

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24FA080

ACCIDENT SITE EXAMINATION

February 1, 2024

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A. ACCIDENT

Location: Concord, California
Date: January 31, 2024
Time: 1029 PST
1829 UTC
Airplane: Vans RV-6 (N30AK)

B. ACCIDENT SITE EXAMINATION

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Investigator	Zoe Keliher National Transportation Safety Board Federal Way, Washington
Inspector	Justin Horn Federal Aviation Administration Alameda, CA

C. SUMMARY

On January 30, 2024, at 1029 Pacific standard time, an experimental amateur-built Vans RV-6, N30AK, was substantially damaged when it was involved in an accident near Concord, California. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

A review of the Federal Aviation Administration (FAA) Automatic Dependent Surveillance Broadcast (ADS-B) data revealed that the airplane departed runway 19L at 1009:21. The airplane continued in the pattern for a series of six touch and go practice take-offs and landings at Buchanan Field Airport, Concord, CA (KCCR). After the 7th take off the airplane climbed to approximately 100 ft mean sea level (MSL) and began a shallow decent while making a left turn. The last ADS-B target was at 1029:10 and was located about 100 ft east of the main wreckage.

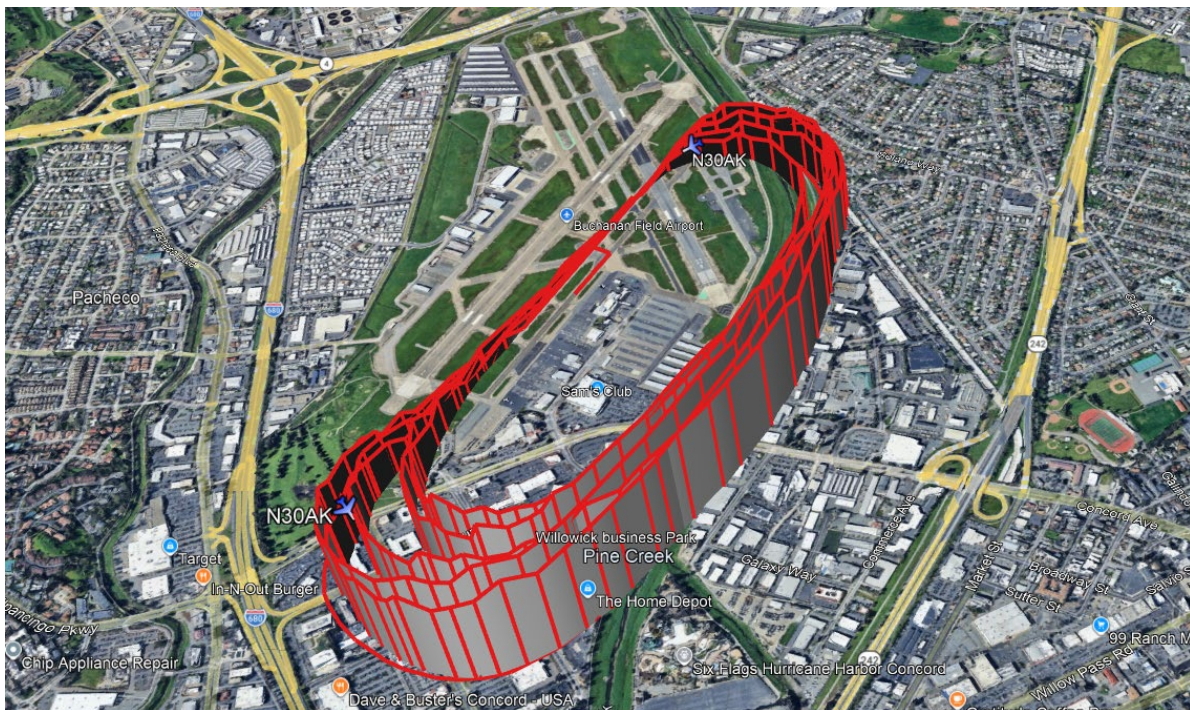


Figure 1: ADS-B flight track photograph

A review of security camera footage revealed that after the final take-off, the airplane entered a near-vertical nose-down decent into the pavement. Numerous witnesses reported that they observed the airplane climbing and then heard the engine suddenly quit. The engine sound momentarily resumed, and the airplane started a brief climb. Seconds later, the engine noise stopped again, and the airplane initiated a left bank, aggressively increasing the steepness of the bank in descent.



Figure 2: Nose down camera footage

When on the final touch and go on departure, airport video showed the airplane striking the terrain in a vertical nose down attitude.



Figure 3: View of airplane flight path from video camera

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The airplane came to rest about 1,830 ft, southwest of the departure end of 18L and was oriented on a heading of 270°. The debris field was confined to an area within 72 ft. of the wreckage. The airplane struck the pavement at the intersection of Diamond Blvd and Concord Ave just southwest of Buchanan Field airport property at a GPS location of (+037.977762 / -122.061267). The airplane shifted from initial impact about 3.5 feet to the right of centerline of the fuselage which came to rest right side up. A ground scar about 1 ft in diameter was collocated next to the main wreckage where the nose of the airplane made a hole in the pavement and the left wing had struck, leaving a mark and concrete chip of the road shoulder.



Figure 4: View of accident site diagram

2.0 Airframe Examination

N30AK – Swanson R / Swanson S, RV-6
SR# 21153
Tach: 434.9 (at time of dispatch)

Examination of the wreckage revealed that the airplane came to rest upright. The forward section of the cockpit was impact damaged and crushed aft. The instrument panel was impact damaged with multiple instruments displaced. All of the major structures of the airplane were accounted for at the accident site. Both wings

remained attached to the fuselage at the wing root, the fuel tanks on each wing were breached and the fuel contents expelled.

Flight control continuity was established from all primary flight control surfaces to the left and right cockpit controls. Both flight control assemblies exhibited impact damage. No separations in the control cables were observed.



Figure 5: Front view of accident airplane.

2.1 Fuselage

The fuselage was mostly intact. The engine cowling was separated. The engine and forward portion of the fuselage was impact damaged and displaced to the aft. The engine mount had several fractures, consistent with impact damage. Crushing and buckling was observed throughout the fuselage.

2.2 Empennage

The empennage remained attached to the fuselage and was observed displaced to the left. Both elevators remained attached at their respective horizontal stabilizers and the rudder remained attached to the vertical stabilizer. The left elevator trim tab was in a neutral position and could not be actuated by hand. The rudder had a hole on the left side that when deflected to the left matched where the left trim tab and elevator were positioned in a slightly nose down position at impact.

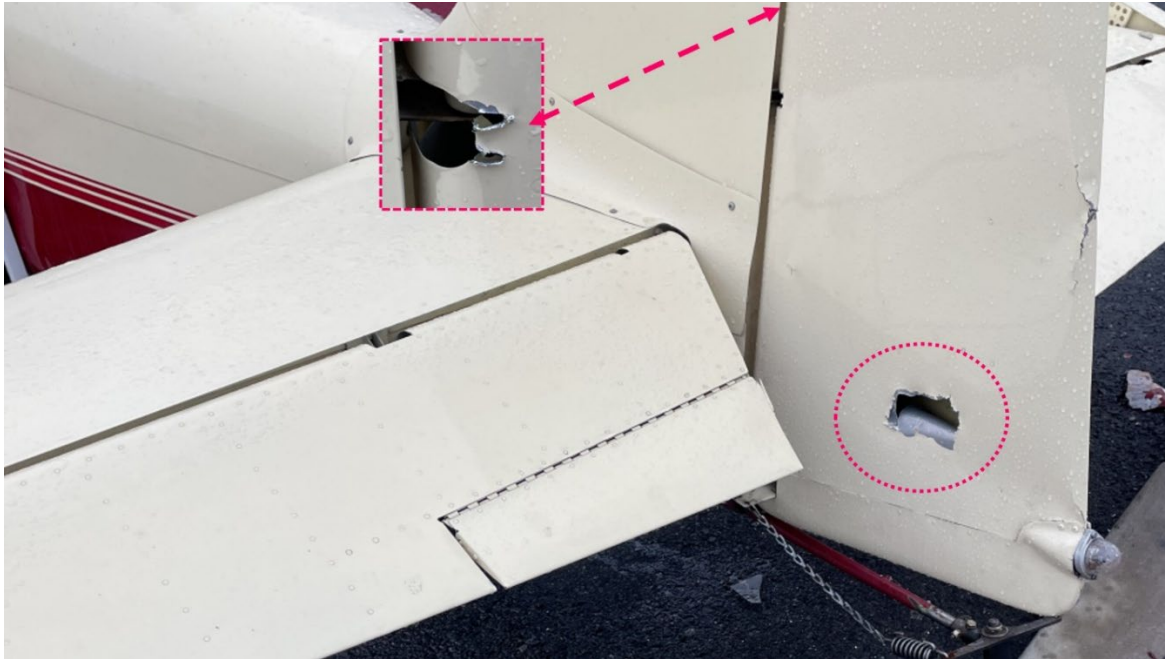


Figure 6: Left elevator rudder impact damage

2.3 Wings

Both wings remained attached to the fuselage at the wing root. Both wings exhibited crushing and bending to the leading edges, from the wing tip to the wing root. Both wings were displaced aft, consistent with impact damage. Both ailerons and flaps remained attached to their respective mounts. The left aileron displayed an upward bend from both end attachment points and was binding and could not be moved. The right aileron exhibited binding and could not be moved.

The damage to the left aileron was consistent to the shape and paint transfer of a forward bumper of a passenger vehicle at the accident site.



Figure 7: Left aileron vehicle impact damage

2.4 Cockpit

The main canopy had separated, was shattered into numerous pieces and was observed at the accident location. The passenger compartment was crushed, and the firewall and instrument panel were displaced aft into the cockpit. The pilot shoulder harness had been cut by recovery personnel. The switches on instrument panel were impact damage and were observed the off position. The observed tachometer was 0434.

Throttle and mixture control continuity was established from the cockpit controls to the carburetor. The throttle and mixture control were observed in the full forward position and exhibited binding. The controls could not be moved when actuated by hand.

2.5 Fuel/Fuel System

A visual inspection was conducted of the fuel system. Continuity was established from the fuel tanks throughout the fuel system to the carburetor. Separation within the fuel system was consistent with impact damage. The fuel tank screened inlets were free of contaminants. The airframe fuel strainer was separated from the firewall and was observed in the cockpit area. The fuel bowl was disassembled and had trace amounts of sediment were observed. The fuel selector lever was observed in the right tank position. The carburetor was separated from the engine and observed crushed consistent with impact damage.

2.6 Propeller

The airplane was equipped with a fixed pitch three blade propeller. One of the three blades of the propellor was fractured, separated and located near the propellor hub, consistent with impact damage. The other two blades remained attached to the propeller hub.



Figure 8: View of separated propeller blades.

The wreckage was recovered to a secure location for additional examination.

Submitted by:

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Aviation Accident Investigator