



Aviation Investigation Final Report

Location:	Atlanta, Georgia	Accident Number:	DCA13CA128
Date & Time:	July 12, 2013, 05:38 Local	Registration:	N863DA
Aircraft:	Boeing 777-232	Aircraft Damage:	None
Defining Event:	Turbulence encounter	Injuries:	1 Serious, 278 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

According to the flight and cabin crew statements, Atlanta Approach Control advised the crew that radar was showing an area of rain on the arrival route although the flight crew did not see any areas of precipitation on the airborne weather radar. During the descent to 11,000 feet the seatbelt sign was illuminated and the captain, who was the pilot monitoring, cycled the seatbelt sign and called the flight attendant (FA) at the 1L door via the interphone to notify the cabin crew to be seated. Before the 1L flight attendant was able to relay the message to all of the FAs to be seated, as they were all preparing the cabin for arrival, the airplane encountered several distinct jolts of turbulence. According to the flight data recorder data, as the airplane was descending through about 13,200 feet, the vertical acceleration fluctuated between +1.56 g's and +0.024 g's over a period of about 10 seconds.

During the turbulence the 4Rc FA who was in the aisle near the 3R door was lifted into the air and fell back down to the floor on her feet and knees. The FA was assisted to the 3R jumpseat, the flight crew was notified of the injury, and they requested paramedics meet the airplane upon arrival.

The 4Rc FA was transported to the hospital where she was diagnosed with two broken ankles.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Unexpected encounter with convective turbulence while the flight attendants were preparing the cabin for arrival.

Findings

Environmental issues

Convective turbulence - Effect on personnel

Factual Information

History of Flight

Enroute-descent	Turbulence encounter (Defining event)
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Pilot Information

Certificate:	Airline transport	Age:	56
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Unknown	Last FAA Medical Exam:	June 26, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 5, 2013
Flight Time:	13394 hours (Total, all aircraft), 1136 hours (Total, this make and model), 5757 hours (Pilot In Command, all aircraft), 87 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Co-pilot Information

Certificate:	Airline transport	Age:	52
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Unknown	Last FAA Medical Exam:	February 20, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 15, 2013
Flight Time:	9499 hours (Total, all aircraft), 616 hours (Total, this make and model), 517 hours (Pilot In Command, all aircraft), 94 hours (Last 90 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N863DA
Model/Series:	777-232	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	29735
Landing Gear Type:	Retractable - Tricycle	Seats:	400
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	2 Turbo jet
Airframe Total Time:		Engine Manufacturer:	ROLLS-ROYCE
ELT:		Engine Model/Series:	RB.211 SERIES
Registered Owner:	DELTA AIR LINES INC	Rated Power:	22000 Lbs thrust
Operator:	DELTA AIR LINES INC	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:	Night/dark
Observation Facility, Elevation:	KATL	Distance from Accident Site:	29 Nautical Miles
Observation Time:	04:52 Local	Direction from Accident Site:	227°
Lowest Cloud Condition:	Scattered / 3200 ft AGL	Visibility	7 miles
Lowest Ceiling:	Broken / 4800 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.9 inches Hg	Temperature/Dew Point:	23°C / 22°C
Precipitation and Obscuration:			
Departure Point:	Dubai (OMDB)	Type of Flight Plan Filed:	IFR
Destination:	Atlanta, GA (KATL)	Type of Clearance:	IFR
Departure Time:	11:38 UTC	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Serious, 14 None	Aircraft Damage:	None
Passenger Injuries:	264 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 278 None	Latitude, Longitude:	33.909999,-84.083053(est)

Administrative Information

Investigator In Charge (IIC): Helson, David

Additional Participating Persons:

Original Publish Date: September 1, 2015

Last Revision Date:

Investigation Class: [Class](#)

Note: This accident report documents the factual circumstances of this accident as described to the NTSB.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=87472>

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).