



# PIPER ARCHER

## PA-28-181

v24.3

### PREFLIGHT INSPECTION

#### INTERIOR INSPECTION

1. Hobbs/Tach Times .....RECORDED
2. Documents (AROW) .....CHECKED
3. Circuit Breakers .....CHECKED IN
4. Carb Heat .....OFF
5. All Electrical Switches .....OFF
6. Throttle/Mixture ...IDLE/CUTOFF
7. Ignition .....OFF/KEY ON DASH
8. Master Switch .....ON
  - a. Fuel Quantity .....CHECKED
  - b. Lights/Pitot Ht .....CHECKED
  - c. Stall Warning.....CHECKED
9. Master Switch.....OFF
10. Fuel Selector .....LOWEST TANK
11. Fire Ext/Safety Equip .....AS REQ
12. Empty Seats .....ITEMS STOWED
13. Windscreen .....CHECKED
14. Flaps .....EXTENDED

#### EXTERIOR INSPECTION

1. Right Wing
  - a. Flaps/Aileron .....CHECKED
  - b. Fuel Quantity .....VERIFIED
  - c. Fuel Sump .....DRAINED
  - d. Fuel Vent .....CHECKED
  - e. Gear/Brakes .....CHECKED
  - f. Mount Strut (4.5") CHECKED
  - g. Tire Pressure .....CHECKED
2. Nose / Engine
  - a. Oil (6-8 QT) .....CHECKED
  - b. Engine Cowling .....SECURED
  - c. Prop / Spinner .....CHECKED
  - d. Alt Belt/Flywheel ..CHECKED

- e. Tire Pressure .....CHECKED
- f. Nose Strut (3.25") .CHECKED
- g. Air Inlets .....CLEAR
- h. Brake Fluid .....CHECKED
- i. Engine Cowling .....SECURED
- j. Fuel Sump .....DRAINED
3. Left Wing .....PERFORM R WING
  - a. Pitot Mast .....CHECKED
4. L Fuselage/Antennas ...CHECKED
5. Empennage .....CHECKED
6. R Fuselage/Antennas ...CHECKED
7. Underbelly .....CHECKED
8. Baggage Comp .....LOCKED

#### BEFORE STARTING ENGINE

1. Pax Brief (S.A.F.E.T.Y.) .....COMPLETE
2. Flaps .....RETRACTED/UP
3. Seatbelts/Harnesses ...FASTENED
4. Anti Collision / Beacon Lt .....ON
5. Brakes .....HOLD

#### STARTING ENGINE

1. Aircraft Key .....INSERTED
2. COLD START: Prime ....2 STROKES
3. Mixture .....FULL RICH
4. Master Switch .....ON
5. Fuel Pump ....ON/CHK PRESSURE
6. Throttle .....OPEN 1/4"
7. Propeller Area .....CLEAR
8. Ignition Switch .....START
9. Throttle .....1000 RPM
10. Oil Pressure .....CHECK
11. Mixture .....LEAN
12. Fuel Pump .....OFF

#### BEFORE TAXI

1. Radios/Avionics .....ON/SET
2. Transponder .....SET/ALT MODE
3. Flight Instruments .....CHECKED
4. Nav/Taxi Lights .....ON
5. Brakes & Pkg Brake .....RELEASED

#### TAXI

1. Brakes .....CHECKED
2. Flight Instruments .....CHECKED

#### RUN-UP

1. Flight Controls ...FREE / CORRECT
2. Fuel Selector .....SWITCH TANK
3. Primer .....IN AND LOCKED
4. Mixture .....FULL RICH
5. Throttle .....2000 RPM
  - a. Mags (175↓/50 Δ) ...CHECKED
  - b. Carb Heat .....ON / CHECKED
  - c. Ammeter .....CHECKED
  - d. Vacuum (4.9-5.1") .....AS REQ
  - e. Eng Instruments ..GREEN ARC
6. Throttle ....CHK IDLE / 1000 RPM
7. Carb Heat .....OFF / CHECKED
8. Throttle Friction Lock .....SET
9. Mixture .....LEAN
10. Radios/Avionics/Nav .....SET
11. Departure Brief .....COMPLETED

#### BEFORE TAKEOFF (Holding Short)

1. Door / Window .....SECURED
2. Transponder .....SET/ALT MODE
3. Carb Heat .....OFF
4. Landing Lt / Pitot Ht .ON/AS REQ
5. Fuel Pump .....ON
6. Mixture .....RICH
7. Primer .....IN / LOCKED
8. Flaps ...0 NORM // 25 SHORT/SOFT
9. Trim (Rudder/Elev) .....SET TWICE
10. Instruments .....CHECKED

#### TAKEOFF

1. Throttle .....FULL (3 SECONDS)
2. Engine Instruments .....CHECKED
3. V<sub>R</sub> / V<sub>X</sub> / V<sub>Y</sub> .....60 / 74 / 87 MPH

#### CLIMB (>500' AGL)

1. Flaps .....UP
2. Instruments .....CHECKED
3. Fuel Pump .....OFF / CHK PRES

#### CRUISE

1. Power .....SET (per AFM/POH)
2. Mixture .....AS REQ
3. Engine Instruments .....CHECKED
4. Landing Light .....AS REQ

#### PRE-MANEUVER

1. Clearing Turns .....COMPLETED
2. Mixture .....FULL RICH
3. Fuel Pump .....ON
4. Fuel Selector .....PROPER TANK
5. Landing Light .....ON

#### DESCENT

1. Fuel Selector .....PROPER TANK
2. Power/Mixture .....AS REQ
3. Destination Info / WX ..RECEIVED
4. Approach Briefing ...COMPLETED
5. Instruments .....CHECKED

#### BEFORE LANDING

1. Fuel Pump .....ON
2. Primer .....IN / LOCKED
3. Mixture .....FULL RICH
4. Landing Light .....ON
5. Seatbelts/Harnesses ...FASTENED

#### AFTER LANDING (Clear of Runway)

1. Flaps .....UP
2. Fuel Pump .....OFF
3. Carb Heat .....OFF
4. Mixture .....LEAN
5. Landing Lt / Pitot Ht .....OFF

#### ENGINE SHUTDOWN

1. Radios/Avionics .....OFF
2. Throttle .....1200 (10sec) / 1000
3. Mixture .....IDLE CUTOFF
4. Ignition .....OFF / KEY ON DASH
5. Master Switch .....OFF

#### SECURING

1. Hobbs/Tach Times .....RECORDED
2. Cabin .....CLEAN
3. Cover/Cowl Plugs .....INSTALLED
4. Chocks/Tie Downs .....INSTALLED
5. Postflight Insp .....COMPLETED
6. Discrepancies .....RECORDED

This checklist constitutes partial information and is not a substitute for the AFM/POH

## ENGINE FAILURES

### ENGINE FAILURE - TAKEOFF ROLL

1. Throttle .....IDLE
2. Brakes .....APPLY
3. Mixture .....IDLE CUTOFF

### ENGINE FAILURE AFTER TAKEOFF

1. Airspeed (V<sub>G</sub>) (FLAPS UP) 87 MPH
  2. Pwr-Off / Forced Ldg ...EXECUTE
- IF TIME & ALTITUDE ALLOW
3. Fuel Selector .....PROPER TANK
  4. Fuel Pump .....ON
  5. Mixture .....RICH
  6. Carb Heat .....ON
  7. Ignition .....BOTH/START
  8. Pwr-Off / Forced Ldg ...EXECUTE

### ENGINE FAILURE DURING FLIGHT

1. Airspeed (V<sub>G</sub>) (FLAPS UP) 87 MPH
2. Landing Area .SELECTED/DIRECT
3. Fuel Selector .....PROPER TANK
4. Fuel Pump.....ON
5. Mixture .....RICH
6. Carb Heat .....ON
7. Eng Instruments .....CHECKED
8. Ignition .....BOTH/START
9. Pwr-Off / Forced Ldg....EXECUTE

### POWER-OFF / FORCED LANDING

1. Airspeed (V<sub>G</sub>) (FLAPS UP) 87 MPH
2. Landing Area .SELECTED/DIRECT

### WHEN COMMITTED TO LANDING

3. Mixture .....IDLE CUTOFF
4. Master Switch .....OFF
5. Mags (Ignition) .....OFF
6. Fuel Selector Valve .....OFF
7. Seatbelts .....TIGHT
8. Flaps .....AS REQ'D

### ABNORMAL OIL PRES / TEMP

1. Power .....MINIMUM REQUIRED
2. Eng Instruments .....MONITOR
3. Pwr-Off / Forced Ldg ...PREPARE

## LOSS OF FUEL PRESSURE

1. Fuel Pump .....ON
2. Fuel Selector .....FULLEST TANK

## FIRES

### ENGINE FIRE DURING START

1. Starter .....CONTINUE TO CRANK
2. Mixture .....IDLE CUTOFF
3. Throttle .....OPEN
4. Fuel Pump .....OFF
5. Fuel Selector .....OFF
6. EGRESS AIRCRAFT

### ENGINE FIRE DURING FLIGHT

1. Fuel Selector Valve .....OFF
2. Throttle .....IDLE
3. Mixture .....IDLE CUTOFF
4. Fuel Pump .....OFF
5. Heater/Defroster .....OFF
6. Pwr-Off / Forced Ldg ....PREPARE

### ELECTRICAL FIRE / SMOKE IN CABIN

1. Master Switch .....OFF
2. Vents .....OPEN
3. Cabin Heat .....OFF
4. All Electrical Equip .....OFF

### IF FIRE APPEARS OUT & PWR REQ'D

5. Master.....ON
6. Circuit Breakers.....CHECKED
7. Critical Equip .....ON (1 at a time)

## ELECTRICAL

### ALTERNATOR FAIL

1. Ammeter .....TEST / APPLY LOAD
2. Electrical Load .....REDUCE
3. Alt Circuit Breaker .....CHECK
4. Alt Switch .....RECYCLE 1 SEC

### ANNUNCIATOR ON, OR ZERO AMPS

5. Alternator Switch .....OFF
6. Non-Essential Elec Equip .....OFF
7. Flight .....TERMINATE

## SPIN RECOVERY

1. Power (Throttle) .....IDLE
2. Ailerons .....NEUTRAL

### WHILE SIMULTANEOUSLY

3. Rudder .FULL OPPOSITE OF SPIN
4. Elevator .....FWD OF NEUTRAL

### WHEN ROTATION STOPS

5. Rudder .....NEUTRAL
6. Elevator ....AS REQ'D FOR LVL FLT

### INADVERTENT ICING ENCOUNTER

1. Pitot Heat .....ON
2. Cabin Heat / Defrost .....MAX
3. Icing Conditions .....EXIT
4. Power/Carb Heat ..INCREASE/ON
5. Mixture .....LEAN
6. No-Flap Landing .....EXECUTE

### LOST COMMS (NORDO)

1. Flight .....FIND/MAINTAIN VMC
2. Radio(s) .....CHECK VOLUME
3. Headset(s) .....CHECK
4. Circuit Breakers .....CHECK
5. Alternator Switch.....RECYCLE

### ENGINE ROUGHNESS

1. Carb Heat .....ON
2. Mixture .....ADJUST
3. Fuel Pump .....ON
4. Fuel Selector .....SWITCH TANKS
5. Eng Instruments .....MONITOR
6. Magnetos .....CHECK L/R/BOTH

### CLEANING FOULED SPARK PLUGS

1. Throttle .....2300 RPM
2. Mixture .....LEAN (60 SEC)
3. Mixture .....FULL RICH
4. Magnetos .....CHECK L/R/BOTH

### OPEN DOOR

1. Airspeed .....BELOW 100 MPH
2. Cabin Vents .....CLOSED
3. Storm Window .....OPEN
4. If Latches Open .....LATCH

## PERFORMANCE DATA

### V SPEEDS (MPH)

Stall, Flaps DOWN	V <sub>SO</sub>	61
Stall, Flaps UP	V <sub>S1</sub>	68
Rotation	V <sub>R</sub>	60
Best Angle	V <sub>X</sub>	74
Best Rate	V <sub>Y</sub>	87
Best Glide	V <sub>G</sub>	87
Max Flap Extend	V <sub>FE</sub>	115
Maneuvering	V <sub>A</sub>	124
Max Structural Cruise	V <sub>NO</sub>	140
Never Exceed	V <sub>NE</sub>	171
Max Demo Crosswind (KTS)		17 KT

Source: PA28-181 POH

## PA28-181 SPECIFICATIONS

		SPECIFICATION
WEIGHTS	MAX T/O WEIGHT (NORM)	2550#
	MAX T/O WEIGHT (UTIL)	2130#
	MAX BAGGAGE	200#
	MAX USEFUL LOAD	1160#
FUEL AND OIL	USEABLE / TOTAL	48 / 50 GAL
	FUEL TYPE	100LL
	75% BEST PWR	10.5 GAL/HR
	65% BEST PWR	9.0 GAL/HR
	55% BEST PWR	7.8 GAL/HR
AIRCRAFT	OIL CAPACITY (QT)	8 (6 USEABLE)
	TIRE PSI (NOSE/MAIN)	24 / 24
	BATTERY	12 VDC / 25 Ah
	ALTERNATOR	14 VDC / 60 Ah

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