Aviation Investigation Final Report

Location:	Aurora, Oregon	**Accident Number:**	WPR19TA085
Date & Time:	February 6, 2019, 15:30 Local	**Registration:**	N997MA
Aircraft:	Piper PA46	**Aircraft Damage:**	Substantial
Defining Event:	Aerodynamic stall/spin	**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that the purpose of the instructional flight was to practice commercial pilot maneuvers. He and the instructor returned to the airport at the conclusion of the flight and discussed how to conduct a power-off 180° approach and landing. When the airplane was abeam the 1,000-foot markings on the runway, the pilot reduced engine power to idle and started a left turn toward the runway. He stated that he realized the airplane was "probably not going to make the runway" and that the airplane was "not on final course." He recalled the airplane turning sharply to the left as he pulled up on the control yoke and added right rudder. The pilot did not report any mechanical malfunctions or anomalies with the airplane.

A video of the event showed the airplane in a left turn as it descended toward the runway. The airplane's left bank decreased to a wings-level attitude before the airplane entered a steeper left bank, followed immediately by a right bank as the airplane descended into the ground short of the runway. Both the pilot's description and the video are consistent with the pilot exceeding the airplane's critical angle of attack while maneuvering toward the runway, resulting in an aerodynamic stall, loss of control, and impact with terrain.

Probable Cause and Findings

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

The pilot's exceedance of the airplane's critical angle of attack while maneuvering for landing during a simulated power-off approach and landing, which resulted in an aerodynamic stall and loss of control and the flight instructor's failure to adequately monitor the pilot.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Airspeed - Not attained/maintained
Aircraft	Angle of attack - Not attained/maintained
Personnel issues	Delayed action - Instructor/check pilot
Personnel issues	Monitoring other person - Instructor/check pilot

Factual Information

History of Flight

Approach-VFR pattern final	Aerodynamic stall/spin (Defining event)
Approach-VFR pattern final	Collision with terr/obj (non-CFIT)

On February 6, 2019, about 1530 Pacific standard time, a Piper PA 46-350P, N997MA, was substantially damaged when it was involved in an accident near Aurora, Oregon. The private pilot and flight instructor were seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 instructional flight.

The pilot reported that the purpose of the flight was to practice commercial pilot maneuvers. After practicing slow flight, chandelles, lazy eights, and eights on pylons, they returned to the airport and discussed how to conduct a practice a power-off 180° landing as they entered the traffic pattern. When the airplane was abeam the 1,000-foot runway markings, the pilot reduced the power to idle and started a left turn toward the runway. He stated that he realized that the airplane was "probably not going to make the runway" and that the airplane was "not on final course." He recalled the airplane turning sharply to the left as he was pulled up on the control yoke and added right rudder. He could not recall whether he applied power. The pilot did not report any mechanical malfunctions or anomalies with the airplane.

A video of the event showed the airplane in a left turn as it descended toward the runway. The airplane's left bank decreased to a wings-level attitude before the airplane entered a steeper left bank, followed immediately by a right bank as the airplane descended into the ground short of the runway. The airplane's right wing and fuselage sustained substantial damage.

Pilot Information

Certificate:	Private	**Age:**	64,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	November 8, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	July 1, 2017
Flight Time:	970 hours (Total, all aircraft), 23 hours (Total, this make and model), 865 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Flight instructor Information

Certificate:	Commercial; Flight instructor	**Age:**	70,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	February 17, 2018
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N997MA
Model/Series:	PA46 350P	**Aircraft Category:**	Airplane
Year of Manufacture:	1997	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	4636126
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	December 1, 2018 Annual	**Certified Max Gross Wt.:**	4299 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2670 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	TIO-540 SER
Registered Owner:	On file	**Rated Power:**	310 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:	UAO,199 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:45 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	Broken / 2900 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.32 inches Hg	**Temperature/Dew Point:**	3°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Aurora, OR (UAO)	**Type of Flight Plan Filed:**	None
Destination:	Aurora, OR (UAO)	**Type of Clearance:**	VFR
Departure Time:	14:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Aurora State Airport UAO	**Runway Surface Type:**	Asphalt
Airport Elevation:	199 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	35	**IFR Approach:**	None
Runway Length/Width:	5003 ft / 100 ft	**VFR Approach/Landing:**	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:**	45.24139,-122.768608(est)

Administrative Information

Investigator In Charge (IIC):	Link, Samantha
Additional Participating Persons:	Eugene Hahn; Federal Aviation Administration; Hillsboro, OR
Original Publish Date:	January 20, 2022
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=99003