Aviation Investigation Final Report

Location:	La Veta, Colorado	**Accident Number:**	CEN23LA128
Date & Time:	March 10, 2023, 10:45 Local	**Registration:**	N969WD
Aircraft:	ZENITH ZODIAC 601XL	**Aircraft Damage:**	Substantial
Defining Event:	Aerodynamic stall/spin	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the airplane's engine lost all power shortly after takeoff at an altitude of 400 to 500 above ground level (agl). The airplane then entered an aerodynamic stall, descended, and impacted the ground before coming to rest inverted. The pilot had just purchased the airplane and did not have any flight time in the accident make and model airplane.

The previous owner was present when the accident occurred. He stated that he did not believe that the accident was a result of a loss of engine power. He noted that the engine runup was normal and the wind was 35 to 40 knots with gusts at the time of the accident. He saw the airplane after takeoff and it appeared to be bouncing around because of the wind. It then stalled and fell to the ground. He could not hear the engine noises due to the wind.

A postaccident examination, which included an engine run, did not reveal any preimpact anomalies that would have precluded normal operation.

Based on the available evidence, the accident was likely the result of the pilot's decision to fly the airplane in which he had no experience in strong, gusting wind. This led to exceedance of the airplane's critical angle of attack and an aerodynamic stall that the pilot had insufficient altitude to recover from.

Probable Cause and Findings

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

The pilot’s decision to fly the airplane in which he had no experience in strong, gusting wind, which resulted his failure to maintain proper airspeed and his exceedance of the airplane’s critical angle of attack and a subsequent aerodynamic stall.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	Total experience w/ equipment - Pilot
Environmental issues	Gusts - Decision related to condition
Aircraft	Angle of attack - Not attained/maintained

Factual Information

History of Flight

Initial climb	Aerodynamic stall/spin (Defining event)

On March 10, 2023, about 1045 mountain standard time, a Zenith Zodiac 601XL airplane, N969WD, was substantially damaged when it was involved in an accident near Cuchara Valley Airport (07V), La Veta, Colorado. The pilot and passenger received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he had just purchased the airplane and was in the process of flying the airplane to Texas. The pilot did not have any flight time in the accident make and model of airplane. He reported that the airplane was configured with 4 fuel tanks consisting of 2 tanks in each wing. The outboard fuel tanks were empty due to weight and balance considerations. The inboard tanks were filled before the flight and the right inboard fuel tank was selected. The pilot reported that, shortly after takeoff from runway 24 and when the airplane was about 400 to 500 ft agl, the airplane's engine lost all power, and he placed the airplane in a glide. When the airplane was about 100 ft agl, the airplane stalled and impacted the ground and came to rest inverted. The fuselage and wings sustained substantial damage.

The previous owner who had just sold the airplane to the pilot was present when the accident happened. He said that he did not believe the accident was the result of a loss of engine power and that the wind at the time was about 35 to 40 knots with gusts. He tried to persuade the pilot to delay taking the airplane until another day when wind was more favorable but said the pilot and his passenger were determined to leave that day. They performed a runup to 4,000 rpm, checked the ignitions, and all temperatures and pressures were normal. The pilot and passenger then took off. When the airplane was about 400 ft agl, it looked like the airplane was getting bounced around by turbulence and was going side to side. The airplane then stalled and went into the ground. The previous owner was about ¼ mile away and could not hear engine sounds due to the wind.

The airplane remained at the accident site until a postaccident examination was performed, which included several engine runs at idle speeds. The engine runs were limited to idle speeds because the airplane's wooden propeller had splintered, and the engine was run without a propeller installed. The postaccident examination and engine run did not reveal any anomalies that would have precluded normal operation.

Pilot Information

Certificate:	Private	**Age:**	27,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	August 17, 2022
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	February 9, 2022
Flight Time:	65 hours (Total, all aircraft), 0 hours (Total, this make and model), 10 hours (Pilot In Command, all aircraft), 60 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ZENITH ZODIAC	**Registration:**	N969WD
Model/Series:	601XL	**Aircraft Category:**	Airplane
Year of Manufacture:	2005	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	6-5349
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	December 19, 2022 Condition	**Certified Max Gross Wt.:**	1320 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	ROTAX
ELT:		**Engine Model/Series:**	912
Registered Owner:	On file	**Rated Power:**	100 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KVTP,10217 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	10:35 Local	**Direction from Accident Site:**	259°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	18 knots / 26 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	1°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	La Veta, CO	**Type of Flight Plan Filed:**	None
Destination:	Trinidad, CO (TAD)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	Cuchara Valley Airport La Veta 07V	**Runway Surface Type:**	Asphalt
Airport Elevation:	7152 ft msl	**Runway Surface Condition:**	Dry;Rough
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	5798 ft / 60 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	37.523824,-105.00926

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Mike Burton; FAA - Denver FSDO; Denver, CO
Original Publish Date:	March 28, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=106865