



# Aviation Investigation Final Report

<b>Location:</b>	Wichita Falls, Texas	<b>Accident Number:</b>	CEN22LA071
<b>Date &amp; Time:</b>	December 4, 2021, 16:30 Local	<b>Registration:</b>	N421RT
<b>Aircraft:</b>	Vans RV8	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Fuel starvation	<b>Injuries:</b>	2 Serious
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot-rated passenger, who was the airplane owner/builder, stated while the airplane was returning to the departure airport for landing, there was a total loss of engine power on final approach. The pilot performed a forced landing and the airplane sustained substantial damage to both wings. Postaccident examination of the airplane revealed there was useable fuel in the left fuel tank, and there was no useable fuel in the right fuel tank. There were no preaccident mechanical malfunctions or failures with the airplane or engine that would have precluded normal operation. The loss of engine power was consistent with fuel starvation.

## Probable Cause and Findings

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

The pilot's improper fuel management that resulted in a total loss of engine power due to fuel starvation.

## Findings

<b>Aircraft</b>	Fuel - Fluid management
<b>Personnel issues</b>	Incorrect action performance - Pilot

## Factual Information

### History of Flight

Approach-VFR pattern final	Fuel starvation (Defining event)
Approach-VFR pattern final	Loss of engine power (total)
Emergency descent	Collision with terr/obj (non-CFIT)

On December 4, 2021, at 1630 central standard time, a Vans RV8, N421RT, sustained substantial damage when it was involved in an accident near Wichita Falls, Texas. The pilot and passenger received serious injuries. The airplane was operated under Title 14 *Code of Federal Regulations* Part 91 as a personal flight.

The pilot-rated passenger, who was the airplane owner/builder, stated that while the airplane was returning to the departure airport for landing, there was a total loss of engine power on final approach. The pilot performed a forced landing along the final approach path and the airplane sustained substantial damage to both wings. \

Postaccident examination of the airplane revealed there was useable fuel in the left fuel tank, and there was no useable fuel in the right fuel tank. A witness who responded to the accident, turned the fuel selector from the right fuel tank to the off position. There were no preaccident mechanical malfunctions or failures with the airplane or engine that would have precluded normal operation.

### Pilot Information

Certificate:	Commercial	Age:	29,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 None	Last FAA Medical Exam:	September 25, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:			

## Pilot-rated passenger Information

<b>Certificate:</b>	Commercial; Private	<b>Age:</b>	Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	Balloon	<b>Restraint Used:</b>	5-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	March 23, 2021
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Vans	<b>Registration:</b>	N421RT
<b>Model/Series:</b>	RV8	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2010	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	82522
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	August 22, 2021 Condition	<b>Certified Max Gross Wt.:</b>	1800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	658 Hrs as of last inspection	<b>Engine Manufacturer:</b>	America's Aircraft Engines
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IOX-360-A4H9N
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	197
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	SPS,1019 ft msl	<b>Distance from Accident Site:</b>	6 Nautical Miles
<b>Observation Time:</b>	16:52 Local	<b>Direction from Accident Site:</b>	90°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 2600 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	None /
<b>Wind Direction:</b>	360°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.04 inches Hg	<b>Temperature/Dew Point:</b>	14°C / 9°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Frederick, TX (FDR)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Wichita Falls, TX	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	16:15 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Wichita Valley Airport F14	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	1005 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	31	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	3320 ft / 40 ft	<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Serious	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Serious	<b>Latitude, Longitude:</b>	33.904326,-98.509522

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gallo, Mitchell
<b>Additional Participating Persons:</b>	Robert Smith; Federal Aviation Administration, Lubbock FSDO; Lubbock, TX
<b>Original Publish Date:</b>	October 19, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 3</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=104390">https://data.nts.gov/Docket?ProjectID=104390</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](#).