



National Transportation Safety Board Aviation Accident Data Summary

Location:	Boulder, CO	Accident Number:	CEN11FA259
Date & Time:	04/01/2011, 1715 MDT	Registration:	N633BG
Aircraft:	BURKHART GROB FLUGZEUGBAU G102 CLUB ASTIR IIIB	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

Data obtained from an onboard tracking device depicted the glider maneuvering between 21,000 to 23,800 feet mean sea level (msl) before entering a spiral descent, which is consistent with a loss of control. Several eyewitnesses observed the glider descending in a steep spiral turn toward the ground. The glider collided with high voltage transmission wires and terrain in a sparsely wooded area. An examination of the wreckage did not reveal any preimpact anomalies with the glider. Testing of the glider's oxygen bottle, regulator, and mask detected no anomalies that would have precluded normal operation of the oxygen system. A review of audio recordings revealed that the pilot's radio transmissions did not have the muffled sounds normally associated with the use of an oxygen mask, suggesting that the pilot may not have been wearing the oxygen mask during a portion of the flight. According to Federal Aviation Administration guidance, on average, a pilot can operate at 22,000 feet msl for about 5 to 10 minutes before losing consciousness due to a lack of oxygen (hypoxia); the glider was above 22,000 feet msl for 13 minutes 36 seconds. Therefore, it is possible that the pilot became incapacitated due to hypoxia.

Additionally, the pilot, who was diabetic and routinely self-tested his blood sugar levels, recorded a blood sugar level of 58 mg/ml about 1 hour 40 minutes before the flight; according to the U.S. Library of Medicine, a blood sugar level below 70 mg/dl is considered low (hypoglycemia). Although it is likely that the pilot addressed the low blood sugar level by eating or taking glucose tablets, his blood sugar level at the time of the accident is unknown. Hypoxia and hypoglycemia have similar symptoms including headache, blurred vision, tingling or numbness, and unclear thinking, and both conditions can lead to loss of consciousness if they are not promptly remedied. There was no record of the pilot being trained to recognize hypoxia symptoms, and it is possible that he may have mistaken the symptoms of hypoxia for hypoglycemia. It is likely that the pilot became incapacitated and lost control of the glider; however, it could not be determined if the pilot's incapacitation was a result of hypoxia, hypoglycemia, or a combination of the two conditions.

Flight Events

Maneuvering - Loss of control in flight
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The pilot's incapacitation for undetermined reasons, which resulted in a loss of control.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-(general)-Not attained/maintained - C

Personnel issues-Physical-Impairment/incapacitation-(general)-Pilot - C
Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Pilot Information

Certificate:	Private	Age:	46
Airplane Rating(s):	None	Instrument Rating(s):	None
Other Aircraft Rating(s):	Glider	Instructor Rating(s):	None
Flight Time:	104 hours (Total, all aircraft), 70 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BURKHART GROB FLUGZEUGBAU	Registration:	N633BG
Model/Series:	G102 CLUB ASTIR IIIB	Engines:	0
Operator:	MILE HIGH GLIDING	Engine Manufacturer:	
Air Carrier Operating Certificate:	None	Engine Model/Series:	
Flight Conducted Under:	Part 91: General Aviation - Personal		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	BDU, 5288 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	
Condition of Light:	Day	Wind Speed/Gusts, Direction:	17 knots/ 21 knots, 300°
Temperature:	21°C / -12°C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Boulder, CO (BDU)	Destination:	Boulder, CO (BDU)

Airport Information

Airport:		Runway Surface Type:	
Runway Used:		Runway Surface Condition:	
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC): Jason T Aguilera Adopted Date: 05/03/2012
Investigation Docket: <http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=78740>

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