

---

## Turbulence injuries, Boeing 767-332ER, September 20, 2000

---

**Micro-summary:** This Boeing 767-332ER was descending when it encountered turbulence, causing serious injuries.

---

**Event Date:** 2000-09-20 at 1745 EDT


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

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

---

### **Cautions:**

1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).
  2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***
  3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.
  4. Contact us before reproducing or redistributing a report from this anthology. Individual countries have very differing views on copyright! We can advise you on the steps to follow.
-

		NTSB ID: MIA00LA267		Aircraft Registration Number: N172DZ	
		Occurrence Date: 09/20/2000		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place ATLANTA		State GA	Zip Code 30320	Local Time 1745	Time Zone EDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 767-332ER		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 20, 2000, about 1745 eastern daylight time, a Boeing 767-332ER, N172DZ, call sign DAL1581, owned and operated by Delta Airlines Inc., encountered turbulence in clouds over Dublin, Georgia. Visual meteorological conditions prevailed at the time, and an instrument flight plan was filed for the 14 CFR Part 121 scheduled domestic flight. The airplane was not damaged. The flightcrew of two reported no injuries. Three flight attendant (F/A) reported serious injuries. Four flight attendants reported minor injuries. Thirteen passengers reported minor injuries, and 228 passengers reported no injuries. The flight had departed Fort Lauderdale, Florida, en route to Atlanta, Georgia, at 1625.</p> <p>The flight was descending out of FL290, when it encountered severe turbulence. The first officer (F/O) was the pilot flying at the time, the speed brakes were extended, the airspeed was 290 knots, and weather radar was in use, with no indications of conditions associated with turbulence. There were no reports of turbulence from either air traffic control (ATC), or other aircraft. The seat belt sign was "ON" for 10 minutes prior to the accident.</p> <p>According to Delta Airlines, at the time of the accident the flight attendants were in the galleys and aisles performing cabin duties associated with the beginning of descent. When the turbulence was encountered, they were thrown initially upward, and then deposited into various positions on the floor and seats. Passengers who had not fastened their seat belts were also thrown vertically upward, and then back down.</p> <p>The flightcrew reported the event to ATC, declared a medical emergency, and requested direct routing to Atlanta. The flight was provided priority handling for landing, and landed at Atlanta without further incident.</p> <p>The Survival Factors Group on October 26, 2000, in Fort Lauderdale, Florida interviewed five of the seven flight attendants on board the accident flight. Two flight attendants were interviewed via telephone conference calls in November 2000.</p> <p>According to the F/A that was identified as the On Board Leader (OBL), Door 1L jump seat (aft facing), stated that the flight had encountered "a little chop" while climbing. The "fasten seatbelt" sign was off until they encountered an area of moderate chop when the "fasten seatbelt" sign came on and the captain made an announcement. The sign did not go out for the remainder of the flight. The flight attendants had just finished the beverage service and he walked to the back of the airplane where the galley carts were being restocked. He was walking forward from the galley in the left aisle with several sodas and was checking seatbelt compliance when the airplane "buffeted for 4-6 seconds." He looked for an empty seat to sit in, but there were none as this was a full flight. He was "thrown upward and hit the ceiling and came straight down laying across the middle seats." He stated that three male passengers caught him as he fell.</p>					
FACTUAL REPORT - AVIATION					
					Page 1

National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: MIA00LA267


Occurrence Date: 09/20/2000


Occurrence Type: Accident

## Narrative (Continued)

Passengers began ringing the F/A call buttons, and a passenger came up from the back of the airplane and told him that the three flight attendants in the aft galley were "pretty badly hurt." He picked up the P/A and made an announcement to the passengers that medical assistance was needed in the back of the airplane. He walked to the aft galley and called the cockpit to describe the situation. He saw one cart overturned, but did not remember seeing a second cart. There were items from the cart scattered about. There was "a nurse, a doctor, a few others with medical experience, and an ex-Continental flight attendant attending to the injured flight attendants." He told the cockpit crew that they would need medical assistance to meet the plane. The doctor told him to request that four ambulances meet the airplane. He provided the doctor and nurses the medical kit from the cockpit as well as first aid kits from the cabin.

Five flight attendants and three passengers were transported to Southern Regional Hospital, South Fulton Medical Center, and Atlanta Medical Center for their injuries. The flight attendants' self-reported injuries are included in their interview summaries (See Survival Factors Group Chairman's Report an attachment to this report).

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: MIA00LA267			
		Occurrence Date: 09/20/2000			
		Occurrence Type: Accident			
<b>Landing Facility/Approach Information</b>					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used 0	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Type Instrument Approach: ILS-complete; Visual					
VFR Approach/Landing: Full Stop					
<b>Aircraft Information</b>					
Aircraft Manufacturer Boeing		Model/Series 767-332ER		Serial Number 29691	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 267	Certified Max Gross Wt.	407000 LBS	Number of Engines: 2	
Engine Type: Turbo Fan	Engine Manufacturer: GE	Model/Series: CF6-80C2	Rated Power: 60800 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 09/2000	Time Since Last Inspection 146 Hours	Airframe Total Time 3952 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner DELTA AIRLINES INC.		Street Address HARTSFIELD ATL INTNAL DEPT 509			
		City ATLANTA	State GA	Zip Code 30320	
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: DELTA AIRLINES INC.			Operator Designator Code: DALA		
- 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					

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: MIA00LA267
	Occurrence Date: 09/20/2000
	Occurrence Type: Accident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 56
-----------------	-----------------	------------------	--------------------------	-----------

Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
--------	---------------------	--------------------------------------	-----------------------------

Certificate(s): Airline Transport

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

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review?
---	---------------------------------

Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 04/2000
------------------------	--	------------------------------------

- 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	9875	2293								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	141	141								
Last 30 Days										
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
--------------------	----------------------------	--------------------------	-------------------

**Flight Plan/Itinerary**

Type of Flight Plan Filed: IFR

Departure Point FORT LAUDERDALE	State FL	Airport Identifier FLL	Departure Time 1625	Time Zone EDT
------------------------------------	-------------	---------------------------	------------------------	------------------

Destination Same as Accident/Incident Location	State	Airport Identifier ATL	
---	-------	---------------------------	--


Type of Clearance: IFR

Type of Airspace: Class A

**Weather Information**

Source of Briefing:  
Company

Method of Briefing:

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>	NTSB ID: MIA00LA267
	Occurrence Date: 09/20/2000
	Occurrence Type: Accident

<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
WRB	1755	EDT	295 Ft. MSL	5 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			0 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		0 Ft. AGL		Visibility: 7 SM	Altimeter: 29.00 "Hg
Temperature: 86 °C	Dew Point: 72 °C	Wind Direction: 170		Density Altitude: Ft.	
Wind Speed: 8	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility: None					
Type of Precipitation: None					

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

Classification: U.S. Registered/U.S. Soil					
<b>- Injury Summary Matrix</b>	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants		3	4		7
Other Crew					
Passengers			13	228	241
- TOTAL ABOARD -		3	17	230	250
Other Ground	0	0	0		0
- GRAND TOTAL -	0	3	17	230	250

--	--

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: MIA00LA267

Occurrence Date: 09/20/2000

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

ALAN J. YURMAN

Additional Persons Participating in This Accident/Incident Investigation:

LARRY SMITH  
ATLANTA FSDO  
ATLANTA, GA 30320