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**NORMAL PROCEDURES**

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**SECTION 4  
NORMAL PROCEDURES**

**4.1 GENERAL**

This section describes the recommended procedures for the conduct of normal operations for the Archer II. 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.

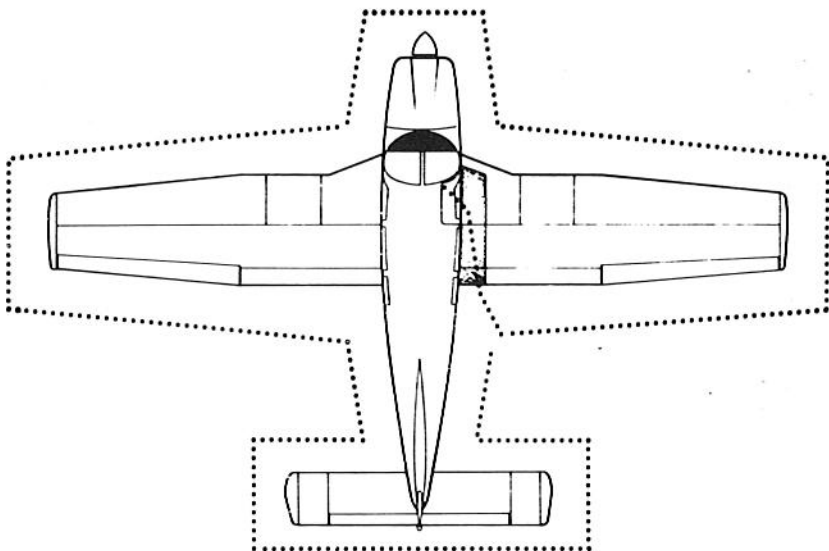
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Performance for a specific airplane may vary from published figures depending upon the equipment installed, the condition of the engine, airplane and equipment, atmospheric conditions and piloting technique.

- (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

Control wheel .....	release belts
Avionics .....	OFF
Master switch .....	ON
Fuel quantity gauges .....	check
Master switch .....	OFF
Ignition .....	OFF
Exterior .....	check for damage
Control surfaces .....	check for interference - free of ice, snow, frost
Hinges .....	check for interference
Wings .....	free of ice, snow, frost
Stall warning .....	check
Fuel tanks .....	check supply visually - secure caps

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Fuel tank sumps .....	drain and check for water sediment and proper fuel
Fuel vents .....	open
Main gear struts .....	proper inflation (4.50 in.)
Tires .....	check
Brake blocks .....	check
Pitot head .....	remove cover - holes clear
Windshield .....	clean
Propeller and spinner .....	check
Fuel and oil .....	check for leaks
Oil .....	check level
Dipstick .....	properly seated
Cowling .....	secure
Inspection covers .....	secure
Nose wheel tire .....	check
Nose gear strut .....	proper inflation (3.25 in.)
Air inlets .....	clear
Alternator belt .....	check tension
Tow bar and control locks .....	stow
Baggage .....	stowed properly - secure
Baggage door .....	close and secure
Fuel strainer .....	drain and check for water sediment and proper fuel
Primary flight controls .....	proper operation
Cabin door .....	close and secure
Required papers .....	on board
Seat belts and harness .....	fasten/adjust- check inertia reel

**BEFORE STARTING ENGINE**

Brakes .....	set
Carburetor heat .....	full COLD
Fuel selector .....	desired tank
Radios .....	OFF

**STARTING ENGINE WHEN COLD**

Throttle .....	1/4" open
Master switch .....	ON
Electric fuel pump .....	ON
Mixture .....	full RICH

Starter ..... engage  
Throttle ..... adjust  
Oil pressure ..... check

If engine does not start within 10 sec. prime and repeat starting procedure.

**STARTING ENGINE WHEN HOT**

Throttle ..... 1/2" open  
Master switch ..... ON  
Electric fuel pump ..... ON  
Mixture ..... full RICH  
Starter ..... engage  
Throttle ..... adjust  
Oil pressure ..... check

**STARTING ENGINE WHEN FLOODED**

Throttle ..... open full  
Master switch ..... ON  
Electric fuel pump ..... OFF  
Mixture ..... idle cut-off  
Starter ..... engage  
Mixture ..... advance  
Throttle ..... retard  
Oil pressure ..... check

**STARTING WITH EXTERNAL POWER SOURCE**

Master switch ..... OFF  
All electrical equipment ..... OFF  
Terminals ..... connect  
External power plug ..... insert in fuselage

Proceed with normal start

Throttle ..... lowest possible RPM  
External power plug ..... disconnect from fuselage  
Master switch ..... ON - check ammeter  
Oil pressure ..... check

**WARM-UP**

Throttle .....800 to 1200 RPM

**TAXIING**

Chocks .....removed

Taxi area .....clear

Throttle .....apply slowly

Brakes .....check

Steering .....check

**GROUND CHECK**

Parking brake .....set

Throttle .....2000 RPM

Magnetos .....max. drop 175 RPM -  
max. diff. 50 RPM

Vacuum .....5.0" Hg.  $\pm$  .1

Oil temp .....check

Oil pressure .....check

Air conditioner .....check

Annunciator panel .....press-to-test

Carburetor heat .....check

Engine is warm for takeoff when throttle can be opened without engine faltering.

Electric fuel pump .....OFF

Fuel pressure .....check

Throttle .....retard

**BEFORE TAKEOFF**

Master switch .....ON

Flight instruments .....check

Fuel selector .....proper tank

Electric fuel pump .....ON

Engine gauges .....check

Carburetor heat .....OFF

Seat backs .....erect

Mixture .....set

Primer .....locked



Belts/harness ..... fastened/adjusted  
Empty seats ..... seat belts snugly fastened  
Flaps ..... set  
Trim tab ..... set  
Controls ..... free  
Doors ..... latched  
Air conditioner ..... OFF

### **TAKEOFF**

#### **NORMAL**

Flaps ..... set  
Tab ..... set  
Accelerate to 52 to 65 KIAS  
Control wheel ..... back pressure to rotate  
to climb attitude

#### **SHORT FIELD, OBSTACLE CLEARANCE**

Flaps ..... 25° (second notch)  
Accelerate to 41 to 49 KIAS depending on aircraft weight.  
Control wheel ..... back pressure to rotate  
to climb attitude  
After breaking ground, accelerate to 45 to 54 KIAS depending on aircraft weight.  
Accelerate to best flaps up angle of climb speed - 64 KIAS, slowly retract the flaps and climb past the obstacle.  
Accelerate to best flaps up rate of climb speed - 76 KIAS.

#### **SOFT FIELD**

Flaps ..... 25° (second notch)  
Accelerate to 41 to 49 KIAS depending on aircraft weight.  
Control wheel ..... back pressure to rotate  
to climb attitude  
After breaking ground, accelerate to 45 to 54 KIAS depending on aircraft weight.  
Accelerate to best flaps up rate of climb speed 76 KIAS.  
Flaps ..... retract slowly

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**CLIMB**

Best rate (flaps up) ..... 76 KIAS  
Best angle (flaps up) ..... 64 KIAS  
En route ..... 87 KIAS  
Electric fuel pump ..... OFF at desired altitude

**CRUISING**

Reference performance charts and Avco-Lycoming Operator's Manual.  
Normal max. power ..... 75%  
Power ..... set per power table  
Mixture ..... adjust

**DESCENT**

**NORMAL**

Throttle ..... 2500 rpm  
Airspeed ..... 122 KIAS  
Mixture ..... RICH  
Carburetor heat ..... ON if required

**POWER OFF**

Carburetor heat ..... ON if required  
Throttle ..... closed  
Airspeed ..... as required  
Mixture ..... as required  
Power ..... verify with throttle  
every 30 seconds

**APPROACH AND LANDING**

Fuel selector ..... proper tank  
Seat backs ..... erect  
Belts/harness ..... fasten/adjust  
Electric fuel pump ..... ON  
Mixture ..... set

Flaps ..... set - 102 KIAS max  
Air conditioner ..... OFF  
Trim to 75 KIAS. Final approach speed (flaps 40°) ..... 66 KIAS

### **STOPPING ENGINE**

Flaps ..... retract  
Electric fuel pump ..... OFF  
Air conditioner ..... OFF  
Radios ..... OFF  
Throttle ..... full aft  
Mixture ..... idle cut-off  
Magnetos ..... OFF  
Master switch ..... OFF

### **PARKING**

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

#### **4.7 AMPLIFIED NORMAL PROCEDURES (GENERAL)**

The following paragraphs are provided to supply detailed information and explanations of the normal procedures necessary for the safe operation of the airplane.

#### **4.9 PREFLIGHT CHECK**

The airplane should be given a thorough preflight and walk-around check. The preflight should include a check of the airplane's operational status, computation of weight and C.G. limits, takeoff distance and in-flight performance. A weather briefing should be obtained for the intended flight path, and any other factors relating to a safe flight should be checked before takeoff.

#### *CAUTION*

The flap position should be noted before boarding the aircraft. The flaps must be placed in the UP position before they will lock and support weight on the step.

Upon entering the cockpit, release the seat belts securing the control wheel. Turn OFF all avionics equipment. Turn ON the master switch and check the fuel quantity gauges for sufficient fuel. After the fuel quantity check is made turn the master switch OFF and check that the ignition switch is OFF.

To begin the exterior walk-around, check for external damage and operational interference of the control surfaces or hinges. Insure that the wings and control surfaces are free of snow, ice, frost or any other foreign materials.

An operational check of the stall warning system should now be made. Turn the master switch ON. Lift the detector while checking to determine if the horn is actuated. The master switch should be returned to the OFF position after the check is complete.

A visual check of the fuel tank quantity should be performed. Remove the filler cap from each tank and visually check the supply and color. Be sure to secure the caps properly after the check is complete.

The fuel system sumps and strainer should be drained daily prior to the first flight and after refueling. Check for proper fuel and the accumulation of contaminants such as water or sediment. Each fuel tank is equipped with an individual quick drain located at the lower inboard rear corner of the tank. The fuel strainer is equipped with a quick drain located on the front lower corner of the firewall. Each of the fuel tank sumps should be drained first. Then the fuel strainer should be drained twice, once with the fuel selector valve on each tank. Each time fuel is drained, sufficient fuel should be allowed to flow to ensure removal of contaminants. This fuel should be collected in a suitable container, examined for contaminants, and then discarded.

*CAUTION*

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

Each quick drain should be checked after closing it to make sure it has closed completely and is not leaking.

Check all of the fuel tank vents to make sure they are open.

Next, complete a check of the landing gear. Check the main gear shock struts for proper inflation. There should be 4.50 inches of strut exposure under a normal static load. The nose gear should be checked for 3.25 inches of strut exposure. Check all tires for cuts and wear and insure proper inflation. Make a visual check of the brake blocks for wear or damage.

Remove the cover from the pitot head on the underside of the left wing. Check the pitot head to make sure the holes are open and clear of obstructions.

Don't forget to clean and check the windshield.

The propeller and spinner should be checked for defects or nicks.

Lift the cowling and check for any obvious fuel or oil leaks. Check the oil level. Make sure that the dipstick has properly seated after checking. Secure the cowling and check the inspection covers.

Check the air inlets for foreign matter and the alternator belt for proper tension.

Stow the tow bar and check the baggage for proper storage and security. The baggage compartment doors should be closed and secure.

Upon entering the aircraft, ascertain that all primary flight controls operate properly. Close and secure the cabin door and check that all the required papers are in order and in the airplane.

Fasten and adjust the seat belts and shoulder harness and check the function of the inertia reel by pulling sharply on the strap. Fasten seat belts on empty seats.

**NOTE**

If the fixed shoulder harness (non-inertia reel type) is installed, it must be connected to the seat belt and adjusted to allow proper accessibility to all controls, including fuel selector, flaps, trim, etc., while maintaining adequate restraint for the occupant.

If the inertia reel type shoulder harness is installed, a pull test of its locking restraint feature should be performed.

**4.11 BEFORE STARTING ENGINE**

Before starting the engine the brakes should be set ON and the carburetor heat lever moved to the full COLD position. The fuel selector should then be moved to the desired tank. Check to make sure that all the radios are OFF.

**4.13 STARTING ENGINE**

**(a) Starting Engine When Cold**

Open the throttle lever approximately 1/4 inch. Turn ON the master switch and the electric fuel pump.

Move the mixture control to full RICH and engage the starter by rotating the magneto switch clockwise. When the engine fires, release the magneto switch, and move the throttle to the desired setting.

If the engine does not fire within five to ten seconds, disengage the starter, prime the engine and repeat the starting procedure.

**(b) Starting Engine When Hot**

Open the throttle approximately 1/2 inch. Turn ON the master switch and the electric fuel pump. Move the mixture control lever to full RICH and engage the starter by rotating the magneto switch clockwise. When the engine fires, release the magneto switch and move the throttle to the desired setting.

**(c) Starting Engine When Flooded**

The throttle lever should be full OPEN. Turn ON the master switch and turn OFF the electric fuel pump. Move the mixture control lever to idle cut-off and engage the starter by rotating the magneto switch clockwise. When the engine fires, release the magneto switch, advance the mixture and retard the throttle.

**(d) Starting Engine With External Power Source**

An optional feature called the Piper External Power (PEP) allows the operator to use an external battery to crank the engine without having to gain access to the airplane's battery.

Turn the master switch OFF and turn all electrical equipment OFF. Connect the RED lead of the PEP kit jumper cable to the POSITIVE (+) terminal of an external 12-volt battery and the BLACK lead to the NEGATIVE (-) terminal. Insert the plug of the jumper cable into the socket located on the fuselage. Note that when the plug is inserted, the electrical system is ON. Proceed with the normal starting technique.

After the engine has started, reduce power to the lowest possible RPM, to reduce sparking, and disconnect the jumper cable from the aircraft. Turn the master switch ON and check the alternator ammeter for an indication of output. **DO NOT ATTEMPT FLIGHT IF THERE IS NO INDICATION OF ALTERNATOR OUTPUT.**

**NOTE**

For all normal operations using the PEP jumper cables, the master switch should be OFF, but it is possible to use the ship's battery in parallel by turning the master switch ON. This will give longer cranking capabilities, but will not increase the amperage.

**CAUTION**

Care should be exercised because 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 the 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.

**4.15 WARM-UP**

Warm-up the engine at 800 to 1200 RPM for not more than two minutes in warm weather and four minutes in cold. Avoid prolonged idling at low RPM, as this practice may result in fouled spark plugs.

Takeoff may be made as soon as the ground check is completed, provided that the throttle may be opened fully without backfiring or skipping, and without a reduction in engine oil pressure.

Do not operate the engine at high RPM when running up or taxiing over ground containing loose stones, gravel or any loose material that may cause damage to the propeller blades.

**4.17 TAXIING**

Before attempting to taxi the airplane, ground personnel should be instructed and approved by a qualified person authorized by the owner. Ascertain that the propeller back blast and taxi areas are clear.



Power should be applied slowly to start the taxi roll. Taxi a few feet forward and apply the brakes to determine their effectiveness. While taxiing, make slight turns to ascertain the effectiveness of the steering.

Observe wing clearances when taxiing near buildings or other stationary objects. If possible, station an observer outside the airplane.

Avoid holes and ruts when taxiing over uneven ground.

Do not operate the engine at high RPM when running up or taxiing over ground containing loose stones, gravel or any loose material that may cause damage to the propeller blades.

#### **4.19 GROUND CHECK**

Set the parking brake.

The magnetos should be checked at 2000 RPM. Drop off on either magneto should not exceed 175 RPM and the difference between the magnetos should not exceed 50 RPM. Operation on one magneto should not exceed 10 seconds.

Check the vacuum gauge; the indicator should read  $5.0" \pm .1"$  Hg at 2000 RPM.

Check the annunciator panel lights with the press-to-test button. Also check the air conditioner.

Carburetor heat should also be checked prior to takeoff to be sure the control is operating properly and to clear any ice which may have formed during taxiing. Avoid prolonged ground operation with carburetor heat "ON" as the air is unfiltered.

The electric fuel pump should be turned OFF after starting or during warm-up to make sure that the engine driven pump is operating. Prior to takeoff the electric pump should be turned ON again to prevent loss of power during takeoff should the engine driven pump fail. Check both oil temperature and oil pressure. The temperature may be low for some time if the engine is being run for the first time of the day. The engine is warm enough for takeoff when the throttle can be opened without the engine faltering.

#### **4.21 BEFORE TAKEOFF**

All aspects of each particular takeoff should be considered prior to executing the takeoff procedure.

Turn ON the master switch and check and set all of the flight instruments as required. Check the fuel selector to make sure it is on the proper tank (fullest). Turn ON the electric fuel pump and check the engine gauges. The carburetor heat should be in the OFF position.

All seat backs should be erect.

The mixture should be set and the primer checked to insure that it is locked. The seat belts and shoulder harness should be fastened and adjusted. Fasten the seat belts snugly around the empty seats.

#### **NOTE**

If the fixed shoulder harness (non-inertia reel type) is installed, it must be connected to the seat belt and adjusted to allow proper accessibility to all controls, including fuel selector, flaps, trim, etc., while maintaining adequate restraint for the occupant.

If the inertia reel type shoulder harness is installed, a pull test of its locking restraint feature should be performed.

Exercise and set the flaps and trim tab. Insure proper flight control movement and response.

All doors should be properly secured and latched.

On air conditioned models, the air conditioner must be OFF to insure normal takeoff performance.

### **4.23 TAKEOFF**

The normal takeoff technique is conventional for the Archer II. The tab should be set slightly aft of neutral, with the exact setting determined by the loading of the airplane. Allow the airplane to accelerate to 48 to 53 KIAS depending on the weight of the aircraft and ease back on the control wheel to rotate to climb attitude.

The procedure used for a short field takeoff with an obstacle clearance or a soft field takeoff differs slightly from the normal technique. The flaps should be lowered to 25° (second notch). Allow the aircraft to accelerate to 41 to 49 KIAS depending on the aircraft weight and rotate the aircraft to climb attitude. After breaking ground, accelerate to 45 to 54 KIAS, depending on aircraft weight. Continue to climb while accelerating to the flaps-up rate of climb speed, 76 KIAS if no obstacle is present or 64 KIAS if obstacle clearance is a consideration. Slowly retract the flaps while climbing out.

### **4.25 CLIMB**

The best rate of climb at gross weight will be obtained at 76 KIAS. The best angle of climb may be obtained at 64 KIAS. At lighter than gross weight these speeds are reduced somewhat. For climbing en route, a speed of 87 KIAS is recommended. This will produce better forward speed and increased visibility over the nose during the climb.

When reaching the desired altitude, the electric fuel pump may be turned off.

### **4.27 CRUISING**

The cruising speed of the Archer II is determined by many factors, including power setting, altitude, temperature, loading and equipment installed in the airplane.

The normal maximum cruising power is 75% of the rated horsepower of the engine. Airspeeds which may be obtained at various altitudes and power settings can be determined from the performance graphs provided by Section 5.

Use of the mixture control in cruising flight reduces fuel consumption significantly, especially at higher altitudes. The mixture should be leaned during cruising operation above 5000 ft. altitude and at pilot's discretion at lower altitudes when 75% power or less is being used. If any doubt exists as to the amount of power being used, the mixture should be in the full RICH position for all operations under 5000 feet.

To lean the mixture, disengage the lock and pull the mixture control until the engine becomes rough, indicating that the lean mixture limit has been reached in the leaner cylinders. Then enrich the mixture by pushing the control towards the instrument panel until engine operation becomes smooth.

If the airplane is equipped with the optional exhaust gas temperature (EGT) gauge, a more accurate means of leaning is available to the pilot. Best economy mixture is obtained by moving the mixture control aft until peak EGT is reached. Best power mixture is obtained by leaning to peak EGT and then enriching until the EGT is 100°F. rich of the peak value. Under some conditions of altitude and throttle position, the engine may exhibit roughness before peak EGT is reached. If this occurs, the EGT corresponding to the onset of engine roughness should be used as the peak reference value.

Always remember that the electric fuel pump should be turned ON before switching tanks, and should be left on for a short period thereafter. In order to keep the airplane in best lateral trim during cruising flight the fuel should be used alternately from each tank. It is recommended that one tank be used for one hour after takeoff, then the other tank be used for two hours; then return to the first tank, which will have approximately one and one half hours of fuel remaining if the tanks were full at takeoff. The second tank will contain approximately one half hour of fuel. Do not run tanks completely dry in flight. The electric fuel pump should be normally OFF so that any malfunction of the engine driven fuel pump is immediately apparent. If signs of fuel starvation should occur at any time during flight, fuel exhaustion should be suspected, at which time the fuel selector should be immediately positioned to the other tank and the electric fuel pump switched to the ON position.

#### **4.29 DESCENT**

##### **NORMAL**

To achieve the performance on Figure 5-29 the power on descent must be used. The throttle should be set for 2500 RPM, mixture full rich and maintain an airspeed of 122 KIAS. In case carburetor ice is encountered apply full carburetor heat.

## **POWER OFF**

If a prolonged power off descent is to be made, apply full carburetor heat prior to power reduction if icing conditions are suspected. Throttle should be retarded and mixture control leaned as required. Power response should be verified approximately every 30 seconds by partially opening and then closing the throttle (clearing the engine). When leveling off enrichen mixture, set power as required and select carburetor heat off unless carburetor icing conditions are suspected.

## **4.31 APPROACH AND LANDING**

Check to insure the fuel selector is on the proper (fullest) tank and that the seat backs are erect. The seat belts and shoulder harness should be fastened and adjusted and the inertia reel checked.

### **NOTE**

If the fixed shoulder harness (non-inertia reel type) is installed, it must be connected to the seat belt and adjusted to allow proper accessibility to all controls, including fuel selector, flaps, trim, etc., while maintaining adequate restraint for the occupant.

If the inertia reel type shoulder harness is installed, a pull test of its locking restraint feature should be performed.

Turn ON the electric fuel pump and turn OFF the air conditioner. The mixture should be set in the full RICH position.

The airplane should be trimmed to an initial approach speed of about 75 KIAS with a final approach speed of 66 KIAS with flaps extended. The flaps can be lowered at speeds up to 102 KIAS, if desired.

The mixture control should be kept in full RICH position to insure maximum acceleration if it should be necessary to open the throttle again. Carburetor heat should not be applied unless there is an indication of carburetor icing, since the use of carburetor heat causes a reduction in power which may be critical in case of a go-around. Full throttle operation with carburetor heat on can cause detonation.

The amount of flap used during landings and the speed of the aircraft at contact with the runway should be varied according to the landing surface and conditions of wind and airplane loading. It is generally good practice to contact the ground at the minimum possible safe speed consistent with existing conditions.

Normally, the best technique for short and slow landings is to use full flap and enough power to maintain the desired airspeed and approach flight path. Mixture should be full RICH, fuel on the fullest tank, and electric fuel pump ON. Reduce the speed during the flareout and contact the ground close to the stalling speed. After ground contact hold the nose wheel off as long as possible. As the airplane slows down, gently lower the nose and apply the brakes. Braking is most effective when flaps are raised and back pressure is applied to the control wheel, putting most of the aircraft weight on the main wheels. In high wind conditions, particularly in strong crosswinds, it may be desirable to approach the ground at higher than normal speeds with partial or no flaps.

#### **4.33 STOPPING ENGINE**

At the pilot's discretion, the flaps should be raised and the electric fuel pump turned OFF.

#### **NOTE**

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

The air conditioner and radios should be turned OFF, and the engine stopped by disengaging the mixture control lock and pulling the mixture control back to idle cut-off. The throttle should be left full aft to avoid engine vibration while stopping. Then the magneto and master switches must be turned OFF.

#### **4.35 PARKING**

If necessary, the airplane should be moved on the ground with the aid of the nose wheel tow bar provided with each airplane and secured behind the rear seats. The aileron and stabilator controls should be secured by looping the safety belt through the control wheel and pulling it snug. The flaps are locked when in the UP position and should be left retracted.

Tie downs can be secured to rings provided under each wing and to the tail skid. The rudder is held in position by its connections to the nose wheel steering and normally does not have to be secured.

#### **4.37 STALLS**

The stall characteristics of the Archer II are conventional. An approaching stall is indicated by a stall warning horn which is activated between five and ten knots above stall speed. Mild airframe buffeting and gentle pitching may also precede the stall.

The gross weight stalling speed of the Archer II with power off and full flaps is 49 KIAS. With the flaps up this speed is increased 6 KTS. Loss of altitude during stalls varies from 100 to 350 feet, depending on configuration and power.

#### **NOTE**

The stall warning system is inoperative with the master switch OFF.

During preflight, the stall warning system should be checked by turning the master switch ON, lifting the detector and checking to determine if the horn is actuated. The master switch should be returned to the OFF position after the check is complete.

#### **4.39 TURBULENT AIR OPERATION**

In keeping with good operating practice used in all aircraft, it is recommended that when turbulent air is encountered or expected, the airspeed be reduced to maneuvering speed to reduce the structural loads caused by gusts and to allow for inadvertent speed build-ups which may occur as a result of the turbulence or of distractions caused by the conditions. (See Subsection 2.3)

#### **4.41 WEIGHT AND BALANCE**

It is the responsibility of the owner and pilot to determine that the airplane remains within the allowable weight vs. center of gravity envelope while in flight.

For weight and balance data, refer to Section 6 (Weight and Balance).