		NTSB ID: IAD02LA021		Aircraft Registration Number: N207TA	
		Occurrence Date: 12/20/2001		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Lewiston		State ME	Zip Code 04210	Local Time 2000	Time Zone EST
Airport Proximity: On Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer Cessna		Model/Series 208B		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On December 20, 2001, about 2000 eastern standard time, a Cessna 208B, N207TA, was substantially damaged during an aborted takeoff from the Auburn/Lewiston Municipal Airport (LEW), Lewiston, Maine. Teleford Aviation, Inc., doing business as United Parcel Service, operated the airplane. The certificated commercial pilot was not injured. Instrument meteorological conditions existed at the time, for the flight destined for Manchester Airport (MHT), Manchester, New Hampshire. An instrument flight rules flight plan was filed for the cargo flight, conducted under 14 CFR Part 135.</p> <p>According to the pilot, she arrived at the airport at 1915, and performed a preflight inspection of the airplane. Between 1928 and 1935, she loaded the airplane with cargo, then proceeded to remove snow from it by using a ladder and broom. The airplane was re-examined, and found free of any additional contamination. At 1955, the airplane taxied to the run-up area for a before takeoff check. All operational checks were normal and in accordance with limitations. At 1958, the pilot obtained her departure clearance, and was released for departure at 2000. At that time a second contamination check was conducted before she taxied slowly onto the runway due to unplowed conditions.</p> <p>Once on the runway, the pilot back-taxied the full length of runway 04 and used a 10-degree flap setting for departure. The brakes were held, and the throttle was advanced to maximum takeoff limits for final checks. The pilot began the takeoff roll and rotated the airplane when it reached 90 knots. The main wheels lifted off momentarily, then settled back onto the runway.</p> <p>The takeoff was aborted, the power lever was placed in the Beta/Reverse range, and the brakes were applied. The airplane slowed, but continued its slide down the center of the runway. The pilot secured the engine before the airplane overran the departure end of the runway. Once off the runway, right rudder was applied to avoid the localizer antenna. The airplane veered to the right and the left main tire caught anchor cables attached to the antenna. The airplane pivoted to the left, around the backside of the antenna, and came to rest.</p> <p>During a subsequent telephone interview, the pilot added that snow had fallen throughout the preflight inspection, loading, taxi, and takeoff. After she cleaned the snow from the airplane, the surfaces were clear, but remained wet as the snow continued to fall. Before takeoff, the procedure she used was to visually check the leading edges, the cowl, the windscreen, and the struts, which were all clear of contamination. The second contamination check was performed from the cockpit, just prior to taking the runway. Both the preflight and the before-takeoff checks were completed per the Cessna manual.</p> <p>There was about three-quarters of an inch of snow on the runway, and the company operations manual allowed an inch. When the pilot was asked if the runway had been plowed at any time prior to her departure, she answered that it had not been, and that, in fact, it was done after she went back to the terminal. According to the Auburn Fire Department, the runway had not been plowed when they</p>					
FACTUAL REPORT - AVIATION					
					Page 1

National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: IAD02LA021

Occurrence Date: 12/20/2001

Occurrence Type: Accident

## Narrative (Continued)

arrived on scene at 2018.

The pilot stated that she had flown for Teleford Aviation for about 1 year, and that this was her second winter season with the company. She recently completed a winter operations class and had received information from Cessna on the Caravan, as well as additional winter operations knowledge.

The pilot held a commercial pilot certificate with ratings for airplane single engine land, multi-engine land, and instrument airplane. Her most recent second-class medical certificate was issued February 5, 2001. The pilot reported that she had about 1,700 hours of flight experience, 700 hours of which were in the Caravan.

The pilot reported there were no mechanical anomalies with the airplane.

The weather reported at the airport at the time of the accident included a broken ceiling at 100 feet with an overcast layer at 800 feet. Visibility was 1 3/4 miles in light snow. The winds were from 360 degrees at 4 knots.


According to a meteorologist in the Auburn/Lewiston area, 5 inches of snow fell between 1400 on December 20, 2001, and 0700 on December 21, 2001. There was no weather observer at the Lewiston Airport to augment the AWOS system, and snow depth measurements were not available.


According to the Cessna Caravan Cold-Weather Operations Manual:

"No attempt should be made to take off with a load of ice or snow. Ice and snow on the wings will change the shape of the airfoil and disturb the flow of air over the wings, reducing available lift and airspeeds. Do not assume that light snow will melt or blow off during taxi-out or the takeoff run. Even if it does, it may reveal ice or frost beneath."

A review of the company operations manual by Teleford Aviation and the FAA after the accident resulted in new, more stringent de-ice requirements for the flight crews. Included in the new de-icing procedures was the mandatory use of de-icing fluid prior to taxi in freezing precipitation between plus 2 and minus 4 degrees Celsius.

Takeoff performance planning, as well as aborted takeoff criteria considerations for operation on contaminated runways were also added.

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: IAD02LA021			
		Occurrence Date: 12/20/2001			
		Occurrence Type: Accident			
<b>Landing Facility/Approach Information</b>					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Auburn Lewiston Municipal Airp	LEW	288 Ft. MSL	04	5001	100
Runway Surface Type: Asphalt					
Runway Surface Condition: Snow--wet					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
<b>Aircraft Information</b>					
Aircraft Manufacturer		Model/Series		Serial Number	
Cessna		208B		0371	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Tricycle					
Amateur Built Acft? No	Number of Seats: 2	Certified Max Gross Wt.	8950 LBS	Number of Engines: 1	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Prop	Pratt & Whitney	PT6A-114A	675 HP		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
AAIP	11/2001	80.4 Hours	5234.5 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /	ELT Operated? No	ELT Aided in Locating Accident Site? No			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner		Street Address			
Teleford Aviation Inc		189 Odlin Road			
		City	State	Zip Code	
		Bangor	ME	04401	
Operator of Aircraft		Street Address			
Teleford Aviation Inc		189 Odlin Road			
		City	State	Zip Code	
		Bangor	ME	04401	
Operator Does Business As: UPS			Operator Designator Code:		
- Type of U.S. Certificate(s) Held:					
Air Carrier Operating Certificate(s): On-demand Air Taxi					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 135: Air Taxi & Commuter					
Type of Flight Operation Conducted: Non-scheduled; Domestic; Cargo					
FACTUAL REPORT - AVIATION					

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: IAD02LA021
	Occurrence Date: 12/20/2001
	Occurrence Type: Accident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 31
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Sex: F	Seat Occupied: Left	Occupational Pilot?	Certificate Number: On File
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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 Single-engine; Instrument Airplane

Current Biennial Flight Review? 11/2001

Medical Cert.: Class 2	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 02/2001
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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	2029	749	1954	75	658	110	55			
Pilot In Command(PIC)	1950	749		70	655	110	48			
Instructor	1105	2	1105							
Instruction Received										
Last 90 Days	126	126	126		71					
Last 30 Days	67	67	67		11					
Last 24 Hours	2	2	2		1					

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

Type of Flight Plan Filed: IFR

Departure Point Same as Accident/Incident Location	State	Airport Identifier LEW	Departure Time 2000	Time Zone EST
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Destination Manchester	State NH	Airport Identifier MHT	
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Type of Clearance: IFR

Type of Airspace: Unknown

**Weather Information**

Source of Wx Information:

Unknown

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: IAD02LA021
	Occurrence Date: 12/20/2001
	Occurrence Type: Accident

<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
LEW	2055	EST	288 Ft. MSL	0 NM	Deg. Mag.
Sky/Lowest Cloud Condition:				Ft. AGL	Condition of Light: Night/Dark
Lowest Ceiling: Broken		100 Ft. AGL		Visibility: 1.75 SM	Altimeter: 29.54 "Hg
Temperature: 1 °C	Dew Point: -1 °C	Weather Conditions at Accident Site: Instrument Conditions			
Wind Direction: 360		Wind Speed: 4		Wind Gusts:	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration:					

<b>Accident Information</b>		
Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None

- 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					
- GRAND TOTAL -				1	1

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: IAD02LA021

Occurrence Date: 12/20/2001

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

Brian C. Rayner

Additional Persons Participating in This Accident/Incident Investigation:

James Edwards  
Portland, ME

**Brief of Accident**

**Adopted 05/13/2003**

IAD02LA021

File No. 13386

12/20/2001

Lewiston, ME

Aircraft Reg No. N207TA

Time (Local): 20:00 EST

Make/Model: Cessna / 208B  
 Engine Make/Model: Pratt & Whitney / PT6A-114A  
 Aircraft Damage: Substantial  
 Number of Engines: 1  
 Operating Certificate(s): On-demand Air Taxi  
 Name of Carrier: Teleford Aviation Inc  
 Type of Flight Operation: Non-scheduled; Domestic; Cargo  
 Reg. Flight Conducted Under: Part 135: Air Taxi & Commuter

Last Depart. Point: Same as Accident/Incident Location  
 Destination: Manchester, NH  
 Airport Proximity: On Airport/Airstrip  
 Airport Name: Auburn Lewiston Municipal Airp  
 Runway Identification: 04  
 Runway Length/Width (Ft): 5001 / 100  
 Runway Surface: Asphalt  
 Runway Surface Condition: Snow--wet

Condition of Light: Night/Dark  
 Weather Info Src: Weather Observation Facility  
 Basic Weather: Instrument Conditions  
 Lowest Ceiling: 100 Ft. AGL, Broken  
 Visibility: 1.75 SM  
 Wind Dir/Speed: 360 / 004 Kts  
 Temperature (°C): 1  
 Precip/Obscuration:

Crew	Fatal	Serious	Minor/None
Pass	0	0	1
	0	0	0

Pilot-in-Command

Age: 31

Flight Time (Hours)

Certificate(s)/Rating(s)

Flight Instructor; Commercial; Multi-engine Land; Single-engine Land

Total All Aircraft: 2029

Last 90 Days: 126

Total Make/Model: 749

Total Instrument Time: 165

Instrument Ratings

Airplane

Snow fell as the pilot cleared the airplane using a ladder and broom. A pre-takeoff contamination check was also conducted from the cockpit before the airplane taxied onto the snow-covered runway. Once on the runway, the pilot back-taxed its full length and deployed a 10-degree flap setting for departure. The pilot began the takeoff roll and rotated the airplane when it reached 90 knots. The main wheels lifted off momentarily, then settled back on the runway. The takeoff was aborted, but the airplane overran the runway departure end of the runway and collided with the localizer antenna. A post-accident review of the company operations manual by the operator and the Federal Aviation Administration resulted in more stringent de-icing requirements for the flight crews and the addition of takeoff performance planning, as well as aborted takeoff criteria considerations for operations on contaminated runways. Included in the new de-icing procedures was the mandatory use of de-icing fluid prior to taxi in freezing precipitation with outside air temperatures between plus 2 and minus 4 degrees Celsius.

Brief of Accident (Continued)

IAD02LA021

File No. 13386

12/20/2001

Lewiston, ME

Aircraft Reg No. N207TA

Time (Local): 20:00 EST

Occurrence #1: OVERRUN

Phase of Operation: TAKEOFF - ABORTED

Findings

1. (F) WEATHER CONDITION - SNOW
2. PROPER CLIMB RATE - NOT ATTAINED - PILOT IN COMMAND
3. (F) PROCEDURE INADEQUATE - COMPANY/OPERATOR MANAGEMENT
4. WING - CONTAMINATION
5. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND

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Occurrence #2: OVERRUN

Phase of Operation: TAKEOFF - ABORTED

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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: TAKEOFF - ABORTED

Findings Legend: (C) = Cause, (F) = Factor

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The National Transportation Safety Board determines the probable cause(s) of this accident as follows.  
The pilot's failure to adequately ensure the wings were free of contamination prior to departure. Factors included the operator's inadequate de-icing procedures and the snowy weather conditions.