National Transportation Safety Board

Office of Aviation Safety Washington, DC 20594



CEN21FA334

FIELD EXAMINATION REPORT

July 27, 2021

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A. Accident

CEN21FA334 Benoit, Mississippi July 25, 2021 0745 CDT

B. Investigative Team

- IIC: Alex Lemishko National Transportation Safety Board Denver, Colorado
- Investigator: Dakota Lowe Air Tractor Incorporated Olny, Texas

C. Summary of Investigation

On July 25, 2021, about 0745 central daylight time (CDT), an Air Tractor 802 agricultural airplane, N363BG, was substantially damaged when it was involved in an accident near Benoit, Mississippi. The commercial pilot sustained fatal injuries. The aerial application flight was conducted under the provisions of Title 14 Federal Code of Regulations Part 137.

The intent of the flight was to apply fungicide and insecticide chemicals to a bean field located about 3.5 miles southwest of Benoit, Mississippi. The airplane was operating from a 2,164 ft-long by 100-ft wide private grass agricultural airstrip, oriented about 230° magnetic.

Witnesses stated that they observed a normal takeoff roll. At the departure end of the runway, the airplane struck an embankment at the end of the runway, nosed over, and came to rest inverted in a field.

D. Airframe and Engine Examination

1.0 Accident Site

The airplane was located in a soybean field just southwest of the airstrip. It rested inverted on its nose, cockpit and vertical stabilizer and rudder. The engine and propeller were separated from the airplane and rested along a 150 ft path from the initial impact point to where the airplane's main wreckage came to rest.

2.0 Airframe Examination

The airplane's forward fuselage, cowling, and firewall were crushed aft and bent upward. The forward cockpit was crushed inward and aft. The windscreen and

cockpit windows were broken out and fragmented. The tops of the vertical stabilizer and rudder were bent and broken aft. The left wing was crushed aft from the tip inboard about 5 ft.

3.0 Engine Examination

The engine was broken into two sections, the reduction gearbox and exhaust section, and the engine power module. The upstream side of the first stage power turbine vane baffle exhibited circumferential rubbing and deformation. The downstream side of the second stage power turbine vane ring showed circumferential rubbing on the outer shroud. The second stage power turbine disc showed one-fourth of the blades separated just above the blade platform. The remaining blades were fractured in the airfoil at roughly the same height.

4.0 Propeller Examination

The propeller was fractured at the flange. All five propeller blades showed bending and twisting toward high pitch. Two of the blades showed S-bending. Four of the five blades showed chordwise rotational abrasions on the backs of the blades.

5.0 Aircraft Information

The airplane was being operated in the restricted category. It had a Special Airworthiness Certificate stating such and restricted operating limitations.

According to the operator, the airplane was fueled with 225 gallons (6.74 lbs./galloon - 1,516 lbs.) of Jet-A fuel and loaded with 635 gallons (8.33 lbs./gallon - 5,279.5 lbs.) of chemicals prior to takeoff. The airplane's empty weight was 6,505 lbs. The pilot and the rinse tank accounted for about 219 lbs.

E. Aircraft Performance

Based on a 13,630 lb. airplane, taking off at 128' above sea level (field elevation), on a paved runway with no wind and a temperature of 27° Celsius, per the AT-802/802A Takeoff Ground Roll Distance chart, the airplane's total ground roll would have been 2,050 ft. Taking off on turf would add about 10% to that distance.

Submitted by:

Alex Lemishko Investigator-in-Charge