Aviation Investigation Final Report

Location:	Sterling, Massachusetts	**Accident Number:**	IAD03LA046
Date & Time:	April 19, 2003, 16:30 Local	**Registration:**	N1241S
Aircraft:	Schweizer SGS 2-33A	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

After practicing maneuvers at 5,000 feet, the student pilot returned to the airport. He entered the downwind leg at an altitude about 850 feet above the ground. He continued to descend, using airbrakes, until he realized he was too low, about 250 feet above the ground. He then tried to "cut the corners" of the traffic pattern in an attempt to make it to the runway; however, the glider's right wing impacted a tree.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student pilot's misjudgment of his traffic pattern altitudes, which resulted in a premature descent into a tree.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

Findings
1. OBJECT - TREE(S)

2. (C) ALTITUDE - MISJUDGED - PILOT IN COMMAND
3. DESCENT - PREMATURE - PILOT IN COMMAND

Factual Information

On April 19, 2003, about 1630 eastern daylight time, a Schweizer 2-33A glider, N1241S, was substantially damaged when it impacted trees while on approach to Sterling Airport (3B3), Sterling, Massachusetts. The certificated student pilot was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the local instructional flight conducted under 14 CFR Part 91.

In a written statement, the student pilot said that on the morning of the accident, he flew with his flight instructor, and received a solo endorsement. Later that day, he departed on a solo flight to practice maneuvers in preparation for his private pilot certificate.

After being towed to an altitude of 5,000 feet, the student pilot practiced flight maneuvers, then returned to the airport. He entered the downwind leg for runway 16 at an altitude of 1,300 feet mean sea level (msl). He continued to descend, using airbrakes, until he realized he was too low, about 700 feet msl. The student pilot then "cut the corners" of the traffic pattern in an attempt to make it to the runway, when the right wing impacted a tree.

Several people who witnessed the glider on the downwind leg, said it was at a "very low" altitude.

One of the witnesses, who was concerned about the glider's low altitude on the downwind leg, dialed 911 on his cell phone. He continued to watch the glider as it turned onto the base leg of the traffic pattern, and impacted a tree. After observing the accident, the witness completed the call to 911.

A Federal Aviation Administration (FAA) inspector performed an on-scene examination of the glider. The examination revealed that the fuselage was twisted aft of the cockpit, the left and right wing sustained substantial damage, and the right wing spar was twisted. The altimeter indicated 500 feet.

Sterling Airport was an uncontrolled field. Runway 16 was a 3,086-foot-long, 40-foot-wide, asphalt runway. According to published airport information, there were 23-foot trees located 300 feet from the approach end of the runway. The field elevation was 459 feet.

The pilot reported a total of 27 hours of flight time, all in gliders. Twelve of these hours were in make and model.

In addition, when asked how this accident could have been prevented, the student pilot said, "I had just flown the glider and did not check the altimeter for the second flight. I should have. When realizing I was too low, I cut corners to get back to the airfield. I should have not cut so

tight and should have flown a wider pattern. I made two mistakes".

Weather at Fitchburg Municipal Airport, Fitchburg (FIT), Massachusetts, 7 miles north of Sterling Airport, at 1652, included winds from 090 at 8 knots, visibility 10 statute miles, and an overcast ceiling at 4,100 feet. The temperature was 57 degrees F and the dew point was 27 degrees F. The barometric setting was 30.40 inches HG.

Pilot Information

Certificate:	Student	**Age:**	60,Male
Airplane Rating(s):	None	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	27 hours (Total, all aircraft), 12 hours (Total, this make and model), 18 hours (Pilot In Command, all aircraft), 1 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N1241S
Model/Series:	SGS 2-33A	**Aircraft Category:**	Glider
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	223
Landing Gear Type:		**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	0
Airframe Total Time:		**Engine Manufacturer:**	
ELT:		**Engine Model/Series:**	
Registered Owner:	Greater Boston Soaring Club Inc	**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FIT,348 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	16:52 Local	**Direction from Accident Site:**	360°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 4100 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / 0 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	90°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.39 inches Hg	**Temperature/Dew Point:**	14°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sterling, MA (3B3)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	Unknown
Departure Time:	16:00 Local	**Type of Airspace:**	Unknown

Airport Information

Airport:	Sterling Airport 3B3	**Runway Surface Type:**	Asphalt
Airport Elevation:	459 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	3086 ft / 40 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

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:**	42.425834,-71.792778

Administrative Information

Investigator In Charge (IIC):	Yeager, Leah
Additional Participating Persons:	Chet Ogorzalek; Windsor Locks FSDO
Original Publish Date:	January 24, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=56800