



National Transportation Safety Board Aviation Accident Final Report

Location:	Grand Forks, ND	Accident Number:	CEN09CA156
Date & Time:	12/05/2008, 1338 CST	Registration:	N51RF
Aircraft:	ROCKWELL INTERNATIONAL 500-S	Aircraft Damage:	Substantial
Defining Event:	Landing gear not configured	Injuries:	2 None
Flight Conducted Under:	Public Aircraft		

Analysis

The twin-engine airplane was being operated by the National Oceanic and Atmospheric Administration conducting snow survey flights. The airplane initially departed from the Grand Forks International Airport (GFK), Grand Forks, North Dakota, and made a refueling stop at the Fargo International Airport, Fargo, North Dakota. The airplane was on a repositioning flight back to GFK when the accident occurred. During the flight, the airplane was cleared by air traffic control for the runway 17R localizer backcourse approach to GFK. The airplane landed on runway 17R with the landing gear in the retracted position, resulting in substantial damage to the airplane. Subsequently, the engines were shut down and the aircraft was evacuated. The minimum descent altitude and visibility requirements for the approach were 1,200 feet above mean sea level (msl) and 1 mile respectively. The ceiling and visibility at the time of the accident were 800 feet (about 1,650 feet msl) and 1 mile respectively. The operator noted that there were no mechanical malfunctions.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to extend the landing gear prior to touchdown.

Findings

Aircraft	Landing gear system - Not used/operated (Cause)
Personnel issues	Use of equip/system - Pilot (Cause)

Factual Information

History of Flight

Landing	Landing gear not configured (Defining event)
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Pilot Information

Certificate:	Commercial	Age:	38, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	01/18/2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	06/06/2008
Flight Time:	1096 hours (Total, all aircraft), 587 hours (Total, this make and model)		

Co-Pilot Information

Certificate:	Commercial; Private	Age:	31, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	09/11/2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	269 hours (Total, all aircraft), 53 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	ROCKWELL INTERNATIONAL	Registration:	N51RF
Model/Series:	500-S	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	3298
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	12/03/2008, 100 Hour	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	10586 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	TIO-540 SER
Registered Owner:	UNITED STATES DEPARTMENT OF COMMERCE	Rated Power:	310 hp
Operator:	UNITED STATES DEPARTMENT OF COMMERCE	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	GFK, 845 ft msl	Observation Time:	1325 CST
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Instrument Conditions
Lowest Cloud Condition:	Thin Overcast	Temperature/Dew Point:	-6° C / -8° C
Lowest Ceiling:	Overcast / 800 ft agl	Visibility	1 Miles
Wind Speed/Gusts, Direction:	12 knots, 200°	Visibility (RVR):	
Altimeter Setting:	29.58 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	Light - Blowing - Snow		
Departure Point:	Fargo, ND (FAR)	Type of Flight Plan Filed:	IFR
Destination:	Grand Forks, ND (GFK)	Type of Clearance:	IFR
Departure Time:	1255 CST	Type of Airspace:	

Airport Information

Airport:	Grand Forks International Airp (GFK)	Runway Surface Type:	Asphalt
Airport Elevation:	845 ft	Runway Surface Condition:	Unknown
Runway Used:	17R	IFR Approach:	LOC-backcourse
Runway Length/Width:	7351 ft / 150 ft	VFR Approach/Landing:	None

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		

Administrative Information

Investigator In Charge (IIC):	John M Brannen	Adopted Date:	07/28/2009
Additional Participating Persons:	Verle Addison; FAA-Fargo FSDO; Fargo, ND		
Publish Date:	07/28/2009		
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
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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