



Aviation Investigation Final Report

Location:	Ord, Nebraska	Accident Number:	CEN20LA381
Date & Time:	August 18, 2020, 11:00 Local	Registration:	N57607
Aircraft:	Piper PA36	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot was departing on an agricultural flight when the airplane’s airspeed began to decrease while in a turn shortly after takeoff. The pilot confirmed that the engine and propeller were operating normally at takeoff power, but the airspeed continued to decrease closer to an aerodynamic stall speed while in the turn. The pilot chose not to dump the load of liquid herbicide because he thought it might have had a negative effect on controlling the airplane and cause it to enter an aerodynamic stall. The airplane’s right wing dropped shortly before it impacted with the ground, which the pilot attributed to the airplane flying at or near aerodynamic stall. The airplane collided with terrain in a right wing down attitude. The airplane’s fuselage and both wings were substantially damaged during the accident.

The pilot stated that he previously flew the airplane with similar or heavier loads without any adverse effects to airplane performance. He reported that the weather conditions earlier in the morning included rain showers associated with the passage of a weather front; however, at the time of the accident, the wind was calm and there was no precipitation. The pilot reported that there were no mechanical malfunctions or failures of the airplane or its engine during the flight.

Postaccident examination of the airplane and its engine did not reveal any evidence of a mechanical malfunction or failure that would have prevented normal flight. Based on the available evidence, it is likely that the pilot did not maintain adequate airspeed while in the turn during initial climb, which resulted in the airplane exceeding its critical angle of attack and an aerodynamic stall at a low altitude from which a recovery was not possible.

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 while in a turn during initial climb and his exceedance of the airplane's critical angle of attack, which resulted in an aerodynamic stall at a low altitude.

Findings

Aircraft	Airspeed - Not attained/maintained
Aircraft	Angle of attack - Capability exceeded
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Initial climb	Loss of control in flight (Defining event)
Initial climb	Aerodynamic stall/spin
Initial climb	Collision with terr/obj (non-CFIT)

On August 18, 2020, about 1100 central daylight time, a Piper PA-36-285 airplane, N57607, was substantially damaged when it was involved in an accident near Ord, Nebraska. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 137 agricultural flight.

The pilot stated that the engine startup was normal and that he observed a calm surface wind while taxiing to runway 31. The pilot initially observed dark/black engine exhaust while he cycled the propeller during an engine runup before takeoff, but he did not observe any anomalies with the engine or the engine exhaust during a second engine runup and propeller cycle that he completed before takeoff.

The pilot stated that the takeoff on runway 31 was uneventful and that after liftoff he kept the airplane in ground effect until it accelerated to a normal climb airspeed. The pilot stated the initial climb was uneventful until the first turn when he observed the airspeed decreasing despite the engine and propeller operating normally at takeoff power. Although he was able to maintain altitude in the turn, the airplane's airspeed continued to decrease closer to an aerodynamic stall speed. The pilot chose not to dump the load of liquid herbicide because he thought it could have a negative effect on being able to control the airplane and cause it to enter an aerodynamic stall. The airplane's right wing dropped shortly before impact with the ground, which the pilot attributed to the airplane flying at or near aerodynamic stall. The airplane collided with terrain in a right wing down attitude.

The pilot stated that before the flight the airplane was loaded with 40 gallons of fuel and 155 gallons of liquid herbicide. He stated he previously flew the airplane with similar or heavier loads without any adverse effects to airplane performance. He reported that the weather conditions earlier in the morning included some rain showers associated with the passage of a weather front; however, at the time of the accident, the wind was calm and there was no precipitation. The pilot reported that there were no mechanical malfunctions or failures of the airplane or its engine during the flight.

The airplane's fuselage and both wings were substantially damaged during the accident. The airplane was partially disassembled and recovered from the accident site before the National Transportation Safety Board or the Federal Aviation Administration (FAA) were notified of the

accident. A FAA examination of the airplane and its engine did not reveal any evidence of a mechanical malfunction or failure that would have prevented normal flight.

Pilot Information

Certificate:	Commercial	Age:	54, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Single
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	September 16, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 3, 2020
Flight Time:	2643 hours (Total, all aircraft), 328 hours (Total, this make and model), 641 hours (Last 90 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N57607
Model/Series:	PA36 285	Aircraft Category:	Airplane
Year of Manufacture:	1975	Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	36-7660006
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	May 7, 2020 Annual	Certified Max Gross Wt.:	4400 lbs
Time Since Last Inspection:	95.13 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	6838.42 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	IO-720-A1B
Registered Owner:	On file	Rated Power:	400 Horsepower
Operator:	Green Meadows Aviation	Operating Certificate(s) Held:	Agricultural aircraft (137)
Operator Does Business As:	On file	Operator Designator Code:	8GMG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	ODX,2070 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	11:05 Local	Direction from Accident Site:	110°
Lowest Cloud Condition:	Scattered / 9000 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 11000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.18 inches Hg	Temperature/Dew Point:	20°C / 18°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Ord, NE (ODX)	Type of Flight Plan Filed:	None
Destination:	Ord, NE (ODX)	Type of Clearance:	None
Departure Time:	11:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Evelyn Sharp Field Airport ODX	Runway Surface Type:	Concrete
Airport Elevation:	2070 ft msl	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	4721 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	41.623611,-98.951942(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Timothy Kray; Federal Aviation Administration - Lincoln FSDO; Lincoln, NE Donald Kendall; Federal Aviation Administration - Lincoln FSDO; Lincoln, NE
Original Publish Date:	April 5, 2023
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=101921

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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](#).