



PA28-161 WARRIOR II

Quick Reference Handbook

Version 1.0

**ALL GREY SHADED AREAS ARE
MEMORY ITEMS**

PA28-161 QRH
PIPER WARRIOR II

BASAIR AUSTRALIA PTY LTD

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Pre-Flight Check

1. Control Wheel..... RELEASE BELTS
2. AvionicsOFF
3. Master Switch ON
4. Fuel Quantity Gauges..... CHECK
5. Master SwitchOFF
6. Ignition.....OFF
7. Exterior.....CHECK FOR DAMAGE
8. Control Surfaces.....CHECK FOR INTERFERENCE
.....FREE OF ICE, SNOW, FROST
9. HingesCHECK FOR INTERFERENCE
10. WingsFREE OF ICE, SNOW, FROST
11. Stall Warning CHECK
12. Tie Down & Chocks REMOVE
13. Navigation & Other Lights CHECK
14. Fuel Tanks.....CHECK SUPPLY VISUALLY
..... & SECURE CAPS
15. Fuel Tank Sumps.....DRAIN
16. Fuel VentsOPEN
17. Main Gear StrutsPROPER INFLATION (4.5in.)
18. Tyres CHECK
19. Brake Blocks..... CHECK
20. Pitot Head..... REMOVE COVER & HOLES CLEAR
21. Windshield..... CLEAN (INSIDE & OUT)
22. Propeller & Spinner..... CHECK
23. Fuel & Oil.....CHECK FOR LEAKS
24. Oil..... CHECK LEVEL

- 25. Dipstick..... PROPERLY SEATED
- 26. Cowling..... SECURE
- 27. Inspection Covers..... SECURE
- 28. Nose Wheel Tyre..... CHECK
- 29. Nose Gear Strut.....PROPER INFLATION (3.25in.)
- 30. Air Inlets CLEAR
- 31. Alternator Belt.....CHECK TENSION
- 32. Tow Bar & Control Locks STOW
- 33. BaggageSTOW PROPERLY & SECURE
- 34. Baggage DoorCLOSE & SECURE
- 35. Fuel StrainerDRAIN
- 36. Primary Flight Controls PROPER OPERATION
- 37. Cabin Door CLOSED & SECURE
- 38. Required Papers..... ON BOARD
- 39. Seat Belts & Harness.....FASTEN/ADJUST &
..... CHECK INERTIA REEL

Before Start

1. Pre-Flight & Passenger Brief COMPLETE
2. Flight Authorisation COMPLETE
3. Maintenance ReleaseCHECKED & SIGNED
4. Seats and Seat BeltsADJUSTED & SECURED
5. Fuel Selector DESIRED TANK (LEFT OR LEAST)
6. Radios / AvionicsOFF
7. Circuit Breakers IN
8. Master Switch ON
9. Electric Fuel Pump..... ON
10. Fuel PressureCHECKED
11. Electric Fuel Pump.....OFF
12. Carburettor Heat COLD
13. Mixture.....FULL RICH
14. Throttle ¼” OPEN (COLD) ½” OPEN (HOT)
15. Primer 1-3 STROKES (COLD) 0 (HOT)
16. Park Brake.....SET ON
17. Propeller Area..... CLEAR

Proceed with after start

Flooded Engine Start

1. Throttle OPEN FULL
2. Master Switch ON
3. Electric Fuel Pump.....OFF
4. Mixture..... ICO
5. Starter.....ENGAGE
6. Mixture.....ADVANCE
7. Throttle RETARD
8. Oil Pressure.....INDICATING WITHIN 10 SEC

Starting With External Power Source

1. Master SwitchOFF
2. All electrical EquipmentOFF
3. Terminals..... CONNECT
4. External Power PlugINSERT IN FUSELAGE
5. ThrottleLOWEST POSSIBLE RPM
6. External Power Plug DISCONNECT FROM FUSELAGE
7. Master SwitchON / CHECK AMMETER
8. Oil Pressure.....INDICATING WITHIN 10 SEC

Proceed with normal start

After Start

1. Starter.....ENGAGE
2. Throttle ADJUST
3. Oil Pressure..... INDICATING GREEN WITHIN 10 SEC
4. Avionics and Intercom ON / SET / CHECKED
5. Alternator.....CHARGING
6. Lights..... TAXI LIGHT ON
7. Mixture.....LEANED
8. Throttle 800 to 1200 RPM
9. Oil Pressure..... CHECKED GREEN

Taxi Checks

1. BrakesCHECKED
2. Flight Instruments TC, AH, DI AND COMPASS CHECKED

Before Take Off

Do not proceed with run-ups unless the oil temperature is in the green

1. Park Brake..... ON
2. Fuel Selector RIGHT or FULLEST TANK
3. Flight Instruments SET & CHECK
4. Circuit Breakers IN
5. Throttle Friction..... SET FIRM
6. Mixture..... RICH
7. Throttle 2000 RPM
8. Engine Instruments..... CHECKED GREEN
9. Magnetos..... MAX DROP 175 RPM
.....MAX DIFF. 50 RPM
10. Vacuum 5.0" HG (+/- .1)

- 11. Annunciator PanelPRESS-TO-TEST
- 12. Carburettor Heat CHECK DROP
- 13. Throttle Idle.....CHECKED >600 RPM
- 14. Throttle 1000 RPM
- 15. Master Switch ON
- 16. Electric Fuel Pump..... ON
- 17. Primer..... IN & LOCKED
- 18. Magnetos.....BOTH
- 19. Controls FULL, FREE & CORRECT
- 20. Flaps.....SET 0 OR 25 DEGREES
- 21. Trim Tab SET T/O
- 22. Belts/Harnesses FASTENED
- 23. Empty Seats SEAT BELTS SNUGLY FASTENED
- 24. Doors..... LATCHED
- 25. Departure Brief COMPLETE
- 26. Take Off Safety Brief COMPLETE

Line Up

- 1. Pitot Heat.....A/R
- 2. Instruments.....CHECK ALIGNMENT
- 3. SwitchesLIGHTS / PUMPS A/R
- 4. Transponder / TrimALT / TAKE OFF
- 5. AltimeterWITHIN TOLERANCE

Rolling Checks

- 1. Power STATIC RPM
- 2. Engine Instruments..... GREEN
- 3. AirspeedRISING

After Take Off

- 1. Gear FIXED DOWN
- 2. Flaps..... UP
- 3. Power FULL
- 4. Temperature and Pressure Indicators..... CHECKED GREEN
- 5. SwitchesOFF
- 6. Mixture.....FULL RICH
- 7. Centreline ALIGNED

Top Of Climb

- 1. Fuel LogCOMPLETE / CORRECT TANK
- 2. Mixture.....LEANED (AS PER POH)
- 3. QNH AREA
- 4. DI / Compass..... ALIGNED
- 5. Cowl Flaps.....A/R
- 6. Aids / Audio SOURCE / TUNED / IDENTIFIED / TESTED
- 7. RadiosSET / CHECKED

Top Of Descent

1. Fuel Log COMPLETE
2. Mixture.....FULL RICH
3. QNH LOCAL
4. DI / Compass..... ALIGNED
5. Cowl Flaps.....A/R
6. Aids / Audio SOURCE / TUNED / IDENTIFIED / TESTED
7. RadiosSET / CHECKED

Pre Landing Checks

1. BrakesPRESSURE CHECKED & OFF
2. Undercarriage..... FIXED DOWN
3. Mixture..... RICH
4. Fuel ON & QUANTITY CHECKED
5. Instruments..... ALIGNED / WITHIN TOLERANCES
6. SwitchesLIGHTS / PUMPS A/R
7. Hatches & Harnesses SECURE
8. Pilot Activated Lighting AD LIGHTING CONSIDERED

Final Checks

1. Pitch FULL FINE
2. Undercarriage..... FIXED DOWN
3. Flaps.....A/R
4. Carburettor Heat..... COLD
5. Check Windsock.....CHECKED
6. ClearanceOBTAINED

After Landing

1. TransponderSTBY
2. Electric Fuel Pump.....OFF
3. Strobes & Landing LightOFF
4. Taxi Light..... ON
5. Mixture.....LEANED
6. Trims NEUTRAL
7. Flaps..... RETRACTED

Stopping Engine

1. Radios / AvionicsOFF
2. Electric Fuel Pump.....OFF
3. Throttle 800-1000 RPM
4. Magnetos..... CHECK DROP
5. Mixture..... ICO
6. Magnetos.....OFF
7. Master SwitchOFF

Securing Aeroplane

1. Parking BrakeSET
2. Control Wheel..... SECURE
3. Flaps..... FULL UP
4. Wheel ChocksIN PLACE
5. Tie Downs & Covers SECURE

Emergency Procedures

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Engine Fire During Start

1. Starter.....CRANK ENGINE
2. Mixture..... IDLE CUT-OFF
3. ThrottleOPEN
4. Electric Fuel Pump.....OFF
5. Fuel SelectorOFF

Abandon if fire continues

Engine Power Loss During Take Off

If sufficient runway remains for a normal landing:

1. Land straight ahead

If insufficient runway remains:

1. Maintain Safe Airspeed
2. Make only shallow turn to avoid obstructions
3. Flaps as situation requires

If sufficient altitude has been gained to attempt a restart:

1. Maintain safe airspeed
2. Fuel Selector SWITCH TO TANK CONTAINING FUEL
3. Fuel Pump ON
4. Mixture..... RICH
5. Carburetor Heat..... ON
6. Engine Gauges.....CHECK FOR INDICATION OF CAUSE OF POWER LOSS
7. Primer..... IN & LOCKED

If power is not regained, proceed with power off landing.

Engine Power Loss In Flight

1. Fuel Selector SWITCH TO TANK CONTAINING FUEL
2. Electric Fuel Pump..... ON
3. Mixture..... RICH
4. Carburetor Heat..... ON
5. Engine Gauges... CHECKED FOR INDICATION OF PWR LOSS
6. Primer IN & LOCKED

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

If Power is Restored:

1. Carburetor Heat.....OFF
2. Electric Fuel Pump.....OFF

If power is not restored prepare for power off landing & trim for 73 KIAS

Power Off Landing:

Once committed to landing

1. Ignition.....OFF
2. Master Switch.....OFF
3. Fuel SelectorOFF
4. Mixture..... ICO
5. Seatbelts and Harnesses..... TIGHT

Fire In Flight

1. Source Of Fire CHECK

ELECTRICAL FIRE (smoke in cabin):

1. Master SwitchOFF

2. Air Vents.....OPEN

3. Cabin HeatOFF

Land as soon as practicable

ENGINE FIRE:

1. Fuel SelectorOFF

2. Throttle CLOSED

3. Mixture..... ICO

4. Electric Fuel Pump..... CHECK OFF

5. Heater and DefrosterOFF

Proceed with power off landing procedure

Spin Recovery

1. Throttle IDLE

2. Ailerons NEUTRAL

3. Rudder..... FULL OPPOSITE TO DIRECTION OF ROTATION

4. Control Wheel..... FULL FORWARD

5. Rudder..... NEUTRAL (when rotation stops)

6. Wing Flaps UP (if extended)

7. Control Wheel..... AS REQUIRED TO SMOOTHLY
REGAIN LEVEL FLIGHT

Abnormal Procedures

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Loss Of Oil Pressure / High Oil Temp

Land as soon as possible and investigate cause.

Prepare for power off landing.

Loss Of Fuel Pressure

1. Electric Fuel Pump..... ON
2. Fuel Selector CHECK ON FULLEST TANK

Electrical Failure

ALT Annunciator Light Illuminated:

1. Ammeter.....CHECK TO VERIFY INOP. ALT

If Ammeter Shows Zero:

1. ALT SwitchOFF

Reduce electrical loads to a minimum:

2. ALT Circuit Breaker CHECK & RESET AS REQUIRED
3. ALT Switch ON

If power not restored:

1. ALT SwitchOFF

NOTE

If alternator output cannot be restored, reduce electrical load and land as soon as practicable.

Electrical Overload

ALT OVER 20 AMPS ABOVE KNOWN ELECTRICAL LOAD

1. ALT Switch ON
2. BATT Switch.....OFF

If alternator loads are reduced:

1. Electrical Loads REDUCE TO MINIMUM

Land as soon as practical.

If alternator loads are not reduced:

1. ALT SwitchOFF
2. BATT Switch.....A/R

Open Door

To close door in flight:

1. Slow aeroplane to 89 KIAS
2. Cabin Vents CLOSED
3. Storm Window OPEN
4. If Upper Latch is Open LATCH
5. If Side Latch is Open PULL ON ARMREST WHILE MOVING LATCH HANDLE TO LATCHED POSITION
6. If Both Latches are Open LATCH SIDE, then LATCH TOP

Engine Roughness

1. Carburetor Heat..... ON

If roughness continues for 1 minute:

1. Carburetor Heat.....OFF
2. Mixture.....ADJUST FOR MAX SMOOTHNESS
3. Electric Fuel Pump..... ON
4. Fuel Selector SWITCH TANKS
5. Engine Gauges..... CHECK
6. Magneto Switch “L” then “R” then “BOTH”

NOTE

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.

Carburetor Icing

1. Carburetor Heat..... ON
2. Mixture.....ADJUST FOR MAX SMOOTHNESS

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Basair SOP

PASSENGER BRIEF

- No smoking in aircraft
- Proper use and adjustment of seat belts
- Location and proper operation of emergency exits
- Location of life jackets, first aid kits and fire extinguishers, and if required, survival kits and life rafts.
- Requirement of a passenger occupying a control seat, not to interfere with the controls during the flight
- Operation of ventilation system
- Proper stowage of passengers' carry on items during critical phases of flight
- Seat backs must be upright for take-off and landing
- Mobile phones and electronic devices must be off at all times

TAKE – OFF SAFETY BRIEF

- If there is an engine failure, fire or abnormality whilst on the runway I will close the throttle and brake as required
- If there is an engine failure or major abnormality shortly after take-off with sufficient runway or overrun remaining, I will lower the nose, select full flap, land and brake as required
- If the engine fails with insufficient runway or overrun, I will lower the nose, maintain (...) knots (best glide speed), select a suitable field 30 degrees either side of the nose, extend flaps as required and land.
- I will only turn back to the runway if I am at 1000 feet AGL or on the downwind leg

DEPARTURE AND APPROACH BRIEF

- Charts
- Terrain
- Weather
- Operational considerations
- Any additional items you deem are threats

SAMPLE PASSENGER BRIEF

“Welcome aboard your flight, my name is _____ your pilot.
Today you’ll be flying in a _____.

Our aeroplane has _____ doors. You can close the door by
_____. If you need to open the door, such as in the unlikely
event of an emergency, you can open the door by _____. To
adjust your seat, there will be a lever underneath the seat.

Each seat in the aeroplane is equipped with an adjustable seatbelt.
Fasten your seatbelt by inserting the clasp into the buckle. Pull the
shoulder harness over your shoulder and clip it on to the clasp. You can
adjust the seatbelt at any time by pulling the strap. You can undo your
seatbelt by lifting the flap. Please ensure that you wear your seatbelt
throughout the flight. Please ensure that all bags or loose items are
either placed on the rear seat or in the baggage compartment and
secured.

You can adjust the VENTILATION OUTLETS AND CONTROLS by
_____.

Please do not touch any part of the dashboard or controls and please
keep your feet away from the pedals.

Please note that smoking on board the aeroplane is not permitted at
any time.

In the unlikely event of an emergency, please exit the aeroplane and
leave any luggage behind. We will meet at the rear of the aeroplane.”

Where applicable – show use

Lift Vest
Lift Raft
ELT
Oxygen

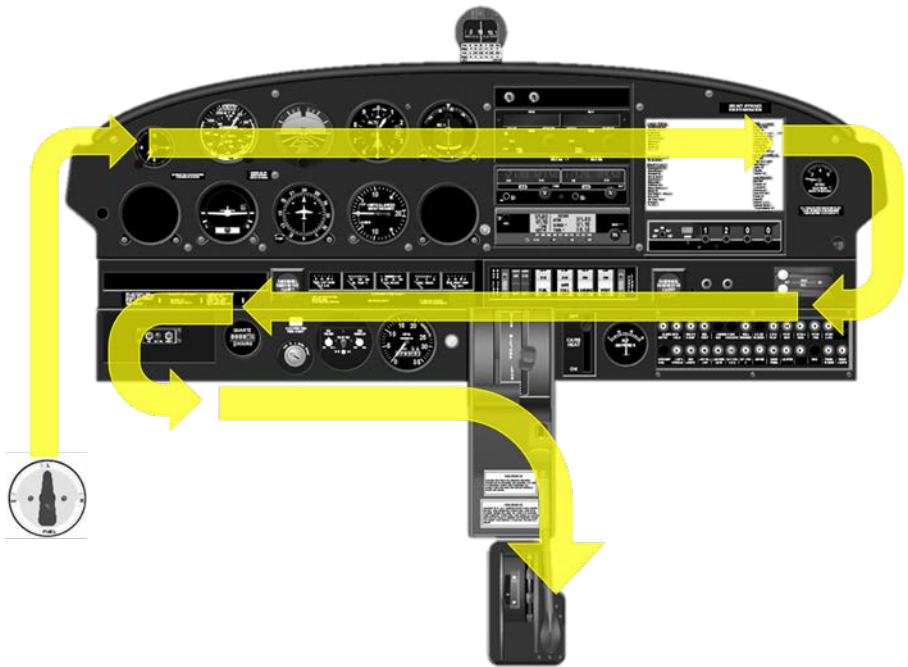
“Our destination for today’s flight is _____ and our Estimated
Time of Arrival is _____. The weather for our flight today is
expected to be _____.

Please sit back, relax and enjoy your flight.”

Standard Flow Procedure

Below is an illustration of the standardised flow employed for *do and check* operations.

Abnormal and emergency procedures are conducted as a *check and do* system.



Aircraft Summary

1. Engine Lycoming O-320-D2A 160 HP

Airspeeds

2. Never Excess Speed (Vne)..... 160 KIAS
3. Max. Structural Cruise (Vno)..... 126 KIAS
4. Manoeuvring Speed (Va) 111 KIAS
5. Max. Flap Extended (Vfe) 40° flap, 102 KIAS
6. Max. crosswind component take-off and landing 17 Kts

Fuel & Oil

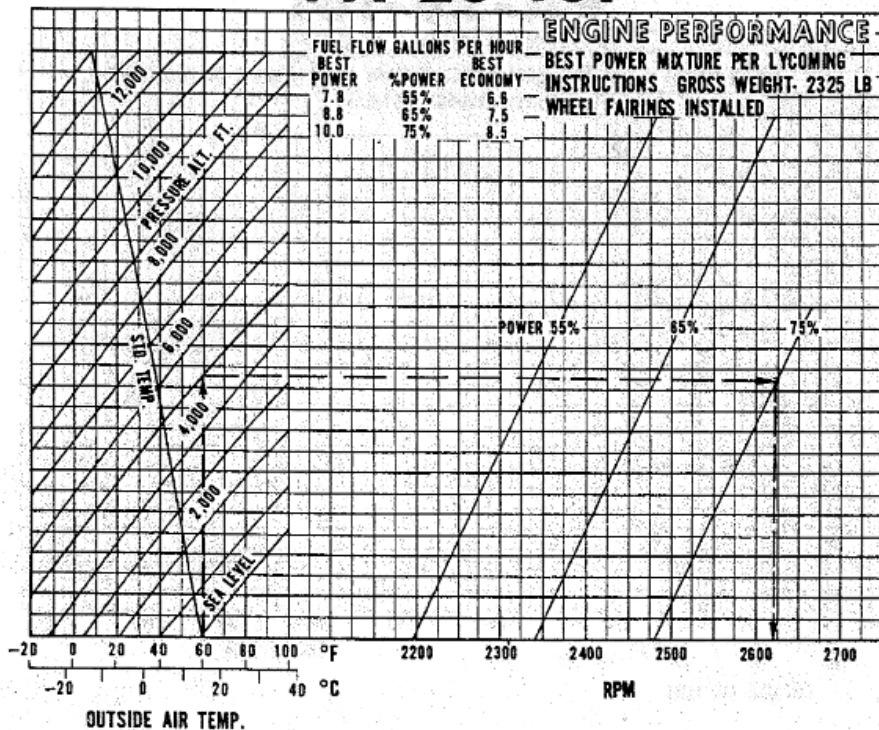
7. Oil Capacity 7.6 Litres (8 Quarts)
8. Main Tanks Total 189 Litres
..... Usable 181 Litres

Weight & Balance

9. Max. Take-Off Weight (MTOW) 1055 kg
10. Max. Landing Weight (MLW) 1055 kg
11. Basic Empty Weight..... Refer to AFM

Cruise Performance

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Example:

- Cruise pressure altitude: 5000 ft.
- Cruise OAT: 60°F
- Cruise power: 75%
- Engine RPM: 2620