



Aviation Investigation Final Report

Location:	Indian Trail, North Carolina	Accident Number:	ERA23LA281
Date & Time:	June 16, 2023, 09:45 Local	Registration:	N3662Z
Aircraft:	Piper PA-22-150	Aircraft Damage:	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that, after landing about halfway down the 2,350 ft-long runway, the brakes did not respond and he was unable to slow the airplane. The pilot applied full left rudder and aileron to prevent the airplane from going down a hill off the end of the runway. The left wing impacted the ground and the airplane nosed over and came to rest inverted, resulting in substantial damage to both wings.

A visual examination of the brake system did not reveal any anomalies; however, during a functional test, the airplane could roll forward without much resistance when the brakes were applied. A more thorough examination of the brake system could not be conducted due to the disposition of the wreckage, and the reason for the brake malfunction could not be determined based on the available information.

Probable Cause and Findings

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

Aloss of control during the landing roll due to a brake failure for reasons that could not be determined based on available evidence.

Findings

Aircraft	Brake - Malfunction
Aircraft	Surface speed/braking - Attain/maintain not possible
Aircraft	Brake - Unknown/Not determined

Factual Information

History of Flight

Landing-landing roll	Sys/Comp malf/fail (non-power) (Defining event)
Landing-landing roll	Loss of control on ground

On June 16, 2023, about 0945 eastern daylight time, a Piper PA-22-150, N3662Z, was substantially damaged when it was involved in an accident near Indian Trail, North Carolina. The private pilot sustained minor injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he applied the brakes after landing about halfway down the 2,350 ft-long runway, but they did not respond and he was unable to slow the airplane. The pilot applied full left rudder and aileron to prevent the airplane from going down the hill at the end of the runway. The left wing impacted the ground and the airplane nosed over and came to rest inverted.

Examination of the airplane by Federal Aviation Administration (FAA) inspectors revealed that the airplane sustained substantial damage to both wings; the left wing strut was bent, and the outboard portion of the right wing was also damaged. The brake system visually appeared intact and contained hydraulic fluid, but during a functional test of the brakes, the airplane was able to roll without much resistance. A follow-up examination of the brake system could not be completed due to the disposition of the wreckage. According to the inspector, the pilot informed him about one month after the accident that the O-rings were bad; however, the inspector's examination had not revealed any evidence of brake fluid leakage.

Pilot Information

Certificate:	Private	Age:	48, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	March 6, 2023
Occupational Pilot:	No	Last Flight Review or Equivalent:	April 15, 2023
Flight Time:	199.9 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3662Z
Model/Series:	PA-22-150	Aircraft Category:	Airplane
Year of Manufacture:	1960	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-7560
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	May 24, 2023 Annual	Certified Max Gross Wt.:	1650 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3425 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	O-320 A2B
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:	EQY,671 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	08:53 Local	Direction from Accident Site:	196°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.78 inches Hg	Temperature/Dew Point:	22°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Indian Trail, NC	Type of Flight Plan Filed:	
Destination:	Indian Trail, NC	Type of Clearance:	None
Departure Time:		Type of Airspace:	

Airport Information

Airport:	Indian Trail, North Carolina 28A	Runway Surface Type:	Asphalt
Airport Elevation:	565 ft msl	Runway Surface Condition:	Dry
Runway Used:	4/22	IFR Approach:	None
Runway Length/Width:	2350 ft / 35 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	35.120979,-80.587289(est)

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Robert W. Reynolds Jr.; FAA/FSDO; Charlotte, NC
Original Publish Date:	September 18, 2024
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=192499

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