



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

May 23, 2019

AIRFRAME EXAMINATION REPORT

WPR19LA112

This document contains 07 embedded photos.

A. ACCIDENT

Location: Morganza, Louisiana
Date: April 16, 2019
Aircraft: Airplane Air Tractor AT-502B, Registration Number: N599LA,
Serial #: 502-0599
NTSB IIC: Tealeye Cornejo

B. EXAMINATION PARTICIPANTS:

Tealeye Cornejo
Air Safety Investigator (Field)
National Transportation Safety Board
[REDACTED]
Federal Way, WA 98001

Dakota Lowe
Air Safety Investigator
Air Tractor, Inc.
[REDACTED]
Olney, TX 76374

Keenon Wood
Principal Maintenance Inspector
Federal Aviation Administration (FAA)
[REDACTED]
Baton Rouge, LA 70808

Kyle Schroeder
Air Safety Investigator
Air Tractor, Inc.
[REDACTED]
Olney, TX 76374

C. SUMMARY

On April 16, 2019, about 0750 central daylight time, an Air Tractor AT-502B, N599LA, was substantially damaged when it was involved in an accident near Morganza, Louisiana. The pilot was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 137 aerial application flight.

The pilot reported that while attempting to land, he heard a “clunk” or “bang”, followed by a pitch up of the airplane. He applied full forward stick with no response and reduced power to arrest the climb. Witnesses reported seeing the airplane pitch up, the nose dropped, and the airplane went almost vertical before it impacted the ground.

The FAA responded to the accident site and noted that the aluminum elevator pushrod was disconnected from the forward idler and that the attachment bolt was missing. It was later found loose, in the wreckage.

Examination of the recovered airframe was conducted at the facilities of Southern Aircraft Recovery, Inc.



Photo 1 - Main Wreckage (Courtesy of FAA)

D. DETAILS OF THE INVESTIGATION

1.0 Airframe Examination

At the accident site, the FAA reported that the aluminum elevator pushrod was disconnected from the forward idler, and the bolt that connects the two together was missing, and later found in loose in the wreckage.

Examination of the airframe revealed that the bolt connecting the forward idler to the main pushrod was missing. There was no sign of damage to the forward idle or to the rod end bearing.

The airplane is a conventional-gear airplane, all three-landing gear remained attached in their normal positions on the fuselage and tail.

The cockpit area had sustained fire damage. The occupiable space in the cockpit had sustained impact deformation damage of the upper overturn structure and the upper instrument panel that had pushed in toward the pilot's seat. The airplane was

equipped with a 4-point harness and remained latched. Three of the four restraints had been cut to extricate the pilot.

Inside the cockpit, the control levers were in the following positions:

- Power lever was in a low power position

- The propeller lever was in the full forward position

- The condition lever was in the ground idle position.

According to the manufacturer, this is the typical control positions for final approach; however, the control levers may have been moved due to the accident, removal of the pilot, and recovery of the airplane.

The wings, tail, and engine sections had been separated for recovery purposes. Both wings had leading edge crush damage over the entire span of the wing to the wing spar. Both ailerons remained attached to the wings as well as the left flap. The right-wing flap was separated from the wing. Both aileron counterweights remained attached to the ailerons.

Each wing was equipped with a fuel tank. Both wings' fuel tank top skins had bulged between the wing ribs. Fuel capacity is 170 gallons.

The empennage was separated from the fuselage for recovery purposes. the top of the rudder, and vertical fin were damaged.

Flight control continuity was established from the cockpit to each flight control surface. Separations were consistent with overstress or separation because of airplane recovery.

Elevator controls are manually operated by pushrods that connect to the control stick to the elevator control horns and two control idlers. The controls were continuous from the control stick to the forward idler. The bolt that connects the forward idler to the main pushrod was not in its proper location. There was no sign of damage to the forward idler or to the rod end bearing. The elevator controls were continuous from the aft idler to the elevator control arms. The elevator control arms had separated from the elevator torque tubes.



Photo 2 - Bolt - Up close view of Threads (Courtesy of FAA)



Photo 3 - View of undamaged bolt (Courtesy of FAA)



Photo 4 - Forward Elevator Idler (Courtesy of Air Tractor)



Photo 5 - Forward Rod End Bearing of Elevator Pushrod (Courtesy of Air Tractor)

The engine and engine mount was separated from the airplane and sustained crush and impact damage. The mid-fuselage area between the cockpit and firewall sustained impact damage as well as heat and fire damage to the forward right side of the firewall. All three propeller blades remained attached to the hub.



Photo 6 - View of propeller Blades (Courtesy of NTSB)



Photo 7 - View of the engine (Courtesy of NTSB)

Submitted by: T. Cornejo