Aviation Investigation Final Report

Location:	Bentonville, Arkansas	**Accident Number:**	CEN16FA341
Date & Time:	August 31, 2016, 09:30 Local	**Registration:**	N8283D
Aircraft:	Beech A36	**Aircraft Damage:**	Destroyed
Defining Event:	Abrupt maneuver	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The private pilot was departing from an uncontrolled airport at the same time that another airplane was landing in the opposite direction. Surveillance video showed the accident airplane veer to the left during its takeoff roll, become airborne over a unpaved area between the runway and ramp area, and cross the ramp. The airplane subsequently impacted the top of a hangar and was destroyed by postcrash fire. The video evidence and propeller signatures suggest that the pilot did not reduce power and was attempting to continue the takeoff. An employee at the fixed base operator on the airport reported that she heard the pilot of the landing airplane announce over the airport's common traffic advisory frequency (CTAF) his airplane's position inbound to the airport and his intent to land the airplane at the accident airport; however, neither she nor the pilot of landing airplane heard the accident pilot transmit his position or intentions over the CTAF. The airplane was equipped with communication radios, suggesting that the pilot was not using the radios prior to his takeoff. Examination of the accident airplane did not reveal any preimpact failures or anomalies.

Toxicology testing of the pilot revealed the presence of temazepam, a Schedule IV controlled substance of the benzodiazepine class, that is a sedative intended for the short-term treatment of insomnia. The pilot's blood concentration of temazepam was well below that considered to cause significant effects; therefore, it is unlikely the pilot was impaired by this medication at the time of the accident.

Additionally, the pilot had atrial fibrillation treated with an anticoagulant and a history of a slow heart rate treated with an implanted pacemaker. The actions of the pilot indicate that he was awake and alert, and there is no evidence to suggest that he was impaired due to his cardiac conditions. It is unlikely that the pilot's atrial fibrillation, high blood pressure, elevated cholesterol, insomnia, or medications used to treat these conditions impaired him or contributed to the accident. It is also unlikely that the pilot's slow heart rhythm treated with a pacemaker contributed to the accident.

It is likely that the pilot did not recognize that another airplane was landing in the opposite direction before he initiated the takeoff. When he did see the other airplane during his takeoff roll, rather than

abort the takeoff, the pilot veered the airplane off the runway surface and attempted to continue the takeoff, which resulted in collision with the hangar. Federal Aviation Administration guidance states that, in order to achieve the greatest degree of safety, it is essential that all radio-equipped aircraft transmit/receive on a common frequency identified for the purpose of airport advisories. If the accident pilot had been monitoring and/or transmitting over the CTAF, he may have been alerted to the presence of the landing airplane and the accident could have been avoided. In addition, although radio communication is not required at uncontrolled airports, the pilot's failure to use radio communication resulted in his unawareness of the other landing airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to monitor and/or transmit his position over the uncontrolled airport's common traffic advisory frequency, and his decision to continue the takeoff when he observed conflicting traffic on the runway.

Findings

Personnel issues	Lack of communication - Pilot
Personnel issues	Use of equip/system - Pilot
Personnel issues	Decision making/judgment - Pilot
Personnel issues	Monitoring communications - Pilot
Personnel issues	Monitoring other aircraft - Pilot

Factual Information

History of Flight

Takeoff	Abrupt maneuver (Defining event)
Takeoff	Loss of control in flight

On August 31, 2016, about 0930 central daylight time, a Beech A36, N8283D, was destroyed when it impacted a hangar during an attempted takeoff from runway 18 at the Bentonville Municipal Airport (VBT), Bentonville, Arkansas. The pilot, who was the sole occupant of the airplane, was fatally injured. The airplane was destroyed by impact forces and a postimpact explosion and fire. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not on a flight plan. The flight was originating at the time of the accident and was destined for the Springdale Municipal Airport (ASG), Springdale, Arkansas.

The pilot of another airplane reported that, while approaching VBT, the flight was authorized by approach control to change to the VBT common traffic advisory frequency (CTAF). He stated that, after the frequency change, he transmitted his intent to land on runway 36 over the CTAF. The pilot stated that the approach controller advised him that no traffic was observed at VBT, and the pilot heard no radio transmissions from other aircraft during the landing approach. After landing on the first 1/3 of runway 36, he noted another airplane (the accident airplane) at the end of runway 18 initiating a takeoff. The pilot transmitted over the CTAF that he was on the runway, but the accident airplane continued the takeoff. Shortly thereafter, the accident airplane "appeared to add more power and [rolled] left over the grass." The accident airplane became airborne, pitched nose-up then nose-down twice before rolling left and impacting a hangar.

Surveillance video from VBT showed the other airplane during its landing roll on runway 36. The accident airplane could be seen taking off from runway 18 when it abruptly veered to the left (east). The accident airplane crossed the un-paved ground between the runway and the airport ramp, became airborne, and traveled out of the frame of the video. The footage did not capture the impact with the hangar but did show the explosion of impact and a postcrash fire.

Pilot Information

Certificate:	Private	**Age:**	70,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	March 11, 2015
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1389 hours (Total, all aircraft)		

The 70-year-old pilot held a private pilot certificate with airplane single-engine and multiengine land ratings. His most recent Federal Aviation Administration (FAA) third-class medical certificate was issued on March 11, 2015, with a limitation for corrective lenses. The pilot reported no medical conditions and no use of medications to the FAA. At the time of the medical examination, the pilot reported 1,389 total hours of flight experience. The pilot's flight logbook was not available for review during the investigation.

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N8283D
Model/Series:	A36 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:	1993	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-2816
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	3651 lbs
Time Since Last Inspection:		**Engines:**	Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Continental
ELT:		**Engine Model/Series:**	IO-550-B
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The airplane was a 1993 Beech A36, serial number E-2816. The airplane was a single-engine monoplane with retractable tricycle landing gear and seating for six occupants, including the flight crew. It was constructed predominately of metal and was powered by a Continental IO-550-B (6) engine, serial number 675847, rated to produce 300 horsepower.

Review of the airplane maintenance records found within the wreckage revealed that the airplane's most recent annual inspection was performed on August 10, 2015. An entry dated March 14, 2016, indicated that the engine had been overhauled and reinstalled. Based on the maintenance entries the airplane had accumulated 1489.5 total hours as of the date of the engine overhaul.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	VBT,1298 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	09:35 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	20°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	26°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bentonville, AR (VBT)	**Type of Flight Plan Filed:**	None
Destination:	SPRINGDALE, AR (ASG)	**Type of Clearance:**	None
Departure Time:	09:30 Local	**Type of Airspace:**	Class G

At 0935, the weather reporting station located at VBT recorded wind from 020° at 3 knots, 10 miles visibility, clear sky, and an altimeter setting of 30.12 inches of mercury.

Airport Information

Airport:	BENTONVILLE MUNI/LOUISE M THAD VBT	**Runway Surface Type:**	Asphalt
Airport Elevation:	1298 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	18	**IFR Approach:**	None
Runway Length/Width:	4426 ft / 65 ft	**VFR Approach/Landing:**	None

At the time of the accident, VBT had a single runway (18/36), that was 4,426 ft long and 65 ft wide. The runway had two intersecting taxiways located about midfield, requiring airplanes to back-taxi to reach either end of the runway.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	1 Fatal	**Latitude, Longitude:**	36.345275,-94.219444

The airplane impacted a hangar located on the east side of the runway. The hangar was about 1,900 ft from the north end of runway 18 and 360 ft east of the runway centerline. A postimpact explosion and fire consumed the cabin section of the fuselage and the inboard wing sections of the airplane. Fire also damaged the hangar. There was a hole in the front of the hangar (west wall) near the peak and another hole in the south wall. The airplane's engine had separated from the airframe and came to rest next to the north wall of the adjacent hangar. The airframe came to rest in front of the hangar that was struck with the airplane nose facing west.

Examination of the airplane at the accident scene confirmed the presence of all control surfaces. Due to the extensive fire damage, a comprehensive examination of the fuselage structure was not possible; however, examination of the components that remained did not reveal any evidence of a preimpact structural failure.

Examination of the airplane's control system showed that the left aileron actuation cable was separated in overload near the left wing root, and the left bellcrank ear was separated with the cable still attached. The right aileron actuation cable was continuous from the cockpit area to the right bellcrank, where the ear separated from the bellcrank with the cable still attached. The right rudder cable was separated in overload in the cabin floor area. The left rudder cable was continuous from the rudder to the cockpit floor area. The elevator control cables were continuous from the rear bellcrank to the cockpit floor area. The elevator trim cables were continuous from the tail connections forward to the cabin floor area. The trim tab functioned normally in both directions.

All three propeller blades exhibited signatures consistent with the production of power at the time of impact, including bending, twisting, gouging, and scratching.

Examination of the airplane's engine revealed compression and suction on all cylinders when rotated by hand. The magnetos remained attached to the engine and spark was produced on all leads during engine rotation.

The airplane was equipped with navigation and communication radios, but examination of the airplane's avionics was not possible due to the extensive fire damage.

No preimpact anomalies of the airframe, engine or associated systems were found.

Communications

VBT was an uncontrolled airport and did not have an operating control tower. Pilots could communicate and announce their intentions using CTAF. The CTAF at VBT was not recorded; however, an employee at the fixed base operator on the airport reported that she heard over the CTAF the landing airplane's pilot announce the airplane's position on the landing approach and his intent to land the airplane at VBT. She also reported that she heard the pilot of the landing airplane state, "Bentonville Municipal I am on the runway!" She did not hear any other pilots on the CTAF.

Medical and Pathological Information

The Arkansas State Crime Laboratory Medical Examiner, Little Rock, Arkansas, conducted an autopsy of the pilot and reported the cause of death as multiple blunt force injuries, and the manner was accident. The autopsy documented the presence of a pacemaker in the chest wall.

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicology testing on specimens from the pilot. Testing revealed the blood pressure medications metoprolol and valsartan in the urine and blood. The potentially impairing sedative temazepam was detected in the urine at 7.204 ug/ml and heart blood at 0.071 ug/ml; its metabolite, oxazepam, was detected in the urine at 0.795 ug/ml, but not in the heart blood.

Temazepam is a Schedule IV controlled substance of the benzodiazepine class. It is a sedative intended for the short-term treatment of insomnia; common name for it is Restoril. The package information carries warnings including, "…You may still feel drowsy the next day after taking [temazepam]. Do not drive or do other dangerous activities after taking [temazepam] until you feel fully awake." Temazepam's therapeutic range is from about 0.2 to 1.1 ug/ml and its half-life ranges from about 3 to 13 hours in different individuals.

Review of the pilot's personal medical records revealed a history of atrial fibrillation treated with the non-impairing anticoagulant rivaroxaban, and the blood pressure/rate control medication metoprolol. The pilot's high blood pressure and elevated cholesterol were treated with the non-impairing medications valsartan, hydrochlorothiazide, and atorvastatin. Furthermore, he had insomnia treated with temazepam. Finally, following his most recent FAA examination, he developed a slow heart rate that was controlled with a pacemaker, which was implanted in February 2016. An examination of the pilot by a physician's assistant 2 weeks before the accident documented that the pilot felt well with no adverse symptoms from medications or his medical conditions.

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Matthew Disch; FAA-Little Rock FSDO; Little Rock, AR Jan Smith; Textron Aviation; Wichita, KS Kurt Gibson; Continental Motors; Mobile, AL
Original Publish Date:	July 16, 2018
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93928