



National Transportation Safety Board Aviation Accident Final Report

Location:	GRAND ISLAND, NE	Accident Number:	CHI98LA084
Date & Time:	01/20/1998, 0725 CST	Registration:	N738FX
Aircraft:	Cessna 208B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The pilot was in cruise flight at 4,000 feet mean sea level (msl), when moderate ice began forming on the airplane. The pilot requested and received approval from air traffic control to climb to a higher altitude. The airplane reached an altitude of 6,700 feet msl, and would not climb any higher. The pilot maintained 6,500 feet msl until he turned onto the VOR/DME approach for runway 31 at Grand Island. The pilot maintained an airspeed between 125 and 140 knots on the approach. When the airplane was over the runway, the pilot reduced the throttle from cruise power. The airplane began to drop. The pilot said that he added power, but it did not stop the sink rate. The airplane touched down hard on the runway, slowly veered to the left, departed the runway, and turned around 180 degrees in a field before coming to a stop. Approximately 1-1/2 inches of clear ice was observed adhering to the leading edges of the wings and empennage after the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: ice build-up on the airplane's wings and empennage which led to an inadvertent stall and hard landing. Factors contributing to this accident were the pilot's inadvertent flight into icing conditions, and the icing conditions.

Findings

Occurrence #1: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (F) WEATHER CONDITION - ICING CONDITIONS
2. (F) FLIGHT INTO ADVERSE WEATHER - INADVERTENT - PILOT IN COMMAND
3. (C) EMPENNAGE - ICE
4. (C) WING - ICE
5. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: LANDING - ROLL

Findings

6. GROUND LOOP/SWERVE - INADVERTENT - PILOT IN COMMAND

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

Factual Information

On January 20, 1998, at 0725, central standard time (cst), a Cessna 208B, N738FX, operated by a commercial pilot, as Federal Express flight 8805, sustained substantial damage when on landing at Grand Island Airport, Nebraska, the airplane impacted hard on the runway and subsequently slid off the left side, approximately 1,500 feet down. Instrument meteorological conditions prevailed at the time of the accident. The flight was being conducted as on demand domestic air cargo service under 14 CFR Part 135. An IFR flight plan was on file. The pilot reported no injuries. The flight originated at Omaha, Nebraska, at 0640 cst, and was en route to Grand Island, Nebraska.

In his written statement, the pilot said that while in cruise flight between Omaha and Grand Island, he began to pick up moderate ice on the airplane at 4,000 feet mean sea level (msl). The pilot asked Minneapolis Air Route Traffic Control Center (ARTCC), if he could be assigned a higher altitude to get out of the icing conditions. Minneapolis ARTCC approved his request. The pilot said that the airplane reached an altitude of 6,700 feet msl, and would not climb any higher. He reported this to Minneapolis ARTCC, and requested the VOR/DME approach for runway 31 at Grand Island. The pilot maintained 6,500 feet msl until he was approximately 14 miles from the airport, at which time he turned onto the final approach course. The pilot maintained an airspeed between 125 and 140 knots on the approach. The airplane broke out of the overcast ceiling at 2,250 feet msl. When the airplane was over the runway, the pilot reduced the throttle from cruise power. The airplane began to drop. The pilot said that he added power, but it did not stop the sink rate. The airplane touched down hard on the runway. The pilot said that following touchdown, he had no braking capability. The pilot used full right rudder and engine power to stay on the runway. The airplane slowly veered to the left, departed the runway, and turned around 180 degrees in a field, before coming to a stop.

The Federal Aviation Administration (FAA) inspector who examined the wreckage, found the airplane, upright in the infield, between runways 31 and 35, approximately 1,500 feet from the approach end of runway 31. The airplane's nose gear strut was bent to the left. The left main landing gear was bent aft and to the left. The left engine mounts and firewall were bent upward. The left horizontal stabilizer and left elevator showed heavy skin buckling. The left propeller showed no damage. Flight control continuity was confirmed. No anomalies with the engine, engine controls, or other airplane systems were found.

The FAA inspector observed approximately 1 and 1/2 inches of clear ice adhering to the leading edges of the wings and empennage.

Pilot Information

Certificate:	Flight Instructor; 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:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last Medical Exam:	01/14/1998
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	7500 hours (Total, all aircraft), 5000 hours (Total, this make and model), 7550 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N738FX
Model/Series:	208B 208B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	208B0482
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	12/23/1997, Annual	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:	41 Hours	Engines:	1 Turbo Prop
Airframe Total Time:	1139 Hours	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT-6A-114A
Registered Owner:	FEDERAL EXPRESS CORPORATION	Rated Power:	675 hp
Operator:	BARON AVIATION SERVICES, INC.	Air Carrier Operating Certificate:	Air Cargo; On-demand Air Taxi (135)
Operator Does Business As:	FEDERAL EXPRESS	Operator Designator Code:	FDEA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Dawn
Observation Facility, Elevation:	GRI, 1846 ft msl	Observation Time:	0758 CST
Distance from Accident Site:	1 Nautical Miles	Direction from Accident Site:	130°
Lowest Cloud Condition:	Unknown / 0 ft agl	Temperature/Dew Point:	-3° C / -4° C
Lowest Ceiling:	Overcast / 500 ft agl	Visibility	2.5 Miles
Wind Speed/Gusts, Direction:	9 knots, 80°	Visibility (RVR):	0 ft
Altimeter Setting:	29 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	OMAHA, NE (OMA)	Type of Flight Plan Filed:	IFR
Destination:	(GRI)	Type of Clearance:	IFR
Departure Time:	0640 CST	Type of Airspace:	Class D

Airport Information

Airport:	CENTRAL NEBRASKA REGIONAL (GRI)	Runway Surface Type:	Concrete
Airport Elevation:	1846 ft	Runway Surface Condition:	Ice
Runway Used:	31	IFR Approach:	VOR/DME
Runway Length/Width:	6608 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	DAVID C BOWLING	Adopted Date:	05/04/1998
Additional Participating Persons:	JIM SAZAMA; LINCOLN, NE		
Publish Date:			
Investigation Docket:	NTSB accident and incident docket 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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