



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Philadelphia, Pennsylvania	Accident Number:	CEN23LA348
Date & Time:	August 3, 2023, 10:52 Local	Registration:	N860TW
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The pilot receiving instruction reported that while on final approach, the airspeed became slow so he lowered the airplane nose to increase the airspeed. The airplane landed firmly at the runway threshold and bounced. During the recovery from the bounce, the flight instructor commanded a go-around maneuver. During the go-around, the airplane's nose rose high, and the airplane yawed and rolled to the left. The airplane impacted the ground alongside the runway and nosed over. Post accident examination revealed that the vertical stabilizer, rudder, empennage, and left wing sustained substantial damage.

There were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

Probable Cause and Findings

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

The pilot receiving instruction's failure to maintain control during a go-around. Contributing to the accident was the flight instructor's inadequate supervision of the flight.

Findings

Aircraft	Angle of attack - Capability exceeded
Personnel issues	Monitoring other person - Instructor/check pilot
Personnel issues	Aircraft control - Student/instructed pilot
Aircraft	Directional control - Not attained/maintained

Factual Information

History of Flight

Landing-flare/touchdown	Abnormal runway contact
Landing-aborted after touchdown	Attempted remediation/recovery
Approach-VFR go-around	Loss of control in flight (Defining event)
Other	Nose over/nose down

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	76, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Glider	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	
Medical Certification:	Unknown Unknown	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 31, 2022
Flight Time:	7674 hours (Total, all aircraft), 1944 hours (Total, this make and model), 7345 hours (Pilot In Command, all aircraft), 69 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	34, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	December 21, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 16, 2022
Flight Time:	305.7 hours (Total, all aircraft), 151.1 hours (Total, this make and model), 210.5 hours (Pilot In Command, all aircraft), 11.7 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N860TW
Model/Series:	172 S	Aircraft Category:	Airplane
Year of Manufacture:	2002	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	172S9220
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	July 27, 2023 Annual	Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	6368 Hrs at time of accident	Engine Manufacturer:	Textron Lycoming
ELT:	Installed	Engine Model/Series:	IO-360-L2A
Registered Owner:	TAILWINDS LLC	Rated Power:	180
Operator:	TAILWINDS LLC	Operating Certificate(s) Held:	None
Operator Does Business As:	Tailwinds Flight School	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KPNE, 108 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	10:54 Local	Direction from Accident Site:	85°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	6 knots / 14 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	25°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Philadelphia, PA	Type of Flight Plan Filed:	None
Destination:	Philadelphia, PA	Type of Clearance:	VFR
Departure Time:		Type of Airspace:	Class D

Airport Information

Airport:	NORTHEAST PHILADELPHIA PNE	Runway Surface Type:	Asphalt
Airport Elevation:	119 ft msl	Runway Surface Condition:	Dry
Runway Used:	15	IFR Approach:	None
Runway Length/Width:	4999 ft / 150 ft	VFR Approach/Landing:	Simulated forced landing; Touch and go; Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	40.081911,-75.012372

Administrative Information

Investigator In Charge (IIC):	Brown, Zane
Additional Participating Persons:	Michael J. Floriani; FAA FSDO; Philadelphia, PA
Original Publish Date:	January 25, 2024
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192801

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](#).