



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Decatur, Texas	Accident Number:	DCA18CA201
Date & Time:	June 10, 2018, 20:43 UTC	Registration:	N750AN
Aircraft:	Boeing 777 223	Aircraft Damage:	None
Defining Event:	Turbulence encounter	Injuries:	1 Serious, 7 Minor, 261 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

On June 10, 2018, at about 2043 UTC, American Airlines flight 60, N750AN, B777-200, turbulence during descent to Dallas-Fort Worth International Airport (KDFW) Dallas-Fort Worth, Texas. Of the 269 passengers and crew onboard, one passenger received serious injuries and seven flight attendants received minor injuries. There was no damage to the airplane. The flight was operating under 14 *Code of Federal Regulations* Part 121 as a scheduled international passenger flight from Narita International Airport (RJAA) Narita, Japan, to KDFW.

As the flight began its descent into KDFW, the captain illuminated the seatbelt sign and made a public address announcement reminding passengers that the seatbelt sign was on and that they were to "return to your seats and buckle up for the remainder of the flight." Shortly after the captain notified the flight attendants (FA) to "prepare for landing and take your seats", the airplane entered a band of small cumulus clouds and experienced 10-15 seconds of moderate turbulence.

When the turbulence was encountered, the FAs were conducting their final cabin safety checks since the captain had informed them that there might be turbulence during descent. As a result, seven FAs were thrown to the floor and one passenger, who had ignored the seatbelt sign and instructions to remain seated, was also thrown to the floor and injured his left ankle. The FAs notified the flight crew, who arranged for paramedics to meet the airplane at the gate. After landing, the passenger was transported to the hospital where he was diagnosed with a broken ankle and the seven FA's who had received various minor injuries were treated at the airplane and released.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

the passengers failure to comply with the fasten seatbelt sign when the airplane encountered convective turbulence.

Findings

Personnel issues	Unnecessary action - Passenger
Environmental issues	Clear air turbulence - Effect on personnel

Factual Information

History of Flight

Approach	Turbulence encounter (Defining event)
----------	---------------------------------------

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer	Age:	59
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	December 18, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 20, 2017
Flight Time:	(Estimated) 10644 hours (Total, all aircraft), 483 hours (Total, this make and model), 8432 hours (Pilot In Command, all aircraft), 150 hours (Last 90 days, all aircraft), 69 hours (Last 30 days, all aircraft), 11 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Airline transport; Commercial; Flight engineer	Age:	62
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	January 12, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 24, 2017
Flight Time:	10433 hours (Total, all aircraft), 4521 hours (Total, this make and model), 815 hours (Pilot In Command, all aircraft), 149 hours (Last 90 days, all aircraft), 49 hours (Last 30 days, all aircraft), 11 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	50
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	3854 hours (Total, all aircraft)		

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	50
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Unknown	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	12467 hours (Total, all aircraft)		

Cabin crew Information

Certificate:	None	Age:	
Airplane Rating(s):		Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	4-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Cabin crew Information

Certificate:	None	Age:	
Airplane Rating(s):		Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	4-point
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Cabin crew Information

Certificate:	None	Age:	
Airplane Rating(s):		Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N750AN
Model/Series:	777 223 223	Aircraft Category:	Airplane
Year of Manufacture:	2001	Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	30259
Landing Gear Type:	Retractable - Tricycle	Seats:	289
Date/Type of Last Inspection:	June 10, 2018 Continuous airworthiness	Certified Max Gross Wt.:	545004 lbs
Time Since Last Inspection:		Engines:	2 Turbo fan
Airframe Total Time:	69852 Hrs	Engine Manufacturer:	ROLLS-ROYCE
ELT:		Engine Model/Series:	Trent 892
Registered Owner:		Rated Power:	90000 Lbs thrust
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	AALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	
Lowest Ceiling:	Unknown	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	Unknown / Clear air
Wind Direction:		Turbulence Severity Forecast/Actual:	Unknown / Moderate
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	Narita (RJAA)	Type of Flight Plan Filed:	IFR
Destination:	Dallas/Ft. Wort, TX (KDFW)	Type of Clearance:	IFR
Departure Time:	10:01 UTC	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	7 Minor, 7 None	Aircraft Damage:	None
Passenger Injuries:	1 Serious, 254 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 7 Minor, 261 None	Latitude, Longitude:	33.341388,-97.547775(est)

Administrative Information

Investigator In Charge (IIC):	Ward, Effie Lorenda
Additional Participating Persons:	
Original Publish Date:	July 8, 2020
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97434

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).