Aviation Investigation Final Report

Location:	Sioux Falls, South Dakota	**Accident Number:**	CEN16CA364
Date & Time:	August 30, 2016, 08:45 Local	**Registration:**	N23583
Aircraft:	Beech V35B	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

While on final during a practice instrument approach, the engine lost total power. An attempted engine restart and switching of the fuel tanks was unsuccessful. The flight instructor took control of the airplane from the pilot receiving instruction, and executed a forced landing to a corn field. The airplane sustained substantial damage to both wings. The airplane was recovered from the field and about 1 cup of fuel was found in the right fuel tank, and the left wing fuel tank was about 3/4's full. The engine was functionally tested for about 10 minutes on the airframe with no anomalies noted. The pilot reported he did not check the wing fuel tanks during pre-flight and relied on the cockpit fuel gauges for fuel quantity.

Probable Cause and Findings

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

The pilot's failure to adequately manage the available fuel supply, resulting in fuel starvation and a total loss of engine power. Contributing to the accident was the inadequate preflight by the pilot and flight instructor, and the flight instructor's failure to monitor the fuel levels.

Findings

Aircraft	Fuel - Fluid management
Aircraft	Fuel - Fluid level
Personnel issues	Use of equip/system - Pilot
Personnel issues	Fuel planning - Pilot
Personnel issues	Fuel planning - Instructor/check pilot

Factual Information

History of Flight

Approach-IFR final approach	Loss of engine power (total) (Defining event)
Approach-IFR final approach	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	**Age:**	45,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	May 2, 2016
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 22, 2015
Flight Time:	177 hours (Total, all aircraft), 106 hours (Total, this make and model), 177 hours (Pilot In Command, all aircraft), 24 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft)		

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	59,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 1 Without waivers/limitations	**Last FAA Medical Exam:**	June 13, 2016
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 4, 2016
Flight Time:	14233 hours (Total, all aircraft), 30 hours (Total, this make and model), 8777 hours (Pilot In Command, all aircraft), 87 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N23583
Model/Series:	V35B B	**Aircraft Category:**	Airplane
Year of Manufacture:	1978	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	D-10087
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 24, 2016 Annual	**Certified Max Gross Wt.:**	3412 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3669.5 Hrs as of last inspection	**Engine Manufacturer:**	Teledyne Continental
ELT:	C91 installed, not activated	**Engine Model/Series:**	IO-520-B
Registered Owner:		**Rated Power:**	285 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	FSD,1475 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	07:56 Local	**Direction from Accident Site:**	30°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 20000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.2 inches Hg	**Temperature/Dew Point:**	22°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tea, SD (Y14)	**Type of Flight Plan Filed:**	None
Destination:	Sioux Falls, SD (FSD)	**Type of Clearance:**	VFR
Departure Time:	08:30 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Joe Foss Field Airport FSD	**Runway Surface Type:**	Concrete
Airport Elevation:	1430 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	21	**IFR Approach:**	ASR;Practice
Runway Length/Width:	8999 ft / 150 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	43.594444,-96.73278(est)

Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	Ken East; Federal Aviation Administration; Rapid City, SD
Original Publish Date:	December 5, 2016
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93988