

GENERAL

The Air Tractor AT-402B is an all-metal Cantilever low-wing monoplane designed especially for agricultural operations. It is powered by a Pratt & Whitney PT6A turboprop engine which is highly suited to ag flying. The standard engine for the AT-402A/402B is the PT6A-15AG which is rated at 680 SHP at sea level and 71°F. Alternate engine is the PT6A-34AG which is flat rated at 680 SHP. Installation losses are very low and the full horsepower can usually be obtained at temperatures up to 71° for the -15AG and up to 100° for the -34AG engines. The engine for the AT-402A is the PT6A-11AG Build Spec (BS) 943. It is rated at 550 SHP up to 90°F.

The propeller is a Hartzell three-blade 106 inch diameter constant speed prop with reversing capabilities. The hopper is made of fiberglass and has a 400 gallon (U.S.) capacity. The horizontal stabilizer is all metal and strut-braced for added rigidity. The vertical fin is cantilever. The elevators and rudder are of all-metal construction and sealed to prevent chemical entry. The fuselage features removable skin panels for ease of maintenance and cleaning. High-lift flaps are incorporated and are interconnected with the ailerons to provide short take-off and landing distances.

CERTIFICATION BASIS

The AT-402A/402B is structurally certified to meet the requirements of FAR 23. The engine installation along with the systems and equipment meet FAR 23 requirements except in cases where inappropriate for agricultural operations. In these cases placards are installed on the instrument panel which prohibit flying under those special conditions. The AT-402A/402B is certificated by the manufacturer for a gross weight of 7,000 pounds starting with S/N 402A-1021. However, under the provisions of Part 8 the operator may select his own maximum operating weight, and field experience shows that operating weights up to 8,600 lbs. can be carried safely with adequate margins of performance and structural strength.

Certification basis is FAR 21.25 (a)(1) including certain paragraphs of FAR 23 applicable to turbine engine installations.

FUSELAGE

The fuselage structure is of heli-arc welded 4130N steel tubing. All fittings and bushings are also of 4130N steel. Fuselage repairs may be made in accordance with appropriate FAA repair procedures and gas welding is permissible. There are no heat-treated members in the fuselage. The front section of the fuselage from the rear spar forward and including the engine mount have been oven stress-relieved in order to prevent stress concentrations from the welding operation. For corrosion control oil passage holes are drilled at the intersections of all tubes and clusters. Hot linseed oil is then pumped into the fuselage frame and drained. This oil adheres to the inside walls of the tubing. The exterior of the fuselage frame is then sand-blasted and painted with AG Air Yellow Epoxy which is resistant to nearly all chemical action.

The fuselage lower and upper skins are attached to the fuselage frame with stainless screws and nuts. The fuselage side panels are of heavy gauge 2024T3 alclad and are attached to stainless camloc receptacle. This allows the side panels to be removed in minutes, leaving the fuselage frame open for thorough cleaning and inspection. All skins are mounted with clearance between the skin and the fuselage tubing so that chemicals will not collect and cause corrosion.