

PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL



Air Tractor, Inc. - Olney, TX

502XP

(AT-502A equipped with PT6A-140AG Turboprop Engine)

BRAZILIAN AIRPLANE FLIGHT MANUAL

AIRCRAFT SERIAL NO.: _____

REGISTRATION NO.: _____

This document must be carried in the airplane at all times.

This Aircraft Flight Manual is approved by the Federal Aviation Administration on behalf of the "Agência Nacional de Aviação Civil" for Brazilian registered aircraft, in accordance with the "Regulamentos Brasileiros da Aviação Civil" (RBAC) 21, Section 21.29.

Approved by the Federal Aviation Administration (FAA):

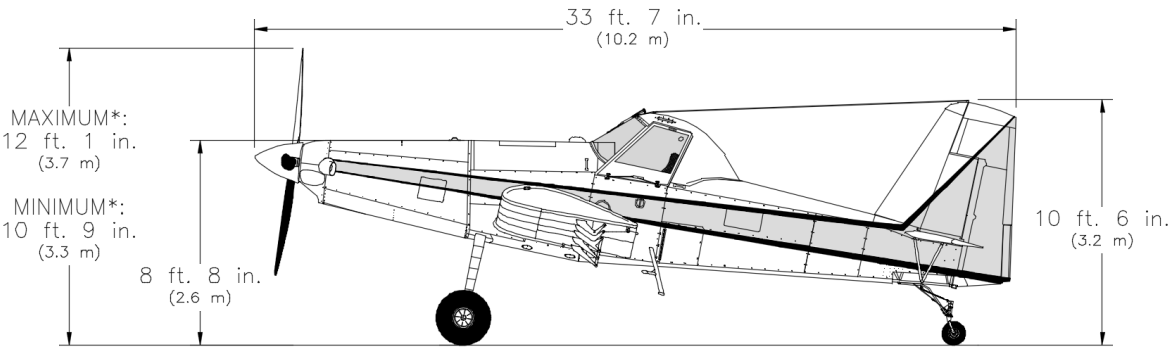
FAA APPROVED BY: _____

Manager, Aircraft Certification Office
Federal Aviation Administration
Fort Worth, TX 76177

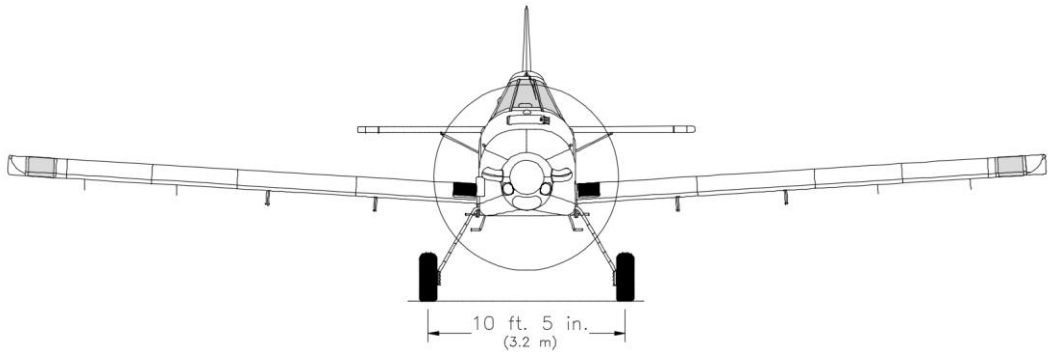
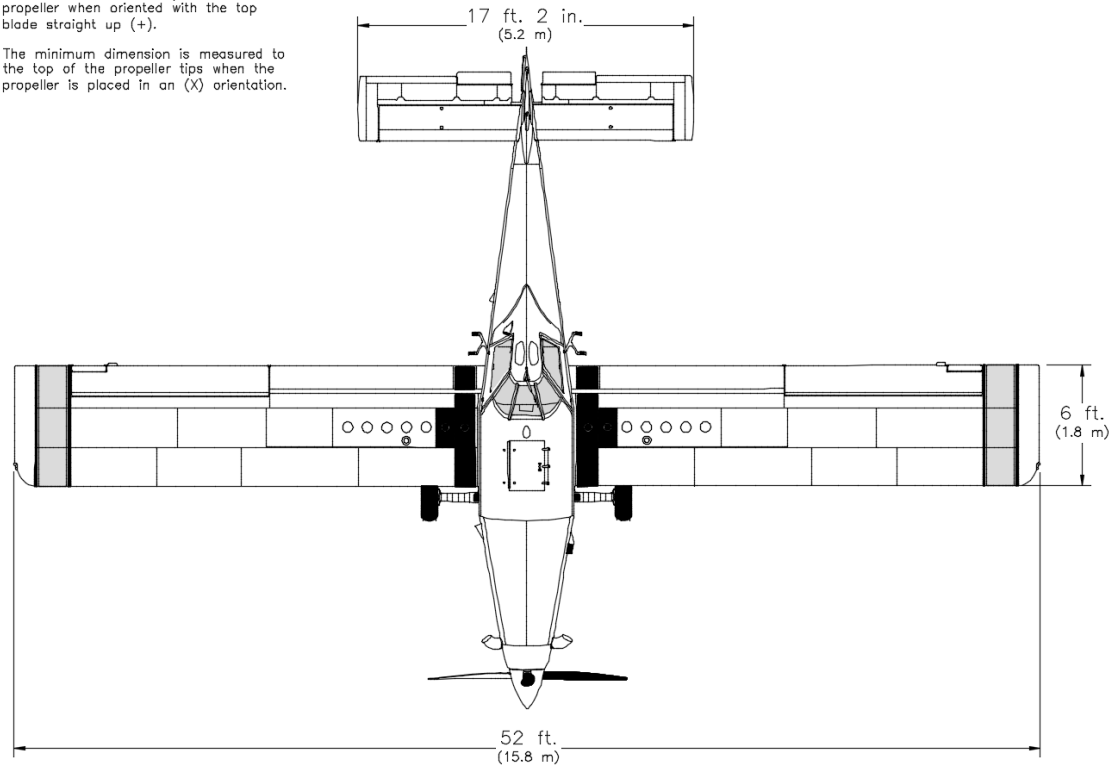
ORIGINAL APPROVAL DATE: _____

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1.2 THREE VIEW DRAWING



*The maximum dimension is measured to the top of the propeller arc. This is the dimension to the top of the propeller when oriented with the top blade straight up (+).
The minimum dimension is measured to the top of the propeller tips when the propeller is placed in an (X) orientation.



1.3 ENGINE AND PROPELLER DATA

ENGINE DATA

(One) Pratt & Whitney PT6A-140AG

Type: Reverse Flow, Free Turbine
Turboprop
Compressor: Multi-stage (one centrifugal stage,
three axial stages)
Turbine: One axial power turbine and
one axial compressor turbine
Power Takeoff and Max Climb Power:
Ratings: 867 SHP @ 1900 RPM
Max Continuous and Max Cruise
Power:
810 SHP @ 1900 RPM

Note: Horsepower Ratings are for static, uninstalled, sea level,
standard day conditions.

PROPELLER DATA

(One) Hartzell HC-B4TN-3C/T10702NS

Blades: Four (aluminum)
Type: Hydraulically Actuated, Constant
Speed, Full Feathering, Reversible
Diameter: 271.8 cm (107.0 inch) to 274.3 cm
(108.0 inch)
Pitch: Low: 8.2°,
Feather: 80.7°,
Reverse: -15.0°
(Measured at 106.7 cm (42.0 inch)
station)

1.4 FUEL

The approved fuels for this aircraft comply with the following specifications:

ASTM D1655-70, Jet A, Jet A1 (NATO Code F34, F35)
ASTM D6615, Jet B (NATO Code F40)
Mil-T-5624, JP-4 (NATO Code F40),
Mil-T-83133, JP-8 (NATO Code F34, F35)

If approved fuels are not available, Aviation gasoline MIL-G-5572, all grades, may be used for a maximum of 150 hours between overhauls. Operating time on Avgas is computed on the basis of quantity used and average consumption.

Use of Fuel System Icing Inhibitors (FSII):

At high altitudes and/or cold temperatures, water suspended in jet fuel can form ice particles which can accumulate and block the normal flow of fuel in the airplane's fuel system. The use of a Fuel System Icing Inhibitor (FSII) will prevent such blockage.

A FSII can be premixed by the fuel supplier, can be mixed with fuel when off-loaded into a fuel farm, or can be blended at the fuel nozzle during airplane fueling. The FSII (conforming to Specification MIL-I-27686) must be blended into the airplane fuel in concentrations not less than 0.06% or more than 0.15% by volume.

FOR OPERATION BELOW 40°F (4.4°C), FUEL SYSTEM ICING INHIBITOR (FSII) SHOULD BE BLENDED WITH AIRPLANE FUEL.

4.2.8 Before Takeoff:

FLIGHT CONTROLSFREE AND CORRECT
FAN BRAKE (If installed)ON
TRIM CONTROLS IN GREEN ARC (TAKEOFF POSITION)
FLAPS RETRACTED
COCKPIT DOORCLOSED AND LOCKED
ENGINE INSTRUMENTS CHECK FOR NORMAL INDICATIONS
FUEL QUANTITY SUFFICIENT FOR INTENDED MISSION
POWER LEVER IDLE
PROPELLER CONTROLFEATHER TWICE TO PURGE SYSTEM
FUEL CONDITION LEVER (S) FLIGHT IDLE
POSITION AIRCRAFT ALONG RUNWAY CENTERLINE
TAILWHEEL LOCK ENGAGED
BRAKES APPLY
PROP LEVER (P)FULL FORWARD
POWER LEVER SET POWER TO 1000 FT-LBS TORQUE
NP TACHOMETER ENSURE 1900 RPM
PROP LEVER (P)MOVE AFT
PROP RPMENSURE RPM DECREASES
PROP LEVER (P)FULL FORWARD
CONTROL QUADRANT FRICTIONADJUST (TIGHTEN)

4.2.9 Propeller Overspeed Check Procedure:

The overspeed governor check should be accomplished before the first flight of the day and after maintenance to assure that the overspeed governor is operative.

The procedure is as follows:

POWER LEVER IDLE
PROP LEVER (P)Full forward for 1900 RPM
PROP OVERSPEED TEST SWITCHON
POWER LEVERADVANCE
PROP RPM ENSURE Np stabilizes at 1800 ± 50 RPM
POWER LEVER REDUCE to less than 1800 RPM
PROP OVERSPEED TEST SWITCHOFF and GUARDED
POWER LEVERADVANCE (Ensure that 1900 RPM is available)
POWER LEVER IDLE

4.2.10 Takeoff (Normal):

FLAPSRETRACTED
PROP LEVER (P) FULL FORWARD
POWER LEVER SET TORQUE TO APPROX. 1000 FT-LBS
BRAKES RELEASE
POWER LEVERADVANCE SMOOTHLY (2397 FT-LBS TORQUE MAX)
ITT & TORQUE INDICATIONSMONITOR
DIRECTIONAL CONTROL..... MAINTAIN WITH RUDDER CONTROL
ELEVATOR CONTROL.....NEUTRAL

Accelerate down the runway and allow the tail to come up. Make a conventional takeoff from this attitude.

INITIAL CLIMB (@ 3,629 kg (8,000 lb))96 KTS (111 MPH) (179 KM/H)
ELEVATOR TRIM.....ADJUST AS REQUIRED
RUDDER TRIMADJUST AS REQUIRED
ITT & TORQUE INDICATIONSMONITOR
TORQUE AND PROPELLER RPM.....ADJUST AS DESIRED



WARNING:

Full flaps should not be used during the takeoff sequence. The use of full flaps creates large amounts of drag and will lengthen the ground roll and impair climb performance.



CAUTION:

Reduction of prop RPM will increase Torque and can cause torque limit to be exceeded when already operating at maximum torque. It is recommended to reduce torque prior to reducing prop RPM.