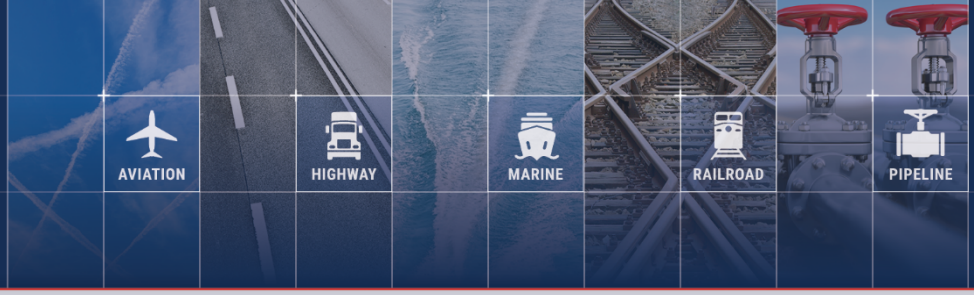

Aviation Investigation Final Report

Location:	Middlefield, Ohio	**Accident Number:**	ERA23LA018
Date & Time:	October 13, 2022, 09:30 UTC	**Registration:**	N62368
Aircraft:	Cessna 310	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	1 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The pilot departed on thefifth and final leg of the evening's flights with no cargo and an unknown quantity of fuel. He reported that he had to deviate due to weather along the route of flight, and that the right engine began running rough after reaching cruise altitude. About 2.2 hours into the planned 2-hour flight, and about 25 miles from the destination airport, both of the airplane's engines began "surging" and eventually "stopped producing power." The pilot stated that he looked at the fuel gauges and they indicated empty. The pilot completed a forced landing to horse pastures, during which the airplane impacted fences, resulting in substantial damage to the wings and the fuselage. There was no evidence of fuel, fuel spillage, or odor of fuel at the scene.

The pilot stated that the accident flight was longer than planned due to headwinds and weather diversions. The pilot also explained that there were known discrepancies with the fuel gauges. He also described that there had been a difference between the amount of fuel he requested at one fuel stop, what was actually dispensed, and the total amount he believed was on board when he departed on the accident flight, as he did not get a receipt, or confirm the amount dispensed.

Based on the pilot's own fuel planning numbers, full tanks at initial departure, and the fuel purchased at 2 of his 4 stops, the airplane had a fuel endurance of about 6.8 hours, of which .8 hours was for IFR reserve minimums. The total time of the 5 legs was approximately 7.2 hours.

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 and inflight fuel management which resulted in exhaustion of his fuel supply and a forced landing.

Findings

Aircraft	Fuel - Fluid management
Personnel issues	Fuel planning - Pilot

Factual Information

History of Flight

Enroute-descent	Fuel exhaustion (Defining event)

Pilot Information

Certificate:	Airline transport; Flight engineer; Flight instructor	**Age:**	66,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:**	No
Instructor Rating(s):	Airplane multi-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	June 24, 2021
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	July 21, 2022
Flight Time:	24600 hours (Total, all aircraft), 162 hours (Total, this make and model), 18479 hours (Pilot In Command, all aircraft), 96.3 hours (Last 90 days, all aircraft), 6.7 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N62368
Model/Series:	310 R	**Aircraft Category:**	Airplane
Year of Manufacture:	1975	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	310R0131
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	September 6, 2022 100 hour	**Certified Max Gross Wt.:**	5500 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	12370 Hrs as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed	**Engine Model/Series:**	IO-520-MB
Registered Owner:	AIR Z FLYING SERVICES INC	**Rated Power:**	285 Horsepower
Operator:	AIR Z FLYING SERVICES INC	**Operating Certificate(s) Held:**	Commuter air carrier (135)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	CGF,876 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	05:35 Local	**Direction from Accident Site:**	30°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 1000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	Convective / Convective
Wind Direction:		**Turbulence Severity Forecast/Actual:**	Light / Light
Altimeter Setting:	29.66 inches Hg	**Temperature/Dew Point:**	12°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Morristown, NJ (MMU)	**Type of Flight Plan Filed:**	IFR
Destination:	Richmond Heights, OH (CGF)	**Type of Clearance:**	IFR
Departure Time:	04:30 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	41.460796,-81.075451(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Scott Clark; FAA/FSDO; Cleveland, OH
Original Publish Date:	August 31, 2023
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=106123