Aviation Investigation Final Report

Location:	Watertown, South Dakota	**Accident Number:**	CEN10LA275
Date & Time:	May 29, 2010, 13:31 Local	**Registration:**	N88399
Aircraft:	Bellanca 7GCBC	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness reported that he initially thought the pilot was inbound for landing. However, the airplane proceeded southwest of the airport and began making erratic banks and turns. He estimated that the airplane's bank angles reached 80 to 90 degrees at times. Just prior to the accident, the pilot appeared to make a steep turn akin to an agriculture-type operation. He noted that the airplane pitched up, turned to the right, and preceded straight down, impacting the ground. Another witness reported that the airplane was making erratic maneuvers about 300 to 500 feet above ground level. The airplane impacted an open field about 0.5 mile southwest of the airport. A postaccident examination of the engine and airframe did not reveal any anomalies consistent with a preimpact failure or malfunction. The toxicology testing report stated that the pilot's blood alcohol level was 144 mg/dL (0.144 percent by weight). A review of the pilot's background revealed two prior convictions for driving under the influence of alcohol. These were reported to the Federal Aviation Administration (FAA) on the pilot's medical certificate application. The FAA subsequently required the pilot to provide court and driving records, in addition to an evaluation by a certified substance abuse specialist in support of his application. The pilot further submitted drug screen results that indicated a negative finding. The FAA subsequently affirmed the pilot's eligibility for a third-class medical certificate and cautioned the pilot that further alcohol related offenses may result in denial of medical certification. Regulations prohibit any person from piloting an aircraft while having a blood alcohol level greater than 0.04 by weight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of airplane control while conducting aerobatic, low-altitude maneuvers. Contributing to the accident was the pilot's impairmant due to alcohol.

Findings

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

Factual Information

History of Flight

Maneuvering-low-alt flying	Abrupt maneuver
Maneuvering-low-alt flying	Aerodynamic stall/spin
Maneuvering-low-alt flying	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT
On May 29, 2010, at 1331 central daylight time, a Bellanca 7GCBC, N88399, piloted by a private pilot, was destroyed during an in-flight collision with terrain within 1/2 mile of the Watertown Regional Airport (ATY), Watertown, South Dakota. The flight was being conducted under 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. Visual meteorological conditions prevailed. The pilot and passenger sustained fatal injuries. The local flight departed a private airstrip near Castlewood, South Dakota. The time of departure was not determined.

Witnesses at ATY observed the accident airplane in flight. One witness reported that he initially thought the pilot was inbound for landing. However, the airplane proceeded southwest of the airport and began “making erratic banks and turns.” He estimated that the airplane’s bank angles reached “80 to 90 degrees” at times. He stated that right before the accident, the pilot appeared to be “trying a turn like a spray pilot would make.” He noted that the airplane “went up and turned to the right and [it] went straight into the ground.” A second witness at ATY reported the airplane was “making extremely erratic maneuvers” about 300 – 500 feet above ground level (agl).

The airplane impacted an open field southwest of ATY between the airport perimeter fence and the intersection of 33rd Street and Golf Course Road.

PERSONNEL INFORMATION
The pilot held a private pilot certificate with a single-engine land airplane rating issued on August 24, 2009. He was issued a third-class airman medical certificate with a restriction for corrective lenses on May 13, 2009. This was the pilot's initial application and the certificate was issued as a medical certificate and student pilot certificate.

Federal Aviation Administration (FAA) records indicated that the accident pilot was involved in a fuel exhaustion incident on August 31, 2009; approximately 7 days after he was issued his private pilot certificate. The records noted that the pilot was conducting aerial photography when he ran out of fuel and executed a forced landing to a corn field. The pilot was not injured and the airplane sustained minor damage.

As a result of the incident, the FAA issued a 60-day suspension order on December 14, 2009.

However, because the pilot had filed a report of the incident under the Aviation Safety Reporting Program, the suspension penalty was waived. The pilot successfully passed a reexamination check ride with an FAA inspector on January 14, 2010. The reexamination flight test was completed in the accident airplane.

On the application for the reexamination check ride, the pilot reported a total flight time of 407.6 hours, with approximately 400 hours in a Bellanca 7GCBC airplane. The pilot's flight time logbook was not available to the NTSB.

AIRCRAFT INFORMATION

The accident airplane was a 1974 Bellanca 7GCBC, serial number 777-75. It was a single-engine, high wing airplane, with a conventional (tail wheel) landing gear configuration. The airplane was configured as two place aircraft in a tandem seating arrangement. It was powered by a 150-horsepower Lycoming O-320-A2D engine, serial number L-39251-27A. FAA registration records revealed that the accident pilot purchased the airplane in June 2009.

Maintenance records indicated that the most recent annual inspection was completed on May 1, 2010, at 4,270 hours total airframe time. The engine had accumulated 1,690 hours since overhaul. The maintenance records contained one additional entry for an engine oil change, dated May 16, 2010. An airplane flight time of 50.5 hours had elapsed between the annual inspection and the oil change. There was no record of any unresolved maintenance issues related to the accident airplane.

METEOROLOGICAL INFORMATION

Weather conditions recorded by the Watertown Regional Airport (ATY) Automated Surface Observing System (ASOS), located within 1 mile of the accident site, at 1253 were: clear skies; wind from 180 degrees at 18 knots, gusting to 28 knots; 10 miles visibility; temperature 28 degrees Celsius (C); dew point 16 degrees C; and altimeter 29.78 inches of mercury.

At 1353, conditions were recorded as: clear skies; wind from 170 degrees at 20 knots, gusting to 28 knots; 10 miles visibility; temperature 29 degrees Celsius (C); dew point 17 degrees C; and altimeter 29.77 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted an open, grass covered field within one mile of ATY. It came to rest nose down on a west-northwest bearing. The aft fuselage/empennage was oriented upward at an approximate 70-degree angle to the ground. The damage and orientation of the airplane was consistent with a direct, nose down impact into the field.

The forward portion of the airplane was destroyed. The propeller and engine were embedded into the ground. The airframe was crushed to a point near the aft end of the cockpit/cabin. The wings were dislocated from the airframe. They remained in position adjacent to the fuselage and were lying approximately flat on the ground. The wings exhibited deformation along their entire spans. The left wing tip was partially separated from the remainder of the wing. The

flaps and ailerons remained attached to the wings. Flight control continuity was confirmed from the control surfaces to the wing roots.

The aft fuselage structure appeared intact. The horizontal and vertical stabilizers appeared undamaged. The elevators and rudder remained attached to the stabilizers. Flight control continuity was confirmed from the rudder and elevators to the cockpit/cabin area.

Postaccident examination did not reveal any anomalies consistent with a preimpact failure or malfunction.

MEDICAL AND PATHOLOGICAL INFORMATION
An autopsy of the pilot was performed on May 30, 2010, at Altru Hospital, Grand Forks, North Dakota. The cause of death was attributed to traumatic injuries sustained in the accident.

The FAA Civil Aero Medical Institute (CAMI) toxicology report for the pilot stated:
178 (mg/dL, mg/hg) Ethanol detected in Vitreous
165 (mg/dL, mg/hg) Ethanol detected in Urine
144 (mg/dL, mg/hg) Ethanol detected in Blood
93 (mg/dL, mg/hg) Ethanol detected in Muscle
2 (mg/dL, mg/hg) N-Propanol detected in Blood
Quinine detected in Urine

The toxicology report also noted: "Putrefaction: No."

On his medical/student pilot certificate application, dated May 13, 2009, the pilot indicated "Yes" to a history of arrests and/or convictions involving driving while intoxicated by, while impaired by, or while under the influence of alcohol or a drug. In addition, he noted "Yes" to a history of non traffic conviction(s). He indicated "D.U.I. 7/11/06 and 8/26/04" and "Dis[orderly] conduct tickets for partys many years ago." He indicated "No" to "Alcohol dependence or abuse."

The FAA Medical Certification Division required and the pilot provided copies of the court records, a copy of his driving record, and an evaluation by a certified Substance Abuse Specialist in support of his medical certificate application. The pilot further submitted drug screen results as requested by the FAA, which indicated a "Negative" finding. The FAA subsequently notified the pilot that he was eligible for the third-class medical certificate issued. The FAA's notification letter also stated: "You are cautioned that any further alcohol related offenses or evidence of alcohol or drug abuse will require re-evaluation or possible denial of your medical certification."

ADDITIONAL INFORMATION
FAA regulations (14 CFR 91.17) prohibit any person from piloting a civil aircraft while under the influence of alcohol, or while having a 0.04 or greater percent by weight of alcohol in their blood.

In addition, FAA regulations (14 CFR 91.303) prohibit aerobatic flight within the lateral boundaries of the surface area of Class E airspace designated for an airport, or below an altitude of 1,500 feet above the surface. For the purposes of this regulation, "aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight."

Pilot Information

Certificate:	Private	**Age:**	37,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	May 13, 2009
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	January 14, 2010
Flight Time:	408 hours (Total, all aircraft), 400 hours (Total, this make and model), 357 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bellanca	**Registration:**	N88399
Model/Series:	7GCBC	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Aerobatic; Normal	**Serial Number:**	777-75
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	May 1, 2010 Annual	**Certified Max Gross Wt.:**	1650 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4270 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed	**Engine Model/Series:**	O-320-A2D
Registered Owner:	On file	**Rated Power:**	150 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:	ATY,1749 ft msl	**Distance from Accident Site:**	13 Nautical Miles
Observation Time:	13:53 Local	**Direction from Accident Site:**	160°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	20 knots / 28 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	170°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.77 inches Hg	**Temperature/Dew Point:**	29°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Castlewood, SD (PVT)	**Type of Flight Plan Filed:**	None
Destination:	Castlewood, SD (PVT)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Airport Information

Airport:	Watertown Regional ATY	**Runway Surface Type:**	
Airport Elevation:	1749 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:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	44.913887,-97.154724(est)

Administrative Information

Investigator In Charge (IIC):	Sorensen, Timothy
Additional Participating Persons:	Darryl J Anderson; FAA-Rapid City FSDO; Rapid City, SD
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Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=76157