



# Aviation Investigation Final Report

<b>Location:</b>	Bismarck, Illinois	<b>Accident Number:</b>	CEN18LA270
<b>Date &amp; Time:</b>	July 13, 2018, 18:15 Local	<b>Registration:</b>	N629LA
<b>Aircraft:</b>	Air Tractor AT 602	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

The pilot was conducting an aerial application flight; a witness saw the airplane maneuvering before entering a flat spin. Ground scars at accident site were consistent with a wings- and nose-level impact attitude. Examination of the engine and airframe revealed no evidence of mechanical malfunctions or anomalies.

The airplane was not equipped with an elevator down-spring or rudder-aileron interconnect system. According to the manufacturer, these systems were required and improved the stability and handling characteristics of the airplane. Although the circumstances of the accident are consistent with a stall/spin and loss of control, the reason for the loss of control could not be determined based on the available information; and whether the lack of the elevator down-spring and rudder-aileron interconnect systems contributed to the loss of control was not determined.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A loss of control for reasons that could not be determined based on the available information.

## Findings

Not determined	(general) - Unknown/Not determined
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# Factual Information

## History of Flight

Maneuvering-low-alt flying	Loss of control in flight (Defining event)
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On August 13, 2018, about 1815 central daylight time, an Air Tractor 602 airplane, N629LA, was substantially damaged when it was involved in an accident near Bismarck, Illinois. The commercial pilot sustained serious injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 137 aerial application flight.

A witness, who was an agricultural pilot, saw the airplane maneuvering at low altitude over a corn field when it appeared to enter a flat spin. The airplane impacted the ground, and the pilot was taken to the hospital by first responders.

The wreckage was found upright in the field. Ground scars at accident site were consistent with a wings- and nose-level impact attitude. Figure 1 shows the airplane location (red) and ground scar location (green) overlaid on a satellite image of the field. The single red dot located to the northwest of the main wreckage denotes the location of the rudder, which was found about 50 feet from the fuselage.



Figure 1. Wreckage and Ground Scars at Accident Location

The fuselage sustained severe damage to all components forward of the cockpit area. The firewall, main landing gear attachments, and hopper were crushed and segmented by the impact forces. These components remained loosely attached to the fuselage. The aft fuselage showed evidence of crumpling of the structure between the cockpit and the vertical stabilizer.

All flight control surfaces were located with the main wreckage and continuity was established from the cockpit area to the control surfaces. The flap actuator was extended about 1 inch, which corresponded to a 7° flap extension. The flap torque tube was continuous to the flap arms on both sides of the fuselage.

The airplane was not equipped with an elevator down-spring or rudder-aileron interconnect system. According to the manufacturer, these systems were required and increased the airplane's stability and handling characteristics.

The propeller remained attached to the engine and all five of the blades were found in the immediate vicinity of the engine. Two blades were fractured near the blade root and found buried in the soil. The visible blades exhibited chordwise scoring and abrasion of the leading edges, consistent with rotation at the time of impact.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	34, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	5-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	June 2, 2018
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 1026 hours (Total, all aircraft), 125 hours (Total, this make and model), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Air Tractor	<b>Registration:</b>	N629LA
<b>Model/Series:</b>	AT 602 No Series	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2001	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	6020629
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	June 29, 2018 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo prop
<b>Airframe Total Time:</b>	6387 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Pratt & Whitney
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	PT6A-45R
<b>Registered Owner:</b>		<b>Rated Power:</b>	1100 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Agricultural aircraft (137)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	DNV,696 ft msl	<b>Distance from Accident Site:</b>	3 Nautical Miles
<b>Observation Time:</b>	18:15 Local	<b>Direction from Accident Site:</b>	30°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.92 inches Hg	<b>Temperature/Dew Point:</b>	17°C / 17°C
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Danville, IL (DNV )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Danville, IL (DNV )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	17:45 Local	<b>Type of Airspace:</b>	Class E

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious	<b>Latitude, Longitude:</b>	40.2425,-87.567222(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Lemishko, Alexander		
<b>Additional Participating Persons:</b>	Edward Martin; FAA FSDO; Springfield , IL Kyle Schroeder; Air Tractor; Olney, TX		
<b>Original Publish Date:</b>	May 27, 2021	<b>Investigation Class:</b>	3
<b>Note:</b>	The NTSB did not travel to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=97794">https://data.nts.gov/Docket?ProjectID=97794</a>		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).