Aviation Investigation Final Report

Location:	Gypsum, Colorado	**Accident Number:**	CEN24LA210
Date & Time:	June 4, 2024, 20:12 Local	**Registration:**	N5755B
Aircraft:	Cessna 182	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor and the pilot were conducting an instructional flight when the airplane had a total loss of engine power due to fuel exhaustion. The airplane fuselage sustained substantial damage during the forced landing in rough terrain. The flight instructor reported that there were no preimpact mechanical malfunctions or failures that would have precluded normal operation. The airplane operator reported that the fuel tanks remained intact after the accident, were void of usable fuel, and both fuel tank quantity gauges indicated empty.

Before the flight, the flight instructor asked another flight instructor to request the fixed based operator (FBO) to refuel the airplane. However, despite the fuel request being relayed to the FBO front desk personnel, the airplane was not fueled before it departed on the flight. The flight instructor and the pilot both admitted that they did not visually confirm the fuel quantity during their preflight inspection. Additionally, believing that the fuel tanks were topped-off as requested, the pilots erroneously reset the airplane's electronic fuel totalizer to reflect a full fuel load before takeoff.

Probable Cause and Findings

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

The failure of the flight instructor and the pilot to visually confirm the airplane's fuel quantity during preflight, which resulted in a loss of engine power due to fuel exhaustion and an off-airport forced landing in rough terrain.

Findings

Aircraft	Fuel - Fluid level
Aircraft	Fuel - Inadequate inspection
Personnel issues	Preflight inspection - Pilot
Personnel issues	Preflight inspection - Instructor/check pilot
Environmental issues	Rough terrain - Contributed to outcome

Factual Information

History of Flight

Enroute	Fuel exhaustion (Defining event)
Landing	Off-field or emergency landing
Landing	Hard landing

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	24,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	April 5, 2022
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	February 4, 2024
Flight Time:	459 hours (Total, all aircraft), 25 hours (Total, this make and model), 392 hours (Pilot In Command, all aircraft), 171 hours (Last 90 days, all aircraft), 85 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	**Age:**	32,Male
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:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	June 17, 2021
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	November 29, 2023
Flight Time:	156 hours (Total, all aircraft), 63 hours (Total, this make and model), 78 hours (Pilot In Command, all aircraft), 54 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N5755B
Model/Series:	182	**Aircraft Category:**	Airplane
Year of Manufacture:	1956	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	33755
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	June 3, 2024 100 hour	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:	10 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	8136 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	C126 installed, activated, aided in locating accident	**Engine Model/Series:**	O-470-S
Registered Owner:	iTechnology Design Inc	**Rated Power:**	230 Horsepower
Operator:	Alpine Flight Training	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	EGE,6535 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	19:56 Local	**Direction from Accident Site:**	167°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	280°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	23°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Eagle, CO (EGE)	**Type of Flight Plan Filed:**	None
Destination:	Eagle, CO (EGE)	**Type of Clearance:**	None
Departure Time:	17:53 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	39.688969,-106.92878(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Michael R. Coryer; Federal Aviation Administration - Denver FSDO; Denver, CO
Original Publish Date:	January 21, 2025
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=194400