



# Aviation Investigation Final Report

|                                |                                           |                         |             |
|--------------------------------|-------------------------------------------|-------------------------|-------------|
| <b>Location:</b>               | Sterling, Massachusetts                   | <b>Accident Number:</b> | IAD03LA046  |
| <b>Date &amp; Time:</b>        | April 19, 2003, 16:30 Local               | <b>Registration:</b>    | N1241S      |
| <b>Aircraft:</b>               | Schweizer SGS 2-33A                       | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         |                                           | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | 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

|                                  |                                                                                                                                                                                                                                     |                                          |          |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------|
| <b>Certificate:</b>              | Student                                                                                                                                                                                                                             | <b>Age:</b>                              | 60, Male |
| <b>Airplane Rating(s):</b>       | None                                                                                                                                                                                                                                | <b>Seat Occupied:</b>                    | Front    |
| <b>Other Aircraft Rating(s):</b> | None                                                                                                                                                                                                                                | <b>Restraint Used:</b>                   |          |
| <b>Instrument Rating(s):</b>     | None                                                                                                                                                                                                                                | <b>Second Pilot Present:</b>             | No       |
| <b>Instructor Rating(s):</b>     | None                                                                                                                                                                                                                                | <b>Toxicology Performed:</b>             | No       |
| <b>Medical Certification:</b>    | None                                                                                                                                                                                                                                | <b>Last FAA Medical Exam:</b>            |          |
| <b>Occupational Pilot:</b>       |                                                                                                                                                                                                                                     | <b>Last Flight Review or Equivalent:</b> |          |
| <b>Flight Time:</b>              | 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

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

## Meteorological Information and Flight Plan

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

## Airport Information

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

## Wreckage and Impact Information

|                            |        |                             |                      |
|----------------------------|--------|-----------------------------|----------------------|
| <b>Crew Injuries:</b>      | 1 None | <b>Aircraft Damage:</b>     | Substantial          |
| <b>Passenger Injuries:</b> |        | <b>Aircraft Fire:</b>       | None                 |
| <b>Ground Injuries:</b>    | N/A    | <b>Aircraft Explosion:</b>  | None                 |
| <b>Total Injuries:</b>     | 1 None | <b>Latitude, Longitude:</b> | 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:              | <a href="#">Class</a>                                                                                 |
| Note:                             |                                                                                                       |
| Investigation Docket:             | <a href="https://data.nts.gov/Docket?ProjectID=56800">https://data.nts.gov/Docket?ProjectID=56800</a> |

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).