



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Green Lake, Wisconsin	Accident Number:	CEN23LA329
Date & Time:	July 27, 2023, 12:33 Local	Registration:	N5601G
Aircraft:	VARGA AIRCRAFT CORP. 2150A	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	2 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he was flying the airplane to the annual Experimental Aircraft Association Airventure fly-in at the Wittman Regional Airport (OSH), Oshkosh, Wisconsin, and was proceeding as prescribed in the Notices to Air Missions (NOTAM) pertaining to arrivals to the airport. He stated that the airplane's engine lost power and he activated the auxiliary fuel pump, which restored engine power briefly. The engine again lost power and the pilot executed a forced landing to a corn field. The airplane nosed over during the landing and incurred substantial damage to the fuselage and vertical tail.

Postaccident examination revealed no smell of fuel at the accident site and no evidence of a fuel spill. No usable quantity of fuel was found within the fuel tanks and the tanks were not breached. Examination of the airplane did not reveal any mechanical anomalies that would have precluded normal operation.

Automatic dependent surveillance - broadcast (ADS-B) data revealed that the flight lasted about 3.6 hours. According to the airplane operations manual, the maximum flight duration at normal cruise was about 3.9 hours without reserve, but was predicated on using a lean mixture setting.

Based on the available information, it is likely that the loss of engine power was due to fuel exhaustion.

Probable Cause and Findings

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

A loss of engine power due to fuel exhaustion, which resulted from the pilot's inadequate preflight planning.

Findings

Aircraft	Fuel - Fluid level
Personnel issues	Fuel planning - Pilot
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Enroute	Fuel exhaustion (Defining event)
Landing	Nose over/nose down

On July 27, 2023, about 1233 central daylight time, a Varga 2150A, N5601G, was substantially damaged when it was involved in an accident near Green Lake, Wisconsin. The pilot and passenger received minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, he was flying the airplane to the annual Experimental Aircraft Association Airventure fly-in at the Wittman Regional Airport (OSH), Oshkosh, Wisconsin, and was proceeding as prescribed in the NOTAM pertaining to arrivals to the airport. He stated that the airplane’s engine lost power and he activated the auxiliary fuel pump, which restored engine power briefly. The engine again lost power and the pilot executed a forced landing to a corn field. The airplane nosed over during the landing and incurred substantial damage to the fuselage and vertical stabilizer.

ADS-B data showed that the airplane departed KSBN at 0856 and proceeded toward OSH. It maneuvered southwest of OSH before the data ended at 1233. Using this information, the airplane was airborne for 3 hours and 37 minutes. According to the Airplane Operations Manual, the fuel capacity was 35 gallons with 34 gallons usable, and the fuel burn at 75% power when properly leaned was between 8.5 and 8.7 gallons per hour depending on atmospheric conditions, or 3.9 to 4.0 hours endurance without reserve.

Postaccident examination of the airplane at the accident scene was conducted by Federal Aviation Administration inspectors. The airplane was inverted in a corn field. There was no fuel smell at the accident site and no evidence of a fuel spill. Once the airplane was righted the fuel tanks were examined and no usable fuel was found in the fuel tanks. The tanks were not compromised.

Post-recovery examination of the airplane and engine revealed no preimpact mechanical failures or malfunctions that would have precluded normal operation.

Pilot Information

Certificate:	Private	Age:	58,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
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:	Class 3 With waivers/limitations	Last FAA Medical Exam:	January 7, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	VARGA AIRCRAFT CORP.	Registration:	N5601G
Model/Series:	2150A	Aircraft Category:	Airplane
Year of Manufacture:	1985	Amateur Built:	
Airworthiness Certificate:	Normal; Utility	Serial Number:	VAC189-85
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	1817 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-320
Registered Owner:	On file	Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KOSH, 785 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	12:53 Local	Direction from Accident Site:	70°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	31°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	South Bend, IN (SBN)	Type of Flight Plan Filed:	None
Destination:	Oshkosh, WI (OSH)	Type of Clearance:	VFR
Departure Time:	08:55 Local	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	43.8865,-88.9438

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Tim Spreen; FAA MKE FSDO; Milwaukee, WI
Original Publish Date:	April 18, 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=192729

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](#).