



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Topeka, Kansas	Accident Number:	WPR22FA254
Date & Time:	July 16, 2022, 11:53 Local	Registration:	N283S
Aircraft:	STUCKY STEVEN D RV-7	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

On the day of the accident, witnesses saw the airplane depart from the runway and enter a near-vertical climb before the airplane's nose dropped and began a right turn. The airplane remained in a nose-low, near-vertical descent until it impacted a grass field off the end of the runway. Several witnesses had previously watched the pilot take off and perform various aerobatic maneuvers similar to the accident flight.

Toxicological tests detected a level of ethanol known to cause some level of impairment. The test results were also consistent with the pilot having consumed alcohol near the time of the flight. Therefore, it is likely that the pilot's impairment contributed to the loss of control as the pilot performed an aerobatic maneuver on takeoff.

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 aircraft control while performing an aerobatic maneuver on takeoff, which resulted in exceedance of the airplane's critical angle of attack, a subsequent aerodynamic stall, and impact with terrain. Contributing to the accident was the pilot's impairment from alcohol consumption before the flight.

Findings

Personnel issues	Alcohol - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Not attained/maintained

Factual Information

History of Flight

Takeoff	Loss of control in flight (Defining event)
---------	--

On July 16, 2022, about 1153 central daylight time, an experimental amateur-built RV-7, N283S, was substantially damaged when it was involved in an accident near Topeka, Kansas. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A witness reported that he had spoken to the pilot earlier in the day, who said he was going to fly to another airport for fuel. The witness stated it was normal to see the pilot perform maneuvers when he departed, such as a wing over, then over fly the runway before departing the area. The witness observed the airplane depart and enter a near-vertical climb. The airplane's nose dropped with a turn to the right and entered a nose-low, near-vertical descent until the airplane impacted terrain near the departure end of the runway. Other witnesses reported that the airplane attained an altitude of about 150-200 ft above ground level before the nose dropped.

A local resident reported that he did not observe the accident flight; however, he routinely observed the accident airplane perform various aerobatic maneuvers, such as inverted flight over the airport, spins, and barrel rolls. It was common to see the accident airplane take off, climb in a near-vertical attitude, then turn toward the ground and overfly the airport.

Pilot Information

Certificate:	Commercial	Age:	74, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	April 5, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 13, 2022
Flight Time:	2157.3 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	STUCKY STEVEN D	Registration:	N283S
Model/Series:	RV-7	Aircraft Category:	Airplane
Year of Manufacture:	2009	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	73041
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	July 2, 2022 Condition	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1709.4 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	YO-360-A1A
Registered Owner:	WAKE TURBULENCE CORP	Rated Power:	
Operator:	WAKE TURBULENCE CORP	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KTOP,880 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	11:53 Local	Direction from Accident Site:	189°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots / None	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	32°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Topeka, KS	Type of Flight Plan Filed:	None
Destination:	Gardner, KS (K34)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	BUENA TERRA 33KS	Runway Surface Type:	Grass/turf
Airport Elevation:	950 ft msl	Runway Surface Condition:	Dry
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	2500 ft / 80 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	39.14609,-95.61038(est)

Examination of the accident site revealed that the airplane came to rest upright after it impacted an open grass field about 375 ft southwest of the departure end of runway 19. The wreckage came to rest on a heading of about 340° magnetic. No visible ground scars were observed in the area near the wreckage. All major structural components of the airplane were located at the accident location.



Figure 1: View of the accident site diagram.

Flight control continuity was established from the cockpit to all primary flight controls. Numerous separations were noted within the flight control system with signatures consistent with overload separation or due to the recovery process.

Postaccident examination of the recovered airframe and engine did not reveal evidence of any mechanical anomalies that would have precluded normal operation.

Medical and Pathological Information

The Shawnee County Coroner's Office, Topeka, Kansas, performed an autopsy of the pilot. The pilot's cause of death was multiple blunt impact injuries.

Toxicology testing performed by the Federal Aviation Administration Forensic Sciences Laboratory detected ethanol in the pilot's cavity blood at 0.069 gm/dL, vitreous fluid at 0.077gm/dL, gastric contents at 0.390 gm/dL, liver tissue at 0.026 grams per hectogram (gm/hg) 2, kidney tissue at 0.067 gm/hg, and muscle tissue at 0.083 gm/hg; results were inconclusive for ethanol in brain tissue.

Ethanol is a social drug commonly consumed by drinking beer, wine, or liquor. Ethanol acts as a central nervous system depressant; it impairs judgment, psychomotor functioning, and vigilance.

Title 14 CFR Section 91.17 (a) states, in part, that

no person may act or attempt to act as a crewmember of a civil aircraft (1) Within 8 hours after the consumption of any alcoholic beverage; (2) While under the influence of alcohol; (3) While using any drug that affects the person's faculties in any way contrary to safety; or (4) while having an alcohol concentration of 0.040 gm/dL or greater in a blood or breath specimen.

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Richard Steven; Federal Aviation Administration ; Wichita, KS Troy R. Helgeson ; Lycoming Engines; Williamsport, PA
Original Publish Date:	January 4, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=105487

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).