



Aviation Investigation Final Report

Location:	Ruidoso, New Mexico	Accident Number:	CEN17FA227
Date & Time:	June 13, 2017, 22:10 Local	Registration:	N48TA
Aircraft:	Beech E 90	Aircraft Damage:	Destroyed
Defining Event:	Loss of control in flight	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot had filed an instrument flight rules flight plan and was departing in dark night visual meteorological conditions on a cross-country personal flight. A witness at the departure airport stated that during takeoff, the airplane sounded and looked normal. The witness said that the airplane lifted off about halfway down runway 24, and there was "plenty" of runway remaining for the airplane to land. The witness lost sight of the airplane and did not see the accident because the airport hangars blocked her view.

The wreckage was located about 2,400 ft southeast of the departure end of runway 24. Examination of the accident site indicated that the airplane impacted in a nose-down attitude with a left bank of about 20°. A left turn during departure was consistent with the airport's published instrument departure procedures for obstacle avoidance, which required an immediate climbing left turn while proceeding to a navigational beacon located about 7 miles east-northeast of the airport.

Examination of the wreckage did not reveal any evidence of preimpact mechanical malfunctions that would have precluded normal operation.

The pilot had reportedly been awake for about 15 hours and was conducting the departure about the time he normally went to sleep and, therefore, may have been fatigued about the time of the event; however, given the available evidence, it was impossible to determine the role of fatigue in this event.

Although the circumstances of the accident are consistent with spatial disorientation, there was insufficient evidence to determine whether it may have played a role in the sequence of events.

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 terrain after takeoff during dark night conditions.

Findings

Aircraft	Altitude - Not attained/maintained
Environmental issues	Dark - Effect on operation

Factual Information

History of Flight

Enroute-climb to cruise	Loss of control in flight (Defining event)
Enroute-climb to cruise	Collision with terr/obj (non-CFIT)

On June 13, 2017, about 2210 mountain daylight time, a Beech E 90, N48TA, impacted terrain during initial climb after takeoff from runway 24 at Sierra Blanca Regional Airport (SRR), Ruidoso, New Mexico. The commercial pilot and the passenger sustained fatal injuries. The airplane was destroyed by impact forces and postcrash fire. The airplane was registered to King Industries Corporation and was being operated by the pilot under Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Dark night visual meteorological conditions prevailed at the time of the accident. An instrument rules flight plan was filed for the flight that was originating at the time of the accident and was destined for Abilene Regional Airport (ABI), Abilene, Texas.

The flight plan was filed at 2155 and listed a proposed departure time of 2320 from SRR. The planned flight to ABI was 1 hour 5 minutes, and the fuel on board was 2 hours 50 minutes.

According to the pilot's wife, on the day of the accident, their oldest son played in a championship baseball game, and after the game, the family drove to the airport, arriving about 2130. She said that her husband did "all the preflight checks" of the airplane and then he and their oldest son boarded the airplane. She further said that her husband did an engine runup by the hangar area; everything "looked good, sounded good"; the airplane then taxied to runway 24.

She reported that the airplane lifted off about halfway down the runway, and "plenty of runway" remained for the airplane to "set back down." She further reported that the airplane was airborne by the time it flew in front of her truck, and "everything sounded okay." She said that she did not see any flames from the airplane or its engines. She could not see if there was any smoke, since it was dark outside. She said the takeoff was "normal," and the airplane did not sink. She lost sight of the airplane as it climbed out because her truck was parked by one of the hangars, which blocked her view, and she did not see the accident.

The wreckage was located by first responders about 2,400 ft southeast from the departure end of runway 24.

Pilot Information

Certificate:	Commercial	Age:	39,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 25, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	February 10, 2017
Flight Time:	1073 hours (Total, all aircraft), 25 hours (Total, this make and model)		

The pilot held a commercial pilot certificate with airplane single- and multi-engine land and instrument ratings; he also held a mechanic certificate. At the time of his last airman medical examination on March 25, 2015, he reported a flight experience of 400 total hours with no hours in the last 6 months. His second-class airman medical certificate had no limitations.

On an aviation insurance application dated January 31, 2017, the pilot listed a total flight experience of 1,073 hours including 197.1 hours in multi-engine land airplanes, 10 hours of instrument flight experience, and 25 hours of turbine flight experience. The application did not have an entry block for night flight time, and no night flight time was listed in any other area on the application.

Between February 10, 2017 and February 17, 2017, the pilot completed 25.0 hours of BE-90 initial flight training, which was provided by Aviation Group Florida, LLC.

The pilot's wife stated that her husband got up about 0700 to 0730 on the day of the accident and that she did not know what time he went to work. She said that her husband went to his office to do some work and did not have any meetings. She said her husband would typically go to sleep about 2130 to 2200 and wake up at 0700 to 0730.

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N48TA
Model/Series:	E 90 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1978	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	LW-283
Landing Gear Type:	Retractable - Tricycle	Seats:	
Date/Type of Last Inspection:	February 9, 2017	Certified Max Gross Wt.:	10099 lbs
Time Since Last Inspection:		Engines:	2 Turbo prop
Airframe Total Time:	12621.9 Hrs as of last inspection	Engine Manufacturer:	Pratt & Whitney
ELT:	Installed, not activated	Engine Model/Series:	PT6A-28
Registered Owner:		Rated Power:	680 Horsepower
Operator:		Operating Certificate(s) Held:	None

On February 3, 2017, the airplane was sold to King Industries Corporation by Aviation Group Florida, LLC. An aircraft registration application for the airplane was signed by the pilot, whose title was listed as Vice President, on February 3, 2017.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	SRR, 6814 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	21:55 Local	Direction from Accident Site:	35°
Lowest Cloud Condition:	Clear	Visibility:	
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	19°C / -12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ruidoso, NM (SRR)	Type of Flight Plan Filed:	IFR
Destination:	Abilene, TX (ABI)	Type of Clearance:	IFR
Departure Time:	22:10 Local	Type of Airspace:	

According to the U.S. Naval Observatory, Astronomical Applications Department, on June 13, 2017, moon rise in Ruidoso was at 2323, and the phase of the moon was waning gibbous with 85% of the moon's visible disk illuminated.

Airport Information

Airport:	Sierra Blanca Regional Airport SRR	Runway Surface Type:	Asphalt
Airport Elevation:	6814 ft msl	Runway Surface Condition:	
Runway Used:	24	IFR Approach:	None
Runway Length/Width:	8120 ft / 100 ft	VFR Approach/Landing:	None

SRR did not have an air traffic control tower. There were two published instrument departure procedures designed for obstacle avoidance while climbing out of the airport area. For departures from runway 24, both procedures required an immediate climbing left turn while proceeding to a navigational beacon located about 7 miles east-northeast of the airport.

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:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	33.453056,-105.543052(est)

The accident site was located about 2,400 ft southeast of the departure end of runway 24 at an elevation of about 6,756 ft. The airplane wreckage path was on a southeasterly heading and was about 168 ft in length. The terrain from the northwest to the southeast was upsloping and exhibited soot and fire damage to the ground and surrounding trees. The northwest end of the wreckage path had trees with breaks that exhibited a downward slope estimated to be about 20° toward the left as viewed looking southeast. The left wingtip was located near the broken trees. The outboard section of the right wing was located about midway along the wreckage path and to the right side of the path as viewed looking southeast. The remaining wing sections and control surfaces were located along the wreckage path. The southeast end of the wreckage path contained the airplane fuselage and empennage.

Both propellers were separated from the engines and were resting along the debris path. Both propellers exhibited S-shaped bending, leading edge damage, and chordwise scratching consistent with engine power being produced at impact. Postaccident disassembly examination of both propellers revealed witness marks that indicated about a 30° blade angle, which was consistent with mid-range power. None of the propeller blades exhibited a feathered position.

Postaccident disassembly examination of both engines revealed impact and postcrash fire damage. The compressor and turbine sections of both engines exhibited circumferential contact damage of the compressor and turbine disks. There were no mechanical anomalies found that would have precluded normal operation of the engines.

The cockpit avionics, flight instruments, and control panel switches were destroyed by impact forces and fire. The landing gear was found in the retracted position.

Examination of the flight control cables revealed overload separations. The left outboard wing flap was in the retracted position, and the remaining flaps were separated from the wings.

Medical and Pathological Information

The University of New Mexico Health Sciences Center, Office of the Medical Examiner, Albuquerque, New Mexico conducted an autopsy of the pilot. The autopsy report stated that the cause of death was blunt trauma.

The Federal Aviation Administration's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed forensic toxicology on specimens from the pilot. According to the toxicology report, carbon monoxide and cyanide testing were not performed; no ethanol was detected, and ibuprofen was detected in muscle.

Administrative Information

Investigator In Charge (IIC):	Gallo, Mitchell
Additional Participating Persons:	David Jones; Federal Aviation Administration; ABQ FSDO; Albuquerque, NM Andrew Hall; Textron Aviation ; Wichita, KS Karel Currey; Pratt & Whitney ; Bridgeport, WV
Original Publish Date:	March 18, 2019
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=95365

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).