
Turbulence injury, Boeing 737-300, December 13, 1998

Micro-summary: This Boeing 737-300 experienced turbulence during descent, seriously injuring a flight attendant.


Event Date: 1998-12-13 at 1840 PST


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


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

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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX99LA050		Aircraft Registration Number: N328AW	
		Occurrence Date: 12/13/1998		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place SACRAMENTO		State CA	Zip Code 95814	Local Time 1840	Time Zone PST
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					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
<p>On December 13, 1998, at 1840 hours Pacific standard time, a Boeing 737-300, N328AW, encountered turbulence during descent for landing at Sacramento, California. One flight attendant was seriously injured. The other 4 crewmembers and 70 passengers were not injured, and the aircraft was not damaged. Visual meteorological conditions prevailed for the regularly scheduled domestic passenger flight. The flight was operated on an instrument flight rules flight plan under 14 CFR Part 121 by America West Airlines as flight 378. The flight departed Santa Ana, California at 1750.</p> <p>According to statements provided by America West Airlines, prior to descent from cruise, the cockpit crew advised the second flight attendant, who was later injured, and the third flight attendant by intercom that turbulence was anticipated during descent for landing and for them to secure the cabin and be seated. The second attendant notified the first attendant who directed her attention toward securing first class. The second flight attendant proceeded through the cabin from front to rear, with a trash bag, picking up service items and ensuring that passenger's seat belts were fastened. As she reached the rear of the cabin, turbulence was encountered and both she and the third flight attendant, who was working in the rear galley, took seats and fastened their seatbelts. After 1 or 2 minutes of moderate turbulence, the turbulence ceased and the second and third flight attendants got up to finish their work in the aft galley. Additional turbulence was then encountered which caused the second flight attendant to fall to the floor of the galley. The third flight attendant also fell but landed on the foot of the second attendant, which broke the second attendant's ankle.</p> <p>The Safety Board investigator reviewed the aircraft's flight data recorder output. As the aircraft descended from flight level 310 (approximately 31,000 feet) the vertical acceleration values recorded remained between 0.85 and 1.06 g's until descending through flight level 200 (approximately 20,000 feet). Between flight level 200 and 7,500 feet mean sea level (msl) in the descent, vertical acceleration values ranged from a low of 0.53 to a high of 2.02 g's. The peak values occurred 5 seconds from one another while the aircraft was descending through 19,832 feet at time 33:41. The vertical acceleration dropped to 0.65 g's and 1 second later increased to 2.02 g's. In the next 4 seconds, values of 1.23, 1.16, 1.45 and 0.53 g's were recorded. Below 7,500 feet the vertical acceleration values returned to the 0.85 to 1.19 range.</p>					
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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX99LA050			
		Occurrence Date: 12/13/1998			
		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:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer Boeing		Model/Series 737-300		Serial Number 23377	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 134	Certified Max Gross Wt.	139000 LBS	Number of Engines: 2	
Engine Type: Turbo Fan	Engine Manufacturer: GE	Model/Series: CFM56-3B2	Rated Power: 22000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 08/1998	Time Since Last Inspection 1098 Hours	Airframe Total Time 41558 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner FIRST SECURITY BANK		Street Address 79 S. MAIN ST.			
		City SALT LAKE CITY	State UT	Zip Code 84111	
Operator of Aircraft AMERICA WEST AIRLINES, INC.		Street Address 4000 E. SKY HARBOR BLVD.			
		City PHOENIX	State AZ	Zip Code 85034	
Operator Does Business As:			Operator Designator Code: AWXA		
- 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 Only					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: LAX99LA050
	Occurrence Date: 12/13/1998
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 33
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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 Instructor; Flight Engineer

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

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

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

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: 11/1998
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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	11000									
Pilot In Command(PIC)										
Instructor										
Last 90 Days	135	135		135						
Last 30 Days	45	45		45						
Last 24 Hours	5	5		5						

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 SANTA ANA	State CA	Airport Identifier SNA	Departure Time 1750	Time Zone PST
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Destination Same as Accident/Incident Location	State	Airport Identifier SMF	
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Type of Clearance: IFR

Type of Airspace: Class A

Weather Information

Source of Briefing:
Company

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
SMF	0253	PST	0 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Unknown			0 Ft. AGL	Condition of Light: Night/Dark	
Lowest Ceiling: Overcast		3800 Ft. AGL		Visibility: 10 SM	Altimeter: 30.00 "Hg
Temperature: 9 °C	Dew Point: 8 °C	Wind Direction: 180		Density Altitude: Ft.	
Wind Speed: 8	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: 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		2	3
Other Crew					
Passengers				70	70
- TOTAL ABOARD -		1		74	75
Other Ground	0	0	0		0
- GRAND TOTAL -	0	1	0	74	75

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: LAX99LA050

Occurrence Date: 12/13/1998

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

RICHARD B. PARKER

Additional Persons Participating in This Accident/Incident Investigation:

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