



# Aviation Investigation Final Report

<b>Location:</b>	SPEARFISH, South Dakota	<b>Accident Number:</b>	CHI95LA206
<b>Date &amp; Time:</b>	July 2, 1995, 09:37 Local	<b>Registration:</b>	N2397Q
<b>Aircraft:</b>	BEECH 23A	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 3 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

THE PILOT SAID HE HAD CLIMBED THE AIRPLANE TO ABOUT 75 TO 100 FEET AFTER TAKEOFF. HE SAID THE AIRPLANE BEGAN TO STALL AND HE PITCHED THE NOSE DOWN WHEN HE NOTICED THE STALL. HE SAID THE AIRPLANE DESCENDED INTO THE GROUND SHORTLY AFTER PITCHING IT DOWN. A WITNESS SAID HE OBSERVED THE AIRPLANE AT A LOW ALTITUDE AS IT FLEW OVER A HIGHWAY. AFTER CROSSING THE HIGHWAY, THE WITNESS SAID HE OBSERVED THE AIRPLANE'S LEFT WING DROP ABRUPTLY AND THE AIRPLANE COLLIDED WITH THE GROUND.

## 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 FLYING SPEED RESULTING IN AN AERODYNAMIC STALL. FACTORS ASSOCIATED WITH THIS ACCIDENT WERE REMEDIAL ACTION BY THE PILOT WAS NOT POSSIBLE DUE TO THE LOW ALTITUDE AT WHICH THE STALL TOOK PLACE.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) AIRSPEED - NOT ATTAINED - PILOT IN COMMAND
2. STALL - ENCOUNTERED - PILOT IN COMMAND

- 3. (F) REMEDIAL ACTION - NOT POSSIBLE - PILOT IN COMMAND
- 4. (F) ALTITUDE - LOW

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

- 5. TERRAIN CONDITION - GROUND

## Factual Information

On July 2, 1995, at 0937 mountain daylight time (mdt), a Beech B-23A, N2397Q, and piloted by a private pilot, was destroyed during a collision with the ground and subsequent fire shortly after takeoff from runway 16 (3,200' X 100' dry sod) at the Black Hills/Clyde Ice Field, Spearfish, South Dakota. Visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 91 personal flight was not operating on a flight plan. The pilot received serious injuries and the three passengers reported minor injuries. The flight departed Spearfish, South Dakota, at 0935 mdt.

The pilot stated the airplane rotated about 3/4's of the way down the runway at 75 to 85 mph indicated airspeed. He said the airplane climbed to about 75 or 100 feet above the ground and began to stall. The pilot said he lowered the pitch attitude in an attempt to gain airspeed. The airplane did not gain airspeed and descended into the ground.

A passenger in the airplane stated the airplane appeared to come to a stop shortly after takeoff. He said the airplane "...leaned left and descended with left wing down... ." An eye witness said he "...saw [the] aircraft extremely low, but level as it crossed..." a major highway. He continued, "Then [the] left wing dropped abruptly... [and the] plane then entered [the] ditch, bounced two times, came to a stop."

According to a Federal Aviation Administration Principal Operations Inspector (POI) representing the NTSB on-scene, the airplane's weight and balance were within the manufacturer's limits. He said the airplane performance data showed it had adequate runway length for takeoff. On the accident date, construction equipment was located near the intersection of runways 12 and 16. Runway 16's usable length was reduced to 3,200 feet due to the construction equipment.

The pilot's NTSB Form 6120.1/2 showed the pilot had not had a biennial flight review since April 15, 1991. His medical date was shown as July 7, 1989. The pilot said his logbook was destroyed in the fire. He said he was unable to provide a breakdown of his flight time.

Examination of the airframe and engine revealed no mechanical defects that would prevent it from performing to its certificated limitations.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	July 7, 1989
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	450 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BEECH	<b>Registration:</b>	N2397Q
<b>Model/Series:</b>	23A 23A	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	M588
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	March 1, 1995 Annual	<b>Certified Max Gross Wt.:</b>	2350 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-346-A
<b>Registered Owner:</b>	DAVID A. JOHNSON	<b>Rated Power:</b>	165 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	RAP ,3202 ft msl	<b>Distance from Accident Site:</b>	35 Nautical Miles
<b>Observation Time:</b>	09:53 Local	<b>Direction from Accident Site:</b>	120°
<b>Lowest Cloud Condition:</b>	Scattered / 28000 ft AGL	<b>Visibility</b>	30 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	7 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	170°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29 inches Hg	<b>Temperature/Dew Point:</b>	22°C / 15°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:35 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	BLK HILLS/CLYDE ICE FIELD SGF	<b>Runway Surface Type:</b>	Grass/turf
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	3 Minor	<b>Aircraft Fire:</b>	On-ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 3 Minor	<b>Latitude, Longitude:</b>	44.479278,-103.839363(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gattolin, Frank
<b>Additional Participating Persons:</b>	MARK GOODMAN; RAPID CITY , SD
<b>Original Publish Date:</b>	November 8, 1995
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=9930">https://data.ntsb.gov/Docket?ProjectID=9930</a>

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