Turbulence injury, December 22, 1996

Micro-summary: This McDonnell Douglas MD-83 encountered severe turbulence during descent, injuring two flight attendants.

Event Date: 1996-12-22 at 1212 PST

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

Investigative Body's Web Site: http://www.ntsb.gov/

Cautions:

1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).

2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. Your company's flight operations manual is the final authority as to the safe operation of your aircraft!

3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.

4. Contact us before reproducing or redistributing a report from this anthology. Individual countries have very differing views on copyright! We can advise you on the steps to follow.

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| National Transportation Safety Board NTSB ID: LAX97LA072 Aircraft Registration Number: N590AA | | | | | | | | | | | |
|--|---|--|--|---|---|--|--|--|--|--|--|
| N | TSB ID: | LAX97LA07 | 2 | Aircr | Aircraft Registration Number: N590AA | | | | | | |
| 0 | ccurrence | e Date: 12/22 | 2/1996 | Most | Most Critical Injury: Serious | | | | | | |
| 0 | ccurrence | e Type: Accic | lent | Investigated By: NTSB | | | | | | | |
| Location/Time | | | | | | | | | | | |
| State | Zip | Code | Local Time | | | | | | | | |
| CA | 95 | 050 | 1212 | PST | PST | | | | | | |
| Airport Proximity: Off Airport/Airstrip Distance From Landing Facility: Direction From Airport: | | | | | | | | | | | |
| Aircraft Information Summary | | | | | | | | | | | |
| Aircraft Manufacturer Model/Series Type of Aircraft | | | | | | | | | | | |
| | | MD-83 | | | | | Airplane | | | | |
| | Ai | r Medical Tr | ansport Flight | t: No | | | | | | | |
| | | | | | | | | | | | |
| Narrative Bedimarks statement ducts, condices and droumstances performed to the accompleted. Conduct Statement of ducts, condices and droumstances performed to the accompleted through 17,500 feet. The aircraft, a McDonnell Douglas MD-83, N590AM, was owned and operated by American Airlines, Inc., under 14 CFR Part 121 as a non-stop regularly scheduled domestic passenger flight from Chicago to San Jose. The aircraft was not damaged. One cabin attendant sustained serious injuries and another sustained minor injuries. The remaining two pilots, two cabin attendants, and 115 passengers were not injured. The flight originated at Chicago on the day of the accident at 0932 central standard time. According to statements from the flight and cabin crews, and, transcripts of the air-to-ground communications between the flight and ATC, the flight had been in moderate chop for some time during the initial descent. The cabin seat belt sign had been in under a choice of a moder service and were stowing galley equipment at the time. As the aircraft was descending through 17,500 feet inbound to San Jose, one severe turbulence jolt was experienced. The injured cabin crew members were standing in the aft galley; one was able to grab a hand hold while the other one was thrown against the ceiling and back to the floor. The cabin attendant who was thrown to the ceiling sustained a compound fracture of one ankle, which required surgery to repair. The second cabin attendant was treated at the hospital for soft tissue injuries and released. Review of the weather reports disclosed that SIGMET Papa 13 was issued at 221656 and forecast moderate to occasional severe turbulence below 22,000 feet. The dispatch weather package provided to the flight crew at Chicago was reviewed. The date/time group for the package preparation was noted to be 221501, prior to the issuance of SIGMET Papa 13 and both center weather advisories. No SIGMETS were noted for the terminal portions of the flight. | | | | | | | | | | | |
| FACTUAL REPORT - AVIATION Page 1 | | | | | | | | | | | |
| | Ca State CA Distance ces pertinent ut 1212 injurit e airco ned and ed dom n attend o pilo o on the light he cabit in their ment attend vere tu lley; oc k too e of spital ts dist turbul and 02 l sevent proviation v ies. N | Occurrence Occurrence Occurrence CA 95 Distance From La Ai ces pertinent to the acc ut 1212 hours injuries dur e aircraft of ned and operated domestic n attendant o pilots, two o on the day the flight light and a he cabin seat in their seat ment at the t vere turbuler lley; one was k to the flight and 02 were spital for so ts disclosed turbulence if and 02 were provided to ation was not ies. No SIGN | Occurrence Date: 12/22 Occurrence Type: Accid State Zip Code GA 95050 Distance From Landing Facility: Model/Series MD-83 Air Medical Tr ces pertinent to the accident/incident: ut 1212 hours Pacific injuries during a seve e aircraft descended ned and operated by Am ed domestic passenger n attendant sustaine o pilots, two cabin a o o on the day of the acc the flight and cab light and ATC, the he cabin seat belt sig in their seats. The c ment at the time. As vere turbulence jolt w lley; one was able to k to the floor. Th e of one ankle, whic spital for soft tissue ts disclosed that S turbulence in the sou and 02 were in effect severe turbulence be provided to the flig ation was noted to be ies. No SIGMETS were | CA 95050 1212 Distance From Landing Facility: Model/Series MD-83 Air Medical Transport Flight ces pertinent to the accident/incident: ut 1212 hours Pacific standard ti injuries during a severe turbule e aircraft descended through 17, ned and operated by American Airl ed domestic passenger flight from n attendant sustained serious o pilots, two cabin attendants, o on the day of the accident at 00 the flight and cabin crews, at light and ATC, the flight had he cabin seat belt sign had been in their seats. The cabin crew from ment at the time. As the aircraft vere turbulence jolt was experier lley; one was able to grab a hand k to the floor. The cabin atter e of one ankle, which required spital for soft tissue injuries at ts disclosed that SIGMET Papa turbulence in the southern porti and 02 were in effect for the ti l severe turbulence below 22,000 provided to the flight crew at ation was noted to be 221501, pri ies. No SIGMETS were noted for t | Occurrence Date: 12/22/1996 Mos Occurrence Type: Accident Inve State Zip Code Local Time Time CA 95050 1212 PS Distance From Landing Facility: Di Model/Series MD-83 Model/Series MD-83 Model/Series MD-83 ccss perlinent to the accident/incident: ut 1212 hours ut 1212 hours Pacific standard time, two injuries during a severe turbulence ence aircraft descended through 17,500 fee ned and operated by American Airlines, T ed on the day of the accident at 0932 cent the flight and cabin crews, and, trailight and ATC, the flight had been illumin in their seats. The cabin crew had just ment at the time. As the aircraft was divere turbulence jolt was experienced. T utry ione was able to grab a hand hold with the of one ankle, which required surgery spital for soft tissue injuries and relet ts disclosed that SIGMET Papa 13 was turbulence in the fleght crew at Chicago turbulence in effect for the time and severe turbulence below 22,000 feet. < | Occurrence Date: 12/22/1996 Most Critical In Investigated By State Zip Code Local Time Time Zone QS 1212 PST Distance From Landing Facility: Direction From Model/Series MD-83 Air Medical Transport Flight: No | Occurrence Date: 12/22/1996 Most Critical Injury: Se Occurrence Type: Accident Investigated By: NTS State Zip Code Local Time Time Zone PST Distance From Landing Facility: Direction From Airport Model/Series MD-83 Air Medical Transport Flight: No | Decurrence Date: 12/22/1996 Most Critical Injury: Serious Occurrence Type: Accident Investigated By: NTSB State Zip Code Local Time Time Zone PST Distance From Landing Facility: Direction From Airport: Impact Airport Model/Series Type of Aircraft Airplane MD-83 Type of Aircraft Airplane Carrent be accommodated Impact Airplane Airplane carrent be accommodated Impact Airplane< | | | |

| National Transportation Safety Board | d N | NTSB ID | : LAX97 | | | | | | | | | |
|---|--|---|----------------|-------------------|------------|--------|---------------------------|-----------|-------------------|-------------|----------|--|
| FACTUAL REPORT | | Occurren | ce Date: | | | | | | | | | |
| AVIATION ETYBON | | Occurren | се Туре: | Accident | | | | | | | | |
| Landing Facility/Approach Information | | | | | | | | | | | | |
| Airport Name | Airp | irport ID: Airport Elevation Runway Used Runway Lei | | | | | | ay Length | h Ru | nway Width | | |
| | | Ft. MSL 0 | | | | | | | | | | |
| Runway Surface Type: | | | | | | | | | | | | |
| Runway Surface Condition: | | | | | | | | | | | | |
| Type Instrument Approach: | | | | | | | | | | | | |
| VFR Approach/Landing: None | | | | | | | | | | | | |
| Aircraft Information | | | | | | | | | | | | |
| Aircraft Manufacturer McDonnell Douglas | | | Model/ MD-8 | | | | | | Serial N 53253 | Number 3 | | |
| Airworthiness Certificate(s): Transport | | | | | | | | | | | | |
| Landing Gear Type: Retractable - Tricycle | | | | | | | | | | | | |
| Homebuilt Aircraft? No Num | omebuilt Aircraft? No Number of Seats: 145 Certified Max Gross Wt. 149000 LBS Number of Engines: | | | | | | | | | es: 2 | | |
| Engine Type: Turbo Jet | | Engine Manufacturer:Model/Series:P&WJT8D-217 | | | | | Rated Power: 21000 LBS | | | | | |
| - Aircraft Inspection Information | | | | | | | | | | | | |
| Type of Last Inspection | Da | Date of Last Inspection Time Since Last Inspection | | | | | | | Airframe | Total Time | | |
| Continuous Airworthiness | | | | | | | | Ho | ours | | Hours | |
| - Emergency Locator Transmitter (ELT) | Information | | | | | | | | | | | |
| ELT Installed? Yes | ELT Operated? No ELT Aided in Locating Accident Site? | | | | | | | | | | | |
| Owner/Operator Information | | | | | | | | | | | | |
| Registered Aircraft Owner | | | Street A | ddress 4333 AN | | ARTE | R BLVD. | | | | | |
| AMERICAN AIRLINES, INC. | | F | City | | | | | | | State | Zip Code | |
| | | | Street A | FT. WOF | KIH | | | | | ТХ | 76155 | |
| Operator of Aircraft | | | 0110017 | | Reg'd | Aircra | aft Owner | | | | | |
| Same as Reg'd Aircraft Owner City State Zip | | | | | | | | | Zip Code | | | |
| Operator Does Business As: Operator Designator Code: AALA | | | | | | | | | | | | |
| - 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 Page 2 | | | | | | | | | | | | |

| Nation | National Transportation Safety Board NTSB ID: LAX97LA072 | | | | | | | | | | | | |
|---|---|----------------------------|------------------------|---------------------------|-----------------------------|---------|--------|---------------|----------------------------|---------|------------|---------------|---------------------|
| F | ACTUAL RI | EPORT | | Occurrer | Occurrence Date: 12/22/1996 | | | | | | | | |
| | ΑΥΙΑΤΙ | | | Occurren | Occurrence Type: Accident | | | | | | | | |
| | | R | | Coounter | | colucin | | | | | | | |
| First Pilot Information City State Date of Birth Age | | | | | | | | | | | | | |
| | | | | | | | | | | | - | | |
| On File | | On File On File On File 55 | | | | | | | | | | | 55 |
| Sex: M Seat Occupied: Left Principal Profession: Civilian Pilot Certificate Number: On File | | | | | | | | | | | | | |
| Certificate(s): Airline Transport; Commercial; Flight Engineer | | | | | | | | | | | | | |
| Airplane R | Airplane Rating(s): Multi-engine Land; Single-engine Land | | | | | | | | | | | | |
| Rotorcraft | /Glider/LTA: None | - | , 0 | 5 | | | | | | | | | |
| L | | | | | | | | | | | | | |
| Instructor | Instrument Rating(s): Airplane Instructor Rating(s): None | | | | | | | | | | | | |
| Type Ratir | ng/Endorsement fo | or Accident/Ir | ncident Aircra | aft? Yes | | | C | Current E | Biennial Fli | ght Re | view? | | |
| Medical C | ert.: Class 1 | Medica | al Cert. Statu | s: Valid Me | dicalw/ w | /aivers | lim. | | Date | of Las | st Medical | Exam: 10/199 | 96 |
| | | | | | | | | | | | | | |
| - Flight Tir | me Matrix | All A/C | This Make and Model | Airplane Single Engine | Airplane Mult-Engine | N | ght | Actual | Instrument Actual Simul | | Rotorcraft | Glider | Lighter Than Air |
| Total Time | e | 3372 | 3372 | | | | | | | | | | |
| Pilot In Co | ommand(PIC) | | | ļ | | | | | | | | | |
| Instructor | | | | | | | | | | | | | |
| Last 90 Da | | | 160 74 | | | | | | | | _ | | |
| Last 30 Da | | | 9 | | | - | | | | | | | |
| | Jsed? Yes | Shou | | s Used? Yes | 1 2 | | Toxic | l ology Pe | erformed? | No | | Second Pilot? | Yes |
| | | | | | , | | 10/110 | | | | | | 105 |
| Elight Pl | an/Itinerary | | | | | | | | | | | | |
| - | ight Plan Filed: IF | D | | | | | | | | | | | |
| Departure | | | | | | | State | <u> </u> | Airport Ide | ntifior | Den | arture Time | Time Zone |
| CHICAG | | | | | | | | | CST | | | | |
| | | | | | | | IL | | ORD | | 093 | 2 | |
| Destination State Airport Identifier Same as Accident/Incident Location S SJC | | | | | | | | | | | | | |
| Type of Clearance: IFR | | | | | | | | | | | | | |
| Type of Airspace: Class E | | | | | | | | | | | | | |
| Weather | Weather Information | | | | | | | | | | | | |
| Source of Briefing: | | | | | | | | | | | | | |
| Company | | | | | | | | | | | | | |
| Method of | Method of Briefing: | | | | | | | | | | | | |
| FACTUAL REPORT - AVIATION Page 3 | | | | | | | | | | | | | |

| Nationa | al Transportation Safety | Board | NTSB ID: | NTSB ID: LAX97LA072 | | | | | | | | |
|--|----------------------------------|---|-------------|-----------------------------|-----------|----------------|----------|---------------|--------|----------------|----------------|------|
| | ACTUAL REPOP | | Occurren | Occurrence Date: 12/22/1996 | | | | | | | | |
| | AVIATION FTYBON | | | Occurrence Type: Accident | | | | | | | | |
| Weather Information | | | | | | | | | | | | |
| WOF ID | Observation Time | Time Zone | WOF Elevat | ion | WOF Di | stance Fron | n Accio | dent Site | | Direction Fror | m Accident Sit | e |
| | | | | | | | | | | | | - |
| MCE | 1145 | PST | 153 Ft | . MSL | | | | 0 NM | | | 0 Deg. | Mag. |
| Sky/Lowest Cloud Condition: Scattered 3500 Ft. AGL Condition of Light: Day | | | | | | | | | | | | |
| Lowest Ce | iling: Broken | | 10000 Ft | AGL | Visibi | ility: | 20 | SM | Alti | meter: | 29.00 | "Hg |
| Temperatu | ure: 11 °C | 11 °C Dew Point: 9 °C Wind Direction: 160 Density Altitude: | | | | | | | | | Ft. | |
| Wind Spee | ed: 10 | Gusts: | | Weath | her Condt | ions at Accid | dent S | ite: Visual (| Cond | itions | | |
| Visibility (F | RVR): 0 Ft | . Visibility (| RVV) 0 | SM | Intensity | y of Precipita | ation: I | Unknown | | | | |
| | s to Visibility: None | | , | | | | | | | | | |
| | | | | | | | | | | | | |
| Type of Pre | ecipitation: None | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Accident | Information | | | | | | | | | | | |
| | mage: None | | Aircraft Fi | e None | <u>.</u> | | | Aircraft Exp | olosio | n None | | |
| | | | Allelalt | | , | | | | 510310 | in None | | |
| | ion: U.S. Registered/L | | Cariaus | | Neze | тоты | | | | | | |
| | mmary Matrix | Fatal | Serious Min | or | None | TOTAL | | | | | | |
| First Pi Second | | | | | 1 | 1 | | | | | | |
| Studen | | | | | I | 1 | | | | | | |
| | nstructor | | | | | | | | | | | |
| Check | | | | | | | | | | | | |
| | Engineer | | | | | | | | | | | |
| | Attendants | | 1 | 1 | 2 | 4 | | | | | | |
| Other C | | | | <u>'</u> | | · · · | | | | | | |
| Passer | ngers | | | | 115 | 115 | | | | | | |
| - TOTAL A | ABOARD - | | 1 | 1 | 119 | | | | | | | |
| Other C | Ground | 0 | 0 | 0 | | 0 | | | | | | |
| - GRANE | D TOTAL - | 0 | 1 | 1 | 119 | 121 | | | | | | |
| | | | | | | | | | | | | |
| | FACTUAL REPORT - AVIATION Page 4 | | | | | | | | | | | |

| National Transportation Safety Board | NTSB ID: LAX97LA072 | |
|---|-----------------------------|--|
| FACTUAL REPORT | Occurrence Date: 12/22/1996 | |
| AY IATION ETYBOR | Occurrence Type: Accident | |
| Administrative Information | | |
| Investigator-In-Charge (IIC) JEFF RICH | | |
| Additional Persons Participating in This Accident/Incid | ent Investigation: | |
| T CHRISTIANSEN WP-SJC-FSDO SAN JOSE, CA 95110 | | |
| | | |
| | | |
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