

## **Piper Archer PA28-181 Starting and Taxi**

### **Before Starting Engine**

1. Preflight Complete.
2. Seat Belts, Shoulder Harness - ON.
3. Passengers Briefed.
4. Radios - OFF.
5. All Electrical Switches - OFF.
6. Fuel Selector - Tank with most fuel.
7. Brakes - Test and Apply.
8. Carb Heat- OFF.

### **Starting Engine When Cold**

1. Master Switch - ON.
2. Propeller Area Clear.
3. Electric Fuel Pump - ON.
4. Throttle - 1/4" Open.
5. Mixture - Rich.
6. Engage Starter until Engine Fires.
7. Throttle - Adjust (800 to 1200 RPM)
8. Oil Pressure - Check.
9. Mixture - Lean for Taxi.
10. Fuel Pump - OFF.

### **Starting Engine When Hot**

1. Same Except: Mixture Off
  - When engine fires - Full Rich

### **Starting Engine When Flooded**

1. Same Except: Fuel Pump Off, Throttle - Full Open

### **Before Taxi**

1. Anti - Collision Lights - ON.
2. Radios - On and Set. (VOR Check)
3. Clearances - ATIS, CInc. Deliv., Ground.
4. Transponder - Standby
5. Landing Light as Necessary.
6. Nav. Lights and Interior Lights as Desired.
7. Brakes - Test on Initial Roll.

## **Piper Archer PA28-181 Run Up**

### **Run Up**

1. Brakes - Set.
2. Fuel Selector - Tank with Most Fuel.
3. Flight Controls - Free and Correct.
4. Flaps - Check all Positions.
5. Oil Temp - In Green (Beginning to come up).
6. Throttle - 2000 RPM.
  - Engine Instruments - Check.
  - Mixture - Lean above 4000 ft. density altitude.
  - Magnetos - Check Right - Both - Left - Both. (Max. Drop 175 RPM, Max. Delta 50 RPM)
  - Carberator Heat - Check.
  - Annunciator Panel - Press to test lights.
  - Vacuum - 4.8" to 5.1"
  - Alternator Output - Check.
  - Throttle Retard.
7. Flight Instruments - Set.
8. Auto Pilot - OFF
9. Circuits Breakers - Check.
10. Trim Tab - Set.
11. Radios Set Up / Takeoff Clearance.
12. Pitot Heat - As Desired.
13. Anti-Collision Lights - ON.
14. Cabin Door and Window - Closed and Locked.
15. Note Time Off.

### **Before Takeoff**

1. Transponder - On Altitude.
2. Electric Fuel Pump - ON.
3. Mixture - Rich (unless high altitude).

## **Piper Archer PA28-181 Takeoff, Climb Out, Cruise**

### **Normal Takeoff**

1. Brakes - Release
2. Full Throttle.
3. Rotate at - 60 kts.
4. Climb Speed - 76 kts.

### **Short Field**

1. Flaps - 25° (2nd Notch).
2. Brakes - Apply & Hold, Full Throttle
3. Brakes - Release.
4. Pull Back @ 46 kts.
5. Off Ground @ 49 kts.
6. Climb Speed - 54 kts.
7. Flaps - Retract Slowly accelerate to 76 kts.

### **Soft Field**

1. Flaps - 25° (2nd Notch).
2. Full back elevator pressure.
3. Slowly Increase to Full Throttle.
4. Lift Nose as soon as possible
5. Accelerate in ground effect.
6. Flaps Up.
7. Climb Speed - 76 kts.

### **Climb**

1. Electric Fuel Pump - OFF at 1000 feet AGL.  
- Check Fuel Pressure.
2. Best Rate - 76 kts.
3. Best Angle - 64 kts.
4. Enroute - 87 kts.

### **Cruise**

1. Power - 2400 RPM and Lean Mixture.
2. Landing Light - OFF.

## **Piper Archer PA28-181 Approach and Landing**

### **Before Landing (Down Wind)**

1. 1900 RPM, 80 kts.
2. Seat Belts, Shoulder Harness - On.
3. Seat Backs - Up.
4. Electric Fuel Pump - On.
5. Fuel Selector - Fullest Tank.
6. Mixture - Set.
7. Landing Light - As Desired.
8. Abeam Touch Down Point - 1400 RPM.
9. 10° Flaps (First Notch).

### **Normal Landing**

1. Base: 75 kts, GUMP Check, Flaps 25° (2nd Notch).
2. Final: 70 kts, Flaps 40° (3rd Notch).

### **Short Field Landing**

1. 1. Extend Downwind by 4-5 Seconds
2. 2. Reduce Approach Speed to 66 kts, Add 200 RPM.

### **After Landing**

1. Flaps Retract.
2. Transponder Off.
3. Landing Light / Anti-Collision Lights Off.
4. Fuel Pump - Off.
5. Mixture - Lean for Taxi.

### **Engine Shutdown**

1. Brakes - Apply and Hold.
2. Radios - OFF.
3. Lights - OFF.
4. Electric Fuel Pump - OFF.
5. Throttle - 1200 RPM.
6. Mixture - Idle Cut Off.
7. Magnetos - OFF.
8. Master Switch - OFF.
9. Secure Control Wheel.
10. Tie Down Plane.
11. Brakes - OFF.

## Piper Archer PA28-181 Airspeeds / Emergencies

### Best Glide - 76 kts

$V_{S0}$  = 49 kts

$V_{S1}$  = 55 kts

$V_X$  = 64 kts

$V_Y$  = 76 kts

$V_A$  = 89 kts @ Empty 1634 lbs

$V_A$  = 113 kts @ Gross 2550 lbs

$V_{FE}$  = 102 kts

$V_{NE}$  = 154 kts

$V_{NO}$  = 125 kts

## Piper Archer PA28-181 Emergencies

### Engine Failure

1. Pitch / Trim for Best Glide - 76 kts
2. Fuel Pump On
3. Carb Heat On
4. Mixture Rich
5. Primer Locked
6. Mags - Check Both
7. Switch Fuel Tanks
8. **Power Off Landing** - If Engine will not Restart
  - Select Landing Location
  - Normal Radio Procedure (Squawk 7700, Mayday on 121.5)
  - Normal Shutdown (Fuel Pump Off, Mixture Off, Fuel Selector Off, Mags Off)
  - Before Landing (Seat belts tight, Door Open, Master switch Off)

### Engine Fire

1. Firewall Air Vents(Heat, Defroster) - Closed
2. Mixture - Idle Cutoff
3. Fuel Selector - Off
4. Throttle - Idle
5. Electric Fuel Pump - Off
6. Descend rapidly (do not exceed  $V_{NE}$ )
7. Prepare for power off landing

### Electrical Fire

1. Master Switch - Off
2. Cabin Vents - Open
3. Verify source of smoke is out
4. Leave any tripped breakers off
5. Restore Electrical items one at a time
6. Land as soon as possible.