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## Turbulence injuries, Boeing 727-200, March 16, 1995

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**Micro-summary:** This Boeing 727-200 experienced clear air turbulence in cruise, injuring several people.

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**Event Date:** 1995-03-16 at 1435 EST

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


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

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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.
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		NTSB ID: ATL95LA062		Aircraft Registration Number: N295WA	
		Occurrence Date: 03/16/1995		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place ALMA	State GA	Zip Code 31510	Local Time 1435	Time Zone EST	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer BOEING		Model/Series 727-200		Type of Aircraft Airplane	
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 March 16, 1995, at 1435 eastern standard time, a Boeing 727-200, N295AW, operated as Delta Airlines Flight 1269, encountered severe clear air turbulence at 37,000 feet, while enroute to Atlanta, Georgia, from Nassau, Bahamas. The scheduled, domestic passenger flight operated under the provisions of 14 CFR Part 121 with an instrument flight plan filed and activated. Visual weather conditions prevailed at the time of the accident. The aircraft was not damaged. Four flight crew members and 132 passengers were not injured; 7 passengers and one flight attendant received minor or serious injuries. The flight departed Nassau at 1334 hours.</p> <p>According to the flight crew, they had completed two previous flights that day without incident. They departed Nassau, Bahamas (NAS) enroute to Atlanta, Georgia (ATL). They had experienced light "chop" at FL330 throughout the arrival into NAS, and had requested a higher altitude of 37,000 feet for this flight. The first officer stated that they had experienced steady turbulence until reaching an altitude of 35,000 feet. After passing this altitude the turbulence subsided to "light chop". The fasten seat belt light was on, due to the turbulence they had previously experienced.</p> <p>Atlanta Air Route Traffic Control Center informed the crew of a pilot report from a Boeing 737 that had experienced severe turbulence at FL330 well south west of their position. The first officer was flying the aircraft. He stated that they were in visual meteorological conditions (VMC) at FL370. The undercast below the aircraft was a fairly uniform composition. No towering cumulus clouds, or other build ups were noted. The weather radar on board the aircraft did not indicate any possible hazards for their route into ATL.</p> <p>Between 1435:31.42 and 1435:31.45, without warning, the airplane rolled 52.2 degrees right and 58.9 degrees left. The vertical acceleration reached a maximum of 1.93 "g" and a minimum vertical acceleration of -0.80 "g" within the same time interval. The captain retarded the throttles and the first officer grasped the yoke with both hands, as the aircraft descended into a haze layer. Heavy buffeting continued until the aircraft descended below the haze layer. The wings were then near level attitude. The captain advanced the throttles as the first officer brought the nose of the aircraft back up level with the horizon and disengaged the autopilot. During the entire sequence, the aircraft lost approximately 1,500 feet of altitude.</p> <p>After the flight crew regained control of the airplane, the cabin crew reported that several passengers and one flight attendant were injured. The medical examinations disclosed that the passenger in seat number 32B was seriously injured, and did not have his seat belt fastened when the aircraft encountered the turbulence.</p>					
FACTUAL REPORT - AVIATION					




 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: ATL95LA062			
		Occurrence Date: 03/16/1995			
		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: NONE					
VFR Approach/Landing: None					
<b>Aircraft Information</b>					
Aircraft Manufacturer BOEING		Model/Series 727-200		Serial Number 22532	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 153	Certified Max Gross Wt.	191000 LBS	Number of Engines: 3	
Engine Type: Turbo Fan	Engine Manufacturer: P&W	Model/Series: JT8D-15	Rated Power: 15500 LBS		
<b>- Aircraft Inspection Information</b>					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 03/1995	Time Since Last Inspection 80 Hours	Airframe Total Time 42820 Hours		
<b>- Emergency Locator Transmitter (ELT) Information</b>					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
<b>Owner/Operator Information</b>					
Registered Aircraft Owner  DELTA AIR LINES		Street Address HARTSFIELD INTL AIRPORT			
		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:			Operator Designator Code: DALA		
<b>- Type of U.S. Certificate(s) Held:</b>					
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/Cargo					
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		Occurrence Type: Accident																																																																																			
<b>First Pilot Information</b>																																																																																					
Name		City		State	Date of Birth	Age																																																																															
On File		On File		On File	On File	52																																																																															
Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot		Certificate Number: On File																																																																																	
Certificate(s): Airline Transport																																																																																					
Airplane Rating(s): Multi-engine Land																																																																																					
Rotorcraft/Glider/LTA: None																																																																																					
Instrument Rating(s): None																																																																																					
Instructor Rating(s):																																																																																					
Type Rating/Endorsement for Accident/Incident Aircraft? Yes				Current Biennial Flight Review?																																																																																	
Medical Cert.: Class 1		Medical Cert. Status: Valid Medical--no waivers/lim.		Date of Last Medical Exam: 12/1994																																																																																	
<table border="1"> <tr> <th rowspan="2">- Flight Time Matrix</th> <th rowspan="2">All A/C</th> <th rowspan="2">This Make and Model</th> <th rowspan="2">Airplane Single Engine</th> <th rowspan="2">Airplane Multi-Engine</th> <th rowspan="2">Night</th> <th colspan="2">Instrument</th> <th rowspan="2">Rotorcraft</th> <th rowspan="2">Glider</th> <th rowspan="2">Lighter Than Air</th> </tr> <tr> <th>Actual</th> <th>Simulated</th> </tr> <tr> <td>Total Time</td> <td>14000</td> <td>8000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot In Command(PIC)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td></td> <td>120</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td></td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							- 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	14000	8000									Pilot In Command(PIC)											Instructor											Last 90 Days		120									Last 30 Days											Last 24 Hours		8								
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Seatbelt Used? Yes		Shoulder Harness Used? Yes		Toxicology Performed? No		Second Pilot? Yes																																																																															
<b>Flight Plan/Itinerary</b>																																																																																					
Type of Flight Plan Filed: IFR																																																																																					
Departure Point		State	Airport Identifier	Departure Time	Time Zone																																																																																
NASSAU		BI	NAS	1335	AST																																																																																
Destination		State	Airport Identifier																																																																																		
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Type of Clearance: None																																																																																					
Type of Airspace: Class A																																																																																					
<b>Weather Information</b>																																																																																					
Source of Briefing: National Weather Service																																																																																					
Method of Briefing:																																																																																					



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		Occurrence Date: 03/16/1995			
		Occurrence Type: Accident			


<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
AMG	1452	EDT	200 Ft. MSL	15 NM	320 Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			1000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Broken		2500 Ft. AGL		Visibility: 7 SM	Altimeter: 30.00 "Hg
Temperature: 21 °C	Dew Point: 4 °C	Wind Direction: 4			Density Altitude: Ft.
Wind Speed: 7	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					

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer				1	1
Cabin Attendants					
Other Crew					
Passengers		1	5	129	135
- TOTAL ABOARD -		1	5	132	138
Other Ground	0	0	0		0
- GRAND TOTAL -	0	1	5	132	138

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	Occurrence Date: 03/16/1995	
	Occurrence Type: Accident	
<b>Administrative Information</b>		
<p>Investigator-In-Charge (IIC)</p> <p>PHILLIP POWELL,</p>		
<p>Additional Persons Participating in This Accident/Incident Investigation:</p> <p>LEONARD BLANTON 1701 COLUMBIA AVE COLLEGE PARK, GA 30337</p>		
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