



Aviation Investigation Final Report

Location:	Mulino, Oregon	Accident Number:	WPR23LA115
Date & Time:	February 24, 2023, 18:20 Local	Registration:	N8500Z
Aircraft:	AIRCRAFT MFG & DEVELOPMENT CO CH 2000	Aircraft Damage:	Substantial
Defining Event:	Fuel exhaustion	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, he departed with 28 gallons of fuel onboard for a cross-country flight and he used 100% power during the flight. The flight was uneventful for a little over four hours, until the pilot was approaching his destination and the engine began to run rough and sputter. The pilot was unable to reach a nearby airport and force-landed the airplane in an open field where the nose landing gear collapsed, which resulted in substantial damage to the lower fuselage. The pilot and a law enforcement examined the fuel tank and discovered that the fuel tank was empty. Fuel usage computations indicated the engine likely consumed all the fuel onboard while operating at 100% power. The pilot reported that there were no preaccident mechanical failures or malfunctions with 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 pilot's inadequate fuel planning which resulted in a loss of engine power due to fuel exhaustion.

Findings

Personnel issues

Fuel planning - Pilot

Aircraft

Fuel - Fluid management

Factual Information

History of Flight

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

Pilot Information

Certificate:	Private	Age:	55, 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:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 10, 2021
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	504 hours (Total, all aircraft), 410 hours (Total, this make and model), 460 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AIRCRAFT MFG & DEVELOPMENT CO	Registration:	N8500Z
Model/Series:	CH 2000	Aircraft Category:	Airplane
Year of Manufacture:	2002	Amateur Built:	
Airworthiness Certificate:	Utility	Serial Number:	20-1003
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	1692 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	O-235-nc2
Registered Owner:	Jonathan E Kreilich	Rated Power:	116 Horsepower
Operator:	Jonathan E Kreilich	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KUAO,196 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	18:53 Local	Direction from Accident Site:	287°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	-1°C / -9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Yuba City, CA (O52)	Type of Flight Plan Filed:	None
Destination:	Oregon City, OR (OG20)	Type of Clearance:	VFR flight following
Departure Time:	14:30 Local	Type of Airspace:	Class G

Airport Information

Airport:	MULINO STATE 4S9	Runway Surface Type:	Asphalt
Airport Elevation:	259 ft msl	Runway Surface Condition:	Dry
Runway Used:	32	IFR Approach:	None
Runway Length/Width:	3425 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	45.2063,-122.5854

Administrative Information

Investigator In Charge (IIC):	Rho, Paul
Additional Participating Persons:	Paul Kirschel; PDX FSDO; Hillsboro, OR
Original Publish Date:	June 6, 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=106789

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](#).