

Piper Aztec PA-23D Reference Checklist

SYMBOL	SPEED	KIAS
V_{SO}	Stalling Speed (landing configuration)	55
V_S	Stalling Speed (clean)	61
V_{MC}	Minimum Controllable Airspeed	64
V_{SSE}	Minimum Intentional Single Engine	80
V_X	Best Angle of Climb	89
V_{XSE}	Best Angle, Single Engine	83
V_Y	Best Rate of Climb	103
V_{YSE}	Best Rate of Climb, Single Engine	88
V_{FE}	Maximum Flaps Extended Speed:	
	¼ Flaps	141
	½ Flaps	123
	Full Flaps	108
V_{LE}	Landing Gear Extended	132
V_{LO}	Landing Gear Operating	132
V_A	Maneuvering Speed	131
V_{NO}	Maximum Structural Cruise Speed	175
V_{NE}	Never Exceed Speed	221

Max Demonstrated Crosswind Component 12 knots

AIRCRAFT WEIGHTS

Maximum Weight

Takeoff.....**5,200 LBS**
 Landing.....**4,940 LBS**

- Basic Empty Weight.....**3,318 LBS**
- Max Useful Load.....**1,882 LBS**
- Payload (Full Fuel).....**819 LBS**

FUEL SYSTEM

Fuel Capacity:

Total Capacity.....**184 Gallons**
 Total Usable.....**177.2 Gallons**
 Total Usable Each Outboard.....**54.3 Gallons**
 Total Usable Each Inboard.....**34.3 Gallons**

AIRCRAFT INFO

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CABIN PREFLIGHT INSPECTION		PREFLIGHT
Hobbs Meter.....	CHECK	
Fire Extinguisher.....	PRESSURIZED	
Alternate Static Source.....	CLOSED	
ELT.....	AUTO	
Avionics Switch.....	OFF	
Circuit Breakers.....	IN	
Electrical Equipment.....	ALL OFF	
Alternator Switches.....	ON	
Fuel Selectors.....	CHECKED AND SET	
Gear Selector.....	DOWN	
Master Switches.....	ON	
Gear Lights.....	3 GREEN	
Fuel Quantity.....	ADEQUATE	
Crossfeed.....	DRAINED	
Fuel Pumps.....	CHECKED AND OFF	
Cowl Flaps.....	OPEN	
Alternator Inop. Lights.....	CHECK ON	
Master Switch.....	OFF	
Wing Flaps.....	CHECK BY HAND PUMP	
Magneto Switches.....	OFF	
Mixtures.....	IDLE CUT-OFF	
Trim.....	NEUTRAL	
Controls.....	FREE AND CHECKED	
Emergency Exit.....	SECURE	
Parking Brake.....	SET	

OUTSIDE CABIN PREFLIGHT INSPECTION	
Rear Baggage Door.....	CHECK
Fuselage and Antennas.....	CHECK
Crossfeed Drain.....	NO DRIP
Right Wing, Flap, Aileron.....	CHECK
Right Tie Down.....	UNTIED
Fuel Caps.....	CHECK QUANTITY AND SECURE
Right Gear.....	CHECK, CHOCK REMOVED
Right Fuel Drains.....	DRAIN THREE
Right Engine.....	EXAMINE & CHECK OIL
Right Propeller & Spinner.....	CHECK
Windshield.....	CHECK
Nose Gear.....	CHECK, CHOCK REMOVED
Nose Baggage Door.....	CHECK
Nose.....	CHECK
Left Wing, Flap, Aileron.....	CHECK
Left Tie Down.....	UNTIED
Fuel Caps.....	CHECK QUANTITY AND SECURE
Left Gear.....	CHECK, CHOCK REMOVED
Left Fuel Drains.....	DRAIN THREE
Left Engine.....	EXAMINE & CHECK OIL
Left Propeller & Spinner.....	CHECK
Stall Warning Sensor.....	CHECK
Pitot Tube & Heater.....	CHECK, CLEAN STATIC PORTS
Empennage.....	CHECK & FREEDOM OF MOVEMENT
Tail Tie Down.....	UNTIED
Lights.....	CHECK
Prop Heaters.....	CHECK
Windscreen Heater.....	CHECK

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<u>PREFLIGHT PREPARATION</u> Required Documents.....IN AIRPLANE Weight & Balance.....WITHIN ENVELOPE Performance.....COMPUTED AND SAFE	STARTING
<u>BEFORE STARTING ENGINE</u> Preflight Inspection.....COMPLETE Keys.....LOCATED Entrance Door.....LOCKED Auxiliary Latch.....ENGAGED Seats.....ADJUSTED & LOCKED Seat Belts & Harnesses.....FASTENED Parking Brake.....SET Circuit Breakers.....CHECK Alternators.....ON Electrical Switches.....AS REQUIRED Fuel Pumps.....OFF Fuel Selectors.....ON Crossfeed.....OFF Cowl Flaps.....OPEN Master Switch.....ON Gear Lights.....CHECK Door Ajar Lights.....OUT Mixture Controls.....IDLE CUT-OFF Gear Handle.....DOWN	
<u>STARTING ENGINES</u> <i>IF Engines are Hot, Omit Priming</i> Anti Collision Light.....ON Throttle Control.....OPEN 1" Propeller Control.....FORWARD Fuel Pump.....ON Mixture.....RICH UNTIL FF INDICATED THEN OFF Magneto Switches.....ON Propellers.....CLEAR Starter.....ENGAGE Mixture.....ADVANCE AS ENGINE FIRES Oil Pressure.....CHECK Vacuum.....CHECK Alternator.....CHECK OUTPUT Gear Handle.....CHECK NEUTRAL Flaps.....CHECK UP <i>Repeat Above for Second Engine</i> Fuel Pumps.....OFF Mixtures.....LEAN FOR TAXI	

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BEFORE TAXI

Lights.....	AS REQUIRED
Radios.....	ON & SET
Flight Instruments.....	CHECKED & SET
Crossfeed.....	CHECK & OFF
Fuel Selectors.....	SWITCH TANKS
Parking Brake.....	OFF
Brakes.....	CHECK
Transponder.....	(CODE)___ & ALT

ENGINE RUN-UP (LEFT THEN RIGHT)

1. Parking Brake.....	SET
2. Cabin Heater.....	CHECK/SET
3. Engine Instruments.....	CHECK
4. Mixtures.....	FULL RICH
5. Propellers.....	FULL HIGH RPM
6. Throttle.....	SET AT 1500 RPM
7. Alternate Air.....	CHECKED
8. Feathering.....	CHECK (500 MAX RPM DROP)
9. Throttle.....	SET AT 2200 RPM
10. Propeller Control.....	EXERCISE (300 MAX RPM DROP)
11. Magnetos.....	(MAX 175 RPM drop, 50 RPM difference)
12. Engine Instruments.....	CHECK
13. Alternator.....	CHECK OUTPUT
14. Vacuum.....	CHECK
15. Throttle.....	CHECK IDLE, (500 RPM MIN) SET 1000 RPM

RETURN TO #7 FOR RIGHT ENGINE

GROUND OPERATIONS

BEFORE TAKEOFF

Seats and Seat Belts/Shoulder Harness.....	SECURE
Avionics.....	CHECKED & SET
Autopilot.....	CHECKED & OFF
Flight Instruments.....	CHECKED & SET
Fuel Selectors.....	ON, CROSSFEED OFF
Cowl Flaps.....	OPEN
Mixture and Propellers.....	FULL FORWARD
Quadrant Friction.....	SET
Flight Controls.....	CHECKED
Electric Trim.....	CHECKED AND ON
Trim.....	SET (PITCH AND YAW)
Wing Flaps.....	(CHECK VISUALLY) SET 0°
Door.....	LOCKED
Crew Briefing.....	COMPLETE
Fuel Pumps.....	ON
Icing Equipment.....	SET
Landing Lights.....	ON
Strobe Lights.....	ON

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TAKE OFF

Throttles.....**FULL FORWARD**
Power and Airspeed.....**CHECK**
Rotate.....**AT 64 KIAS MIN**
(SPEED SHOULD BE DETERMINED PRIOR TO FLIGHT)
Landing Gear.....**RETRACT**
POSITIVE RATE + NO USEABLE RUNWAY REMAINING
Accelerate to Climb Speed.....**AS COMPUTED**

CLIMB

Power.....**SET**
Engine Instruments.....**MONITOR**
Cowl Flaps.....**AS REQUIRED**
Fuel Pumps.....**OFF**
Landing Light.....**SET**
Taxi Light.....**OFF**
Best Rate of Climb Airspeed.....**AS Computed**

FLIGHT OPERATIONS

CRUISE

Power.....**SET**
Mixtures.....**LEAN**
Cowl Flaps.....**SET**
Fuel Selectors.....**SET**
Engine Gauges.....**MONITOR**

DESCENT

Mixtures.....**ENRICH WITH DESCENT**
Power.....**SET**
Defroster.....**ON (IF REQUIRED)**
Altimeter.....**SET**

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APPROACH CHECK

Landing Light.....	ON
Seats, Seatbelts, & Shoulder Harnesses.....	SECURE
Fuel Pumps.....	ON
Mixtures.....	SET
Fuel Selectors.....	ON – FULLEST CELLS
Crossfeed.....	OFF
Cowl Flaps.....	AS REQUIRED
Wing Flaps.....	SET
Heater.....	SET

BEFORE LANDING

Landing Gear.....	DOWN, 3 GREEN
Mixtures.....	FULL RICH
Propellers.....	FULL FORWARD
Flaps.....	SET

GO-AROUND

Propellers.....	FULL INCREASE RPM
Throttles.....	FULL FORWARD
Wing Flaps.....	RETRACT IN STEPS
Landing Gear.....	RETRACT
Cowl Flaps.....	SET FOR COOLING

AFTER LANDING / BEFORE TAKEOFF

Use only for taxi-back to takeoff immediately following landing without a shutdown in between

Fuel Selectors.....	SET
Engine Gauges.....	CHECKED
Cowl Flaps.....	OPEN
Mixture and Propellers.....	FULL FORWARD
Wing Flaps.....	(CHECK VISUALLY) SET 0°
Trim.....	SET (PITCH AND YAW)
Door.....	LOCKED
Crew Briefing.....	COMPLETE
Fuel Pumps.....	ON
Landing Lights.....	ON

FLIGHT OPERATIONS

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AFTER LANDING

Flaps.....	RETRACT
Cowl Flaps.....	OPEN
Fuel Pumps.....	OFF
Landing Light.....	OFF (AS REQUIRED)
Taxi Light.....	AS REQUIRED
Propeller Controls.....	FORWARD
Heater.....	FAN

SHUTDOWN

Parking Brake.....	SET
Heater.....	OFF
Non-Essential Electrical.....	OFF
Avionics.....	OFF
Magnetos.....	CHECK GROUND
Mixture (1 st Eng. Started).....	IDLE CUT-OFF
Flaps.....	CYCLE
Mixture (2 nd Eng. Started).....	IDLE CUT-OFF
Magnetos.....	OFF
Lights.....	OFF
Master Switch.....	OFF
Parking Brake.....	RELEASE
Controls.....	SECURE WITH SEATBELT
Cabin Door.....	LOCKED
Tiedown Chains.....	SECURE/TIGHT

AFTER LANDING

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ENGINE SECURING PROCEDURE (FEATHERING PROCEDURE)

Throttle.....	CLOSE
Propeller.....	FEATHER (1000 RPM Min)
Mixture.....	IDLE CUT-OFF
Cowl Flaps.....	CLOSE
Magneto Switches.....	OFF
Fuel Pump.....	OFF
Fuel Selector.....	OFF
Alternator Switch.....	OFF
Trim.....	AS REQUIRED
Electrical Load.....	REDUCED
Crossfeed.....	CONSIDERED

ENGINE FAILURE

ENGINE FAILURE DURING TAKEOFF (BELOW 64 KIAS)

If sufficient runway remains for a safe stop

Throttles.....	CLOSE IMMEDIATELY
Brakes.....	AS REQUIRED

Stop straight ahead

If insufficient runway remains for a safe stop

Throttles.....	CLOSE IMMEDIATELY
Mixtures.....	IDLE CUTOFF
Master Switch.....	CLOSE
Fuel Selectors.....	OFF
Magneto Switches.....	OFF

Maintain directional control and maneuver to avoid obstacles

ENGINE FAILURE DURING TAKEOFF (BETWEEN 64 KIAS AND 83 KIAS)

PRIOR to Initiating Takeoff roll, Decide whether to abort or continue in this situation.

If abort.....	FOLLOW ABOVE PROCEDURES
If continue.....	Accelerate in ground effect to 83 KIAS and follow below procedures

Warning

Certain combinations of aircraft weight, configuration, ambient conditions and speeds will not permit positive climb

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SINGLE ENGINE LANDING

Inop. Engine.....**SECURING ENGINE
PROCEDURE COMPLETE**

Seat Belts/Harnesses.....**SECURE**

Heater.....**FAN**

Fuel Pump (Operative Eng.).....**ON**

Mixture (Operative Eng.).....**RICH**

Propeller (Operative Eng.).....**HIGH RPM**

Fuel Quantity.....**CHECK**

Cowl Flap (Operative Eng.).....**AS REQUIRED**

Fuel Selector Valve.....**ON**

Crossfeed.....**OFF**

Airspeed.....**MAINTAIN 98 KIAS MIN.
UNTIL LANDING IS ASSURED**

Altitude.....**HIGHER THAN NORMAL
UNTIL LANDING IS ASSURED**

When landing is assured:

Gear.....**DOWN, 3 GREEN**

Flaps.....**DOWN**

Power.....**RETARD SLOWLY**

SINGLE ENGINE OPS

SINGLE ENGINE GO AROUND

Airspeed.....**MAINTAIN 88 KIAS**

Power.....**MAX**

Gear.....**UP**

Flaps.....**UP**

Cowl Flap.....**AS REQUIRED**

AIR START (UNFEATHERING PROCEDURE)

Fuel Selector Valve.....**ON**

Throttle.....**OPEN 1/2 INCH**

Mixture.....**RICH**

Fuel Pump.....**PRIME, THEN OFF**

Propeller.....**FORWARD**

Magneto Switches.....**ON**

Starter.....**ENGAGE UNTIL PROP UNFEATHERS**

Propeller.....**RETARD TO LOW RPM AS PROP SPEED
INCREASES THROUGH 1000 RPM**

Throttle.....**REDUCE POWER UNTIL WARM;
2000 RPM MAX**

Engine Instruments.....**CHECK**

Alternator Switch.....**ON**

Crossfeed.....**CONSIDER DISCONTINUE**

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GOING INTO CROSSFEED

To use fuel from opposite side during single engine operation

Fuel Selector (Inop. Eng. Side).....	ON
Fuel Pump (Inop. Eng. Side)	ON
Crossfeed Valve.....	OPEN
Fuel Pump (Operative Eng. Side)	OFF
Fuel Selector (Operative Side).....	OFF

COMING OUT OF CROSSFEED

With one engine inoperative

Fuel Selector (Operative Eng. Side).....	ON
Fuel Pump (Operative Eng. Side).....	ON
Fuel Pump (Inop Eng. Side).....	OFF
Crossfeed Valve.....	CLOSED
Fuel Selector (Inop. Eng. Side).....	OFF
Fuel Pump (Operative Eng. Side).....	AS REQUIRED

X-FEED/ENGINE

ENGINE ROUGHNESS

Fuel Pumps.....	ON
Engine Instruments.....	SCAN FOR CAUSE
Mixture.....	ADJUST AS REQUIRED
Alternate Air.....	OPEN
Cowl Flaps.....	ADJUST AS REQUIRED
Fuel Valves.....	SWITCH TANKS IF FUEL IN 2nd TANK
Magnetos.....	CHECK

OVERSPEEDING PROPELLER

Throttle.....	RETARD
Airspeed.....	REDUCE
Throttle	ADD SLOWLY AFTER
	RPM IS UNDER CONTROL
Airspeed.....	MAINTAIN BELOW AIRSPEED
	AT WHICH OVERSPEED OCCURRED
(USE LOWER RPM IF HIGHER AIRSPEED REQUIRED)	

Descent at 2200 RPM
Land with Prop set at 2400 RPM

NOTE: Prop will not feather while overspeeding. Therefore while in the overspeed condition do NOT select feather position and do NOT shut down engine. Propeller will feather normally if not overspeeding.

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LOSS OF OIL PRESSURE

Secure Engine per Engine Securing Procedure

ENGINE OVERHEAT

Cowl Flaps..... **OPEN**
Mixture..... **RICHEN**
Power..... **REDUCE**
Airspeed..... **INCREASE**

EMERGENCY GEAR EXTENSION

Extending Gear with Hand Pump

Gear Handle..... **DOWN**
Emergency Hand Pump..... **PULL OUT AND PUMP**
UNTIL 3 GREEN LIGHTS
AND GEAR HANDLE
RETURNS TO NEUTRAL

Extending Gear with CO₂

Gear Handle..... **DOWN**
Ring Cover..... **RAISE**
Ring..... **PULL**

Do NOT attempt to raise gear hydraulically

MANUAL EXTENSION OF WING FLAPS

Flap Control..... **DOWN**
Emergency Hand Pump..... **PULL OUT AND PUMP**

ENGINE/GEAR

GEAR UP LANDING

Normal Checklist..... **COMPLETE**
(EXCEPT FOR GEAR SELECTOR)
Gear Selector..... **UP**

Make normal approach with power
Close throttles before touchdown
Turn OFF master and magneto switches
Turn OFF fuel valves
Touch down at minimum speed
(If time permits use starter to position props parallel with wings.)

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ENGINE FIRE ON GROUND

Engine start, taxi and takeoff with sufficient distance to stop

Fuel Selector.....OFF
Fuel Pump Switch.....OFF
Brakes.....AS REQUIRED
Throttle.....OPEN
Radio.....CALL FOR ASSISTANCE
Mixture.....IDLE CUT-OFF
Fire Extinguisher.....USE

Note: If fire continues, shut down both engines and evacuate.
If fire is on the ground it may be possible to taxi away.

ENGINE FIRE IN FLIGHT

Mixture.....IDLE CUT-OFF
Fuel Pump.....OFF
Fuel Selector.....OFF
Propeller.....FEATHER
Good Engine.....INCREASE POWER
Drag.....REDUCE
(GEAR, FLAPS, COWL FLAPS)
Alternator.....OFF
Magnetors.....OFF
Electrical Load.....REDUCE

If fire persists, increase airspeed as much as possible in an attempt to blow out the fire.

Engine Failure Checklist.....COMPLETE

Land at nearest suitable airport

ELECTRICAL FIRE

Master Switch.....OFF
Circuit Breakers.....CHECK, THEN PULL ALL
Electric Switches.....ALL OFF
Avionics.....ALL OFF
Heater.....OFF
Ventilators.....CLOSE
Fire Extinguisher.....USE

After Fire is Out

Master Switch.....ON
Ventilators.....OPEN
Switches and Circuit Breakers.....ON, ONE AT A TIME

ENG/ELEC FIRE

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CABIN FIRE

Vents.....**CLOSED**
Heater.....**OFF**
Fire Extinguisher.....**USE**

When fire is out, ventilate cabin

EMERGENCY DESCENT

Throttles.....**CLOSED**
Propellers.....**FULL FORWARD**
Airspeed.....**DIVE AT 172 KIAS (131 IN ROUGH AIR)**
Cowl Flaps.....**CLOSED**

Level off prior to applicable MEA, MOCA or MSA

ONE ALTERNATOR INOPERATIVE LIGHT ON

Reduce electrical load to minimum required
Turn OFF same side of master switch
Reset tripped circuit breakers
Master switch (both sides) ON
If light goes out, reinstate electrical load
If light stays on, turn same side of master switch OFF
and continue with reduced electrical load.

BOTH ALTERNATOR INOPERATIVE LIGHTS ON

Repeat above procedure for each alternator

If both lights fail to go off:

Master switch**BOTH SIDES ON**
Alternator circuit breaker switches **OFF**

Terminate flight as soon as possible

FIRE/EMER DESCENT

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