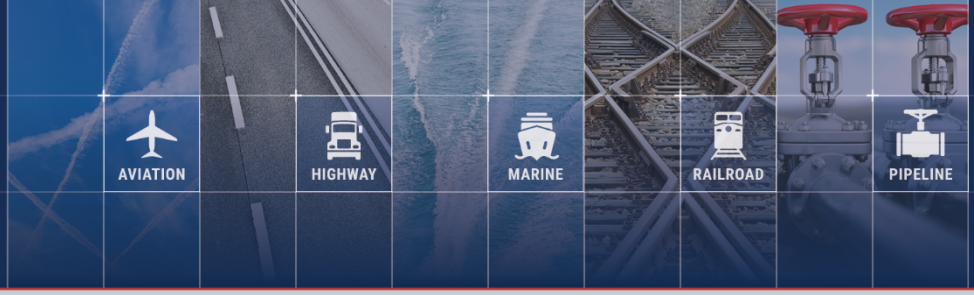

Aviation Investigation Final Report

Location:	Wurtsboro, New York	**Accident Number:**	ERA21FA239
Date & Time:	June 6, 2021, 12:49 Local	**Registration:**	N2878H
Aircraft:	Schweizer SGS 1-35	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The accident flight was the pilot's first flight in the glider make/model, and he indicated to the wing runner that he was "hesitant" about the flight. Witness statements and recorded data indicated that, just after takeoff, the glider released from the tow plane about 170 ft above ground level, while in a 25° right turn over the runway departure end. The glider continued the right turn and stalled about 1.4 seconds later, impacting airport property 13 seconds after the stall. Examination of the wreckage did not reveal any preimpact mechanical malfunctions.

Toxicology testing revealed the presence of the sedating antihistamine diphenhydramine in cardiac blood and urine, indicating that the pilot had taken some allergy, cold, or sleep-aid medication before the accident. Even considering two-to-three-fold postmortem redistribution of diphenhydramine, the concentration in the pilot's blood appeared to be at therapeutic levels. Compared to other antihistamines, diphenhydramine causes marked sedation; impaired cognitive and psychomotor performance may also be observed. While the impairing medication diphenhydramine was detected, it is unlikely that the effects from the pilot's use of diphenhydramine contributed to this accident.

Although the reason for the pilot's release from tow at low altitude could not be determined, the accident is consistent with his failure to maintain airspeed during the turn back to the runway, which resulted in an aerodynamic stall 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 low-altitude release from tow for reasons that could not be determined, and his subsequent exceedance of the glider's critical angle of attack while returning to the runway, which resulted in an aerodynamic stall and impact with terrain.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Capability exceeded
Personnel issues	Total experience w/ equipment - Pilot

Factual Information

History of Flight

Initial climb	Loss of control in flight (Defining event)
Initial climb	Aerodynamic stall/spin
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On June 6, 2021, about 1249 eastern daylight time, a Schweizer SGS 1-35 glider, N2878H, was substantially damaged when it was involved in an accident near Wurtsboro, New York. The private pilot was fatally injured. The glider was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the towplane pilot, the accident pilot owned the glider, and the accident flight was his first flight in the glider. The wing runner who helped launch the glider reported that the accident pilot stated that he was hesitant, as it was his first flight in the glider. During initial climb from runway 23, about 100 to 200 ft above ground level (agl), the glider pilot released the tow rope and began a 45° bank right turn back toward the airport. About 90° through the turn, the nose dropped straight down. The glider started to pull up but was still about 60° nose down when it impacted a ramp area, slid across a taxiway, and came to rest on a grass area between the taxiway and runway. A different pilot flew the accident glider the previous day and reported that it flew well.

Pilot Information

Certificate:	Private	**Age:**	64,Male
Airplane Rating(s):	None	**Seat Occupied:**	Single
Other Aircraft Rating(s):	Glider	**Restraint Used:**	4-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	215 hours (Total, all aircraft), 0 hours (Total, this make and model), 10 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N2878H
Model/Series:	SGS 1-35	**Aircraft Category:**	Glider
Year of Manufacture:	1977	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	58
Landing Gear Type:	Retractable - ; Ski/wheel	**Seats:**	1
Date/Type of Last Inspection:	September 20, 2020 Annual	**Certified Max Gross Wt.:**	930 lbs
Time Since Last Inspection:		**Engines:**	0
Airframe Total Time:	2152 Hrs as of last inspection	**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	On file	**Rated Power:**	
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:	KMGJ,365 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	12:54 Local	**Direction from Accident Site:**	121°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	31°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wurtsboro, NY	**Type of Flight Plan Filed:**	None
Destination:	Wurtsboro, NY	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	WURTSBORO-SULLIVAN COUNTY N82	**Runway Surface Type:**	Asphalt
Airport Elevation:	548 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	23	**IFR Approach:**	None
Runway Length/Width:	3591 ft / 60 ft	**VFR Approach/Landing:**	Precautionary landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	41.597139,-74.458306(est)

The glider came to rest upright, oriented south, about 100 feet east of the initial impact point. The wings and empennage remained attached, while the fuselage partially separated in a downward direction, just aft of the wings. The cockpit area was crushed, and the control stick separated consistent with impact forces. The canopy frame remained attached to the fuselage, but the windscreen had shattered. Flight control continuity was established from the cockpit to the flaps, ailerons, elevator, and rudder. The preimpact position of the flaps could not be determined. The tow release mechanism functioned normally when tested. The tow rope and its attachment hardware were intact.

Medical and Pathological Information

An autopsy was performed on the pilot by the Westchester County Medical Examiner's Office, Valhalla, New York. The cause of death was multiple blunt force injuries.

Toxicology testing performed by the Federal Aviation Administration (FAA) Bioaeronautical Sciences Laboratory. The testing detected the sedating antihistamine diphenhydramine in the pilot's cardiac blood at 112 nanograms per milliliter (ng/mL) and in his urine. The anesthetic drug ketamine and its metabolite, norketamine, were detected in the pilot's cardiac blood and

urine; ketamine is used in resuscitation. Ibuprofen, commonly marketed as Advil, was also detected in the pilot's cardiac blood and urine. Diphenhydramine is a sedating antihistamine (commonly marketed as Benadryl) and is available over the counter in many products used to treat colds, allergies, and insomnia. Diphenhydramine carries the warning that use of the medication may impair mental and physical ability to perform potentially hazardous tasks, including driving or operating heavy machinery. The therapeutic range is 25 to 100 ng/mL, and it has a half-life of 3 to 4 hours. Diphenhydramine undergoes postmortem distribution and central levels may be two to three times higher than peripheral levels. FAA provides guidance on wait times before flying after using this medication; post-dose observation time is 60 hours, and the medication is not for daily use.

Additional Information

Review of data downloaded from an onboard device revealed that the accident flight, including the tow, lasted about 1 minute. The glider was towed for approximately 45 seconds until it released at 1248:51.0 while in a 25° right turn about 170 ft agl over the runway 23 departure end. The glider stalled approximately 1.4 seconds later, at 1248:52.4 and impacted airport property about 1249:5.0.

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Russell Sage; FAA/FSDO; Albany, NY
Original Publish Date:	August 12, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=103217