Aviation Investigation Final Report

Location:	Omaha, Nebraska	**Accident Number:**	CEN18FA193
Date & Time:	May 27, 2018, 08:40 Local	**Registration:**	N263CE
Aircraft:	Beech P35	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control on ground	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and pilot-rated passenger were conducting a personal flight in the single-engine airplane. Witnesses stated that about 1,300 ft from the departure end of the runway during the takeoff roll, the airplane exited the left side of the runway, traveled across a grass median between the runway and taxiway, onto taxiway surfaces, and impacted several runway and taxiway light structures. The airplane then returned to the runway, crossed the end of the runway, became airborne, and appeared to stall. The airplane's left wing impacted terrain, the airplane cartwheeled, and a post-impact fire ensued. Witnesses stated the airplane looked like it was out of control during the takeoff sequence, and the engine remained at full power. Surveillance video captured portions of the takeoff and runway excursion; the footage was consistent with witness accounts. Toxicological testing found a potentially impairing drug in the pilot; however, it is unlikely that the negative effects of the drug directly contributed to the outcome of this accident.

Examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operations. A member of the pilot's family stated that he did not think the pilot flew regularly enough to stay proficient in the operation of the airplane; however, the pilot's logbook was not available for review and his recency of experience could not be determined. It is likely that the pilot, who was seated in the left seat, was flying the airplane since the right seat rudder pedals were not equipped with brakes. Because of this configuration, the pilot-rated passenger would have been unable to apply brake pressure to attempt to stop the airplane during the takeoff, although the engine throttle was accessible to both occupants.

The circumstances of the accident are consistent with the pilot's loss of directional control during the takeoff roll and his subsequent failure to abort the takeoff following the runway excursion.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of directional control and his failure to abort the takeoff, which resulted in a runway excursion and collision with terrain.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Directional control - Not attained/maintained
Personnel issues	Use of equip/system - Pilot
Personnel issues	Lack of action - Pilot

Factual Information

History of Flight

Takeoff	Loss of control on ground (Defining event)
Takeoff	Collision with terr/obj (non-CFIT)

On May 27, 2018, at 0840 central daylight time, a Beech P35 airplane, N263CE, impacted terrain during takeoff from Millard Airport (MLE), Omaha, Nebraska. The pilot and pilot-rated passenger sustained fatal injuries, and the airplane was destroyed by a post-impact fire. The airplane was owned by the pilot who was operating it as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Day visual meteorological conditions prevailed at the time of the accident, and no flight plan was filed. The flight was originating from MLE at the time of the accident, and the destination was unknown.

According to witnesses, the pilot attempted to takeoff from runway 30. During the takeoff roll about 1,300 ft from the departure end of the runway, the airplane exited the left side of the runway and traveled across a grass median between the runway and taxiway surfaces. The airplane was briefly airborne during portions of the runway excursion. The airplane then crossed the end of the runway, became airborne, and appeared to stall. The airplane's left wing impacted terrain, the airplane cartwheeled, and a post-impact fire ensued. Witnesses added that the airplane looked like it was out of control during the takeoff sequence, and that the engine sounded like it was at full power.

Surveillance video provided by a MLE fixed-based operator showed the airplane during portions of the attempted takeoff. The video images were consistent with the witness statements. The video did not capture the airplane near end of the runway or its subsequent impact with terrain.

During the runway excursion, the airplane impacted several runway and taxiway light structures.

Pilot Information

Certificate:	Private	**Age:**	63,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	July 1, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 550 hours (Total, all aircraft)		

Pilot-rated passenger Information

Certificate:	Private	**Age:**	61,Female
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	July 1, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 750 hours (Total, all aircraft)		

The pilot and pilot-rated passenger logbooks were not located during the investigation. Pilot and pilot-rated passenger flight time estimates were obtained from the Federal Aviation Administration's (FAA) most recent medical applications. The pilot was seated in the left seat for the accident flight.

The pilot's brother, who spoke with local law enforcement after the accident, stated that he did not think his brother flew regularly enough to stay proficient in the operation of the airplane.

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N263CE
Model/Series:	P35 P35	**Aircraft Category:**	Airplane
Year of Manufacture:	1962	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	D-6908
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 4, 2018 Annual	**Certified Max Gross Wt.:**	3125 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4429 Hrs as of last inspection	**Engine Manufacturer:**	Continental Motors, Inc
ELT:	Installed, not activated	**Engine Model/Series:**	IO-470-N
Registered Owner:		**Rated Power:**	260 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

A review of the FAA aircraft registration records revealed that the accident airplane was registered to the pilot on July 8, 2006.

The airplane was equipped with dual control columns for elevator and aileron control. According to the pilot's operating handbook, airplane steering is accomplished by use of the rudder pedals through a linkage arrangement that connects the nose strut to the rudder pedal shaft. The brakes on the main landing gear wheels are operated by applying toe pressure to the rudder pedals. Brakes were only

installed on the left seat rudder pedals. The engine throttle, propeller, and mixture controls were located in the center of the control console below the instrument panel.

A review of the airplane maintenance records revealed that the airplane had flown a total of 122 hours from 2011 to the last logbook entry on May 4, 2018.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MLE,1050 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	08:35 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	29°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Omaha, NE (MLE)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	08:40 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Millard Airport MLE	**Runway Surface Type:**	Asphalt
Airport Elevation:	1050 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	3801 ft / 75 ft	**VFR Approach/Landing:**	None

Millard Airport, located 7 miles southwest of Omaha, Nebraska, is a public, non-towered controlled airport at a surveyed elevation of 1,050 ft mean sea level. The airport has one asphalt runway, runway 12/30, which is 3,801 ft long by 75 ft wide.

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:**	41.195278,-96.113609

Postaccident examination of the runway, grass medians, and taxiways showed markings consistent with the airplane's landing gear tires. The markings were consistent with the airplane departing the runway surface, traveling through the grass, and impacting runway and taxiway light structures. Portions of the grass and tire marks on the asphalt surfaces showed sections of three-, two-, and one-tire track marks at various points during the takeoff roll.

The main wreckage came to rest inverted about 200 ft from the end of runway 30. The main wreckage comprised the fuselage, left and right wings, and empennage, and was destroyed by fire. The cabin door, propeller, engine cowling, and glare shield were located between the runway and main wreckage and displayed minor thermal damage. The cockpit and instrument panel were consumed by fire. The right seat was separated from the airframe and came to rest about 30 ft west of the main wreckage. The engine was separated from the airframe and came to rest adjacent to the left wing.

Flight control continuity could not be established due to fire and thermal damage; however, the cables were found attached to their respective cockpit flight controls and flight control surfaces. In addition, several control cables were cut by rescue personnel during recovery operations. The nose-wheel landing gear assembly was separated from the airframe structure. The assembly was damaged by impact and fire.

Examination of the engine showed impact damage and minor thermal damage to the accessory section. The crankshaft propeller flange was found separated from the crankshaft, and the propeller flange remained attached to the propeller hub. The crankshaft fracture surfaces exhibited radial cracks and 45° shear lips consistent with overload failure. Both propeller blades exhibited forward twisting, s-type bending, leading edge gouges, and chordwise scratches.

Examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operations.

Additional Information

The FAA Airplane Flying Handbook, Chapter 5, Takeoffs and Departure Climbs, Normal Takeoff, states, in part:

After releasing the brakes, advance the throttle smoothly and continuously to takeoff power. An abrupt application of power may cause the airplane to yaw sharply to the left because of the torque effects of the engine and propeller. This is most apparent in high horsepower engines. As the airplane gains

speed, the elevator control tends to assume a neutral position if the airplane is correctly trimmed. At the same time, the rudder pedals are used to keep the nose of the airplane pointed down the runway and parallel to the centerline. The effects of engine torque and P-factor at the initial speeds tend to pull the nose to the left. The pilot must use whatever rudder pressure is needed to correct for these effects or winds.

In addition, the "Rejected Takeoff" section of the FAA Airplane Flying Handbook states:

Emergency or abnormal situations can occur during takeoff that require a pilot to reject the takeoff while still on the runway. Circumstances such as a malfunctioning powerplant, inadequate acceleration, runway incursion, or air traffic conflict may be reasons for a rejected takeoff.

Prior to takeoff, the pilot should have in mind a point along the runway at which the airplane should be airborne. If that point is reached and the airplane is not airborne, immediate action should be taken to discontinue the takeoff. Properly planned and executed, chances are excellent the airplane can be stopped on the remaining runway without using extraordinary measures, such as excessive braking that may result in loss of directional control, airplane damage, and/or personal injury. In the event a takeoff is rejected, the power should be reduced to idle and maximum braking applied while maintaining directional control.

Medical and Pathological Information

The Douglas County Coroner's Office, Omaha, Nebraska, performed autopsies on the pilot and pilot-rated passenger. The pilot's cause of death was listed as blunt force trauma to the head, and the pilot-rated passenger's cause of death was listed as blunt force trauma to the head and chest.

The FAA's Forensic Sciences Laboratory performed toxicological testing of the pilot and pilot-rated passenger. The pilot's toxicological testing identified Cetirizine in blood and urine, and Minoxidil in urine. The tests were negative for carboxyhemoglobin and ethanol.

Cetirizine is an antihistamine available over-the-counter and commonly used to treat allergies, which may cause drowsiness. Minoxidil is a medication available in oral and topical formulations. Orally, it is prescribed and used with other medications to treat high blood pressure. Topically, it is used to stimulate hair growth and to slow balding. This medication is generally not considered to be impairing.

The passenger's toxicological testing identifed 0.015 (ug/mL, ug/g) Lorazepam in blood, 0.024 (ug/mL, ug/g) Lorazepam in liver, 7 (ng/mL, ng/g) Fentanyl in blood, and 7 (ng/mL, ng/g) Fentanyl in liver. The tests were negative for carboxyhemoglobin and ethanol.

The passenger was briefly treated at the hospital after the accident. Fentanyl is a prescription medication used to relieve severe pain, and Lorazepam is a prescription medication used to relieve anxiety. The presence of these medications was consistent with postaccident medical treatment.

Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	Jeremy Kraemer; Federal Aviation Administration; Lincoln, NE Chris Lang; Continental Motors, Inc.; Mobile, AL
Original Publish Date:	November 6, 2019
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=97331