OKLAHOMA WING

Civil Air Patrol

Cessna 172P Checklist

N98251

12 December 2004

NORMAL PROCEDURES

EMERGENCY PROCEDURES

PREFLIGHT INSPECTION

CABIN

1. Pitot Tube Cover – REMOVE, check opening for blockage
2. Documents (AROW) - AVAILABLE IN THE AIRPLANE
3. OKWG Form 781A - CHECK
4. OKWG Form 781 – ENTER Hobbs and Tach Times
5. Parking Brake - SET
6. Control Wheel Lock - REMOVE
7. Ignition Switch – OFF, Key removed
8. Avionics Power Switch - OFF
9. Master Switch - ON

WARNING

When turning on the master switch, using an external power source, or pulling the propeller through by hand, treat the propeller as if the ignition switch were on. Do not stand, nor allow anyone else to stand, within the arc of the propeller, since a loose or broken wire or a component malfunction could cause the propeller to rotate. Hand propped starts are prohibited by CAPR 60-1.

10. Fuel Quantity Indicators - CHECK QUANTITY
11. Low-Vacuum Warning Light - CHECK ON
12. Avionics Power Switch - ON
13. Avionics Cooling Fan - CHECK AUDIBLY FOR OPERATION
14. Avionics Power Switch - OFF
15. Flaps – EXTEND
16. Pitot Heat – ON (Carefully check that pitot tube is warm to touch within 30 seconds)
17. Beacon, Nav, Stobe, Landing, Taxi, Pulse Lights - CHECK
18 Pitot Heat - OFF
19. Standby Vacuum Pump - CHECK
20. Master Switch - OFF
21. Static Pressure Alternate Source Valve - OFF
22. Fuel Selector Valve - BOTH
23. Baggage Compartment – INVENTORY and SECURE CONTENTS - Tow bar, Chocks, Pitot Tube Cover, Ladder, First Aid kit, Tie Down Straps and Ropes, Survival Kit, Fuel Sampler, Cleaning Materials, 1 QT Oil, Landing/Taxi Light Bulbs, Avionics Control Lock.
24. Baggage Door – CHECK (Lock with Key)

EMPENNAGE

1. Rudder Gust Lock - REMOVE
2. Tail Tie-Down - DISCONNECT
3. Control Surfaces - CHECK freedom of movement and security
4. Trim Tab - CHECK security
5. Antennas - CHECK for security of attachment and general condition

RIGHT WING Trailing Edge

1. Aileron - CHECK freedom of movement and security
2. Flap – CHECK for security and condition

RIGHT WING

1. Nav and Strobe Light – CHECK VISUALLY
2. Wing Tie-Down - DISCONNECT
3. Main Wheel Tire - CHECK for proper inflation (38 PSI)
4. Fuel Tank Sump Quick Drain Valve - DRAIN small amount, check for water, sediment and proper fuel grade
5. Fuel Selector Quick Drain Valve (bottom of fuselage) - DRAIN small amount, check for water, sediment and proper fuel grade
6. Fuel Quantity - CHECK VISUALLY for desired level
7. Drained Fuel – RETURN uncontaminated fuel to tank
8. Fuel Filler Cap - SECURE

NOSE

1. Engine Oil Dipstick/Filler Cap - CHECK oil level, do not operate with less than 5 quarts. Fill to 7 quarts for extended flight
2. Fuel Strainer Drain Knob - PULL OUT for at least 4 seconds, check for water, sediment. CHECK Strainer Drain CLOSED
3. Propeller and Spinner - CHECK for nicks and security
4. Engine Cooling Air Inlets - CLEAR for obstructions
5. Carburetor Air Filter - CHECK for restrictions
6. Nose wheel Strut and Tire - CHECK for proper inflation (45 PSI)
7. Nose Tie Down - DISCONNECT
8. Static Source Opening (left side of fuselage) - CHECK for blockage

LEFT WING

1. Fuel Tank Sump Quick Drain Valve - DRAIN small amount, check for water, sediment and proper fuel grade
2. Fuel Quantity - CHECK VISUALLY for desired level
3. Drained Fuel – RETURN uncontaminated fuel to tank
4. Fuel Filler Cap - SECURE
5. Main Wheel Tire - CHECK for proper inflation (38 PSI)

LEFT WING Leading Edge

1. Fuel Tank Vent Opening - CHECK for blockage
2. Stall Warning Opening - CHECK for blockage
3. Wing Tie-Down - DISCONNECT
4. Landing Light(s) - CHECK for condition and cleanliness of cover
5. Nav and Strobe Light – CHECK VISUALLY

LEFT WING Trailing Edge

1. Aileron - CHECK freedom of movement and security
2. Flap – CHECK for security and condition

BEFORE STARTING ENGINE

1. Preflight Inspection - COMPLETE
2. Chocks, Tiedowns, and Tow Bar – RECHECK REMOVED
3. Passenger Briefing - COMPLETE
   Seat Belt Usage
   Emergency Egress procedures
   Fire Extinguisher Location
   Fire On Start Procedures
   No Tobacco Use
   Crew Comfort Items
4. Seats, Belts, Shoulder Harnesses - ADJUST and LOCK
5. Brakes - TEST and SET
6. Avionics Power Switch - OFF

CAUTION

The avionics power switch must be off during engine start to prevent possible damage to avionics

7. Circuit Breakers - CHECK IN
8. Electrical Equipment - OFF
9. Fuel Selector Valve – BOTH
10. Rotating Beacon - ON

STARTING ENGINE

1. Prime - AS REQUIRED (2 to 6 strokes, none if engine is warm)
2. Carburetor Heat - COLD
3. Throttle - OPEN 1/8 INCH
4. Mixture - RICH
5. Propeller Area - CLEAR
6. Master Switch - ON
7. Ignition Switch - START (RELEASE when engine starts)
8. Oil Pressure - CHECK
9. Starter - CHECK DISENGAGED
10. Ammeter - CHECK
11. Avionics Power Switch - ON
12. Navigation Lights - ON as required
13. Radios - ON
14. Flaps - UP
15. Engine – LEAN for Taxi

TAXI

1. Brakes - CHECK
2. Nose Wheel Steering - CHECK
3. Cross Wind Controls - APPLY

BEFORE TAKEOFF

1. Parking Brake - SET
2. Seats, Seat Belts, Shoulder Harnesses - CHECK SECURE
3. Cabin Doors - CLOSED and LOCKED
4. Flight Controls - FREE and CORRECT
5. Flight Instruments – CHECK and SET
6. Fuel Quantity - CHECK
7. Primer - IN and LOCKED
8. Mixture - RICH
9. Fuel Selector Valve - RECHECK BOTH
10. Elevator Trim - SET for Takeoff
11. Throttle - 1700 RPM
    a. Magnetos - CHECK (RPM drop should not exceed 125 RPM on either magneto or 50 RPM differential between magnetos)
    b. Carburetor Heat - CHECK (for RPM drop)
    c. Suction Gage – CHECK
    d. Engine Instruments and Ammeter - CHECK
12. Throttle – CHECK IDLE
13. Throttle - 1000 RPM or LESS
14. Throttle Friction Lock - ADJUST
15. Radios and Avionics - SET
16. Wing Flaps - SET for Takeoff
17. Takeoff Checklist - REVIEWED
    Vr 55 KIAS Vx 62 KIAS Vy 76 KIAS Best Glide 70 KIAS
    Heading/Altitude After Takeoff - REVIEW
18. Takeoff Emergencies Briefing - COMPLETE
    ENGINE FAILURE OR SYSTEM MALFUNCTION
    Before Vr: Stop Aircraft on Runway
    After Vr: Land on remaining runway or straight ahead with
    Only small turns. Flaps as necessary to slow touchdown speed.
19. Transponder – SET and ALT
20. Strobe Lights - AS DESIRED
21. Pulse Light - ON
22. Brakes - RELEASE

TAKEOFF

Normal Takeoff

1. Wing Flaps - 0º-10º
2. Carburetor Heat - COLD
3. Throttle - FULL OPEN
4. Elevator Control - LIFT NOSE WHEEL (at 55 KIAS)
5. Climb Speed – 75-85 KIAS

Short Field Takeoff

1. Wing Flaps - 10º
2. Carburetor Heat - COLD
3. Brakes - APPLY
4. Throttle - FULL OPEN
5. Mixture - RICH
   (Above 3000 feet, LEAN to obtain MAX RPM)
6. Brakes - RELEASE
7. Elevator Control - SLIGHTLY TAIL LOW
8. Climb Speed - 57 KIAS (Until all obstacles are cleared)

ENROUTE CLIMB

1. Airspeed - 75-85 KIAS

NOTE
If a maximum performance climb is necessary, use speeds shown in the Rate of Climb chart in section 5

2. Throttle - FULL OPEN
3. Mixture - RICH
   (Above 3000 feet, LEAN to obtain MAX RPM)

CRUISE

1. Power - 2100-2700 RPM (no more than 75% is recommended)
2. Elevator Trim - Adjust
3. Mixture - LEAN

DESCENT

1. Fuel Selector Valve - BOTH
2. Power - AS DESIRED
3. Mixture - ADJUST for smooth operation
4. Carburetor Heat - FULL HEAT AS REQUIRED

BEFORE LANDING

1. Seats, Seat Belts, Shoulder Harnesses - SECURE
2. Fuel Selector Valve - BOTH
3. Undercarriage - CHECK
4. Mixture - RICH
5. Carburetor Heat - ON
   (apply full heat before reducing power)

LANDING

Normal Landing

1. Airspeed - 65-75 KIAS (Flaps UP)
2. Wing Flaps - AS DESIRED
   (0º-10º below 110 KIAS, 10º-30º below 85 KIAS)
3. Airspeed – 60-70 KIAS (Flaps DOWN)
4. Touchdown - MAIN WHEELS FIRST
5. Landing Roll - LOWER NOSE WHEEL GENTLY
6. Braking - MINIMUM REQUIRED

Short Field Landing

1. Airspeed - 65-75 KIAS (Flaps UP)
2. Wing Flaps - FULL DOWN (30º)
   (0º-10º below 110 KIAS, 10º-30º below 85 KIAS)
3. Airspeed - 62 KIAS (until flare)
4. Power - REDUCE to Idle after clearing obstacle
5. Touchdown - MAIN WHEELS FIRST
6. Brakes - APPLY HEAVILY
7. Wing Flaps - RETRACT

GO AROUND

1. Throttle - FULL OPEN
2. Carburetor Heat - COLD
3. Wing Flaps - Retract to 20°
4. Climb Speed - 60 KIAS
5. Wing Flaps - 10º (until obstacles are cleared).
   RETRACT (after reaching a safe altitude and 65 KIAS)

AFTER LANDING

1. Carburetor Heat - COLD
2. Wing Flaps - UP
3. Transponder – STBY, 1200
4. Trim - NEUTRAL
4. Nav, Strobe, Pulse Lights – AS REQUIRED
5. VHF 121.5 – CHECK for ELT
6. Engine – LEAN for Taxi

SECURING AIRPLANE

1. Parking Brake - SET
2. Avionics Power Switch, Electrical Equipment - OFF
3. Throttle – 1000 RPM
4. Mixture - IDLE CUT-OFF (pull full out)
5. Throttle - IDLE
6. Ignition Switch - OFF
7. Master Switch - OFF
8. Fuel Selector Valve - RIGHT
9. Avionics Control Lock - INSTALL
10. Pitot Tube Cover - INSTALL
11. Chocks - INSTALL
12. Parking Brake - RELEASE
13. Aircraft Doors and Baggage Compartment – LOCK with Key

LEAVING AIRCRAFT

1. Flight Plan - CLOSED
2. Form 781 - COMPLETED
3. Form 781A – DISCREPANCIES NOTED
4. Flight Release Officer - REPORT

EMERGENCY CHECKLIST

ENGINE FAILURES

ENGINE FAILURE DURING TAKEOFF ROLL

1. **THROTTLE - IDLE**
2. **BRAKES - APPLY**
3. Wing Flaps - RETRACT
4. Mixture - IDLE CUT-OFF
5. Ignition Switch - OFF
6. Master Switch - OFF

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

1. **AIRSPEED - 70 KIAS (FLAPS UP)**
   65 KIAS (FLAPS DOWN)
2. Mixture - IDLE CUT-OFF
3. Fuel Selector Valve - OFF
4. Ignition Switch - OFF
5. Wing Flaps - AS REQUIRED
6. Master Switch - OFF

ENGINE FAILURE DURING FLIGHT (RESTART PROCEDURES)

1. **AIRSPEED - 75 KIAS**
2. **CARBURETOR HEAT - ON**
3. **FUEL SELECTOR VALVE - BOTH**
4. Mixture – RICH
5. Ignition Switch - BOTH (or START if propeller is stopped)
6. Primer - IN and LOCKED

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

1. AIRSPEED - 70 KIAS (Flaps UP)
   65 KIAS (Flaps DOWN)
2. Mixture - IDLE CUT-OFF
3. Fuel Selector Valve - OFF
4. Ignition Switch - OFF
5. Wing Flaps - AS REQUIRED (30° recommended)
6. Master Switch - OFF
7. Doors - UNLATCH PRIOR TO TOUCHDOWN
8. Touchdown - SLIGHTLY TAIL LOW
9. Brakes - APPLY HEAVILY

PRECAUTIONARY LANDING WITH ENGINE POWER

1. Wing Flaps - 20°
2. Airspeed - 65 KIAS
3. Selected Field - FLY OVER, noting terrain and obstructions, then retract flaps upon reaching a safe altitude and airspeed.
4. Avionics Power Switch and Electrical Switches - OFF
5. Wing Flaps - 30° (on final approach)
6. Airspeed - 65 KIAS
7. Master Switch - OFF
8. Doors - UNLATCH PRIOR TO TOUCHDOWN
9. Touchdown - SLIGHTLY TAIL LOW
10. Ignition Switch - OFF
11. Brakes - APPLY HEAVILY

DITCHING

1. Radio - TRANSMIT MAYDAY on 121.5, giving location and intentions and SQUAWK 7700
2. Heavy Objects (in baggage area) - SECURE or JETTISON
3. Approach - High Winds, Heavy Seas - INTO THE WIND
   Light Winds, Heavy Swells - PARALLEL TO SWELLS
4. Wing Flaps - 20° to 30°
5. Power - ESTABLISH 300 FT/MIN DESCENT AT 55 KIAS

NOTE

If no power is available, approach at 70 KIAS with flaps up or at 65 KIAS with 10° Flaps

6. Cabin Doors - UNLATCH
7. Touchdown - LEVEL ATTITUDE AT ESTABLISHED RATE OF DESCENT
8. Face - CUSHION at touchdown with folded coat
9. Airplane - EVACUATE through cabin doors. If necessary, open window and flood cabin to equalize pressure so doors can be opened
10. Life Vests and Raft - INFLATE

FIRES

DURING START ON GROUND

1. **CRANKING - CONTINUE** to get a start which would suck the flames and accumulated fuel through the carburetor and into the engine.

If engine starts:

2. Power - 1700 RPM for a few minutes
3. Engine - SHUTDOWN and inspect for damage

If engine fails to start:

4. **THROTTLE - FULL OPEN**
5. **MIXTURE - IDLE CUT-OFF**
6. **CRANKING - CONTINUE**
7. Fire Extinguisher - OBTAIN
8. Engine - SECURE
   a. Master Switch - OFF
   b. Ignition Switch - OFF
   c. **FUEL SELECTOR VALVE - OFF**
9. Fire - EXTINGUISH using fire extinguisher, wool blanket, or dirt
10. Fire Damage - INSPECT

ENGINE FIRE IN FLIGHT

1. **MIXTURE - IDLE CUT-OFF**
2. **FUEL SELECTOR VALVE - OFF**
3. **MASTER SWITCH - OFF**
4. Cabin Heat and Air - OFF (except overhead vents)
5. Airspeed - 100 KIAS (If fire is not extinguished, increase glide speed to find an airspeed which will provide an incombustible mixture)
6. Forced Landing - EXECUTE (as described in Emergency Landing Without Engine Power)

ELECTRICAL FIRE IN FLIGHT

1. **MASTER SWITCH - OFF**
2. **VENTS/CABIN AIR/HEAT - CLOSED**
3. **FIRE EXTINGUISHER – ACTIVATE**

WARNING

After discharging an extinguisher within a closed cabin, ventilate the cabin

4. Avionics Power Switch - OFF
5. All Other Switches (except ignition switch) - OFF

If fire appears out and electrical power is necessary for continuance of flight:

6. Master Switch - ON
7. Circuit Breakers - CHECK for faulty circuit, do not reset
8. Radio Switches - OFF
9. Avionics Power Switch - ON
10. Radio/Electrical Switches - ON one at a time, with delay after each until short circuit is localized
11. Vents/Cabin Air/Heat – OPEN when it is ascertained that the fire is completely extinguished

CABIN FIRE

1. **MASTER SWITCH - OFF**
2. **VENTS/CABIN AIR/HEAT - CLOSED**
3. **FIRE EXTINGUISHER - ACTIVATE**

WARNING

After discharging an extinguisher within a closed cabin, ventilate the cabin

4. Land the airplane as soon as possible, inspect for damage

WING FIRE

1. **LANDING/TAXI/PULSE LIGHT SWITCHES - OFF**
2. **PITOT HEAT SWITCH - OFF**
3. **NAVIGATION LIGHT SWITCH - OFF**
4. **STROBE LIGHT SWITCH - OFF**

NOTE

Perform a sideslip to keep the flames away from the fuel tank and cabin, and land as soon as possible using flaps only as required for final approach and touchdown

ICING

INADVERTENT ICING ENCOUNTER

1. **TURN PITOT HEAT SWITCH ON**
2. **TURN BACK OR CHANGE ALTITUDE** to obtain an outside air temperature that is less conducive to icing
3. **PULL CABIN HEAT CONTROL FULL OUT AND OPEN DEFROSTER OUTLETS** to obtain maximum windshield defroster airflow. Adjust cabin air control to get maximum defroster heat and airflow
4. Open the throttle to increase engine speed and minimize ice build-up on propeller blades
5. Watch for signs of carburetor air filter ice and apply carburetor heat as required. An unexplained loss in engine speed could be caused by carburetor ice or air intake filter ice. Lean the mixture for maximum RPM, if carburetor heat is used continuously
6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable “off airport” landing site
7. With an ice accumulation of 1/4 inch or more on the wing leading edges, be prepared for significantly higher stall speed
8. Leave wing flaps retracted. With a severe ice build-up on

the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness

9. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach
10. Perform a landing approach using a forward slip, if necessary, for improved visibility
11. Approach at 80 to 90 KIAS depending upon the amount of the accumulation
12. Perform a landing in level attitude

STATIC SOURCE BLOCKAGE

(Erroneous Instrument Reading Suspected)

1. **STATIC PRESSURE ALTERNATE SOURCE VALVE - PULL ON**

NOTE

In an emergency on airplanes not equipped with an alternate static source, cabin pressure can be supplied to the static pressure instruments by breaking the glass on the face of the vertical speed indicator

2. Airspeed - Consult appropriate calibration tables in sect. 5

LANDING WITH A FLAT MAIN TIRE

1. Approach - NORMAL
2. Touchdown - GOOD TIRE FIRST, hold airplane off flat tire as long as possible with aileron control

ELECTRICAL POWER SUPPLY SYSTEM MALFUNCTIONS

AMMETER SHOWS EXCESSIVE RATE OF CHARGE (Full Scale Deflection)

1. Alternator - OFF
2. Alternator Circuit Breaker - PULL
3. Nonessential Electrical Equipment - OFF
4. Flight - TERMINATE as soon as practical

LOW-VOLTAGE LIGHT ILLUMINATES DURING FLIGHT (Ammeter Indicates Discharge)

NOTE

Illumination of the low-voltage light may occur during low RPM conditions with an electrical load on the system such as during a low RPM taxi. The master switch need not be recycled since an over-voltage condition has not occurred to de-active the alternator system

1. Avionics Power Switch - OFF
2. Alternator Circuit Breaker – CHECK IN
3. Master Switch - OFF (both sides)
4. Master Switch - ON
5. Low Voltage Light - CHECK OFF
6. Avionics Power Switch - ON

If Low-Voltage Light illuminates again:

7. Alternator - OFF
8. Nonessential Radio and Electrical Equipment - OFF
9. Flight - TERMINATE as soon as practical