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PA28-181 ARCHER III CHECKLIST

NOSE SECTION

- General condition CHECK
- Cowling SECURE
- Windshield CLEAN
- Propeller and spinner CHECK
- Air inlets CLEAR
- Engine baffle seals CHECKED
- Chock REMOVED
- Nose gear strut PROPER INFLATION 3.25" ± 0.25"
- Nose wheel tyre CHECKED
- Oil CHECK QUANTITY
- Dipstick PROPERLY SEATED
- Oil filler cap SECURE
- Fuel strainer DRAINED

LEFT WING

- Surface condition CLEAR OF ICE, FROST AND SNOW
- Fresh air inlet CLEAR
- Fuel tank sump DRAINED AND CHECK FOR WATER,
SEDIMENT AND PROPER FUEL
- Fuel tank vents CLEAR
- Main gear strut PROPER INFLATION 4.5" ± .25"
- Tyre CHECK
- Brake block and disk CLEAR
- Tie down and chock REMOVED
- Fuel tank CHECK SUPPLY - VISUALLY SECURE CAP
- Pitot static head REMOVE COVER - HOLES CLEAR
- Wingtip and lights CHECK
- Flap and hinges CHECK
- Aileron and hinges CHECK
- Static wicks SECURE

FUSELAGE

- Antennas CHECKED
- Empennage CLEAR OF ICE, FROST AND SNOW
- Stabilator and trim tab CHECK
- Tie down REMOVE

MISCELLANEOUS

- Battery master switchON
- FlapsRETRACT
- Interior lighting.....ON AND CHECK
- Pitot heat switchON
- Pitot heat off/inop Annunciator..... EXTINGUISHED

Caution: care should be taken when an operational check of the pitot heat is to be performed. The unit becomes very hot. Ground operations should be limited to 3 minutes to avoid damaging the heater elements.

Note: secure and adjust all unused seat belts and shoulder harnesses to prevent control interference or passenger injury in flight in turbulent air.

- Exterior lighting switches.....ON AND CHECK
- PitotCHECK WARM
- Stall Warning HornCHECK
- All Lighting SwitchesOFF
- Pitot Heat Switch.....OFF
- Pitot Heat "off/inop..... ILLUMINATED
- Battery Master SwitchOFF
- Passengers BOARD
- Door..... CLOSED AND SECURED
- Seats ADJUSTED AND LOCKED IN POSITION
- Seatbelts and harnesses.....FASTENED/ADJUST
- CHECK INERTIA REEL

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 ships 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 ships battery has been depleted. The external power source can be reduced to the level of the ships battery. This can be tested by turning only the battery master switch on momentarily while the starter is engaged. If cranking speed increases the ships battery is at a higher level than the external powers supply. If the battery is at a lower level then 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

Proceed with normal start

Throttle.....	LOWEST POSSIBLE RPM
Right magneto	ON
External power plug	DISCONNECT FROM FUSELAGE
Battery master switch	ON
Alternator switch	ON / CHECK AMMETER
Oil pressure.....	CHECK

WARM UP

Throttle 800-1200 RPM

TAXIING

Brakes CHECK
Instruments CHECK
Steering..... CHECK

GROUND CHECK

Parking brakeSET
FuelCHANGE TANK (FULLEST)
Throttle2000RPM
Magnetos MAX DROP 175 RPM
MAX DIFFERENCE 50 RPM
Vacuum4.8-5.2 in Hg
Oil temperature CHECK
Oil pressure CHECK
Air conditioner (if installed)..... CHECK
Ammeter CHECK
Annunciator panel PRESS TO TEST
Carburettor heat..... APPROXIMATELY 75 RPM DROP
Electric fuel pump OFF
Fuel pressure CHECK
Throttle RETARD

Engine is warm for take-off when throttle can be opened without engine faltering.

BEFORE TAKE OFF CHECKLIST

Battery master switch VERIFY ON
 Alternator switch VERIFY ON
 Magnetos VERIFY ON
 Flight instruments CHECK
 Fuel selector PROPER TANK (FULLEST)
 Electric fuel pump ON
 Engine gauge CHECK
 Carburettor heat OFF
 Mixture SET
 Seatbacks ERECT
 Seats ADJUSTED AND LOCKED IN POSITION
 Belts/harnesses FASTENED/CHECKED
 Empty seats Seat belts SECURELY FASTENED
 Flaps SET
 Trim SET
 Controls FREE
 Door LATCHED
 Air conditioner (if installed) OFF

LINE UP

Instruments CHECKED & ALIGNED
 Strobes & Landing Light ON
 Transponder A/R

SHORT FIELD – OBSTACLE CLEARANCE

- Flaps.....25 (SECOND NOTCH)
- Trim..... SLIGHTLY AFT OF NEUTRAL
- ThrottleFULL POWER PRIOR TO BRAKES RELEASE
- Accelerate to 55 KIAS depending on aircraft weight
- Control Wheel BACK PRESSURE TO ROTATE
TO CLIMB ATTITUDE
- After breaking ground, accelerate to 60 KIAS depending on aircraft weight.
- Accelerate to best flaps up AOC speed76 KIAS
- Flaps..... RETRACT SLOWLY
- Accelerate to best flaps up ROC.....76 KIAS

AFTER TAKE OFF

- Flaps.....RETRACTED
- Fuel Pump OFF
- Temps & Pressures.....CHECKED

DESCENT

Normal

- Throttle2500 RPM
- Airspeed..... 122 KIAS
- Mixture..... RICH
- Carburettor Heat ON A/R

Power Off

- Carburettor Heat ON A/R
- Throttle CLOSED
- Airspeed..... A/R
- Mixture..... A/R
- Power VERIFY W/ THROTTLE EVERY 30 SECS

APPROACH AND LANDING

Fuel selector PROPER TANK
 Seatbacks ERECT
 Seats ADJUSTED AND LOCKED IN POSITION
 Belts/harnesses FASTEN / CHECK
 Electric fuel pump ON
 Mixture SET
 Flaps SET - 102 KTS MAX
 Air conditioner (if installed) OFF

AFTER LANDING

Flaps RETRACTED
 Fuel Pump OFF
 Trim NEUTRAL
 Transponder STANDBY
 Lights & Strobes OFF
 Radios AS REQUIRED

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 RETRACT
 Electric fuel pump 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 secure

EMERGENCY PRODCEDURES

AIRSPEEDS FOR SAFE OPERATION

Manoeuvring Speed at 2550 lbs 113 KIAS
Manoeuvring Speed at 1634 lbs 89 KIAS
Maximum Glide..... 76 KIAS

ENGINE FIRE DURING START

StarterCRANK ENGINE
 Mixture IDLE CUT OFF
 Throttle..... OPEN
 Electric fuel pump.....OFF
 Fuel selector.....OFF
 Abandon if fire continues.

ENGINE POWER LOSS DURING TAKE OFF

Fuel selector.....SWITCH TO TANK CONTAINING FUEL
 Electric fuel pump..... CHECK ON
 Mixture CHECK RICH
 Carburettor heatON
 If power is not regained, proceed with power off landing.

ENGINE POWER LOSS IN FLIGHT

Fuel selector.....SWITCH TO TANK CONTAINING FUEL
 Electric fuel pump.....ON
 Mixture RICH
 Carburettor heatON
 Engine gauges.....CHECK FOR INDICATION OF
 CAUSE OF POWER LOSS

If no fuel pressure is indicated, check tank selector position to be sure it is on a tank containing fuel.

When power is restored:

Carburettor heatOFF
 Electric fuel pump.....OFF
 If power is not restored prepare for power off landing

POWER OFF LANDING

- Trim 76KIAS
- Locate suitable field
- Establish spiral pattern
- 1000ft above field at downwind position for normal landing approach.
- When field can easily be reached, slow to 66KIAS for shortest landing.
- Touchdowns should normally be made at lowest possible airspeed with full flaps.
- When committed to landing:*
- Flaps..... AS DESIRED
- Throttle CLOSED
- Mixture.....IDLE CUT OFF
- Magnetos OFF
- Battery master switch..... OFF
- ALTR switch OFF
- Fuel selector OFF
- Seat belt and harness..... TIGHT

FIRE IN FLIGHT

- Source of fire CHECK

Electrical fire (smoke in cabin):

- Battery master switch..... OFF
- ALTR switch OFF
- VentsOPEN
- Cabin heat OFF
- Land as soon as practicable.

Engine Fire:

Fuel selectorOFF

Throttle.....CLOSED

Mixture IDLE CUT OFF

Electric fuel pump..... CHECK OFF

Heater and defrosterOFF

Proceed with power off landing procedure.

Note: the possibility of an engine fire in flight is extremely remote. The procedure given is general and pilot judgement should be the determining factor for action in such and emergency.

LOSS OF OIL PRESSURE/HIGH OIL TEMP

Land as soon as possible and investigate cause

Prepare of for power off landing

LOSS OF FUEL PRESSURE

Electric fuel pump.....ON

Fuel selector.....CHECK ON FULL TANK

ELECTRICAL FAILURES

Note: Anytime the bus voltage is below 25 VDC, the low bus voltage annunciator will be illuminated

ALT annunciator light illuminated:

Ammeter..... check to verify inop. Alt.

If ammeter show zero:

ALT switchOFF

Reduce electrical loads to minimum:

ALT circuit breakercheck and reset as required

ALT switchON

If power not restored:

ALT switchOFF

If alternator output cannot be restored, reduce electrical loads and land as soon as practical. Anticipate complete electrical failure. Duration of battery power will be dependent on electrical load and battery condition prior to failure

Note: Low bus voltage annunciator will be illuminated.

ELECTRICAL OVERLOAD

(Alternator over 20 amps above known electrical load)

- ALT switch ON
- BAT switch OFF

If alternator loads are reduced:

- Electrical load REDUCED TO MINIMUM

Land as soon as practical.

Note: Due to increased system voltage and radio frequency noise, operation with ALT switch ON and BAT switch OFF should be made only when required by an electrical system failure.

If alternator loads are not reduced:

- ALT switch OFF
- BAT switch AS REQUIRED

Land as soon as possible. Anticipate complete electrical failure.

SPIN RECOVERY

- Rudder FULL OPPOSITE TO DIRECTION OF ROTATION
- Control wheel FULL FORWARD WHILE NEUTRALIZING AILERONS
- Throttle IDLE
- Rudder NEUTRAL (WHEN ROTATION STOPS)
- Control wheel AS REQUIRED TO SMOOTHLY
regain level flight attitude

OPEN DOOR

If both upper and side latches are open, the door will trail slightly open and airspeed will be reduced slightly.

To close the door in flight:

- Slow airplane to 87 KIAS
- Cabin vents CLOSE
- Storm window OPEN
- If upper latch is open LATCH
- If side latch is open PULL ON ARMREST WHILE MOVING
LATCH HANDLE TO LATCHED POSITION
- If both latches are open LATCH SIDE LATCH
THEN TOP LATCH

CARBURETTOR ICING

Carburettor heatON
MixtureADJUST FOR MAXIMUM SMOOTHNESS

ENGINE ROUGHNESS

Carburettor heatON
If roughness continues after one min:
Carburettor heatOFF
MixtureADJUST FOR MAXIMUM SMOOTHNESS
Electric fuel pumpON
Fuel selectorSWITCH TANKS
Engine gaugesCHECK
Magneto switchesCHECK LEFT THEN RIGHT
If operation is satisfactory on either one, continue on that magneto at reduced power and full RICH mixture to first airport.
Prepare for power off landing

AIRCRAFT SUMMARY

For full details refer to the aircraft Flight Manual and/or the Pilot's Operating Handbook.

Engine	Lycoming O-360-A4M 180 HP
Oil capacity	8 Quarts maximum
Total capacity (long range tanks)	190 litres
Useable fuel (long range tanks)	182 litres
Best angle of climb	54 KIAS
Best rate of climb	76 KIAS
Maximum demonstrated crosswind	17 KIAS
Maximum flap extension speed	102 KIAS
Never exceed speed	154 KIAS