



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

October 14, 2019

EXAMINATION SUMMARY

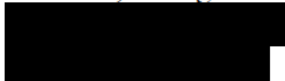
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A. ACCIDENT

Location: Steinhatchee, Florida
Date: September 13, 2020
Time: 1215 EDT
Airplane: Van's RV-9A, N4889R

B. INVESTIGATION PARTICIPANTS

Ralph E. Hicks - IIC
Eastern Region Aviation (ERA)
National Transportation Safety Board
Marietta, Georgia 30068



C. SUMMARY

On September 13, 2020, about 1215 eastern daylight time, a Van's RV-9A, N4889R, was destroyed when it was involved in an accident near Steinhatchee, Florida. The commercial pilot and a student-pilot-rated passenger were presumed to be fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The wreckage examination was conducted at the facilities of Florida Air Recovery, Jacksonville, Florida on October 14 through 15, 2020.

1.0 Fuselage

ELT: ACK Technologies E-04, C91A. Found in "Auto" position. Manufacture date 2/14/2020.

The fuselage separated at the cockpit area, forward of the cockpit seats, and was continuous aft to the area where it was separated at the empennage. The aft fuselage structure was crushed in a downward direction. The right seat lap belt and shoulder harness were in place and unbuckled. The left seat lap belt was attached to structure on the left wing aft spar carry-through. The left seat shoulder harness was missing. Neither cockpit seat was located. The windscreen and canopy were not located.

The forward fuselage consisted of the main spar carry through structure, main landing gear, engine firewall, and nose landing gear. The left main gear and nose gear wheel pants remained attached; the right main wheel pant was missing. The rudder cables remained attached to the rudder assembly; the right seat pedals were separated and missing. The elevator pushrod was connected to the control yoke assembly and extended aft.

The flight control tubes from the cockpit to the empennage were separated and missing; control continuity to the empennage could not be confirmed.

The instrument panel was not located. Several avionics components were located loose in the wreckage.

The fuel selector handle was found in the left tank position.

2.0 Left Wing

The left wing was separated from the fuselage and was generally intact; the separation occurred at the wing root. The fracture surfaces of the main spar caps exhibited overload signatures. There was minimal bending of the spar caps at the fracture points. There was not any noticeable bending (permanent set) of the main spar along its length. Bending on the spar mating surfaces in the fuselage were consistent with an up and aft failure mode. The wing section was about 150" long. The left aileron remained attached to the wing by its hardware. The upper and lower trailing edges of the aileron rivet line was separated but in place. The outer edges of the aileron were bent down. Control continuity was confirmed from the control surface through the pushrod

to the break at the wing root. The tubular pushrod fracture exhibited overstress signatures. The fuel filler cap was in place and secure. The rubber cap seal was intact and pliable. The fuel tank was empty. The left flap was found in the retracted position. The inboard ½ of the flap trailing edge rivets were separated; the inboard ½ of the flap was wrinkled. The outboard ½ of the flap was unremarkable.

3.0 Right Wing

The right wing exhibited significantly more impact damage than the left wing. The main spar fractured about 12" from the wing root. The bending of the spar was consistent with an aft and down direction at the time of failure. The leading edge of the right wing exhibited an up and aft bending signature; the origin of the damage was not evident. The fracture surfaces of the main spar caps exhibited overload signatures. The damage was noted at mid span and was about 4 ft in length. The aileron was separated from the wing; the outboard 1 ft was missing. The forward section composite wing tip was separated from the wing; the aft section was not located. The inboard 4 ft and flap were separated from the main wing structure. Flight control continuity to the aileron could not be confirmed due to the impact damage.

4.0 Empennage

The vertical stabilizer separated from the tail cone at the base. The rudder remained attached to the vertical stabilizer. The lower 12" of the rudder was torn off and missing. The upper 16" of the rudder, including the counterweight, was folded over 180° to the left. The leading edge of the vertical exhibited no significant impact damage. There was a diagonal bent at the forward left side of the vertical, about 14" in length.

The left horizontal stabilizer was separated and intact. There was no evidence of impact damage to the leading edge of the stabilizer.

The outboard 40" of the upper surface of the left elevator was torn away, including the entire elevator counterweight, which was missing. The lower skin of the elevator remained intact.

The right horizontal stabilizer was separated from the empennage. The right elevator was separated from the horizontal stabilizer. There was crushing and bending to the inboard sections of each surface.

The tail cone, including the horizontal stabilizer carry-through spars, was found as a separate section. The forward spar of the left horizontal stabilizer was bent in the forward direction. The forward spar of the right horizontal stabilizer was bent in the aft direction.

5.0 Engine

Engine: Lycoming Model O-320-D2G; S/N L-9454-39A

The engine remained attached to its truss mount and the truss mount was attached to the firewall. The engine exhibited impact damage on the upper surfaces of the cylinders; all pushrods were bent and/or partially separated. The magnetos were removed for examination; they contained salt water and would not produce spark when rotated manually.

The carburetor was removed for examination. The composite floats were intact. The bowl contained about one tablespoon of a fuel and water mixture. The butterfly was partially open and would not move; rust and corrosion were evident. The inlet fuel screen was coated with fine, light-gray-colored sand. The fuel gascolator contained about 3 oz of blue-colored fuel and about 1 oz of water. The screen was clean and clear. The engine-driven fuel pump was removed for examination; the unit contained a trace amount of fuel and pumped when actuated manually.

The top spark plugs were removed; the nos. 1, 2, and 3 plugs exhibited normal wear and color and with surface corrosion and embedded sand. The no. 4 plug was impacted with wet sand. The ignition harness had impact and corrosion damage and was not tested. The air intake and filter were unobstructed.

The engine was partially turned through using the propeller. About 270° of turn was performed; internal continuity was confirmed through the accessory drive gears at the aft section of the engine. Impact damage and salt water/sand contamination prevented a compression test.

6.0 Propeller

Propeller: Sensenich Model # 70CM759-0-79; S/N 36140K

The fixed-pitch Sensenich aluminum propeller remained securely attached to the engine. The propeller blades exhibited minimal damage with no bending or chordwise scratching noted.