# Takeoff and Landing Procedures

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## Piper Warrior/Archer

**Normal Takeoff**

Flaps.....0º
Line up on runway centerline:
Brakes.....Hold
Rwy/Compass/DG.....Verify aligned ("33,33,33" etc.)
Brakes.....Release
Throttle.....Full Power
Engine Gauges.....Verify in the green
"Airspeed Alive"
"$V_R$"…….....”Rotate"
Pitch.....$V_Y$
Trim.....Adjust for $V_Y$
Above 1000' AGL and Clear of Pattern.....Climb Check

**Soft-Field Takeoff**

Before Taking Runway
Flaps.....25º
Flight Controls……..……..
.....Full Aft Line up on runway centerline without stopping
Rwy/Compass/DG.....Verify aligned ("33,33,33" etc.)
Throttle.....Full Power
Engine Gauges.....Verify in the green
"Airspeed Alive"
Lift-Off.....As soon as possible
Reduce Pitch to Remain in Ground Effect
Accelerate to $V_X$.....Initiate Climb
200' AGL.....Flaps 10º, Pitch $V_Y$
300' AGL.....Flaps 0º

**Short-Field Takeoff**

Before Taking Runway.....Flaps 25º
Use maximum available runway, line up on centerline:
Brakes.....Hold
Throttle.....Full Power/ Verify Max. RPM
Engine Gauges.....Verify in the green
Brakes.....Release
"Airspeed Alive"
**Warrior**
"50 Knots".....”Rotate"
**Archer**
"55 Knots".....”Rotate"
Accelerate …….....$V_X$
200' AGL (clear of obstacle).....Flaps 10º
Pitch.....$V_Y$
300' AGL.....Flaps 0º

**Soft-Field Landing**

Final Approach Speed.....70 KIAS
Touchdown softly, while holding the nose wheel off the ground as long as possible. Avoid use of the brakes as it will cause weight to be transferred to the nose wheel. Continue holding the controls full aft as if taxiing on a soft surface.

**Short-Field Landing**

Final Approach Speed.....65 KIAS
Slow to 65 KIAS after turning final and adding full flaps. Keep a constant angle of descent to the touchdown point while slowing the airplane to allow for a touchdown with minimal floating. After touchdown, apply maximum effective braking. If simulating a short field, announce "Simulated Max. Braking" and apply normal braking.
**Touch and Goes should not be performed after Short Field Landings.**

**Traffic Pattern**

Downwind --……..……..... 90 KIAS
Perform Memory Item…….BC-GUMPS
Before Landing Checklist.....Complete
(Abeam the Landing Point):
Power.....1700 RPM
Below 103 KIAS.....Flaps 10º
Pitch & Trim for .....90 KIAS
Base.....Flaps 25º
Pitch & Trim for.....80 KIAS
Final.....Flaps 40º
Pitch & Trim for.....Final Approach Speed

**Go Around/Missed Approach**

Cram.....Max Power
Climb…….....Pitch $V_Y$
Clean (when landing with use of flaps)
Flaps ……25º
Positive Rate at $V_Y$.....……10º
Flaps ……..……0º
Cool.....Carb. Heat Off
Call.....Go around/Missed Approach

# Piper Seminole

**Normal Takeoff**

Flaps.....0°
Line up on runway centerline:
Brakes.....Hold
Rwy/Compass/DG.....Verify aligned ("33,33,33" etc.)
Throttles.....2000 RPM
Engine Gauges.....Verify in the green
Brakes.....Release
Throttles.....Max Power
"Airspeed Alive"
"75 Knots"....."Rotate"
Positive Rate.....Gear Up
Pitch.....$V_Y$
Trim.....Adjust for $V_Y$
After Reaching 500' AGL
Throttles.....25" MP
Props.....2500 RPM
Above 1000' AGL and Clear of Pattern.....Climb Check

**Short-Field Takeoff**

Flaps.....0°
Use maximum available runway, line up on centerline:
Brakes.....Hold
Throttles.....2000 RPM
Engine Gauges.....Verify in the green
Throttles.....Max Power
.....Verify Max. RPM
Brakes.....Release
"Airspeed Alive"
"70 Knots"....."Rotate"
Positive Rate.....Gear Up
Pitch.....$V_X$
Clear of obstacle.....Pitch $V_Y$
Trim.....Adjust for $V_Y$
After Reaching 500' AGL
Throttles.....25" MP
Props.....2500 RPM
Above 1000' AGL.....Climb Check

**Short-Field Landing**

Final Approach Speed.....75 KIAS
Slow to 75 KIAS on short final. Keep a constant angle of descent to the touchdown point while slowing the airplane to allow for a touchdown with minimal floating. After touchdown, apply maximum effective braking. If simulating a short field, announce "Simulated Max. Braking" and apply normal braking. A more specific approach speed can be calculated by using the "Landing Distance Over 50 FT Obstacle – Short Field Effort" chart. (75kts is the approach speed for 3,800lbs)

**Traffic Pattern**

Downwind ……. 100 KIAS
Perform Memory Item.……BCC-GUMPS
Before Landing Checklist.....Complete
Abeam Landing Point:
Power.....Reduce
Below 111 KIAS.....*Flaps 10°
Pitch & Trim for.....100 KIAS
Base.....*Flaps 25°
Pitch & Trim for.....90 KIAS
Final.....*Flaps 40°
Pitch & Trim for.....Final Approach Speed
500' AGL ……..Final Gear Check
(Announce Safe to Land)

**Single Engine Traffic Pattern (Simulated)**

Downwind --- 100 KIAS (88 KIAS if needed)
Before Landing Checklist…….....Complete
Abeam Landing Point.....Gear Down
Power.....Reduce/As Required
Pitch & Trim for.....100 KIAS
Base.....*Flaps 10°
Pitch & Trim for.....90 KIAS
Final.....*Flaps 25°
Pitch & Trim for.....90 KIAS
500' AGL ……Both props fwd. [1]
Committed to Land and Runway Made
Reduce power slowly and flare airplane.

**Go Around/Missed Approach** (All Engines)

**Cram**.....Mixture, Prop, Throttle Full fwd.
**Climb**.....Pitch for $V_Y$
**Clean**.....Flaps 25°
Positive Rate.....Flaps 10°, Gear Up
.....Flaps 0°
**Cool**.....Cowl Flaps As Req./Carb. Heat Off
**Call**.....Go around/Missed Approach

**Go Around/Missed Approach** (Single Engine)

Above Committed to Land Altitude
**Cram**.....Mixture/Prop/Throttle - Full Forward
**Climb**.....Pitch for $V_Y$
**Clean**.....Flaps 10°
.....Positive Rate Gear Up
.....Flaps 0°
**Cool**.....Cowl Flaps As Req./Carb. Heat Off
**Call**.....Go around/Missed Approach

*When adding flaps in the Seminole, the pilot will announce and verify:
***"Three green, one in the mirror"***

*1*: This is done in the event that an actual go-around using both engines becomes necessary while performing single engine approaches/landings for training purposes.