



Air Tractor, Inc.
Accident Investigation

Airframe Final Report

NTSB Accident Number:

WPR24FA201

Date & Location of Accident:

6/24/24
Arco, ID

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:

Nick Miller
Air Tractor, Inc.



FACTUAL INFORMATION

N802TP

AIRCRAFT:

AT-802A manufactured in 2016
802A-0665
N802TP

DATE & TIME:

06/20/24
~12:58 local (MT)

INJURIES:

Serious

LOCATION:

Arco, ID
N 43.58576 ° W -113.40286° (Crash site)

PILOT:

[REDACTED]

OPERATOR:

VISSER AG INC
[REDACTED]
Rigby, ID 83442

NTSB INVESTIGATOR:

Dan Baker
Senior Air Safety Investigator
National Transportation Safety Board
[REDACTED]
Federal Way, WA 98001
[REDACTED]

INSURANCE:

Not Recorded

FAA INVESTIGATOR:

Steve Tupper
Boise FSDO

SALVAGE:

Inter-State Aviation Inc.
Pullman-Moscow Regional Airport
Pullman, WA 99163

OTHER CONTACTS:

OTHER CONTACTS:

N581TW

AIRCRAFT:

AT-502B manufactured in 2005
502B-2581
N581TW

DATE & TIME:

06/20/24
~12:58 local (MT)

INJURIES:

Fatal

LOCATION:

Arco, ID
N 43.58576° W -113.40286° (Crash site)

PILOT:

[REDACTED]

OPERATOR:

VISSER AG INC
[REDACTED]
Rigby, ID 83442

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Example of AT-802



Example of AT-502B

The information contained in this report is the result of traveling to the accident scene on 6/20/24 thru 6/24/24 under the supervision of the NTSB IIC Dan Baker. The wreckage examination was conducted at the accident scene. Also present during the on-scene investigation were Steve Tupper of the FAA, Lord Edwin of the FAA, Christopher O'Donnel of the FAA, Dakota Lowe of Air Tractor and Nick Miller 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. This report is not to be shared with any person outside the scope of this official investigation.

GENERAL OBSERVATIONS OF WRECKAGE AND ACCIDENT SITE:

Arrival at the accident site was approximately 12:05 pm on 6/21/24. This wreckage was located in a sage covered rangeland approximately 6.5 miles southwest of Arco, ID.

Power lines were found to the north of the wreckage site parallel to US-26. North of US-26 were farm fields containing center pivot irrigation systems. A barbed wire fence ran to the

south from US-26 between the two wreckages of N8525V and N2032K. There were no signs of damage to surrounding obstacles.

The wreckage of N802TP was found upright in a sage rangeland with no signs of fire or heat damage. A ground scar containing left wing tip pieces and outboard wing segments was found approximately 285 feet south of the main wreckage. A ground scar consistent with forward fuselage impact containing propeller blades was found approximately 65 feet north of the initial impact scar. The ground scar of N802TP had an approximate direction of 325° (true).



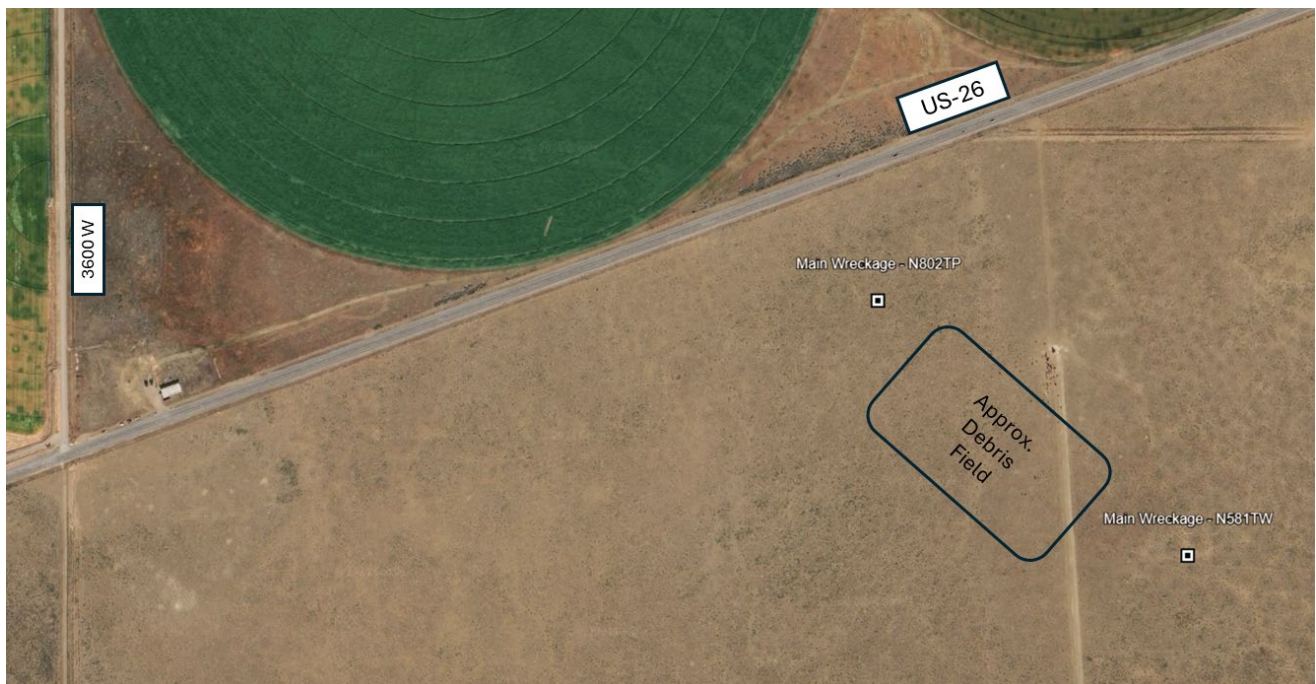
N802TP Main Wreckage

The wreckage of N581TW was found inverted in a sage rangeland with no signs of fire or heat damage. The nose and engine sections of the aircraft was found bent upward and aft underneath the fuselage. The wreckage of N581TW was found approximately 1680 feet south of N802TP. A ground scar consistent with left wing impact containing left wing tip pieces was found approximately 250 feet south of the main wreckage. A ground scar consistent with forward fuselage impact containing propeller blades was found approximately 40 feet south of the initial impact scar. The ground scar had an approximate direction of 110° (true).



N581TW Main Wreckage

A debris field approximately 735 feet x 600 feet consisting of paint flakes, wing fragments, and empennage fragments was located approximately 600 feet southeast of the wreckage of N802TP and 625 feet north of the wreckage of N581TW. A segment of the outboard right wing of N581TW was found in the debris field with a segment of the aileron still attached. The right flap of N581TW was found in the debris field north of the right wing segment. The right horizontal stabilizer, right horizontal stabilizer V-Strut, rudder, and elevator of N581TW was found in the debris field south of the right wing segment. A segment of right wing wingtip, right wing aileron segments, and right wing outboard segments of N802TP was found in the debris field.



Accident Map

N802TP WRECKAGE EXAMINATION:

FUSELAGE:

The fuselage of N802TP was found upright. The forward fuselage had significant crush damage with multiple separations around the hopper. The engine mount was found to be connected to forward fuselage members with attach hardware. The canopy was found to be bent upwards and aft. The heading of the fuselage was found to be 202° (magnetic).



N802TP Main Wreckage



N802TP Fuselage

The airplane was equipped with 5-point inflatable restraints (airbags). The AAIR-AM-Safe airbag system S/A 7067-1-031-2396 was found to be deployed in both the front and the rear seat. The seatbelt harness and lap belts were found intact and unbuckled.

The airplane was confirmed to be N802TP, an Air Tractor AT-802, serial number 802-0665 which was manufactured in 2016. The Hobbs meter was recorded at 4559.1 hours.

LANDING GEAR:

The left and right landing gear was found approximately 30 feet south of the main wreckage. The right landing gear had segments of the fuselage frame members attached with the attachment hardware still in place. The left landing gear had segments of the fuselage frame members attached with the attachment hardware still in place. The left landing gear wheel was separated from the landing gear spring. The aircraft was found to have been equipped with aftermarket wire cutters that were installed on the leading edges of the landing gear springs.

WINGS:

The main wing spar and wing segments was found approximately 15 feet south of the main wreckage of N802TP. Fuselage frame members were found on the main wing spar main attach points.

The left wing front spar was found bent aft and downwards with the ribs and skins found between the initial impact and the main wreckage. The left flap, left aileron, left aileron counterweight, and left wing outboard segments were found in the ground scar leading up to the main wreckage. The left wing fuel tank segments were not attached to the main spar.



N802TP Left Wing Spar

The right wing main spar had a separation near the middle section of the wing. The right wing fuel tank was ruptured. The fuel tank cap was found in place and the fuel tank placard stated 153 gallons of fuel. The right flap was found near the ground scar leading up to the wreckage. The right aileron, right aileron counterweight, right outboard section of wing, and right wing tip was found in the debris field located between N802TP and N581TW. The right wing damage and the location of right wing components of N802TP were consistent with the right wing contacting N581TW mid-air.



N802TP Right Wing



N802TP Outboard Right Wing Layout

EMPENNAGE:

The right horizontal stabilizer and attached elevator were found separated and laying approximately 10 feet south of the empennage section of the aircraft. The horizontal stabilizer v-strut was connected to the horizontal stabilizer. The left elevator counterweight and balance horn of the left elevator was found south of the main wreckage near the ground scar. The left horizontal stabilizer, left elevator, and rudder were found attached to the fuselage with hinges and hardware intact.



N802TP Empennage (Right Side)



N802TP Empennage and Right Horizontal Stabilizer & Elevator

FLIGHT CONTROLS:

All flight control surfaces were located with the wreckage. Flight control continuity was established to the extent possible by the wreckage. 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 elevator controls were found to be continuous to the aft elevator push rod through movement of the control stick. The right and left elevators were found to be separated from the aft end of the push rod.

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. The rudder controls were found to be continuous to the rudder by movement of the left and right rudder pedals.

Aileron Controls

The aileron controls are manually operated by steel and aluminum pushrods connecting the control stick to the aileron control horns through multiple torque tubes, an idler, and a bellcrank.

The right aileron controls were found to be continuous from the control stick to the aluminum push rod. A segment of outboard aluminum pushrod was found with a separation in the rod end. The controls were found to be continuous from the rod end separation to the aileron control horn. The aileron horn was found separated from the aileron.

The left aileron controls were found to be continuous from the stick to the inboard rod end of the aluminum push rod. The aluminum push rod was found with multiple separations. A segment of outboard aluminum pushrod was found with a separation in the rod end. The controls were found to be continuous from the outboard aluminum pushrod rod end separation to a separation of the wing mounted aileron bellcrank tube. The remainder of the wing mounted bellcrank tube was found with the aileron steel push rod continuous to the aileron control horn.

Flap System

N802TP was equipped with an aftermarket hydraulic flap actuator. The hydraulic flap actuator was found separated from the frame structure. The left and right flaps were found to be continuous from the flap actuator to a separation in the push rod bearings that connect to the flap control horn.



N802TP Aftermarket Hydraulic Actuator

POWERPLANT:

The powerplant was found with the forward fuselage wreckage. The engine was found with impact damage and to be separated at the “A” flange. The engine was equipped with a five-bladed constant speed, fully reversible, propeller. Four blades were found separated from the propeller hub. Three of the four separated propeller blades were found in the main ground scar leading up to the main fuselage wreckage of N802TP all exhibiting bending towards the camber side of the blade. One of the four separated blades was found approximately 40 feet east-southeast of the main fuselage wreckage of N802TP with bending towards the face side of the blade. The one blade that remained attached to the propeller hub was found bent toward the camber side of the blade. The engine was confirmed to be a PT6-67AG, serial number PCE-RD0307.



N802TP Propeller Hub and 1 Prop



N802TP 3 Propellers in Ground Scar



N802TP Propeller (moved during recovery)

N581TW WRECKAGE EXAMINATION:

FUSELAGE:

The fuselage of N581TW was found inverted. The fuselage forward of the cockpit was heavily damaged with hopper and engine structure underneath the fuselage. The heading of the fuselage was found to be 175 (magnetic).

The airplane was equipped with 5-point inflatable restraints (airbags). The AAIR-AM-Safe airbag system was found to be deployed. The seatbelt harness and lap belts were found intact and unbuckled.

The airplane was confirmed to be N581TW, an Air Tractor AT-502B, serial number 502B-2581 which was manufactured in 2005. The Hobbs meter was impact damaged and the hours could not be determined.



N581TW Fuselage

LANDING GEAR:

The left and right landing gear was found connected to the main wreckage with attachment hardware still in place. Both gears had non-factory wire cutters installed on the leading edges.



N581TW Landing Gears and Fuselage

WINGS:

The left wing main spar was found bent aft and downwards. The left wing aileron and flap were found damaged and attached to the left wing. The left wing aileron counterweight was found near the ground scar leading up to the main wreckage. The left wing fuel tank was found ruptured. The fuel tank cap was found in place and the fuel tank placard stated 83 gallons.

The right wing main spar had a separation near the middle section of the wing. The right wing fuel tank was ruptured. The fuel tank cap was found in place and the fuel tank placard stated 83 gallons. An outboard segment of N581TW right wing was found in the debris field with the aileron and aileron counterweight attached. The right flap was also found in the debris field near the outboard section of right wing.



N581TW Outboard Right Wing Layout



N581TW Inboard Right Wing

EMPENNAGE:

The right horizontal stabilizer, right horizontal stabilizer v-strut, right elevator, vertical stabilizer, and rudder of N581TW were found in the debris field. The right horizontal stabilizer and right elevator were found separated into two pieces near the middle. The left horizontal stabilizer was found attached to the fuselage with the forward attachment separated from the frame attachment point.



N581TW Right Horizontal Stabilizer and Elevator



N581TW Rudder and Vertical Stabilizer (Layout)

FLIGHT CONTROLS:

All flight control surfaces were located with the wreckage. Flight control continuity was established to the extent possible by the wreckage. 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 left elevator controls were found to be continuous by movement of the control stick. The right elevator controls were found to be continuous to the elevator control horn through movement of the control stick. The elevator control horn was separated from the elevator.

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. The right and left rudder cables were found to be continuous to the rudder control horn through movement of the rudder control horn. The rudder was separated from the rudder control horn.

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. In

addition, the AT-502B ailerons incorporate a drooping feature that lowers both ailerons in conjunction with the flaps. The aileron drooping system is documented below under “Flap System”.

The right aileron was found to be continuous from the control stick to the inboard aluminum pushrod rod end. The right aileron controls were continuous from the outboard aluminum pushrod to the aileron control horn. The control horn was separated from the aileron.

The left aileron was found to be continuous from the control stick to the inboard aluminum pushrod rod end. A segment of outboard aluminum pushrod was connected to the wing bellcrank. The steel wing mounted aileron push rod was found separated from the rod end bearing and aileron control hinge. The steel wing mounted aileron pushrod was not located in the wreckage. The bearing and section of steel pushrod connected to the wing aileron bell crank were separated consistent with overload.

Flap System

The left flap controls was found to be continuous from the flap actuator to the flap control horn. The right flap controls were found to be continuous from the flap actuator to the flap control horn. The flap control horn was found separated from the flap. The flap actuator extension was found to be 7/8 inches which corresponds to a flap extension of approximately 5°

The left aileron drooping system was found to be continuous. The right aileron drooping system was found to be continuous except for a separation in the bellcrank push rod.



N581TW Flap Actuator Measurement

POWERPLANT:

The powerplant was found with the forward fuselage wreckage. The engine was found with impact damage. The propeller hub section was disconnected from the engine.

The engine was equipped with a 3-bladed constant speed, fully reversable, propeller. One of the propeller blades was found attached to the propeller hub and was separated about half of the blade length. 2 fragments of disconnected blades were found separated at the hub located in the ground scar leading to the main wreckage.

The engine was confirmed to be a PT6-67AG, serial number PCE-PHO322.



N581TW Powerplant



N581TW Propeller Blade



N581TW Two Propeller Blades in Ground Scar Leading to Main Wreckage

DISTURBANCE OF WRECKAGE:

Disturbance of the wreckage was limited to handling components to the extent necessary for identification and documenting their condition. 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.

The NTSB IIC took possession of an Insero AgpilotX light bar S/N ASSY-9001-004 from N802TP and an Ag Nav P153 S/N 153207232 from N581TW.