PUA

PHIL UNICOMB AVIATION

CHECKLIST

Piper Arrow

VH-AIZ

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PIPER ARROW VH-AIZ AIRCRAFT SPECIFICATIONS

Airspeeds for Normal Operations

Take off & Landing Speeds

Rotate Speed (Vr)	60 - 65kts	**Normal Approach (Flaps Up)**	85kts
Take Off Safety Speed	60kts	**Normal Approach (Flaps 30°)**	75kts
Best Angle (Vx)	78kts	**Short Field Approach (Flaps Full)**	69kts
Best Rate (Vy)	90kts	**Baulked Approach (Max Power & Flap 20°)**	60kts

General Speeds

Never Exceed (Vne)	183kts	**Max Landing Gear Ext (VLe)**	129kts
Max Normal Operating (Vno)	146kts	**Max Landing Gear Retraction**	107kts
Max Maneuvering (Va)	118kts	**Level Stall Speed (Vs) – gear & flap up**	60kts
Max Flap Extension	103kts	**Level Stall Speed (Vso) – gear & flap down**	55kts
Best Glide	79kts	**Max Crosswind**	17kts

Fuel & Oil

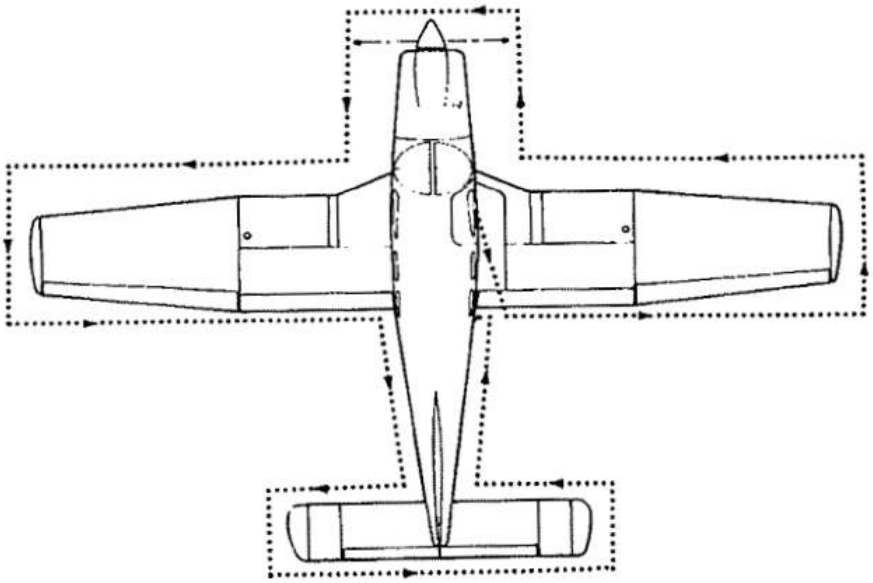
Fuel Type	100LL or 100/130 Avgas	**Engine Type and Horsepower**	Lycoming 200BHP @2700RPM
Maximum Fuel	292 litres	**Oil Grade**	Aero W100
Max Useable Fuel	273 litres	**Maximum Oil**	8 Quarts
Fuel Consumption	45 Litres/Hour	**Minimum Oil**	4 Quarts

****Note:** 100LL Avgas is BLUE in colour and 100/130Avgas is GREEN****

Performance

Basic Empty Weight	813Kg	**Maximum Power**	2700 RPM
Max Take off Weight	1250 kg	**Run up Power**	2000 RPM
Max Landing Weight	1250 kg	**Normal Cruise**	23MP @ 2400 RPM

PREFLIGHT



WALK-AROUND
Figure 4-1

1) COCKPIT

Control Locks	Remove
Magnetos	Off
Master Switch	On
Flaps	Extend
Lights and Strobes	On and Check
Fuel	Check Quantity
Master Switch	Off
Fuel	Dip and Drain
Flight Record Sheet	Record Fuel and VDO

EXTERIOR

2) Right Wing

Flap	Check surface condition
	Check linkages and hinges
Aileron	Check surface condition
	Linkages and hinges secure

	Full free movement	
Wing Tip	Check condition and Security	
Lower Wing Surface	Check condition	
Wing Leading Edge	Check for Dents along entire length	

3) Landing Gear

Tyre	Check tread and general condition	
	Check correct inflation	
Hydraulic Line	Check for leaks	
Disc Brake	Check condition	
Strut	Check condition	
Wheel Well	Check condition and clearance	
Gear door	Check condition and security	

4) Front Fuselage and Engine

Windscreen	Condition and cleanliness	
Cowling	condition and security	
	Open access panel and check oil	
Propeller	Look for chips and cracks (esp. leading edge)	
Spinner	condition and security	
	Intakes clear	
Nose Gear Door	Check condition and security	
Nose Strut	Check oleo extension and condition	
Nose Wheel	Check tread and general condition	
	Check correct inflation	
Stand Back and Check	Fuel Caps	ON
	Tie downs	OFF
	Start Up Area	CLEAR, NO LOOSE STONES
	Prop Wash Area	CLEAR
	General condition of aircraft	GOOD

5) Landing Gear

Tyre	Check tread and general condition
	Check correct inflation
Hydraulic Line	Check for leaks
Disc Brake	Check condition
Strut and Fairing	Check condition
Wheel Well	Check condition and clearance
Gear door	Check condition and security

6) Left Wing

Wing Leading Edge	Check for Dents along entire length
	Check Pitot and Static head, Clear
	Check Stall Warning horn
	Check fuel Vent Clear
Wing Tip	Check condition and Security
Lower Wing Surface	Check condition

Aileron	Check surface condition Linkages and hinges secure Full free movement
Flap	Check surface condition Check linkages and hinges

7) Fuselage

Antennas	Check
Empenage	Check Condition
Stabilator and Trim Tab	Check
Tie Down	Remove

Pre Start

Pre Flight Inspection:	Complete
Position:	Clear
Maintenance Release:	Check
Flight Manual:	On-board
Pax Brief:	

- Entry and exit points/emergency exits
- Seat adjustment
- Seatbelt usage
- Stowage of loose items
- Ventilation outlets and controls
- Remain clear of flight controls
- Emergency Equipment and how to use
- No Smoking policy
- Flight details

Security:	Check
Seats:	Adjusted and Secured
Hatches & Harness:	Secure
Fuel:	Left or lowest
Circuit breakers:	Set
Mixture:	Idle Cut Off
Throttle:	Open 10mm
Friction Nut:	Set
Switches and Avionics:	Off
Trims:	Set
Rotating Beacon:	On
Battery :	On
Flaps:	Up
Oil Temp:	Check
Nav Lights:	As Req'd
Brakes:	Test and Set

COLD START

1) Auxiliary Fuel Pump: On
2) Mixture: Full Rich until stable fuel flow is indicated (usually 3 - 5 seconds), then set IDLE CUTOFF position.
3) Ignition Switch: CLEAR PROP, START
4) Mixture: ADVANCE smoothly to RICH when engine starts.

HOT START

1) Auxiliary Fuel Pump: On
2) Ignition Switch: CLEAR PROP, START
3) Mixture: ADVANCE smoothly to RICH when engine starts.

FLOODED START

1) Auxiliary Fuel Pump: Off
2) Mixture: Idle Cut off
3) Throttle: Full On
4) Ignition Switch: CLEAR PROP, START
5) WHEN ENGINE STARTS, SET MIXTURE TO FULL RICH AND CLOSE THROTTLE PROMPTLY.

AFTER START

ROVER

Revs	Set 1000
Oil Pressure	Green within 30 seconds
Vacuum	Check
Electrics	Alternator On – Charging Fuel Pump – Off – Check pressure
Radio	On & Check Frequency and Squelch Transponder SBY …. Code set Taxi/Landing Lights …As Req'd

TAXI

BAG

Brakes	Test and check
Avionics	Check and set
Gyro's	Check

PRE TAKEOFF – BRAKES ON

Trim	Stabilator and Rudder Check and Set
Mixture	Rich
Fuel	Fuel Pump – On Change to fullest tank Fuel Pump – Off, Check Pressure
Instruments	Attitude Indicator ……Set Altimeter ……. Elevation/QNH set Directional Gyro ……. Set Turn Co coordinator …….No Flags Temps & Pressure …….. GREEN
Switches	Test Idle Set 2000RPM

Magnetos

- Max Drop ……. 175RPM
- Max Difference ……. 50 RPM
- Smooth Running

Propellor - Exercise

Engine Instruments

- Vacuum …… GREEN
- Temps and Pressures …….GREEN
- Ammeter ……POSITIVE CHARGE

Set 1000RPM

Circuit Breakers ……. In

Anninciator Lights - Check

Controls — Full Free and correct
Flaps … cycle and set

Hatches and Harnesses — Secure

Emergency Brief — Complete

Departure brief — Complete

LINING UP

Lights, Camera, Action

Land Light & Strobes	ON
Transponder	ON 'ALTITUDE'
DI & Compass	CHECK ALIGNED
Fuel Pump	ON

AFTER TAKEOFF/ GO AROUND

PUFSIT

Power	Full
Undercarriage	Retracted
Flaps	Retract
Switches	Landing Lights off, Fuel Pump off
Instruments	Fuel Pressure – Stable, Climb performance, Centreline tracking Check
Temps and Pressure	Green

MANOEUVRES

HASEL

Height	Sufficient to safely complete all manoeuvres
Area	Suitable
Security	Cabin secure/seats/harnesses
Engine	Power and Mixture Checked Engine T's and P's Green
Lookout	Area Clear

ENROUTE

CLEAROFFS

Compass & **C**ourse	Align and Tracking
Log	ETA's
Engine	Lean and Green
Altitude	QNH set and correct
Radios	Frequency set and correct Navaids - Tuned Identified Tested
Orientation	
Fuel	Log and contents
Forced Landing	
Sartime	

PRELANDING/DOWNWIND

BUMFISH

Brakes	Pressure and off
Undercarriage	Down
Mixture	Rich
Fuel	On and sufficient
Instruments	Altitude T's and P's Green
Switches	Landing Lights on Fuel Pump on
Hatches and Harness	Secure

FINAL

PUFF

Pitch	Full Fine
Undercarriage	Down and GREEN
Flap	as req'd
Fuel	Sufficient for Go-Around

AFTER LANDING

FLAPS	Identified and Retracted
Transponder	SBY
Strobes	Off

SHUTDOWN

Throttle	Set 1000RPM
Avionics	Radios and Navaids Off
Mixture	Idle Cut off
Switches	Off
Master Switch	Off

EMERGENCIES

POWER LOSS IN FLIGHT

FMOST

Fuel	On, Primer In and Locked
Mixture	Rich
Oil	T's and P's Check
Switches	Mag Check, Fuel Pump On
Throttle	Cycle and set

BEST GLIDE SPEED: 79KTS

ENGINE FIRE ON GROUND

Cranking	Continue
If Engine Starts:	1800RPM for short time, shutdown and inspect for damage

If Engine Fails to Start:

Throttle	Full Open
Mixture	Idle cut off
Cranking	Continue to attempt a start
Fire Extinguisher	Ready
Fuel	Off
Master	Off
Ignition	Off
Fire Extinguisher	Use
Inspect for Damage	

ENGINE FIRE IN FLIGHT

AIRSPEED	**100**kts – increase glide speed to extinguish fire
Fuel	Off
Mixture	Idle cut off
Master	Off
Cabin Heat and air	Off, except wing roots

Land as soon as possible

ELECTRICAL FIRE

Alternator and Master	Off
Switches All except ignition	Off
Vents/Cabin air/Heat	Off
If fire appears to be out	
Alternator and Master	On
Circuit Breakers	Check for faulty circuit... do not reset
Radio/Electrical Switches	On one at a time with a delay after each until short circuit is localized
Vents/Cabin Air/Heat	Open once fire is completely extinguished

ELECTRICAL POWER LOSS

Alternator & Master	Off
Switches	All Off
Alternator	On
Essential Equipment	On
Land `	As soon as possible

EMERGENCY GEAR EXTENSION

Battery Master Switch:	On
Alternator switch:	On
Circuit Breakers:	On
Nav Light Switch:	Off (if Daytime)
Gear Indicator Bulbs:	Check

If landing gear does not check down and locked:

Airspeed:	Reduce Below 87kts
Landing Gear Selector Switch:	Down
Emergency Gear Handle:	Hold down

If gear still has failed to lock down Yaw and pitch the aeroplane abruptly

LANDING WITH A FLAT MAIN TYRE

1.	Approach:	NORMAL
2.	Flaps:	30°
3.	Touchdown:	GOOD MAIN TYRE FIRST, hold airplane off flat tyre as long as possible with aileron control.
4.	Directional Control:	MAINTAIN using brake on good wheel as required.

LANDING WITH A FLAT NOSE WHEEL

1. Approach: NORMAL
2. Flaps: AS REQUIRED
3. Touchdown: ON MAINS, hold nose wheel off the ground as long as possible.
4. **When nose wheel touches down, maintain full up elevator as airplane slows to a stop.**

EMEGENCY GEAR UP LANDING

Flaps:	Up
Throttle:	Close
Mixture:	Idle Cut-off
Ignition:	Off
Batt/Master Switch:	Off
Alternator:	Off
Fuel Selector:	Off
Harness:	Secured and tight

Contact surface at minimum possible surface