
Turbulence injury, Boeing 767-224, April 22, 2002

Micro-summary: This Boeing 767-224 encountered turbulence in cruise, seriously damaging a flight attendant

Event Date: 2002-04-22 at 0230 EDT


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

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

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		NTSB ID: NYC02LA088		Aircraft Registration Number: N68160	
		Occurrence Date: 04/22/2002		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Atlantic Ocean		State	Zip Code	Local Time 0230	Time Zone EDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 767-224		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 April 22, 2002, about 0230 eastern daylight time, a Boeing 767-224, N68160, operated by Continental Airlines Inc, as flight 30, encountered turbulence while in cruise flight over the Atlantic Ocean, about 75 miles north of San Juan, Puerto Rico. Three airline transport rated flight crew members, 110 passengers, and 6 flight attendants were not injured; however, 1 flight attendant sustained a serious injury, and 1 flight attendant and 1 passenger sustained minor injuries. Night visual meteorological conditions prevailed and an instrument flight rules flight plan was filed for the flight that departed Sao Paulo, Brazil, destined for the Newark International Airport (EWR), Newark, New Jersey. The scheduled passenger flight was conducted under 14 CFR Part 121.</p> <p>According to a representative of Continental Airlines, the flight crew reported that the airplane was in cruise flight at flight level 360, on the "A-300 airway, between DDP and LENNT," when the airplane encountered clear air turbulence.</p> <p>In a written statement, the pilot-in-command (PIC) said he was seated in the captain's seat, when the international relief officer (IRO) relieved the first officer as the flying pilot. Shortly thereafter, the airplane was "in turbulence and red lights were flashing, indicating mach overspeed." The PIC immediately took control of the airplane, reduced the power to idle and disconnected the autopilot. Additionally, he stated that the seat belt sign was "on" and the disruption from smooth flight lasted "maybe 3 seconds, but was quite startling."</p> <p>The flight continued to EWR, and landed without further incident.</p> <p>The airplane was equipped with a Fairchild L-3 Communications digital flight data recorder (DFDR). Examination of the DFDR by a Safety Board Vehicle Recorder Specialist's revealed the airplane experienced a vertical acceleration which ranged between +1.66 and -0.19 g's during the turbulence event.</p> <p>According to a to Safety Board's Meteorological Study prepared for this accident:</p> <p>The National Weather Service (NWS) tropical weather discussion issued at 0200, indicated that the middle and upper level synoptic features consisted of a cyclonic circulation center located near 160 miles north of the Dominican Republic. A trough of low pressure extended from the circulation center to just south of Jamaica. Dry air and subsidence was indicated north and northwest of the immediate vicinity of the turbulence event.</p> <p>The closest NWS Weather Surveillance Radar-1988, Doppler (WSR-88D) was located in southern Puerto Rico. Review of the base reflectivity image taken at 0244 depicted several bands of convection oriented in a northeast to southwest direction extending west through northeast of the island, with another area east through southeast. The band north of Puerto Rico had a maximum echo of 54</p>					
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National Transportation Safety Board

FACTUAL REPORT

AVIATION

SAFETY BOARD


NTSB ID: NYC02LA088


Occurrence Date: 04/22/2002

Occurrence Type: Accident

Narrative (Continued)

decibels (dBZ) with other echoes ranging from 15 to 49 dBZ. The echoes covered the airway where the turbulence event occurred; which implied that the turbulent event was likely associated with a Convective Induced Turbulence (CIT) encounter related to the airflow associated with cumulonimbus activity, and possibly above and downwind of the cumulonimbus cloud tops.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC02LA088			
		Occurrence Date: 04/22/2002			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used	Runway Length	Runway Width
Runway Surface Type: Unknown					
Runway Surface Condition: Unknown					
Type Instrument Approach: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer Boeing		Model/Series 767-224		Serial Number 30439	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 185	Certified Max Gross Wt.	395000 LBS	Number of Engines: 2	
Engine Type: Turbo Fan	Engine Manufacturer: General Electric	Model/Series: CF6-80C2B4F	Rated Power: 56500 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 03/2002	Time Since Last Inspection 381 Hours	Airframe Total Time 2076 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner CONTINENTAL AIRLINES INC		Street Address 1600 Smith Street			
		City Houston	State TX	Zip Code 77002	
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: CALA		
- 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; International; Passenger/Cargo					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: NYC02LA088
	Occurrence Date: 04/22/2002
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 53
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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 Engineer

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

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

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

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review? 12/2001
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 04/2002
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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	13200	1000	3000	10200						
Pilot In Command(PIC)	1200									
Instructor	6000									
Last 90 Days	245	245								
Last 30 Days	75	75								
Last 24 Hours	10	10								

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

Type of Flight Plan Filed: IFR

Departure Point Sao Paulo	State	Airport Identifier GRU	Departure Time 2115	Time Zone EDT
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Destination NEWARK	State NJ	Airport Identifier EWR	
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Type of Clearance: IFR

Type of Airspace: Class A

Weather Information

Source of Briefing: Company

Method of Briefing: In Person; Teletype


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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
TJSJ	0245	EDT	9 Ft. MSL	74 NM	355 Deg. Mag.
Sky/Lowest Cloud Condition: Few			2100 Ft. AGL	Condition of Light: Night/Bright	
Lowest Ceiling: Overcast		13000 Ft. AGL		Visibility: 10 SM	Altimeter: 29.92 "Hg
Temperature: 26 °C	Dew Point: 23 °C	Wind Direction: 60		Density Altitude: Ft.	
Wind Speed: 4	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): Ft.	Visibility (RVV) SM	Intensity of Precipitation:			
Restrictions to Visibility: None					
Type of Precipitation: None					

Accident Information		
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					
Cabin Attendants		1	1	6	8
Other Crew				1	1
Passengers			1	110	111
- TOTAL ABOARD -		1	2	119	122
Other Ground					
- GRAND TOTAL -		1	2	119	122

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Administrative Information

Investigator-In-Charge (IIC)

Luke Schiada

Additional Persons Participating in This Accident/Incident Investigation:

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