



Checklist for “NIO SA” – 2003 CESSNA 172 SP

Technically Advanced Aircraft with Aspen Pilot Pro 1000PDF

Avidyne IFD440 GPS Navigation System

KAP-140 Two-Axis Autopilot

BlackHoundAviation.com



BLACK HOUND AVIATION

FLIGHT TRAINING & RENTALS

Preflight Cabin

1. Pitot Tube CoverRemove
2. AROW (GPS,Aspen manual)..... Check
3. Weight & Balance Check
4. Parking Brake.....Set
5. Control Wheel Lock.....Remove
6. Ignition Switch.....Off
7. Avionics Master Switch.....Off
8. EFIS Switch.....Off
9. Master Switch.....On
10. Fuel Quantity & Annunciator . Check
11. Avionics Master Switch..... On
12. Avionics Cooling Fan.....Check
13. Avionics Master Switch.....Off
14. Alternate Static SourceOff
15. Annunciator Switch..... Test/Release
16. Fuel Selector Valve.....Both
17. Fuel Shutoff Valve. On (Full In)
18. Flaps..... Extend.
19. Pitot Heat, Lights..... On/Check/Off
20. Master Switch.....Off
21. Elevator Trim SET for Takeoff
22. Baggage DoorSecure

Preflight Tail/Emppennage

1. Autopilot Static Source Opening.....
Check for Blockage
2. Aspen OAT sensor .. Ck for Blockage
3. Rudder Lock (if installed)....Remove
4. Tail Tie-Down.....Disconnect.
5. Control Surfaces...Check freedom of
movement and security.
6. Trim Tab..... Check security
7. AntennasCheck for security of
attachment and general condition.

Preflight Right Wing Trailing Edge

1. Aileron.....Check
2. Flap Check

Preflight Right Wing

1. Wing Tie Down.....Disconnect
2. Main Wheel Tire ...Check for proper
inflation and general condition.
3. Fuel Quantity Check Visually
4. Fuel Drain Valves (5) Drain/Check
5. Fuel Filler Cap.....Secure and
Vent Unobstructed

Preflight Nose

1. Fuel Strainer Valve, Fuel Reservoir
Quick Drain, Fuel Selector Drain
(3).....Drain, Check Fuel Quality.
2. Engine Oil Dipstick/Filler Cap.....
Check level and secure. (5 qt min)
Fill to 6 for extended flights)
3. Engine Cooling Air Inlets.....Clear
4. Propeller & Spinner Check
5. Air Filter..... Check
6. Nose Wheel Strut and Tire..... Check
7. Left Static Source Opening Check

Preflight Left Wing

1. Wing Tie Down.....Disconnect
2. Main Wheel Tire... Check for proper
inflation and general condition.
3. Left Fuel Quantity Visually Check.
4. Fuel Drain Valves (5) Drain/Check
5. Fuel Filler Cap.....Secure and
Vent Unobstructed.

Preflight Left Wing Leading Edge

1. Fuel Tank Vent Opening....Check for
blockage.
2. Stall Warning Opening....Check for
blockage.
3. Landing/Taxi light(s)..... Check
4. Wing Tie Down.....Disconnect

Preflight Left Wing Trailing Edge

1. Aileron..... Check
2. Flap Check

Before Starting Engine

1. Preflight Inspection..... Complete.
2. Passenger Brief Complete.
3. Seats / Belts / Shoulder Harness...
Adjust and lock, check initial reel
(front & rear).
4. Brakes..... Test & Set.
5. Circuit Breakers..... Check In.
6. Electrical Equipment, Autopilot ..Off.

Caution

The avionics master switch and EFIS switch must be off during engine start to prevent possible damage to avionics.

7. Avionics Master, EFIS Switch.....OFF.
8. Fuel Selector ValveBoth
9. Fuel Shutoff Valve ...On (push full in)

Starting Engine (Using Battery)

1. **NOTE: MAX PRIME 1-2 SECONDS**
2. Throttle Control.... Open 1/4 Inch
3. Mixture Control Idle Cut Off
4. Propeller Area.....Clear
5. Master Switch On
6. Flashing Beacon..... On
7. Auxiliary Fuel Pump Switch On
8. Mixture - advance to obtain 3-5
GPS fuel flow, then return to Idle
Cut Off
9. Auxiliary Fuel Pump.....Off

NOTE: If engine is warm, omit priming procedure of steps 7-9 above.

10. Throttle..... 1/8"
11. Ignition Switch..... Start
12. Mixture...Full lean until engine
fires, then smoothly to Full rich

NOTE: If the engine floods, turn off aux. fuel pump, place mixture in idle cut off, open throttle ½ to full, and crank engine. When the engine fires, advance mixture to full rich & retard throttle promptly.

13. Oil Pressure Check
14. Throttle 1000 RPM
15. Mixture..Lean for maximum RPM
16. Throttle..... 800-1000 RPM
17. Nav Lights ..OFF except for Night
18. Avionics Master Switch On
19. EFIS Switch..... On
20. Radios On
21. Transponder..... Verify ALT
22. Transponder... No Annunciations
23. Flaps Retract

Before Taxi

1. Heat / Vents / Defrost... As Required
2. Radios/Nav aids/GPS... Checked / Set
3. Weather (ATIS).....Obtain
4. Autopilot, elec trim Check/Off
5. Set HDG/ALT bug.....As Desired

Taxi

- 1 Brakes.....Release and Test
- 2 Throttle Adjust for min brake use
- 3 ASPEN PFD Verify Ops
- 4 STBY Instruments..... Verify Ops

Before Takeoff - Run-Up

1. Parking Brake..... Set
2. Seats..... Secure
3. Seat Backs..... Most upright position
4. Seat Belts and inertial reels....Secure
5. Cabin Doors.....Closed and Locked
6. Flight Controls.....Free & Correct
7. Flight Instruments..... Check & Set
8. Fuel Quantity..... Check
9. Mixture.....Full Rich
10. Fuel Selector Valve.....Both
11. Throttle..... 1 800 RPM
 1. Mixture: BEST POWER (Max RPM or EGT 3-3:30 position)
 2. Mag Check (150/50 max)
 3. Vacuum Gauge..... Check
 4. Engine Instruments Check
 5. Amps/Volts..... Check
12. Annunciators Check
13. Throttle.....Check Idle
14. Throttle.....800-1000 RPM
15. Throttle Friction Lock.....Adjust
16. Radios & Avionics..... Set

Hold Short Line - Pre-Takeoff Brief

1. GPS/ASPEN CDISelect Nav Source
2. Autopilot..... Off
3. Elevator TrimSet for takeoff
4. Flaps.....Set for Takeoff (0-10°)
5. Land/Taxi/Bcn/Strobe Lights..... On Nav Lights Night Only
6. Transponder Verify ALT & Squawk
7. Transponder No Annunciations "NO 1090ES TX" displayed
8. Takeoff.....Brief

Which Runway, Speed, Alt, Hdg?

Lose engine rolling - IDLE, STOP

Lose engine runway remains - LAND

Lose engine < 1K - PUSH 70kts, Land Str Ahead

Lose engine > 1K - PUSH 70kts, Consider Return

9. Mixture.....Rich
10. Parking Brake..... Release
11. Action Cameras.....Record

Normal Takeoff

1. Flaps.....0-10 degrees
2. Runway Heading.....Verify
3. Throttle Full Open
4. Vr.....55 KIAS
5. Vy.....74 KIAS

SHORT FIELD T/O : FLAPS 10, Yoke slightly tail low, Vr 51 kts, Climb 56kts. Obstacle cleared, lower nose, accel to Vy, FLAPS UP (see POH for Vr speeds based on aircraft weight)

SOFT FIELD T/O : FLAPS 10, yoke pulled back full aft/no braking, liftoff in ground effect, begin climb when reaching Vx or Vy

Enroute Climb

1. Airspeed 75 - 85 KIAS
NOTE: For maximum performance climb, use speeds shown in the Max Rate of Climb chart in section 5 of the POH.
2. ThrottleFull Open
3. MixtureFull Rich below 3000'
4. Lights As Desired
5. Engine Instruments..... Check
6. Transponder Confirm ALT

Cruise

1. Power...2100-2600rpm up to 5000ft
2100-2650rpm, 5000-10,000ft
2100-2700rpm, above 10,000ft
2. Elevator TrimAdjust.
3. Mixture Lean as required
50 degrees rich of Peak EGT

Before Descent

1. Weather Obtain
2. Altimeters Set
3. Approach Brief
4. VOR/GPS setup As Desired
5. ASPEN and GPS CDI Select
6. Fuel Selector Valve Both
7. Flaps As Required
8. Mixture Adjust

Before Landing

1. Pilot and Passenger Seat Backs Most Upright Position.
2. Seats & Seat Belts Secure & Lock
3. Fuel Selector Valve Both
4. Mixture Control Richen
5. Landing & Taxi Lights On
6. Autopilot Off

Normal Landing

1. Airspeed 65 - 75 KIAS (flaps up)
2. Wing Flaps As Desired (0° - 10° below 110 KIAS, 20° -30° below 85 KIAS).
3. Airspeed...60 - 70 KIAS (Flaps Down)

SHORT FIELD Flaps 30, 62 KIAS, land, retract flaps, brakes

SOFT FIELD Flaps 30, hold nosewheel off, power as desired

Balked Landing/Go Around

1. Throttle Full Open
2. Wing Flaps Retract to 20°
3. Climb Speed 60 KIAS
4. Wing Flaps ...10° (until obstacles are cleared). RETRACT (after reaching a safe altitude and 65 KIAS)

After Landing (Clear of Runway)

1. Aircraft...Clear of Runway, Full Stop
2. Throttle 1000 RPM
3. Mixture Lean for maximum RPM
4. Throttle As required
5. Wing Flaps Up
6. Lights As Required
7. Transponder ALT, 1200
8. Pitot Heat Off

Securing Aircraft

1. Parking Brake Set
2. Electric Equipment, Autopilot Off
3. EFIS Switch Off
4. Avionics Master Switch Off
5. Throttle Idle
6. Magnetos Check for Ground
7. Mixture Idle Cut Off
8. Magnetos Off, remove key
9. Master Switch Off
10. Control/Avionics Lock Install
11. Parking Brake Off when chocked
12. Fuel Selector Left or Right
13. Sun Shields Install
14. Aircraft ... Locked if away from Home
15. Flight Plan Closed

V Speeds and Specs

- X-Wind (Max Demo'd)..... 15 Knots
- Best Glide Speed ..68 KIAS (flaps up)
- Short Field Takeoff(flaps 10) 56KIAS
- Vx (Sea Level)..... 62 KIAS
- Vy (Sea Level)..... 74 KIAS
- Vso Stall w/ Flaps..... 40 KIAS
- Vs1 Stall w/o Flaps..... 48 KIAS
- Va Max Abrupt Ctrl (2550#) 105 KIAS
- Va (2200 Lbs)..... 98 KIAS
- Va(1900 Lbs)..... 90 KIAS
- Vno Max Structural Cruise..129 KIAS
- Vne Never Exceed 163 KIAS

Aircraft Information

- Gross Takeoff Weight..... 2550 lbs.
- Engine Lycoming IO-360-L2A
- Max Power 180 BHP
- Max Engine Speed 2700 RPM
- Fuel Type 100LL (Blue)
- Fuel Capacity 53 Gal Usable
- Oil Capacity 8 Qts (Minimum 5)
- Electrical 24 - 28 Volt / 60 Amp
- Tire Pressure...Nose-45/ Main-42 PSI
- BEW 1696 Arm 41.2 Moment 69834

NOTE:

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**

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