

# PA-23-250 AZTEC "C" TURBO CHECKLIST

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## Section 1.01 Preflight Inspection

1. Aircraft documents..... **VALID AND COMPLETE**
2. Control locks..... **REMOVE**
3. Parking brake ..... **CHECK ON**
4. Switches
  - MAGNETOS ..... **OFF**
  - FUEL PUMPS ..... **OFF**
  - LIGHTS ..... **OFF**
  - NAV/COM RADIOS ..... **OFF**
  - TRANSPONDER..... **OFF**
  - ADF ..... **OFF**
  - AUTOPILOT ..... **OFF**
5. Circuit breakers..... **IN**
6. Master switch ..... **ON**
7. Beacon ..... **ON**
8. Landing gear lights..... **THREE GREENS**
9. Fuel quantities ..... **CHECK**
10. Master switch ..... **OFF**
11. Fire extinguisher ..... **SECURE**
12. First aid kit ..... **IN PLACE**
13. Flaps..... **HAND PUMP DOWN**
14. Fuel..... **SELECT INBOARD TANKS**
15. Heater fuel..... **OFF**

## Section 1.02 Starboard Fuselage

1. Rear fuselage skin ..... **CHECK CONDITION**
2. Aft baggage door..... **SECURE**
3. ELT aerial..... **SECURE**
4. Stabilator ..... **CHECK**
5. Rudder ..... **CHECK FIXINGS AND HINGES SECURE**
6. Rotating beacon light and NAV. Aerials ..... **CHECK SECURITY**
7. Tie down rope..... **REMOVE**

### Section 1.03 Port Fuselage

1. Fuselage skin..... CONDITION
2. Comm. Aerial..... SECURE
3. ADF sensing and loop aerial..... CHECK

### Section 1.04 Port Wing

1. Flap ..... CHECK SECURITY AND ATTACHMENT
2. Upper wing surface..... CHECK CONDITION
3. Aileron..... CONDITION AND FREEDOM OF MOVEMENT
4. Navigation and strobe lights ..... SECURE
5. Leading edge..... CHECK CONDITION
6. Stall warning vane ..... CHECK
7. Lower wing surface ..... CONDITION AND CLEANLINESS
8. Pitot tube ..... CLEAR
9. Tie down..... REMOVE
10. Fuel tanks ..... CONTENTS, SECURE CAPS
11. Engine ..... OIL LEVEL BETWEEN 9 AND 12 QUARTS
12. Propeller ..... CHECK FOR NICKS, DAMAGE AND SECURITY
13. Left engine cowling ..... CHECK SECURITY
14. Tire ..... CHECK CONDITION, INFLATION AND CREEP
15. Turbocharger oil (10W30)..... 2/3 FULL
16. Oleo piston ..... CHECK EXTENSION 3.0"
17. Fuel tank sumps and lines ..... SAMPLE/DRAIN FUEL STRAINERS
18. Cowl flaps, wheel well doors ..... CHECK CONDITION

### Section 1.05 Nose

1. Tire ..... CHECK CONDITION, INFLATION AND CREEP
2. Oleo piston ..... CHECK EXTENSION 3.0"
3. Torque link..... SECURITY OF LINKAGES
4. Windscreen ..... CHECK CONDITION AND CLEANLINESS
5. Landing light..... SECURE
6. Forward baggage door ..... SECURE

### Section 1.06 Starboard Wing

1. Engine ..... OIL LEVEL BETWEEN 9 AND 12 QUARTS
2. Propeller..... CHECK FOR NICKS, DAMAGE AND SECURITY
3. Right engine cowling ..... CHECK SECURITY
4. Tie down rope..... REMOVE
5. Fuel tank sumps and lines ..... SAMPLE/DRAIN FUEL STRAINERS
6. Tire ..... CHECK CONDITION, INFLATION AND CREEP
7. Oleo piston ..... CHECK EXTENSION 3.0"
8. Cowl flaps, wheel well doors ..... CHECK CONDITION
9. Turbo Oil 10W30 ..... 2/3 FULL
10. Lower wing surface ..... CONDITION AND CLEANLINESS
11. Fuel tanks ..... CHECK CONTENTS, SECURE CAPS
12. Upper wing surface ..... CHECK CONDITION
13. Leading edge..... CHECK CONDITION
14. Wing tip navigation and strobe lights..... SECURE
15. Aileron..... CHECK CONDITION AND MOVEMENT
16. Flap ..... CHECK SECURITY AND ATTACHMENT
17. Loose equipment..... REMOVE OR SECURE

### **Section 1.07      Before Starting Engines**

1. Seats ..... ADJUSTED, HARNESSSES SECURE
2. Flying controls ..... FREE AND CORRECT
3. Cabin door ..... CLOSE AND LOCK
4. Parking brake ..... SET
5. Landing gear selector..... DOWN
6. Trim ..... SLIGHTLY AFT OF NEUTRAL
7. Flap selector ..... NEUTRAL
8. Cowl flaps..... OPEN
9. Cross Feed ..... OFF (drain cross feed valve)
10. Fuel ..... SELECT INBOARD TANKS, CHECK CONTENTS
11. Heater controls..... AS REQUIRED
12. Alternate induction air ..... NORMAL
13. Static pressure valve ..... NORMAL
14. Voltage regulator selector ..... MAIN
15. Hydraulic hand pump..... STOWED
16. Instrument Check
  - Compass ..... CHECK
  - Airspeed Indicator ..... Reads Zero
  - Altimeter ..... Set within 75 feet
  - VSI..... Zero  $\pm$  200' (Note error)
17. OAT ..... SENSIBLE READING
18. Circuit breakers..... ALL IN
19. Hobbs meter reading ..... RECORD and NOTE TIME

### **Section 1.08      Starting Engines**

1. Throttles ..... IDLE
2. Propellers ..... FULL FORWARD (Fine pitch)
3. Mixtures..... IDLE CUT OFF
4. Turbocharger circuit breaker switches (2) ..... IN
5. Turbocharger switches..... OFF
6. Master switch ..... ON

### **Section 1.09      Starting Left or Right Engine**

7.    Magneto switches..... LEFT/RIGHT ENGINE ON
8.    Fuel pump (Left/Right) ..... ON, CHECK PRESSURE READING
9.    Mixture (Left/Right) .....  
      FULL RICH UNTIL FUEL FLOW INDICATED, THEN IDLE CUT  
      OFF (Engine is now primed)
10.   Throttle (Left/Right)..... SET 1/2" OPEN
11.   Area..... LOOKOUT, SHOUT 'CLEAR LEFT'
12.   Starter ..... OPERATE
13.   Mixture ..... FULL RICH WHEN ENGINE FIRES
14.   Starter warning light..... OUT
15.   Power ..... SET 1200 RPM
16.   Oil pressure ..... RISING WITHIN 30 SECONDS
17.   Alternator (Left/Right) ..... CHECK AMMETER (MAX. 30 AMPS)
18.   Suction (Left/Right)..... INDICATING
19.   Fuel pump (Left/Right) ..... OFF
20.   Magnetos (Left/Right) ..... CHECK FOR DEAD CUT
  - Note that landing gear selector returns to neutral and that flaps raise and flap selector returns to neutral

### **Section 1.10      Starting Hot Engine**

1.    Master switch ..... ON
2.    Magneto switches..... ON
3.    Fuel pump..... OFF
4.    Throttle ..... SET 1/2" OPEN
5.    Turbocharger circuit breaker switches (2) ..... IN
6.    Turbocharger switches..... OFF
7.    Mixture ..... IDLE CUT OFF
8.    Area..... LOOKOUT, SHOUT 'CLEAR PROP'
9.    Starter ..... OPERATE
10.   Mixture ..... FULL RICH WHEN ENGINE FIRES
11.   Starter warning light..... OUT

### Section 1.11 Starting Flooded Engine

1. Master switch ..... ON
2. Magneto switches..... ON
3. Fuel pump..... OFF
4. Throttle ..... SET FULL OPEN
5. Mixture ..... IDLE CUT OFF
6. Turbocharger circuit breaker switches (2) ..... IN
7. Turbocharger switches..... OFF
8. Area..... LOOKOUT, SHOUT 'CLEAR PROP'
9. Starter ..... OPERATE
10. Mixture ..... IDLE WHEN ENGINE FIRES THEN FULL RICH
11. Starter warning light..... OUT

### Section 1.12 Before Taxiing

1. Beacon ..... CHECK ON
2. Strobe lights ..... ON
3. Navs and Radios..... SET and CHECK
  - COMM 1 and COMM 2..... ON
  - NAV 1 and NAV 2..... TUNED AND IDENTIFIED
  - ADF..... ON
  - Transponder ..... STANDBY
  - Audio Panel..... PHONES
4. Marker beacon lights ..... TEST
5. Attitude indicator ..... CHECK
6. HI..... SYNCHRONISE WITH COMPASS.
7. Fuel selectors ..... ON LESS FULL TANKS
8. Landing light..... ON
9. Clearance ..... REQUEST

### **Section 1.13     Taxiing**

1. Brakes..... CHECK OPERATION GENTLY
2. Rudder and nose gear steering..... FULL AND FREE MOVEMENT
3. Flight instruments
  - HI and MC ..... FREE MOVING IN SAME DIRECTION
  - TC.....WINGS AND BALL (wings left, ball right)
  - AI.....STEADY (no more than 5° bank)
  - ALTIMETER..... STEADY

### **Section 1.14     Run-Up Check**

1. Position..... INTO WIND AND NOSEWHEEL STRAIGHT
  2. Parking brake ..... SET
- Right and Left engine:
3. Fuel selector..... FULLEST TANK
  4. Mixture .....RICH
  5. Throttle ..... SET 2200 RPM, CHECK BRAKES HOLDING
  6. Propeller..... EXERCISE TWICE
  7. Magnetos..... 125 RPM MAX/ 50 RPM DIFFERNCE
  8. Engine Instruments..... GREEN
  9. Suction ..... 4.8” to 5.1”
  10. Alternator ..... CHARGING (MAX. 30 AMPS)
  11. Fuel flow ..... NORMAL
  12. Throttle ..... 1500 RPM
  13. Propeller Feathering..... DOES NOT DROP BELOW 1 000 RPM
  14. Throttle .....CLOSE, CHECK IDLING
  15. Throttle ..... 1200 RPM

### Section 1.15 Pre-Takeoff

1. Trim ..... SET TAKEOFF
2. Throttle ..... FRICTION LOCK ADJUST
3. Mixtures..... RICH
4. Magnetos..... ON
5. Propellers ..... FULL FORWARD
6. Fuel Selector ..... FULLEST TANKS
7. Flaps..... SET
8. Turbochargers..... ON ABOVE 1000ft. MSL
9. Cowl flaps..... OPEN
10. Gyros..... AI ERECT, HI SYNC
11. Pitot Heat..... AS REQUIRED
12. Hatches ..... DOOR LOCKED, LIGHT OUT, WINDOW VENT CLOSED
13. Harnesses ..... SECURE
14. Takeoff Briefing:
  - Runway lengths ..... BRIEF
  - Takeoff distance ..... BRIEF
  - In case of Engine failure ..... STATE INTENTIONS
15. Clearance ..... CALL READY FOR DEPARTURE

### Section 1.16 Lineup Check

- |                               |        |
|-------------------------------|--------|
| 1. Doors and Windows.....     | SECURE |
| 2. Fuel Pumps.....            | ON     |
| 3. Anti-Collision Light ..... | ON     |
| 4. Transponder .....          | ALT    |
| 5. Time off .....             | NOTED  |

### Section 1.17 Take Off Roll

1. Throttles ..... FULL OPEN
2. Directional Control ..... MAINTAIN WITH RUDDER
3. Engine Instruments..... GREEN
4. Suction ..... HOLDING
5. Airspeed..... ALIVE
6. Rotate ..... 80 MPH (Vmc)

**Section 1.18     Obstacle Take Off**

1. Turbochargers..... ON (above 1000 feet MSL)
2. Line up..... END OF RUNWAY
3. Brakes.....APPLY
4. Throttles..... FULL POWER
5. Brakes..... RELEASE
6. Rotate ..... 80 MPH
7. Climb out ..... 84 MPH (Vx – pitch 12° until clear of obstacle)
8. Positive Rate of Climb..... GEAR UP
9. Pitch ..... 104 MPH

**Section 1.19     After Take Off**

1. Brakes..... APPLY MOMENTARILY
2. Positive Climb + End of Usable Runway ..... GEAR UP
3. 300 Ft ..... Noise Abatement
4. 400 Ft ..... Turn on Course
5. 500 Ft.
  - Pitch 10° for 120 MPH
  - Power – 26”/2400 RPM
  - Climb Check - PERFORM

**Section 1.20     Climb Check**

- |                       |                                      |
|-----------------------|--------------------------------------|
| 1. Power .....        | SET                                  |
| 2. Gear Up.....       | VERIFIED                             |
| 3. Flaps Up .....     | VERIFIED                             |
| 4. Fuel Pumps.....    | OFF (One at a time + Check Pressure) |
| 5. Landing Light..... | OFF                                  |
| 6. Cowl flaps.....    | AS REQUIRED                          |
| 7. Mixtures.....      | AS REQUIRED                          |



**Section 1.21**      Pre-Maneuver Check

- 1. Height .....SUFFICIENT TO RECOVER BY 2000' AGL
- 2. Security .....NO LOOSE ARTICLES  
..... HATCH CLOSED AND LOCKED  
..... HARNESSSES SECURE
- 3. Location ..... CLEAR OF ACTIVE AIRFIELDS  
BUILT-UP AREAS, CONTROLLED AIRSPACE
- 4. Lookout ..... CLEAR AIRCRAFT, CLOUDS  
..... CLEARING TURNS LEFT AND RIGHT THROUGH 90°
- 5. Engine Instruments..... GREEN
- 6. Mixtures.....RICH
- 7. Fuel Selector ..... FULLER TANKS
- 8. Fuel Pumps ..... ON
- 9. Landing Light..... ON

**Section 1.22**      Post Maneuver Check

- 1. Fuel Pumps..... OFF
- 2. Landing Light..... OFF
- 3. Mixture ..... LEANED
- 4. HI..... SYNCHRONISE WITH COMPASS

**Section 1.23**      Cruise Check

- 1. Power ..... SET (24"/2200) (65% Cruise power)
- 2. Mixtures..... LEAN AS REQUIRED (Peak - 25°F)
- 3. Engine Instruments..... IN THE GREEN
- 4. HI..... CHECK PRECESSION
- 5. Cowl Flaps ..... CLOSED

**Section 1.24**      Descent Check

- 1. Seatbelts and Shoulder Harness ..... FASTENED
- 2. Fuel Selector ..... FULLEST TANK
- 3. Mixture ..... SET
- 4. Heading Indicator ..... SYNCHRONISED
- 5. Cowl Flaps ..... CLOSED

**Section 1.25    Approach Check**

- 1.    Landing Light..... ON
- 2.    Fuel Pumps..... ON
- 3.    Mixture ..... RICH
- 4.    Altimeter..... VERIFIED
- 5.    Turbochargers..... OFF (Below 1000 feet MSL)

**Section 1.26    Landing Check**

- 1.    Gear ..... DOWN AND LOCKED
- 2.    Flaps ..... SET

**Section 1.27    Final Check**

- 1.    Fuel Selector ..... ON
- 2.    GEAR..... 3 GREEN, 1 IN MIRROR
- 3.    Mixtures..... FULL RICH
- 4.    Propellers ..... HIGH

**Section 1.28    Go Around**

- 1.    Throttles ..... FULL POWER
- 2.    Airspeed..... 120 MPH (Vy)
- 3.    Flaps..... UP TO HALF
- 4.    Positive Rate of Climb..... GEAR UP
- 5.    Flaps ..... UP
- 6.    Power ..... 26"/2400 RPM
- 7.    Climb Check ..... PERFORM

**Section 1.29    After Landing**

- 1.    Flaps..... UP
- 2.    Fuel pumps..... OFF
- 3.    Cowl flaps..... OPEN
- 4.    Landing lights ..... OFF
- 5.    Transponder ..... STANDBY
- 6.    Heater ..... OFF TWO MINUTES BEFORE SHUT DOWN
- 7.    Clearance..... CALL GROUND CONTROL/TOWER

### Section 1.30 Shut Down Check

1. Throttles ..... SET 1200 RPM
2. Radio ..... OFF
3. Electrics ..... OFF
4. Magnetos..... DEAD MAG CHECK
5. Mixtures..... IDLE CUT OFF
6. Throttles ..... FULLY AFT
7. Magnetos..... OFF
8. Master ..... OFF
9. Time ..... RECORD HOBBS METER READING
10. Aircraft ..... SECURE

### Section 1.31 Engine Failure After Take-off

If engine failure occurs prior to take off, cut power and stop.

If it occurs after take off but with enough runway ahead to land safely, cut power and land.

If a safe landing cannot be made, do the following:

1. Mixture ..... FULL RICH
2. Propellers ..... FULL RPM
3. Throttle ..... FULL OPEN
4. Flaps..... UP
5. Gear ..... UP
6. Identify ..... DEAD FOOT → DEAD ENGINE
7. Dead engine ..... FEATHER (Before dropping below 1000 RPM)
8. Climb ..... 102 MPH (Vyse)  
Note: If the left engine fails, the landing gear and flaps must be pumped up by hand
9. Rudder ..... TRIM AS NECESSARY
10. Land ..... AS SOON AS PRACTICABLE

**Section 1.32      Emergency Descent**

1. Throttle ..... CLOSED
2. Propellers ..... FULL RPM
3. Gear ..... UP
4. Flaps ..... UP
5. Airspeed ..... 198 MPH

**Section 1.33      Turbo Oil System Failure**

1. Turbocharger Switches ..... OFF
2. Circuit Breaker ..... DO NOT PULL
3. Continue to Destination ..... NORMALLY ASPIRED POWER

**Section 1.34      Emergency Gear Extension**

1. Gear Selector ..... DOWN
2. Gear down lights ..... CHECK
3. If left engine inoperative – LANDING GEAR HANDLE DOWN, USE HAND PUMP TO LOCK (30 TO 40 STROKES NEEDED TO LOWER LANDING GEAR, 12 TO LOWER FLAPS)
4. If hydraulic system inoperative – USE EMERGENCY GEAR EXTENDER. LANDING GEAR HANDLE DOWN, SHARPLY PULL RING UNDER DOOR BENEATH PILOT’S SEAT FOR CO2 CYLINDER

**Section 1.35      Emergency Feathering**

1. Operating engine ..... FULL POWER / AS REQUIRED
2. Dead engine throttle ..... CLOSED
3. Dead engine propeller ..... FULL AFT
4. Dead engine mixture ..... IDLE CUT OFF
5. Dead engine magneto switches ..... OFF
6. Dead engine fuel pump ..... OFF
7. Dead engine fuel Selector ..... OFF
8. Rudder trim ..... AS REQUIRED
9. Bank ..... 5° INTO GOOD ENGINE
10. Cowl flaps ..... CLOSED ON DEAD ENGINE
11. Cross feed ..... AS REQUIRED

**Section 1.36 Unfeathering Procedure**

1. Fuel Selector ..... ON
2. Magneto switches..... ON
3. Fuel pump..... OFF
4. Throttle ..... OPEN ½”
5. Propeller..... CRUISE SETTING
6. Mixture ..... FULL RICH
7. Starter .... UNTIL PROP. ROTATES BY ITSELF (130 MPH AIDS WINDMILLING)
8. Throttle ..... IDLE UNTIL TEMPERATURES & PRESSURES RISE
9. Engines ..... RESYNCHRONIZE

**Section 1.37 Fuel system – Emergency Operation**

1. Cross feed ..... ON
2. Fuel selector of inoperative engine..... ON FULLEST TANK
3. Fuel pump of inoperative engine..... ON
4. Fuel selector of operating engine ..... OFF
5. When fuel from tanks of inoperative engine is exhausted return to operating engine tanks as follows:
6. Fuel pump of operating engine ..... ON
7. Fuel selector of operating engine ..... ON FULLEST TANK
8. Cross feed valve ..... OFF
9. Fuel pump of inoperative engine..... OFF

**Section 1.38 Range Without Reserves in Still Air**

- 75% 27.4 USGPH 5.1 hours 1 055 miles @ 7 500’.
- 65% 23.8 USGPH 5.9 hours 1 170 miles @ 10 000’.
- 55% 21.0 USGPH 6.7 hours 1 220 miles @ 10 000’.
- 45% 17.8 USGPH 7.9 hours 1 285 miles @ 10 000’.

**Section 1.39 Maximum Landing Weight – 4 940 lbs.**

- Top speed.....216 MPH
- 75% cruise speed .....206 MPH @ 7 500'
- 75% cruise speed ..... 193 MPH @ SL
- 65% cruise speed .....201 MPH @ 10 000'
- Take off run (short field) ..... 820'
- Take off run - 50' obstacle..... 1250'
- Accelerate–Stop distance..... 2200' @ SL
- Landing roll (Short field) ..... 860'
- Landing roll – 50' obstacle. .... 1680'
- Absolute ceiling..... 21 100'
- Service ceiling..... 19 800'
- Single engine absolute ceiling. .... 6 400' (Left engine out)
- Single engine service ceiling. .... 5 000' (Left engine out)

**Section 1.40**      **V-Speeds (MPH)**

<b>Vr</b>	<b>80</b>
<b>Vx</b>	<b>84</b>
<b>Vxse</b>	<b>97</b>
<b>Vy</b>	<b>120</b>
<b>Vyse</b>	<b>104</b>
<b>Vmc</b>	<b>80</b>
<b>Vs</b>	<b>76</b>
<b>Vso</b>	<b>70</b>
<b>Va (@4800lbs)</b>	<b>145</b>
<b>Vfe</b>	
<b>¼ Flap</b>	<b>160</b>
<b>½ Flap</b>	<b>140</b>
<b>Full Flap</b>	<b>125</b>
<b>Vle</b>	<b>150</b>
<b>Vno</b>	<b>198</b>
<b>Vne</b>	<b>249</b>
<b>Final Approach</b>	<b>100</b>

**Section 1.41**      **Power Settings**

<b>Situation</b>	<b>Manifold Pressure (inches)</b>	<b>RPM</b>
<b>Takeoff</b>	<b>FULL</b>	<b>FULL</b>
<b>Climb</b>	<b>26</b>	<b>2400</b>
<b>Cruise</b>	<b>24</b>	<b>2200</b>
<b>Landing</b>	<b>17</b>	<b>2200</b>
<b>Zero Thrust</b>	<b>10</b>	<b>2200</b>