Aviation Investigation Final Report

Location:	Franklin, Pennsylvania	**Accident Number:**	ERA24LA101
Date & Time:	January 15, 2024, 14:48 Local	**Registration:**	N7682U
Aircraft:	Cessna 150M	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

During the first leg of a cross-country flight, the pilot observed that the fuel level indication was lower than expected. She elected to divert to a nearby airport where she topped off the airplane with 13 gallons of fuel, for a total fuel load of 22.5 usable gallons. About 3 ½ hours into the next leg of the flight, the pilot elected to divert to a closer airport to fuel the airplane again. As the pilot entered the airport traffic pattern, she overshot the final approach course and continued to circle for another attempt. During the maneuver, the engine lost all power and she was unable to troubleshoot due to the low altitude. The pilot then attempted to land on a taxiway, but during the landing flare the airplane struck a berm, collapsing the gear and substantially damaging the airframe before coming to rest.

A postaccident examination of the airplane revealed that only the unusable quantity of fuel remained in the fuel tanks and no fuel was discovered in the gascolator. Examination of the engine revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation. Postaccident fuel consumption calculations for the takeoff and cruise portions of the accident flight also confirmed that available fuel quantity would have been exhausted at the time of the accident.

Probable Cause and Findings

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

The pilots' inadequate preflight fuel planning and in-flight fuel management, which resulted in a total loss of engine power due to fuel exhaustion.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid management

Factual Information

History of Flight

Approach-VFR pattern base	Fuel exhaustion (Defining event)
Landing	Landing area overshoot
Landing-flare/touchdown	Collision with terr/obj (non-CFIT)

On January 15, 2024, at 1448 eastern standard time, a Cessna 150M, N7682U, was substantially damaged when it was involved in an accident at Venango Regional Airport (FKL), Franklin, Pennsylvania. The private pilot was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The pilot stated that she arrived at Beverly Regional Airport (BVY), Beverly, Massachusetts at 0600 and conducted a preflight inspection of the airplane with no irregularities found and then began the solo visual flight rules cross-country flight about 0730. The flight consisted of multiple legs with her final destination planned for Coleman A Young Municipal Airport (DET), Detroit, Michigan. The pilot was accompanied by a pet pig that weighed about 50 lbs. About 90 minutes into the flight, the pilot diverted to Albany International Airport (ALB), Albany, New York, because the airplane's fuel quantity indicated lower than expected. Upon landing, she fueled the airplane with 13 gallons of aviation fuel, for a total fuel load of 22.5 gallons usable fuel, then resumed the flight to Youngstown/Warren Regional Airport (YNG), Youngstown/Warren, Ohio, about 320 miles to the west.

According to ADS-B data, the pilot took off from ALB about 1044 eastern standard time. About 3 1/2 hours and 255 nm into the flight, she diverted to FKL, about 40 nm closer than YNG. After notifying air traffic control of her intentions, she began a descent for landing at FKL. The pilot reported that the reason for the diversion was to get fuel because the fuel was less expensive than at YNG. The pilot initiated a descent about 30 nm from the airport and arrived in the airport traffic pattern intending to land on runway 21. She overshot the final approach and continued to circle over the airport. During the maneuver, the throttle stopped responding to any input and there was a total loss of engine power. Too low to troubleshoot, she attempted to land the airplane on taxiway F. Before reaching the intended landing area, the airplane struck a berm to the east of the taxiway and came to rest. The accident occurred at 1448 eastern standard time.

An FAA inspector examined the airplane after the accident and found that the fuselage was severely buckled from the main landing gear forward. Both fuel tanks remained intact and, and when drained, contained a total of about 3 1/2 gallons of fuel; according to the airplane's pilot operating handbook (POH), the unusable fuel was 3 1/2 gallons (the fuel tanks had a 26-gallon

capacity, with 22.5 gallons of that fuel usable). The gascolator was empty. Engine powertrain continuity was confirmed through crankshaft rotation and pressure gauge compression was sufficiently achieved on each cylinder. The spark plug electrodes appeared normal with no fouling or anomalies noted and the magnetos were manually rotated and achieved spark at each post. The propeller remained intact and did not have any gouges or chordwise scraping.

The ADS-B data showed that the airplane's groundspeed during the en route portion of the flight averaged about 72 kts. Fuel calculations based on the POH performance data indicated that with the pilot's en route altitude of 4,000 and 5,000 ft msl, a flight track of 255°, and calculated winds that were from 247 at 16 kts, the airplane would have had an endurance of about 3.75 hours with full fuel tanks; however, this endurance was dependent on fuel mixture leaning settings. The data showed that the airplane was airborne about 4 hours.

Pilot Information

Certificate:	Private	**Age:**	27,Female
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-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:**	July 2, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 110.3 hours (Total, all aircraft), 110.3 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N7682U
Model/Series:	150M	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	15077808
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	May 23, 2023 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	O-200-A
Registered Owner:	TECH FLIGHT CORP	**Rated Power:**	100 Horsepower
Operator:	TECH FLIGHT CORP	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FKL,1540 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	14:56 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.08 inches Hg	**Temperature/Dew Point:**	-9°C / -18°C
Precipitation and Obscuration:			
Departure Point:	Albany, NY (ALB)	**Type of Flight Plan Filed:**	VFR
Destination:	Franklin, PA	**Type of Clearance:**	VFR
Departure Time:	10:45 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	VENANGO RGNL FKL	**Runway Surface Type:**	Asphalt
Airport Elevation:	1540 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	12	**IFR Approach:**	None
Runway Length/Width:	3593 ft / 100 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	41.377417,-79.860639(est)

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Daniel Welms; FAA/FSDO; Pittsburgh, PA
Original Publish Date:	March 19, 2025
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193715