

Piper Archer III Preflight (VFR and IFR)

Personal minimums.....Checked

Cockpit

Pitot tube coverRemove
Squawk sheetRead
Seat belt around controls.....Remove
Hobbs timeCheck and record
AROW documents Check present
BAT, ALT, MAGs Off
All lights (exterior & interior)..... Off
Radio master Off
TC, Nav1, Nav2Flags present
Airspeed, VSI..... Zero
OATCorrect
Compass..... Operational, correction card
Master switch..... On
Fuel quantity indicators.....Check
TC gyro Listen for
Exterior lights & Pitot heat On
..... Walk around and check operation
.....Check stall warning horn
Exterior lights & Pitot heat Off
Aux vacuum.....Check
Annunciator panel.....Check
Master switch..... Off
Static and pitot drains.....Drain
Flaps..... Lower

Right Side

Flap Check security and actuator arm
Aileron Check freedom of movement
.....Check hinges and actuator arm
Static discharge wicks..... Check
Wing tipCheck lights
Wing leading edgeCheck for damage
Wing air vent.....Check for blockage
Wing topCheck for damage
Fuel ventCheck for blockage
Main wheel strut Check inflation (4.5 in)
Main wheel tire, brakes, fairingCheck
Wing bottom Check access ports secure
Wing tiedown.....Remove
Fuel sump.....Drain and check
Fuel quantity Check visually
Fuel filler cap Secure

Front

Windshield.....Clean
Oil Check quantity (≥ 4 quarts)
..... Check engine condition
Propeller..... Check for nicks/damage
Spinner..... Check for damage
Cowl openingsCheck for obstructions
Air filterCheck for blockage
Nose wheel strutCheck inflation (3.25 in)
Nose wheel tireCheck inflation and tread
Nose fuel sump Drain and check

Left Side

Fuel vent Check for blockage
Main wheel strutCheck inflation (4.5 in)
Main wheel tire, brakes, fairing Check
Wing bottomCheck access ports secure
Wing tiedown Remove
Fuel sump Drain and check
Fuel quantity Check visually
Fuel filler cap..... Secure
Wing top Check for damage
Wing air vent Check for blockage
Wing leading edge Check for damage
Pitot tube.....Check for blockage (3 holes)
Wing tip Check lights
Static discharge wicks Check
AileronCheck freedom of movement
.....Check hinges and actuator arm
FlapCheck security and actuator arm

Rear

Static ports Check
Stabilator.....Check freedom of movement
..... Check secure
.....Check anti-servo trim tab
..... Check jack screw
Rudder Check security
Static discharge wicks Check
Rear tiedown..... Remove
Under fuselage Check for damage
Top of fuselage Check for damage
ELT access port & antenna..... Check secure
Baggage door Closed and latched

All tires Roll and check

Flaps Up

Piper Archer III Operations: Engine Start, Taxi, and Runup

Engine Start

Passengers briefed..... Seat, belts and harnesses
.....Door operation
..... Headset
..... Emergency procedures
.....Emergency supplies
.....Sterile cockpit
.....Looking for traffic
..... Cell phones off

Cell phones Off

Seats, belts, harnessesAdjust and lock

ELT Check armed

Alternate static Check off

Fuel selector valveLeast full tank

Avionics master, A/P, A/C..... Off

Circuit breakersCheck in

Brakes Test

Parking brakeSet

Throttle..... Open ¼ inch

Mixture..... Rich

Carburetor heat..... Off

BAT/ALT, Fuel Pump, MAGs On

Prime.....As required (5 seconds if cold)

Beacon strobe..... Down position

BrakesHold tight

Propeller area Check and yell CLEAR

Starter..... Engage

 Throttle..... Adjust to 1000 RPM

 Oil pressure Check

 Ammeter and ALT annunciatorCheck

Electric fuel pump..... Off

Fuel pressureCheck

Mixture..... As required

Turn coordinatorNo flag

Clock Correct time

Avionics and A/P masters On

Transponder Standby

Lights As required

Radio Get ATIS

Altimeter Set (+/- 75 feet)

Heading indicatorSet

(Contact ground)

Taxi

Attitude indicator.....Level during turns
.....No dip during acceleration

Heading indicator Turns appropriately

Turn coordinatorBanks appropriately

Compass..... Moves freely

Engine Runup

Parking brake Set

Cabin doors..... Closed and latched

Flight controls..... Free and correct
 Ailerons, elevator, elevator trim

Elevator trim Set for takeoff

Rudder trim..... Set for takeoff

Fuel selector valve Switch tank to fullest

Mixture Rich (below 3000 feet)

Throttle 2000 RPM

 Magnetos Check
 (Max 175 RPM drop or 50 RPM diff)

 Oil temperature and pressure Check

 Suction gage Check

 Ammeter Check

 Carburetor heat On
 (RPM drop and no further increase)

 Annunciator panel..... Check

Throttle Full idle, check smooth

Carburetor heatOff

Throttle 1000 RPM

MixtureLean as appropriate

VOR check Perform if needed

Autopilot and Trim

Trim master..... Off, verify trim inop

Trim master..... On

Trim switch..... Test individually and together

HGD mode..... Test left/right

VS mode Check up/down
 Verify yoke and trim movement

ALT mode..... Engage
 Push/pull on yoke, watch trim

A/P disconnect..... Push

Elevator trim Set for takeoff

➔ Go to takeoff checklist ➔

Piper Archer III Operations: Takeoff through Shutdown

Takeoff

Instruments and radios Check/Set
Transponder Appropriate code
Seats, belts, and harnesses Adjust and lock
Doors and windows..... Closed and latched
Fuel selector valve Appropriate tank
Flaps Up (25° for short/soft field)
Elevator trim Set
Carburetor heat..... Off
Takeoff technique Choose
Speeds & emergency plans Review
Radios Contact tower/CTAF

When cleared onto the runway:

A/C Off
Fuel pump and Lights All UP
Transponder (Camera) Altitude
Mixture (Action) Rich (below 3000 feet)

Compass/DG Correct
Timer Start

Rotate at 59 KIAS
..... (55 KIAS short field)
Climb at 76 KIAS
..... (60 KIAS short field)

Cruise

Electric fuel pump Off
Power 2200-2700 RPM
Mixture Lean as appropriate
Lights As required
Heading indicator Set
Fuel tank Switch every hour

Before Landing

(L) Lights On
(G) Fuel selector Fullest tank
Fuel pump On
(U) Brakes Test
(M) Mixture Rich (below 3000 feet)
(S) Seats, belts, and harnesses..... Adjust and lock

Final approach speed..... 66 KIAS
..... (60 KIAS short field)

Go-Around

Throttle Full
Carburetor heat Off
Flaps Retract to 25°, then more slowly

After Landing

Electric fuel pump Off
Lights As required
Flaps Up
Mixture Lean as appropriate
Carburetor heat Off
Transponder Standby
Elevator trim Set
Radios Contact ground if applicable

Shutdown and Securing

A/C, Avionics, A/P Off
Throttle Idle
Mags Check briefly in off position, then on
Throttle 1000 RPM
Mixture Idle cut-off
BAT/ALT, Fuel pump, MAGs, Lights Off

In tie-down spot:

Tiedown ropes Tie
Hobbs time..... Record
Seat belt around controls Set
Pitot tube cover Install
Door Lock
Baggage door Lock

Important Airspeeds

V_x 64 KIAS
V_y 76 KIAS
V_{ne} 154 KIAS
V_{no} 125 KIAS
V_a 89-113 KIAS
V_{fe} 102 KIAS

Final approach 66 KIAS

Best glide 76 KIAS

Piper Archer III: In-Flight Emergency Procedures

Engine Failure During Flight

Airspeed76 KIAS (flaps up)
Direction Turn toward preselected field

If time permits, try to restart:

Fuel selector valve Switch tanks
Electric fuel pump..... On
Mixture..... Rich
Carburetor heat..... On
Mags..... On
..... Start (if propeller stopped)

If time permits, call for help:

Transponder 7700
Radio Last frequency or 121.5
..... Announce MAYDAY and position

Seat belts Tight
Passengers Brief
(Door operation, seat belts, seat position,
crash position, exiting airplane)

When committed to landing:

Fuel selector valve Off
Mixture..... Idle cut-off
Mags..... Off
BAT/ALT..... Off
Flaps..... As required (40° recommended)
Door Unlatch

Engine Fire in Flight

Fuel selector valve Off
Throttle..... Closed
Mixture..... Idle cut-off
Electric fuel pump..... Off
Heater and defroster Off
Mags..... Off
Master switch Off
Seat belts Tight
Passengers Brief
(Door operation, seat belts, seat position,
crash position, exiting airplane)
Door Unlatch

Electrical Fire in Flight

BAT/ALT Off
Heater and defroster..... Off
Cabin vents Open
Fire extinguisher Activate (if available)

ALT Light Illuminates During Flight

Ammeter Verify zero
Avionics master Off
Alt master switch Off
ALT circuit breaker Check and reset
Alt master switch On
ALT light Check off
Avionics master On

If ALT light illuminates again:

Alt master switch Off
Nonessential electrical equipment Off
Flight..... Terminate as soon as practical