



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Cross City, Florida	Accident Number:	ERA23LA051
Date & Time:	November 7, 2022, 15:35 Local	Registration:	N91RR
Aircraft:	PIPISTREL D O O VIRUS SW	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The two pilots were conducting multiple cross-country flights the day of the accident with the purpose of building flight time as part of an air carrier pilot development program. The pilots departed for the fourth leg of the day and the left seat pilot was primarily flying for this leg. Both pilots reported that while enroute they noticed the fuel level was low. Subsequently, about 15 nautical miles from the destination, the engine lost all power. The left seat pilot reported that the right seat pilot took control of the airplane after the loss of power. About 600 feet above ground level (agl) the right seat pilot deployed the ballistic parachute recovery system when it became clear that they would not be able to glide to an airport. The impact with the ground resulted in substantial damage to the fuselage.

Post-accident inspection of the fuel system showed no fuel visible in either wing tank and no fuel visible in the inline fuel filters.

The left seat pilot reported that there were no preaccident mechanical malfunctions or failures of the airplane that would have precluded normal operation.

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 improper in-flight fuel management, which resulted in a total loss of engine power due to fuel exhaustion and subsequent deployment of the ballistic parachute recovery system.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)
Enroute-descent	Loss of engine power (total)
Emergency descent	Off-field or emergency landing

Pilot Information

Certificate:	Commercial; Flight instructor; Private	Age:	44,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 1	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 1100 hours (Total, all aircraft), 70 hours (Total, this make and model), 70 hours (Last 90 days, all aircraft), 70 hours (Last 30 days, all aircraft)		

Pilot Information

Certificate:	Commercial; Private	Age:	27,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	September 22, 2021
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 22, 2022
Flight Time:	(Estimated) 1240 hours (Total, all aircraft), 40 hours (Total, this make and model), 1000 hours (Pilot In Command, all aircraft), 90 hours (Last 90 days, all aircraft), 55 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPISTREL D O O	Registration:	N91RR
Model/Series:	VIRUS SW 121C	Aircraft Category:	Airplane
Year of Manufacture:	2022	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	VSWX121C0106
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	November 4, 2022 Condition	Certified Max Gross Wt.:	1212 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	123.1 Hrs at time of accident	Engine Manufacturer:	Rotax
ELT:	C126 installed, not activated	Engine Model/Series:	912 S3-01
Registered Owner:	MESA AIRLINES INC	Rated Power:	100 Horsepower
Operator:	Right Rudder Aviation	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	CTY, 38 ft msl	Distance from Accident Site:	3 Nautical Miles
Observation Time:	15:35 Local	Direction from Accident Site:	110°
Lowest Cloud Condition:	Scattered / 5000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots / None	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.09 inches Hg	Temperature/Dew Point:	29°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Quincy, FL (2J9)	Type of Flight Plan Filed:	None
Destination:	Cross City, FL	Type of Clearance:	None
Departure Time:	14:30 Local	Type of Airspace:	Class E

Airport Information

Airport:	CROSS CITY CTY	Runway Surface Type:	
Airport Elevation:	42 ft msl	Runway Surface Condition:	Rough;Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Straight-in

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:	29.638847,-83.12325(est)

Administrative Information

Investigator In Charge (IIC):	Young, Joshua
Additional Participating Persons:	Kevin David; FAA/FSDO; Tampa, FL
Original Publish Date:	January 18, 2023
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=106259

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](#).