

SECTION 4

NORMAL PROCEDURES

4.1 GENERAL

This section describes the recommended procedures for the conduct of normal operations for the Archer III. All of the required (FAA regulations) procedures and those necessary for operation of the airplane as determined by the operating and design features of the airplane are presented.

Normal procedures associated with those optional systems and equipment which require handbook supplements are provided by Section 9 (Supplements).

These procedures are provided to present a source of reference and review and to supply information on procedures which are not the same for all aircraft. Pilots should familiarize themselves with the procedures given in this section in order to become proficient in the normal operations of the airplane.

The first portion of this section consists of a short form check list which supplies an action sequence for normal operations with little emphasis on the operation of the systems.

The remainder of the section is devoted to amplified normal procedures which provide detailed information and explanations of the procedures and how to perform them. This portion of the section is not intended for use as an in-flight reference due to the lengthy explanations. The short form check list should be used for this purpose.

4.3 AIRSPEEDS FOR SAFE OPERATIONS

The following airspeeds are those which are significant to the safe operation of the airplane. These figures are for standard airplanes flown at gross weight under standard conditions at sea level.

Performance for a specific airplane may vary from published figures depending upon the equipment installed, the condition of the engine, airplane and equipment, atmospheric conditions and piloting technique.

(a) Best Rate of Climb Speed	76 KIAS
(b) Best Angle of Climb Speed	64 KIAS
(c) Turbulent Air Operating Speed (See Subsection 2.3)	113 KIAS
(d) Maximum Flap Speed	102 KIAS
(e) Landing Final Approach Speed (Flaps 40)	66 KIAS
(f) Maximum Demonstrated Crosswind Velocity	17 KTS

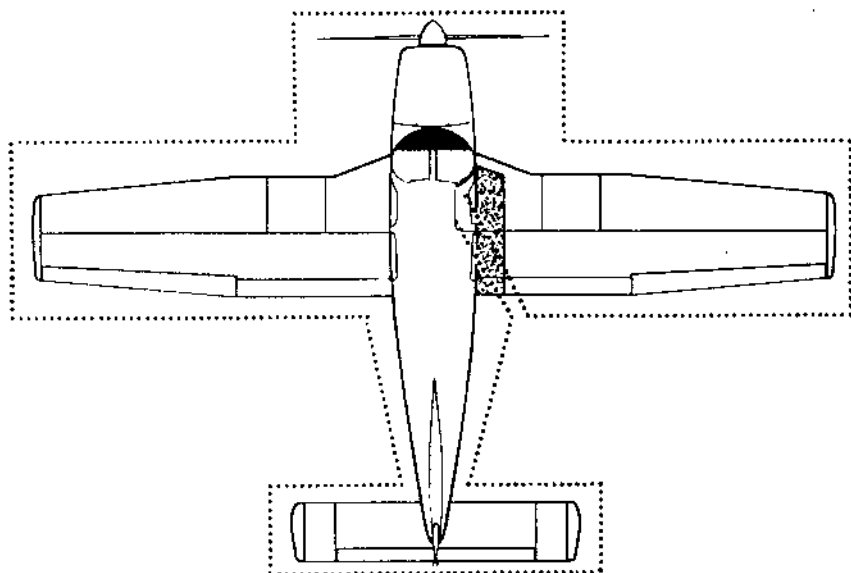
**WALK-AROUND**

Figure 4-1

4.5 NORMAL PROCEDURES CHECK LIST**PREFLIGHT CHECK****COCKPIT**

Control wheel	release restraints
Parking brake	set
Avionics	OFF
All switches	OFF
Mixture	idle cut-off
Magneto switches	OFF
Battery master switch	ON
Fuel gauges	check quantity
Annunciator panel.....	check
Battery master switch	OFF
Flaps	extend
Primary flight controls.....	proper operation
Trim.....	neutral
Pitot and static systems	drain
Windows.....	check clean

Required papers and POHcheck on board
Tow bar and baggagestow properly - secure
Baggage doorclose and secure

RIGHT WING

Surface conditionclear of ice, frost, snow
Flap and hingescheck
Aileron and hingescheck
Static wickscheck - secure
Wing tip and lightscheck
Fuel tankcheck supply
visually - secure cap
Fuel tank ventclear

CAUTION: When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Fuel tank sumpsdrain and check for
water, sediment and proper fuel
Tie down and chockremove
Main gear strutproper
inflation (4.5 ± .25 in.)
Tirecheck
Brake block and disccheck
Fresh air inletclear

NOSE SECTION

General conditioncheck
Cowlingsecure
Windshieldclean
Propeller and spinnercheck
Air inletsclear
Engine baffle sealscheck
Chockremove
Nose gear strutproper
inflation (3.25 ± .25 in.)
Nose wheel tirecheck
Oilcheck quantity
Dipstickproperly seated
Oil filler capsecure

CAUTION: When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Fuel strainerdrain

LEFT WING

Surface conditionclear of ice, frost, snow

Fresh air inletclear

CAUTION: When draining any amount of fuel, care should be taken to ensure that no fire hazard exists before starting engine.

Fuel tank sumpdrain and check for
water, sediment and proper fuel

Fuel tank ventclear

Main gear strutproper
inflation (4.5 ± .25 in.)

Tirecheck

Brake block and disccheck

Tie down and chockremove

Fuel tankcheck supply
visually - secure cap

Pitot/static headremove cover - holes clear

Wing tip and lightscheck

Aileron and hingescheck

Flap and hingescheck

Static wickscheck secure

FUSELAGE

Antennascheck

Empennageclear of ice, frost, snow

Stabilator and trim tabcheck

Tie downremove

MISCELLANEOUS

Battery master switch.....ON
Flaps.....retract
Interior lightingON and check
Pitot heat switch.....ON
Pitot heat OFF/INOP Annunciatorextinguished

CAUTION: Care should be taken when an operational check of the heated pitot head is being performed. The unit becomes very hot. Ground operation should be limited to three minutes to avoid damaging the heater elements.

NOTE: Secure and adjust all unused seat belts and shoulder harness to prevent control interference or passenger injury during flight in turbulent air.

Exterior lighting switches.....ON and check
Pitotcheck - warm
Stall warning horn.....check
All lighting switchesOFF
Pitot heat switch.....OFF
Pitot heat OFF/INOP Annunciatorilluminated
Battery master switchOFF
Passengersboard
DoorClosed and secure
Seatsadjusted and /locked in position
Seat belts and harnessfasten/adjust
check inertia reel

ENGINE START - GENERAL

CAUTION: Do not attempt flight if there is no indication of alternator output.

CAUTION: If a positive oil pressure is not indicated within 30 seconds following an engine start, stop the engine and determine the trouble. In cold weather it will take a few seconds longer to get a positive oil pressure indication.

BEFORE STARTING ENGINE

Brakes.....	set
Circuit breakers.....	check in
Alternate static source.....	OFF
Carburetor heat.....	full cold
Avionics.....	OFF
Fuel selector.....	desired tank

NORMAL START - COLD ENGINE

Throttle.....	1/4 in. open
Battery master switch.....	ON
Alternator switch.....	ON
Left magneto switch.....	ON
Electric fuel pump.....	ON
Mixture.....	full RICH
Propeller.....	clear
Starter.....	engage
Throttle.....	adjust
Right magneto switch.....	ON
Oil pressure.....	check

NOTE: If engine does not start within 10 seconds, prime and repeat starting procedure.

NORMAL START - HOT ENGINE

Throttle.....	1/2 in. open
Battery master switch.....	ON
Alternator switch.....	ON
Left magneto switch.....	ON
Electric fuel pump.....	ON
Mixture.....	full RICH
Propeller.....	clear
Starter.....	engage
Throttle.....	adjust
Right magneto switch.....	ON
Oil pressure.....	check

ENGINE START WHEN FLOODED

Throttle	open full
Battery master switch.....	ON
Alternator switch.....	ON
Left magneto switch.....	ON
Electric fuel pump	OFF
Mixture.....	idle cut-off
Propeller.....	clear
Starter	engage
Mixture	advance
Throttle.....	retard
Right magneto switch	ON
Oil Pressure	check

STARTING WITH EXTERNAL POWER SOURCE

CAUTION: It is possible to use the ship's battery in parallel by turning only the battery master switch ON. This will give longer cranking capabilities, but will not increase the amperage. Care should be exercised if the ship's battery has been depleted. The external power supply can be reduced to the level of the ship's battery. This can be tested by turning only the battery master switch on momentarily while the starter is engaged. If cranking speed increases, the ship's battery is at a higher level than the external power supply. If the battery is at a lower level than the external power supply, continue starting with the battery master switch off.

Battery master switch	OFF
Alternator switch	OFF
Left magneto switch.....	ON
All electrical equipment.....	OFF
Terminals	connect
External power plug.....	insert in fuselage

BEFORE TAKEOFF

Battery master switch.....	verify ON
Alternator switch.....	verify ON
Magnetos.....	verify ON
Flight instruments.....	check
Fuel selector.....	proper tank
Electric fuel pump.....	ON
Engine gauges.....	check
Carburetor heat.....	OFF
Mixture.....	set
Seat backs.....	erect
Seats.....	adjusted and locked in position
Belts/harness.....	fastened/check
Empty seats.....	seat belts securely fastened
Flaps.....	set
Trim.....	set
Controls.....	free
Door.....	latched
Air conditioner (if installed).....	OFF

TAKEOFF

NORMAL TECHNIQUE

Flaps.....	set
Trim.....	set

Accelerate to 60 KIAS

Control wheel.....	back pressure to smoothly rotate to climb attitude
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APPROACH AND LANDING

Fuel selector	proper tank
Seat backs	erec.
Seats	adjusted and locked in position
Belts/harness	fasten/adjust
Electric fuel pump	ON
Mixture	set
Flaps	set - 102 KIAS max
Air conditioner (if installed)	OFF
Initial approach speed	75 KIAS
Final approach speed (flaps 40°)	66 KIAS

STOPPING ENGINE

CAUTION:

The flaps must be placed in the up position for the flap stop to support weight. Passengers should be cautioned accordingly.

Flaps	retrac
Electric fuel pump	OFF
Air conditioner (if installed)	OFF
Avionics master switch	OFF
Electrical switches	OFF
Throttle	closed
Mixture	idle cut-off
Magneto switches	OFF
Alternator switch	OFF
Battery master switch	OFF

MOORING

Parking brake	set
Flaps	full up
Control wheel	secured with belts
Wheel chocks	in place
Tie downs	securr