



Aviation Investigation Final Report

Location:	SAN ANTONIO, Texas	Accident Number:	FTW99LA238
Date & Time:	August 28, 1999, 13:00 Local	Registration:	N103MS
Aircraft:	Burkhart Grob 103C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The wing of the glider struck a tree when the solo student pilot was correcting the flight path to align the glider with the runway centerline during the final approach. The density altitude was calculated at 4,215 feet. The student pilot had 15.2 hours of total flight time in gliders. He was endorsed for solo flight and had 2.4 hours of solo flight time in the glider. The operator reported that the accident could have been prevented by 'maintain[ing] adequate clearance over obstacles.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to attain proper runway alignment of the glider resulting in failure to maintain obstacle clearance. A factor was the high density altitude.

Findings

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

Findings

1. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
 2. (C) PROPER ALIGNMENT - NOT ATTAINED - PILOT IN COMMAND
 3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
 4. OBJECT - TREE(S)
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On August 28, 1999, at 1300 central daylight time, a Grob 103C glider, N103MS, struck a tree during the final approach to runway 17 at the Boerne Stage Field Airport near San Antonio, Texas. The glider was owned and operated by Alamo Aerodyne Corporation, San Antonio, Texas, under 14 Code of Federal Regulations (CFR) Part 91. The solo student pilot received serious injuries and the glider sustained substantial damage. Visual meteorological conditions prevailed for the local solo instructional flight and a flight plan was not filed. The flight departed the Boerne Stage Field Airport at 1200.

Witnesses and local authorities reported that the student pilot, while turning final approach, over shot the runway. The pilot was correcting the flight path toward the runway when the right wing struck a tree approximately 5 1/2 inches in diameter. The glider pivoted around the tree and stuck the ground in a nose down attitude. The glider came to rest approximately 300 feet short of the runway.

The FAA inspector and the glider owner examined the glider and found that the inboard 18 to 24 inches of the right wing was damaged and the forward cabin was crushed. Approximately 4 1/2 feet of the outboard right wing was found separated from the glider. The student pilot had 15.2 hours of total flight time in gliders. The student was endorsed for solo flight and had 2.4 hours of solo flight time in the glider.

On the Pilot/Operator Aircraft Accident Report, NTSB Form 6120.1/2, the operator reported that the accident could have been prevented by "maintain[ing] adequate clearance over obstacles."

The National Weather Service observation for San Antonio, Texas, (located 13 nautical miles west of the accident site), at 1255 was 96 degrees Fahrenheit with an altimeter setting of 29.90 inches. The NTSB investigator-in-charge calculated the density altitude at 4,215 feet.

Pilot Information

Certificate:	Student	Age:	56, 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:	Unknown Unknown	Last FAA Medical Exam:	
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	15 hours (Total, all aircraft), 15 hours (Total, this make and model), 2 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Burkhart Grob	Registration:	N103MS
Model/Series:	103C 103C	Aircraft Category:	Glider
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Aerobatic	Serial Number:	34-756
Landing Gear Type:		Seats:	2
Date/Type of Last Inspection:	June 4, 1999 Annual	Certified Max Gross Wt.:	1323 lbs
Time Since Last Inspection:	85 Hrs	Engines:	Unknown
Airframe Total Time:	1049 Hrs	Engine Manufacturer:	
ELT:		Engine Model/Series:	
Registered Owner:	BOB BRUCE	Rated Power:	
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:	ALAMO AERODYNE CORPORATION	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	SAT ,809 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	12:55 Local	Direction from Accident Site:	103°
Lowest Cloud Condition:	Scattered / 7000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	36°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(5C1)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	
Departure Time:	12:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	BOERNE STAGE FIELD 5C1	Runway Surface Type:	Asphalt
Airport Elevation:	1380 ft msl	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	
Runway Length/Width:	3400 ft / 40 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	29.800825,-98.729133(est)

Administrative Information

Investigator In Charge (IIC):	Roach, Joyce
Additional Participating Persons:	FRANK G FORTMANN; SAN ANTONIO , TX
Original Publish Date:	December 4, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=47199

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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](#).