
Turbulence injury, Bombardier DHC-8-102, September 27, 1998

Micro-summary: This DHC-8-102 experienced severe turbulence, seriously injuring a flight attendant and causing airframe damage.


Event Date: 1998-09-27 at 2104 EDT

Investigative Body: National Transportation Safety Board (NTSB), USA

Investigative Body's Web Site: <http://www.nts.gov/>

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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC98LA193		Aircraft Registration Number: N810EX	
		Occurrence Date: 09/27/1998		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place ISLIP		State NY	Zip Code 11751	Local Time 2104	Time Zone EDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility: 9		Direction From Airport: 50	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series DHC-8-102		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
<p>On September 27, 1998, at 2104 Eastern Daylight Time, an Allegheny Airlines Boeing DHC-8-102, N810EX, operating as USAirways Express flight 3977, received minor damage when it encountered turbulence during an approach to Long Island MacArthur Airport (ISP), Islip, New York. The 2 pilots and 22 passengers were uninjured. One additional passenger received minor injuries, and the flight attendant was seriously injured. Visual meteorological conditions prevailed during the nighttime event. The scheduled passenger flight was operating on an instrument flight rules flight plan and originated from Philadelphia International Airport (PHL), Philadelphia, Pennsylvania. The flight was being conducted under 14 CFR Part 121.</p> <p>According to the pilots, the flight was being vectored for the ILS Runway 24 approach. The airplane was on a downwind leg, at 3,000 feet, about 8 nautical miles northeast of the airport, when it encountered severe turbulence. Afterwards, several unsuccessful attempts were made to contact the flight attendant. The airplane landed, and just prior to parking, a non-company flight attendant, riding as a passenger, informed the pilots that the on-duty flight attendant was injured.</p> <p>The injured flight attendant later told a Federal Aviation Administration (FAA) Inspector that she had just completed her pre-landing walk-through, when she "felt a jolt send her up into the exit sign. A second jolt sent her into the galley area, followed by a third jolt that sent her to the floor of the aircraft." The flight attendant also stated that during the crew brief before the flight, she was told that thunderstorm activity was possible in the New York area. However, the flight had been smooth prior to the turbulence event.</p> <p>The injured passenger stated to the Inspector that the flight was uneventful until 5 minutes before landing, when "suddenly, the aircraft made a violent up and down motion, followed by three other similar motions."</p> <p>The FAA Inspector stated that, according to airport tower controllers, there were no other aircraft in the area when the turbulence occurred. Weather at MacArthur Airport, about 15 minutes prior to the event, included winds from 280 degrees magnetic, at 4 knots, with a visibility of 4 statute miles in haze, and a broken cloud layer at 10,000 feet above ground level. The captain stated that the airplane's weather radar had been set to a 20-mile scale, and showed some thunderstorms north of the airport.</p> <p>The airplane's flight data recorder revealed that during the approach to MacArthur Airport, there was a gradual increase in vertical accelerations during a 15-second period. During the next 15 seconds, there were a series of jolts, with four vertical accelerations measuring approximately 2.0 positive g's, while three registered 0.5 negative g's. Vertical accelerations continued during the next 75 seconds, with eight exceeding 1.5 positive g's, and two registering about 0.0 g. Lateral and longitudinal accelerations were also noted, and corresponded in time with the vertical</p>					
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**FACTUAL REPORT
AVIATION**




NTSB ID: NYC98LA193


Occurrence Date: 09/27/1998

Occurrence Type: Accident

Narrative (Continued)

accelerations.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC98LA193				
		Occurrence Date: 09/27/1998				
		Occurrence Type: Accident				
Landing Facility/Approach Information						
Airport Name LONG ISLAND MACARTHUR		Airport ID: ISP	Airport Elevation 99 Ft. MSL	Runway Used 24	Runway Length 7002	Runway Width 150
Runway Surface Type: Asphalt						
Runway Surface Condition:						
Type Instrument Approach: Visual						
VFR Approach/Landing: Full Stop						
Aircraft Information						
Aircraft Manufacturer Boeing		Model/Series DHC-8-102		Serial Number 308		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats: 39	Certified Max Gross Wt. 34800 LBS		Number of Engines: 2	
Engine Type: Turbo Prop		Engine Manufacturer: P&W		Model/Series: PW120A	Rated Power: 2000 HP	
- Aircraft Inspection Information						
Type of Last Inspection Continuous Airworthiness		Date of Last Inspection 07/1998	Time Since Last Inspection 342 Hours		Airframe Total Time 17176 Hours	
- Emergency Locator Transmitter (ELT) Information						
ELT Installed? Yes		ELT Operated?		ELT Aided in Locating Accident Site?		
Owner/Operator Information						
Registered Aircraft Owner ALLEGHENY AIRLINES		Street Address 1000 ROSEDALE AVENUE				
		City MIDDLETOWN		State PA	Zip Code 17057	
Operator of Aircraft Same as Reg'd Aircraft Owner		Street Address Same as Reg'd Aircraft Owner				
		City		State	Zip Code	
Operator Does Business As: USAIRWAYS EXPRESS				Operator Designator Code:		
- Type of U.S. Certificate(s) Held:						
Air Carrier Operating Certificate(s): Flag Carrier/Domestic						
Operating Certificate:			Operator Certificate:			
Regulation Flight Conducted Under: Part 121: Air Carrier						
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger Only						
FACTUAL REPORT - AVIATION						

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: NYC98LA193
	Occurrence Date: 09/27/1998
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 42
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport; Flight Instructor; Flight Engineer

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Multi-engine; Airplane Single-engine; Instrument Airplane

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 08/1998
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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	7000	2000	900	6100	1300	850	525			
Pilot In Command(PIC)	4300	1200	700	3600	800	600	50			
Instructor	500		470	30	200	100				
Last 90 Days	202	202		202	17	21	1			
Last 30 Days	76	76		76	20	8				
Last 24 Hours	4	4		4	2					

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

Type of Flight Plan Filed: IFR

Departure Point PHILADELPHIA	State PA	Airport Identifier PHL	Departure Time 2106	Time Zone EDT
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Destination Same as Accident/Incident Location	State	Airport Identifier ISP	
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Type of Clearance: IFR

Type of Airspace: Class C

Weather Information

Source of Briefing:
Company

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
ISP	2045	EDT	99 Ft. MSL	9 NM	230 Deg. Mag.
Sky/Lowest Cloud Condition: Unknown			0 Ft. AGL	Condition of Light: Night/Dark	
Lowest Ceiling: Broken		10000 Ft. AGL		Visibility: 4 SM	Altimeter: 29.00 "Hg
Temperature: 24 °C	Dew Point: 20 °C	Wind Direction: 280		Density Altitude: 1150 Ft.	
Wind Speed: 4	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility: Haze					
Type of Precipitation: None					

Accident Information		
Aircraft Damage: Minor	Aircraft Fire: None	Aircraft Explosion: None

Classification: U.S. Registered/U.S. Soil					
- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants		1			1
Other Crew					
Passengers			1	22	23
- TOTAL ABOARD -		1	1	24	26
Other Ground	0	0	0		0
- GRAND TOTAL -	0	1	1	24	26

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: NYC98LA193

Occurrence Date: 09/27/1998

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

PAUL R. COX

Additional Persons Participating in This Accident/Incident Investigation:

THOMAS MCMANUS
FAA/FSDO
FARMINGDALE, NY