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## Turbulence injury, McDonnell Douglas DC-9-82, July 15, 2004

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**Micro-summary:** This McDonnell Douglas DC-9-82 experienced turbulence in descent, injuring a flight attendant.

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**Event Date:** 2004-07-15 at 2304 CDT


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


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


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		NTSB ID: CHI04LA196		Aircraft Registration Number: N585AA	
		Occurrence Date: 07/15/2004		Most Critical Injury: Serious	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Sheridan		State IL	Zip Code 60551	Local Time 2304	Time Zone CDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility: 40		Direction From Airport: 232	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-9-82		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 July 15, 2004, at 2304 central daylight time, a McDonnell Douglas DC-9-82, N585AA, operated by American Airlines Inc., as flight 1114, encountered turbulence during descent through 17,000 feet mean sea level (MSL) about 1.6 nautical miles southwest of Sheridan, Illinois. Night visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 121 passenger flight was operating on an instrument rules flight plan. One flight attendant was seriously injured. The flight originated from Albuquerque International Sunport Airport, Albuquerque, New Mexico, at 1916 mountain daylight time, en route to Chicago O'Hare International Airport (ORD) Chicago, Illinois, where it landed without incident.</p> <p>The captain stated the airplane was in a clean configuration, speed brakes retracted, wing level, and approximately 3-5 degrees nose low when they encountered "moderate turbulence" with a "severe bump" within a cloud. The gross weight of the airplane was 102,000 pounds. The seat belt sign had been on for at least three minutes.</p> <p>According to the captain, weather radar displayed a faint green return from the cloud before the event. No lightning or precipitation was observed from the cloud.</p> <p>The first officer stated the radar showed some activity south of their course. The radar indicated a line of three or four well defined cells on the 80-mile range "painting green." They saw lightning "well" south of the airplane. Directly ahead, on the northern most side of the line, the radar displayed five to seven green dots. They were descending through 15,000 feet MSL in clear night conditions. They could see the buildup in front of them and estimated the top to be about 17,000 feet MSL.</p> <p>He asked the captain if he wanted to come left but he captain declined. The first officer asked if he was to sit the flight attendants down. The captain said he would take care of it and gave the 'Prepare for landing' over the public address. They entered the buildup at 280 knots and experienced sudden moderate to severe turbulence. The captain turned left and they were out of the turbulence in less than 10 seconds.</p> <p>A flight attendant sustained a broken ankle following the turbulence event.</p> <p>There was no damage to the airplane.</p> <p>Flight data recorder information provided by American Airlines Inc., recorded at N 41 degrees 30.7 minutes, W 088 degrees 42.35 minutes, maximum and minimum vertical accelerations of +2.25 g and -0.52 g.</p> <p>The Federal Aviation Administration and American Airlines Inc., were parties to the investigation.</p>					
FACTUAL REPORT - AVIATION					
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 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: CHI04LA196				
		Occurrence Date: 07/15/2004				
		Occurrence Type: Accident				
<b>Landing Facility/Approach Information</b>						
Airport Name CHICAGO O'HARE INTL		Airport ID: ORD	Airport Elevation 668 Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:						
Runway Surface Condition:						
Type Instrument Approach: NONE						
VFR Approach/Landing: None						
<b>Aircraft Information</b>						
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-9-82		Serial Number 53248		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats:	Certified Max Gross Wt. 150500 LBS	Number of Engines: 2		
Engine Type: Turbo Fan		Engine Manufacturer: Pratt & Whitney		Model/Series: JT8D	Rated Power: 21000 LBS	
- Aircraft Inspection Information						
Type of Last Inspection Continuous Airworthiness		Date of Last Inspection 07/2004	Time Since Last Inspection 28 Hours	Airframe Total Time 38355 Hours		
- Emergency Locator Transmitter (ELT) Information						
ELT Installed?		ELT Operated?		ELT Aided in Locating Accident Site?		
<b>Owner/Operator Information</b>						
Registered Aircraft Owner AMERICAN AIRLINES INC		Street Address PO Box 619616 MD 4280				
		City DFW Airport		State TX	Zip Code 75261	
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: AALR			
- 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><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI04LA196
	Occurrence Date: 07/15/2004
	Occurrence Type: Accident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 48
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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

Airplane Rating(s): Multi-engine Land

Rotorcraft/Glider/LTA:

Instrument Rating(s): Airplane

Instructor Rating(s):

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: 06/2004
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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	14500	9800								
Pilot In Command(PIC)	6922	5522								
Instructor										
Last 90 Days	219	219								
Last 30 Days	80	80								
Last 24 Hours	9	9								

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 ALBUQUERQUE	State NM	Airport Identifier ABQ	Departure Time 1916	Time Zone MDT
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Destination CHICAGO	State IL	Airport Identifier ORD	
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Type of Clearance: IFR

Type of Airspace: Class E

**Weather Information**

Source of Briefing: Company

Method of Briefing: Unknown

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**Weather Information**

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
ARR	2253	CDT	706 Ft. MSL	18 NM	33 Deg. Mag.

Sky/Lowest Cloud Condition: Clear	Ft. AGL	Condition of Light: Night
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Lowest Ceiling: None	Ft. AGL	Visibility: 10	SM	Altimeter: 29.88	"Hg
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Temperature: 18 °C	Dew Point: 17 °C	Wind Direction: 240	Density Altitude: Ft.
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Wind Speed: 3	Gusts:	Weather Conditions at Accident Site: Visual Conditions
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Visibility (RVR): Ft.	Visibility (RVV) SM	Intensity of Precipitation:
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Restrictions to Visibility: None


Type of Precipitation: None

**Accident Information**

Aircraft Damage: None	Aircraft Fire: None	Aircraft Explosion: None
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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				25	25
- TOTAL ABOARD -		1		29	30
Other Ground					
- GRAND TOTAL -		1		29	30

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Administrative Information

Investigator-In-Charge (IIC)

Mitchell F. Gallo

Additional Persons Participating in This Accident/Incident Investigation:

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