



Aviation Investigation Final Report

Location:	Eaton, Ohio	Accident Number:	ERA23LA208
Date & Time:	April 25, 2023, 20:35 Local	Registration:	N327WC
Aircraft:	Vans RV6	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the experimental amateur-built airplane purchased it the day before the accident. After the purchase, the pilot completed two flights in the airplane uneventfully. The next day, during the third flight, the engine lost all power and the airplane nosed over in a field during a forced landing, coming to rest inverted.

Postaccident examination of the wreckage revealed that both fuel tanks were absent of fuel and there was no evidence of fuel spillage at the accident site. No evidence of any preimpact mechanical malfunctions or failures of the airplane's automotive conversion engine were observed. When asked after the accident how much fuel was onboard when the airplane was delivered, and how much (if any) was added to it, the pilot responded that he did not know. The pilot believed that during a previous flight he had started with around 35 gallons and that 8 to 10 gallons should have been onboard at the time of the accident based on the airplane's fuel quantity gauges. The previous owner stated that the airplane was delivered with approximately 3 gallons in the right-wing fuel tank and 10 gallons in the left-wing fuel tank. Based on this information, it is likely that the pilot overestimated the fuel quantity onboard the airplane, and had based that estimate on fuel quantity gauge indications that may have been inaccurate. This subsequently resulted in fuel exhaustion and the total loss of engine power.

Probable Cause and Findings

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

The pilot's inadequate fuel management, which resulted in a total loss of engine power due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid management

Factual Information

History of Flight

Enroute	Fuel exhaustion (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT)
Landing	Nose over/nose down

On April 25, 2023, about 2035 eastern daylight time, an experimental amateur-built Vans RV6, N327WC, was substantially damaged when it was involved in an accident near Eaton, Ohio. The private pilot was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot stated that he purchased the airplane the day before the accident. After the purchase, the pilot completed two flights in the airplane uneventfully. The next day, during the third flight, the engine lost all power and the pilot performed a forced landing to a cornfield. During the landing, the airplane nosed over and came to rest inverted.

Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to the left wing and vertical stabilizer. The inspector noted that there was a faint smell of automotive gasoline, and that airplane was equipped with a Honda Civic engine. His examination was limited due to the disposition of the wreckage. Subsequent examination of the wreckage by a recovery crew revealed that both fuel tanks were absent of fuel and there was no evidence of a fuel leak in the field.

When asked how much fuel was onboard when the airplane the pilot stated that he had flown earlier in the day uneventfully and “started with about 35 gallons.” He also stated that when the engine lost power, the fuel gauges indicated that about 8 to 10 gallons of fuel remained. When asked specifically how much fuel was onboard the airplane when it was delivered, and how much (if any) was added to it, the pilot responded that he did not know. The previous owner stated that the airplane was delivered with approximately 3 gallons in the right-wing fuel tank and 10 gallons in the left-wing fuel tank.

The engine was retained for further examination. The propeller was rotated by hand and continuity was confirmed through the reduction gear to the rear accessory section. No evidence of any preimpact mechanical malfunctions were observed.

Pilot Information

Certificate:	Private	Age:	29,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	BasicMed	Last FAA Medical Exam:	April 22, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 15, 2023
Flight Time:	407 hours (Total, all aircraft), 112 hours (Total, this make and model), 291 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Vans	Registration:	N327WC
Model/Series:	RV6 A	Aircraft Category:	Airplane
Year of Manufacture:	2020	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	24483
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	January 3, 2023 Condition	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	136 Hrs	Engine Manufacturer:	Honda
ELT:	C126 installed, activated, aided in locating accident	Engine Model/Series:	R18 1.8L
Registered Owner:	On file	Rated Power:	141 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:	RID,1140 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	20:55 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.11 inches Hg	Temperature/Dew Point:	9°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Moraine, OH (I73)	Type of Flight Plan Filed:	None
Destination:	Moraine, OH (I73)	Type of Clearance:	None
Departure Time:	20:10 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	39.7439,-84.6366(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Joseph Culbertson; FAA/FSDO; Cincinnati, OH
Original Publish Date:	June 5, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=107146

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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](#).