



Air Tractor, Inc.
Accident Investigation

FINAL REPORT

NTSB Accident Number:

CEN20LA306

Date & Location of Accident:

7/25/20
Grant, NE

NTSB REQUESTED CONFIDENTIAL:

The information contained in this report is produced for the sole purpose of providing observations and information to the NTSB and/or FAA during an active accident investigation. No entity may release or share this information prior to its inclusion in the NTSB's public docket without the express written consent of Air Tractor, Inc.

PREPARED BY:

Dakota Lowe
Air Tractor, Inc.

FACTUAL INFORMATION

AIRCRAFT:

AT-502B manufactured in 2012
502B-2821
N502KJ

DATE & TIME:

07/25/20
~11:36 am local (MDT)

INJURIES:

Fatal

LOCATION:

Approx. 6.5 miles south-southeast of Grant,
NE
N 40°747100 W 101.710216° (Crash site)

PILOT:

Alex Tuttle
[REDACTED]
College Grove, TN 37046

OPERATOR:

Aurora Cooperative
P.O. Box 209
[REDACTED]
Aurora, NE 68818

NTSB INVESTIGATOR:

Andrew Todd Fox
NTSB – Central Region
[REDACTED]
Denver, CO 80239
[REDACTED]

INSURANCE:

Shaen Phillips
USAIG
[REDACTED] (Work)
[REDACTED] (Cell)

FAA INVESTIGATOR:

Steve Rasmussen
Robert Markise
Lincoln FSDO

SALVAGE:

Beegles Recovery & Storage LLC.
[REDACTED]
Greeley, CO 80631

OTHER CONTACTS:

Kurt Franklin
Aurora Cooperative Aircraft Operations
Manager
[REDACTED]

OTHER CONTACTS:



Example of AT-502B in Flight

The information contained in this report is the result of traveling to the accident scene on 7/26/20 and 7/27/20 under the supervision of FAA Inspectors Steve Rasmussen and Robert Markise. The wreckage examination was conducted at the accident scene. Also present during the on-scene investigation was Mr. Kurt Franklin of the Aurora Cooperative and Dakota Lowe of Air Tractor.

This report is subject to revision as additional information becomes available. The intent of this report is to provide details relating to the investigation of the subject accident.

GENERAL OBSERVATIONS OF WRECKAGE AND ACCIDENT SITE:

Arrival at the accident site was approximately 1:30 pm on 7/26/20. The aircraft wreckage was found in a corn field approximately 6.5 miles south-southeast of Grant, Nebraska on county road 753. This accident was in a field immediately west of the target field. The accident field contained a center pivot irrigation system. The wreckage was found 80 yards west of the center pivot tower.

The aircraft was found upright position with crush damage to the forward fuselage and wings. The aft fuselage and empennage were found with minimal crush damage. The fuselage was found on an east-northeast heading. No horizontal debris trail or ground scars were found leading up to the wreckage. A small fire was reported.



Fuselage Wreckage



Damaged Corn Stalks Behind Left Wing

The airplane was confirmed to be N502KJ, an Air Tractor AT-502B, serial number 502B-2821 which was manufactured in 2012. The Hobbs meter was found showing 2412.9 hours on the airplane.

FUSELAGE:

The fuselage aft of the cockpit was found upright and generally intact. The fuselage forward of the cockpit was heavily damaged, crushed aft and upward. The cockpit area was found to have maintained occupiable space. The airplane was equipped with AmSafe Inflatable Restraints (airbags), which were found in the deployed state. The restraints were found unbuckled. Both shoulder harnesses were found to have separated at the buckle.



Forward Fuselage Wreckage

The preimpact position of the powerplant control levers could not be determined due to impact damage. Engine control continuity could not be established due to impact damage.

LANDING GEAR:

Both main landing gear legs were found separated from the fuselage with wreckage. Both wheels and tires were found attached to the main gear legs. The tail gear was found attached to the aft fuselage with no discernable damage.

WINGS:

The wing center splice connection was found intact. The wings were found attached to the fuselage. Both wings were found with crush damage aft and up. The left wing rear spar was found separated from the fuselage consistent with overstress. The hardware was found attached to the fuselage frame. Both flaps and both ailerons were found attached to the wings.



Right Wing Wreckage



Right Wing Wreckage

Each of the wings were equipped to hold 117 gallons of fuel in the integral wing fuel tanks for a total of 234 gallons. Both fuel tanks ruptured during the impact sequence.

EMPENNAGE:

The empennage surfaces were found present at the aft end of the fuselage. The vertical fin remained attached to the aft fuselage. The left horizontal stabilizer was found separated from the upper fuselage attach points consistent with overstress. The right rear horizontal stabilizer attach point was found separated consistent with overstress. The left and right v-struts remained attached to the horizontal stabilizers and to the aft fuselage. The left and right horizontal stabilizers were found with crush damage to the forward inboard corners.



Right Horizontal Stabilizer



Empennage Wreckage

FLIGHT CONTROLS:

All flight control surfaces were located with the wreckage. The flight controls were damaged, but flight control continuity was established the extent possible by the condition of the wreckage. Flight control continuity could not be established due to impact damage however, all observed separations were consistent with overstress.

Elevator Controls

The elevator controls are manually operated by steel and aluminum pushrods connecting the control stick to the elevator control horns through two control idlers. The controls were found to be continuous from the control stick to the aluminum pushrod. The forward rod end of the aluminum pushrod was found separated from the pushrod, connected to the forward idler. The controls were continuous from the separation in the pushrod rod end to the elevator control horn.

Rudder Controls

The rudder controls are manually operated by a pair of stainless-steel cables running directly from the rudder pedal assemblies to the rudder control horns. Both rudder cables remained attached at the rudder control horn. The cables were traced forward and found to be continuous to the rudder pedal adjustment attach points.

Aileron Controls

The aileron controls are manually operated by steel and aluminum pushrods connecting the control stick to the aileron control horns through a torquetube and multiple bellcranks and idlers. In addition, the AT-502 ailerons incorporate a drooping feature that lowers both ailerons in conjunction with extension of the flaps. The aileron drooping controls are documented below under "Flap System".

The primary aileron controls were continuous to the left aileron except that the inboard rod end of the aluminum pushrod was found separated from the remainder of the pushrod, connected to the fuselage mounted bellcrank. Continuity of the controls from the left aileron to the separation of the rod end was shown through sympathetic movement of the pushrod when the aileron was moved.

The primary aileron controls were continuous to the right aileron except for a separation of the inboard rod end of the right aluminum pushrod. The inboard rod end bearing was found connected to the left fuselage mounted bell crank. The right aileron controls were found to be continuous from the separation in the rod end to the right aileron.

Flap System

The pre-impact position of the flap actuator could not be determined. The flap actuator was found with an extension of 2 7/8 inches which corresponds to 20° of flaps. The flap actuator pushrod was found to be separated at the near the actuator tee assembly. The flap controls were found to be continuous from the separation in the flap actuator to both flap control horns.

The aileron drooping system was found to be continuous from the flap torque tube to the aileron bellcrank support assembly with several bends throughout the system.

POWERPLANT:

The powerplant remained attached to the engine mount and firewall portion of the fuselage. The engine exhibited impact damage. The engine was confirmed to be a Pratt & Whitney PT6A-34AG engine, serial number PCE-PH0759.



Engine Wreckage

The engine was equipped with three-bladed constant speed, fully reversable, propeller. One of the blades was found separated from the hub with the blade tip separated from the blade. The remaining two blades were found attached to the hub. One of the blades found attached to the hub was found with the blade tip separated.



Propeller Wreckage

DISTURBANCE OF WRECKAGE:

Disturbance of the wreckage was limited to handling components to the extent necessary for identification and documenting their condition, including removing inspection covers/access panels. We did not make any modification to the aircraft wreckage that would intentionally result in loss of evidence. No portion of the wreckage was removed by Air Tractor personnel during our involvement in this accident investigation.

A Satloc Bantam agricultural GPS unit was removed from the wreckage and temporarily installed on an exemplar airplane and the GPS data was retrieved. The SatLoc unit was returned to the wreckage after the data was retrieved. This Satloc unit was P/N: 806-1034-000# F (S/N: 1335-HH06129-0034).