



# Aviation Investigation Final Report

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<b>Location:</b>	EUSTIS, Florida	<b>Accident Number:</b>	MIA97LA211
<b>Date &amp; Time:</b>	July 12, 1997, 15:15 Local	<b>Registration:</b>	N9927J
<b>Aircraft:</b>	Schweizer                      SGS-1-26B	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The flight was tracking northward, when the pilot said he experienced 'minimal lift' at an altitude of about 4,000 feet mean sea level (msl). A ground witness said there was a cumulus cloud in the vicinity just before the accident. The pilot said that when he got near the cloud the lift increased, at first to about 300 feet per minute (fpm), then to about 600 fpm. As the glider passed 4,000 feet msl, there was a rapid rate of increase to over 1,000 fpm. The pilot estimated that the glider climbed from 4,000 feet msl to about 6,200 feet msl in about 20 seconds. At peak altitude the right wing separated from the glider, at the root. The pilot said he believed the wing separated upward, and made contact with the top of the canopy. He attempted numerous combinations of control inputs. The glider yawed, rolled and pitched with little response to the controls, and finally became upright in a high yaw rate condition. The glider impacted in a thick stand of 80-to 100-foot tall pine trees. The reported cloud bases at the time of the accident were reported to be 4,300 feet msl. The floor of the Class B airspace was 3,000 feet msl at the location of the accident, and the aircraft was operating at the time of the accident without gyro instruments. A section of the right wing front spar was sent to the NTSB Materials Laboratory, Washington, DC, for examination. The examination revealed that the fracture features and deformations were all consistent with 'overstress separations.' No evidence of fatigue or any type of cracking was found.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: an in-flight separation of the right wing, and subsequent impact with trees. Factors in this accident were thermal lift and turbulence in clouds.

## Findings

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Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER

Phase of Operation: MANEUVERING

Findings

1. (F) WEATHER CONDITION - THERMAL LIFT
2. (F) WEATHER CONDITION - TURBULENCE IN CLOUDS

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Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: MANEUVERING

Findings

3. (C) WING - SEPARATION

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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. OBJECT - TREE(S)

## Factual Information

On July 12, 1997, about 1515 eastern daylight time, a Schweizer SGS-1-26B glider, N9927J, registered to a private owner, crashed after an in-flight separation of the right wing at Eustis, Florida. Visual meteorological conditions prevailed at the time and no flight plan was filed for the Title 14 CFR Part 91 local personal flight. The airline transport-rated pilot was not injured. The airplane was destroyed. The flight had originated from the Mid-Florida Airport, about 1 hour and 30 minutes before the accident.

The flight was tracking northward, when the pilot said he experienced "minimal lift" at an altitude of about 4,000 feet mean sea level (msl). A ground witness said there was a cumulus cloud in the vicinity just before the accident. The pilot said that when he got near the cloud the lift increased, at first to about 300 feet per minute (fpm), then to about 600 fpm. As the glider passed 4,000 feet msl, there was a rapid rate of increase to over 1,000 fpm. The pilot estimated that the glider climbed from 4,000 feet msl to about 6,200 feet msl in about 20 seconds.

At peak altitude the right wing separated from the glider, at the root. The pilot said he believed the wing separated upward, and made contact with the top of the canopy. He attempted numerous combinations of control inputs. The glider yawed, rolled and pitched with little response to the controls, and finally became upright in a high yaw rate condition. The glider impacted in a thick stand of 80- to 100-foot tall pine trees.

The reported cloud bases at the time of the accident were reported to be 4,300 feet msl. The floor of the Orlando Class B airspace was 3,000 feet msl at the location of the accident, and the aircraft was operating at the time of the accident without gyro instruments.

A section of the right wing front spar was sent to the NTSB Materials Laboratory, Washington, DC, for examination. The examination revealed that the fracture features and deformations were all consistent with "overstress separations." No evidence of fatigue or any type of cracking was found.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	70, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land; Multi-engine sea	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	April 21, 1997
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	27000 hours (Total, all aircraft), 20000 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Schweizer	<b>Registration:</b>	N9927J
<b>Model/Series:</b>	SGS-1-26B SGS-1-26B	<b>Aircraft Category:</b>	Glider
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	346
<b>Landing Gear Type:</b>	Hull	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	December 1, 1996 Annual	<b>Certified Max Gross Wt.:</b>	600 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	Unknown
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	
<b>Registered Owner:</b>	DIANE C. BLAKE	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Scattered / 4300 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	220°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	34°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(X55)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	13:45 Local	<b>Type of Airspace:</b>	Class D

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Destroyed
<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>	28.8502,-81.680702(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Yurman, Alan
<b>Additional Participating Persons:</b>	BENJAMIN H HARRIS; ORLANDO , FL
<b>Original Publish Date:</b>	February 2, 1998
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=38313">https://data.nts.gov/Docket?ProjectID=38313</a>

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