



# Aviation Investigation Final Report

<b>Location:</b>	Langley, Washington	<b>Accident Number:</b>	WPR19LA062
<b>Date &amp; Time:</b>	January 12, 2019, 11:15 Local	<b>Registration:</b>	N800KE
<b>Aircraft:</b>	Vans RV8	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 Fatal, 1 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot and passenger departed on a personal flight to a nearby airport. Video footage captured by an on-board camera revealed that, while in the traffic pattern at a groundspeed of 77 knots, the sound of the engine's power sharply decreased, and the pilot's hand movement was consistent with a power reduction. The airplane's elevator control surfaces were consistent with the pilot commanding positive pitch to the airplane.

For the next few seconds, the airplane continued in a left turn; the sound of the engine was consistent with a power increase. Shortly thereafter, the left wing dropped rapidly, and the nose of the airplane began falling through the horizon. The airplane's left bank continued to increase. The airplane descended toward the ground in a left bank about 90° until the airplane impacted terrain about 2,000 ft from the approach end of the runway. The passenger stated that the left wing "fluttered" like it stalled, and the airplane subsequently descended like a "lawn dart." The video revealed no evidence of mechanical malfunctions or anomalies that would have precluded normal operation of the airplane or engine.

It is likely that during the turn, the pilot did not maintain sufficient airspeed and exceeded the airplane's critical angle of attack while maneuvering in the airport traffic pattern, which resulted in an aerodynamic stall, loss of control, and subsequent impact with terrain.

## Probable Cause and Findings

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

The pilot's exceedance of the airplane's critical angle of attack while maneuvering in the airport traffic pattern, which resulted in an aerodynamic stall and a loss of control at an altitude too low for recovery.

## Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Capability exceeded

# Factual Information

## History of Flight

Approach-VFR pattern base	Loss of control in flight (Defining event)
Approach-VFR pattern base	Aerodynamic stall/spin

On January 12, 2019, about 1115 Pacific standard time, an experimental, amateur-built Vans Aircraft Inc. RV8A, N800KE, sustained substantial damage when it was involved in an accident near Langley, Washington. The pilot was fatally injured, and the passenger was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The Federal Aviation Administration issued an Alert Notification for the missing airplane after the pilot of another airplane made a distress call for an experimental airplane that had gone down. A search ensued and the airplane was located by local law enforcement about 15 minutes later.

The pilot and passenger departed Snohomish County Airport, Paine Field (PAE), Everett, Washington, on a personal flight to a nearby airport. While approaching Whidbey Air Park Airport (W10), Langley, Washington, for landing, a witness reported that the airplane was turning from the base to final leg of the airport traffic pattern when its nose dropped and it rolled to the left; the airplane subsequently entered a steep dive and spun into the trees. The passenger reported that, during the turn from base to final, the airplane's left wing was down, and it "fluttered" like it stalled. The airplane then descended like a "lawn dart."

The airplane was equipped with a Garmin VIRB onboard camera, which was mounted just aft of the front seat behind the pilot's right shoulder and captured the accident flight. Review of the footage revealed that the pilot initiated a left turn from the downwind to base leg of the airport traffic pattern at an altitude of 540 ft mean sea level (msl) and a groundspeed about 77 knots (kts). About 6 seconds later, the sound of the engine's power sharply decreased, and the pilot's hand movement was consistent with a power reduction. The airplane's elevator control surfaces were consistent with the pilot commanding positive pitch to the airplane.

For the next second, the airplane continued in a left turn; the sound of the engine was consistent with a power increase. Shortly thereafter, the left wing dropped rapidly, and the nose of the airplane began falling through the horizon. The airplane's left bank continued to increase, and pine trees began filling the camera's field of view. The airplane descended toward the ground in a left bank about 90° before impacting trees.

The footage revealed no evidence of pre-impact anomalies or malfunctions that would have precluded normal operation of the airplane or engine.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	63,Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 None	<b>Last FAA Medical Exam:</b>	December 7, 2016
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 1150 hours (Total, all aircraft)		

### Pilot-rated passenger Information

<b>Certificate:</b>	Private	<b>Age:</b>	58,Female
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	June 1, 2015
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 208 hours (Total, all aircraft)		

The pilot's most recent Federal Aviation Administration airman medical certificate had expired; he had not completed the requirements of BasicMed.

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Vans	<b>Registration:</b>	N800KE
<b>Model/Series:</b>	RV8 A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2008	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	82281
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Mattituck
<b>ELT:</b>		<b>Engine Model/Series:</b>	TMX IO-360
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

According to the passenger, there were no flight controls installed in the rear seat.

The airframe and engine logbooks were not located during the investigation.

The kit manufacturer's website stated that the airplane's stall speed was 58 kts.

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KPAE, 606 ft msl	<b>Distance from Accident Site:</b>	10 Nautical Miles
<b>Observation Time:</b>	10:53 Local	<b>Direction from Accident Site:</b>	140°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	3 knots / None	<b>Turbulence Type Forecast/Actual:</b>	None /
<b>Wind Direction:</b>	120°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.01 inches Hg	<b>Temperature/Dew Point:</b>	11°C / 0°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Everett, WA (PAE )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Langley, WA (W10 )	<b>Type of Clearance:</b>	Unknown
<b>Departure Time:</b>	11:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Whidbey Air Park W10	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	271 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	16	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2470 ft / 25 ft	<b>VFR Approach/Landing:</b>	Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal, 1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Fatal, 1 Serious	<b>Latitude, Longitude:</b>	48.032501,-122.4375(est)

The airplane came to rest in wooded terrain with heavy vegetation about 2,000 ft north of the approach end of runway 16. The airplane was inverted and both wings had separated. The damage to trees in the area of the accident site was consistent with a steep vertical descent before impact.

## Medical and Pathological Information

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The Island County Coroner's Office, Coupeville, Washington, conducted an autopsy of the pilot. The pilot's cause of death was "multiple blunt trauma injuries."

Toxicology testing performed at the FAA's Forensic Sciences Laboratory was negative for carbon monoxide, ethanol, and tested-for drugs.

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Nixon, Albert
<b>Additional Participating Persons:</b>	David Duncan; Federal Aviation Administration; Des Moines, WA
<b>Original Publish Date:</b>	February 2, 2021
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 2</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=98833">https://data.ntsb.gov/Docket?ProjectID=98833</a>

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](#).