Aviation Investigation Final Report

Location:	Front Royal, Virginia	**Accident Number:**	IAD01LA076
Date & Time:	July 5, 2001, 16:23 Local	**Registration:**	N113RM
Aircraft:	Rolladen-Schneider LS3-A	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the glider flight, the pilot determined that he lacked sufficient lift to return to his home airport, and he selected an off-airport landing site. The pilot stated he was aware of the trees and wires along his planned approach path, and determined that they would not be a factor. The pilot said that as he maneuvered towards his landing site, he abbreviated and steepened his approach in an effort to touchdown in the first one-third of the field. Just prior to touchdown, the left wing struck a tree, and the glider impacted terrain. According to the pilot, "I set up for an abbreviated approach when I really didn't need to. I rushed the approach and I was high on my base and turn to final. I knew the trees were there, but I really didn't see them as a factor. If I were 2 feet to the right and 3 feet higher, we wouldn't be having this conversation. I just didn't see the obstacle."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadequate altitude/clearance from a tree along his final approach path.

Findings

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

Findings
1. (C) OBJECT - TREE(S)

2. (C) ALTITUDE/CLEARANCE - INADEQUATE - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Factual Information

On July 5, 2001, at 1623 eastern daylight time, a Rolladen-Schneider LS3-A glider, N113RM, was substantially damaged from collision with a tree and terrain during an off-airport landing near Front Royal, Virginia. The certificated airline transport pilot received minor injuries. Visual meteorological conditions prevailed and no flight plan was filed for the local soaring flight that originated at the Front Royal-Warren County Airport (FRR), and conducted under 14 CFR Part 91.

An air safety investigator with the Safety Board was flying in the Front Royal area at the time of the accident. He learned of the accident upon returning to the Front Royal Airport and responded to the scene. The investigator examined the site, the wreckage, and spoke with the pilot. He then provided a statement that summarized his observations and his conversation with the pilot. According to the investigator's statement:

"[The pilot] stated to the group [at the scene] that as he was returning from soaring, he realized that he would not have enough altitude to return for landing at FRR. He therefore elected to land off field and found the field that the airplane crashed in. He said that he had plenty of time to circle the field and plan for his landing. When I questioned him about power wires along the approach path some 500 feet away, he said that he saw them. He said that he set up for the landing, planned the approach and lowered the landing wheel.

"He noted that there were trees surrounding the field and although "short" there was more than sufficient length for a safe landing. He stated that everything on the approach was normal until he heard the impact with the tree and felt the airplane hit the ground. He noted that he saw the Plexiglas canopy break and fly apart and a wing leave the airplane. He exited the cockpit and went to a nearby house to inform the authorities of the accident."

The Safety Board investigator further stated:

"I saw the airplane laying in the field with the wings separated from the fuselage. The right wing appeared to be relatively undamaged while the left wing had an impact fracture on the outboard leading edge a couple of feet from the wing tip. The fuselage lay on the ground aligned approximately in the direction of flight and had impact damage to the nose and wing attach area. The tail wheel was intact but impact-damaged. The Plexiglas canopy was closed but broken to the point where you could enter or exit the cockpit. The left wing was broken off the airplane and was lying on the left side of the airplane a few feet away. The right wing was also broken from the airplane and was lying on the right side of the airplane a few feet away. The empennage was intact and appeared to relatively undamaged. The internal cockpit area appeared to be undamaged other than the broken canopy. There was a parachute in the airplane and the seatbelts and seat area were not compromised as a result of the accident.

"I noted two portions of the top of a 15-20 foot tall Cedar tree lying near the fencerow on the approach end of the grass field. There were fresh fractures on the tree and two tree portions about 2-3 feet long laying in the field near the tree in the direction of flight. Following the direction of flight, approximately 30-40 feet from the fencerow there was an impact point with a portion of fiberglass near the impact point. The shape of the impact point corresponded approximately to the shape of the nose of the fuselage. Following the direction of flight from the impact mark, I found portions of clear Plexiglas canopy material. The tailwheel and landing wheel were covered with dirt and grass.

During a subsequent telephone interview, the pilot stated that he'd been aloft for approximately 1 hour. He said that he determined he would have to make an off-airport landing, and selected a field for the landing. The pilot said he surveyed the field, took note of the obstacles surrounding it, and determined it was suitable for landing.

The pilot stated that he'd performed about 6 off-airport landings, and that he was comfortable with the maneuver. He added that while off-airport landings were not entirely common, they were not considered an emergency in the glider community.

According to the pilot:

"The glider gave me everything I asked of it and a little bit more. It was a short field by any standard, and I asked the airplane to give me quite a bit, because I wanted to land in the first one-third. I got such a steep angle of descent out of it, that it was hard for me to judge if the obstacles were going to be a factor.

"I set up for an abbreviated approach when I really didn't need to. I rushed the approach and I was high on my base and turn to final. I knew the trees were there, but I really didn't see them as a factor. If I were 2 feet to the right and 3 feet higher, we wouldn't be having this conversation. I just didn't see the obstacle."

The pilot held an airline transport pilot certificate with a rating for airplane multi-engine land. He held a private pilot certificate with ratings for airplane single-engine land and glider. The pilot reported 7,400 hours of flight experience, 130 hours of which were in gliders.

The weather at the Winchester Regional Airport, about 10 miles north of the accident site, was clear skies with 10 miles of visibility. The winds were from 260 degrees at 10 knots gusting to 15 knots.

Pilot Information

Certificate:	Airline transport; Private	**Age:**	41,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	February 23, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	March 30, 2001
Flight Time:	7312 hours (Total, all aircraft), 87 hours (Total, this make and model), 3783 hours (Pilot In Command, all aircraft), 181 hours (Last 90 days, all aircraft), 62 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Rolladen-Schneider	**Registration:**	N113RM
Model/Series:	LS3-A	**Aircraft Category:**	Glider
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	3352
Landing Gear Type:	Retractable - Tailwheel	**Seats:**	1
Date/Type of Last Inspection:	February 24, 2001 Annual	**Certified Max Gross Wt.:**	1041 lbs
Time Since Last Inspection:	40 Hrs	**Engines:**	
Airframe Total Time:	820 Hrs at time of accident	**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	Frederick K. Schneider	**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:	OKV,727 ft msl	**Distance from Accident Site:**	17 Nautical Miles
Observation Time:	16:20 Local	**Direction from Accident Site:**	30°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / 15 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.82 inches Hg	**Temperature/Dew Point:**	29°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Front Royal , VA (FRR)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	Front Royal-Warren County FRR	**Runway Surface Type:**	Grass/turf
Airport Elevation:	709 ft msl	**Runway Surface Condition:**	Dry;Soft
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Precautionary landing;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	38.950553,-78.283607

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Rolandos C Lazaris; FAA; Dulles, VA
Original Publish Date:	May 13, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52635