Aviation Investigation Final Report

Location:	Tunkhannock, Pennsylvania	**Accident Number:**	GAA17CA293
Date & Time:	May 18, 2017, 10:00 Local	**Registration:**	N34JM
Aircraft:	Piper PA 34	**Aircraft Damage:**	Substantial
Defining Event:	Aerodynamic stall/spin	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, during landing and while in ground affect, "the airplane suddenly, and without an aural stall warning, lost lift and was forced onto the runway." Subsequently, the nose gear landing collapsed, and the airplane veered off the runway to the right.

The airplane sustained substantial damage to the left wing.

The pilot reported that there were no preaccident mechanical malfunctions or failures with the airplane that would have precluded normal operation.

The automated weather observation system located about 15 miles from the accident site reported that, about 6 minutes before the accident, the wind was from 230° at 10 knots. The pilot landed on runway 19.

Probable Cause and Findings

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

The pilot's failure to maintain adequate airspeed and his exceedance of the airplane's critical angle of attack during landing in crosswind conditions, which resulted in an aerodynamic stall.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Not attained/maintained
Aircraft	Airspeed - Not attained/maintained
Environmental issues	Crosswind - Effect on operation

Factual Information

History of Flight

Landing	Aerodynamic stall/spin (Defining event)
Landing	Hard landing
Landing	Landing gear collapse
Landing	Runway excursion

Pilot Information

Certificate:	Commercial	**Age:**	49,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	May 19, 2017
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 15, 2016
Flight Time:	(Estimated) 3186 hours (Total, all aircraft), 1342 hours (Total, this make and model), 3126 hours (Pilot In Command, all aircraft), 24 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N34JM
Model/Series:	PA 34 220T	**Aircraft Category:**	Airplane
Year of Manufacture:	2000	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3449177
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	May 19, 2016 Annual	**Certified Max Gross Wt.:**	4700 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	1422 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	C126 installed, not activated	**Engine Model/Series:**	TSIO-360RB1B
Registered Owner:	AUTO MILESTONES LLC	**Rated Power:**	220 Horsepower
Operator:	AUTO MILESTONES LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KAVP,962 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	13:54 Local	**Direction from Accident Site:**	140°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	29.96 inches Hg	**Temperature/Dew Point:**	28°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FALMOUTH, MA (5B6)	**Type of Flight Plan Filed:**	None
Destination:	Tunkhannock, PA (76N)	**Type of Clearance:**	None
Departure Time:	08:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	SKYHAVEN 76N	**Runway Surface Type:**	Asphalt
Airport Elevation:	639 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	19	**IFR Approach:**	None
Runway Length/Width:	2007 ft / 50 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern;Valley/terrain following

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	41.5275,-75.945831(est)

Preventing Similar Accidents

Prevent Aerodynamic Stalls at Low Altitude (SA-019)

The Problem

While maneuvering an airplane at low altitude in visual meteorological conditions, many pilots fail to avoid conditions that lead to an aerodynamic stall, recognize the warning signs of a stall onset, and apply appropriate recovery techniques. Many stall accidents result when a pilot is momentarily distracted from the primary task of flying, such as while maneuvering in the airport traffic pattern, during an emergency, or when fixating on ground objects.

What can you do?

- Be honest with yourself about your knowledge of stalls and your preparedness to recognize and handle a stall situation in your airplane. Seek training to ensure that you fully understand the stall phenomenon, including angle-of attack (AOA) concepts and how elements such as weight, center of gravity, turbulence, maneuvering loads, and other factors affect an airplane's stall characteristics.
- Remember that an aerodynamic stall can occur at any airspeed, at any attitude, and with any engine power setting.
- Remember that the stall airspeeds marked on the airspeed indicator (for example, the bottom of the green arc and the bottom of the white arc) typically represent steady flight speeds at 1G at the airplane's maximum gross weight in the specified configuration. Maneuvering loads and other factors can increase the airspeed at which the airplane will stall. For example, increasing bank angle can increase stall speed exponentially. Check your airplane's handbook for information.
- Reducing AOA by lowering the airplane's nose at the first indication of a stall is the most important immediate response for stall avoidance and stall recovery.
- Manage distractions when maneuvering at low altitude so that they do not interfere with the primary task of flying.
- Resist the temptation to perform maneuvers in an effort to impress people, including passengers, other pilots, persons on the ground, or others via an onboard camera. "Showing off" can be a deadly distraction because it diverts your attention away from the primary task of safe flying.
- Understand that the stall characteristics of an unfamiliar airplane may differ substantially from those of airplanes with which you have more flight experience.

See https://www.ntsb.gov/Advocacy/safety-alerts/Documents/SA-019.pdf for additional resources.

The NTSB presents this information to prevent recurrence of similar accidents. Note that this should not be considered guidance from the regulator, nor does this supersede existing FAA Regulations (FARs).

Administrative Information

Investigator In Charge (IIC):	Vanover, Jackie
Additional Participating Persons:	Joseph Sablan; FAA; Allentown, PA
Original Publish Date:	January 23, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=95205