Aviation Investigation Final Report

Location:	Ashland, Ohio	**Accident Number:**	CEN18LA245
Date & Time:	June 29, 2018, 20:00 Local	**Registration:**	N717FN
Aircraft:	Kubicek BB30	**Aircraft Damage:**	Minor
Defining Event:	Loss of control on ground	**Injuries:**	1 Fatal, 3 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot was conducting a sponsor flight for a local balloon rally with a student pilot and two passengers onboard. After a 15-minute flight, the pilot landed the balloon in a field. After landing, the student exited the basket to control the balloon's crown line in preparation for deflating the envelope, and the two passengers remained crouched down in the balloon basket. As the pilot started to deflate the envelope, the wind increased, which concaved the envelope and subsequently pulled the balloon forward, tipping the basket over. As the basket tipped over, the pilot fell forward and hit his head on the dual burner assembly. The pilot became unconscious about 20 to 30 seconds later, and was unresponsive when emergency personnel arrived. He was transported to a nearby hospital, where he was later pronounced dead.

A postaccident examination of the balloon envelope, basket, fuel tanks, fuel lines, and the dual burner system revealed no damage or anomalies.

The pilot had previously mentioned to the student pilot that he felt unwell, and his postaccident medical examination demonstrated significant cardiomegaly and evidence of pulmonary edema, which supported his symptoms. This suggests that he had some degree of heart failure before the accident, which caused fluid to build up in his lungs and likely shortness of breath. It is likely that the pilot's underlying heart disease and pulmonary edema distracted him from securing himself in the basket while pulling the vent line to deflate the envelope and contributed to his fall and subsequent injuries. This left the pilot unprepared when the basket tipped over, and resulted in the pilot hitting his head on the balloon's dual burners, causing fatal injuries to his head and neck.

Probable Cause and Findings

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

The pilot's failure to ensure that he was secure in the balloon's basket after landing, which resulted in him falling and striking his head on the burners when the wind caught the envelope and tipped the basket over. Contributing to the accident was the pilot's underlying heart disease and pulmonary edema that distracted him from securing himself in the basket and left him unprepared when the basket tipped over.

Findings

Personnel issues	Aircraft control - Pilot
Environmental issues	(general) - Effect on equipment
Personnel issues	Cardiovascular - Pilot

Factual Information

History of Flight

Standing	Loss of control on ground (Defining event)

On June 29, 2018, about 2000 eastern daylight time, a Balony Kubicek SPOL SRO BB30Z hot air balloon, N717FN, tipped over after landing on a field near Ashland, Ohio. The commercial pilot on board sustained a fatal head injury. The student pilot and two passengers were not injured, and the balloon was not damaged. The balloon was registered to the pilot who was operating it as a Title 14 *Code of Federal Regulations* (CFR) Part 91 instructional flight. Day visual meteorological conditions prevailed, and no flight plan was filed for the local flight, which departed from a nearby field about 1945.

The early evening flight was a hot air balloon sponsor event for the Ashland, Ohio, Balloonfest. The commercial pilot was providing instruction to the student pilot during the flight, and after about 15 minutes, the pilot took control of the balloon and elected to land quickly and return to the Balloonfest field to participate in the evening "balloon glow" event. After landing, the student pilot exited the balloon basket to control the balloon's crown line in preparation for deflating the envelope, and the two passengers remained crouched down in the basket. As the pilot started to deflate the envelope, the wind increased, which concaved the envelope and subsequently pulled the balloon forward, tipping the basket over (see figure 1). As the basket tipped over, the pilot, who was standing in the basket, fell forward and hit his head on the dual burner assembly. The pilot became unconscious about 20 to 30 seconds later and was unresponsive when first responders arrived. He was transported to a nearby hospital, where he was later pronounced dead.

A witness photographed the balloon when it first landed in the field. Figure 1 shows a photo in which the balloon is on the ground, the balloon and basket are both tipped over about 45°, and a land owner/neighbor is standing next to the basket.

Figure 1 Accident balloon

The student pilot and the passengers stated that the pilot was not crouched down during the landing and was also not actively pulling on the vent line to deflate the envelope.

Pilot Information

Certificate:	Commercial	**Age:**	74,Male
Airplane Rating(s):	None	**Seat Occupied:**	None
Other Aircraft Rating(s):	Balloon	**Restraint Used:**	None
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	None None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	40 hours (Total, all aircraft), 40 hours (Total, this make and model)		

Student pilot Information

Certificate:	Student	**Age:**	Male
Airplane Rating(s):	None	**Seat Occupied:**	None
Other Aircraft Rating(s):	Balloon	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

The pilot, age 74, held a commercial pilot certificate with a rating for lighter-than-air balloon. The pilot did not hold a medical certificate. At the time of the accident, the pilot had about 40 total flight experience in the accident balloon.

Per 14 *CFR* 61.233, commercial balloon pilots are allowed to provide flight instruction.

Per 14 *CFR* 61.23 (b), Operations not requiring a medical certificate, a person is not required to hold a medical certificate when exercising the privileges of a flight instructor certificate with a sport pilot rating in a glider or balloon.

Aircraft and Owner/Operator Information

Aircraft Make:	Kubicek	**Registration:**	N717FN
Model/Series:	BB30 Z	**Aircraft Category:**	Balloon
Year of Manufacture:	2015	**Amateur Built:**	
Airworthiness Certificate:	Balloon	**Serial Number:**	1117
Landing Gear Type:	Skid	**Seats:**	4
Date/Type of Last Inspection:	June 10, 2018 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	2 Hrs	**Engines:**	
Airframe Total Time:	40 Hrs at time of accident	**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	On file	**Rated Power:**	
Operator:	On file	**Operating Certificate(s) Held:**	None

The balloon, which comprised a four-place basket and 105,000-cubic-ft envelope balloon system, serial number 1117, was manufactured in 2015, and was equipped with two standup 70-liter propane fuel tanks and an Ignis Plus dual burner capable of producing 18 million British thermal units of heat per hour.

A review of the maintenance logbook showed that an annual inspection was completed on June 10, 2018, at a recorded time in service of 37.85 hours. The last entry in the logbook was made on the day of the accident and showed a total time in service of 40.0 hours.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KMFD,1200 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	19:53 Local	**Direction from Accident Site:**	275°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	29°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Ashland, OH	**Type of Flight Plan Filed:**	None
Destination:	Ashland, OH	**Type of Clearance:**	None
Departure Time:	19:45 Local	**Type of Airspace:**	Class E

At 1952, the weather conditions at Mansfield-Lahm Regional Airport (MFD), Mansfield, Ohio, 12 miles west-southwest of the accident scene, included wind from 170° at 9 knots, clear skies, 10 statute miles visibility, temperature 84°F, dew point 70°F, and altimeter setting of 30.07 inches of mercury.

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 Minor	**Aircraft Damage:**	Minor
Passenger Injuries:	2 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 3 Minor	**Latitude, Longitude:**	40.877223,-82.331665(est)

Postaccident, the balloon was located in a field 2.3 miles north of where the flight originated. The balloon envelope was found deflated and resting on the ground. The basket, with the tanks and burner system intact, came to rest on its front side on the ground. The envelope was connected to the basket support cables at the carabiners. A postaccident examination of the balloon envelope, basket, fuel tanks, fuel lines, and the dual burner system by a Federal Aviation Administration (FAA) inspector revealed no damage or anomalies.

Medical and Pathological Information

The Cuyahoga County Medical Examiner's Office, Cleveland, Ohio, performed an autopsy of the pilot. According to the autopsy report, the cause of death was blunt force impacts to the head and neck.

According to the coroner, the pilot had been hospitalized for blood clots a few months before the accident and was prescribed warfarin. He was diagnosed with prostate cancer in the months before the accident. He also had "high cholesterol and blood pressure issues." According to the coroner's interview with the student pilot, the pilot had recently been feeling unwell and occasionally had balance issues. The student had not seen the pilot fall previously. The pilot's postaccident medical examination demonstrated significant cardiomegaly and evidence of pulmonary edema, which supported his symptoms.

Toxicology performed by the FAA Forensic Sciences Laboratory detected terazosin and warfarin in blood (heart) and liver.

Terazosin is a prescription medication used to treat symptoms from an enlarged prostate. It also has a mild effect on lowering blood pressure. Warfarin is a prescription blood thinner. Neither is considered impairing.

Administrative Information

Investigator In Charge (IIC):	Bowling, David
Additional Participating Persons:	Vince Yerace; Federal Aviation Administration; Cleveland, OH
Original Publish Date:	September 10, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=97648