



AIRFRAME AND ENGINE EXAMINATION REPORT

NTSB ACCIDENT NUMBER: ERA20FA009

AIRCRAFT REGISTRATION: N4332J

OPERATOR: Individual

ACCIDENT LOCATION: Cameron, NC

Investigative Team:

NTSB investigator-in-charge (IIC): Adam Gerhardt, Air Safety Investigator

FAA Coordinator: Tim McQuain, Inspector, Greensboro FSDO

Party Members:

None

BRIEF NARRATIVE

On October 14, 2019, about 1045 eastern daylight time, an experimental, amateur-built Vans RV-4, N4332J, was substantially damaged when it impacted wooded terrain near the Rooster Field Airport (84NC), Cameron, North Carolina. The private pilot was fatally injured. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Day visual meteorological conditions prevailed, and no flight plan was filed for the flight, which originated from Woodward Field Airport (CDN), Camden, South Carolina, about 0945, and was destined for 84NC.

BASIC AIRCRAFT INFORMATION

According to FAA airworthiness records, the airplane was a Vans RV-4; a 2-seat, single-engine, low-wing airplane manufactured in 1992. It was powered by a Lycoming O-320-E2A engine. The airplane was registered to the pilot in July 2018. The most recent conditional inspection was complete on March 18, 2018. The serial number labeled on the airplane data plate was 1921. The serial number labeled on the engine data plate was L-17512-27A.

MAINTENANCE RECORDS

The complete maintenance records were located and photographed. The most recent conditional inspection was complete on March 18, 2018.

Date/Tach	Aircraft Maintenance Record	ACFT TT/HR Carry Over
3-18-18 1193	Performed condition inspection of Aircraft. Inspected and re-torqued propeller. Inspected wheel bearings, brakes and tires. Inspected all flight controls and linkage for wear and security. Lubricated all bearings and hinge joints. Inspected and verified torque of all wing mount bolts. Re-inspected SB 14-02-05 and 16-03-28 no cracks found. I certify that this Aircraft has been inspected on March 18, 2018 in accordance with the scope and detail of appendix D, of part 43 and found to be in a condition safe for operation. Name: [REDACTED] A&P [REDACTED]	
N		Aircraft Total Time

Photo 1: Condition inspection maintenance record entry (NTSB Photo)

WRECKAGE AND IMPACT INFORMATION

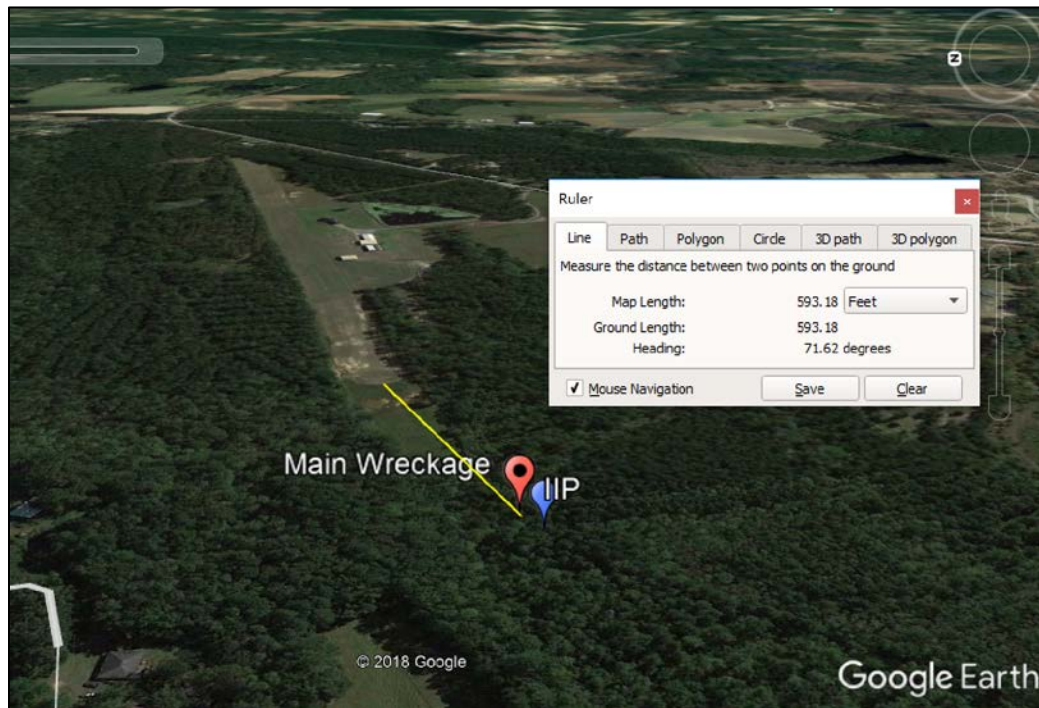


Figure 1: Accident site location and initial impact point in relation to runway 9-27 at 84NC

The initial impact point and main wreckage were co-located in heavily wooded terrain about 590 feet from the runway 9 threshold at 84NC. The airplane was found inverted oriented on a 050° heading. All major components of the airplane were found with the main wreckage; flight control continuity was established from all flight control surfaces to the cockpit. The left aileron had separated from its attach point and was found about 10 ft forward of the main wreckage. All other control surfaces remained attached to their attach points.



Photo 2: View of airplane at the accident site, inverted (NTSB Photo)



Photo 3: Additional view of the accident airplane inverted (NTSB Photo)

Fuel remained in the left wing and was observed to be leaking; no debris was noted in a fuel sample and it tested negative for water when exposed to water finding paste. The inboard portion of the right wing displayed significant aft crushing and no fuel was present in the wing as the fuel tank had been breached. The left and right flaps were found partially extended. Elevator trim continuity was established from the cockpit to the control surface.



Photo 4: View of the aft portion of the fuselage and empennage (NTSB Photo)

According to first responders, the pilot was wearing the motorcycle helmet that had a full-face mask, the 5-point harness remained buckled and was cut during the recovery. The roll bar in the cockpit area also remained intact and was cut during the recovery. The cockpit, instrument panel and seat remained largely intact. It was equipped with a panel mounted Garmin 296 GPS unit. Refer to the GPS Factual Report for information on the data extracted.



Photo 5: Motorcycle helmet found at the accident site (NTSB Photo)

The ignition was found on both, the fuel selector was selected to the right tank, and the primer lever was stowed. The throttle lever (black lever) was found full forward; the mixture (red lever) and propeller levers (blue lever) were found full aft (idle-cut-off). The canopy, nor were any canopy fragments located.



Photo 6: Throttle, propeller and mixture levers as found at the accident site (NTSB Photo)

An emergency locator transmitter (ELT) was installed near the baggage compartment along the airframe and was set to the arm position. A telephone cable wire was found plugged into the ELT and was connected to the ELT on/ test switch in the cockpit. The ELT was not found connected to an external antenna. During a postaccident test, the ELT was dropped from a height of about 10 ft; an emergency beacon sound was heard immediately after it contacted the ground on the frequency 121.5 via a handheld aviation radio.



Photo 7: View of the cockpit (NTSB Photo)



Photo 8: Emergency locator transmitter as found (NTSB Photo)

The engine remained attached to the engine mounts. The majority of the wooden propeller blades separated from the hub and were splintered. During an engine examination, the remnants of the propeller were rotated by hand and valve train continuity was established. All cylinders remained attached to the crankcase and thumb compression and suction was attained on all cylinders. All spark plugs sparked during engine rotation; each were removed and displayed normal operating and combustion signatures.

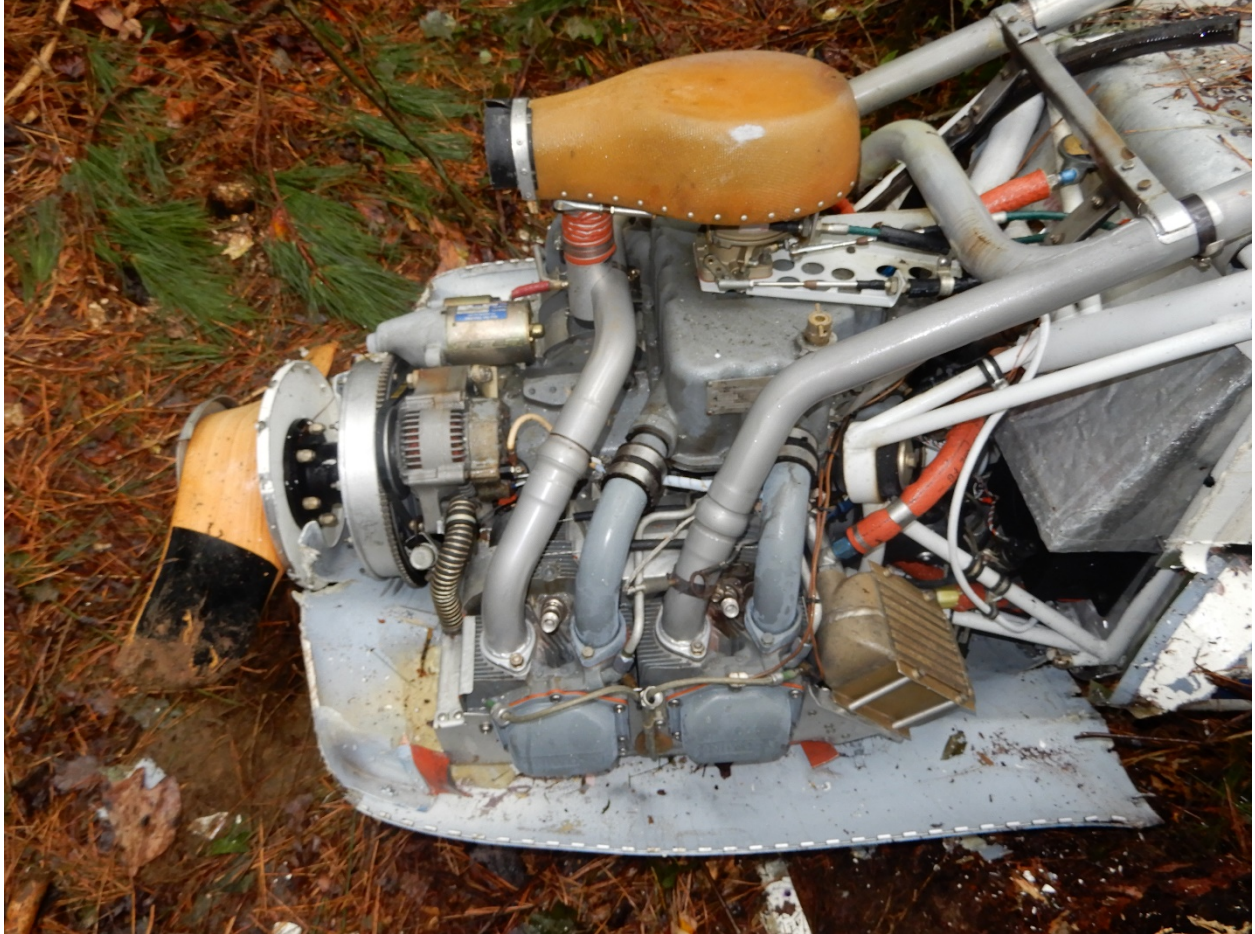


Photo 9: View of the engine with the cowling removed (NTSB Photo)



Photo 10: View of the propeller fragments and hub (NTSB Photo)

The carburetor remained intact and attached to the engine, the butterfly valve remained attached to the throttle arm and moved freely. The carburetor was disassembled; the carburetor floats were intact, and no debris or fuel was observed in the bowl, and the venturi needle was clear of debris. The smell of fuel was present in the bowl. The engine oil was observed to be black in color and no metal or debris was observed.



Photo 11: View of the carburetor partially disassembled (NTSB Photo)

Reported Submitted by Adam Gerhardt