



Aviation Investigation Final Report

Location:	Hillsboro, Oregon	Accident Number:	WPR18LA005
Date & Time:	October 5, 2017, 14:20 Local	Registration:	N7892P
Aircraft:	Piper PA 24-250	Aircraft Damage:	Substantial
Defining Event:	Aerodynamic stall/spin	Injuries:	2 Serious
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

As the student pilot was approaching the runway for a practice soft-field, full-stop landing, the airplane descended faster than expected and the nose pitched up. The airplane's airspeed was slow, and the flight instructor called for a go-around. During the go-around, the flight instructor told the student pilot to apply power faster. Subsequently, the airplane exceeded its critical angle of attack and aerodynamically stalled, settled toward the ground, struck the ground hard short of the runway, and then bounced onto the runway, sustaining substantial damage to the fuselage and wings.

The accident might have been avoided if the flight instructor had intervened or taken control of the airplane earlier in the sequence.

Probable Cause and Findings

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

The student's pilot's failure to maintain adequate airspeed during approach and subsequent exceedance of the critical angle of attack during a go-around, which resulted in an aerodynamic stall and a subsequent hard landing. Contributing to the accident was the flight instructor's delayed remedial action during the attempted go-around.

Findings

Personnel issues	Aircraft control - Student/instructed pilot
Personnel issues	Delayed action - Instructor/check pilot
Aircraft	Airspeed - Not attained/maintained
Aircraft	Angle of attack - Capability exceeded

Factual Information

History of Flight

Approach-VFR go-around	Miscellaneous/other
Approach-VFR pattern final	Attempted remediation/recovery
Landing-flare/touchdown	Aerodynamic stall/spin (Defining event)
Landing-flare/touchdown	Landing area undershoot
Landing-flare/touchdown	Hard landing

On October 5, 2017, about 1420 Pacific daylight time, a Piper PA-24-250, airplane, N7892P, was substantially damaged when it was involved in an accident at Hillsboro, Oregon. The flight instructor and student pilot were seriously injured. The airplane was operated by Twin Oaks Airpark Inc. as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The flight instructor reported that, during a practice soft field full stop landing, as the student pilot was approaching the runway, the airplane descended quicker than expected. As the airplane got closer to the runway, the airspeed was decreasing, the nose angle was increasing and he called out to the student "airspeed." A go-around was called and during the go-around, the airplane aerodynamically stalled, and settled towards the runway. The airplane struck short of the runway hard, and then bounced onto the runway.

According to the student pilot the soft field landing had a shallower glide path than a normal landing. He stated that while flying the approach, he noticed that the airspeed was about 15 knots slow. Subsequently, the flight instructor called for him to go-around. During the go-around, the flight instructor told him to apply the power quicker. As the airplane approached the flare, he felt the airplane settle towards the ground in an aerodynamic stall. Furthermore, he stated that he noticed no wind (crosswind or downdraft) on final.

Both wings and the fuselage were substantially damaged.

The pilot reported no preaccident mechanical failure or malfunction with the airplane that would have precluded normal operation.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	68, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	February 24, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	February 18, 2017
Flight Time:	(Estimated) 7056 hours (Total, all aircraft), 168 hours (Total, this make and model), 6288 hours (Pilot In Command, all aircraft), 131 hours (Last 90 days, all aircraft), 52 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Commercial	Age:	39, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	February 24, 2017
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 9, 2017
Flight Time:	(Estimated) 2161 hours (Total, all aircraft), 13 hours (Total, this make and model), 1784 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N7892P
Model/Series:	PA 24-250 250	Aircraft Category:	Airplane
Year of Manufacture:	1962	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-3121
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	August 15, 2019 100 hour	Certified Max Gross Wt.:	2899 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	7081.9 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	O-540 SERIES
Registered Owner:	On file	Rated Power:	250 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:	KHIO, 204 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	14:53 Local	Direction from Accident Site:	358°
Lowest Cloud Condition:	Scattered / 8000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	22°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hillsboro, OR (7S3)	Type of Flight Plan Filed:	None
Destination:	Hillsboro, OR (7S3)	Type of Clearance:	None
Departure Time:	13:15 Local	Type of Airspace:	Class G

Airport Information

Airport:	STARK'S TWIN OAKS AIRPARK 7S3	Runway Surface Type:	Asphalt
Airport Elevation:	170 ft msl	Runway Surface Condition:	Dry
Runway Used:	02	IFR Approach:	None
Runway Length/Width:	2465 ft / 48 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	45.428333,-122.942222(est)

Administrative Information

Investigator In Charge (IIC):	Nixon, Albert
Additional Participating Persons:	Jason Lawver; Federal Aviation Administration; Hillsboro, OR
Original Publish Date:	November 19, 2020
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=96155

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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](#).