



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Delray, Florida	<b>Accident Number:</b>	ERA21LA393
<b>Date &amp; Time:</b>	September 3, 2021, 12:50 Local	<b>Registration:</b>	N388RV
<b>Aircraft:</b>	Vans RV8	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Fuel exhaustion	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot reported that during the preflight inspection he was unable to measure the fuel quantity with a dipstick, due to the tailwheel airplane's tail-low attitude as it sat on the ramp. He stated that he "rocked the wing back and forth...to see the fuel sloshing around" and estimated that the left tank contained 9-10 gallons, and the right tank had "less fuel visible." The purpose of the flight was to refuel the airplane at the destination airport, where fuel was less expensive. He estimated a fuel burn of 4-5 gallons for the planned 30-minute flight.

While enroute, the pilot diverted his course to avoid rain showers that were developing before he ultimately decided to return to the departure airport. During the return, the engine began to "sputter," at which time he turned on the electric fuel pump and switched the fuel selector from the left tank to the right tank. Sometime after, the engine sputtered again, and he decided to perform an off-airport landing. During landing the airplane struck a fence rail, which resulted in substantial damage to the wings.

A post-accident examination of the airplane revealed that the damaged fuel tanks were devoid of fuel, with no indications of fuel having leaked from them, and no odor of fuel was noted at the scene.

## Probable Cause and Findings

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

The pilot's inadequate preflight inspection and improper fuel planning which resulted in fuel exhaustion and subsequent loss of engine power.

## Findings

<b>Personnel issues</b>	Fuel planning - Pilot
<b>Personnel issues</b>	Preflight inspection - Pilot
<b>Aircraft</b>	Fuel - Fluid level
<b>Environmental issues</b>	Fence/fence post - Contributed to outcome

## Factual Information

### History of Flight

<b>Prior to flight</b>	Aircraft inspection event
<b>Enroute</b>	Fuel exhaustion (Defining event)
<b>Landing-flare/touchdown</b>	Off-field or emergency landing

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial; Flight instructor	<b>Age:</b>	80,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Unknown	<b>Last FAA Medical Exam:</b>	June 1, 2021
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 24388 hours (Total, all aircraft), 72 hours (Total, this make and model), 73 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Vans	<b>Registration:</b>	N388RV
<b>Model/Series:</b>	RV8	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2000	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	80787
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	1800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	202 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>		<b>Engine Model/Series:</b>	IO-360-A1B6
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	180 Horsepower
<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>	BCT, 13 ft msl	<b>Distance from Accident Site:</b>	7 Nautical Miles
<b>Observation Time:</b>	12:59 Local	<b>Direction from Accident Site:</b>	130°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	10 knots / None	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	220°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.99 inches Hg	<b>Temperature/Dew Point:</b>	31°C / 24°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	West Palm Beach, FL (LNA)	<b>Type of Flight Plan Filed:</b>	
<b>Destination:</b>	Immokalee, FL (IMM)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	11:20 Local	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	26.45524,-80.210727(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Brazy, Douglass
<b>Additional Participating Persons:</b>	Jahangir Jahangirmezahad; FAA/FSDO; Miramar, FL
<b>Original Publish Date:</b>	June 8, 2022
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</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=104183">https://data.nts.gov/Docket?ProjectID=104183</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](#).