



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

# Aviation Investigation Final Report

<b>Location:</b>	Chesterfield, Missouri	<b>Accident Number:</b>	CEN23LA417
<b>Date &amp; Time:</b>	September 23, 2023, 10:45 Local	<b>Registration:</b>	N2242N
<b>Aircraft:</b>	Piper PA-28RT-201	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing gear collapse	<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot conducted an uneventful local flight without issue just before the accident flight. During the accident flight, while conducting a visual traffic pattern approach to the runway, the pilot verified three green landing gear extended annunciator lights and proceeded to land the airplane. After a normal touchdown, he felt that the right wing was low and began to correct the attitude when the right wing continued to drop and scrape the runway. The airplane pulled to the right, exited the runway, spun slowly to the right, and came to rest upright. The airplane's right main and nose landing gear were found partially retracted and the outboard right wing sustained substantial damage.

Postaccident examination and testing of the airframe and landing gear system revealed no evidence of any preimpact mechanical malfunctions or failures that would have precluded normal operation. The reason for the partial retraction of the right main and nose landing gear could not be determined.

## Probable Cause and Findings

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

The partial retraction of the right main and nose landing gear during landing rollout for undetermined reasons.

## Findings

<b>Aircraft</b>	Directional control - Attain/maintain not possible
<b>Aircraft</b>	Main landing gear - Unknown/Not determined

# Factual Information

## History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
Landing-landing roll	Runway excursion

On September 23, 2023, about 1045 central daylight time, a Piper PA-28RT-201 airplane, N2242N, sustained substantial damage when it was involved in an accident near Chesterfield, Missouri. The pilot and three passengers were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the pilot, he conducted an uneventful local flight just before the accident flight. During the accident flight, while conducting a visual traffic pattern approach to the runway, the pilot verified three green landing gear extended annunciator lights and proceeded to land the airplane. After a normal touchdown, he felt that the right wing was low and began to correct the attitude when the right wing continued to drop and scrape the runway. The airplane pulled to the right, exited the runway, spun slowly to the right, and came to rest upright. The left main landing gear remained extended; however, the right main and nose landing gear were partially retracted. The outboard right wing sustained substantial damage.

After the airplane was recovered it was placed on jacks to facilitate testing of the landing gear system. Three electric landing gear extension and retraction tests and the manual emergency landing gear extension procedure were completed with no anomalies noted. The airplane’s landing gear are hydraulically operated by an electrically powered reversible pump.

The airplane was equipped with a Garmin G3X flight display that recorded several aircraft parameters, including electrical amperage (amps). The accident flight data was extracted by a mechanic and sent to the National Transportation Safety Board investigator-in-charge. A review of the data showed a sharp increase or spike in amps during the accident flight phases that were consistent with the landing gear retraction and extension. Another sharp increase in amps was noted after touchdown and during the landing roll at about 60 knots groundspeed. The reason for the sharp increase in amps during the landing roll could not be determined.

## Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	68,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane single-engine; Glider	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	BasicMed Without waivers/limitations	<b>Last FAA Medical Exam:</b>	October 4, 2021
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	June 28, 2023
<b>Flight Time:</b>	2322 hours (Total, all aircraft), 169 hours (Total, this make and model), 2146 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N2242N
<b>Model/Series:</b>	PA-28RT-201	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1979	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	28R-7918044
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	July 12, 2023 Annual	<b>Certified Max Gross Wt.:</b>	2750 lbs
<b>Time Since Last Inspection:</b>	63 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	7317 Hrs at time of accident	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	IO-360-C1C6
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	On file	<b>Operator Designator Code:</b>	N/A

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KSUS,458 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	10:54 Local	<b>Direction from Accident Site:</b>	258°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	190°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	27°C / 17°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Chesterfield, MO	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Chesterfield, MO	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>		<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>	SPIRIT OF ST LOUIS SUS	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	463 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	26R	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5000 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	4 None	<b>Latitude, Longitude:</b>	38.66516,-90.659437(est)

## Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	Louie Betts; FAA; St. Louis, MO
Original Publish Date:	May 14, 2024
Last Revision Date:	
Investigation Class:	<a href="#">Class 3</a>
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	<a href="https://data.nts.gov/Docket?ProjectID=193122">https://data.nts.gov/Docket?ProjectID=193122</a>

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](#).