



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Iola, Kansas	Accident Number:	CEN24LA022
Date & Time:	October 21, 2023, 19:35 Local	Registration:	N5324F
Aircraft:	Piper PA-28-181	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he had 48 gallons of fuel on board and assumed that he would be able to fly for about 5 hours. After about 4 hours and 20 minutes of flying, the pilot began his descent for landing at his destination, turned the fuel pump on, and checked the fuel gauges. The gauges read about 3 or 4 gallons of fuel remaining in each fuel tank. Shortly thereafter, the engine quit. The pilot switched fuel tanks and the engine started again momentarily and then quit again. He landed the airplane on a gravel road about 1.5 miles northeast of the airport. After touchdown, the right wing struck a tree and separated from the fuselage resulting in substantial damage.

The pilot reported that he believes the airplane ran out fuel, which resulted in the 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 planning, which resulted in a total loss of engine power due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Personnel issues	Decision making/judgment - Pilot
Aircraft	Fuel - Fluid level
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)
Landing-flare/touchdown	Off-field or emergency landing

Pilot Information

Certificate:	Private	Age:	27,Male
Airplane Rating(s):	Single-engine sea	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	December 10, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	March 23, 2022
Flight Time:	217 hours (Total, all aircraft), 83 hours (Total, this make and model), 181 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N5324F
Model/Series:	PA-28-181	Aircraft Category:	Airplane
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-7790088
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	September 25, 2023 Annual	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4969 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360-A4M
Registered Owner:	On file	Rated Power:	180 Horsepower
Operator:	Toby Baker	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	K88,1015 ft msl	Distance from Accident Site:	1.5 Nautical Miles
Observation Time:	19:35 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	0°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Chicago, IL (MDW)	Type of Flight Plan Filed:	VFR
Destination:	Iola, IL (K88)	Type of Clearance:	VFR flight following
Departure Time:	15:16 Local	Type of Airspace:	Class G

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:	37.873611,-95.353333

Administrative Information

Investigator In Charge (IIC): Abraham, Laura

Additional Participating Persons: John Hughes; FAA

Original Publish Date: February 29, 2024

Last Revision Date:

Investigation Class: [Class 4](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=193294>

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](#).