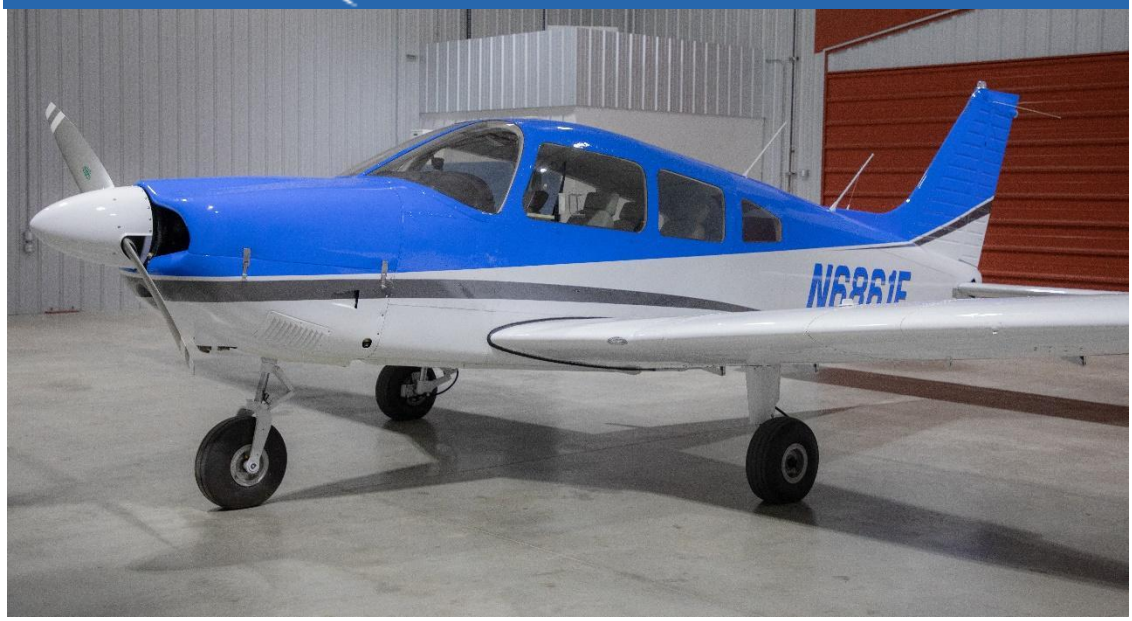
CLIPPER AVIATION

VAN NUYS AIRPORT

(855) 463-5999

info@clipperaviation.com

Piper Archer II PA28-181
Quick Reference Manual



This maneuvers flow guide is intended to be used as a ready reference and provides only the basic steps and sequences. This guide should be used in conjunction with most current versions of FAA-H-8083-3, the FAA Airmen Certification Standards, Practical Test Standards, and the Pilot's Operating Handbook for the Piper Archer.

Latest Revision: September 14th, 2022

Preflight/Normal Operations

Weight and Balance

1. Max Gross Weight..... 2550 lbs
2. Taxi Fuel Burn..... 8 lbs

V-Speeds

V_{S0}..... 49
V_{S1}..... 55
V_{FE}..... 102
V_{NO}..... 125
V_{NE}..... 154
V_{X}..... 64
V_{G}..... 76
V_{Y}..... 76
V_{A}..... 89-113
X-Wind..... 17

Leaning Procedures

1. Lean Assist..... Hold
2. Mixture Level..... Lean Until 1st Cylinder Peaks
3. Mixture Level..... Enrich 100°F

Engine Starting

Engine Start (Flooded)

1. Throttle…… Open Full
2. Fuel Pump…… On
3. Mixture …… Idle Cut-Off
4. Engine/PFD Indicators…… Monitor/DECIDE
5. Magnetos…… Select Both/Start
6. Mixture (on Start) …… Advance Full
7. Throttle…… Retard
8. Oil Pressure…… Check

Engine Start (Fouled Spark Plugs)

1. Throttle…… Open 2000 RPM
2. Mixture …… Lean 50° of Peak
3. Engine…… Run ~30 Seconds
4. Engine RPM/PFD Indicators…… Monitor/DECIDE
5. Magnetos (L/R)…… Max 175 RPM Drop / 50 RPM Difference
6. Throttle…… Retard
7. Mixture…… Advance to 100° Rich of Peak

- **If Roughness/RPM Difference Does Not Improve Seek Maintenance**

Takeoff Operations

Normal Takeoff

1. Flaps..... Up
2. Rotate..... 60 kts
3. Climb Out..... 80 kts

Soft Field Takeoff

1. Flaps..... 25°
2. Pitch..... Start Yoke Full Back
3. Lift Off..... Early as Able
4. Flaps..... 10° with Positive Rate
5. Flaps..... Up at 75 kts
6. Climb Out..... 80 kts

Short Field Takeoff

1. Flaps..... 25°
2. Full Stop..... Maximum Available Runaway
3. Takeoff Power..... Verify Set
4. Brakes..... Release
5. Rotate..... 55 kts
6. Climb Out..... 64 kts until clear, then 80 kts

Performance Operations

Flow Checklist

1. Fuel Selector..... Fullest Tank
2. Throttle..... 2300 RPM
3. Mixture..... As Required
4. Carb Heat..... As Required
5. Fuel Pump..... As Required
6. Clearing Turns..... Complete

Performance Maneuvers Checklist

1. Flow Pattern.....Performed
2. Airspeed..... 90 kts
3. Throttle..... As Required (2300-2350 RPM)
4. Flaps..... As Required

Slow Flight

* Flow & Performance Maneuver Checklist

1. Altitude..... .Above 1500' AGL
2. Throttle..... 1700 RPM
3. Flaps..... Full, Incrementally
4. Airspeed..... 55 kts
5. Throttle..... As Required (~2200 RPM)

Recovery

6. Throttle..... Full
7. Flaps..... Retract, Incrementally

Steep Turns

* Flow & Performance Maneuver Checklist

1. Altitude..... Above 1500' AGL
2. Bank..... 45º or 50º
3. Trim..... 2 Full Swipes
4. Throttle..... Increase ~100 RPM
5. Recover..... Wings Level, Remove Throttle and Trim

Power On Stall

* Flow & Performance Maneuver Checklist

1. Altitude..... Above 1500' AGL
2. Throttle..... 1700 RPM
3. Airspeed..... 65 kts
4. Throttle..... Full
5. Pitch..... As Required to Induce Stall

Recovery

6. Unload Wing..... Nose Down, Wings Level
7. Cram..... Full Throttle
8. Climb..... Pitch Just Above Horizon
9. Clean..... Flaps & Carb Heat, Incrementally

Power Off Stall

* Flow & Performance Maneuver Checklist

1. Slow Flight..... Establish
2. Power..... 1700 RPM
3. Flaps..... Full, Incrementally
4. Airspeed..... Descend at 65 kts
5. Throttle..... Idle
6. Calls..... Call out horn and Buffet
7. Pitch..... To Hold Altitude

Recovery

8. Unload Wing..... Nose Down, Wings Level
9. Cram..... Full Throttle
10. Climb..... Pitch Just Above Horizon
11. Clean..... Flaps & Carb Heat, Incrementally

Steep Spiral

* Flow & Performance Maneuver Checklist

1. Altitude..... Above 4500' AGL
2. Reference..... Under Main Tire or Storm Window
3. Throttle..... Idle
4. Carb Heat..... On
5. Airspeed..... 80 kts
6. Throttle..... Clear engine every 1000'
7. Recover..... Above 1500' AGL

Accelerated Stall

* Flow & Performance Maneuver Checklist

1. Altitude..... Above 3000' AGL
2. Throttle..... 1700 RPM
3. Bank..... 45°
4. Throttle..... Idle
5. Pitch..... As Required to Induce Stall

Recovery

6. Unload Wing..... Nose Down, Wings Level
7. Cram..... Full Throttle
8. Climb..... Pitch Just Above Horizon
9. Clean..... Flaps & Carb Heat, Incrementally

Lazy Eights

* Flow & Performance Maneuver Checklist

2. Altitude..... Above 1500' AGL
3. Airspeed..... 100 kts
4. Select Points..... 45°, 90°, 135°
5. Enter Climbing Turn..... Coordinated
   - **A.** 45°
     - a. Bank..... Increasing
     - b. Pitch Attitude..... Maximum
   - **B.** 90°
     - a. Pitch Attitude..... Hold
     - b. Bank..... Appx. 30
     - c. Airspeed..... 5-10 kts Above Stall
   - **C.** 135°
     - a. Pitch Attitude..... Lowest Point
     - b. Bank..... Decreasing
   - **D.** 180°
     - a. Pitch Attitude..... Level
     - b. Altitude..... Entry Level
     - c. Airspeed..... Entry Level
     - d. Heading..... 180° From Entry
   - **E.** Reverse Direction.....Repeat Maneuver
6. Resume Normal Cruise..... Establish

Chandelles

* Flow & Performance Maneuver Checklist

2. Altitude..... Above 1500' AGL
3. Reference Point..... Abeam Wing
4. Airspeed..... 100kts

A. Entry to 45°

a. Throttle..... Full
b. Bank..... 30°
c. Pitch..... Smoothly Increased
d. Coordination..... Verify

B. 90°

a. Pitch Attitude..... Hold 15°
b. Bank..... Hold 30°
c. Coordination..... Verify

C. 90° to 180°

a. Pitch Attitude..... Decreasing
b. Bank..... Decreasing

D. 180°

a. Pitch Attitude..... Level
b. Bank..... Level
c. Airspeed..... Just Above Stall
d. Heading..... 180° From Entry

5. Resume Normal Cruise..... Establish

Landing Operations

Normal Landing

1. Abeam..... 1500-1700 RPM, Flaps 10º, 85 kts
2. Base..... Flaps 25º, 75 kts
3. Final..... Flaps 40º, 65 kts

Short Field Landing

1. Abeam..... 1500-1700 RPM, Flaps 10º, 85 kts
2. Base..... Flaps 25º, 75 kts
3. Final..... Flaps 40º, 62 kts

After Touchdown

4. Flaps..... Up
5. Brakes..... Maximum
6. Yoke..... Max Aerodynamics Braking

Soft Field Landing

1. Abeam..... 1500-1700 RPM, Flaps 10°, 85 kts
2. Base..... Flaps 25 °, 75 kts
3. Final..... 70 kts
4. Throttle..... As Needed through Touchdown
5. Nose Wheel..... Hold Off Long as Possible

Go Around

1. Cram..... Full Power
2. Climb..... Pitch Just Above Horizon
3. Clean..... Flaps 25° Immediately
   - Carb Heat Off
   - Flaps 10° w/ Positive Climb
   - Flaps Up at 75 kts
4. Call..... Announce Go Around
5. Climb Out..... 80 kts

Power Off 180°

1. Abeam..... Power to Idle, 76 kts, Trim
2. Base..... 10° (as Necessary)
3. Final..... 66 kts, Flaps/Slips (as Necessary)
4. Landing…..... On Pre-Specified Point/Just Beyond

Ground Reference Maneuvers

Ground Reference Maneuvers

* Perform Flow & Performance Maneuver Checklist

1. Altitude..... 1000' AGL

Turns Around a Point

A. Enter Downwind
B. Maintain Constant Radius by Changing Bank Angle
C. Complete 2 Turns or as Specified by Instructor/Examiner
D. Exit at Same Point of Entry

S-Turns

A. Enter on the Downwind
B. Maintain Constant Radius by Changing Bank Angle
C. Make Left or Right Turns as Specified by Instructor/Examiner

Rectangular Course

A. Enter 45° on the Downwind Leg
B. Establish Adequate Wind Correction Angle
C. Make Left or Right Turns as Specified by Instructor/Examiner

Eights on Pylon (Commercial)

A. Calculate Pivotal Altitude **(Groundspeed^2 / 11.3) + 1000 = PA**
B. Airspeed Established at 90 kts
C. Enter Downwind, Between Pylons
   a. **Above** pivotal altitude: reference line move rearward
   b. **At** pivotal altitude: aircraft pivots on reference line
   c. **Below** pivotal altitude: reference line moves forward

Instrument Procedures

Instrument Procedures

Procedure Turn Outbound

A. Time..... Start
B. Turn.....To Intercept Course
C. Throttle.....Set Approach Airspeed / Power
D. Tune.....To Outbound Radial / Frequency
E. Talk.....Report if Required

ACCOMPLISH PRE-LANDING CHECKLIST, REVIEW / BRIEF MISSED APPROACH PROCEDURE

Final Approach Inbound

A. Time..... Start
B. Throttle.....Set Approach Airspeed / Power
C. Pitch.....Adjust
D. Trim.....Adjust
E. Tune.....Radio/Radial/Nav Source

Reaching MDA & Level Off

A. Throttle.....As Required
B. Pitch.....Level Flight
C. Trim.....Adjust
D. Time.....Monitor

Upon Reaching MDA monitor outside aircraft for the runway environment. If 91.175 and all other requirements are met you may vacate minimums and continue to land. **If requirements are not met by the missed approach point (MAP) - EXECUTE MISSED APPROACH INSTRUCTIONS.**

Reaching DA

Immediately upon reach DA if runway environment in sight and all other requirements met per 91.175 continue approach and land. **If requirements are not met at the DA - EXECUTE MISSED APPROACH INSTRUCTIONS.**

Missed Approach

A. Click.....Go Around Button
B. Cram.....Full Power
C. Climb.....Establish Vy
D. Clean..... Flaps Up at 75 kts
4a).....Carb Heat Off
E. Call.....Report Going Missed
F. Configure.....Navs/Radials/Radios

Emergency Procedures

Emergency (ABCD) Checklist

1. **A**irspeed..... Pitch Best Glide (76 kts)
2. **B**est Place to Land..... Choose & Fly Toward
3. **C**hecklist (**Above 500' AGL Only**)..... Memory Items / List
4. **D**eclare Emergency..... Call ATC / 121.5, Transponder 7700

Engine Power Loss (Takeoff)

1. **Sufficient Runway Remains**
   - A. Power..... Idle
   - B. Landing..... Land & Stop Straight Ahead
   - C. Brakes..... As Required

2. **Insufficient Runway Remains**
   - A. Airspeed..... Maintain Safe Airspeed
   - B. Landing..... Straight Ahead / Avoid Obstacles
   - C. Flaps..... As Necessary

3. **Sufficient Altitude Gained (Attempt Restart)**
   - A. Emergency Flow Pattern..... Run **Flow Pattern**
   - B. Fuel Selector..... Switch Tanks
   - C. Fuel Pump..... Check ON
   - D. Mixture..... Rich
   - E. Carb Heat..... On

- **If Power is Not Regained, Proceed with Landing (No Engine Power)**

Engine Power Loss (In Flight)

*** Perform ABCD Checklist**

1. Airspeed..... Maintain 76 kts
2. Fuel Selector ..... Fullest Tank
3. Fuel Pump..... On
4. Mixture..... Full
5. Carb Heat..... On
6. Magnetos..... Off, then individually ON

- **When Power is Restored**

8. Carb Heat..... Off
9. Fuel Pump..... Off

- **Land as Soon as Practical**
- **If Power is Not Restored - Landing (No Engine Power)**

Landing (No Engine Power)

*** Perform ABCD Checklist**

1. Airspeed..... Maintain 76 kts
2. Air Blower..... OFF
3. Landing Pattern..... Established 1000' AGL

- **When Committed to Landing**

4. Airspeed..... 66 kts
5. Flaps..... As Desired
6. Throttle..... Closed
7. Mixture..... Idle Cut-Off
8. Magnetos..... Off
9. Master Switches..... Off
10. Fuel Selector..... Off
11. Seatbelts..... Secure

Engine Fire (During Start)

1. Start Switch……..…….. Continue to Crank
2. Mixture ……..…. Idle Cut-Off
3. Throttle……..……..…….. Open
4. Fuel Pump……..……..…… Off
5. Fuel Selector……..……..…… Off
   - **Abandon if Fire Continues**

Engine Fire (In Flight)

*** Perform ABCD Checklist**

1. Fuel Selector……..……..…. Off
2. Throttle……..……..…….. Closed
3. Mixture ……..……..…. Idle Cut-Off
4. Fuel Pump……..……..…… Off
5. Vents/Defroster……..…. Closed/Off
   - **If Fire Continues:**
6. Airspeed/Attitude…… Increase/Pitch Down
   - **Proceed with Landing (No Engine Power)**

Engine Roughness

1. Carb Heat..... On
   - **If Roughness Continues After 1 Minute:**
2. Mixture ..... Max Smoothness
3. Carb Heat..... Off
4. Fuel Pump..... On
5. Fuel Selector..... Switch Tanks
6. Engine Indicators..... Monitor/DECIDE
7. Magnetos..... Verify
   - **Prepare for Engine Power Loss (In Flight)**

Notes