



National Transportation Safety Board Aviation Accident Final Report

Location:	NORWOOD, MA	Accident Number:	BF094LA045
Date & Time:	02/21/1994, 1750 EST	Registration:	N777JM
Aircraft:	PIPER PA-31T	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 4 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

THE FLIGHTCREW WAS ADVISED PRIOR TO INITIATING THE APPROACH THAT VISIBILITY AT THE AIRPORT HAD DECREASED TO 1/8 MI WITH LIGHT RAIN, FOG AND OBSCURATION. PUBLISHED LANDING VISIBILITY MINIMUMS FOR THE APPROACH WAS 1 MI. THE 150-FT WIDE RUNWAY HAD BEEN PLOWED 100 FT WIDE, AND THERE WERE SNOWBANKS UP TO 3 FT HIGH ON BOTH SIDES. THE AIRPLANE TOUCHED DOWN ON THE UNPLOWED PORTION OF THE RUNWAY ONTO A SNOWBANK, COLLAPSING THE LANDING GEAR. THE FLIGHTCREW STATED THAT THE APPROACH LIGHTS AND RUNWAY WERE IN SIGHT DURING THE ENTIRE APPROACH, AND THAT THE SECOND PILOT TOLD THE PIC THAT HE WAS TOO FAR LEFT AND NEEDED TO CORRECT TO THE RIGHT AS THE AIRPLANE WAS ABOUT TO TOUCH DOWN. THE TOWER CONTROLLER STATED THAT HE LOST SIGHT OF THE AIRPLANE AS IT LANDED DUE TO FOG.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S FAILURE TO ATTAIN ALIGNMENT WITH THE CENTERLINE OF THE RUNWAY, AND HIS FAILURE TO EXECUTE A MISSED APPROACH. FACTORS WHICH CONTRIBUTED TO THE ACCIDENT WERE: THE DARK NIGHT, THE PILOT'S IMPROPER DECISION TO INITIATE THE APPROACH IN BELOW-MINIMUM WEATHER CONDITIONS, THE ADVERSE WEATHER, AND THE SNOW COVERED RUNWAY.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - BELOW APPROACH/LANDING MINIMUMS
3. (F) IFR PROCEDURE - IMPROPER - PILOT IN COMMAND
4. (F) WEATHER CONDITION - FOG
5. (F) WEATHER CONDITION - OBSCURATION
6. (F) AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION - SNOW COVERED
7. (C) PROPER ALIGNMENT - NOT ATTAINED - PILOT IN COMMAND
8. (C) MISSED APPROACH - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: MAIN GEAR COLLAPSED

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

9. LANDING GEAR - OVERLOAD

Factual Information

On February 21, 1994, about 1750 hours eastern standard time, N777JM, a Piper PA-31T, being operated by Eastern Air Charter, Inc., Norwood, Massachusetts, struck a snowbank during landing at the Norwood Memorial Airport and was substantially damaged. The captain, first officer, and two of the three passengers were not injured. The third passenger received minor injuries. Instrument meteorological conditions prevailed and a instrument flight rules (IFR) flight plan was filed. The on-demand, air taxi lifeguard flight departed from Bangor, Maine, at 1637 hours and was conducted under 14 CFR 135.

According to a medical doctor on board the flight, the purpose of the flight was to provide immediate ambulatory transportation of an infant who was in respiratory distress at the Eastern Maine Medical Center, Bangor, Maine. It was requested that the infant be flown to Norwood and then transported via ground transportation to the Massachusetts General Hospital, Boston, Massachusetts.

The medical doctor, who was working at the Massachusetts General Hospital at the time, was told to contact an air ambulance service at the Norwood Memorial Airport to arrange for transport. The doctor and a nurse later arrived at the airport and were met by the pilot-in-command (PIC) and second-in-command (SIC). The four occupants boarded the airplane and departed for Bangor about 1330 hours.

The flight arrived in Bangor about 1430 hours. About 1630 hours, the infant was placed in an airborne isolette and secured in the aircraft. The medical doctor stated that he asked the PIC about the weather conditions for the flight back to Norwood, and the PIC responded that there were "clear skies from Bangor to Boston" and a "little" fog around the Boston area, but that it was be safe to proceed.

The flightcrew stated that they received a weather briefing from the Bangor Flight Service Station (FSS) prior to the accident flight to Norwood. The FAA did not provide evidence of a weather briefing from the Bangor FSS; however, the Bridgeport Automated FSS reported that the flightcrew had obtained a weather briefing for the previous flight from Norwood to Bangor at 1255 hours.

At 1633 hours, an IFR clearance was requested by the flightcrew through the Bangor Air Traffic Control Tower. A clearance from Bangor to Norwood was granted. At 1637 hours, the flight was cleared for takeoff.

At 1650 hours, an individual using the same callsign at the accident airplane called the Bridgeport Automated FSS from a telephone line in Norwood and requested a weather briefing for the Boston area. The individual identified himself; the name did not match either of the names for the flightcrew of the accident flight.

According to the FAA Report of Aircraft Accident, at 1736 hours, N777JM was advised by Boston Approach Control to expect the Localizer Runway 35 approach at Norwood. N777JM advised that they had the current Norwood Automated Terminal Information Service (ATIS) at that time. The ATIS reported an estimated ceiling of 4,000 feet overcast and a visibility of one mile with light rain and fog.

At 1737 hours, Boston Approach Control advised N777JM that the visibility at Norwood had decreased to 1/8 mile with light rain and fog. N777JM acknowledged. The airplane was 15

miles from Norwood at the time. At 1738 hours, Boston Approach Control again advised N777JM of the latest weather information at Norwood. This information included a visibility of 1/8 mile with light rain and fog and a partially obscured sky. N777JM acknowledged.

At 1742 hours, Boston Approach Control cleared N777JM for the Localizer Runway 35 approach. The airplane was 6 miles from the final approach fix at this time. At 1744 hours, Boston Approach Control instructed N777JM to change radio frequencies to the Norwood Air Traffic Control Tower. At 1746 hours, N777JM reported over the final approach fix; Norwood Tower cleared the airplane to land.

According to the Tower Controller:

I had the aircraft in sight and cleared him to land. The visibility was 1/8 of a mile with light rain and fog but I could see the aircraft's landing lights through the fog. The aircraft appeared to make a normal approach. After observing the aircraft over the approach end of the runway, I observed the aircraft's lights bounce up and down and I soon lost sight of the arrival due to the fog.

At 1751 hours, N777JM informed Norwood Tower that they were disabled on the runway.

According to the PIC and SIC, the approach lights and runway were "in sight" during the entire approach. As the airplane flared for landing, the SIC told the PIC that they were "too far left, come right more right." The left main landing gear impacted a snowbank on the west edge of the runway which yawed the nose left. The left gear collapsed and the airplane came to rest. All of the occupants were evacuated safely and an ambulance arrived to pick up the infant. No pre-impact mechanical malfunctions with the airplane were reported.

According to an FAA Aviation Safety Inspector, the on-scene investigation revealed that the left wing of the airplane was "destroyed," and the left main gear and nose gear were sheered off. The investigation also revealed that "the aircraft nose gear touched down 56 feet to the left of the [runway] centerline (6 feet into the snow). The runway was plowed 100 feet wide and the snow bank was measured at 2 feet 2 inches."

The FAA inspector also reported that the initial snow scars were found about 1,000 feet from the approach end of runway 35 on the west edge of the runway. The airplane came to rest off the eastern edge of the runway, facing east, about 1,000 feet from the initial snow scar.

The PIC held an airline transport pilot certificate with ratings for single and multiengine instrument, and had reported 14,800 hours of total flight time, including 2,000 hours in type. He had been employed by the company since October 1987. The SIC held a commercial pilot certificate with ratings for single and multiengine instrument airplane and reported a total of 950 hours, including 40 hours in type.

Runway 35 is 4,007 feet in length and 150 feet in width. At the time of the accident, the runway was plowed along its full length and 100 feet wide with snowbanks up to three feet in height. This information was available to the crew via the ATIS.

A flight and ground inspection of the localizer, compass locators, marker beacons, and runway lighting system was conducted by the FAA following the accident. No discrepancies were noted.

According to Federal Aviation Regulation Part 135.225, paragraph (b):

No pilot may begin the final approach segment of an instrument approach procedure to

an airport unless the latest weather reported by the facility . . . indicates that weather conditions are at or above the authorized IFR landing minimums for that procedure.

According to the published terminal procedures for the Localizer Runway 35 approach at Norwood, the landing minimums include a visibility of one statute mile.

Pilot Information

Certificate:	Airline Transport	Age:	50, 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):	Airplane Single-engine; None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	08/02/1993
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	14800 hours (Total, all aircraft), 2000 hours (Total, this make and model), 12800 hours (Pilot In Command, all aircraft), 60 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N777JM
Model/Series:	PA-31T PA-31T	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	31T-7820064
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	11/19/1994, Continuous Airworthiness	Certified Max Gross Wt.:	9050 lbs
Time Since Last Inspection:	27 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	5466 Hours	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A-28
Registered Owner:	EASTERN AIR CHARTER, INC.	Rated Power:	680 hp
Operator:	EASTERN AIR CHARTER, INC.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	FRKA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	OWD, 50 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1750 EST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	0.12 Miles
Lowest Ceiling:	Obscured / 200 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	8° C
Precipitation and Obscuration:			
Departure Point:	BANGOR, ME (BGR)	Type of Flight Plan Filed:	IFR
Destination:	, MA (OWD)	Type of Clearance:	IFR
Departure Time:	1700 EST	Type of Airspace:	Class D; Class E

Airport Information

Airport:	NORWOOD MEMORIAL (OWD)	Runway Surface Type:	Asphalt
Airport Elevation:	50 ft	Runway Surface Condition:	Wet
Runway Used:	35	IFR Approach:	Localizer Only
Runway Length/Width:	4007 ft / 150 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor, 2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 4 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JEFFREY B GUZZETTI,	Report Date:	04/12/1995
Additional Participating Persons:	SUSAN M TRASK; BEDFORD, MA		
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](#).