1981 Cessna 172P – N781FM

Air Plains 180 HP Conversion

PREFLIGHT CABIN

1. Pilot's Operating Handbook Available
2. Parking Brake……Set
3. Hobbs & Tach……..Check
4. Fire Extinguisher……..Charged
5. Squawk Sheet……..Check
6. Documents……AROW in airplane
7. Control/Avionics Lock……..Remove
8. Ignition Switch……Off
9. Avionics Power Switch……..Off
10. 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.

11. Wing Flaps……30º
12. Fuel Indicators…… Check Quantity
13. Avionics Cooling Fan……..Check Audibly for Operation
14. Pitot Tube …… .Remove Cover Check As Required
15. Lights……Check
16. Master Switch……..Off
17. Static Pressure Alternate Source Valve (if installed)……Off
18. Fuel Selector……..Both

PREFLIGHT EMPENNAGE

1. Baggage Door……Check for security & lock
2. Antennas……Secure
3. Tail Tie-Down……Disconnect
4. Control Surfaces……Check

RIGHT WING trailing edge

1. Right Flap……..Check
2. Right Aileron……Check
3. Right Wingtip & Light……..Check

PREFLIGHT RIGHT WING

1. Wing Tie Down……Disconnect
2. Right Fuel Tank Sump……Drain
3. Right wheel, tire & brake…… Check
4. Fuel Selector -Drain Valve…….Drain
5. Right Fuel Quantity…….Visually Check
6. Fuel Filler Cap……..Secure vent unobstructed

NOSE

1. Engine Oil Dipstick…… …5-8 Quarts (7 Min. for extended flights)
2. Fuel Strainer Drain Knob…… …. Pullout to Drain
3. Engine Oil Filler Cap…….Check Secure
4. Prop & Spinner……..Check
5. Carburetor Air Filter……Check
6. Nose Wheel, Strut & Tire……..Check
7. Windscreen……..Check/Clean
8. Static Source……Check (Left side)

PREFLIGHT LEFT WING

1. Left Main Wheel Tire & Brake……Check
2. Left Fuel Tank Sump……Drain
3. Left Fuel Quantity……..Visually Check
4. Fuel Filler Cap……..Secure
5. Left Fuel Vent……Check Clear
6. Stall Warning……..Check
7. Wing Tie-Down……Disconnect
8. Landing Lights……..Check

LEFT WING Trailing Edge

1. Left Wingtip & Light……Check
2. Left Aileron……Check
3. Left Flap……Check

PASSENGER BRIEF

1. **Seat Belts / Shoulder Harness**
2. **Personal Electronic Devices off**
3. **Air Vents / Comfort**
4. **Fire Extinguisher Loc. / Operation**
5. **Emergency Procedures & Exits**

MISSION BRIEF

1. **Mission Objective**
2. **Destination, WX, Route, Alt, ETE**
3. **NOTAMS**
4. **Crew Coordination & CRM**
5. **Sterile Cockpit Procedures**
6. **Cockpit Layout**
7. **Intercom & Radio Usage**
8. **Seats, Seatbelts, Doors**
9. **Emergency Action & Equipment**

BEFORE STARTING ENGINE

1. Preflight Inspection……Complete
2. Passenger Brief……Complete
3. Seats / Belts / Shoulder Harness ……..Adjust and Lock
4. Fuel Selector Valve……Both
5. Avionics Power Switch……Off

Caution
The avionics power switch must be OFF during engine start to prevent possible damage to avionics.

6. Autopilot (If Installed)……Off
7. Electrical Equipment……Off
8. Brakes……Test & Set
9. Circuit Breakers……..Check In

STARTING ENGINE

1. Mixture……Rich
2. Carburetor Heat……..Cold
3. Master Switch……On
4. Flashing Beacon & Nav Lights……On
5. Prime……..As Required (2 to 4 strokes)
6. Throttle……Open 1/8 Inch
7. Propeller Area……Clear
8. Ignition Switch……Start
9. Throttle……800 to 1000 RPM
10. Oil Pressure……Check
11. Starter……Check Disengaged
12. Avionics Power Switch……On
13. Radios……On
14. Taxi Lights……As Required
15. Flaps……Up
16. Transponder……..TEST/STBY
17. ATIS / AWOS.Altimeter..... Set (Verify Within 75' of Fld Elev.)

TAXI…

1. Brakes……Test
2. Heat / Vents / Defrost…….As Required
3. Attitude Indicator……Verify Proper Operation
4. Turn Coordinator……Verify Proper Operation
5. H.I. & Compass……Verify Proper Operation
6. Fuel Selector Valve…… Check & Set to Both

BEFORE TAKEOFF – RUN UP

1. Parking Brake……..Set
2. Seats / Belts / Shoulder Harness…… Check Secure
3. Cabin Doors & Windows…… ……..Closed and Locked
4. Flight Controls …….. Free & Correct
5. Flight Instruments ……..Check & Set
6. Fuel Quantity…….. Check
7. Mixture……Rich
8. Fuel Selector Valve……..Recheck Both
9. Elevator & Rudder Trim…… Set for Takeoff
10. Throttle……1700 RPM
11. Magnetos..Max Drop…… 125 RPM 50 RPM differential
12. Carb Heat……Check for RPM Drop
13. Suction Gauge……Check
14. Engine Inst & Ammeter……..Check
15. Throttle……..Idle Check Set 800 to 1000 RPM
16. Throttle Friction Lock……Adjust
17. Strobe Lights/Pulse Lights (If installed)……As Desired
18. Radios / Transponder……Set
19. Autopilot (If Installed)……Off
20. Flaps set for Takeoff……..0°-10°
21. Primer……In & Locked
22. Carb. Heat……..Cold
23. Takeoff Briefing……Complete
24. Doors & Windows……Latched
25. Lights……Set
26. Transponder……Set to ALT
27. Time……Record
28. Parking Brake……..Release

TAKE OFF

1. Flaps……..0°-10°
2. Carb Heat……Cold
3. Throttle……Full Open
4. Mixture……Full Rich or Max Power
5. Engine Instruments……In Green
6. Rotate……55 KIAS
7. Climb Speed……75 to 85 KIAS
   - Short Field T.O……..10° Flaps / 57 KIAS Until Clear
   - Soft Field T.O……10° Flaps / Ground Effect ASAP
8. Wing Flaps…….Retract (above 70 KIAS)

ENROUTE CLIMB

1. Airspeed……..75 - 85 KIAS Normal

Note

If a maximum performance climb is necessary use speeds shown in the Rate Of Climb chart in POH Section 5.

2. Throttle……Full Open
3. Fuel Selector……Both
4. Mixture……Full Rich or Max RPM
5. Engine Instruments……Check

CRUISE

1. Power……..2100-2700 RPM (no more than 75% is recommended)
2. Max. Continuous RPM …… …2450
3. Elevator & Rudder Trim……..Adjust
4. Mixture……Lean
5. Engine Instruments / Fuel……Check
6. Heading Indicator (H.I.)……..To Compass
7. Lights……..As Required
8. Flight Plan……..Activate as Required

DESCENT

1. Heading Indicator……To Compass
2. Altimeter……Set
3. Fuel Selector……..Both
4. Lights……As Required
5. Engine Instruments……Check
6. Mixture……..Adjust for Smooth Operation (full rich for idle power)
7. Carb Heat……Full Heat as Required

BEFORE LANDING

1. Seat, ……Seat Belts, Shoulder Harness Secure
2. Fuel Selector Valve……Both
3. Mixture……..Rich
4. Carb Heat……..On (Apply Full Heat Before Closing Throttle)
5. Autopilot (If installed)……Off
6. Airspeed……..65-75 KIAS (Flaps Up)
7. Wing Flaps.As Desired (Below 85 KIAS) .. (Maximum Flap Travel is 30º)
8. Airspeed……..60-70 KIAS (Flaps Down)
9. Trim……Adjust
10. Touchdown……Main Wheel First
11. Landing Roll……..Lower Nose Wheel Gently
12. Braking……Minimum required

SHORT FIELD LANDING

1. Airspeed ..... 65-75 KIAS (Flaps Up)
2. Wing Flaps..... 30º (below 85 KIAS)
3. Airspeed ..... Maintain 62 KIAS (Until Flare)
4. Trim ..... Adjust
5. Power…..... Reduce to idle after clearing obstacle
6. Touchdown ..... Main Wheels First
7. Brakes .....Apply Heavily
8. Wing Flaps.....Retract

BALKED LANDING

1. Throttle .....Full Open
2. Carb Heat .....Cold
3. Wing Flaps..... 20° (Immediately)
4. Climb Speed ..... 60 KIAS
5. Wing Flaps..... …10º (Until Obstacles are Cleared)
6. Wing Flaps..... Retract (After reaching a safe altitude and 65 KIAS)

AFTER LANDING (Clear of Runway)

1. Wing Flaps.....Up
2. Carb Heat .....Cold
3. Lights..... As Required
4. Transponder .....STBY & 1200
5. Mixture..... Lean
6. Pitot Heat..... Off

SECURING AIRCRAFT

1. Parking Brake .....Set
2. Throttle ..... Idle
3. Avionics Power & Switches ..... Off
4. Magnetos.....Check for Ground
5. Mixture..... Idle Cut Off
6. Ignition & Master Switch .....Off
7. Control/Avionics Lock.....Install
8. Parking Brake ..... Off
9. Fuel Selector ..... Left or Right
10. Hobbs & Tach ..... Record
11. Aircraft..... Secured & Locked
12. Flight Plan ..... Closed

V Speeds and Specs

- X-Wind (Max Demo'd)..... 15 Knots
- Vr Rotation Speed..... 55 KIAS
- Vx Best Angle Climb ..... 62 KIAS
- Vy Best Rate Climb ..... 76 KIAS
- Vso Stall w/ Flaps..... 40 KIAS
- Vs1 Stall w/o Flaps..... 50 KIAS
- Best Glide (2550 Lbs) ..... 68 KIAS
- Va Max Abrupt Ctrl (2550 Lbs).....105 KIAS
- Va Max Abrupt Ctrl (2150 Lbs).....95 KIAS
- Va Max Abrupt Ctrl (1750 Lbs).....85 KIAS
- Vno Max Structural Cruise .....127 KIAS
- Vne Never Exceed ..... 158 KIAS
- Vfe 10°-Full Flaps..... 85 KIAS
- Max Window Open Speed……..158 KIAS

V Speeds and Specs are based on sea level. Consult the Air Plains Services, Corp. FAA Approved Airplane Flight Manual Supplement for V speed and Specs for operations above sea level.

…General...

EMERGENCY……..**121.5**
Unicom ……122.7--122.8--122.95 123.0--123.05
Multicom ……122.9- (CTAF)
Flight Service ……122.2
(Most Common)……122.1--122.6--123.6
Flight Watch……122.0
Air to Air ……122.75-122.85-123.45

Transponder Codes
1200 VFR
7500 HIJACK
7600 LOST COMMS
7700 EMERGENCY

Aircraft Information

Gross Weight Capacity.....2550
(Takeoff & Landing .....2550)
Engine……Lycoming O-360-A4M

- Max Power.....180 BHP
- Max Engine Speed .....2700 RPM
- Fuel Type..... 100LL (Blue)
- Fuel Capacity (Standard)..... 40 Gal Usable
- Oil Type 15w50XC
- Oil Capacity ..... 8 Qts (Minimum 5)
- Electrical ..... 24 - 28 Volt / 60 Amp
- Tire Pressure .....Nose-40 PSI Main -30 PSI

This checklist is a guide to coordinate Pilot Operating Handbook and STC data applicable to this particular aircraft only. The applicable Pilot Operating Handbook and STC installations remain the official documentation for this aircraft.
The pilot in command is responsible for complying with all items in the Pilot Operating Handbook and applicable STCs.

I certify this checklist has been reviewed for accuracy.

James Spore

1/1/06
Director of Maintenance **Date**