# Aviation Investigation Final Report

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| **Location:** | COALDALE, Colorado | **Accident Number:** | DEN99FA119 |
| **Date & Time:** | July 3, 1999, 10:11 Local | **Registration:** | N4753A |
| **Aircraft:** | Piper PA-22-150 | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | | **Injuries:** | 2 Fatal |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

## Analysis

The pilot had intended on flying his passenger from Boulder, Colorado, to Center, Colorado. He obtained a weather briefing but did not file a flight plan. NTAP data detected a target departing Boulder at 0933. It was tracked to the vicinity of the accident site, where it was lost from radar. The airplane was missing for 9 days. It was located at the 10,350 foot level of Hayden Pass (summit 11,184 feet), between Coaldale and Villa Grove, Colorado. It had collided with trees in a heavily forested area. All the limbs on one side of a tree were broken off, and the airplane lay at its base. Adjoining trees were untouched. There was no evidence of preimpact airframe, flight control, engine, or propeller malfunction/failure. Visual meteorological conditions prevailed throughout the area.

## 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 control of the airplane for reasons for reasons undetermined.

### Findings

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

Findings
1. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (C) REASON FOR OCCURRENCE UNDETERMINED

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
3. OBJECT - TREE(S)
4. TERRAIN CONDITION - MOUNTAINOUS/HILLY

## Factual Information

HISTORY OF FLIGHT

On July 3, 1999, approximately 1011 mountain daylight time, a Piper PA-22-150, N4753A, owned and operated by the pilot, was destroyed when it collided with terrain while maneuvering 4 miles southwest of Coaldale, Colorado. The private pilot and his passenger were fatally injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the personal cross-country flight being conducted under Title 14 CFR Part 91. The flight originated in Boulder, Colorado, approximately 0933.

According to the Federal Aviation Administration (FAA), the pilot obtained a weather briefing from the Denver Automated Flight Service Station (AFSS), but did not file a flight plan. According to a friend, the pilot purchased 15.3 gallons of 100LL aviation gasoline prior to departure. The friend said the pilot always kept 10 gallons of fuel in each fuel tank because he did not want to overweigh the airplane in high density altitude conditions. According to NTAP (National Track Analysis Program) data, a target was detected departing Boulder at 0933. It was tracked to the vicinity of the accident site, where it was lost from radar at 1011. N4753A was en route from Boulder, Colorado, to Center, Colorado, for the purpose of returning the passenger to her home.

On Saturday, July 11, it was noticed that the passenger's automobile was still parked in the Center Airport's parking lot. Family members made inquiries and when it was determined the airplane was missing, FAA and CAP (Civil Air Patrol) were notified. An aerial and ground search was initiated that day. No ELT (emergency locator transmitter) signals were received. With the aid of NTAP data, friends of the pilot located the wreckage the following day at the 10,350 foot level of Hayden Pass, between Coaldale and Villa Grove, Colorado.

The accident occurred during the hours of daylight at a location of north 38 degrees, 17.894 minutes latitude, west 105 degrees, 50.714 minutes longitude.

PERSONNEL (CREW) INFORMATION

The pilot, age 34, was born on July 10, 1964. He held a private pilot certificate with an airplane single-engine land rating, dated July 9, 1998. He also held a third class airman medical certificate with no restrictions or limitations, dated March 1, 1997.

A journal type ledger containing a record of the pilot's aeronautical experience was found in the wreckage. It contained entries from December 15, 1997, to June 9, 1999. According to this journal, the pilot had accumulated a total of 432 flight hours. His experience in the last 90 and 30 days and 24 hours was 17 hours, 6 hours, and 1 hour, respectively. His flight instructor

and former fiancee said the pilot had a conventional logbook but it was never located.

AIRCRAFT INFORMATION

The aircraft maintenance records were never located. However, the mechanic who performed the last annual inspection on the airplane was located in Durango, Colorado. He said his records indicated an annual inspection was completed on December 23, 1998, at a tachometer time of 318:8 hours. At that time, airframe total time was calculated to be 2,889:35 hours. A photograph taken of the tachometer at the accident site showed the numbers 0407.8 displayed.

METEOROLOGICAL INFORMATION

According to weather reports for Colorado, visual meteorological conditions prevailed throughout the state. A camper confirmed this, and said there was an isolated thunderstorm late on the afternoon of the accident.

WRECKAGE AND IMPACT INFORMATION

The on scene investigation commenced July 13 and terminated on July 14, 1999.

The airplane collided with trees at the 10,350 foot level of Hayden Pass (summit 11,184 feet) in a heavily forested area. All the limbs on one side of a tree were broken off, and the airplane lay at its base. Adjoining trees were untouched.

Due to the steep terrain, the wreckage was tied to trees and the remains were recovered. It was decided that the wreckage would be examined at a later date and in a controlled environment. This was done on October 21, at the facilities of Beegles Aircraft in Greeley, Colorado. All major airframe components were accounted for and identified. Flight control continuity was established. The ends of those flight and trim control cables that had not been cut the salvage company were "broomed" (i.e. the individual strands were spread apart). The elevator trim jackscrew exposed 9 threads. According to the manufacturer's representative, 0 threads equates to full nose up, 8 threads equates to neutral, and 13 threads equates to full nose down.

The fuel selector was found in the left tank position. Upon removal, the valve was functionally tested and operated satisfactorily. The forward fuselage exhibited aft crushing. The left wing bore leading edge crushing and damage consistent with tree impacts. The right wing was separated at the aileron bellcrank. The damage around the point of separation was consistent with a tree impact. There was leading edge crushing. The aileron was separated, but the flap remained attached. The empennage was intact and relatively undamaged.

Examination of the cabin area disclosed the rear bench seat had been removed. The left front seat remained attached to the floor, but the right from seat had separated. Both seats were

bent upward on the right side. The left seatbelt was found unlatched at the accident site. Only the inboard right seat belt was located. Both left and right seatbelt latches bore no evidence of elongation.

Examination of the propeller revealed the blades were twisted in torsion in an "S" shape. There were chordwise and spanwise scratches on the cambered surfaces, and gouges on the leading edges. The engine was also examined. Valve train continuity was established. Thumb compression checks and magneto sparking were satisfactory.

The ELT had been removed from the airplane and was found in the pilot's hangar.

MEDICAL AND PATHOLOGICAL INFORMATION

Due to the condition of the remains, autopsies were not performed. Toxicological testing was not possible. The pilot's death certificate was signed by the Fremont County coroner, and listed "massive trauma" as the cause of death.

TESTS AND RESEARCH

Using DeLorme Topo USA 2.0 (c. 1999) and Street Atlas USA (c. 1997, 1998) computer software programs, various charts and maps were created and are attached as exhibits to this report.

ADDITIONAL INFORMATION

The wreckage was released to a representative of the pilot's insurance company on October 28, 1999.

In addition to the Federal Aviation Administration, parties to the investigation include the New Piper Aircraft Corporation and Textron Lycoming.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 34,Male |
| **Airplane Rating(s):** | Single-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:** | No |
| **Medical Certification:** | Class 3 Valid Medical--no waivers/lim. | **Last FAA Medical Exam:** | March 1, 1997 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 432 hours (Total, all aircraft), 432 hours (Total, this make and model), 17 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | Piper | **Registration:** | N4753A |
| **Model/Series:** | PA-22-150 PA-22-150 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 22-3900 |
| **Landing Gear Type:** | Tricycle | **Seats:** | 2 |
| **Date/Type of Last Inspection:** | December 23, 1998 Annual | **Certified Max Gross Wt.:** | 2000 lbs |
| **Time Since Last Inspection:** | 89 Hrs | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 2978 Hrs | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Not installed | **Engine Model/Series:** | O-320 |
| **Registered Owner:** | JUSTIN F. KRAMER | **Rated Power:** | 150 Horsepower |
| **Operator:** | | **Operating Certificate(s) Held:** | None |
| **Operator Does Business As:** | | **Operator Designator Code:** | |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | | **Distance from Accident Site:** | |
| **Observation Time:** | | **Direction from Accident Site:** | |
| **Lowest Cloud Condition:** | Clear | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 0° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | | **Temperature/Dew Point:** | |
| **Precipitation and Obscuration:** | No Obscuration; No Precipitation | | |
| **Departure Point:** | BOULDER , CO (1V5 ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | CENTER , CO (1V8 ) | **Type of Clearance:** | None |
| **Departure Time:** | 09:33 Local | **Type of Airspace:** | Class G |

## Airport Information

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| **Airport:** | | **Runway Surface Type:** | |
| **Airport Elevation:** | | **Runway Surface Condition:** | |
| **Runway Used:** | 0 | **IFR Approach:** | |
| **Runway Length/Width:** | | **VFR Approach/Landing:** | |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 1 Fatal | **Aircraft Fire:** | None |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 Fatal | **Latitude, Longitude:** | 38.349334,-105.830703(est) |

## Administrative Information

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| **Investigator In Charge (IIC):** | Scott, Arnold |
| **Additional Participating Persons:** | ROBERT J LOFLIN; DENVER , CO |
| **Original Publish Date:** | June 21, 2000 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=46784 |