



Aviation Investigation Final Report

Location:	Helena, Montana	Accident Number:	WPR20CA066
Date & Time:	January 8, 2020, 16:00 Local	Registration:	N1428P
Aircraft:	Piper PA 23	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that, during an instructional flight in a twin-engine airplane, which included feathering and unfeathering the left engine in flight, the left engine would not restart. The airplane was unable to maintain altitude and reach the destination airport, so he landed the airplane on a field about 1/2 mile from the airport. After the instructor successfully started the engine on the ground, the student pilot walked back to the airport, while the instructor decided to attempt an off-airport departure from the frozen ground with 4-inch-tall alfalfa stubble. He chose a takeoff path that didn't have any visible obstructions, which he estimated would allow for a 3,000-ft-long ground roll. He then taxied to the edge of the field, held the brakes, applied full power to the engines, and released the brakes, and the airplane began to move. About 700 ft into the ground roll, the airplane impacted a shallow rut from an irrigation pivot, and the nose landing gear collapsed, which resulted in substantial damage to the forward fuselage. The pilot reported that his decision to take off from the field was poor because he made it without first walking the takeoff terrain.

Probable Cause and Findings

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

The pilot's improper decision to attempt an off-airport departure from rough terrain without inspecting the takeoff area, which resulted in a collision with a shallow rut during takeoff and the nose landing gear collapsing.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	(general) - Pilot
Environmental issues	Rough terrain - Effect on operation

Factual Information

History of Flight

Prior to flight	Miscellaneous/other
Takeoff	Collision during takeoff/land (Defining event)
Takeoff	Landing gear collapse

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	61, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	August 30, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 31, 2018
Flight Time:	8174 hours (Total, all aircraft), 1874 hours (Total, this make and model), 7939 hours (Pilot In Command, all aircraft), 294 hours (Last 90 days, all aircraft), 98 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N1428P
Model/Series:	PA 23 Undesignat	Aircraft Category:	Airplane
Year of Manufacture:	1956	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	23-484
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	December 16, 2019 Annual	Certified Max Gross Wt.:	3501 lbs
Time Since Last Inspection:	12 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	5051 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91 installed, not activated	Engine Model/Series:	O-320
Registered Owner:	On file	Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	3877 ft msl	Distance from Accident Site:	
Observation Time:	15:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 7000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.54 inches Hg	Temperature/Dew Point:	4°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Helena, MT (HLN)	Type of Flight Plan Filed:	None
Destination:	Helena, MT (HLN)	Type of Clearance:	None
Departure Time:	16:15 Local	Type of Airspace:	Class D

Airport Information

Airport:	Helena Rgnl HLN	Runway Surface Type:	Grass/turf
Airport Elevation:	3877 ft msl	Runway Surface Condition:	Holes;Rough;Vegetation
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	46.606945,-111.983055(est)

Administrative Information

Investigator In Charge (IIC): Stein, Stephen

Additional Participating Persons:

Original Publish Date: June 16, 2020

Last Revision Date:

Investigation Class: [Class](#)

Note: This accident report documents the factual circumstances of this accident as described to the NTSB.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=100820>

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