Aviation Investigation Final Report

Location:	Umatilla, Florida	**Accident Number:**	ERA23LA365
Date & Time:	September 5, 2023, 19:42 Local	**Registration:**	N772KS
Aircraft:	SHEEHAN KEVIN A VANS RV-8	**Aircraft Damage:**	Substantial
Defining Event:	Unknown or undetermined	**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he had fully fueled the experimental amateur-built airplane before departure and had about 40 gallons of fuel on board. He then reported, and witness video confirmed, that shortly after departure, about 150 ft above ground level, the engine began to "sputter and cough" before sustaining a total loss of power. The pilot maintained flying airspeed, switched fuel tanks, and checked that the fuel boost pump was on. He noticed that there was no runway remaining and aimed for a large yard that was across a lake off the departure end of the runway. He was unable to glide to the yard and impacted the lake, which resulted in substantial damage to the right wing and fuselage.

Postaccident examination of the airplane found that the fuel line from the electric fuel boost pump to the fuel sump was fractured and detached from the pump, though given the damage to the pump mounting bracket and fuselage structure surrounding it, it is likely that the fuel line separation was the result of impact forces. No other evidence of any preimpact mechanical malfunctions or failures of the airplane or engine were found that would have precluded normal operation and a reason for the loss of engine power could not be determined.

Probable Cause and Findings

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

A total loss of engine power for reasons that could not be determined.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Unknown or undetermined (Defining event)
Emergency descent	Ditching

On September 5, 2023, about 1942 eastern daylight time, an experimental amateur-built Van's RV-8, N772KS, was substantially damaged when it was involved in an accident near Umatilla, Florida. The pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, on the flight before the accident flight, he departed from Orlando Sanford International Airport (SFB), Orlando, Florida, where the airplane was based, for a destination of Umatilla Municipal Airport (X23), Umatilla, Florida, where he planned to refuel the airplane. He reported that the engine "burped" when he reduced power on initial climb but otherwise functioned normally for the duration of the flight. After landing at X23 and refueling the airplane fully, he completed the engine start checklist and noted that nothing was abnormal. The pilot did not complete an engine run-up before takeoff. On initial climb, about 150 ft above ground level, with takeoff power applied, the engine began to "sputter and cough" before sustaining a total loss of power. The pilot reported that he pushed the control stick forward to maintain airspeed, switched fuel tanks from right to left, and checked to make sure the boost pump was on. He noticed that there was no runway remaining and aimed at a large, grassy yard across a lake, which was just past the departure end of the runway. He was not able to glide to the yard and impacted the lake. A video recorded by a witness on the ground captured audio of the engine briefly reducing power and backfiring shortly after the airplane became airborne.

Postaccident examination of the wreckage found substantial damage to the right wing and fuselage. Photographs taken of the airplane just after being recovered from the lake showed the throttle, mixture, and propeller controls in the full forward position. They also showed the fuel selector was on the left fuel tank and the boost pump switch was in the ON position. An examination of the wreckage by a Federal Aviation Administration (FAA) inspector found the No. 3 cylinder spark plugs were severely corroded, and the lower spark plug in the cylinder smelled of fuel and oil. Compression and suction were observed on all cylinders when the propeller was rotated through 720° of motion. The fuel selector was found to be operational and continuity of the fuel system was confirmed from the fuel tanks through the fuel selector to the electric fuel boost pump. The rigid fuel line from the electric fuel boost pump to the fuel sump was found fractured and detached from the pump immediately beyond the attaching b-nut. The pump mounting bracket and some of the fuselage structure surrounding the bracket

were fractured and buckled. The electric fuel boost pump operated normally when electrical current was applied to the leads.

A review of fuel records showed the pilot purchased 16.423 gallons of 100LL aviation fuel at X23 and the pilot reported having 40 gallons of 100LL aviation fuel aboard at departure. A review of maintenance records showed a condition inspection was completed on July 24, 2023.

Pilot Information

Certificate:	Commercial; Private	**Age:**	53,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	5-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	December 27, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	December 11, 2022
Flight Time:	473 hours (Total, all aircraft), 9 hours (Total, this make and model), 369 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	SHEEHAN KEVIN A	**Registration:**	N772KS
Model/Series:	VANS RV-8	**Aircraft Category:**	Airplane
Year of Manufacture:	2005	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	81281
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	July 24, 2023 Condition	**Certified Max Gross Wt.:**	1800 lbs
Time Since Last Inspection:	13.6 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	989 Hrs at time of accident	**Engine Manufacturer:**	Mattituck
ELT:	C91A installed, activated, aided in locating accident	**Engine Model/Series:**	TMX-O-360A1A
Registered Owner:	On file	**Rated Power:**	180 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:	LEE,69 ft msl	**Distance from Accident Site:**	11 Nautical Miles
Observation Time:	19:53 Local	**Direction from Accident Site:**	231°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	70°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	28°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Umatilla, FL	**Type of Flight Plan Filed:**	None
Destination:	Sanford, FL (SFB)	**Type of Clearance:**	VFR
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	UMATILLA MUNI X23	**Runway Surface Type:**	Asphalt
Airport Elevation:	107 ft msl	**Runway Surface Condition:**	Water-calm
Runway Used:	01	**IFR Approach:**	None
Runway Length/Width:	2500 ft / 60 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	28.931769,-81.651624(est)

Administrative Information

Investigator In Charge (IIC):	Young, Joshua
Additional Participating Persons:	Joseph Gramzinski; FAA/FSDO; Orlando, FL
Original Publish Date:	September 26, 2024
Last Revision Date:	November 20, 2024
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193026