

National Transportation Safety Board

Office of Aviation Safety

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WRECKAGE EXAMINATION SUMMARY

August 20, 2022

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A. ACCIDENT

Location: Glendora, Mississippi
Date: August 19, 2022
Time: 1005 CDT
Airplane: N602PB, Air Tractor AT-602

B. WRECKAGE EXAMINATION SUMMARY

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C. SUMMARY

On August 19, 2022, about 1005 central daylight time, an Air Tractor AT-602, N602PB, was substantially damaged when it was involved in an accident near Glendora, Mississippi. The commercial pilot was fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 137 aerial application flight.

According to the operator's son, the pilot was on the second trip of 3 to spray a field. The pilot was reportedly on his way back from the second spray and was returning to the airport to pick up another load. The target field was about 14 miles from the airport where the airplane was loaded and the accident site was along the straight line distance from the airport to the target field. The accident site was about 9 miles from the target field and 5 miles from the airport.

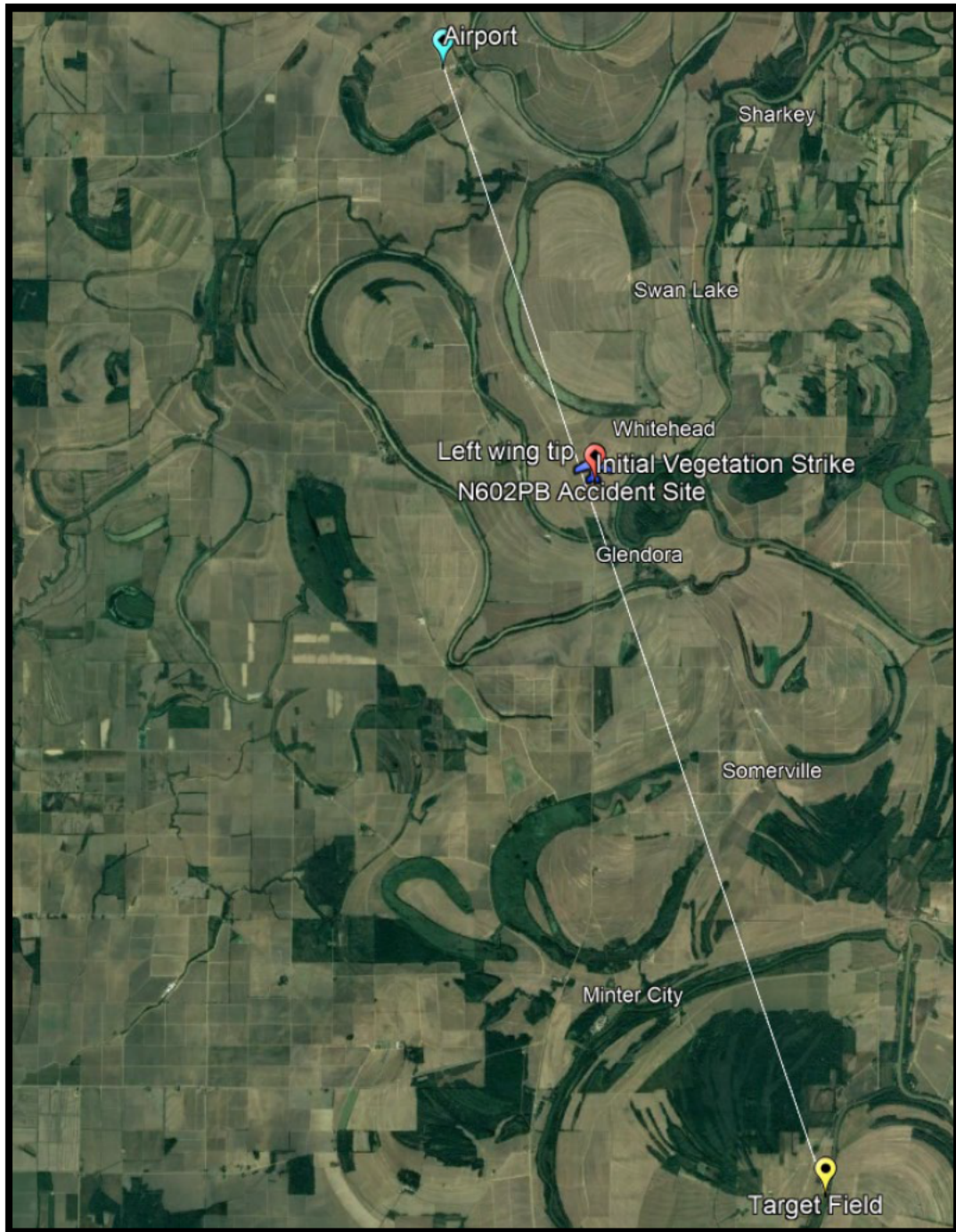


Figure 1. View of accident location compared to the target field and airport.

D. DETAILS OF THE EXAMINATION

1.0 Accident Site

The airplane came to rest in a cornfield, at an elevation of 140 ft, upright, on a 230° heading. All major components of the airplane were located in the vicinity of the main wreckage. The airplane struck multiple rows of corn in a left-wing low position prior to impacting the ground. The first vegetation strike was about 155 ft from the main wreckage. There was an odor of fuel at the accident site.



Figure 2. Main Accident Site

2.0 Airframe Examination

2.1 Fuselage

The fuselage remained intact and the engine remained partially impact separated from the airframe. The cockpit remained intact and the windscreen was cracked. The right window of the windscreen was impact separated and cracked. The doors remained on the airframe but were removed by first responders.

Both static ports were free of debris.



Figure 3. View of fuselage.

2.2 Empennage

The empennage remained attached to the fuselage and was not damaged. The leading edge of the left horizontal stabilizer was dented and remained attached to the empennage. The right horizontal stabilizer was bent aft and wrinkled about 1 ft from the empennage attach point. The left and right elevators remained attached to the empennage and the trim tabs remained attached to the elevators. The left elevator trim tab was in the trailing edge up position and the right trim tab was in the trailing edge down position. The elevators could be moved freely by hand. The vertical stabilizer remained attached to the empennage and the leading edge was undamaged. The rudder and rudder trim tab remained attached to the vertical stabilizer and were undamaged. The tailwheel remained attached to the empennage.



Figure 4. View of left side of empennage.

2.3 Wings

The right wing remained attached to the fuselage and was bent aft. The right flap was impact separated from the inboard attach point but remained attached to the wing through the outboard attach point. The right aileron balance weight remained attached to the right wing. The right aileron remained attached to the right wing and the outboard section was impact damaged. The right fuel cap remained seated and in place.



Figure 5. View of right wing.

The left-wing tip was impact separated and the red lens light were located about 140 ft from the main wreckage. The inboard section of the left wing remained attached to the fuselage. The outboard 20 ft of the left wing was impact damaged and bent aft. The flap was impact separated and located along the debris path. The inboard section of the left flap was impact separated from the flap and located near the left wing. The outboard section of the aileron was impact separated and damaged. The left aileron balance weight was impact separated and located next to the left wing. The left fuel cap remained seated and in place. Flight control continuity was confirmed from the ailerons to the flight controls in the cockpit through multiple overload breaks.



Figure 6. View of left wing.

2.4 Landing Gear

The airplane was equipped with conventional landing gear. The right main landing gear was folded underneath the airplane and the left main landing gear was separated from the fuselage and located forward of it along the debris path. The tailwheel remained attached to the empennage.

2.5 Cockpit

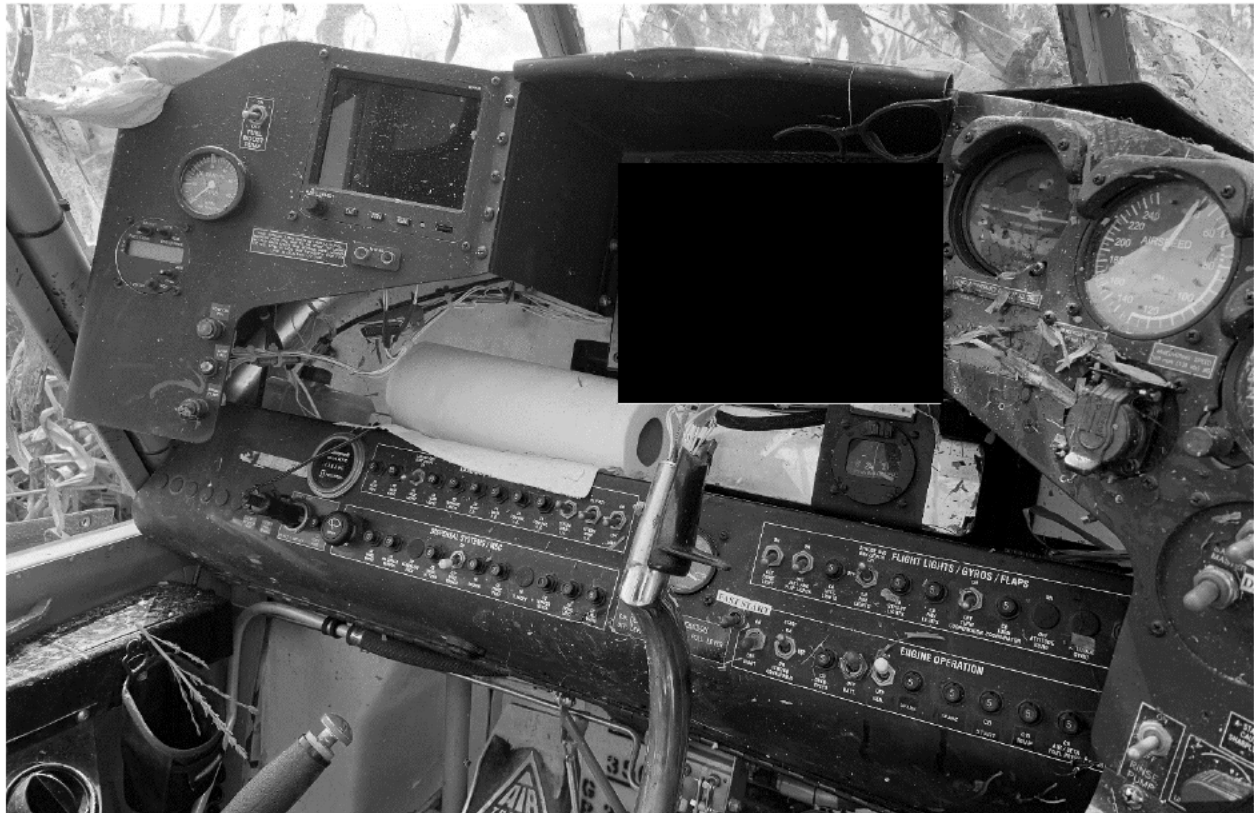


Figure 7. View of instrument panel.

Flight control cable continuity was confirmed from the flight controls in the cockpit to the rudder and elevator. Flight control continuity was confirmed from the ailerons to the fuselage. The grip on the control stick was partially impact separated and located on the forward right side of the cabin.

Trim Tab Settings

- The elevator was slightly nose up (not maximum)
- The rudder trim setting was in the "climb" position.

The power lever was in the full forward position. The propeller lever was in the full forward position. The mixture level was in the flight idle position.

The low oil pressure warning light was removed from the panel, examined, and the filament was not stretched. The low fuel warning light was removed from the panel, examined, and the filament was not stretched.

The Hobbs meter indicated 2999.5 hours.

Dispersal System/Msc - Circuit Breaker Panel

- There were no circuit breakers popped.
- The Wind Washer was switch was in the OFF position

Flight Lights/Cyros/Flaps - Circuit Breaker Panel

- Dome Light Switch - OFF
- Instrument and Flap Light Switch - OFF
- Nav Light Switch - ON
- Turn Coordinator Switch - OFF
- No circuit breakers were popped.

Engine Operation - Circuit Breaker Panel

- Start Switch - OFF
- Ignitor Switch - ON
- Battery Switch - ON
- Generator Switch - ON
- No circuit breakers popped.

2.6 Survivability

Container - the cabin remained intact and was not crushed.



Restraint - the airplane was equipped with a 5-point harness. The seatbelt remained secure to the seat and the webbing was examined and slight stretching was noted. The shoulder harness was an inflatable restraint. The airbag was deployed on both sides and there were no tears or rips in the airbags. The seat rails exhibited a slight bend forward where they seat attached to the rails. The seat was deformed in a downward direction and sloped forward. First responders unbuckled the pilot and removed him from the left side of the airplane.



Figure 8. View of all seatbelt attach points.

Environment - The airplane impacted a cornfield and no environmental factors hindered the survivability of the accident.

Egress - the airplane doors were not jammed. They were operated by regular means by first responders when they arrived at the accident location.



Left Side Door

Right Side Door

Figure 9. View of cockpit doors.

Post-Crash Factors - there was no post-crash fire that would have decreased the survivability of the accident.

Helmet - the pilot was wearing a helicopter pilot type helmet that remained on his head. The helmet went with the coroner.



Figure 10. View of pilot's helmet.

2.7 Fuel/Fuel System

The fuel selector was in the OFF position; however, it was confirmed that first responders moved it to the OFF position. When the accident first happened, the fuel selector was in the ON position. The fuel valve was in the ON position. There was no fuel in the line from the boost pump to the engine.



Figure 11. View of fuel selector as found.

2.8 Other Systems

The airplane was equipped with an Electronics International MVP-50T and a SATLOC Bantam system that were retained and sent to the recorders laboratory for data download.



Figure 12. View of units retained for data download.

2.9 Dispersal System

The airplane dispersal system parts were scattered throughout the debris path. The dump lever was in the dumped position and the first responders had to move it aft.

3.0 Engine Examination

Pratt & Whitney PT6A-65B

S/N: PC-E 97001

Rated power - 1,173 shp

Most recent inspection - Annual inspection - January 2022



Figure 13. View of engine data plate.

The engine remained attached to the airframe engine mounts. The front reduction gearbox was impact separated and remained attached to the propeller. Remnants of the front reduction gearbox flange remained attached to the power section of the engine. Multiple gear teeth on the reduction gearbox exhibited rotational scoring. The exhaust stacks were removed to facilitate examination. The 2nd stage power turbine remained intact and one of the blade tips was impact separated and located at the accident site in the vicinity of the engine. Multiple turbine blades exhibited trailing edge damage. Rotational scoring was noted on the power turbine

section case. Furthermore, the sections of the exhaust duct exhibited torsional/compression damage.



Figure 14. View of power turbine disk. Note broken blade & piece found outside the engine.

4.0 Propeller Examination

The airplane was equipped with a 5-blade Hartzell controllable pitch propeller. The propeller and reduction gearbox were impact separated from the airplane. Two of the 5 propeller blades were impact separated from the hub and located along the debris path. The other 3 propeller blades remained attached to the hub. Multiple blades were bent the opposite direction of travel and exhibited chordwise scratching. Furthermore, blade A exhibited leading edge gouging.



Figure 15. View of propeller blades.

Submitted by:

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