



Aviation Investigation Final Report

Location:	KETCHUM, Idaho	Accident Number:	SEA95FA212
Date & Time:	September 8, 1995, 13:10 Local	Registration:	N731R
Aircraft:	Aero Commander 560	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The aircraft was VFR inbound to the Hailey airport when the pilot contacted the tower at 1247 and reported 10 miles south. During the next 7 minutes the pilot and controller communicated back and forth and the pilot never visually acquired the airport. A number of witnesses located north of the airport observed the aircraft flying northbound along the highway into upsloping, mountainous terrain at an estimated altitude of 400 feet above ground, and with the landing gear extended and the engines developing power. The aircraft was described as low and slow and was observed to dip its wings during a left turn and then descend steeply to the ground. The aircraft impacted terrain in a steep nose down attitude. There was no evidence of flight control or powerplant malfunctions. High density altitude conditions existed at the accident site. Toxicological examination revealed a finding of 0.068 ug/ml and 0.183 ug/ml of Chlorpheniramine (an over-the-counter antihistamine) in kidney and heart tissue respectively.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to maintain adequate airspeed during a turn resulting in a stall/spin. Factors contributing to the accident were the pilot-in-command's becoming geographically disoriented as well as his improper in-flight decision, and mountainous terrain.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings

1. (F) BECAME LOST/DISORIENTED - PILOT IN COMMAND
2. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
3. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
4. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
5. WEATHER CONDITION - HIGH DENSITY ALTITUDE
6. STALL/SPIN - ENCOUNTERED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On September 8, 1995, approximately 1310 mountain daylight time*, an Aero Commander 560, N731R, being flown by a private pilot, was destroyed during an inflight collision with terrain following a loss of control in flight while maneuvering 15 miles northwest of Ketchum, Idaho. The pilot and passenger were fatally injured. Visual meteorological conditions existed at the time and no flight plan had been filed. The flight, which was personal, was to have been operated under 14CFR91.

According to family members, the aircraft departed Van Nuys, California, on September 7th, and was expected to arrive in Idaho Falls. The aircraft stopped in Elko, Nevada, for fuel, arriving approximately 1745 where the pilot and passenger remained overnight. According to FAA tower personnel, N731R departed Elko the following morning at 1141.

At 1247, N731R first contacted the Hailey Air Traffic Control (ATC) tower reporting "ten south for landing" and the pilot was given instructions by the controller to "make (a) straight in approach (to) runway 31 (and to) report six mile final."

At 1249, N731R contacted Hailey tower reporting "I believe I'm about six mile(s) final but I do not have the airport yet" and the tower responded "that transmitter is broken and unreadable, say again your position." N731R then responded reporting "I believe I might be about six mile final, I'm not to(o) familiar with the terrain." The tower then inquired "are you familiar with Bellevue" and N731R responded "I believe I'm just in that vicinity right now, I believe I'm just over Bellevue (refer to CHART I).

*All times are mountain daylight

At 1250, the tower inquired "do you have the runway in sight" and N731R responded "negative." The tower then radioed "if you're over Bellevue, Bellevue is only two and a half miles south of the runway sir" and N731R responded radioing "I'll keep you advised if I see the runway."

At 1251, the tower inquired "what's your altitude" and N731R responded "I'm at sixty three hundred" (the elevation of the Hailey airport is 5,315 feet above mean sea level (MSL) and the terrain slopes up proceeding north along highway 75). The tower then inquired "do you have the north/south highway in sight" and N731R responded "affirmative, I'm right over the north/south highway." The tower then inquired "do you have the big reservoir in site" and N731R responded "I'm quite a ways past Magic Reservoir, I believe I'm coming up on Hailey I (unintelligible)" (note: Magic Reservoir lies 14 miles south of the airport and approximately four miles west of highway 75). The tower then inquired "what kind of terrain are you over at this

time now sir" and N731R responded "the valley has widened out with a two way highway underneath me, I do not see the runway as of yet." The tower then radioed "just follow the highway north and when you come up on Bellevue, which is about two and a half south of the runway you should see us" and N731R responded "I'll keep you posted" followed by "the river is now on my right side, it was on my left."

At 1254, the tower radioed "on that north/south highway there's a crossing highway that goes east and west with a flashing light, have you passed that intersection yet?" An unintelligible transmission was received and the controller reported in an interview that the "pilot reported at this time he thought he was north of the airfield."

Five minutes later, at 1259, the controller radioed "understand you believe you're north of Hailey?"

At 1302, the controller inquired "describe the terrain below you" and then at 1304 and 1305 attempted to contact the aircraft with no response received (refer to ATTACHMENT AT-I and controller's statement).

A witness reported that a car phone was used by another individual to call "911" and report the accident. The Blaine County Dispatch (911) logged the accident notification at 1312.

A number of witnesses located along highway 75, and at varying locations north of Ketchum, observed the aircraft. The first witness, a former airline pilot, reported observing the aircraft pass overhead his pasture at an estimated elevation of 300 feet headed north. He reported that the aircraft's landing gear were extended and the engines were producing normal power. He described the aircraft as "low" and "slow."

A second witness located further north along the highway at the Sawtooth National Recreation Area's offices reported observing the aircraft flying 300-400 feet above ground with the engines sounding normal.

Two additional witnesses, located at the junction of Owl Creek and the Wood River (near the ground impact site) reported observing the aircraft flying at less than 500 feet above ground. They reported the winds as calm and the temperature as "warm" or in the "lower to mid 80's." One of these witnesses reported that while the aircraft was banking west "the wings tipped to the right and then back to the left" and "it was at this point that the aircraft started downward." The other witness reported a similar turn during which the aircraft "suddenly dipped its wings quickly to the left" and "then, a moment later, dipped them to the right," and finally, the aircraft "continued to turn left and I began to see the plane's side profile" and "simultaneously, its nose dropped to what I would estimate was a greater than a 45 degree angle" (refer to attached statements).

PERSONNEL INFORMATION

According to FAA records, the 80 year old pilot reported a total of 3,400 hours of flight experience at the time of his most recent third class medical, conducted on May 31, 1995. These records showed the issuance of a student pilot certificate on April 6, 1961, with a private pilot certificate (single-engine land) being issued on March 12, 1963, and a multi-engine land rating being added December 14, 1963. No pilot logs were found.

AIRCRAFT INFORMATION

No airframe or powerplant logs were located and the aircraft's maintenance history was based on information provided to the FAA that the aircraft's annual was due in December of 1995.

The aircraft was topped off with 89 gallons of aviation fuel on September 7, 1995, from El Aero, the fixed base operator at the Elko airport. This provided 145 gallons of usable fuel at the time the aircraft departed Elko.

METEOROLOGICAL INFORMATION

A density altitude of 8,400 feet at the accident site was calculated on the basis of an estimated temperature of 52 degrees fahrenheit and an elevation of 7,200 feet MSL.

WRECKAGE AND IMPACT INFORMATION

The crash site was located bearing 307 degrees magnetic and 25 nautical miles from the Friedman Memorial Airport and slightly west of highway 75 (refer to CHART I). The latitude and longitude of the site was 43 degrees 50.32 minutes north and 114 degrees 38.15 minutes west, and the elevation was approximately 7,150 feet MSL (refer to CHART II). The terrain at the site was relatively level and moderately wooded with conifer trees. The site was located approximately 2,000 feet abeam and southwest of highway 75. The terrain along either side of the highway slopes up moderately consistent with mountainous terrain.

Several conifer trees located approximately 34 feet north of the ground impact site were observed to have broken tops at a point approximately 60 feet above ground (refer to composite photograph 1). The aircraft's initial ground impact site and final resting place appeared to be nearly coincident, and the empennage, including the horizontal and vertical stabilizers, control surfaces and trim tabs, was observed lying inverted and slightly north of the engine craters (refer to photographs 2/3).

The right wing displayed extensive aftward compressive accordion type deformation increasing in severity toward the wingtip. The right wing was oriented in a 45 degree leading-edge down attitude (refer to photograph 4). A faint impression in the grass was observed running parallel and approximately 4 feet north of the final resting place of the right wing's leading edge. This impression, which was oriented along a 255/075 degree magnetic bearing line, contained numerous small chips of white paint similar to the white paint on the wing's leading edge. At the outboard (east) end of the impression a wingtip navigation bulb socket

was noted as were fragments of red navigation lens (refer to photograph 5).

The left wing displayed similar extensive aftward compressive accordion type deformation increasing in severity toward the wing-root area. A bending or folding deformation was observed approximately 4 feet inboard from the wingtip. The axis of the fold was along the chordline or longitudinal axis and the wing skin within the fold area was observed to be accorded with woody bark material and bits of tree vegetation imbedded within the folds (refer to photograph 6). Fragments of green navigation lens were observed lying on the ground approximately 5 feet northwest of the left wingtip (refer to photograph 7).

The rudder trim tab was observed to be in a near neutral position whereas the elevator trim tabs were observed to be in a slightly downward position (nose up trim) (refer to photograph 8).

The propeller blades remained partially attached to their respective hub assemblies. A single propeller blade for both the left and right engine was observed in a vertical (12 o'clock) position at the site and both of these blades displayed extensive chordwise scratching and leading edge nicks (refer to photographs 9/10).

The left and right wings were moved to expose the left and right engines, both of which had sustained fire damage (refer to photographs 11/12). Both main landing gear were observed to be extended. The right landing gear and strut had been covered with dirt to help extinguish the post-crash fire (refer to photographs 13/14).

The fuselage and cabin area had been consumed by fire, rendering all instrumentation unreadable (therefore, Supplement "B" for this report was not completed), and only the extremities of the aircraft (outboard wings and tail section) were intact (refer to photograph 15).

More than a dozen sections of conifer tree trunk ranging in diameters up to 4 inches and lengths ranging from 20 to 33 inches were observed scattered around the accident site. The ends of these cut "logs" were observed to be fairly clean with some exhibiting black paint transfer (refer to photographs 16/17). A small conifer approximately two-three inches in diameter was observed clean cut off at a point several inches above ground. This tree stump was located several feet north of the ground impact site of the right propeller spinner.

An examination of control cables revealed no evidence of any control cable discontinuity from the area of the cockpit to the respective control surfaces. The position of the flaps, which are hydraulically operated, could not be determined due to fire damage.

MEDICAL AND PATHOLOGICAL INFORMATION

Post mortem examination of the pilot was conducted by Kerry B. Patterson, M.D., on September 12, 1995, at the Hansen Mortuary, Rupert, Idaho, and the cause of death was

attributed to "massive injuries incurred in an aircraft accident."

Toxicological examination of samples from the pilot was conducted by the FAA's Civil Aeromedical Institute. All tests were negative with the exception of a finding of small amounts of phenylpropanolamine (antihistamine) in kidney and heart tissue and 0.068 ug/ml of chlorpheniramine (antihistamine) in kidney tissue and 0.183 ug/ml of the same in heart tissue (refer to attached report).

ADDITIONAL INFORMATION

The wreckage was verbally released to Mr. Steven P. Garman subsequent to the completion of the on-site examination at 1930 local on September 9, 1995, with the understanding that Mr. Garman would provide site security for the insurance company maintaining the hull policy on the aircraft. Written wreckage release was issued on September 11, 1995, as documented on NTSB Form 6120.15 (attached).

Pilot Information

Certificate:	Private	Age:	80, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	May 31, 1995
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3400 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aero Commander	Registration:	N731R
Model/Series:	560 560	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	219
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	6000 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	GO-480-B1C
Registered Owner:	VANESSA E. CARSON RIGBY	Rated Power:	295 Horsepower
Operator:	ELMER C. RIGBY	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	SUN ,5315 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	12:45 Local	Direction from Accident Site:	126°
Lowest Cloud Condition:	Scattered / 5000 ft AGL	Visibility	30 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	15°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ELKO , NV (EKO)	Type of Flight Plan Filed:	None
Destination:	HAILEY , ID (SUN)	Type of Clearance:	VFLF
Departure Time:	10:41 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	2 Fatal	Latitude, Longitude:	43.770736,-114.620414(est)

Administrative Information

Investigator In Charge (IIC):	Mccreary, Steven
Additional Participating Persons:	THELMA A BULLINGER; BOISE , ID GREGORY ERIKSON; WILLIAMSPORT , PA ROGER J ADERMAN; ARLINGTON , WA
Original Publish Date:	February 4, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=42065

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