
Turbulence injury, Airbus A300B4-605R, January 17, 1996

Micro-summary: This Airbus A300B4-605R encountered turbulence during a descent, injuring several passengers.


Event Date: 1996-01-17 at 1438 EST

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

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

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		NTSB ID: MIA96FA064		Aircraft Registration Number: N7076A		
		Occurrence Date: 01/17/1996		Most Critical Injury: Serious		
		Occurrence Type: Accident		Investigated By: NTSB		
Location/Time						
Nearest City/Place ATLANTIC OCEAN		State AO	Zip Code 00000	Local Time 1438	Time Zone EST	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:		
Aircraft Information Summary						
Aircraft Manufacturer Airbus Industrie		Model/Series A-300B4-605R		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>HISTORY OF THE FLIGHT</p> <p>On January 17, 1996, about 1438 eastern standard time, an Airbus A300B4-605R, N7076A, registered to and operated by American Airlines, Inc., as flight 869, scheduled, domestic, passenger service from Miami, Florida, to San Juan, Puerto Rico, encountered turbulence during an enroute descent from 35,000 feet (FL350), over the Atlantic Ocean near Cat Island, Bahamas. The flight was conducted in accordance with the provision of Title 14 CFR Part 121. Instrument meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The aircraft received minor damage. The airline transport-rated pilot, first officer, 7 flight attendants, and 239 passengers were not injured. Seventeen passengers reported minor injuries and three passengers reported serious injuries. The flight originated from Miami, the same day about 1401.</p> <p>The captain stated in writing and during an interview with the NTSB that he was flying the aircraft. After departing Miami they climbed to 33,000 feet (FL330), where they encountered light to occasional moderate turbulence. He turned on the passenger seat belt sign and it remained on until after the accident. They received information from air traffic control that the ride was reported to be better at 27,000 (FL270) and 35,000 feet (FL350). They asked for and received clearance to 27,000 feet (FL270).</p> <p>Upon reaching 27,000 feet (FL270), they encountered turbulence and observed visible clouds below. They asked for and received clearance to 35,000 feet (FL350). Upon reaching 35,000 feet (FL350) they found the turbulence was worse. He then requested and received clearance back to 33,000 feet (FL330). As they began the descent they encountered severe turbulence. After the aircraft was brought under control he advised air traffic control of the encounter with turbulence and received an injury report from the flight attendants. Based on the information he received from the cabin attendants and doctors who were treating the injured, he elected to continue to San Juan and avoid possible further injury by flying back through the area of turbulence.</p> <p>The first officer stated during an interview with the NTSB that when they reached 35,000 feet (FL350), just before the turbulence encounter, they were in and out of the jagged tops of the clouds. The winds were shifting from the west to northwest. There was no weather showing on radar. As they began the descent to 33,000 feet (FL330), they entered the clouds and were in the clouds at the time of the accident. At the time of the accident the autopilot and autothrottles were on. They had increased airspeed to .81 mach do to fluctuations from the turbulence. During the turbulence encounter the autopilot disconnected. There was nothing remarkable about the weather information they received before takeoff and they did not receive any Sigmet reports from air traffic control.</p> <p>The flight attendants stated that after departure it was bumpy and they delayed starting the meal service. The seat belt sign was on and several announcements were made in both English and</p>						
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FACTUAL REPORT

AVIATION

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Spanish for passengers to remained seated with their seat belts fastened. The flight attendants remained seated with their seat belts on. They stated that during the severe turbulence encounter, passengers who did not have their seat belts fastened or who were not in their seats, struck the overhead areas of the aircraft and received injuries.

For additional History of Flight information see the Survival Factors Specialist Report and other attachments to this report.

PERSONNEL INFORMATION

Information on the captain and first officer is contained in this report under First Pilot Information and in Supplement E to this report. Information on the flight attendants is contained in the Survival Factors Specialist Report.

AIRCRAFT INFORMATION

Information on the aircraft is contained in this report under Aircraft Information.

METEOROLOGICAL INFORMATION

A meteorological study was performed by James T. Skeen, Jr., Senior Meteorologist, NTSB, Washington, D.C. The study indicated that satellite images showed an area of clouds existed in the area of the turbulence encounter at the time. Thunderstorms were present in the cloud area. Significant turbulence was present in the area at between 25,000 (FL250) and 36,000 feet (FL360).

The National Weather Service had issued Sigmet Echo 1 at 1236. The Sigmet stated that satellite observations show an area of active thunderstorms with tops to 38,000 feet (FL380) in the area of the accident. The area was moving north at 5-10 knots and was intensifying. The Sigmet was in effect until 1640. The flightcrew stated they did not receive this Sigmet in the weather information obtained from American Airlines before takeoff. They further stated they did not hear it broadcast on the normal ATC communications frequencies and did not listen to the weather information frequencies where it was being broadcast.


American Airlines produces a variety of tailored aviation forecast and advisory products under the FAA Enhanced Weather Information System program. National Weather Service products are not forwarded to flight crews directly, but are evaluated during the preparation of the American Airlines weather products and are available to flight crews through the computer system. The American Airlines weather information that was supplied to the flight crew of American Airlines Flight 869 before departure forecast a weak upper level cyclonic circulation producing cloudiness/scattered showers across southern Bahamas. Isolated thunderstorms possible within showers discussed above. No thunderstorm SIGMEC issued. No CAT SIGMEC issued. CAT (clear air turbulence) indicator 0 (smooth).

For additional meteorological information see the Meteorology Group Chairman's Factual Report and other attachments to this report.

FLIGHT RECORDERS

The digital flight data recorder was removed from N7076A after the aircraft landed in San Juan, Puerto Rico, and forwarded to the NTSB Flight Recorder Laboratory, Washington, D.C. for readout and evaluation. The cockpit voice recorder was not retained by NTSB for readout, for the accident event was no longer present on the recorder at the time of arrival in San Juan.

Readout of the digital flight data recorder showed that at the time of the turbulence encounter the aircraft was descending through 34,500 feet msl, on a heading of 110 degrees, at an

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calibrated airspeed of 290 knots. Vertical acceleration increased to 2.088 G's, decreased to -1.032 G's, and then increased to 1.788 G's. See attached Factual Report of Investigation-Digital Flight Data Recorder.

WRECKAGE AND IMPACT INFORMATION


Wreckage and impact information is contained in the Survival Factors Specialist Report.


MEDICAL AND PATHOLOGICAL INFORMATION

Medical information is contained in the Survival Factors Specialist Report.

ADDITIONAL INFORMATION

The aircraft was released by the NTSB to Chris Moran, American Airlines, Flight Safety, on January 19, 1996. The digital flight data recorder and seatbelts from the cabin of N7076A were released by NTSB to Chris Moran on November 6, 1996.

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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 Airbus Industrie		Model/Series A-300B4-605R		Serial Number 610	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 280	Certified Max Gross Wt.	377800 LBS	Number of Engines: 2	
Engine Type: Turbo Fan	Engine Manufacturer: GE	Model/Series: CF6-80C2A5	Rated Power: 61500 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 01/1996	Time Since Last Inspection 4 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 AMERICAN AIRLINES		Street Address P.O. BOX 619616			
		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: 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					

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First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 55
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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; Single-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--w/ waivers/lim.	Date of Last Medical Exam: 08/1995
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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	4113	2359								
Pilot In Command(PIC)	2500	2359								
Instructor										
Last 90 Days										
Last 30 Days										
Last 24 Hours	1	1		1						

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

Type of Flight Plan Filed: IFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
MIAMI	FL	MIA	1401	EST
Destination	State	Airport Identifier		
SAN JUAN	PR	SJU		


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
MYN	1400	EST	10 Ft. MSL	124 NM	282 Deg. Mag.

Sky/Lowest Cloud Condition: Scattered	1000 Ft. AGL	Condition of Light: Day
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Lowest Ceiling: None	0 Ft. AGL	Visibility: 10	SM	Altimeter: 29.00	"Hg
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Temperature: 27 °C	Dew Point: 17 °C	Wind Direction: 100	Density Altitude: 1000 Ft.
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Wind Speed: 10	Gusts:	Weather Conditions at Accident Site: Instrument Conditions
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Visibility (RVR): 0 Ft.	Visibility (RVV) 0	SM	Intensity of Precipitation: Unknown
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Restrictions to Visibility: None

Type of Precipitation: None

Accident Information

Aircraft Damage: Minor	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				7	7
Other Crew					
Passengers		3	17	239	259
- TOTAL ABOARD -		3	17	248	268
Other Ground	0	0	0		0
- GRAND TOTAL -	0	3	17	248	268

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FACTUAL REPORT

AVIATION



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Administrative Information

Investigator-In-Charge (IIC)

JEFFREY L. KENNEDY

Additional Persons Participating in This Accident/Incident Investigation:

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