
Turbulence injuries, Boeing 737-300, August 29, 1996

Micro-summary: This Boeing 737-300 encountered turbulence during cruise, resulting in passenger injuries.


Event Date: 1996-08-29 at 1553 EDT


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


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

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		NTSB ID: MIA96LA220		Aircraft Registration Number: N392US	
		Occurrence Date: 08/29/1996		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place CHATTANOOGA		State TN	Zip Code 37422	Local Time 1553	Time Zone EDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 737-300		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 August 29, 1996, about 1553 eastern daylight time, a Boeing 737-300, N392US, registered to Security National Bank Trust, and operated by USAir Inc., as flight 232, a 14 CFR Part 121 scheduled domestic passenger flight from Tampa, Florida, to Indianapolis, Indiana, encountered severe turbulence, about 45 miles south of the Chattanooga VOR, while in cruise flight at FL350. Visual meteorological conditions prevailed and an IFR flight plan was filed. The airline transport rated captain, first officer, 3 flight attendants, and 79 passengers were not injured. Three passengers sustained serious injuries and one passenger sustained minor injuries. The airplane sustained minor damage. The flight originated from Tampa, Florida, at about 1435. The captain diverted to Chattanooga, Tennessee, and landed without further incident.</p> <p>The captain stated he was in cruise flight at FL350 in visual flight conditions about 45 miles south of Chattanooga. The weather radar was on the 80-mile range with no weather present. The airplane encountered severe turbulence. A flight attendant notified him that they had sustained injuries in the cabin area. He contacted ATC after assessing the situation, and requested to divert to Chattanooga, which was approved.</p> <p>The digital flight data recorder was removed from flight 232, and shipped to the NTSB laboratory in Washington, D.C. for retrieval and analysis. Examination revealed that flight 232, was at an altitude of about 35,000 feet msl when the airplane was subjected to severe vertical acceleration oscillations. The vertical acceleration peaked at 1.81 g's, -1.38 g's, 1.99 g's, and continued to oscillate for 28 seconds. (For additional information see NTSB Solid State Flight DATA Recorder Factual Report.)</p> <p>Review of geostationary operational environmental satellite (GOES) 8 data shows an area of active convection from about 15 to 40 nautical miles east of (GQO) Choo Choo VOR. The GOES 8 visible images does not show any significant convection in the area 45 miles south of GQO. (For additional information see NTSB Meteorologist's Factual Report.)</p>					
FACTUAL REPORT - AVIATION					
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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: MIA96LA220			
		Occurrence Date: 08/29/1996			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
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					
Aircraft Information					
Aircraft Manufacturer Boeing		Model/Series 737-300		Serial Number 23314	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 140	Certified Max Gross Wt. 135500 LBS	Number of Engines: 2		
Engine Type: Turbo Fan	Engine Manufacturer: CFM	Model/Series: CFM56-3	Rated Power: 22000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection	Time Since Last Inspection Hours	Airframe Total Time Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner GECC/SOCIETY NATIONAL BANK		Street Address 900 EUCLID AVENUE			
		City CLEVELAND	State TN	Zip Code 44101	
Operator of Aircraft US AIR		Street Address 2345 CRYSTAL DRIVE			
		City ARLINGTON	State VA	Zip Code 22227	
Operator Does Business As: US AIR			Operator Designator Code: USAA		
- 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/Cargo					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA96LA220
	Occurrence Date: 08/29/1996
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 46
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Sex: U	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport

Airplane Rating(s): Multi-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?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 07/1996
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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	14897	5210								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	155									
Last 30 Days										
Last 24 Hours										

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

Type of Flight Plan Filed: IFR

Departure Point TAMPA	State FL	Airport Identifier TPA	Departure Time 1435	Time Zone EDT
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Destination INDIANAPOLIS	State IN	Airport Identifier IND	
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Type of Clearance: IFR

Type of Airspace: Class A

Weather Information

Source of Briefing:
Company

Method of Briefing:

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA96LA220
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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
CHA	1554	EDT	682 Ft. MSL	40 NM	360 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			0 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		0 Ft. AGL		Visibility: 3 SM	Altimeter: 30.00 "Hg
Temperature: 29 °C	Dew Point: 20 °C	Wind Direction: 270		Density Altitude: Ft.	
Wind Speed: 4	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					

Accident Information		
Aircraft Damage: Minor	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				3	3
Other Crew					
Passengers		3	1	79	83
- TOTAL ABOARD -		3	1	84	88
Other Ground	0	0	0		0
- GRAND TOTAL -	0	3	1	84	88

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: MIA96LA220

Occurrence Date: 08/29/1996

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

CARROL A. SMITH

Additional Persons Participating in This Accident/Incident Investigation:

MICHAEL A CHASTEEN

NASHVILLE FSDO