
		NTSB ID: CHI01FA001		Aircraft Registration Number: N294ND	
		Occurrence Date: 10/02/2000		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Rapid City		State SD	Zip Code 57703	Local Time 1933	Time Zone MDT
Airport Proximity: On Airport		Distance From Landing Facility: 0		Direction From Airport: 0	
Aircraft Information Summary					
Aircraft Manufacturer Piper		Model/Series PA-44-180		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
HISTORY OF FLIGHT					
<p>On October 2, 2000, at 1933 mountain daylight time (mdt), a Piper PA-44-180, N294ND, owned and operated by the University of North Dakota and piloted by a commercial pilot, was destroyed during an in-flight collision with runway 32 (8,701 feet by 150 feet, dry/concrete) at the Rapid City Regional Airport, Rapid City, South Dakota. There was a post-impact explosion and fire. The airplane had been conducting touch and go operations on runway 32 prior to the accident. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91 without a flight plan. The commercial pilot, the sole occupant on the airplane, sustained fatal injuries. The flight departed Custer State Park Airport (3V0), Fairburn, South Dakota, at an undetermined time.</p>					
<p>A witness observed the accident airplane land at 3V0 about 1800. The accident pilot told the witness that he had flown from Nebraska and was thinking about flying to Denver that evening. After a few minutes of conversation, the accident pilot stated to the witness that he was thinking about flying by Mount Rushmore and wanted to know if there were any flight restrictions over the monument. The witness told the accident pilot that there were altitude restrictions over the monument and discussed specific details on how to depart from the 3V0. The witness stated that the accident airplane and pilot were still at 3V0 when he departed after 1830.</p>					
<p>According to a transcript of Air Traffic Control (ATC) communications between the accident airplane (N294ND) and the Rapid City Regional Airport (RAP) local controller (LC), the accident airplane approached RAP from the southwest.</p>					
<p>The communications between N294ND and the RAP LC were transcribed as follows:</p>					
<p>1852:14 N294ND rapid city tower seminole two niner four november delta out of six thousand five hundred for stop and go's seven to---the---west</p>					
<p>1852:28 LC (unintelligible) two niner four november delta rapid city tower runway three two cleared to land win---correction cleared for the option wind zero three zero at eight</p>					
<p>1852:34 N294ND cleared for the option four november delta thank you</p>					
<p>1856:47 LC four november delta can make left closed traffic</p>					
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 <p>National Transportation Safety Board <b>FACTUAL REPORT</b> AVIATION</p>	NTSB ID: CHI01FA001
	Occurrence Date: 10/02/2000
	Occurrence Type: Accident

## Narrative (Continued)

1856:50  
N294ND            roger four november delta

1858:24  
LC                four november delta runway three two cleared for the option traffic bonanza on the  
go be right turn

1859:29  
N294ND            kay traffic in sight cleared for the option four november delta

1901:02  
LC                four november delta make right traffic this pass traffic cessna four miles northwest  
be entering left downwind

1901:08  
N249ND            roger right traffic four november delta

1901:42  
N249ND            four november delta we can we'll make it a tight one this time

1901:47  
LC                four november delta roger cleared for the option

1901:49  
N249ND            cleared for the option four november delta

1904:35  
N294ND            and four november delta did you want me on left traffic again

1904:38  
LC                four november delta your choice this pass left or right traffic is approved

1904:42  
N294ND            kay i guess we'll go left traffic four november delta

1904:45  
LC                roger and squawk and maintain v f r

1904:47  
N294ND            okay v f r four november delta


1905:58  
LC                four november delta is cleared for the option wind zero two zero at eight

1906:01  
N294ND            cleared for the option four november delta

1910:40  
LC                four november delta is cleared for the option

1910:42  
N294ND            cleared for the option four november delta

1910:53

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## Narrative (Continued)

N294ND            how late is ah tower open till tonight

1910:55  
LC                open till ten

1914:49  
N294ND           and four november delta are we clear

1914:51  
LC                four november delta is cleared for the option

1914:54  
N294ND           cleared for the option four november delta

1918:37  
LC                four november delta's cleared for the option wind zero two zero at eight

1918:40  
N294ND           four november delta cleared for the option thank you

1921:32  
N294ND           and for four november delta do you have ah a second to take down a phone number really quick

1921:39  
LC                go ahead

1921:41  
N294ND           it is one eight hundred three four four zero three one four and that's ah u n d flight operations

1921:53  
LC                roger we got one eight hundred three four four zero three one four

1921:57  
N294ND           roger four november delta and ah you don't need to use it

1922:03  
N294ND           yet


1922:04  
LC                roger

1925:13  
N294ND           so it looks like about one more option then ah full stop for four november delta

1925:18  
LC                four november delta roger

1926:32  
LC                four november delta is cleared for the option wind zero two zero at eight

1926:36  
N294ND           cleared for the option for four november delta

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## Narrative (Continued)

1930:35  
N294ND for four november delta you still have that phone number

1930:37  
LC affirm

1930:39  
N294ND kay four november delta after all this ah that's the people that you can contact at u n d um and we'll be full stop this time and ah

1931:01  
N294ND and four november delta still cleared to land right

1931:03  
LC four november delta is cleared to land and what did you want me to tell em when i call em

1931:09  
N294ND stand by four november delta

1932:06  
N294ND okay for four november delta uh

1932:14  
N294ND yea standby

1932:18  
N294ND for four november delta we've got ah thirty gallons a fuel on board one soul on board and my name is bob thompson and if you can give them a call at that one eight hundred number and let them know it's ah where i'm at and also if you could tell my family and friends that i love them very much

1932:44  
N294ND my name again is bob thompson

1932:47  
LC you just ah were you going to depart out of here or stay the night


1932:49  
N294ND um i'll stay the night

1932:51  
LC roger we'll let em know

1932:55  
N294ND and ah it be a good idea to get ah airport rescue and fire fighting out here too please

1933:02  
LC four november delta are you declaring an emergency

1933:13  
LC four november delta tower

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## Narrative (Continued)

1933:20  
LC two niner four november delta rapid city tower

1933:26  
N294ND (unintelligible)

According to a written statement provided by the ATC controller who was working at the time of the accident, the airplane had been conducting touch and go maneuvers prior to the accident. The controller stated that the pilot requested a full stop landing and on approach, "[the pilot] proceeded to level off at about 100 [feet above ground level] on short final and increase his speed, on the go. Shortly past A4 intersection, the pilot pulled nearly straight up, appearing to stall out around 1,000 ft agl[,] coming down at a steep angle and crashing just past A3 intersection."

## PERSONNEL INFORMATION

According to Federal Aviation Administration (FAA) records, the pilot was the holder of a commercial pilot certificate with ratings for airplane single-engine land, airplane multi-engine land, and instrument airplane operations. The pilot was also the holder of a certified flight instructor (CFI) certificate with ratings for airplane single-engine, airplane multi-engine, and instrument airplane operations. FAA records show the pilot's last medical examination date was December 17, 1999, and the pilot was issued a first-class medical certificate with the limitation, "Must wear corrective lenses".

According to the pilot's flight logbook and University of North Dakota flight records, the pilot had accumulated a total time of 1,203.3 flight hours as of his last flight record, dated September 30, 2000. As of the last flight record, the pilot had logged 969.6 hours of flight time in single-engine airplanes and 233.7 hours in multiengine airplanes. The pilot satisfied the requirements of a biennial flight review on December 13, 1999, when he satisfactorily completed a FAA checkride for an additional CFI rating.

## AIRCRAFT INFORMATION

The aircraft was a Piper PA-44-180, N294ND, serial number 4496029. The Piper PA-44-180 is a production built, two engine, low wing monoplane of all metal construction, equipped with a retractable landing gear and controllable pitch propellers. According to FAA records, the airplane was issued a Standard Airworthiness Certificate on December 18, 1999. According to the airplane's service records, the last aircraft phase inspection was completed on September 21, 2000, at 598.3 total hours. According to the service records, the airplane had accumulated a total-time of 652.7 hours on October 2, 2000.

The left engine was a Textron Lycoming O-360-A1H6, serial number L3718336A, and had accumulated a total-time of 652.7 hours on October 2, 2000.

The right engine was a Textron Lycoming LO-360-A1H6, serial number L61271A, and had accumulated a total-time of 652.7 hours on October 2, 2000.

## METEOROLOGICAL INFORMATION

An automated surface observing system (ASOS) located at the Rapid City Regional Airport reported the weather three minutes prior to the accident as:

National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: CHI01FA001

Occurrence Date: 10/02/2000

Occurrence Type: Accident

## Narrative (Continued)

Observation Time: 1930 mdt  
 Wind: 020-degrees at 5 knots  
 Visibility: 10 statute miles  
 Sky Condition: Sky clear  
 Temperature: 11-degrees Celsius  
 Dew Point: 04-degrees Celsius  
 Pressure: 29.93 inches of mercury

## WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board's (NTSB) on-scene investigation began on October 3, 2000.

The aircraft was recovered from the accident site prior to the arrival of the NTSB investigator and was positioned behind a hangar located at the Rapid City Regional Airport. Flight control continuity was verified for the aileron, elevator, and rudder control systems. Both left and right crankshaft flanges were broken loose from their respective crankshafts. The breaks had signatures consistent with torsional overload failure. Both left and right propeller hubs, including all propeller blades, were separated from their respective engines. All propeller blades had chordwise scratching, S-shape bending, and leading edge gouges.

## MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot at the Clinical Laboratory of the Black Hills, Rapid City, South Dakota, on October 3, 2000.

A Forensic Toxicology Fatal Accident Report was prepared by the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma.


The toxicology results for the pilot were:


- \* No Carbon Monoxide detected in Blood
- \* No Cyanide detected in Blood
- \* No Ethanol detected in Vitreous
- \* No Drugs detected in Blood

## ADDITIONAL DATA/INFORMATION

According to an Investigation Report prepared by the Pennington County Sheriff's Office, the pilot's cause of death was, "...blunt force trauma due to an airplane crash with the manner of death as suicide."

Parties to the investigation included the Federal Aviation Administration, University of North Dakota, The New Piper Aircraft Company, and Textron Lycoming.

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<b>Landing Facility/Approach Information</b>					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Rapid City Regional Airport	RAP	3202 Ft. MSL	32	8701	150
Runway Surface Type: Concrete					
Runway Surface Condition: Dry					
Type Instrument Approach: NONE					
VFR Approach/Landing: Traffic Pattern					
<b>Aircraft Information</b>					
Aircraft Manufacturer		Model/Series		Serial Number	
Piper		PA-44-180		4496029	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 4	Certified Max Gross Wt.	3816 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Reciprocating	Textron Lyc.	LO-360-A1H6	180 HP		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
AAIP	09/21/2000	54.4 Hours	598.3 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? Yes	ELT Aided in Locating Accident Site? No			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner		Street Address			
University of North Dakota		P.O. Box 9007			
		City	State	Zip Code	
		Grand Rapids	ND	58202	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:					
Operating Certificate:			Operating Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					

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**First Pilot Information**

Name On File	City On File	State On File	Date of Birth	Age 22
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number:
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Certificate(s): Flight Instructor; Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Multi-engine; Airplane Single-engine; Instrument Airplane

Type Rating/Endorsement for Accident/Incident Aircraft? No	Current Biennial Flight Review? 12/13/1999
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 12/17/1999
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	1203		970	234	127	51	61			
Pilot In Command(PIC)	1009									
Instructor	747									
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used?	Shoulder Harness Used?	Toxicology Performed? Yes	Second Pilot? No
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**Flight Plan/Itinerary**

Type of Flight Plan Filed: None

Departure Point Fairburn	State SD	Airport Identifier 3V0	Departure Time	Time Zone MDT
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Destination Same as Accident/Incident Location	State	Airport Identifier RAP	
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Type of Clearance: VFR

Type of Airspace: Class D

**Weather Information**

Source of Briefing: Unknown

Method of Briefing: Unknown

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**Weather Information**

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
RAP	1930	MDT	3202 Ft. MSL	0 NM	0 Deg. Mag.

Sky/Lowest Cloud Condition: Clear Ft. AGL Condition of Light: Night

Lowest Ceiling: None Ft. AGL Visibility: 10 SM Altimeter: 29.93 "Hg

Temperature: 11 °C Dew Point: 4 °C Wind Direction: 20 Density Altitude: 3477 Ft.

Wind Speed: 5 Gusts: Weather Conditions at Accident Site: Visual Conditions

Visibility (RVR): 0 Ft. Visibility (RVV) 0 SM Intensity of Precipitation:

Restrictions to Visibility: None


Type of Precipitation: None

**Accident Information**

Aircraft Damage: Aircraft Fire: Aircraft Explosion

Classification:

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -	1				1
Other Ground	0	0	0		0
- GRAND TOTAL -	1	0	0		1

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Administrative Information

Investigator-In-Charge (IIC)

Andrew T. Fox

Additional Persons Participating in This Accident/Incident Investigation:

Gary Soldwisch  
Inspector  
Federal Aviation Administration - Rapid City FSDO  
909 St. Joseph Street, Suite 700  
Rapid City, SD 57701

Dana D Siewert  
Director of Aviation Safety  
University of North Dakota - Aerospace Sciences  
Box 9007, UND - Aerospace Sciences  
Grand Forks, ND 58202

Gregory Erikson  
Air Safety Investigator  
Textron-Lycoming  
Box 783, 6N038 Chambellan  
Wayne, IL 60184

Mike McClure  
Air Safety Investigator  
The New Piper Aircraft, INC.  
2301 Hunter Place Lane  
Arlington, TX 76006