



Aviation Investigation Final Report

Location:	Steamboat Sprng, Colorado	Accident Number:	DEN03FA133
Date & Time:	July 19, 2003, 11:00 Local	Registration:	N742BM
Aircraft:	Grumman American AA-5B	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to one witness, an airplane, matching the description of the accident airplane, departed an airport near Fort Collins, Colorado, at approximately 0900. A second witness reported that an airplane, matching that same description, landed at an airport near Steamboat Springs, Colorado. According to the second witness, the airplane was on the ground for a short time. During this time, the second witness assisted the pilot in servicing one of the airplane's main landing gear tires with air while one of the passengers took a bathroom break. The pilot did not purchase any fuel for the aircraft. The airplane departed at approximately 1045. According to the local Sheriff's office, at 1116, they received a report of vertically rising black smoke near Rabbit Ears Pass. At approximately 1330, a crew in a firefighting helicopter dispatched to the scene to contain the fire, reported that there was aircraft wreckage in the fire. At approximately 1630, a search and rescue team reported an unknown number of fatalities. Due to the post impact fire, the immediate identification of the aircraft and its occupants was not possible. A serial number, obtained from the airplane's engine, was later used to identify the wreckage. The accident site was located in mountainous terrain at an elevation of approximately 9,500 feet msl. The on-site investigation revealed several damaged trees along a 200-foot debris path preceding the accident site near the crest of a heavily forested mountain valley. No preimpact airframe or engine anomalies were identified. The calculated density altitude, at an airport approximately 27 nautical miles west of the accident site, was 9,152 feet msl.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain terrain clearance. Contributing factors include the pilot's inadequate preflight planning/preparation, high density altitude, and mountainous conditions.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: CLIMB

Findings

1. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. (C) ALTITUDE/CLEARANCE - INADEQUATE - PILOT IN COMMAND
3. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND
4. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
5. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
6. LIGHT CONDITION - DAYLIGHT

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

7. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY
8. OBJECT - TREE(S)

Occurrence #3: FIRE

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On July 19, 2003, at approximately 1100 mountain daylight time, a Grumman American AA-5B, N742BM, operated by the pilot, was destroyed when it impacted mountainous terrain near Rabbit Ears Pass, approximately 15 miles southeast of Steamboat Springs, Colorado. A post impact fire ensued. The private pilot and his two passengers were fatally injured. Visual meteorological conditions prevailed. No flight plan had been filed for the personal flight being conducted under Title 14 CFR Part 91.

According to one witness, an airplane, matching the description of the accident airplane, departed the Fort Collins Downtown Airport (3V5), Fort Collins, Colorado, at approximately 0900. A second witness reported that an airplane, matching that same description, landed at Steamboat Springs/Bob Adams Field (SBS), Steamboat Springs, Colorado. According to the second witness, the airplane was on the ground for a short time. During this time, the second witness assisted the pilot in servicing one of the airplane's main landing gear tires with air while one of the passengers took a bathroom break. The pilot did not purchase fuel for the aircraft at SBS. The airplane departed at approximately 1045.

According to the Routt County Sheriff's Office, at 1116, they received a report of vertically rising black smoke near Rabbit Ears Pass. At approximately 1330, a crew in a firefighting helicopter dispatched to the scene to contain the fire, reported that there was aircraft wreckage in the fire. At approximately 1630, a search and rescue team reported an unknown number of fatalities. Due to the post impact fire, the immediate identification of the aircraft and its occupants was not possible. A serial number, obtained from the airplane's engine, was later used to identify the wreckage as N742BM.

PERSONNEL INFORMATION

According to FAA records, the pilot held a private pilot certificate with an airplane single-engine land rating, dated September 10, 2001. The pilot held a third class airman medical certificate, dated August 17, 2001, with the limitation: "Must wear corrective lenses. Miscellaneous restriction assigned, not valid for any class after August 31, 2003."

According to the pilot's logbook, which included entries dated from June 8, 1990, to August 4, 2002, as of August 4, 2002, he had logged a total flight time of 199.1 hours in all aircraft, and 119.5 hours as pilot-in-command, of which a total of 20.0 hours of flight time was logged in N742BM. According to the pilot's son, on or about August 4, 2002, the pilot started a new logbook. The pilot's current flight logbook was not located.

AIRCRAFT INFORMATION

The accident airplane was a 1975 Grumman American model AA-5B (s/n AA-5B-0202). The airplane was equipped with a Lycoming model O-360-A4K reciprocating engine (s/n L-26919-36A). The engine was equipped with a Sensenich Corporation model 76EM8S10-0-63 two-bladed propeller (s/n 30679K).

According to airplane logbooks, a 100-hour/annual inspection was completed on July 12, 2002, at a total airframe and engine time of 4,159.7 and 2,524.2 hours respectively.

METEOROLOGICAL INFORMATION

At 1115, the reported weather conditions at Yampa Valley Airport (HDN), Hayden, Colorado, (approximately 27 nautical miles at 290 degrees from the accident site and at an elevation of 6,602 feet msl) was: wind 060 degrees at 5 knots; visibility, 10 statute miles; sky condition, clear; temperature 81 degrees Fahrenheit; dew point 47 degrees Fahrenheit; altimeter setting 30.38 inches. The calculated density altitude was 9,152 feet msl.

WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board's on-scene investigation began on July 21, 2003. The accident site was located approximately 5 miles southwest of Rabbit Ears Pass, and 3 ½ miles south of U.S. Highway 40, in mountainous wooded terrain at an elevation of approximately 9,500 feet msl. The on-site investigation revealed that the airplane struck several trees along a 200-foot debris path near the crest of a heavily forested mountain valley. The debris path, which included several large branches, tree tops, and fractured pieces of the left and right wings, was on a heading of approximately 075 degrees. The airplane impacted one 50-foot conifer tree at approximately 30 feet above the ground, uprooting the tree as the airplane descended to the ground. A post impact fire ensued which destroyed the airplane and burned an area of approximately 1/8 of an acre surrounding the site.

During the on-site examination of the wreckage, the altimeter's faceplate was located with a 30.08 indication in the kollsman window. All other instruments and gauges exhibited heat damage and their readings and indications were not legible. Three seat belt buckle assemblies were located. Although the seat belt was destroyed by fire, each of the three seat belt buckle assemblies remained connected. Two of the seat belt buckle assemblies had the shoulder harness connecting link engaged.

The engine and propeller assembly, with attached engine mount, was separated from the fuselage. The engine and propeller assembly exhibited heat damage. One side of the propeller

spinner was crushed. Although one propeller blade was bent aft approximately 5 degrees, beginning at a point approximately 6 inches from the tip, no rotational scratches, or scoring was noted on the propeller blades or on the propeller spinner.

Due to the post impact fire, flight control continuity could not be determined. The wreckage was recovered and removed from the site for further examination.

MEDICAL AND PATHOLOGICAL INFORMATION

The Jefferson County Coroner's Office conducted an autopsy on the pilot on July 22, 2003, in Golden, Colorado.

The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on samples taken from the pilot. According to CAMI's report (#200300222001), carbon monoxide, and cyanide testing was not performed. Ethanol was not detected in the brain or liver. No drugs, as listed, were detected in the liver.

TESTS AND RESEARCH

On August 20, 2003, a manufacturer's representative from Textron Lycoming examined the engine. The examination revealed that the engine exhibited extensive fire damage and several engine components were damaged by impact forces. Although there was extensive damage to the engine, he stated that, "nothing was found during the engine examination that would have precluded the engine from making power prior to impact."

No preimpact airframe anomalies were identified.

ADDITIONAL INFORMATION

Parties to the investigation were the FAA Flight Standards District Office, Denver, Colorado, and Textron Lycoming.

The airplane wreckage was released to the owner's representative on Feb 24, 2004.

Pilot Information

Certificate:	Private	Age:	52, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
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:	August 17, 2001
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	199 hours (Total, all aircraft), 20 hours (Total, this make and model), 120 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman American	Registration:	N742BM
Model/Series:	AA-5B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal; Utility	Serial Number:	AA-5B-0202
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	July 12, 2002 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	4159.7 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-360-A4K
Registered Owner:	Walton G. Chun	Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KHDN,6602 ft msl	Distance from Accident Site:	27 Nautical Miles
Observation Time:	11:15 Local	Direction from Accident Site:	285°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.37 inches Hg	Temperature/Dew Point:	27°C / 28°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	STEAMBOAT SPRIN, CO (SBS)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	10:43 Local	Type of Airspace:	Class E

Airport Information

Airport:	Steamboat Springs/Bob Adams Fi SBS	Runway Surface Type:	
Airport Elevation:	6878 ft msl	Runway Surface Condition:	Unknown
Runway Used:		IFR Approach:	Unknown
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	40.335277,-106.688056

Administrative Information

Investigator In Charge (IIC):	Mayer, Brannon
Additional Participating Persons:	James D Jellison; Denver FSDO; Denver, CO John Butler; Textron Lycoming; Williamsport, PA
Original Publish Date:	June 2, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=57540

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).