



Aviation Investigation Final Report

Location:	Hayden, Idaho	Accident Number:	WPR23LA102
Date & Time:	January 31, 2023, 11:45 Local	Registration:	N9235B
Aircraft:	Cessna 175	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The pilot receiving instruction and flight instructor reported that, during the landing roll, while slowing the airplane in preparation to exit the runway, the airplane abruptly turned to the right. Despite the application of left rudder and left brake, the airplane continued to the right and ground looped. The pilot taxied the airplane back to his hangar and noticed that the rudder inputs needed were not typical. Upon examination at his hangar, he discovered substantial damage to the left wing, left horizontal stabilizer and elevator. He also noted that the right main landing gear leg was misaligned, and the right main landing gearbox assembly was fractured.

Postaccident examination of the right main landing gearbox revealed evidence of fatigue cracking within the hollow slot of the assembly and subsequent overstress fractures outside of the fatigue zone.

Probable Cause and Findings

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

The failure of the right main landing gearbox assembly due to fatigue cracking, which resulted in a loss of directional control during the landing roll.

Findings

Aircraft	Main landing gear - Failure
Aircraft	Directional control - Not attained/maintained

Factual Information

History of Flight

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

On January 31, 2023, about 1145 Pacific standard time, a Cessna 175, N9235B, sustained substantial damage when it was involved in an accident near Hayden, Idaho. The pilot and flight instructor were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The pilot receiving instruction reported that, during the landing roll, he slowed the tailwheel-equipped airplane to exit the runway at taxiway B. Without warning, the airplane began an abrupt right turn. The pilot applied full left rudder and left brake; however, the airplane continued the right turn and ground looped. He did not see damage to the airplane and decided to taxi clear of the runway and back to his hangar. The flight instructor reported that, "...it seemed to take a significantly greater application to get the airplane moving, and the pilot seemed to have to use left rudder to taxi the airplane straight." The pilot receiving instruction reported that, "...the controls were not behaving true."

After exiting the airplane, they discovered substantial damage to the left wing, left horizontal stabilizer, and left side of the elevator. The right main landing gear leg was misaligned, and the gearbox assembly was fractured. The right main landing gearbox assembly was removed and retained for further examination. Maintenance records showed that the most recent annual inspection was completed on 12/22/22. They also showed that the right main landing gear outboard saddle (part number 175-8) was repaired in September of 2019 and again in May of 2020.

Postaccident examination and fracture analysis of the right main landing gearbox assembly was conducted by the National Transportation Safety Board Materials Laboratory. The examination revealed evidence of fatigue cracks within the hollow slot of the gearbox assembly. Outside the zone of the fatigue cracking, the fracture surfaces exhibited coarse features, typical of overstress.

Pilot Information

Certificate:	Private	Age:	39,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	June 5, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 19, 2021
Flight Time:	(Estimated) 141 hours (Total, all aircraft), 141 hours (Total, this make and model), 26 hours (Pilot In Command, all aircraft)		

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	69,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Balloon; Glider	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	September 27, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 26, 2022
Flight Time:	(Estimated) 8520 hours (Total, all aircraft), 1 hours (Total, this make and model), 4187 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N9235B
Model/Series:	175	Aircraft Category:	Airplane
Year of Manufacture:	1958	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	55035
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	December 22, 2022 Annual	Certified Max Gross Wt.:	2350 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3980 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C91A installed, not activated	Engine Model/Series:	O-360 A1A
Registered Owner:	VAN WINKLE CHRISTOPHER S	Rated Power:	180 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:	KCOE, 2320 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	10:56 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 6500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.22 inches Hg	Temperature/Dew Point:	-7°C / -12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hayden, ID	Type of Flight Plan Filed:	None
Destination:	Hayden, ID	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class E

Airport Information

Airport:	Coeur D'Alene/Pappy Boyington Field COE	Runway Surface Type:	Asphalt
Airport Elevation:	2320 ft msl	Runway Surface Condition:	Dry
Runway Used:	02	IFR Approach:	None
Runway Length/Width:	5400 ft / 75 ft	VFR Approach/Landing:	Full stop;Simulated forced landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	47.77,-116.82

Administrative Information

Investigator In Charge (IIC):	Blocher, Kristyn
Additional Participating Persons:	Taha Rabbani; Federal Aviation Administration; Spokane, WA Todd Pryor (2/2-2/13); Federal Aviation Administration; Spokane, WA
Original Publish Date:	July 5, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=106672

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](#).