# Piper PA28-161 CHECKLIST

**Warrior II**

## INTERIOR PREFLIGHT

Required Documents ..... On Board
Hobbs/Tach Time ..... Check
Flight Controls ..... Free/Correct
Radios and Electrical ..... Off
Alternate Static Source..... Normal
Fuel Selector ..... Cycle
Pitot/Static Drain ..... Drain (2-3 sec)
Master Switch ..... On
Fuel Quantity Gauges ..... Check
Lights/Pitot Heat ..... On
Lights/Pitot/Stall Horn ..... Check
Lights/Pitot ..... Off
Master Switch ..... Off
Flaps ..... Extend

## EXTERIOR PREFLIGHT

**RIGHT WING:**

Flap ..... Check
Aileron ..... Check
Wingtip/Lights ..... Check
Leading Edge ..... Check
Fuel Vent ..... Check
Main Wheel/Struts ..... Check (±4½")
Fuel Sump ..... Sample
Fuel Quantity ..... Check
Fresh Air Inlet ..... Clear

**NOSE:**

Windshield ..... Check/Clean
Oil Qty .....6 to 8 Qts
Cowling/Latches ..... Check Secure
Alternator Belt ..... Check
Propeller/Spinner ..... Check
Landing Light ..... Check
Engine Air Intake ..... Check
Nose Wheel/Strut ..... Check (±3¼")
Brake Fluid ..... Check Level
Fuel Strainer (Left Side) ..... Sample

**LEFT WING:**

Fresh Air Inlet ..... Clear
Main Wheel/Strut ..... Check
Fuel Sump ..... Sample
Fuel Quantity ..... Check
Fuel Vent ..... Check
Leading Edge ..... Check
Pitot Head ..... Check
Wingtip/Lights ..... Check

## EXTERIOR PREFLIGHT (CON'T)

Aileron ..... Check
Flap ..... Check

**FUSELAGE/TAIL:**

Antennas ..... Check
Left Fuselage ..... Check
ID Plate ..... Check
Left Stabilator ..... Check
Rudder ..... Check
Right Stabilator ..... Check
Right Fuselage ..... Check
Baggage Door ..... Secure

## BEFORE START

Preflight ..... Complete
Passenger Briefing ..... Complete
Belts/Seats ..... Adjust/Secure
Radios/Electrical ..... Off
Circuit Breakers ..... Check
Carburetor Heat ..... Off
Fuel Selector ..... Fullest Tank

## ENGINE START

Throttle ..... 1/4" Cold
1/2" Hot
Mixture ..... Rich
Primer ..... 3-4 Cold
1-2 Hot
Brakes ..... Hold
Master Switch ..... On
Fuel Pump ..... On
Aircraft Lights ..... As Required
Propeller Area ..... Clear
Starter ..... Engage
Throttle ..... 800-1,000 RPM
Oil pressure ..... Check Positive

## BEFORE TAXI

Ammeter ..... Check Positive
Fuel Pump ..... Off
Fuel Pressure ..... Check
Mixture ..... LEAN
Flaps ..... Retract
Fuel Selector ..... Switch, then Fullest
Avionics/Radios ..... On/Set
Transponder ..... Set Code/ALT
Weather ..... Check
Flight Instruments ..... Set/Check
Landing Light ..... On, for Taxi
Brakes ..... Test

## RUN-UP

Parking Brake ..... Set
Flight Controls ..... Free & Correct
Circuit Breakers ..... Check
Mixture ..... Rich
Throttle ..... 2,000 RPM
Magnetos ..... Check
(Max Drop 175 RPM, Max Diff 50 RPM)
Carburetor Heat ..... Check
Ammeter ..... Check Positive
Vacuum ..... 5.0" Hg.
Oil Pressure ..... Check
Fuel Pressure ..... Check
Oil Temp ..... Check
Annunciator Lights ..... Test
Throttle ..... Idle Check
Throttle ..... 800-1,000 RPM
Mixture ..... Re-Lean for Taxi
Primer ..... In/Locked
Magnetos ..... Both
Parking Brake ..... Release

## BEFORE TAKEOFF

Trim ..... Set for Takeoff
Flaps ..... Set
Transponder ..... Set Code/ALT
Carburetor Heat ..... Off
Mixture ..... Rich
Aircraft Lights ..... As Required
Fuel Pump ..... On
Flight Instruments ..... Set
Cabin Door/Window ..... Latched

## NORMAL TAKEOFF

Heading ..... Check Correct Runway
Throttle ..... Full Open
Rotate ..... 55-60 KIAS

## CLIMB

Best Angle Vx ..... 63 KIAS
Best Rate Vy ..... 79 KIAS
Cruise Climb ..... 87 KIAS
Flaps ..... Retract (0º)

## CRUISE

Throttle ..... Set for Cruise
Mixture ..... Lean for Cruise
Fuel Pump ..... Off
Aircraft Lights ..... As Required
Pitot Heat ..... As Required
Trim ..... Set for Cruise

## DESCENT

Avionics ..... Set/Check
Weather ..... Check
Flight Instruments ..... Set/Check
Throttle ..... Set for Descent
Mixture ..... As Required
Carburetor Heat ..... As Required
Fuel Pump ..... On
Aircraft Lights ..... As Required
Pitot Heat ..... As Required
Fuel Selector ..... Fullest Tank
Approach Briefing ..... Complete

## BEFORE LANDING

Fuel Pump ..... On
Aircraft Lights ..... LDG Light On
Carburetor Heat ..... On
Mixture ..... Rich
Flaps ..... As Required
Approach Airspeed ..... 70 KIAS

## AFTER LANDING

Trim ..... Set for Takeoff
Flaps ..... Retract (0º)
Carburetor Heat ..... Off
Mixture ..... Lean
Fuel Pump ..... Off
Aircraft Lights ..... As Required
Pitot Heat ..... Off

## SHUT DOWN

Transponder ..... Off
Radios/Electrical ..... Off
Magneto ..... Check for Cutout
Throttle ..... Idle
Mixture ..... Idle Cut-Off
Aircraft Lights ..... Off
Magnetos ..... Off
All Switches ..... Off
Brakes ..... Released

## IMPORTANT SPEEDS KIAS

Vso ..... 44 KIAS
Vs1 ..... 50 KIAS
Vx ..... 63 KIAS
Vy ..... 79 KIAS
Vfe ..... 103 KIAS
Va (maneuvering) .....88-111 KIAS
Vno ..... 126 KIAS
Vne ..... 160 KIAS
**Best Glide ..... 73 KIAS**

# Piper PA28-161 Emergency Procedures

## Engine Failure-*Takeoff*

Airspeed …… Maintain Safe
Land …… Straight Ahead
*If Sufficient altitude has been gained attempt to restart:*
Airspeed …… 73 Best Glide
Fuel Selector …… Switch Tanks
Magnetos …… Both
Fuel Pump …… On
Primer …… In/Locked
**Mixture …… Rich**
Carburetor Heat …… On
*If power is **not** restored, proceed with*
***POWER OFF LANDING***

## Engine Failure-*Flight*

Fuel Selector …… Switch Tanks
Fuel Pump …… On
**Mixture …… Rich**
Carburetor Heat …… On
Magnetos …… Both
Engine Gauges …… Check
Primer …… In/Locked
*If power is **not** restored proceed with*
***POWER OFF LANDING***
*If power is restored:*
Carburetor Heat …… Off
Fuel Pump …… Off
*Land As Soon as Practical*

## Power Off Landing

Airspeed …… 73 KIAS
Place to Land …… Locate
Passengers …… Prepare
*If time and altitude permit:*
Transponder …… 7700
Radios …… Transmit 121.5
ELT …… On
*When committed to landing:*
Throttle …… Idle
**Mixture …… Idle Cut-Off**
Magnetos …… Off
Master Switch …… Off
Fuel Selector …… Off
Belts/Shoulder Harness …… Secure
Approach Speed …… 63 KIAS

## Engine Fire-*Start*

Starter …… Continue Cranking
*If engine starts:*
Power …… 1,700 RPM
Engine ….. Shutdown and Have Inspected
*If engine does not start:*
Starter …… Continue Cranking
**Mixture …… Idle Cut-Off**
Throttle …… Full Open
Fuel Selector …… Off
Magnetos …… Off
Master Switch …… Off

*If fire continues;*
***EVACUATE AIRCRAFT** and extinguish fire*

## Engine Fire-*Flight*

Fuel Selector …… Off
Throttle …… Idle
**Mixture …… Idle Cut-Off**
Fuel Pump …… Off
Heater/Defroster …… Off
*If fire continues proceed with:*
***EMERGENCY DESCENT, Line 4***

*If fire appears out proceed with:*
***POWER OFF LANDING***

## Electrical Fire

Master Switch …… Off
Radio Master …… Off
Fresh Air Vents …… Open
Heat/Defroster …… Off
*If fire appears out and electrical power is necessary:*
Batt/Alt Master Switch …… On
Circuit Breakers …… DO NOT RESET
Radio/Electrical Equip--ON one at a time
*Land As Soon as Practical*

## Emergency Descent

1. Throttle …… Idle
2. Fuel Pump …… On
3. **Mixture …… Rich**
4. Bank …… 30º – 45º

Rollout …… At 126 KIAS or at pattern altitude
*Proceed with **POWER OFF LANDING***

## Carburetor Icing

Carburetor Heat …… On
**Mixture …… Adjust for Smoothness**

## Engine Roughness

Carburetor Heat …… On
*If roughness continues after one min:*
Carburetor Heat …… Off
**Mixture …… Adjust for Smoothness**
Fuel Pump …… On
Fuel Selector …… Switch Tanks
Engine Gauges …… Check
Magneto Switch ……"L" then "R" then "BOTH"

*If operation is satisfactory on either one, continue on that magneto, at reduced power and full "RICH" mixture, to nearest airport.*

*Prepare for **POWER OFF LANDING***

## Loss of Oil Pressure

Engine Power …… Reduce
Oil Temp …… Monitor
*Land As Soon as Practical*
*Prepare for **POWER OFF LANDING***

## Loss of Fuel Pressure

Electric Fuel Pump …… On
Fuel Selector …… Switch Tanks

## High Oil Temperature

**Mixture …… Rich**
Throttle …… Reduce
Oil Pressure …… Monitor
Oil Temp …… Monitor
*Land As Soon as Practical*
*Prepare for **POWER OFF LANDING***

## Electrical Failure

*ALT annunciator light illuminated*:
Ammeter …… Check Amps 0
ALT Switch …… Off
Electrical Load …… Reduce
ALT Circuit Breaker …… Check/Reset
ALT Switch …… On

*Power not restored*:
ALT Switch …… Off
Electrical Load …… Reduce Load
*Land As Soon as Practical*

## Electrical Overload

BATT Master Switch …… Off
ALT Switch …… On

*If Amps are reduced:*
Electrical Load …… Reduce
Land …… As Soon As Practical
*If Amps are not reduced:*
ALT Switch …… Off
BATT Switch …… As Required
*Land As Soon as Practical*

## Open Door

Airspeed …… Reduce 89 KIAS
Cabin Vents …… Close
Storm Window …… Open
Door Latches ……Latch Side, then Top

## Spin Recovery

Throttle …… Idle
Ailerons …… Neutral
Rudder …… FULL OPPOSITE (to the direction of rotation)
Yoke …… FULL FORWARD
Rudder …… NEUTRAL (when rotation stops)
Yoke …… AS REQUIRED
Throttle …… AS REQUIRED

# Piper PA28-161 Maneuvers

## Normal Takeoff

(Before Takeoff Checklist Complete)
Flaps …..... 0°
Power …..... Full
Engine Instruments …..... Verify Green
Rotate …..... 55 - 60
Climb Out …..... Vx 63
Vy 79

## Normal Landing

(Before Landing Checklist Complete)
Midfield Downwind …..... BCGUMPS
Abeam Runway Threshold –
Throttle 1600 RPM
Flaps 10°
Airspeed 90 KIAS
Base – Flaps 25°
Airspeed 80 KIAS
Final – Flaps 40°
Airspeed 70 KIAS
Threshold 63 KIAS
Touchdown …..... Just above stall speed

## Short Field Takeoff

(Before Takeoff Checklist Complete)
Flaps …..... 25°
Runway …..... Use All Available
Brakes …..... Hold
Throttle …..... Full
Engine Instruments …..... Verify Green
Brakes …..... Release
Rotate …..... 40-50
Climb Out …..... Vx - 63
Clear of Obstacle Raise Flaps to 10°
Accelerate to …..... Vy - 79
At Vy – 79 …..... Raise Flaps Completely
Climb Out …..... Vy - 79

## Short Field Landing

(Before Landing Checklist Complete)
Midfield Downwind …..... BCGUMPS
Approach (Obstacle) …..... Steeper
Abeam Runway Threshold –
Throttle 1600 RPM
Flaps 10°
Airspeed 90 KIAS
Base – Flaps 25°
Airspeed 80 KIAS
Final –
Flaps 40°
Airspeed 70 KIAS
Threshold 63 KIAS
Touchdown …..... Just above stall speed
Braking …. Apply Maximum Foot&Aero

## Soft Field Takeoff

(Before Takeoff Checklist Complete)
Flaps …..... 25°
Yoke …..... Full Back
Engine Instruments …..... Verify green
Throttle …..... Full
Rotate …..... At Min. Airspeed
Yoke …..... Slowly release to maintain nose up until liftoff
Ground Effect …..... Remain in
Accelerate ....… Vy 79 or End of Runway
At Vy 79…..... Normal Climb
Clear of Obstacles ….. Raise Flaps to 10°
Flaps …..... Raise to 0° at Vy 79

## Soft Field Landing

(Before Landing Checklist Complete)
Midfield Dowwnind …..... BCGUMPS
Abeam Runway Threshold –
Throttle 1600 RPM
Flaps 10°
Airspeed 90 KIAS
Base – Flaps 25°
Airspeed 80 KIAS
Final –
Flaps 40°
Airspeed 70 KIAS
Threshold 63 KIAS
Touchdown …..... Just above stall speed
Control Wheel …..... Full Back
Wheel Brakes … Use Minimum Required

## Go-Around

Throttle …..... FULL Power
Carburetor Heat …..... Off
Flight Controls …..... Start Climbout
Flaps …..... Retract to 10°
Airspeed …..... Accelerate to Vx 63 or Vy 79
Flaps …..... Raise to 0°

## Steep Turns

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 2000–2200 RPM
Airspeed …..... 90 - 100 KIAS
Bank …..... 45° Private
60° Commercial
Roll Out …..... Original Heading
Repeat …..... Opposite Direction

## Slow Flight

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 1500 RPM
Flaps …..... 40° when in white arc
Altitude ..... Maintain as Speed Decreases
Throttle …..... Add power to Maintain 45-50 KIAS
Banks …..... Shallow
Recover …..... Full Power, remove Flaps and Carb Heat, Maintain Altitude

## Power Off Stall

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 1500 RPM
Flaps …..... 40° when in white arc
Airspeed …..... Slow to 65 KIAS
Descent …..... Initiate 500 FPM to simulate final approach
Throttle …..... IDLE
Pitch …..... Induce Stall
**Stall Recovery:**
Release back pressure, full power, and remove carb heat and one notch of flaps
As decent stops, remove 2nd notch of flaps and accelerate to Vy 79 and initiate climb.

## Power On Stall

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 1500 RPM
Airspeed …..... Slow to 65 KIAS
Throttle …..... Full Power
Pitch …..... Induce Stall
**Stall Recovery:**
Release back pressure, ensure full power and stop descent
Accelerate to Vy 79 and climb to a safe altitude

## Rectangular Course

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 2000 – 2200 RPM
Airspeed …..... 90 – 100 KIAS
Altitude …..... 600 – 1000 ft AGL
Entry …..... 45° to Downwind
Ground track …..... Adjust for wind drift to maintain a ¼ -½ mi distance

## Turns Around a Point

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 2000 – 2200 RPM
Airspeed …..... 90 – 100 KIAS
Altitude …..... 600 – 1000 ft AGL
Entry …..... On Downwind
Ground track …..... Adjust for wind drift to maintain a ¼ -½ mi radius

## S-Turns Along a Road

Clearing Turns …..... Complete
BCGUMPS …..... Complete
Throttle …..... 2000 – 2200 RPM
Airspeed …..... 90 – 100 KIAS
Altitude …..... 600 – 1000 ft AGL
Entry …..... On Downwind
Ground track …..... Adjust for wind drift to maintain a ¼ -½ mi radius