



National Transportation Safety Board Aviation Accident Final Report

Location:	GRAND FORKS, ND	Accident Number:	DEN90LA029
Date & Time:	12/01/1989, 2000 CST	Registration:	N130ND
Aircraft:	PIPER PA-28-161	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

THE CFI RECEIVED A FSS WEATHER BRIEFING FORECASTING SNOW SHOWERS BOTH EN ROUTE AND ON THE RETURN LEG OF THE FLIGHT. WHILE RECEIVING VECTORS DURING THE RETURN LEG, THE FLIGHT ENCOUNTERED HEAVY SNOW SHOWERS. THE DUAL STUDENT FLEW WHILE THE CFI FILED AND OBTAINED IFR CLEARANCE. THE PLANE FLEW FOR 4 MINUTES THROUGH HEAVY SNOW SHOWERS DURING THE CLEARANCE PROCEDURES. BOTH PILOTS SAID THE ENGINE QUIT. THE DUAL STUDENT ENTERED EMERGENCY DESCENT WHILE THE CFI ADDED CARBURETOR HEAT AND ATTEMPTED AN ENGINE RESTART, TO NO AVAIL. WHEN THE STUDENT SAID HE SAW THE TERRAIN, THE CFI TOOK THE FLIGHT CONTROLS AND COMPLETED AN EMERGENCY LANDING. AT TOUCHDOWN, THE NOSE WHEEL COLLAPSED IN THE PLOWED FIELD. THE PLANE SLID TO REST WITH A DAMAGED FUSELAGE AND LEFT WING. A POSTACCIDENT INSPECTION BY AN FAA INSPECTOR REVEALED AN ICE BUILDUP IN THE CARBURETOR AIR INDUCTION SYSTEM.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE CFI TO UTILIZE CARBURETOR HEAT PRIOR TO THE INDUCTION ICING AND POWER LOSS. CONTRIBUTING TO THE ACCIDENT WAS THE CFI'S CONTINUED VFR FLIGHT INTO KNOWN AND FORECAST INSTRUMENT METEOROLOGICAL CONDITIONS.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE - NORMAL

Findings

1. (F) WEATHER CONDITION - SNOW
 2. (F) WEATHER FORECAST - DISREGARDED - PILOT IN COMMAND(CFI)
 3. (F) WEATHER CONDITION - CARBURETOR ICING CONDITIONS
 4. (F) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND(CFI)
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Occurrence #2: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: DESCENT - NORMAL

Findings

5. SINGLE ENGINE AIRCRAFT
 6. (C) CARBURETOR HEAT - INACCURATE - PILOT IN COMMAND(CFI)
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Occurrence #3: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Findings

7. TERRAIN CONDITION - NONE SUITABLE
 8. TERRAIN CONDITION - SOFT
 9. LIGHT CONDITION - DARK NIGHT
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Occurrence #4: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Factual Information

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	22, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	06/27/1989
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	540 hours (Total, all aircraft), 19 hours (Total, this make and model), 400 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N130ND
Model/Series:	PA-28-161 PA-28-161	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	2841220
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2325 lbs
Time Since Last Inspection:	0 Hours	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-320-D3G
Registered Owner:	UNIVERSITY OF NORTH DAKOTA	Rated Power:	160 hp
Operator:	UNIVERSITY OF NORTH DAKOTA	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	OG55

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Partial Obscuration / 900 ft agl	Visibility	37 Miles
Lowest Ceiling:	Obscured / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	25 knots / 34 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	340°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	-18°C / -18°C
Precipitation and Obscuration:			
Departure Point:	PARK RAPIDS, MN (PKD)	Type of Flight Plan Filed:	IFR
Destination:	GRAND FORKS, ND (GFK)	Type of Clearance:	IFR
Departure Time:	1822 CST	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	ROBERT B COLLINS	Report Date:	06/25/1992
Additional Participating Persons:	WESTON EDWARDS; FARGO, ND		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).