

Objective: To maintain a constant altitude, heading, and airspeed during coordinated flight

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- | | |
|----------|--------------------------------------|
| 1. Power | As Needed
Generally 2300-2400 RPM |
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- | | |
|-------------|--|
| 2. Attitude | Establish and Maintain with Primary
Flight Controls |
|-------------|--|
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- | | |
|---------|---|
| 2. Trim | At Desired Airspeed, to Relieve
Control Pressure |
|---------|---|
-



Straight and Level

Objective: To maintain the flight attitude, airspeed, and coordination for best altitude gain with climb power


1. Power		Full
2. Attitude	Establish and Maintain at V_x (64 KTS) or V_Y (76 KTS)	
3. Trim	At Desired Airspeed, to Relieve Control Pressure	
4. Recover	Level Off at Assigned Altitude with Coordinated Use of Flight Controls	



Climb

Objective:

To establish, maintain, and maneuver the airplane while coordinated at speeds and configurations required for takeoffs, landings, and go-arounds.

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- | | |
|----------|---|
| 1. Power | Mixture Rich
1800 RPM
500 Feet Per Minute |
|----------|---|
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- | | |
|-------------|--|
| 2. Attitude | Establish and Maintain for Descent with
Primary Flight Controls |
|-------------|--|
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- | | |
|---------|---|
| 3. Trim | At Desired Airspeed, to Relieve Control
Pressure |
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- | | |
|------------|--|
| 4. Recover | Level Off at Assigned Altitude with
Coordinated Use of Flight Controls.
Gently Increase Power for Cruise Power |
|------------|--|
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Descent

Objective: To return the airplane to straight and level coordinated flight following a climb or descent

Climb

- | | |
|-------------|---|
| 1. Attitude | Establish and Maintain Straight and Level Flight with Primary Flight Controls |
| 2. Power | 2300 RPM at Desired Airspeed |
| 3. Trim | To Relieve Control Pressure |
-

Descent

- | | |
|-------------|---|
| 1. Power | 2300 RPM |
| 2. Attitude | Establish and Maintain with Primary Flight Controls |
| 3. Trim | To Relieve Control Pressure |
-

Level-Off

Objective:

To maintain altitude, coordination, and airspeed while holding a constant bank angle in either direction.

1. Power	Cruise Power 2300 - 2400 RPM
2. Attitude	Establish and Maintain with Primary Flight Controls
3. Recover	Rollout on Assigned Heading with Coordinated Use of Flight Controls



Level Turn

Objective: To maintain the flight attitude for a coordinated turn in climbing flight

1. Power	Full
2. Attitude	Establish and Maintain with Primary Flight Controls
3. Trim	At Desired Airspeed, to Relieve Control Pressure
4. Recover	On Assigned Heading and Altitude with Coordinated Use of Flight Controls



Climbing Turn

Objective: To maintain the flight attitude for a coordinated turn in descending flight.

1. Power	Mixture Rich 2200 RPM 500 Feet Per Minute
2. Attitude	Establish and Maintain with Primary Flight Controls
3. Trim	At Desired Airspeed, to Relieve Control Pressure
4. Recover	On Assigned Heading and Altitude with Coordinated Use of Flight Controls. Gently Increase Power to Cruise Setting

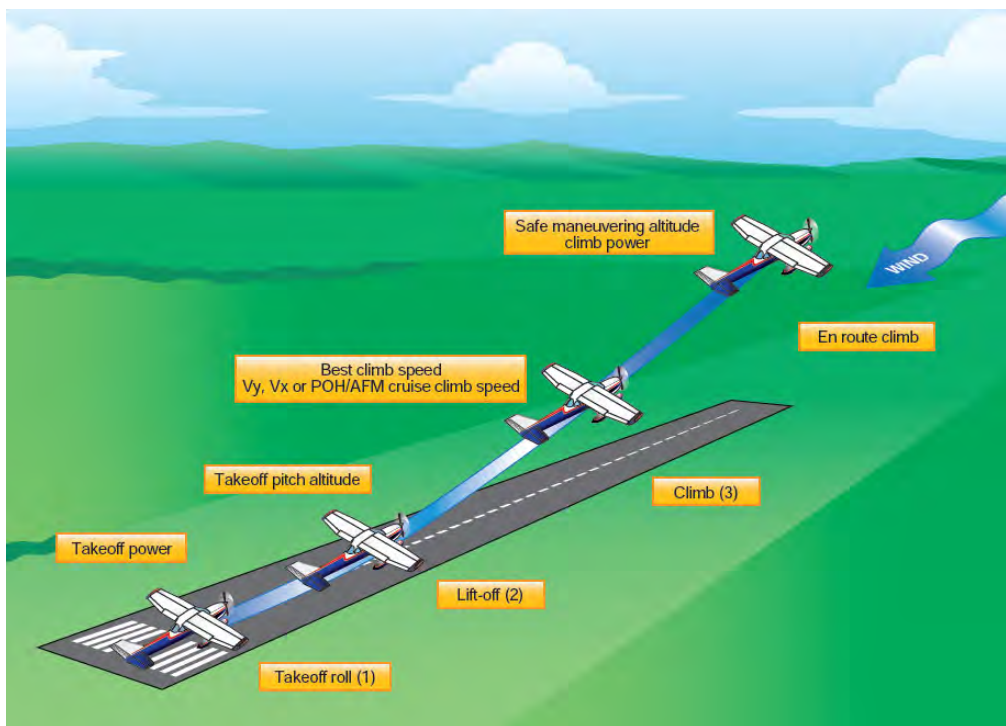


Descending Turn

Objective:

To make a smooth and coordinated transition from the runway to climbing flight.

1. Run-Up	Complete
2. Flaps	0°
3. Pre-Takeoff Checklist	Complete
4. Clearance	Obtain
5. Throttle	Full (2 sec. Idle to Full)
6. Engine Instruments	Check
7. Airspeed	Alive
8. Rotate	60 KTS
9. Attitude	V _Y (76 KTS)
10. Climb	76 KTS
11. After Takeoff	500', After Takeoff Check / Flow
12. Climb	Check

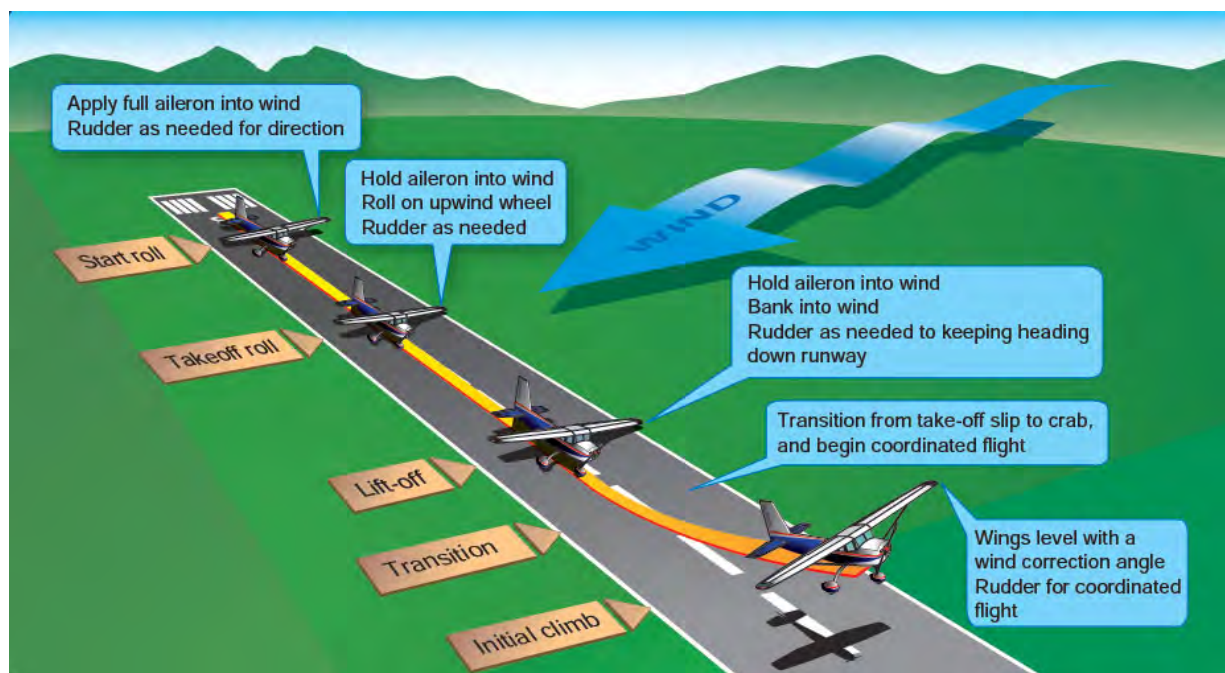


Normal Takeoff

Objective:

To maintain directional control during ground roll and lift, then maintain a pitch attitude and airspeed which will give the best altitude gain while tracking out on the runway centerline

1. Run-Up	Complete
2. Flaps	0°
3. Clearence	Obtain
4. Flight Controls	Full Deflection Into Wind
5. Throttle	Full
6. Engine Instrument	Check
7. Airspeed	Alive
8. Flight Controls	Gradually Reduce Aileron Deflection
9. Rotate	Onto Upwind Wheel at 60 kts
10. Attitude	76 KTS - V _Y
11. Wind Correction Angle	Into the Wind to Maintain Centerline
12. Climb	76 KTS
13. After Takeoff	Check
14. Climb	Check

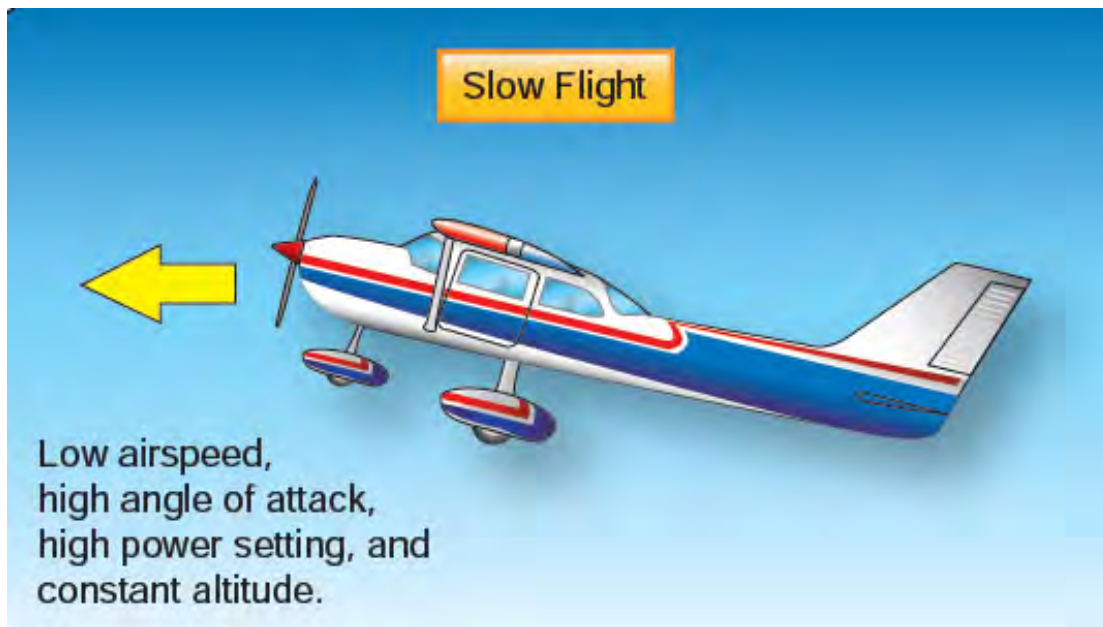


Crosswind Takeoff

Objective:

To establish, maintain, and maneuver the airplane while coordinated at speeds and configurations required for takeoffs, landings, and go-arounds.

1. Clearing Turns	Complete
2. Power	Mixture Rich 1800 RPM
3. Pitch	To Maintain Altitude Until Just Above Stall Warning Maintain 2 KTS Above Stall Warning
4. Power	As Needed For Altitude
5. Maneuver	Two 90° Coordinated Turns at 10° Bank
<u>Recover</u>	
6. Power	Throttle - Full
7. Attitude	Maintain Altitude, Heading, and Coordination
8. Configuration	76 KTS Verify Flaps 0°
9. Straight and Level	Establish

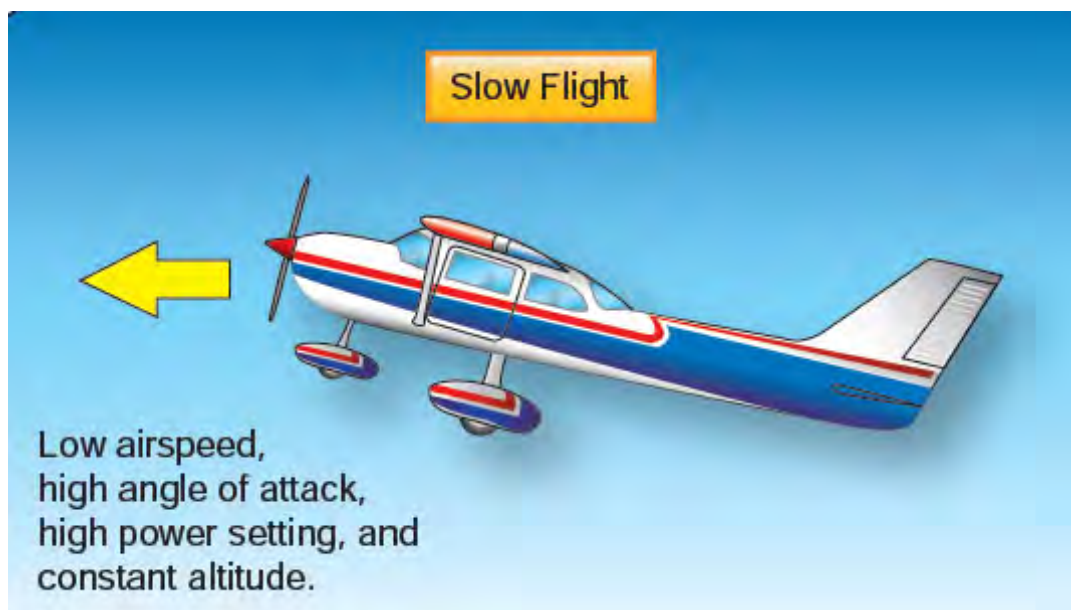


Slow Flight (Clean)

Objective:

To establish, maintain, and maneuver the airplane while coordinated at speeds and configurations required for takeoffs, landings, and go-arounds.

1. Clearing Turns	Complete
2. Power	Mixture Rich 1800 RPM
3. Configuration	Verify Below VFE - 102 KTS Add Full Flaps in 3 Increments
4. Pitch	For an Airspeed ~2 KTS Above Stall Warning To Maintain Altitude Until Just Above Stall Warning
6. Power	As Required to Maintain Altitude
7. Maneuver	Two 90° Coordinated Turns at 10° Bank
Recover	
8. Power	Throttle - Full
9. Attitude	Maintain Altitude, Heading, and Coordination
10. Configuration	Flaps 25° Immediately Pitch for 76 KTS Reduce Flaps Gently to 10° then 0°
11. Straight and Level	Establish



Slow Flight (Dirty)

Objective:

To familiarize the pilot with the conditions that produce stalls during landing, to assist in recognizing an approaching stall, and to develop the habit of taking prompt and corrective action for recovery. Recovery from stall must be no less than 1500 AGL.

1. Clearing Turns & Altitude (3,500')	Complete
2. Power	Mixture Rich 1800 RPM
3. Pitch	To Maintain Altitude
4. Configuration	Verify Below VFE - 102 KTS Add Full Flaps
5. Power	At 76 KTS, 1800 RPM Establish 500 FPM Descent At 3000', Power Idle
6. Pitch	Maintain 3000' as Simulated Runway Until Stall Occurs
Recover	
7. Pitch	Reduce Angle of Attack
8. Power	Throttle - Full
9. Configuration	Flaps 25° Immediately Pitch for V _Y - 76 KTS At 76 KTS and Positive Rate Flaps 0°
10. Altitude	Climb to Entry Altitude
11. Straight and Level	Establish

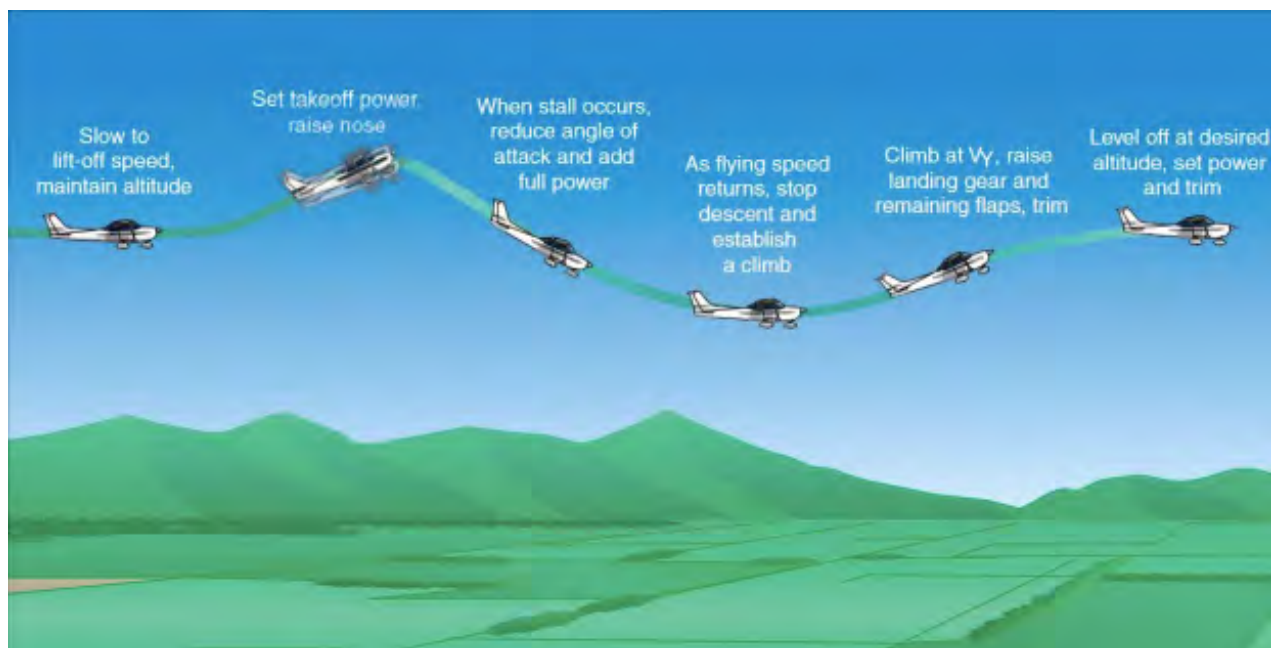


Power-Off Stall

Objective:

To familiarize the pilot with the conditions that produce stalls during takeoff, to assist in recognizing an approaching stall, and to develop the habit of taking prompt and corrective action for recovery. Recovery from stall must be no less than 1500 AGL.

1. Clearing Turns & Altitude	Complete
2. Power	Mixture Rich 1800 RPM
3. Pitch	To Maintain Altitude
4. Power	Below 70 KTS, 2300 RPM
5. Pitch	Gradually Increase Pitch Attitude Until Stall Occurs.
6. Coordination	Maintain
Recover	
7. Pitch	Reduce Angle of Attack
8. Power	Throttle - Full
9. Attitude	Smoothly Establish for V_Y 76 KTS
10. Configuration	Verify Positive Rate
11. Altitude	Climb to Entry Altitude
12. Straight and Level	Establish

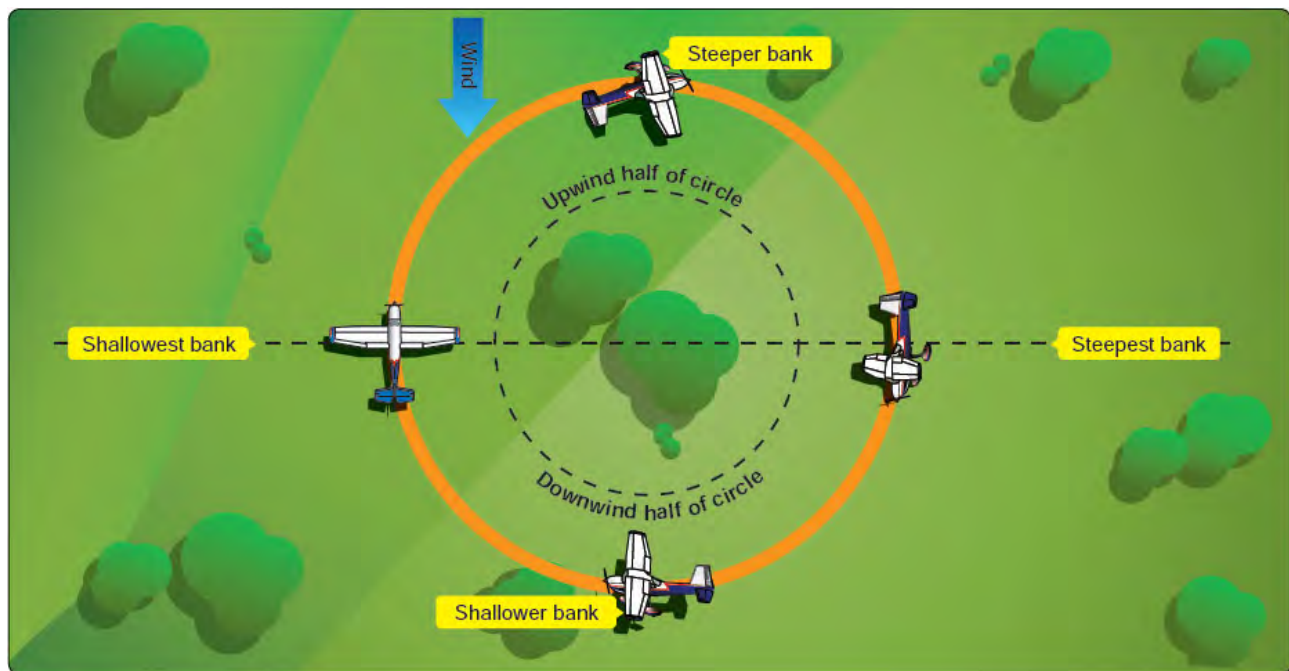


Power-On Stall

Objective:

To maintain a circular ground track with a uniform radius from a point while correcting for wind drift and maintaining altitude. Attention should be divided between airplane control, ground track, and maintaining coordinated flight.

1. Clearing Turns	Complete
2. Power	Mixture Rich 2300-2400 RPM
3. Altitude	600 - 1000 AGL
4. Point	Easily Identifiable, Safe Landing Assured
5. Entry	Downwind 1/4 Mile to Right of Point
6. Turn	Abeam Point
7. Bank	Adjust to Maintain Constant Radius 45° Maximum Bank
8. Continue	Until 2 Circuits are Complete
9. Exit	Downwind
10. Climb	Appropriate and Safe VFR Altitude
12. Straight and Level	Establish

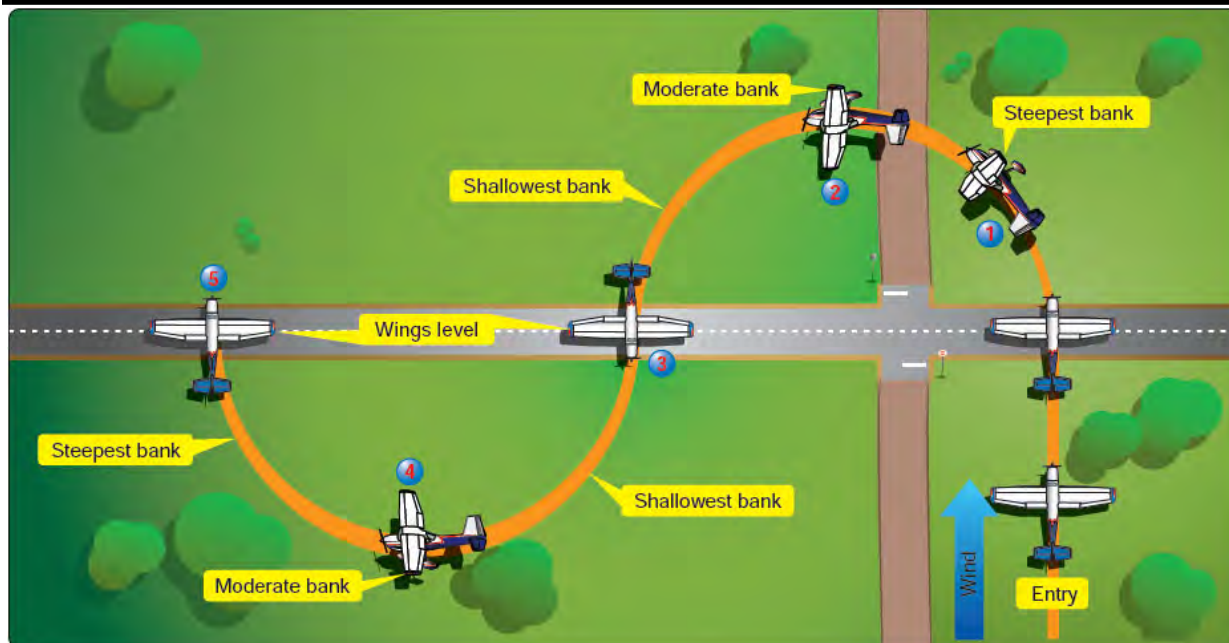


Turns Around a Point

Objective:

To maintain a ground track with ground references while correcting for wind drift and maintaining altitude. Attention should be divided between airplane control, ground track, and maintaining coordinated flight.

1. Clearing Turns	Complete
2. Power	Mixture Rich 2300-2400 RPM
3. Speed	100 KTS
4. Altitude	600 - 1000 AGL
5. Road	At Least 2 Miles, Perpendicular to Wind
6. Entry	Downwind, First Turn is to Left
7. Turn	Initiate Over Road
8. Bank	Adjust to Maintain 1/4 Mile Semicircle 45° Maximum Bank
9. Wings Level	Over Road and Perpendicular
10. Turn	Opposite Direction
11. Continue	Steps 7 & 8 Until "S" is Complete
12. Exit	Downwind
13. Climb	Appropriate and Safe VFR Altitude
14. Straight and Level	Establish



S-Turns Across a Road

Objective:

To complete two 360° turns with proper control technique using 45° of bank while maintaining altitude, coordination, orientation, and division of attention.

1. Clearing Turns	Complete
2. Heading	Cardinal / Section Line
3. Power	Mixture Rich 2300 RPM
4. Airspeed	100 KTS
5. Attitude	Level Turn, 45°- 50° Bank
<u>THROUGH 30° BANK</u>	
6. Attitude	Increase Back Pressure to Maintain Altitude
7. Power	Increase to Maintain Airspeed
8. Coordination	Maintain
<u>ROLLOUT</u>	
9. Attitude	Reduce Bank 10° Before Target Heading Reduce Back Pressure Through 30° Bank
10. Power	Decrease to Maintain Airspeed (2300 RPM)
11. Coordination	Maintain
12. Straight and Level	Establish

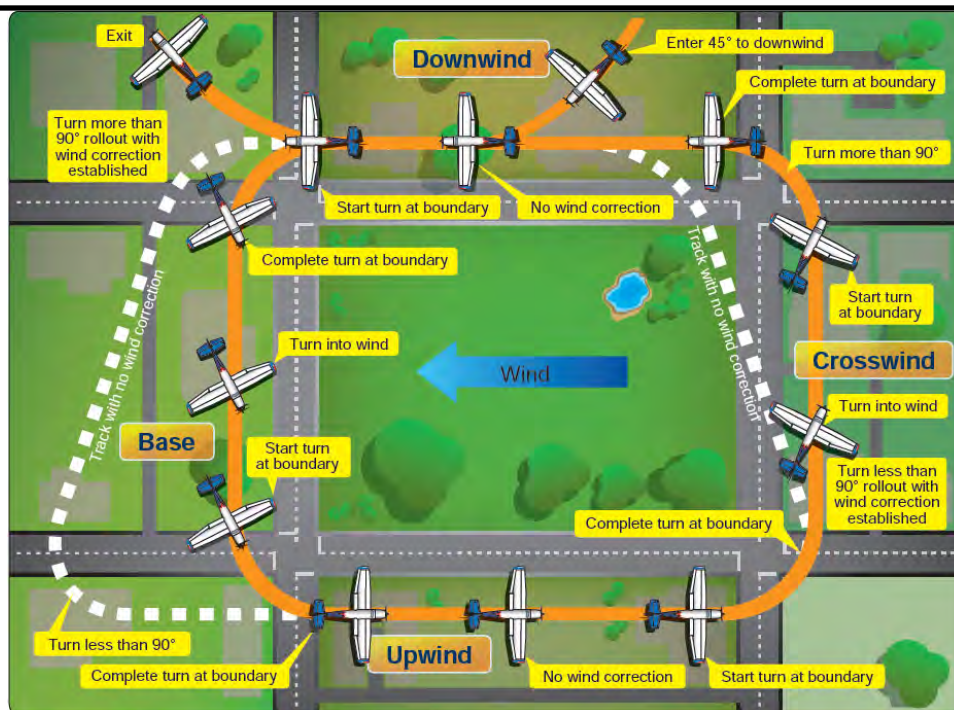


Steep Turns

Objective:

To maintain a rectangular course while correcting for wind and maintaining altitude. Attention should be divided between airplane control, ground track, and maintaining coordinated flight.

1. Clearing Turns	Complete
2. Power	2300-2400 RPM
3. Airspeed	100 KTS
4. Altitude	600 - 1000 AGL
5. Field	1 Mile x 1/2 Mile Oriented With the Wind Safe for Landing
6. Entry	Midfield 45° to Downwind Establish Downwind 1/4 Mile Away
7. Wind Correction	As Needed
8. Turn	Abeam Field Boundary
9. Rollout	Abeam Field Boundary, 1/4 Mile Away With Wind Correction as Needed
10. Continue	7 & 8 Until Two Circuits Complete
11. Exit	Downwind
12. Climb	Appropriate and Safe VFR Altitude
13. Straight and Level	Establish

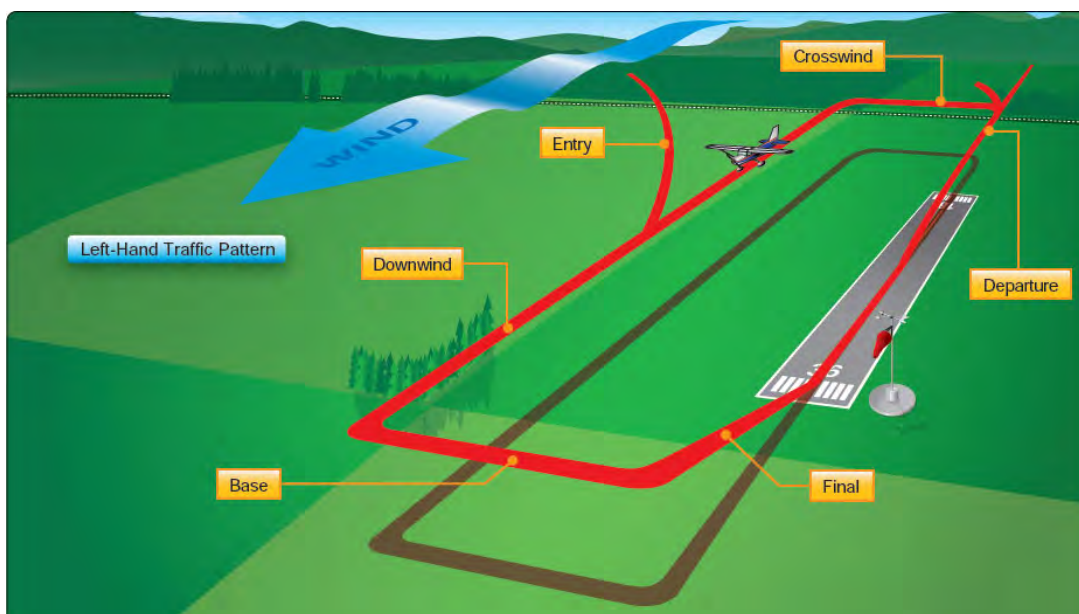


Rectangular Course

Objective:

To safely and accurately maneuver the airplane on each leg of the traffic pattern in preparation for landing.

1. Enter	Midfield 45° to Downwind Leg at Traffic Pattern Altitude
2. Before Landing Check (B.C.G.U.M.P.S)	Complete
3. Downwind Leg	Throttle to 2000 RPM Maintain <100 KTS Track Parallel to Runway While Approximately 1/2 - 3/4 Mile From Runway (2/3 Point on Wing)
4. Abeam Landing Point (or Traffic to Follow)	Throttle to 1800 RPM 1800 RPM Verify Below V_{FE} , Flaps 10° Airspeed <90 KTS — TRIM 500 FPM Decent
5. Base Leg	Turn at 45° of Landing Point Power as Required to Maintain 500 Foot Decent Rate Wind Correction as Required 25° Flaps Airspeed 80 KTS — Trim
6. Final	Turn to Align with Runway Centerline Wind Correction as Required Full Flaps Airspeed 76-80 KTS — Trim
7. Landing	As Appropriate for Conditions

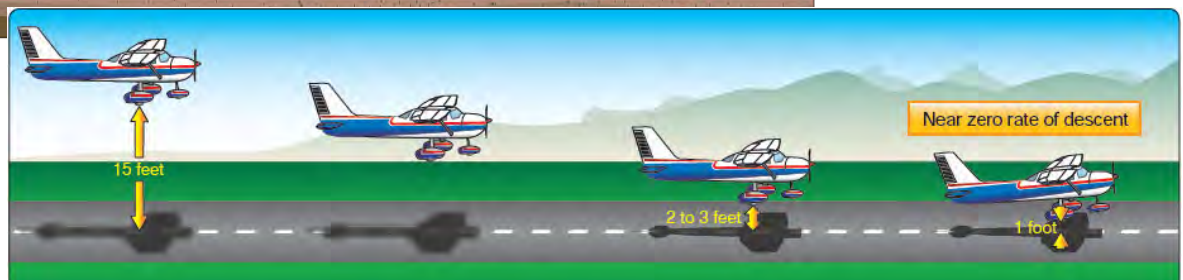
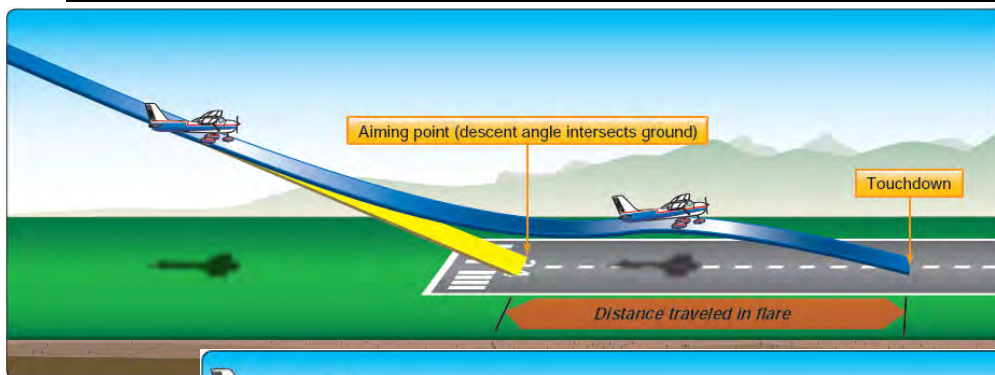


Traffic Pattern

Objective:

To safely and accurately transition the airplane from descending flight to touchdown on the main wheels over the runway centerline

1. Traffic Pattern	Enter
2. Before Landing Check (B.C.G.U.M.P.S.)	Complete
3. Clearance	Obtain
4. Final Approach	Descent in Landing Configuration
5. Airspeed	Full Flaps Maintain 76-80 KTS with pitch
6. Glideslope	Maintain with Power
7. Roundout	With Proper Visual Cue Over Runway Centerline
8. Touchdown	On Main Wheels Over Runway Centerline
9. Rollout	Decelerate On Runway Centerline
10. Elevator	Full Aft
11. Exit Runway	At Earliest Location and Safe Speed
12. After Landing	Check

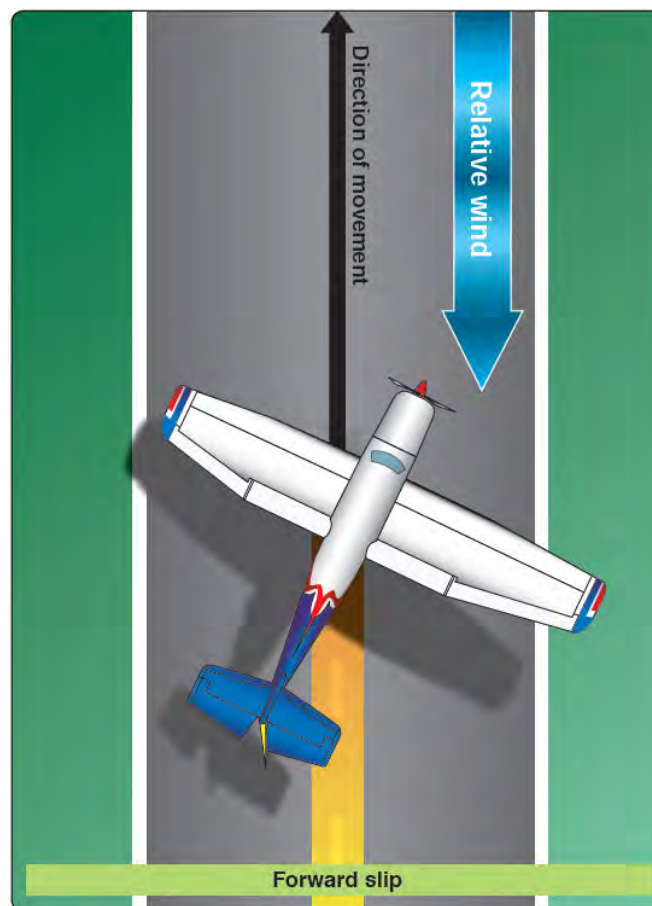


Normal Landing

Objective:

To steepen the approach angle using opposite control forces.

1. Flaps (B.C.G.U.M.P.)	Full
2. Airspeed	Normal Approach
3. Power	Throttle Idle
4. Rudder	Full Deflection
5. Ailerons	Wing Down into Wind as Required to Maintain Centerline
6. Pitch	As Required for Airspeed
7. Recover	Return to Normal Descent when on Glidepath

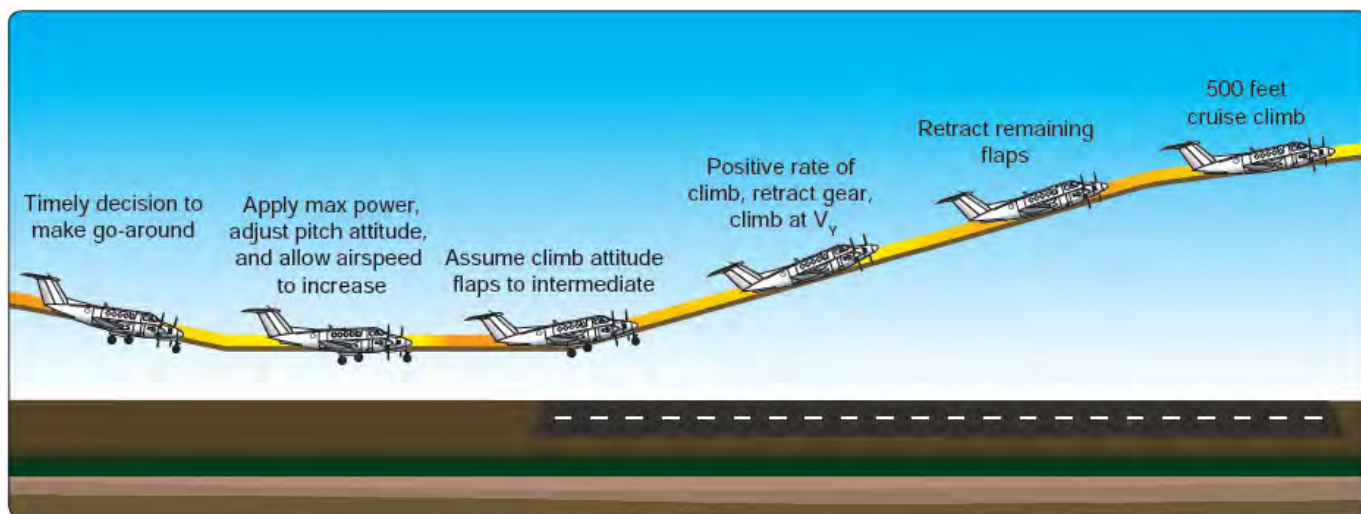


Forward Slip

Objective:

To transition the airplane from the approach descent to climb attitude in preparation for another landing.

1. Power	Throttle Full
2. Attitude	Pitch for Level Flight
3. Configuration	Reduce to Flaps 25° Immediately At 76 KTS and Positive Rate Flaps 10° Then, Flaps 0°
4. Attitude	V _Y (76 KTS)
5. Sidestep Runway	To Right If Required
6. Climb	Continue in Traffic Pattern for Landing
7. Communicate	Advise ATC

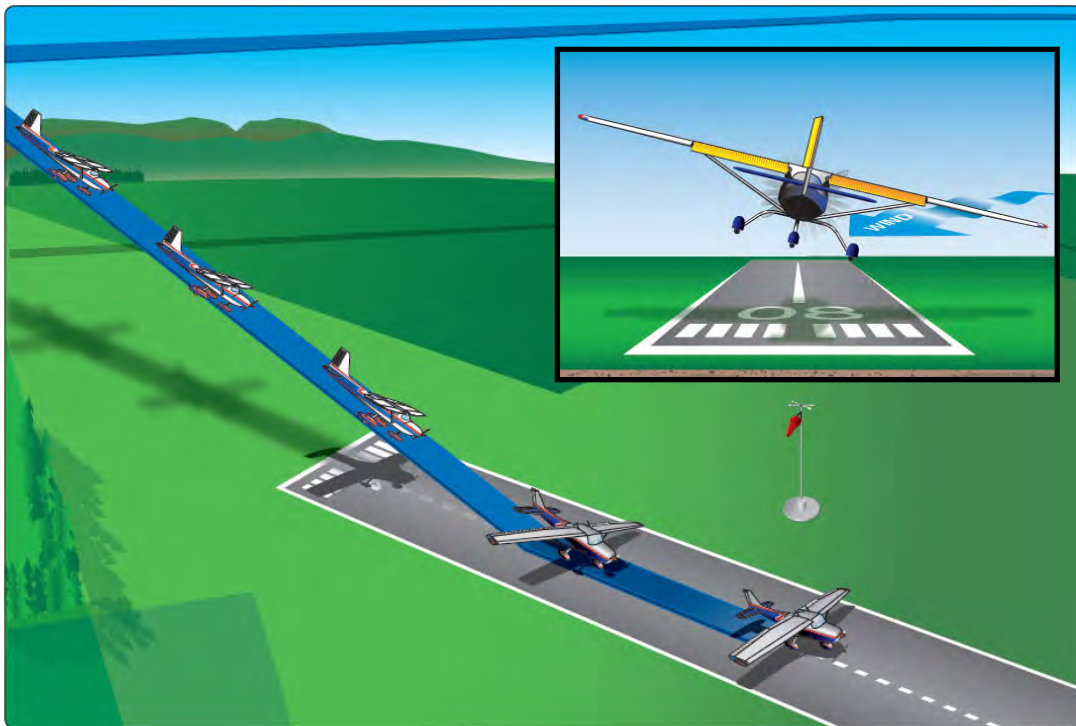


Go-Around

Objective:

To safely and accurately transition the airplane from descending flight to touchdown on the main wheels and over the runway centerline during various crosswind conditions.

1. Traffic Pattern	Enter
2. Before Landing Check (B.C.G.U.M.P.S.)	Complete
3. Clearance	Obtain
4. Final Approach	Upwind Wing Low, Downwind Rudder to Maintain Alignment with Runway Centerline
5. Airspeed	Full Flaps Maintain 76-80 KTS with pitch
6. Glidepath	Maintain with Power
7. Level Off and Roundout	Same Visual Cues as Normal Landing
8. Touchdown	Upwind Wheel First and Over Runway Centerline
9. Rollout	Smoothly Apply Wind Correction and Decelerate on Runway Centerline
10. Exit Runway	At Earliest Location and Safe Speed
11. After Landing	Check

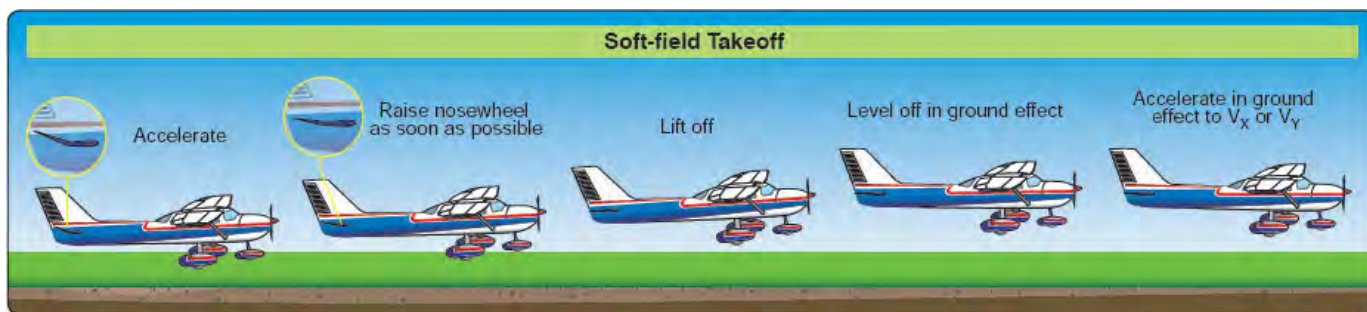


Crosswind Landing

Objective:

To set and maintain an attitude where the airplane will lift-off at the slowest possible speed then transition into ground effect before climbing.

1. Run-Up	Complete
2. Flaps	25°
3. Clearance	Obtain
4. Elevator Back Pressure	Full Aft Deflection
5. Throttle	Full
6. Attitude	Set, then maintain by Reducing Elevator Pressure After Nose-wheel Lifts During Acceleration
7. Engine Instruments	Check
8. Airspeed	Alive
9. Lift-Off	Slowest Possible Airspeed
10. Ground Effect	Relax Elevator Pressure, Accelerate
11. Airspeed	V_x (64 KTS) or V_Y (76 KTS)
12. Attitude	After 100', V_Y (76 KTS)
13. Climb	76 KTS
14. After Takeoff	Flaps Up, Check
15. Climb	Check

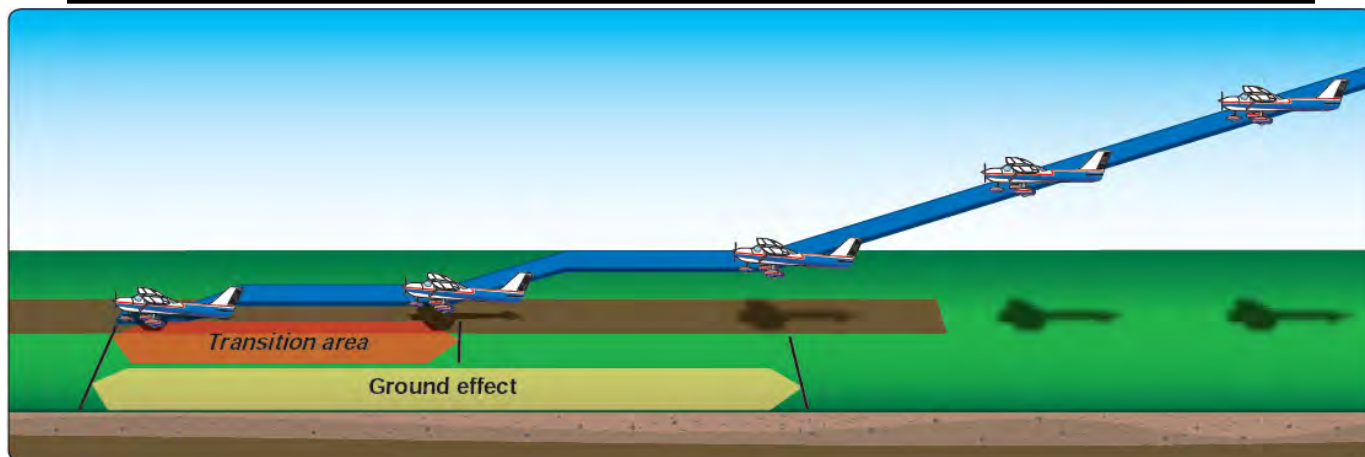


Soft-Field Takeoff

Objective:

To safely and accurately transition the airplane from descending flight to touchdown on the main wheels on soft or rough fields.

1. Traffic Pattern	Enter
2. Before Landing Check (B.C.G.U.M.P.S.)	Complete
3. Clearance	Obtain
4. Final Approach	Descent in Landing Configuration
5. Airspeed	Full Flaps Maintain 76 KTS with pitch
6. Glideslope	Maintain with Power
7. Level Off	With Proper Visual Cue Over Runway Centerline
8. Roundout	With Proper Visual Cue Over Runway Centerline
9. Power	In Flare, Add Power to Control Descent
10. Touchdown	As Softly as Possible on Main
11. Rollout	Gradually Increase Elevator Pressure While Gradually Reducing Power and Decelerating On Runway Centerline
12. Exit Runway	At Earliest Location and Safe Speed
13. After Landing	Check

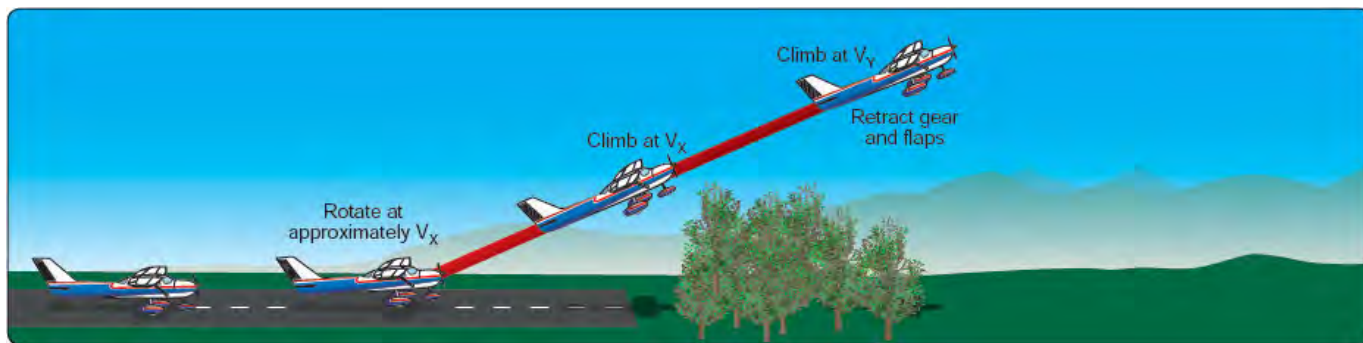


Soft-Field Landing

Objective:

To get the airplane airborne in the shortest distance possible and climb to clear obstacles where takeoff area is limited.

1. Run-Up	Complete
2. Flaps	25°
3. Clearance	Obtain
4. Position	Maximum Allowable Runway
5. Brakes	Hold
6. Power	Maximum Static
7. Engine Instruments	Check
8. Brakes	Release
9. Controls	Neutral
10. Directional Control	Maintain
11. Airspeed	Alive
12. Rotate	60 kts
13. Attitude	V_x (64 KTS) Until 50 ft. Obstacle Cleared, then V_Y (76 KTS)
14. Airspeed	76 KTS
15. After Takeoff	Check
16. Climb	Check

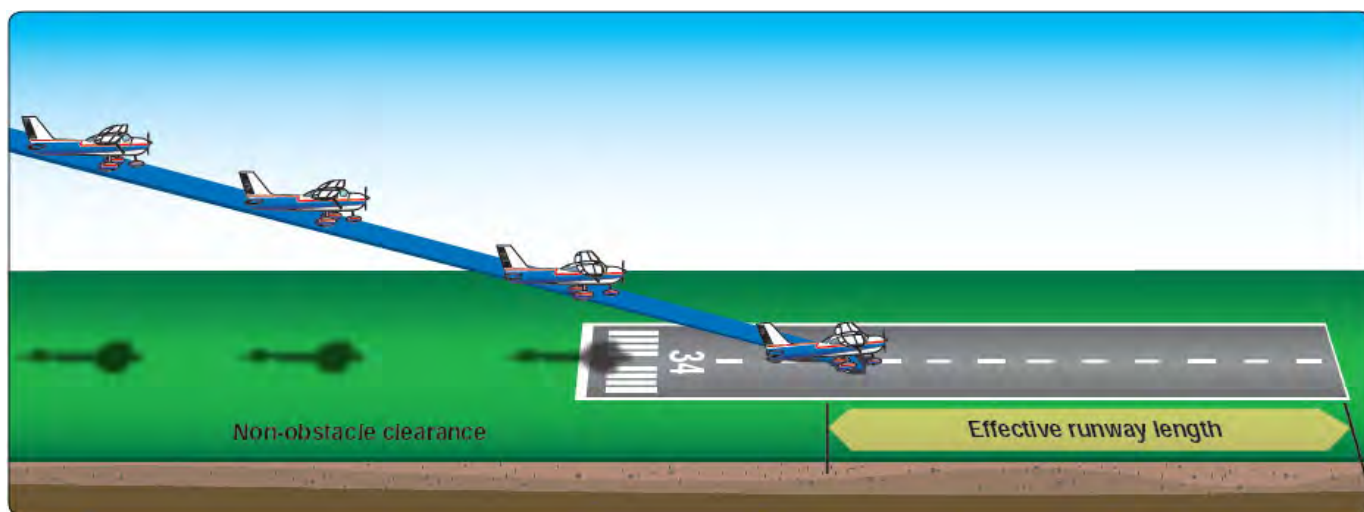


Short-Field Takeoff

Objective:

To safely and accurately transition the airplane from descending flight to touchdown on the main wheels over a 50 foot obstacle and stop in the shortest distance possible.

1. Traffic Pattern	Enter
2. Before Landing Check (B.C.G.U.M.P.S.)	Complete
3. Clearance	Obtain
4. Final Approach	Descent in Landing Configuration
5. Airspeed	Full Flaps Maintain 65 KTS with pitch
6. Glideslope	Maintain with Power
7. Level Off and Roundout	With Minimal Float at Proper Visual Cue Over Runway Centerline
8. Touchdown	On Main Wheels Over Runway Centerline
9. Rollout	— Promptly Retract Flaps — Gradually Increase Elevator Pressure — Use Maximum Effective Braking While Decelerating on Runway Centerline
10. Exit Runway	At Earliest Location and Safe Speed
11. After Landing	Check / Flow



Short-Field Landing

Objective:

To recognize and react to an emergency situation in such a manner as to safeguard life and minimize damage to the airplane. Attention should be focused on airplane control, following recommended procedure, and selecting a suitable landing site.

1. A irspeed	V _g (76 KTS)
2. B est Field	Into the Wind, Free from Obstructions Minimal Geographic Features
3. C hecklist	Memory Checklist then Follow Paper Checklist Apply Flaps as Necessary

Memory Checklist: Fuel, Air, Spark

- **Fuel:** Mixture Rich
Fuel Pump On
Switch Tanks
- **Air:** Carb Heat ON
- **Spark:** Magnetos On

**Emergency Approach and
Landing (Simulated)**

Objective:

To determine geographic position in flight after becoming disoriented.

1. Climb	At Least 3000' AGL
2. Enroute Check	Complete
3. Look for Prominent Landmarks	Approximately 10 Minutes
4. VOR or GPS Cross-Check	Complete
5. Call for Help	Last ATC Frequency Known ATC Frequency FSS Frequency Emergency Frequency 121.50

Lost Procedures