Aviation Investigation Final Report

Location:	Ionia, Michigan	**Accident Number:**	CEN12LA330
Date & Time:	May 29, 2012, 15:35 Local	**Registration:**	N127PC
Aircraft:	Schleicher ASW-27	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The glider initiated a turn about 200 feet above the ground near the airport. After initiating the turn, the left wing and nose of the glider dropped, and the glider descended and impacted into trees. Recorded wind conditions showed the presence of wind gusts that continued to increase after the accident. Postaccident examination of the glider revealed no mechanical anomalies that would have precluded normal operation. Data from digital devices onboard the glider recorded a speed near the glider stall speed immediately before the accident. The glider's flight path, as described by a witness and recorded by the glider's onboard digital devices, was consistent with the glider being in a stalled condition before the descent into terrain.

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 a proper airspeed in gusting wind conditions, which resulted in an inadvertent stall while maneuvering at an altitude that did not provide a margin for recovery.

Findings

Environmental issues	Gusts - Effect on operation
Aircraft	Airspeed - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Maneuvering	Aerodynamic stall/spin
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On May 29, 2012, about 1535 eastern daylight time, a Schleicher ASW-27, N127PC, collided with the ground while maneuvering near the final approach for runway 27 at Ionia County Airport (Y70), Ionia, Michigan. The certificated private pilot was fatally injured. The glider sustained substantial damage to the fuselage and wings. The glider was registered to Aerodonetics, Inc., and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight during a Soaring Society of America (SSA) Region 6 North Super Regional glider competition. Visual meteorological conditions prevailed and a flight plan had not been filed for the local flight that originated from Y70 about 1413.

A witness stated that he saw the glider returning to Y70 from the east. The glider was traveling at a "very slow speed" and the winds were gusting to 28 knots. As the glider got closer to the airport, it appeared that it side stepped and lined up for a straight-in approach to runway 27 (4,298 by 75 feet, asphalt). The witness stated that about 200 feet [above ground level], instead of deploying spoilers to land, the glider entered into a 90 degree turn to the south as if to "work a thermal" over runway 18/36 (4,261 feet by 340 feet, turf). The wind was pushing the glider "hard." The glider entered a turn to the left as if to enter a left downwind. At this point, the glider's left wing dropped followed by its nose, almost straight down to a northerly heading, while at an altitude that was about three times the height of the nearby trees. The witness stated that it appeared as if the pilot tried to regain control of the glider as one of the wings stopped dropping and the nose began to rise "slightly." The glider entered trees at about a 60 degree angle.

The wreckage was examined by a Federal Aviation Administration (FAA) inspector. The examination confirmed flight control continuity from the cockpit to the rudder and elevator. Both wings were separated from the fuselage. No anomalies that would have precluded normal operation were noted. Three electronic devices were removed from the wreckage and sent to the National Transportation Safety Board Vehicle Recorder Division for data recovery.

The Y70 automated weather observing system at Y70 recorded the following:

At 1513, wind - 270 degrees at 18 knots, gusting 24 knots
At 1533, wind - 290 degrees at 21 knots, gusting 26 knots
At 1553, wind - 260 degrees at 20 knots, gusting 27 knots

Subsequent Y70 observations recorded increasing gusts.

The Vehicle Recorder Division Electronic Devices Factual Report includes graphical overlays of the accident flight, altitude, true airspeed, and ground speed. During the last 6-1/2 minutes of the accident flight, there were periods, which the glider is circling, are characterized by highly variable ground speed data along with a relatively constant true airspeed of around 100 kilometers per hour. At 1535:06, the following approximate recorded values were: true airspeed - 96 km/hr; ground speed - 53 km/hr; track - 234 degrees. The record ended at 1535:14.

According to the ASW-27 Flight Manual, the airspeed indicator markings for the white and green arc are 92.5 km/hr and 100 km/hr, respectively.

A postmortem examination was conducted by the Ionia County Medical Examiner. The cause of death was reported as blunt force injuries.

The FAA's Civil Aerospace Medical Institute performed forensic toxicology on specimens from the pilot. The test results were negative for all substances tested.

Pilot Information

Certificate:	Private	**Age:**	53,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Center
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	November 22, 2004
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1342 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schleicher	**Registration:**	N127PC
Model/Series:	ASW-27	**Aircraft Category:**	Glider
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:		**Serial Number:**	27219
Landing Gear Type:	N/A	**Seats:**	1
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	1102 lbs
Time Since Last Inspection:		**Engines:**	0
Airframe Total Time:		**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	Aerodonetics Inc	**Rated Power:**	
Operator:	Pilot	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	Y70,818 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:33 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	21 knots / 26 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.77 inches Hg	**Temperature/Dew Point:**	27°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ionia, MI (Y70)	**Type of Flight Plan Filed:**	None
Destination:	Ionia, MI (Y70)	**Type of Clearance:**	None
Departure Time:	14:13 Local	**Type of Airspace:**	

Airport Information

Airport:	Ionia County Airport Y70	**Runway Surface Type:**	Asphalt
Airport Elevation:	818 ft msl	**Runway Surface Condition:**	
Runway Used:	27	**IFR Approach:**	None
Runway Length/Width:	4298 ft / 75 ft	**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	42.938056,-85.060554(est)

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	Thomas Kozura; Federal Aviation Administration; Grand Rapids, MI
Original Publish Date:	June 12, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=83798