Aviation Investigation Final Report

Location:	Clarion, Iowa	**Accident Number:**	CEN11FA040
Date & Time:	October 21, 2010, 14:15 Local	**Registration:**	N784CB
Aircraft:	Beech 95-B55 (T42A)	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness reported seeing the airplane suddenly enter a counterclockwise spinning dive toward the ground, make about four revolutions, and then impact the ground. A postaccident examination of the airplane revealed significant damage to the cockpit area, including the instrument panel and the area containing the engine controls. The left engine magneto switch was found positioned so that only one magneto of the dual magneto ignition system was active, the left propeller control was in an aft position, and the fuel flow indicator for the left engine showed no fuel flow. The most recent annual inspection of the airplane was performed more than 3 years before the accident; however, no preimpact anomalies were found during the postaccident examinations. Based on the counterclockwise rotation of the airplane, and the position of the engine levers, the pilot failed to maintain control of the airplane following an undetermined anomaly with the left engine.

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 control of the airplane. Contributing to the accident was the loss of left engine power for undetermined reasons.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Enroute	Loss of engine power (total)
Enroute-cruise	Loss of control in flight (Defining event)

HISTORY OF FLIGHT
On October 21, 2010, about 1415 central daylight time, a Beech 95-B55, N784CB, owned by North Iowa Air, Inc., , and operated by a private pilot, was substantially damaged when it impacted the ground near Clarion, Iowa. The 14 Code of Federal Regulations Part 91 personal flight was operating in visual meteorological conditions without a flight plan. The pilot, who was the sole occupant, was fatally injured. The local flight originated from the Clarion Municipal Airport (CAV), Clarion, Iowa, about 1410.

The pilot's son reported that he spoke with the pilot prior to the accident. He said that his father told him he was planning to fly the accident airplane on a local flight.

A witness to the accident reported seeing the airplane flying northwest when it suddenly entered a counter-clockwise spinning dive toward the ground. The witness stated to a Federal Aviation Administration (FAA) inspector that the airplane made about four revolutions before impacting the ground.

PERSONNEL INFORMATION
The pilot held a private pilot certificate with single engine land, multiengine land, and instrument airplane ratings. The pilot held a third-class medical certificate issued on January 18, 2010. The medical certificate stated that the pilot must wear corrective lenses for near and distant vision, and use hearing amplification. According to flight instructor records, the pilot had received a flight review on May 10, 2010, in a single engine Piper PA-28-236. The pilot's flight logbook was not available for review; however, the pilot reported having 4,000 hours total flight experience on his most recent medical application.

AIRCRAFT INFORMATION
The airplane was a Beechcraft model 95-B55, serial number TC-977. It was a twin-engine monoplane with predominately aluminum construction. It had a retractable tricycle landing gear, and could seat 6 occupants including the pilot. The airplane was powered by two Continental model IO-470-L engines, each rated to produce 260 horsepower.

The most recent maintenance logbook entry indicated that an annual inspection of the airframe was completed on July 1, 2007, at a total airframe time of 8,854 hours.

The most recent maintenance logbook entry, dated April 9, 2007, for the left engine indicated

that all six cylinders were removed from the engine and replaced due to low compression. The maintenance entry indicated that the left engine was inspected in accordance with an annual inspection on that date.

The most recent maintenance logbook entry, dated April 9, 2007, for the right engine indicated that three cylinders were removed from the engine due to low compression. Those cylinders were honed, the affected pistons cleaned, and new piston rings installed. The maintenance entry indicated that the right engine was inspected in accordance with an annual inspection on that date.

No subsequent maintenance entries were found in the airframe, engine, or propeller logbooks.

METEOROLOGICAL INFORMATION

The weather reporting station at CAV recorded the weather conditions at 1415 as: wind 340 degrees at 8 knots; 10 miles visibility; clear skies; temperature 13 degrees Celsius; dew point -3 degrees Celsius; altimeter setting 30.05 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted a level field about 0.5 miles west of CAV. The aft fuselage was in a near vertical orientation when first responders arrived on scene. Federal Aviation Administration inspectors found the left engine magneto switch positioned to the "R" position. The switch for the right engine was positioned to "Both." The switch assembly was broken loose from the airframe. The fuel flow indicator was broken loose from its mounting and the instrument lens was broken. The instrument face was bent and the indicator needles showed no fuel flow on the left engine and 12 gallons per hour fuel flow on the right engine. The left propeller control was found in an aft "feathered" position at the accident scene. There was significant crushing in the area of the engine controls and instrument panel.

A second postaccident examination of the airplane was conducted on November 17, 2010.

The right engine remained partially attached to the right wing nacelle. The front 1/3 of the engine was covered in dirt. The propeller hub remained attached to the engine although one blade of the two-blade propeller had separated. Both blades were bent rearward and the blades did not appear to be in a feathered position. There was evidence of chordwise scratching of the forward face of both propeller blades. Dirt and debris was removed from the engine. The upper spark plugs and fuel injection nozzles were removed from the cylinders. The number 2 spark plug exhibited no breakout force required to remove the spark plug but appeared to be lightly seated. No anomalies were noted with regard to the fuel injection nozzles and the spark plugs exhibited normal burn signatures and coloration. Borescope examination of the cylinders noted no anomalies. The valve rocker box covers and several accessories were removed to facilitate engine rotation. All 6 cylinders exhibited suction, compression, and valve action during rotation of the engine crankshaft. Both magnetos were separated from the engine but remained on top of the engine fully attached to the ignition harness. The harness leads were cut and the magnetos rotated by hand. Both magnetos

produced spark on all leads during hand rotation. The fuel system components of the engine had sustained impact damage.

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The airframe had been previously sectioned to facilitate transport to the storage facility. The left horizontal stabilizer, aft fuselage, and both wings had been sectioned from the airframe. The left wing lower aileron cable exhibited continuity from the root to the aileron. The top cable was continuous from the root to the bellcrank attachment. The bellcrank arm had separated from the rest of the bellcrank assembly. The right wing lower aileron cable exhibited continuity from the root to the aileron. The top cable was continuous from the root to the bellcrank attachment. The bellcrank arm had separated from the rest of the bellcrank assembly. Both ailerons and both flaps remained attached to their respective wing surfaces. The tail surfaces exhibited continuity from the aft cabin to the surfaces when the cables were pulled by hand. The rudder trim tab appeared to be in a neutral position. The elevator trim tab on the right elevator (left stabilizer and elevator cut off for transport), appeared to be about 3/8 inch tab down. The forward fuselage was crushed and exhibited an accordion type deformation. The throw over yoke was separated from the pedestal. The instrument panel was fully exposed. All of the engine controls were in the forward position except for the left propeller control that was in a mid-range position. There was significant damage to the cockpit, instrument panel, and the area containing the engine controls.

No pre-impact anomalies were found with respect to the airframe, engines, or flight controls.

MEDICAL AND PATHOLOGICAL INFORMATION
An autopsy was performed on the pilot by the Iowa Office of the State Medical Examiner, Ankeny, Iowa. The cause of death was attributed to multiple blunt force injuries.

A Final Forensic Toxicology Fatal Accident Report listed the following findings:
8 (mg/dL, mg/hg) ACETONE detected in Brain
106 (mg/dL, mg/hg) ETHANOL detected in Liver
101 (mg/dL, mg/hg) ETHANOL detected in Muscle

21 (mg/dL, mg/hg) ETHANOL detected in Heart
12 (mg/dL, mg/hg) ETHANOL detected in Brain
NO ETHANOL detected in Lung

Diphenhydramine detected in Liver
Diphenhydramine detected in Kidney

Pilot Information

Certificate:	Private	**Age:**	80,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	January 18, 2010
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 10, 2010
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N784CB
Model/Series:	95-B55 (T42A)	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-977
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	July 1, 2007 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	8854 Hrs as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-470-L
Registered Owner:	On file	**Rated Power:**	260 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CAV,1162 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	14:15 Local	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	340°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	13°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Clarion, IA (CAV)	**Type of Flight Plan Filed:**	Unknown
Destination:	Clarion, IA (CAV)	**Type of Clearance:**	None
Departure Time:	14:10 Local	**Type of Airspace:**	

Airport Information

Airport:	Clarion Municipal Airport CAV	**Runway Surface Type:**	
Airport Elevation:	270 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	42.730159,-93.730484(est)

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Tony Will; Des Moines FSDO; Des Moines, IA Rodney Martinez; Continental Motors; Mobile, AL
Original Publish Date:	November 17, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=77674