Aviation Investigation Final Report

Location:	ALMA, Georgia	**Accident Number:**	ATL95LA062
Date & Time:	March 16, 1995, 14:35 Local	**Registration:**	N295WA
Aircraft:	BOEING 727-200	**Aircraft Damage:**	None
Defining Event:		**Injuries:**	1 Serious, 5 Minor, 132 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

WHILE EN ROUTE FROM NASSAU, BAHAMAS TO ATLANTA, GEORGIA THE DOMESTIC PASSENGER FLIGHT, A BOEING 727-200, ENCOUNTERED CLEAR AIR TURBULENCE AT FL370. THE AIRCRAFT HAD EXPERIENCE LIGHT CHOP PRIOR TO REACHING FL370, AND THE FASTEN SEAT BELT SIGN WAS ILLUMINATED. VISUAL METEOROLOGICAL CONDITIONS EXISTED AT FL370, AND THE CREW HAD NO INDICATION THAT THEY MAY ENCOUNTER ANY SEVERE TURBULENCE. BETWEEN 1435:31.42 AND 1435:31.45, WITHOUT WARNING, THE AIRCRAFT ROLLED 52.2 DEGREES RIGHT AND 58.9 DEGREES LEFT. THE VERTICAL ACCELERATION REACHED A MAXIMUM OF 1.93 'G' AND A MINIMUM OF -0.80 'G' WITHIN THE SAME TIME INTERVAL. THE AIRCRAFT LOST 1,500 FEET IN ALTITUDE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE AIRCRAFT'S ENCOUNTER WITH UNFORECAST CLEAR AIR TURBULENCE.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings
1. (C) WEATHER CONDITION - TURBULENCE,CLEAR AIR

Factual Information

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.

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.

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.

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.

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.

Pilot Information

Certificate:	Airline transport	**Age:**	52,Male
Airplane Rating(s):	Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	December 31, 1994
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	14000 hours (Total, all aircraft), 8000 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	BOEING	**Registration:**	N295WA
Model/Series:	727-200 727-200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Transport	**Serial Number:**	22532
Landing Gear Type:	Retractable - Tricycle	**Seats:**	153
Date/Type of Last Inspection:	March 5, 1995 Continuous airworthiness	**Certified Max Gross Wt.:**	191000 lbs
Time Since Last Inspection:	80 Hrs	**Engines:**	3 Turbo fan
Airframe Total Time:	42820 Hrs	**Engine Manufacturer:**	P&W
ELT:	Not installed	**Engine Model/Series:**	JT8D-15
Registered Owner:	DELTA AIR LINES	**Rated Power:**	15500 Lbs thrust
Operator:		**Operating Certificate(s) Held:**	Flag carrier (121)
Operator Does Business As:		**Operator Designator Code:**	DALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	AMG ,200 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	14:52 Local	**Direction from Accident Site:**	320°
Lowest Cloud Condition:	Scattered / 1000 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	Broken / 2500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	4°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	21°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	NASSAU (NAS)	**Type of Flight Plan Filed:**	IFR
Destination:	ATLANTA (ATL)	**Type of Clearance:**	None
Departure Time:	13:35 Local	**Type of Airspace:**	Class A

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	3 None	**Aircraft Damage:**	None
Passenger Injuries:	1 Serious, 5 Minor, 129 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 5 Minor, 132 None	**Latitude, Longitude:**	31.539216,-82.470123(est)

Administrative Information

Investigator In Charge (IIC):	Powell, Phillip
Additional Participating Persons:	LEONARD BLANTON; COLLEGE PARK , GA
Original Publish Date:	October 13, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=3531