



Aviation Investigation Final Report

Location:	Cross Keys, New Jersey	Accident Number:	ERA23LA371
Date & Time:	September 14, 2023, 16:10 Local	Registration:	N2880S
Aircraft:	Cessna 150G	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Banner tow		

Analysis

The pilot of the banner tow airplane performed a normal takeoff and stayed in the airport traffic pattern for the banner pickup. The pilot described that after successfully capturing the pickup rope, he climbed with the engine at full power, the flaps retracted, and at a speed of about 45 to 50 mph. The airplane drifted left before the banner left the ground, and the pilot attempted to correct the flight path to the right. The airplane and banner subsequently climbed above the nearby trees, after which the pilot released the banner. The airplane then abruptly pitched up, the right wing “dropped,” and the airplane entered a 180-degree spin to the right that continued to ground impact. The pilot was seriously injured and the airplane was substantially damaged during the impact with trees and terrain.

The operator reported, and a post accident examination by a Federal Aviation Administration inspector confirmed, that there were no preimpact mechanical malfunctions or failures of the airplane and its flight controls that would have precluded normal operation. The operator also reported that it was their company’s standard procedure to climb the airplane at a speed of 55 mph with the flaps extended 10 degrees in order to achieve best climb out. Additionally, when releasing a banner, the prescribed procedure included pushing forward on the control yoke to prevent an abrupt pitch up. Based on this information, it is likely that the pilot climbed at too low an airspeed during the banner pickup, resulting in a loss of control, his decision to release the banner, and the uncorrected pitch up of the airplane that ultimately resulted in the aerodynamic stall/spin.

Probable Cause and Findings

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

The pilot's failure to maintain adequate airspeed during the banner pickup, which resulted in a low altitude aerodynamic stall/spin.

Findings

Aircraft	Airspeed - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Initial climb	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Commercial; Flight instructor; Private	Age:	62, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 12, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	December 19, 2022
Flight Time:	1032 hours (Total, all aircraft), 320 hours (Total, this make and model), 912 hours (Pilot In Command, all aircraft), 149 hours (Last 90 days, all aircraft), 85 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N2880S
Model/Series:	150G	Aircraft Category:	Airplane
Year of Manufacture:	1967	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	15066780
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	June 14, 2023 Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:	240 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	8601 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91 installed, activated	Engine Model/Series:	O-360-A4M
Registered Owner:	HIGH EXPOSURE INC	Rated Power:	180 Horsepower
Operator:	HIGH EXPOSURE INC	Operating Certificate(s) Held:	Certificate of authorization or waiver (COA)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PHL, 28 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	15:54 Local	Direction from Accident Site:	349°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	26.1°C / 14.4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cross Keys, NJ	Type of Flight Plan Filed:	None
Destination:	Cross Keys, NJ	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	CROSS KEYS 17N	Runway Surface Type:	Asphalt
Airport Elevation:	162 ft msl	Runway Surface Condition:	Dry
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	3500 ft / 50 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	39.705476,-75.033003(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric
Additional Participating Persons:	Christopher Curtis; FAA/FSDO; Philadelphia, PA
Original Publish Date:	February 20, 2024
Last Revision Date:	February 22, 2024
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=193065

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).