National Transportation Safety Board
Aviation Accident Final Report

Location:	Pagosa Springs, CO	**Accident Number:**	DEN08FA003
Date & Time:	10/04/2007, 2317 MDT	**Registration:**	N590GM
Aircraft:	Raytheon Aircraft Company C90A	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General Aviation - Positioning - Air Medical (Unspecified)		

Analysis

The pilot contacted air traffic control, using the wrong call sign, requesting radar flight following. The airplane initially climbed to 13,500 feet, descended to 11,500 feet, climbed to 13,500 feet, and then began a descent until it impacted terrain at 11,900 feet. One minute prior to impact, the pilot asked the air traffic controller about various minimum altitudes for his route of flight. The controller responded with a minimum instrument altitude of 15,000 to 15,300 feet. A review of the handling of the accident flight showed that the controller was aware of the airplane's position, altitude, general route of flight, and its proximity to terrain. No safety alert was issued to the accident flight. Weather depiction charts, infrared satellite imagery, and local weather observations indicate instrument meteorological conditions prevailed along the route of flight, closest to the accident location. The moon had set at 1539 on the day of the accident. The pilot reported a planned flight altitude of 12,500 feet to his dispatcher. No record of a preflight weather briefing was located. An examination of the airplane, engines, and related systems revealed no anomalies.

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 clearance from mountainous terrain. Contributing to the accident was the pilot's inadequate preflight planning, improper in-flight planning and decision making, the dark night, and the controller's failure to issue a safety alert to the pilot.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - NORMAL

Findings
1. (F) PREFLIGHT PLANNING/PREPARATION - POOR - PILOT IN COMMAND
2. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
3. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
4. (F) LIGHT CONDITION - DARK NIGHT
5. (F) SAFETY ADVISORY - NOT ISSUED - ATC PERSONNEL(ARTCC)
6. TERRAIN CONDITION - MOUNTAINOUS/HILLY

Occurrence #2: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: DESCENT - NORMAL

Findings
7. VFR FLIGHT INTO IMC - INADVERTENT - PILOT IN COMMAND
8. WEATHER CONDITION - LOW CEILING

Factual Information

HISTORY OF FLIGHT

On October 4, 2007, at 2317 mountain daylight time, a Raytheon Aircraft Company C90A, N590GM, owned by Scenic Aviation Inc., and operated under the business name of Eagle Air Med, was destroyed when it impacted terrain during an en route descent, 22 miles east of Pagosa Springs, Colorado. A post-impact fire ensued. Night instrument meteorological conditions prevailed at the time of the accident. The medical positioning flight was being operated under the provisions of Title 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. The airline transport certificated pilot, flight nurse, and paramedic were fatally injured. The flight departed Chinle Municipal Airport (E91), Chinle, Arizona, approximately 2235, and was en route to San Luis Valley Regional Airport (ALS), Alamosa, Colorado.

According to Eagle Air Med, the pilot and crew were dispatched at 2155 to ALS to pick up a patient. The pilot contacted company dispatch at 2236 with a departure time of 35 minutes after the hour. The pilot reported 12,500 feet as his cruising altitude and 20 minutes as his time en route. The dispatcher questioned this time and requested the pilot update his time en route after he had taken off. The pilot contacted company dispatch one last time at 2257 stating he was 30 minutes from ALS. The company dispatch did not have any flight following capabilities.

The pilot contacted the Denver Air Route Traffic Control Center (ZDV) at 2243:54, identifying himself as "lifeguard king air five eight eight sierra alpha" (N588SA - another airplane owned and operated by Scenic Aviation). The pilot reported that he was flying under visual flight rules (VFR) to ALS at 12,500 feet and was requesting "flight following." The controller assigned a squawk code and radar contact was confirmed at 2245:05. Radar data, provided by ZDV in National Track Analysis Program (NTAP) format, depicted the accident flight from the time of departure from E91 to the time of the accident. The airplane initially climbed to 13,500 feet mean sea level (msl), descended to 11,500 feet msl, and climbed back up to 13,500 feet.

At 2316:05, the pilot changed frequencies as instructed and reported to the controller that he was "on the descent into Alamosa." The controller acknowledged this and issued an altimeter setting of 30.08. At 2316:19, the pilot asked "what's the minimum vectoring altitude out here," and the controller responded "lifeguard eight sierra alpha say again." The pilot then responded "...what is the MSA out here do you know" to which the controller responded "I guess I'm just not understanding what you're saying, either I'm really tired ... you're talking a little fast, slow her down for me a little will ya." The pilot responded "...I'm... actually new into Alamosa, just wondering what the uh minimum descent altitude was out here." The controller responded that the minimum instrument altitude (MIA) for the area he was in was 15,000 feet and he would be "cutting across the corner" of an area with an MIA of 15,300 feet and "...it goes down after that." The pilot acknowledged this transmission and the controller continued to tell him that from his present position he would encounter four different altitude areas. The pilot acknowledged and the controller informed him he was "getting ready to enter the one five thousand three hundred minimum IFR [instrument flight rules] altitude area." The pilot acknowledged the transmission. According to radar data, at 2316:27, the airplane initiated a descent and the last radar data was recorded at 2317:36, at an encoded altitude of 11,700 feet msl. At 2318:46 the controller stated called the lifeguard flight stating "radar contact lost." No further voice communications were received from the flight.

The wreckage was located just west of the Continental Divide Trail on the afternoon of October 5, 2007, at an elevation of 11,900 feet msl.

PERSONNEL INFORMATION

The pilot, age 46, held an airline transport pilot certificate with an airplane multiengine land rating, last issued on April 21, 2006. He held a commercial pilot certificate with airplane multiengine sea, airplane single engine land and sea, rotorcraft helicopter, and instrument helicopter ratings. He also held a flight instructor certificate with airplane single and multiengine privileges. He was issued a first class airman medical certificate on July 9, 2007. The certificate contained the limitation "holder shall possess correcting lenses for near vision."

The pilot's personal logbook was not located. According to the pilot's resume he submitted to Eagle Air Med in April of 2007, he had logged no less than 12,650 hours total time; 6,800 of which was in multiengine land airplanes. The pilot reported previous air ambulance experience with Executive Flight in Wenatchee, Washington, and Bighorn Airways in Sheridan, Wyoming.

The pilot was hired by Eagle Air Med in August of 2007. According to the company records, the pilot also received his initial training in August of 2007. His airman competency/proficiency check for CFR 135.293 (Initial and recurrent pilot testing), 135.297 (Pilot in command: Instrument proficiency check), and 135.299 (Pilot in command: Line checks: Routes and Airports) was completed with a satisfactory rating in all tested areas on August 20, 2007. Between the dates of August 14 and August 20, 2007, he had completed a total of 11.5 hours of flight training in the C90B; 2.1 hours of which were completed in the accident airplane. The pilot received area familiarization training at seven airports including Alamosa and Chinle.

In addition to company training, the pilot attended training at SIMCOM in Arizona. Ground and simulator training was conducted from July 30, 2007, through August 1, 2007. According to his training records, he logged 12 hours of ground instruction and six hours of simulator instruction.

According to the company's "Load Manifest/Flight Tracking Forms," the pilot had logged no less than 28.5 hours total flight time in the accident airplane. These forms also reflected he had flown into Alamosa on one other occasion (September 19, 2007, also at night) for a passenger transfer. He had logged 84.6 hours total time in the C90 company aircraft. The pilot's "Time and Duty Log" for August, September, and October reflected flight times of 34.7 hours, 43.1 hours, and 6.8 hours respectively. These records reflected four hours of flight time during his shift prior to the accident starting at 1900 on October 3rd and ending at 0700 on October 4th. The pilot recorded no flight or duty time from 0700 until he accepted the flight at 2155 on the 4th.

During interviews with the director of operations, chief pilot, and safety officer, the pilot's training, experience, and flight ability were discussed. It was commented that the training went well. There were no problems noted with the pilots flying skills. Night flight and IFR flight did not seem to be an issue.

A review of Federal Aviation Administration records revealed that a "Letter of Investigation" was sent to the pilot on March 12, 2007, and a Notice of Proposed Certificate Action was sent on May 10, 2007. The letter alleged that the pilot, while acting as pilot in command of a Part 135 flight, had failed to conduct a passenger briefing. In addition, the letter alleged that during the same flight, the pilot had entered clouds on four separate occasions without clearance; two of those times were for five minutes each. It was stated that the pilot made no attempt to avoid

the clouds, and the flight was not on an IFR flight plan.

The letter stated that these actions were deemed reckless so as to endanger the life or property of another. Violations of Part 135.117, 91.155(a), and 91.13(a) were all noted. The letter proposed a certificate suspension for 240 days unless the pilot responded within 15 days of the notice. According to FAA legal counsel, the pilot never responded to the FAA. Legal counsel reported that several days prior to the accident, the pilot had retained an attorney. No settlement had been reached and no order of revocation had been issued.

During interviews with Eagle Air Med staff, they stated that they were not aware of the pending certificate action against the pilot. They had asked about accidents, incidents, and enforcement actions but had not specifically asked about "pending certificate action," and the pilot did not volunteer this information.

AIRCRAFT INFORMATION

The accident airplane, a Raytheon Aircraft Company (now known as Hawker Beechcraft) C90A (serial number LJ-1594), was manufactured in 2000. It was registered with the FAA on a standard airworthiness certificate for normal operations. The airplane was powered by two Pratt and Whitney Canada PT6A-21 turbopropeller engines. Each engine was equipped with a 4-blade, Hartzell propeller. According to Hawker Beechcraft, the airplane was originally sold with 7 seats; according to Eagle Air Med, the airplane had been equipped for medical flight operations and had five seats.

The airplane was registered to Scenic Aviation Inc., operated under the business name of Eagle Air Med, and was maintained under an approved airworthiness inspection program (AAIP). A review of the maintenance records indicated that the last AAIP, phase 1, had been completed on September 7, 2007, at an airframe total time of 3,925.0 hours. The maintenance was completed by Scenic Aviation Inc., Blanding, Utah. According to the company, the airplane was not equipped with terrain avoidance warning system. According to Hawker Beechcraft, the airplane was equipped with an altitude alert unit.

METEOROLOGICAL CONDITIONS

Infrared satellite imagery of south central Colorado displayed cloud top temperatures between zero and minus 16 degrees Celsius (C) along N590GM's flight route. Upper air data show these temperatures ranged between 13,500 feet and 22,000 feet. The cloud top temperature at the accident site was minus 12 degrees C or about 22,000 feet. Doppler weather radar in Grand Junction and Pueblo, Colorado, (136 miles northwest and 137 nautical miles east respectively) depicted no precipitation returns in the accident area or along the route of flight.

Aviation area forecasts were issued for Colorado by the Aviation Weather Center in Kansas City, Missouri, the day of the accident. The forecast for the mountains and west was as follows: sky condition scattered 8,000 to 10,000 feet, broken 12,000 to 14,000 feet, with cloud tops at flight level 250; widely scattered light rain showers, isolated thunderstorms and light rain, with cumulonimbus cloud tops to flight level 340. The outlook forecast was for VFR, thunderstorms, and wind.

Airman's Meteorological Information (AIRMET) for instrument flight rules (IFR), mountain obscuration, and icing had not been issued for the accident airplane's route of flight. No significant IFR conditions were expected outside of convective activity. AIRMET TANGO for turbulence had been issued for moderate turbulence below 16,000 feet.

The closest official weather observation station was Pagosa Springs (CPW) located 18 nautical miles (nm) northwest of the accident site. The elevation of the weather observation station was 11,756 feet msl. The routine aviation weather report (METAR) for CPW, issued at 2312 reported, winds, 220 degrees at 14 knots, visibility, 1/4 statute mile in haze; sky condition, 200 feet overcast; temperature 03 degrees C; dewpoint, minus 01 degrees C; altimeter, 30.28 inches; remarks, lightening distant southeast.

The METAR for ALS (located 38 nautical miles northeast of the accident site) issued at 2252 reported winds, 150 degrees at 7 knots; visibility, 10 miles; sky condition, no clouds below 12,000 feet; temperature, 11 degrees C; dewpoint, 4 degrees C; altimeter, 30.08 inches.

According to the United States Naval Observatory, Astronomical Applications Department Sun and Moon Data, the sunset was recorded at 1846 and the end of civil twilight was at 1911. The moon rose at 0027 and set at 1539 the day of the accident.

No records were located to indicate that the pilot had received a weather briefing from an Automated Flight Service Station or Direct User Access Terminal System (DUATS). According to Eagle Air Med, a computer terminal was available in Chinle for the pilot's use in obtaining weather information.

FLIGHT RECORDERS

The airplane was equipped with a Fairchild Model A 100S (serial number 02722) 30-minute solid-state cockpit voice recorder (CVR). The CVR was secured and sent to the National Transportation Safety Board's (Safety Board) Audio Laboratory for readout. The CVR sustained substantial structural damage. The audio information was extracted normally from the recorder. The recording consisted of four channels of audio information. A CVR group was not convened; however, a summary report was prepared covering the events captured in the recording.

At 23:17:00.9, the cockpit voice recorder (CVR) audio recorded from HOT microphone input recorded a continuous single tone with energy at 520,660, and 780 Hz. According to Hawker Beechcraft, this tone is consistent with a "C" chord, created by the tone generator due to inputs from the altitude alert unit. At 23:17:03.7, the CVR recorded the pilot state "let's go climb." At 23:17:33.8, the same continuous tone was heard again. At 23:17:36.4, the cockpit area microphone recorded the sound of high amplitude transient noise with broadband characteristics. At 23:17:36.4, the HOT microphone recorded a repetitive short duration, less than 25 ms transient signal with period of approximately 200 ms. The recording ended at 23:18:12.3.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in mountainous, sparsely vegetated terrain, just west of the Continental Divide Trail. The accident site was at an elevation of 11,900 feet msl, and the airplane impacted on a magnetic heading of 050 degrees.

The Safety Board IIC identified the initial impact point 737 feet west of the main wreckage. Branches from neighboring trees were sheared, approximately three to four feet from their base, in an east-northeasterly direction. A debris path extended, in an east-northeast direction from the initial point of impact, for 900 feet. Torn metal from the wings and empennage, portions of the instrument panel, cabin interior, engine accessories, propeller blades, and various personal and medical effects were located within the debris path.

Portions of both wing assemblies, including the gear assemblies, separated from the fuselage and were located within the debris field between the initial impact point and the main fuselage. The fuel tanks were compromised and both exhibited evidence of exposure to heat and fire on the internal portion of the wing skin.

The main portion of the fuselage came to rest upright, oriented on a heading of 060 degrees magnetic. The interior of the fuselage exhibited exposure to heat and fire. The bottom of the fuselage was crushed, and torn open. A propeller assembly with portions of three of the four blades was located directly beneath the fuselage. The instrument panel, cockpit, and cabin area separated and were destroyed. The empennage remained partially attached and was twisted.

Both engines separated from the airframe and were located 112 feet east of the fuselage. One engine was crushed and exhibited extensive impact damage. The other engine separated into several different sections and exhibited extensive impact damage. Propeller blades and fragmented blade sections were located within the debris path. The pieces exhibited leading edge scoring, chordwise scratching, and bending.

MEDICAL AND PATHOLOGICAL INFORMATION

The autopsy was performed by the Hood Mortuary, Durango, Colorado, on October 8, 2007, as authorized by the Archuleta Coroner's office. The autopsy revealed the cause of death as multiple fractures and internal injuries due to blunt trauma.

During the autopsy, specimens were collected for toxicological testing to be performed by the FAA's Civil Aerospace Medical Institute, Oklahoma City, Oklahoma (CAMI Reference #200700243001). Carbon monoxide and cyanide tests were not performed. Ten mg/dL of ethanol was detected in the lung tissue. The toxicology report stated that this ethanol was from "sources other than ingestion." Results were negative for all tested drugs.

TESTS AND RESEARCH

The airplane wreckage was recovered on October 12, 2007, and relocated to a hangar in Greeley, Colorado, for further examination. The Safety Board IIC and representatives from Hawker Beechcraft, and Pratt and Whitney Canada examined the wreckage on October 16, 2007.

The wreckage included large pieces identified as the fuselage, right wing, left wing, empennage, and smaller pieces identified as the elevator, ailerons, and wing flaps. The remaining wreckage was contained in 12 to 15 large bags. The wreckage was laid out on a hanger floor for further examination.

The right wing leading edge exhibited forward to aft accordion crushing. The aileron separated from the wing assembly in two pieces. The inboard piece was 25 inches in length and exhibited aft accordion crushing. Both flap assemblies separated from the wing. The outboard flap exhibited aft crushing and was wrinkled. The inboard flap was bent up 45 degrees at midspan and was crushed aft and wrinkled. The inboard flap actuator measurement was consistent with zero to five degrees flaps down. The outboard flap actuator was not located. Aileron cable continuity was confirmed from the aileron bell crank, outboard to the engine nacelle. The cable exhibited broom straw signatures, consistent with overload.

The left wing exhibited aft accordion crushing along the entire leading edge. The left inboard and outboard flap separated and were bent and wrinkled. The left aileron separated from the wing and was fragmented into three pieces. Each piece was wrinkled and exhibited aft

crushing.

The fuselage exhibited aft accordion crushing. The front of the fuselage, including the instrument panel and cabin, was fragmented and separated entirely from the fuselage structure. The top and side portions of the fuselage from the aft cabin aft to the empennage was bent, torn, and wrinkled. The bottom portion of the fuselage separated and was fragmented. The passenger door separated from the fuselage. The forward bottom corner of the door exhibited aft according crushing. The interior portion of the fuselage structure exhibited exposure to heat and fire.

The empennage, including the horizontal stabilizer, vertical stabilizer, elevator, and rudder partially separated from the fuselage. The right side of the horizontal stabilizer separated at midspan. The right side of the elevator exhibited aft accordion crushing. The outboard leading edge of the elevator was crushed aft in a "C" shape. The right pitch trim was measured at 1.1 inches which is consistent with zero to five degrees tab down trim. The left side of the horizontal stabilizer and elevator separated at midspan. The leading edge of the left side stabilizer was wrinkled and exhibited aft accordion crushing. The left pitch trim was measured at 1.25 inches which is consistent with zero to five degrees tab up trim. The rudder remained attached to the vertical stabilizer. Rudder trim was measured at nine inches, which is consistent with zero to five degrees tab left. Control cable continuity was confirmed from the bell crank forward to where the cables had been cut.

Both engines exhibited extensive impact damage and multiple components were separated and destroyed. Internal compressor blades exhibited deformation opposite the direction of rotation. The shrouds displayed circumferential scoring. Dirt and dried vegetation was found throughout the engine.

ADDITIONAL INFORMATION

Company Information

Scenic Aviation Inc. was issued an operating certificate by the FAA in 1979 to conduct on-demand air taxi operations under the provisions of Title 14 CFR Part 135. In 2000, the FAA approved Scenic Aviation to operate under the business name of Eagle Air Med. At the time of the accident, Eagle Air Med conducted air ambulance operations in the states of Arizona, Colorado, New Mexico, and Utah. The company based airplanes and crew in Chinle and Kayenta, Arizona, and Alamosa, Colorado. The corporate headquarters was located in Blanding, Utah, and the Director of Operations, Chief Pilot, and Safety Officer were located in Chinle, Arizona. The operating certificate was managed by the FAA Flight Standards District Office in Salt Lake City, Utah.

At the time of the accident, the company was operating seven King Air C90 aircraft and employed 12 pilots. Prior to employment, each pilot was required to have a minimum of 3,000 hours total time, 1,500 of which was in multi-engine airplanes. In addition, each pilot was required to hold an airline transport pilot certificate and a valid first class medical certificate. Each pilot attended initial and recurrent simulator training at SimCom. In addition, each new hire went through the FAA approved ground and flight training and initial operating experience prior to flying with patients.

Audits and Accreditation

In July 14, 2004, Eagle Air Med was awarded accreditation with the Commission on

Accreditation of Medical Transport Systems (CAMTS). Their last audit was conducted in May of 2007. They maintained this status with CAMTS and were current at the time of the accident.

The standards from CAMTS require that each pilot have a minimum of 2,000 hours total time; 1,000 hours of which must be as pilot-in-command (PIC), 500 hours of which must be as PIC in multi-engine airplanes, and 100 hours of which must be as PIC in night conditions. In addition, the pilot is to have a minimum of 25 hours of training in the specific make and model of aircraft being utilized on patient missions.

In January of 2007, an independent audit of the Eagle Air Med operations was conducted by a consultant for a hospital located in northern Colorado. The results of the audit outlined the pilot training and experience requirements, the company's history, maintenance procedures, and medical staff training and experience. The auditor concluded that Eagle Air Med was a "quality, safe, and patient oriented air ambulance provider."

In addition, Eagle Air Med has been a member of the Association of Air Medical Services for six years.

Operations Manual

A copy of Eagle Air Med's Operations Manual (Revision 24, September 19, 2006) was provided for review during the course of the investigation. Section 3.9 - Pilot in Command - Duties and Responsibilities included the following aspects for operational control: "A. Contact an FAA facility to obtain access to the necessary information for the safe conduct of the flight (such as weather, NOTAMS, and airport analysis.)

B. File a flight plan with an appropriate FAA facility (considering factors such as altitude, terrain, weather...)" It was clarified during the investigation that Part 91 legs did not require a flight plan if operated in VFR conditions. After the accident, the company modified their operations manual to require an IFR flight plan for all night operations, regardless of the Part it was being operated under.

Section 6.5 - Weather Briefings, required the pilot to "obtain a weather briefing prior to all flight operations, VFR, or IFR."

Section 6.24 - "Company Bases Standard Operating Procedures", Part V. "En Route", stated that the company's "area of operation is considered mountainous terrain, therefore the PIC must exercise caution and fly at altitudes that will provide sufficient obstacle clearance..."

Eagle Air Med Guidelines

A copy of Eagle Air Med's Company Guidelines was provided for review during the course of the investigation. Section 9.g - Flight Following stated that every pilot "must obtain flight following from [Air Traffic Control] when [operating] under VFR flight rules." It went on to state that "the pilot must plan on flying at a VFR altitude that will allow radar contact with ATC. This is mandatory for any flights of 100 nautical miles or more."

Pre-flight Risk Assessment

Prior to every flight, each pilot is required to utilize the "Eagle Air Med Risk Assessment Tool." Thirteen questions for consideration and seven scored questions are printed on a 2 ¼ inch by 3 ½ inch card.

Questions for consideration include weather conditions at the departure airport, destination

airport, and en route, night operations, moonlight availability, familiarity with the destination, airplane problems, and any personal experience, training, or rest issues.

Scored questions include pilot experience (in years), night flight conditions, late night flight conditions (between the hours of 0200 and 0500), destination airport being controlled or uncontrolled, inoperative equipment, greater than three patient transports in one shift, and weather conditions including ceiling and visibility at landing minimums and icing conditions along the route of flight. Each area is scored as follows:

Pilot experience less than 2 years - 6 points; 2 to 3 years - 4 points; 4 to 5 years - 2 points; and 5 plus years 0 points

Night flight conditions - 3 points

Late night flight conditions - 3 points

Familiarity with destination airport controlled - 4 points; uncontrolled - 6 points

Inoperative Equipment - 3 points

More than three patient transports in one shift - 3 points

Weather - 5 points

A score of 16 or less is left to the crew to make the go, no-go decision. A score of 17 or more requires contact with the director of operations, chief pilot, or safety officer.

During interviews with the staff from Eagle Air Med, the director of operations, chief pilot, safety officer, and the president of the company all emphasized that the final authority on the operation of the flight lies with the pilot in command. The director of operations stated that a pilot may still elect not to accept a flight based upon circumstances not addressed by the card.

The pilot reported a risk assessment value of 6-3-3 (total of 12) to the dispatcher.

Altitude Alert Unit

According to Hawker Beechcraft, the altitude alert unit monitors the altitude displayed on the pilot altimeter and compares that with the altitude set on the alert unit. The desired altitude can be pre-selected in increments of 100 feet. As the set altitude is approached on the outer limit (plus or minus 1,000), visual warnings and a two-second audio warning begins. The visual warnings remain on until the inner limit (plus or minus 200 feet) of the set altitude is reached. Deviations outside the inner limit will reactivate both the two-second audio warning and the visual warning.

Safety Alerts

According to the Aeronautical Information Manual, paragraph 4-1-15, "Safety Alert,": "A safety alert will be issued to pilots of aircraft being controlled by ATC if the controller is aware the aircraft is at an altitude which, in the controller's judgment, places the aircraft in unsafe proximity to terrain, obstructions, or other aircraft. The provision of this service is contingent upon the capability of the controller to have an awareness of a situation involving unsafe proximity to terrain, obstructions, and uncontrolled aircraft. The issuance of a safety alert cannot be mandated, but it can be expected on a reasonable, though intermittent basis. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, to take. This procedure is intended for use in time critical situations where aircraft safety is in

question. Noncritical situations should be handled via the normal traffic alert procedures. a. Terrain or Obstruction Alert 1. Controllers will immediately issue an alert to the pilot of an aircraft under their control when they recognize that the aircraft is at an altitude which, in their judgment, may be in an unsafe proximity to terrain/obstructions."

FAA Order 7110.65 "Air Traffic Control" states the same requirements with regards to the Safety Alert. This alert was not issued to the pilot.

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	**Age:**	46, Male
Airplane Rating(s):	Multi-engine Land; Multi-engine Sea; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	**Toxicology Performed:**	Yes
Medical Certification:	Class 1 Without Waivers/Limitations	**Last FAA Medical Exam:**	07/01/2007
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	08/01/2007
Flight Time:	12650 hours (Total, all aircraft), 84 hours (Total, this make and model), 6000 hours (Pilot In Command, all aircraft), 84 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Raytheon Aircraft Company	**Registration:**	N590GM
Model/Series:	C90A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	LJ-1594
Landing Gear Type:	Retractable - Tricycle	**Seats:**	5
Date/Type of Last Inspection:	09/01/2007, AAIP	**Certified Max Gross Wt.:**	10160 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo Prop
Airframe Total Time:	3925 Hours as of last inspection	**Engine Manufacturer:**	Pratt & Whitney Canada
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-21
Registered Owner:	Scenic Aviation Inc	**Rated Power:**	750 hp
Operator:	SCENIC AVIATION INC	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	DYVA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	CPW, 11756 ft msl	**Distance from Accident Site:**	18 Nautical Miles
Observation Time:	2312 MDT	**Direction from Accident Site:**	329°
Lowest Cloud Condition:	Thin Overcast / 200 ft agl	**Visibility**	0.25 Miles
Lowest Ceiling:	Overcast / 200 ft agl	**Visibility (RVR):**	
Wind Speed/Gusts:	14 knots / 21 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.28 inches Hg	**Temperature/Dew Point:**	3°C / -1°C
Precipitation and Obscuration:	Haze		
Departure Point:	Chinle, AZ (E91)	**Type of Flight Plan Filed:**	Company VFR
Destination:	Alamosa, CO (ALS)	**Type of Clearance:**	None
Departure Time:	2235 MDT	**Type of Airspace:**	

Airport Information

Airport:	Not Applicable	**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	N/A	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	3 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	37.183611, -106.584444

Administrative Information

Investigator In Charge (IIC):	Jennifer S Kaiser	**Report Date:**	08/28/2008
Additional Participating Persons:	Brent Weckworth; FAA Flight Standards District Office; Denver, CO TR Proven; FAA - AAI - 100; Washington, DC Brian Weber; Hawker Beechcraft Corporation; Wichita, KS Thomas Berthe; Pratt & Whitney Canada; Longueuil, Canada, Douglas W Scadden; NATCA; Salt Lake City, UT Leo Ruiz; Eagle Air Med; Blanding, UT Elaine M Summers; Transportation Safety Board - Canada; Gatineau, Quebec,		
Publish Date:	04/25/2014		
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		