Aviation Investigation Final Report

Location:	Moberly, Missouri	**Accident Number:**	CEN23LA415
Date & Time:	September 10, 2023, 19:50 Local	**Registration:**	N4219T
Aircraft:	Piper PA-32-300	**Aircraft Damage:**	Substantial
Defining Event:	Fuel starvation	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor stated that prior to beginning the instructional flight, he visually confirmed there was fuel in each fuel tank. He did not use a fuel dip stick when he checked the fuel level and approximated the fuel level as 17 gallons. He said the flight would have required 8 gallons of fuel. About 10 miles from the destination airport, with the fuel selector positioned to the right main fuel tank, the engine began to run rough. He then selected the right auxiliary fuel tank, and the engine began to run smoothly again. About 4 miles from the destination airport and during the approach for landing, the engine began to run rough again. He then selected the left auxiliary fuel tank, but engine power was not restored. With the engine at idle power, he tried to restore engine power by cycling through the remaining fuel tanks but was unsuccessful. He then performed a forced landing to a field, during which the engine ceased to operate.

The airplane sustained substantial damage to the fuselage. Postaccident examination of the airplane revealed no leaks with the fuel system and no useable fuel was found in the left and right main fuel tanks. The flight instructor stated that after the accident, he checked the left auxiliary/tip tank and there was 7 gallon of fuel present. The examination revealed no failures or malfunctions with the airframe and engine that would have precluded normal airplane operation.

Probable Cause and Findings

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

The flight instructor’s inadequate fuel management that resulted in fuel starvation and a total loss of engine power during an approach for landing.

Findings

Aircraft	Fuel - Fluid management
Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Approach	Fuel starvation (Defining event)
Approach	Loss of engine power (partial)
Approach	Attempted remediation/recovery
Emergency descent	Loss of engine power (total)
Landing	Collision with terr/obj (non-CFIT)

Flight instructor Information

Certificate:	Commercial; Flight instructor; Private	**Age:**	32,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	November 23, 2021
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	February 27, 2023
Flight Time:	717 hours (Total, all aircraft), 15 hours (Total, this make and model), 581 hours (Pilot In Command, all aircraft), 218 hours (Last 90 days, all aircraft), 64 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N4219T
Model/Series:	PA-32-300	**Aircraft Category:**	Airplane
Year of Manufacture:	1971	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32-7240037
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	3400 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	IO-540-K1A5
Registered Owner:	19T LLC	**Rated Power:**	300 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:	MBY,867 ft msl	**Distance from Accident Site:**	3 Nautical Miles
Observation Time:	19:55 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Clear	**Visibility**	
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Columbia, MO (COU)	**Type of Flight Plan Filed:**	None
Destination:	Moberly, MO	**Type of Clearance:**	None
Departure Time:	20:29 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Omar N Bradley Airport MBY	**Runway Surface Type:**	
Airport Elevation:	867 ft msl	**Runway Surface Condition:**	Vegetation
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	39.418369,-92.438237(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Thomas Davis; Federal Aviation Administration; Kansas City, MO
Original Publish Date:	March 21, 2024
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193115