maintain Vy: +10/- 5 KIAS

Soft Field Takeoff & Climb

1. Takeoff Briefing
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      i. Runway remaining: Land on available runway
      ii. <500': Land in Forward 45° (~Straight Ahead)
      iii. 500' – 1000': Land in Forward 180°
      iv. >1000': Turn back toward airport possible
   j. Abnormal / Emergency after takeoff (other than engine failure):
      i. Advise ATC and return for landing
2. Complete all pre-takeoff checks and once cleared by ATC, taxi onto the runway
3. Hold elevator control full aft during taxi to keep nosewheel light
4. Continue forward motion during lineup (don't stop on the runway)
5. Position ailerons as required for crosswinds (full deflection into the wind)
6. Smoothly apply takeoff power while holding full aft elevator deflection
7. Maintain the runway centerline using rudder pedals
8. Call "airspeed alive" and "normal" after checking airspeed indicator and engine gauges
9. For crosswind takeoff: gradually reduce aileron deflection as airplane accelerates
10. Gradually decrease aft elevator deflection as the airplane accelerates
11. Establish a positive angle of attack (nosewheel raised slightly) during the takeoff roll
12. Allow the airplane to fly off the runway (do not "pull" the airplane off the runway)
13. Apply forward elevator pressure to hold the airplane in ground effect
14. Accelerate in ground effect to Vy (79 KIAS)
15. Adjust pitch attitude to climb at Vy (79 KIAS)
16. Retract the flaps one notch at a time when a positive rate of climb is established
17. Maintain heading until above 500' AGL and clear of the departure end of the runway
18. Turn on course (or as directed by ATC)
19. 500' AGL: Establish cruise climb airspeed (better visibility and engine cooling)
20. 1000' AGL: Complete the climb checklist

Private Pilot ACS Standards
Lift off at the lowest possible airspeed
Remain in ground effect while accelerating to Vy
Establish and maintain Vy: +10/- 5 KIAS

Short Field Takeoff & Maximum Performance Climb

1. Takeoff Briefing
   a. Short Field Takeoff & Maximum Performance Climb
   b. Flaps 25°
   c. Runway number
   d. Vr = 52 / Obstacle Clearance Airspeed = 52 / Vy = 79
   e. Initial Heading / Altitude
   f. 500' AGL: Establish cruise climb airspeed (79 – 87 KIAS)
   g. 1000' AGL: Complete climb checklist
   h. Eng Failure on Takeoff Roll: Stop on runway & notify ATC
   i. Eng Failure after Takeoff (Best Glide = 73 KIAS at Max Weight):
      i. Runway remaining: Land on available runway
      ii. <500': Land in Forward 45° (~Straight Ahead)
      iii. 500' – 1000': Land in Forward 180°
      iv. >1000': Turn back toward airport possible
   j. Abnormal / Emergency after takeoff (other than engine failure):
      i. Advise ATC and return for landing
2. Complete all pre-takeoff checks and once cleared by ATC, taxi onto the runway
3. Use all available runway for the takeoff (don't follow taxi line)
4. Once aligned with the runway centerline, hold airplane in position with toe brakes
5. Position ailerons as required for crosswinds (full deflection into the wind)
6. Position elevator in a neutral position to reduce aerodynamic drag
7. Smoothly apply full power while holding airplane stationary with toe brakes
8. Check engine gauges to confirm full power and normal indications
9. Release toe brakes and maintain the runway centerline using rudder pedals
10. Call "airspeed alive" and "normal" after checking airspeed indicator and engine gauges
11. For crosswind takeoff, gradually reduce aileron deflection as airplane accelerates
12. Approaching Vr (52 KIAS) smoothly increase backward elevator pressure
13. Allow the airplane to fly off the runway (do not "pull" the airplane off the runway)
14. Pitch for and maintain the Obstacle Clearance Airspeed (52 KIAS)
15. Maintain 52 KIAS until clear of obstacles or 50' (whichever is higher)
16. Adjust pitch attitude to climb at Vy (79 KIAS)
17. Retract the flaps one notch at a time when a positive rate of climb is established
18. 500' AGL: Establish cruise climb airspeed (better visibility and engine cooling)
19. 1000' AGL: Complete the climb checklist

Private Pilot ACS Standards
Rotate at the recommended airspeed
Establish and maintain Obstacle Clearance Airspeed and Vy: +10/- 5 KIAS

Steep Turns

1. C: Clearing Turn (180° turn or 2 x 90° turns)
2. A: Altitude (no minimum specified in ACS – use good judgement)
3. P: Pre-Maneuver Flow (BCGUMPS)
   - B: Boost Pump – ON
   - C: Carb Heat – OFF
   - G: Gas – Fullest Tank
   - U: Undercarriage – Down*
   - M: Mixture – Leaned
   - P: Primer – In & Locked
   - S: Seat Belts – Fastened
4. Power: 2300 RPM
5. Confirm airspeed less than Va (111 KIAS at Max Weight)
6. Roll into 45° bank (left or right)
7. Add back elevator pressure at 30° bank
8. Add power (+100 – 200 RPM) as required to maintain airspeed
9. Adjust pitch and bank to maintain altitude and desired bank angle (45°)
10. Begin roll out 20 - 25° prior to reference heading (lead roll-out by ½ the angle of bank)
11. Release elevator back pressure
12. Reduce power to entry setting (2300 RPM)
13. Perform a turn in the opposite direction as directed by the Instructor / Examiner
14. Fuel Boost Pump – OFF

*Including "U – Undercarriage" in the standard flow will assist in transition to complex airplanes and enhance safety by establishing the habit of confirming landing gear position.

Private Pilot ACS Standards

Altitude: +/- 100'	Bank: +/- 5°
Airspeed: +/- 10 KIAS	Heading: +/- 10°

Maneuvering During Slow Flight

1. C: Clearing Turn (180° turn or 2 x 90° turns)
2. A: Altitude (not lower than 1,500' AGL)
3. P: Pre-Maneuver Flow (BCGUMPS)
4. Power: 1600 RPM
5. In White Arc: Flaps to 40° (one notch at a time)
6. Slow to 60 KIAS while maintaining altitude
7. Add power (2000 RPM) to maintain altitude at 60 KIAS
8. Perform turns, climbs, and descents as directed
9. Use pitch to control airspeed and power to control altitude
    a. Turns: use no more than 10° of bank
    b. Climbs: require full power and right rudder
    c. Descents: rate of descent is dependent on amount of power reduction
10. When directed to recover*:
    a. Apply full power
    b. Flaps: 25° (immediately after applying full power)
    c. Maintain heading and altitude
    d. Gain airspeed
    e. Flaps 10° and 0° (one notch at a time)
    f. Airspeed 110 KIAS - Power 2300 RPM – Fuel Boost Pump – OFF

*It is common to transition from Slow Flight straight into a Power Off Stall at Instructor / Examiner discretion

NOTE: The target airspeed for this maneuver is the airspeed at which any further increase in angle of attack, increase in load factor, or reduction in power would result in a stall warning (e.g., aircraft buffet, stall horn, etc.). 60 KIAS provides a suitable margin above stall warning under most conditions but may be adjusted at the discretion of the pilot flying based weight, atmospheric conditions, and aircraft performance.

Private Pilot ACS Standards

Altitude: +/- 100'	Specified Bank: +/- 10°
Airspeed: MCAS -0/+10 KIAS	Heading: +/- 10°

Perform all maneuvers without a stall warning

Power-Off Stalls

1. C: Clearing Turn (180° turn or 2 x 90° turns)
2. A: Altitude (recover not lower than 1,500' AGL)
3. P: Pre-Maneuver Flow (BCGUMPS)
4. Power: 1600 RPM
5. In White Arc: Flaps to 40° (one notch at a time)
6. Maintain altitude and heading while slowing and configuring
7. Establish descent (~500 FPM)
8. When ready, set power to idle and begin raising the nose slowly to induce a stall
9. Perform the maneuver straight ahead or in a bank of not more than 20°
10. Verbally announce the first indication of a stall (e.g., aircraft buffet, stall horn, etc.)
11. After the full stall:
    a. Lower the nose to the horizon and level the wings while applying full power
    b. Flaps: 25° (immediately after applying full power)
    c. Gain airspeed and establish a Vy pitch attitude while maintaining heading
    d. Flaps 10° and 0° (one notch at a time) when a positive rate of climb is established
    e. Level off at the initial entry altitude or as directed by the Instructor / Evaluator
    f. Airspeed 110 KIAS - Power 2300 RPM – Fuel Boost Pump – OFF

NOTE: Maintain the airplane in trim (ball centered) throughout the entry and recovery. Anticipate and hold sufficient right rudder pressure during the recovery while climbing at low airspeed with full power applied.

Private Pilot ACS Standards
If stalling straight ahead: Heading +/- 10°
If stalling in a turn: Specified Bank (not to exceed 20°) +/- 10°

Power-On Stalls

1. C: Clearing Turn (180° turn or 2 x 90° turns)
2. A: Altitude (recover not lower than 1,500' AGL)
3. P: Pre-Maneuver Flow (BCGUMPS)
4. Power: 1600 RPM
5. In White Arc: Flaps to 25° (one notch at a time) as directed by Instructor / Examiner
6. Slow to 60 KIAS while maintaining heading and altitude
7. At 60 KIAS, apply full power and begin raising the nose slowly to induce a stall
8. Perform the maneuver straight ahead or in a bank of not more than 20°
9. Verbally announce the first indication of a stall (e.g., aircraft buffet, stall horn, etc.)
10. After the full stall:
    a. Lower the nose to the horizon and level the wings
    b. Gain airspeed and establish a Vy pitch attitude while maintaining heading
    c. Flaps 10° and 0° (one notch at a time) when a positive rate of climb is established
    d. Establish a Vy climb (79 KIAS) with flaps up
    e. Level off and maintain heading and altitude
    f. Airspeed 110 KIAS - Power 2300 RPM – Fuel Boost Pump – OFF

NOTE 1: Flap configuration is at the discretion of the Instructor / Evaluator. A maximum of 25° of flaps may be used to simulated a Short Field Takeoff configuration. Typically, this maneuver is executed with flaps up (0°).

NOTE 2: Maintain the airplane in trim (ball centered) throughout the entry and recovery. Anticipate and hold sufficient right rudder pressure during the entry and recovery while climbing at low airspeed with full power applied.

Private Pilot ACS Standards
If stalling straight ahead: Heading +/- 10°
If stalling in a turn: Specified Bank (not to exceed 20°) +/- 10°

Ground Reference Maneuvers

1. C: Clearing Turn (180° turn or 2 x 90° turns)
2. A: Altitude (600' – 1,000' AGL)
3. P: Pre-Maneuver Flow (BCGUMPS)
4. Select a suitable area, line, or point for the maneuver
5. Check for hazards, forced landing areas, and avoid built up and/or noise sensitive areas
6. Power: 2300 RPM
7. Plan the maneuver:
    a. Rectangular Course: Enter a left or right pattern at an appropriate distance from the selected reference area, 45° to the downwind leg
    b. S-turns: Enter perpendicular to the selected reference line on a downwind leg
    c. Turns around a point: Enter at an appropriate distance from the reference point on a downwind leg
8. Fly the maneuver:
    a. Rectangular Course*: Apply adequate wind drift correction during straight and turning flight to maintain a rectangular ground track
    b. S-turns: Apply adequate wind drift correction during turning flight to maintain a constant radius turn on each side of the selected reference line and reverse the turn directly over the selected reference line
    c. Turns around a point: Apply adequate wind drift correction during turning flight to maintain a constant radius turn on each side of the selected reference point
9. Divide attention between airplane control, traffic avoidance, and the ground track while maintaining coordinated flight

*Rectangular course is typically evaluated in the airport traffic pattern

NOTE: The key to success in Ground Reference Maneuvers is understanding the effect of changes in groundspeed due to wind and its effect on turning radius. When headed upwind (lower groundspeed) turn radius is small requiring shallow bank angles. When headed crosswind (medium groundspeed) turn radius is moderate requiring medium bank angles. When headed downwind (higher groundspeed) turn radius is large requiring steep bank angles. The pilot must maintain awareness of wind direction while turning (and corresponding groundspeed changes) and adjust the bank angle accordingly to maintain the desired ground track.

Private Pilot ACS Standards
Altitude: +/- 100'
Airspeed: +/- 10 KIAS
Appropriate ground track maintained

Recovery from Unusual Flight Attitudes

1. This maneuver is performed while wearing a view limiting device
2. The Instructor / Examiner is responsible for traffic avoidance and setup
3. The Instructor / Examiner will initiate the maneuver in one of two ways:
    a. Instructor / Examiner flies the airplane while the student closes their eyes
    b. Student flies the airplane with their eyes closed while following verbal instructions from the Instructor / Examiner
4. Regardless of the method used, the airplane will eventually enter an unusual attitude
5. Upon entering an unusual attitude, the Instructor / Examiner will command the student to "recover"
6. There are two categories of unusual attitudes:
    a. Nose down / airspeed increasing
    b. Nose up / airspeed decreasing
7. On the command to "recover," the student will open their eyes and quickly analyze the flight instruments (along with audible cues such as engine RPM) to determine which type of unusual attitude the airplane is in
8. Recovery procedures:
    a. Nose down / airspeed increasing:
        i. Reduce power to idle
        ii. Roll wings level
        iii. Smoothly apply back elevator pressure to bring the nose to the horizon
    b. Nose up / airspeed decreasing:
        i. Smoothly add full power
        ii. Roll and pitch simultaneously to the horizon
9. Once the initial recovery is complete, set cruise power (2300 RPM)
10. Maintain heading and altitude
11. Check trim (ball centered and elevator / rudder trim set)

NOTE: It is common for the Instructor / Examiner to apply significant elevator trim in one direction while the student's eyes are closed to induce the unusual attitude. This simulates a 'runaway trim' malfunction that can occur with electric trim systems. Be prepared to physically overpower the elevator trim during the initial recovery.

Private Pilot ACS Standards

Recognize unusual flight attitudes solely by reference to instruments
Perform the correct, coordinated, and smooth flight control application to recover
Remain within the airplane's limitations and flight parameters

Emergency Descent

1. This maneuver can be initiated by the Instructor / Examiner as an emergency scenario (rapid decompression, engine fire, smoke in the cockpit, etc.) OR as a planned flight maneuver
2. If conducted as a planned flight maneuver, accomplish the standard setup:
   - C: Clearing Turn (180° turn or 2 x 90° turns)
   - A: Altitude (initiate at a safe altitude)
   - P: Pre-Maneuver Flow (BCGUMPS)
3. If conducted as an emergency scenario, respond immediately:
   a. Throttle – CLOSED
   b. Bank – 30° - 45° (left or right)
   c. Establish a spiraling descent at Vno (126 KIAS) +0/-10 KIAS
4. Once established in a spiraling descent, complete immediate action items as appropriate for the simulated emergency (if applicable) i.e.:
   a. Engine Fire (*all simulated*)
      i. Fuel selector – OFF
      ii. Mixture – Idle Cutoff
      iii. Fuel Boost Pump – OFF
      iv. Ignition – OFF
      v. ELT – activate
      vi. Transponder – 7700
      vii. Mayday call – on local ATC frequency or 121.500
5. Level off at the designated altitude or continue to a simulated forced landing as directed by the Instructor / Examiner
6. If terminating the maneuver at a designated altitude:
   a. 200' prior to the designated altitude – roll wings level
   b. Raise the nose to the horizon – maintain heading and altitude
   c. Airspeed 110 KIAS - Power 2300 RPM – Fuel Boost Pump – verify OFF
7. If continuing the maneuver as a simulated forced landing:
   a. Refer to 'Emergency Approach & Landing (Simulated)' procedure

Private Pilot ACS Standards

Establish and maintain the airspeed and configuration appropriate to the scenario
Demonstrate orientation, division of attention, and proper planning
Bank: 30° - 45°
Complete the appropriate checklist

Emergency Approach & Landing (Simulated)

1. This maneuver is typically initiated by the Instructor / Examiner closing the throttle and announcing "simulated engine failure"
2. Immediately pitch the nose for Vg (73 KIAS at Max Takeoff Weight)
3. If in a descent or cruise flight, maintain altitude while slowing to Vg (73 KIAS)
4. If in a climb, pitch down to attain Vg (73 KIAS)
5. Locate a suitable forced landing area and turn toward it (scan in all directions)
6. Evaluate wind direction, long axis, slope, etc. and plan landing direction
7. While gliding toward the forced landing area, troubleshoot and attempt a restart:
    a. Fuel selector – change tanks *simulated*
    b. Carb Heat – ON
    c. Mixture – Full Rich
    d. Fuel Boost Pump – ON
    e. Primer – check in and locked
    f. Engine & Fuel gauges – check
    g. Ignition – check L & R magnetos *simulated*

NOTE 1: Do not descend below 500' AGL unless intending to land on a suitable runway

8. Enter a shallow spiral descent over the selected forced landing area
9. Continue to evaluate the forced landing area for suitability; select an alternate location if necessary
10. Prepare for a forced landing if unable to restart (*all simulated*):
    a. Fuel selector – OFF
    b. Mixture – Idle Cutoff
    c. Fuel Boost Pump – OFF
    d. Ignition – OFF
    e. ELT – activate
    f. Transponder – 7700
    g. Mayday call – on local ATC frequency or 121.500

NOTE 2: Achieving a safe landing is the #1 priority. Do not become distracted by troubleshooting and fail to establish a gliding approach to the selected landing area

11. Do not attempt to fly a rectangular pattern to the forced landing area
12. Remain upwind of the forced landing area during the spiraling descent
13. At a suitable altitude, maneuver the airplane onto a medium to steep base or final leg
14. Conduct S-turns and/or Forward Slip, as necessary, to lose altitude
15. Deploy flaps to 40° when landing is ASSURED and slow to final landing speed (63 KIAS)
16. On short final (*all simulated*):
    a. Master switch – OFF
    b. Door – Open

Private Pilot ACS Standards
Establish and maintain Vg +/-10 KIAS
Select a suitable landing area
Plan and follow a flightpath to the selected landing area

Normal Approach and Landing

1. Prior to beginning initial descent and/or entering airport airspace (A-B-C):
   - A: ATIS / AWOS / Altimeter – receive current information and set altimeter
   - B: Brief – brief anticipated runway, traffic pattern entry, and airspeeds
   - C: Checklist – review the Descent checklist
2. Establish two-way ATC communication or make advisory call (~10 nm)
3. Initiate descent to arrive at traffic pattern altitude prior to entry
4. Enter downwind on a 45° intercept angle (or as directed by ATC)
5. Downwind altitude: 1,000 AGL or as specified in the Airport Facility Directory
6. On downwind – Power: 2100 RPM and complete Before Landing checklist
7. Adjust for wind conditions to maintain a parallel ground track with the landing runway
8. Abeam intended landing aim point (~runway threshold):
   a. Power: 1600 RPM
   b. Flaps: 10° (verify in white arc)
   c. Airspeed: 85 KIAS
   d. Begin descent
9. Turn onto the base leg when the airplane is 45° from the landing aim point
10. Established on base:
    a. Flaps: 25°
    b. Airspeed: 80 KIAS
11. Turn final as required to roll out on the extended runway centerline
12. Established on final:
    a. Flaps: 40°
    b. Airspeed: 75 KIAS
    c. Short Final: 65 - 70 KIAS
13. Recognize crosswind and establish side slip on final
14. Maintain aim point in a stationary position relative to your line of sight
15. Slowly retard power to idle crossing the runway threshold
16. Round out at 10 – 20' above the runway and allow airspeed to dissipate
17. Flare as required to touch down on the main wheels with the longitudinal axis aligned with the landing direction
18. After touchdown – maintain runway centerline with rudder pedals and apply crosswind correction with the ailerons
19. Exit the runway at the first available taxiway or as directed by ATC
20. Complete the After Landing checklist once clear of the runway hold short markings

Private Pilot ACS Standards

Pattern Altitude: +/- 100'	Pattern Airspeed: +/- 10 KIAS
Approach Airspeed: +10/-5 KIAS	Touchdown: At recommended airspeed

Soft Field Approach and Landing

1. All procedures and airspeeds are identical for Normal Approach & Landing until on short final
2. The objective at touchdown is to land as gently as possible on the main wheels and hold the nosewheel off the runway as long as possible
3. 40° of flaps should be used to achieve the slowest possible touchdown speed
4. Slowly retard power to idle crossing the runway threshold
5. As a technique, a slight amount of power can be used to assist in cushioning the landing
6. Round out at 10 – 20' above the runway and allow airspeed to dissipate
7. Maintain sufficient energy in the flare to prevent rapidly descending
8. At touchdown, anticipate the tendency for the nose to drop due to main wheel drag
9. Maintain sufficient back elevator pressure to keep the nosewheel suspended without lifting the main wheels off the runway
10. Do not apply brakes - only aerodynamic braking is used on soft surfaces
11. As the airplane slows, increase back elevator pressure to keep the nosewheel suspended as long as possible
12. Anticipate reduced elevator effectiveness at slower airspeeds and gently lower the nosewheel to the runway before it drops in an uncontrolled manner
13. Once all wheels are in contact with the runway, apply full aft elevator control to keep the nosewheel light and close the throttle if power was used during touchdown
14. Maintain runway centerline with rudder pedals and apply crosswind correction with the ailerons
15. Exit the runway at the first available taxiway or as directed by ATC
16. Complete the After Landing checklist once clear of the runway hold short markings

NOTE: If on a soft surface (or simulating one), the airplane should remain in continuous motion after landing with the elevator control held full aft until reaching parking. Significant power application is required to get an airplane moving from a full stop on unimproved surfaces. Maintaining forward momentum prevents this. Holding the elevator full aft keeps the nosewheel light (preventing it from 'digging in') and assists with propeller clearance.

Private Pilot ACS Standards
Approach Airspeed: +10/-5 KIAS
Nose wheel off the surface until loss of elevator effectiveness
Maintain elevator aft and forward motion after landing

Short Field Approach and Landing

1. All procedures are identical for Normal Approach & Landing until on final
2. Recommended technique is to plan the approach for an extended final leg to allow time to establish the proper airspeed, descent angle, aim point, and touchdown point
3. While on extended final, establish final configuration and airspeed:
    a. Power: Adjust to maintain desired rate of descent
    b. Flaps: 40° (configure early)
    c. Airspeed: 63 KIAS
4. Recognize crosswind and establish side slip
5. Announce intended touchdown point for evaluation of ACS standards (see below)
6. Maintain the aim point in a stationary position relative to your line of sight
7. On final approach the airplane should be in a landing attitude (slightly nose high) with power being used to control descent rate and pitch being used to maintain 63 KIAS
8. Maintain a landing attitude and reduce power slowly to land at or 200' beyond the designated touchdown point
9. Anticipate a rapid sink rate due to low airspeed and be prepared to cushion with power
10. Flare as required to touch down on the main wheels with the longitudinal axis aligned with the landing direction
11. After landing – retract flaps to transfer weight to the main wheels and simulate maximum braking
12. Hold aft elevator pressure for aerodynamic braking and prop clearance during simulated maximum braking
13. Maintain runway centerline with rudder pedals and apply crosswind correction with the ailerons
14. Exit the runway at the first available taxiway or as directed by ATC
15. Complete the After Landing checklist once clear of the runway hold short markings

NOTE 1: A standard runway centerline stripe is 120' long. The gap between runway stripes is 80' long for a total of 200'. As a technique, select the beginning of the second runway stripe as the designated touchdown point and select an appropriate aim point based on headwind component and the anticipated descent rate.

NOTE 2: If landing within ACS standards is in doubt, do not hesitate to conduct a Go Around as this would reflect good pilot judgment. DO NOT attempt to force the airplane onto the runway to achieve ACS standards as this would demonstrate poor judgement and could result in airplane damage.

Private Pilot ACS Standards
Approach Airspeed: +10/-5 KIAS
Touchdown: At specified point -0' / +200'

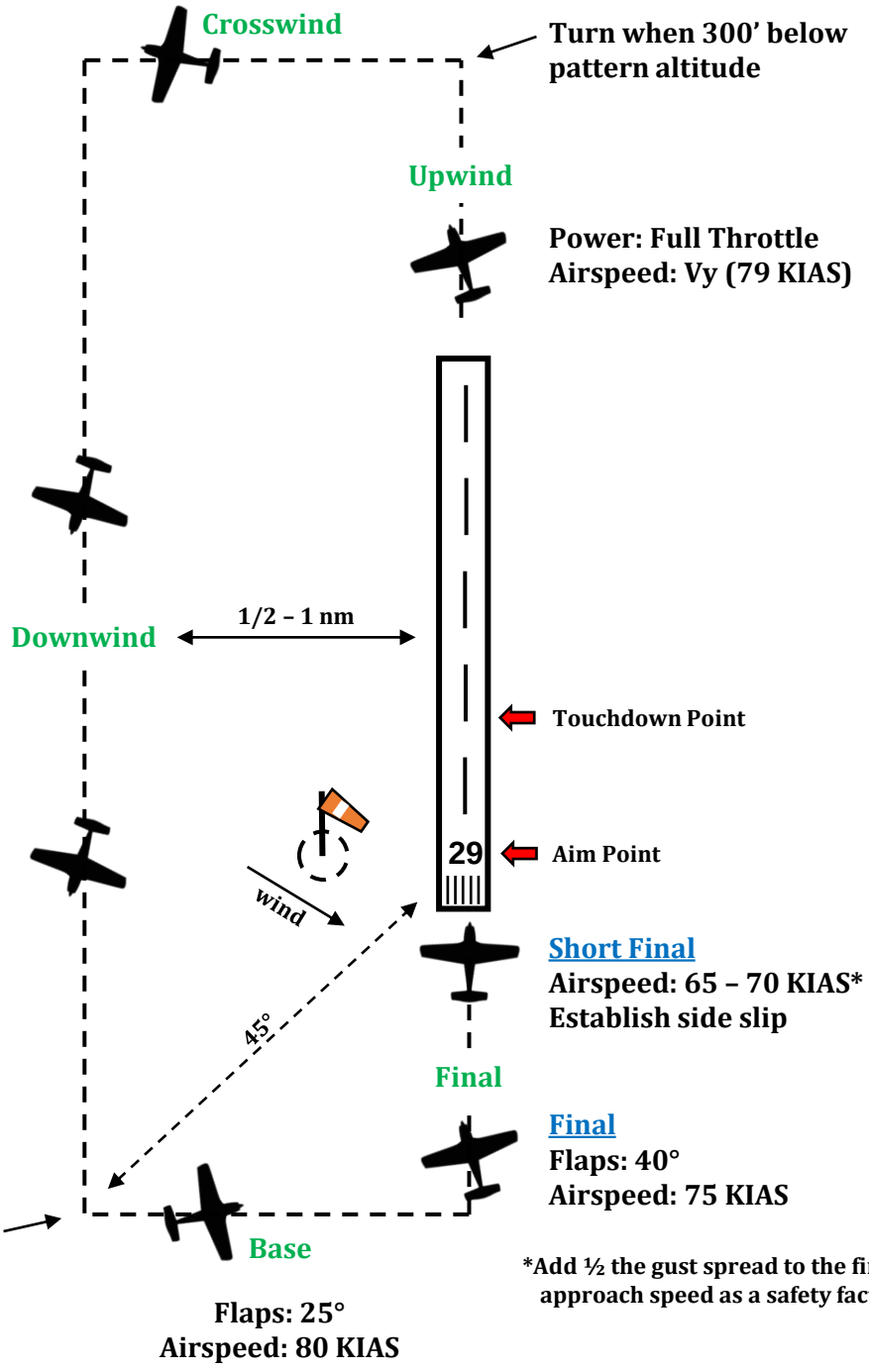
Go Around / Rejected Landing

1. **A Go-Around shall be executed promptly on Instructor / Examiner command or when any of the following occur:**
   a. **ATC instruction**
   b. **A loss of separation or collision hazard occurs (or may occur) with an airplane, vehicle, person, or object in the runway environment**
   c. **The pilot flying deems the approach to be unstable (improper airspeed, rate of descent, runway alignment, or configuration)**
   d. **The pilot flying detects that the airplane won't land in the touchdown zone**
   e. **Any other operational or safety reason at the discretion of the pilot flying**
2. **Smoothly apply full power while adjusting pitch to establish a Vy climb attitude**
3. **Immediately retract flaps to 25° (if flaps extended to 40°)**
4. **Apply and hold sufficient right rudder to maintain the airplane in trim**
5. **Maintain Vy during the initial climb (79 KIAS)**
6. **Maintain runway alignment or sidestep to maintain visual separation from conflicting traffic (if applicable)**
7. **When a positive rate of climb is established, retract flaps one notch at a time to 0°**
8. **When able, notify ATC or make a CTAF call**
9. **Continue as per a Normal Takeoff & Climb**

<u>Private Pilot ACS Standards</u>
Make a timely decision to discontinue the approach
Airspeed: Vy +10/-5 KIAS
Make radio calls as appropriate

Traffic Pattern
(Left Traffic & Normal Landing Technique)

Private Pilot ACS Standards
Altitude: +/- 100'
Airspeed: +/- 10 KIAS
Correct for wind drift



*Add ½ the gust spread to the final approach speed as a safety factor

NOTE: Left crosswind depicted. Adjust heading as required to maintain rectangular ground track based on actual wind conditions