



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Colonial Beach, Virginia	Accident Number:	ERA23FA260
Date & Time:	June 7, 2023, 10:15 Local	Registration:	N835BC
Aircraft:	Vans RV6	Aircraft Damage:	Destroyed
Defining Event:	Aerodynamic stall/spin	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and passenger were flying back to their home airport after an overnight stay with some friends. A witness, and friend of the pilot and passenger, stated he watched the airplane as it made two circles around his house. On the second circle, he noticed the airplane was in a very steep bank angle and making a tight circle about 100 ft above the ground. He then noticed the nose of the airplane drop down and the airplane impact the ground in a near-vertical attitude. He stated the engine was running well the entire time.

Postaccident examination of the airframe and engine revealed no evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation. Thus, it is likely that while performing the low altitude circling maneuver, the pilot maintained insufficient airspeed and banked too steeply, which resulted in an exceedance of the airplane's critical angle of attack and a subsequent aerodynamic stall.

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 maneuvering at low altitude, which resulted in an exceedance of the airplane's critical angle of attack and a subsequent aerodynamic stall.

Findings

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

Factual Information

History of Flight

Maneuvering-low-alt flying	Aerodynamic stall/spin (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On June 7, 2023, at 1015 eastern daylight time, an experimental amateur-built Vans RV-6, N835BC, was destroyed when it was involved in an accident near Colonial Beach, Virginia. The pilot and passenger were fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A witness reported that, after an overnight visit, he dropped the pilot and passenger off at a neighbor’s private airstrip about 0945 for their flight home. He then returned to his house and, about 30 minutes later when he was standing in his driveway, he watched the airplane make two circles around his house. On the second circle, the airplane was very steep, “knife-edge” bank in a tight circle about 100 ft above the ground. The nose of the airplane then dropped and the airplane impacted the ground beside his driveway in a near-vertical attitude. He stated the engine was “running well the entire time.” The owner of the grass airstrip reported a similar account.

The accident site was located between a driveway and corn field at a personal residence about 1/2 mile from the private, unregistered airport from which it departed. The airplane impacted the ground in a nose-down attitude and came to rest upright, oriented on a magnetic heading of 345°. A postimpact fire consumed most of the airplane. The wreckage site was compact and all major components of the airplane were located at the accident site.

Both wings were accordion-crushed aft and remained attached to the fuselage. The right wing flap was separated and located behind the main wreckage. The right aileron was still attached to the wing by the linkage. The left wing flap and aileron remained attached to the left wing. The fuselage, instrument panel, cabin, seats, control cables, and inboard wings were all consumed by fire. The empennage was fire damaged; however, the rudder, elevator, and vertical stabilizer were all intact.

The engine was fire damaged and all the accessories were also fire damaged and mostly melted. The engine’s crankshaft was rotated via the propeller hub and thumb compression, valve action, and crankshaft continuity were confirmed on three of the four cylinders. Powertrain and valvetrain continuity was established through the engine and accessory case. Borescope examination of all cylinders revealed no anomalies. The wood propeller was fractured in several pieces and located near the impact crater.

An autopsy of the pilot was performed by the Commonwealth of Virginia's Office of the Chief Medical Examiner. According to the autopsy report, the cause of death was blunt force injuries and the manner of death was accident.

Pilot Information

Certificate:	Private	Age:	28,Male
Airplane Rating(s):	Single-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):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	December 10, 2019
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 4, 2023
Flight Time:	355 hours (Total, all aircraft), 9999 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Vans	Registration:	N835BC
Model/Series:	RV6	Aircraft Category:	Airplane
Year of Manufacture:	2005	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	21605
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	November 22, 2022 Condition	Certified Max Gross Wt.:	1600 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	832 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-320-EXP
Registered Owner:	On file	Rated Power:	100
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:	XSA,135 ft msl	Distance from Accident Site:	17 Nautical Miles
Observation Time:	10:15 Local	Direction from Accident Site:	165°
Lowest Cloud Condition:	Scattered / 3400 ft AGL	Visibility	4 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.74 inches Hg	Temperature/Dew Point:	21°C / 11°C
Precipitation and Obscuration:	Moderate - None - Haze		
Departure Point:	Colonial Beach, VA (PVT)	Type of Flight Plan Filed:	None
Destination:	Tappahannock, VA (XSA)	Type of Clearance:	None
Departure Time:	10:10 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	38.118334,-76.973895(est)

Administrative Information

Investigator In Charge (IIC):	Boggs, Daniel
Additional Participating Persons:	Peter Hantelman; FAA/FSDO; Richmond, VA Ryan Enders; Lycoming Engines; Bridgeport, PA
Original Publish Date:	June 26, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192326

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