



National Transportation Safety Board Aviation Accident Final Report

Location:	Bison, SD	Accident Number:	GAA19CA487
Date & Time:	07/15/2019, 1340 CDT	Registration:	N2946D
Aircraft:	Cessna 170	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that, upon landing, the airplane veered left. He attempted to correct with rudder and tapping on the brakes, but the airplane ground looped. The pilot added that he believed that "the landing gear was out of alignment." The airplane sustained substantial damage to the fuselage and the windscreen. According to a Federal Aviation Administration inspector, the fuselage damage was consistent with a hard landing and ground loop.

Probable Cause and Findings

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

The pilot's improper landing flare, which resulted in a hard landing and subsequent ground loop.

Findings

Aircraft	Directional control - Not attained/maintained (Cause) Landing flare - Not attained/maintained (Cause)
Personnel issues	Aircraft control - Pilot (Cause)

Factual Information

History of Flight

Landing	Hard landing (Defining event)
Landing-landing roll	Loss of control on ground

Pilot Information

Certificate:	Private	Age:	75, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	BasicMed	Last FAA Medical Exam:	04/23/2018
Occupational Pilot:	No	Last Flight Review or Equivalent:	04/12/2018
Flight Time:	(Estimated) 3500 hours (Total, all aircraft), 7 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N2946D
Model/Series:	170 B	Aircraft Category:	Airplane
Year of Manufacture:	1955	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	26889
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	11/01/2014, Annual	Certified Max Gross Wt.:	2200 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2990 Hours as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-300
Registered Owner:	Donald Abner	Rated Power:	145 hp
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KHEI, 2705 ft msl	Distance from Accident Site:	31 Nautical Miles
Observation Time:	2253 UTC	Direction from Accident Site:	345°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	31 °C / 18 °C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bison, SD (6V5)	Type of Flight Plan Filed:	None
Destination:	Bison, SD (6V5)	Type of Clearance:	None
Departure Time:	0900 CDT	Type of Airspace:	Class G

Airport Information

Airport:	Bison Muni (6V5)	Runway Surface Type:	Asphalt
Airport Elevation:	2791 ft	Runway Surface Condition:	Dry
Runway Used:	29	IFR Approach:	None
Runway Length/Width:	3500 ft / 60 ft	VFR Approach/Landing:	Touch and Go; Traffic Pattern

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:	45.518333, -102.467778 (est)

Administrative Information

Investigator In Charge (IIC):	Eric M Gutierrez	Report Date:	04/13/2020
Additional Participating Persons:	Dwight Pladsen; FAA; Rapid City, SD		
Publish Date:	04/13/2020		
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=100008		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).