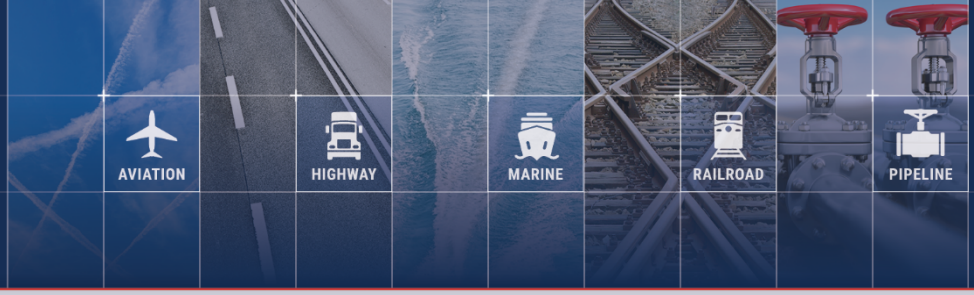

Aviation Investigation Final Report

Location:	Watertown, South Dakota	**Accident Number:**	CEN12LA103
Date & Time:	December 9, 2011, 15:30 Local	**Registration:**	N6717K
Aircraft:	Beech C23	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (partial)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The student pilot reported that there were no anomalies with the engine operation during a before-takeoff engine check or when he applied power for takeoff. He stated that shortly after liftoff, about 50 to 100 feet above the runway, the engine suddenly lost power. He immediately performed a landing on the remaining runway. The airplane touched down hard and then bounced several times before the nose and right main landing gear collapsed. The accident engine demonstrated the ability to produce rated horsepower during a postaccident operational test run. A postaccident examination failed to reveal any anomalies that would have prevented normal engine operation. Additionally, there was no significant risk of carburetor ice accumulation at any engine power setting.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power during initial climb for undetermined reasons.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Initial climb	Loss of engine power (partial) (Defining event)
Landing-flare/touchdown	Hard landing
Landing-flare/touchdown	Landing gear collapse

On December 9, 2011, at 1530 central standard time, a Beech model C23 airplane, N6717K, was substantially damaged during a forced landing at Watertown Regional Airport (KATY), Watertown, South Dakota. The student pilot was not injured. The airplane was registered to and operated by Lake Area Technical Institute under the provisions of 14 Code of Federal Regulations Part 91. Day visual meteorological conditions prevailed for the flight, which was operated without a flight plan. The local flight was originating at the time of the accident.

The student pilot reported that there were no anomalies with the engine operation during a before-takeoff engine check or when he applied power for takeoff. He stated that shortly after liftoff, about 50 to 100 feet above the runway, the engine suddenly lost power. He immediately performed a landing on the remaining runway. The airplane touched down hard and then bounced several times before the nose and right main landing gear collapsed. The airplane then swerved to the right and collided with a lighted runway identification sign before coming to a stop. The firewall and wings were substantially damaged during the hard landing. The student pilot stated that after the accident he was asked by first responders to reposition the fuel selector and the electrical system master switch to "off" positions.

The engine, a Lycoming model O-360-A4K, serial number L-27560-36A, had accumulated 110.7 hours since its last major overhaul, which was completed on April 12, 2011. A postaccident examination revealed that the carburetor and gascolator bowls contained fuel with no evidence of water contamination. There were no obstructions of the flexible induction tubing from the air filter housing to the carburetor. Mechanical continuity was confirmed from the cockpit engine controls to their respective engine components. The engine primer was full forward and locked. The carburetor heat control was not engaged. The magnetos were adequately secured to the accessory section and provided spark when rotated. The spark plugs were removed and exhibited features consistent with normal engine operation. The accident engine subsequently demonstrated the ability to produce rated horsepower during a postaccident operational test run.

At 1553, the airport's automated surface observing system reported the following weather conditions: wind 270 degrees at 13 knots; visibility 10 miles; clear skies; temperature -10 degrees Celsius; dew point -21 degrees Celsius; altimeter setting 30.29 inches of mercury.

The carburetor icing probability chart included in Federal Aviation Administration Special

Airworthiness Information Bulletin No. CE-09-35, Carburetor Icing Prevention, indicated that there was no significant risk of carburetor ice accumulation at any engine power setting.

Pilot Information

Certificate:	Student	**Age:**	21,Male
Airplane Rating(s):	None	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	October 25, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	31 hours (Total, all aircraft), 20 hours (Total, this make and model), 1 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N6717K
Model/Series:	C23	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	M-2266
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 22, 2011 100 hour	**Certified Max Gross Wt.:**	2450 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	8144 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, not activated	**Engine Model/Series:**	O-360-A4K
Registered Owner:	Lake Area Technical Institute	**Rated Power:**	180 Horsepower
Operator:	Lake Area Technical Institute	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KATY,1749 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.29 inches Hg	**Temperature/Dew Point:**	-10°C / -21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Watertown, SD (KATY)	**Type of Flight Plan Filed:**	None
Destination:	Watertown, SD (KATY)	**Type of Clearance:**	None
Departure Time:	15:30 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Watertown Regional Airport KATY	**Runway Surface Type:**	Asphalt
Airport Elevation:	1749 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	6899 ft / 100 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	44.913887,-97.154724(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Gary L Soldwisch; Federal Aviation Administration - Rapid City FSDO; Rapid City, SD
Original Publish Date:	March 28, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=82497