

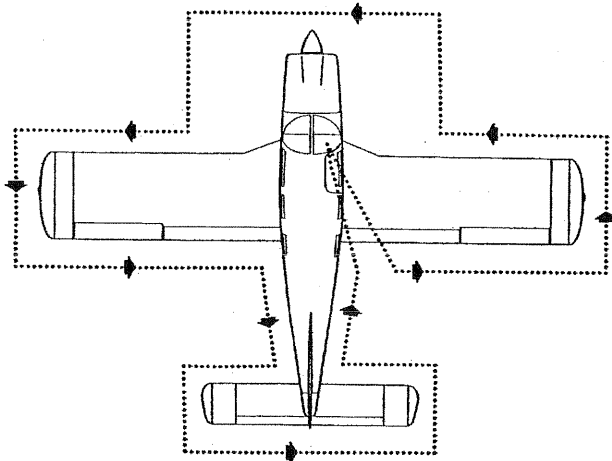
PIPER PA 28R-200 ARROW

CHECK LIST

NORMAL PROCEDURES

AIRSPEEDS FOR SAFE OPERATION:

	<u>MPH</u>
Never Exceed .....	214
Maximum Structural Cruising.....	170
Design Maneuvering .....	131
Maximum Flaps Extended .....	125
Maximum Gear Extension .....	150
Maximum Gear Retraction.....	125
Best Rate of Climb:	
Gear Down .....	95
Gear Up .....	100
Best Angle Of Climb:	
Gear Down .....	85
Gear Up .....	96
Enroute Climb .....	110
Stall Speeds:	
Flaps Up .....	71
Flaps 40° .....	64
Normal Approach:	
Flaps – Gear Down.....	90
Maximum Demonstrated Crosswind Velocity .....	20



## **PREFLIGHT**

1. Master Switch and ignition OFF; landing gear switch DOWN; remove seat belt securing control wheel or wheel control lock.
2.
  - a. Check for external damage and operational interference of control surfaces or hinges.
  - b. Insure that wings and control surfaces are free of snow, ice or frost.
3.
  - a. Visually check fuel supply; secure caps.
  - b. Drain and check all fuel system sumps and lines for water, sediment and proper fuel.
  - c. Check that fuel system vents are open.
  - d. Check landing gear shock struts for proper inflation (approximately 2 inches showing).
  - e. Check hydraulic lines and landing gear cylinders for leaks.
  - f. Check tires for cuts, wear and proper inflation.
  - g. Check brake blocks and discs for wear and damage.
4.
  - a. Check windshield for cleanliness.
  - b. Check propeller and spinner for defects or nicks.
  - c. Check for obvious fuel or oil leaks.
  - d. Check oil level. (Insure dipstick is properly seated.)
  - e. Check cowling and inspection covers for security.
  - f. Check cowl scoop for obstructions.
  - g. Check nose wheel tire for inflation or wear.
  - h. Check nose gear shock strut for proper inflation (approximately 2-3/4 inches showing).
  - i. Check hydraulic lines and landing gear cylinder for excessive leaks.
  - j. Check for foreign matter in air inlet.
5.
  - a. Stow tow bar and control locks if used.
  - b. Check baggage for proper storage and security.
  - c. Close and secure the baggage compartment door.
6.
  - a. Upon entering airplane check that all primary flight controls operate properly and that aircraft is properly loaded.
  - b. Close and secure cabin door.
  - c. Check that required papers are in order in the airplane

## **BEFORE STARTING ENGINE**

1. Brakes – Set
2. Propeller – full INCREASE rpm
3. Fuel Selector – Desired Tank

## STARTING ENGINE WHEN COLD

1. Throttle – ½" open
2. Master Switch – ON
3. Electric fuel pump – ON
4. Mixture – Prime –then idle cut-off
5. Starter – engage
6. Mixture – full RICH
7. Throttle – adjust
8. Oil Pressure – check

## STARTING ENGINE WHEN HOT

1. Throttle – ½ " open
2. Master Switch – ON
3. Electric Fuel Pump – ON
4. Mixture – idle cut-off
5. Starter – engage
6. Mixture – advance
7. Throttle – adjust
8. Oil Pressure – check

## STARTING ENGINE WHEN FLOODED

1. Throttle – open full
2. Master Switch – ON
3. Electric Fuel Pump – OFF
4. Mixture – Idle cut-off
5. Starter – engage
6. Mixture – Advance
7. Throttle – retard
8. Oil Pressure – Check

## STARTING WITH EXTERNAL POWER SOURCE

1. Master Switch – OFF
2. All Electrical Equipment – OFF
3. Terminals – connect
4. External power plug – insert in fuselage
5. Proceed with normal start
6. Throttle – Lowest possible RPM
7. External power plug – disconnect from fuselage
8. Master Switch – ON-Check ammeter
9. Oil Pressure – Check

## WARM-UP

1. Throttle – 1400 to 1500 RPM

## **TAXIING**

1. Chocks – removed
2. Taxi area – clear
3. Throttle – Apply Slowly
4. Prop – high RPM
5. Brakes – Check
6. Steering – Check

## **GROUND CHECK**

1. Propeller – full INCREASE
2. Throttle – 2000 RPM
3. Magnetos – max. drop 175 RPM, max. diff. 50 RPM
4. Vacuum – 4.8” Hg. to 5.1” Hg.
5. Oil Temp – Check
6. Oil Pressure – Check
7. Air Conditioner – Check
8. Propeller – Exercise – then full INCREASE
9. Alternate Air – Check

Engine is warm for takeoff when throttle can be opened without engine faltering.

10. Electric fuel Pump – OFF
11. Fuel Pressure – Check
12. Throttle – Retard

## **BEFORE TAKEOFF**

1. Master Switch – ON
2. Flight Instruments – Check
3. Fuel Selector – Proper Tank
4. Electric Fuel Pump – ON
5. Engine Gauges – check
6. Alternate Air – CLOSED
7. Seat Backs – erect
8. Mixture – set
9. Prop – Set
10. Belts/harness – fastened
11. Empty Seats – Seat Belts snugly fastened.
12. Flaps – Set
13. Trim Tabs – Set
14. Controls – Free
15. Doors – Latched
16. Air Conditioner – OFF

## **TAKEOFF**

### **NORMAL**

1. Flaps – Set
2. Tab – Set

Accelerate to 60 – 70 mph.

3. Control Wheel – Back pressure to rotate to climb attitude

### **SHORT FIELD, OBSTACLE CLEARANCE**

1. Flaps – 25° (second notch)
2. Accelerate to 60-65 mph. depending on aircraft weight.
3. Control Wheel – Back pressure to rotate to climb attitude.
4. After breaking ground, accelerate to 80 M.P.H depending on aircraft weight.
5. Gear – UP
6. Accelerate to best flaps up angle of climb speed – 91 MPH. slowly retract the flaps and climb past the obstacle.
7. Accelerate to best flaps up rate of climb speed – 95

### **SOFT FIELD**

1. Flaps - 25° (second notch)
2. Accelerate to 60-65 MPH depending on aircraft weight.
3. Control Wheel – back pressure to rotate to climb attitude
4. After breaking ground, accelerate to 80 MPH depending on aircraft weight.
5. Gear – UP
6. Accelerate to best flaps up rate of climb speed 95 MPH.
7. Flaps – retract slowly.

### **CLIMB**

1. Best rate (2750 lb) (gear up) (flaps up) – 95 MPH
2. Best rate (2750 lb) (gear down) (flaps up) – 85 MPH
3. Best angle (2750 lb) (gear up) (flaps up) – 91 MPH
4. Best angle (2750 lb) (gear down) (flaps up) – 81 MPH
5. Enroute – 110 MPH
6. Electric fuel pump – OFF at desired altitude

## **CRUISING**

Reference performance charts, Avco-Lycoming Operator's Manual and power setting table.

1. Normal Max Power – 75%
2. Power – Set Per Power Table
3. Mixture – Adjust

## **APPROACH AND LANDING**

1. Fuel Selector – Proper Tank
2. Seat Backs – Erect
3. Belts/Harness – fasten
4. Electric Fuel Pump – ON
5. Mixture – Set
6. Propeller – Set
7. Gear – Down-150 MPH
8. Flaps – Set-125 MPH
9. Trim to 90 MPH

## **STOPPING ENGINE**

1. Flaps – retract
2. Electric Fuel Pump – OFF
3. Air Conditioner – OFF
4. Radio's – OFF
5. Propeller – FULL INCREASE
6. Throttle – full aft
7. Mixture – idle cut-off
8. Magnetos – OFF
9. Master Switch – OFF

## **PARKING**

1. Parking Brake – Set
2. Control Wheel – Secured with Belts
3. Flaps – Full Up
4. Wheel chocks – in place
5. Tie Downs – Secure

## PIPER CHEROKEE

### ARROW – PA28R – 200

#### EMERGENCY PROCEDURE CHECK LIST

##### ENGINE FIRE DURING START

1. Starter – Crank Engine
2. Mixture – idle cut-off
3. Throttle – Open
4. Electric Fuel Pump – OFF
5. Fuel Selector – OFF
6. Abandon if fire continues

##### ENGINE POWER LOSS DURING TAKEOFF

If sufficient runway remains for a normal landing, leave gear down and land straight ahead.

If area ahead is rough, or if it is necessary to clear obstructions:

1. Gear Selector Switch – UP
2. Emergency gear lever – locked in **VERRIDE ENGAGED** position.

If sufficient altitude has been gained to attempt a restart:

3. Maintain safe airspeed
4. Fuel Selector – Switch to tank containing fuel
5. Electric Fuel Pump – Check ON
6. Mixture – Check RICH
7. Alternate air – OPEN
8. Emergency Gear Lever – as required

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. Alternate Air – OPEN
5. 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:

6. Alternate Air – CLOSED
7. Electric Fuel Pump – OFF

If power is not restored prepare for power off landing.  
Trim for 105 MPH.

## **POWER OFF LANDING**

1. Trim for 105 MPH.
2. Locate suitable field.
3. Establish spiral pattern.
4. 1000 ft. above field at downwind position for normal landing approach.

When field can easily be reached slow to 90 MPH. for shortest landing.

If gear up landing is necessary, lock emergency lever in **OVERRIDE ENGAGED** position – due to gear free fall at speeds below 110 mph.

Touchdowns should normally be made at lowest possible airspeed with full flaps.

When committed to landing:

1. Ignition -- OFF
2. Master Switch -- OFF
3. Fuel Selector -- OFF
4. Mixture -- idle cut-off
5. Seat belt and harness -- tight

## **FIRE IN FLIGHT**

1. Source of fire -- check

Electrical Fire (Smoke in cabin):

2. Master Switch -- OFF
3. Vents -- open
4. Cabin heat -- OFF

Land as soon as practicable.

Engine Fire:

5. Fuel Selector -- OFF
6. Throttle -- CLOSED
7. Mixture -- idle cut-off
8. Electric Fuel Pump -- check OFF
9. Heater and defroster -- OFF

Proceed with power off landing procedure.

## **LOSS OF OIL PRESSURE**

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 fuel tank.

## **HIGH OIL TEMPERATURE**

Land at nearest airport and investigate the problem.

Prepare for power off landing.



## **ALTERNATOR FAILURE**

1. Verify Failure
2. Reduce Electrical Load as much as possible.
3. Alternator circuit breakers – Check
4. Alt Switch – OFF (for 1 second), then on

If no output:

5. Alt switch – OFF

Reduce electrical load and land as soon as practical.

If battery is fully discharged, the gear will have to be lowered using the emergency gear extension procedure. Position lights will not illuminate.

## **PROPELLER OVERSPEED**

1. Throttle – Retard
2. Oil Pressure – Check
3. Prop Control – full DECREASE rpm, then set if any control available.
4. Airspeed – reduce
5. Throttle – As required to remain below 2700 rpm

## **EMERGENCY LANDING GEAR EXTENSION**

Prior to emergency extension procedure:

1. Master Switch – Check ON
2. Circuit Breakers – Check
3. Panel Lights – off (in daytime)
4. Gear indicator bulbs – check

If landing gear does not check down and locked:

5. Airspeed – 100 mph
6. Landing Gear Selector – DOWN
7. Emergency gear Lever – OVERRIDE ENGAGED (while fishtailing airplane)

If landing gear does not check down and locked:

8. Emergency gear lever – EMERGENCY DOWN (While fishtailing airplane)

If all electrical power has been lost, the landing gear must be extended using the above procedures. The gear position indicator lights will not illuminate.

## **SPIN RECOVERY**

1. Rudder – Full opposite to direction of rotation.
2. Control wheel – full forward
3. Ailerons – neutral
4. Throttle – idle
5. Rudder – Neutral (when rotation stops)
6. Wing Flaps – up ( if extended)
7. Control Wheel – as required to smoothly regain level flight altitude.

## **OPEN DOOR**

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

To close the door in flight:

1. Slow airplane to 100 mph
2. Cabin vents – close
3. Storm Window – open
4. If upper latch is open – latch
5. If side latch is open – pull on arm rest while moving latch handle to latched position
6. If both latches are open – Latch side latch then top latch