

How to Take Off and Land in a Piper Archer

On the runway, ready for takeoff:

1. Nose Wheel straight on the CenterLine
2. Yoke deflected to counter the wind appropriately (crosswind correction)
3. Full Power / right rudder to maintain centerline.
4. Slowly take out crosswind correction as you accelerate to Vr
5. Back pressure at 55 kts
6. Rotate at 60 kts (Vr)
7. Relax Back Pressure when airborne to maintain 76 kts (Vy)
8. Visual reference for climb out should be cowling on the horizon or 10-12 degrees nose up on G1000 Artificial Horizon
9. Maintain right rudder for coordination
10. Check visual alignment with the runway
11. Climb to desired altitude at 76kts while maintaining rudder coordination.
12. Complete after take off and climb checklist

Coming back into land checklists completed. (pattern entry dependant on the airport and runway desired)

Downwind

1. Enter pattern (1000 AGL)
2. Power back to 2100 rpm
3. Downwind heading opposite of runway heading (ie. runway 18, downwind heading is 360)
4. Abeam landing point power back to 1500 rpm
5. Maintain altitude to slow below 102 kts
6. Put in 10 degrees of flaps
7. Trim to maintain 80 - 85 kts stable descent
8. Verify coordination and good height above runway (not too high or low)
9. Look over your left shoulder and visualize a 45 degree angle from the runway, then turn base

Base

1. Once established on base put in 25 degrees of flaps
2. Trim to maintain 75 - 80kts stable descent
3. Verify coordination and appropriate height above runway (not too high or low)
4. Visually clear extended final, turn final

Final

1. Once established put in flaps 40 degrees
2. Trim to maintain 70 - 75 kts stable descent
3. Pick an aiming point 50-200 feet before your intended touchdown point. (remember: the more headwind component the closer your aiming point should be to the point of intended touch down) (on final reference the PAPI or VASI system if available). Aiming point will also adjust with headwind component and type of landing (short, soft, normal) (ie final approach speed).

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4. Verify alignment with the runway using rudder to maintain the nose parallel with the centerline and aileron to maintain lateral alignment with the centerline.
5. Continue descent down to the runway adjusting power and pitch when needed
6. If winds are reported with gusts, add $\frac{1}{2}$ the gust factor to your final approach speed
 - a. Ex. If winds are 160 @ 5 gusting 15. Add 5kts to approach speed.
7. Power slowly back to idle when runway has been guaranteed
8. Level off (round out) roughly 5 - 8 ft above the runway (ground effect)
9. Move your eyes from your aiming point to the end of the runway to watch your descent
10. Maintain your pitch until a descent is noticed visually
11. Begin to flare by gently leveling off then pulling yoke beginning with small increments to match the descent rate
12. Avoid aggressive and sudden movements on the controls, to avoid any ballooning or aggressive sink rate
13. Maintain centerline with rudder correction
14. Use aileron to maintain your position over the runway
15. Touchdown gently while continuing to keep the nose gear light with the elevator. (do not release the back pressure after touching down)
16. Maintain centerline with minimal rudder input, add adequate brakes to slow and exit the runway **DON'T LOCK THE BRAKES!**
17. Run appropriate after landing checklist after clear runway or busy taxiway.

Keys to good landings:

- Start with a good, stabilized approach
- When transitioning into ground effect make sure to move your eyes from your aiming point to the end of the runway.
- When transitioning from ground effect to the flare, start by leveling off and then gently pull in small increments making sure not to climb. The amount of pressure on the elevator should get progressively greater as the aircraft slows and the control effectiveness becomes less effective. Remember don't let the elevator move forward after the aircraft touches down. Continue to keep the weight off the nose gear with the elevator as the aircraft slows. The yoke should almost be touching your chest at the completion of every landing.
- Be precise on your airspeeds

Pitch = Airspeed

Power = Altitude

Bank = Lateral (left to right) movement to Centerline

Rudder = Align nose with centerline

