



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
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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.nts.gov/Docket?ProjectID=82497

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).