



National Transportation Safety Board Aviation Accident Final Report

Location:	Denver, CO	Accident Number:	DEN04LA019
Date & Time:	11/01/2003, 1215 MST	Registration:	N956UA
Aircraft:	Boeing 737-500	Aircraft Damage:	None
Defining Event:		Injuries:	1 Serious, 1 Minor, 95 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

During the descent at FL 240, the captain asked the cabin crew to take their seats. At FL 210, the airplane encountered heavy to moderate turbulence. One flight attendant received minor injuries and another flight attendant received serious injuries. The airplane continued to Denver without further incident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the in-flight encounter with heavy to moderate turbulence.

Findings

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

Findings

1. (C) WEATHER CONDITION - TURBULENCE

Factual Information

On November 1, 2003, at approximately 1215 mountain standard time, a Boeing 737-500, N956UA, operated by United Airlines as flight 1232, encountered turbulence while on approach to Denver International Airport (DEN), Denver, Colorado. The airline transport captain and airline transport first-officer, 1 flight attendant, and 92 passengers were not injured; however, 1 flight attendant was seriously injured and 1 flight attendant received minor injuries. Instrument meteorological conditions prevailed. The scheduled domestic passenger flight was being conducted under the provisions of Title 14 CFR Part 121. An instrument flight rules flight plan had been filed for the flight from Boise, Idaho, to Denver, Colorado, departed at 1045.

At flight level (FL) 310, air traffic control advised the captain that light to moderate turbulence existed between FL170 and FL 200. The flight crew directed the passengers to take their seats and fasten their seatbelts. During the descent, at FL 240, the captain asked the cabin crew to take their seats. At FL 210, the flight encountered "heavy to moderate turbulence with two rapid up-down vertical-G cycles." One flight attendant received minor injuries and another flight attendant received a fractured ankle. The flight continued to Denver without further incident.

Pilot Information

Certificate:	Airline Transport; Flight Engineer	Age:	45, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	06/13/2003
Occupational Pilot:		Last Flight Review or Equivalent:	07/01/2003
Flight Time:	4751 hours (Total, all aircraft), 1838 hours (Total, this make and model), 246 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport	Age:	39, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	08/04/2003
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	2655 hours (Total, all aircraft), 22 hours (Total, this make and model), 68 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N956UA
Model/Series:	737-500	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	26704
Landing Gear Type:	Retractable - Tricycle	Seats:	123
Date/Type of Last Inspection:	02/16/2003, Continuous Airworthiness	Certified Max Gross Wt.:	122500 lbs
Time Since Last Inspection:	1641 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	29534 Hours as of last inspection	Engine Manufacturer:	CFM International
ELT:	Not installed	Engine Model/Series:	CFM56-3-B1
Registered Owner:	Wilmington Trust Company	Rated Power:	20000 lbs
Operator:	UNITED AIR LINES INC	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	UALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DEN, 5431 ft msl	Distance from Accident Site:	
Observation Time:	1153 MST	Direction from Accident Site:	
Lowest Cloud Condition:	Thin Overcast / 500 ft agl	Visibility	4 Miles
Lowest Ceiling:	Overcast / 500 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	300°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	-1° C / -1° C
Precipitation and Obscuration:			
Departure Point:	Boise, ID (BOI)	Type of Flight Plan Filed:	IFR
Destination:	Denver, CO (DEN)	Type of Clearance:	IFR
Departure Time:	1045 MST	Type of Airspace:	Class A

Wreckage and Impact Information

Crew Injuries:	1 Serious, 1 Minor, 3 None	Aircraft Damage:	None
Passenger Injuries:	92 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor, 95 None	Latitude, Longitude:	40.491944, -105.236389

Administrative Information

Investigator In Charge (IIC):	James F Struhsaker	Report Date:	03/30/2004
Additional Participating Persons:	John Stevenson; FAA FSDO; Denver, CO		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).