



Aviation Investigation Final Report

Location:	Albany, New York	Accident Number:	DCA19CA207
Date & Time:	October 15, 2018, 13:10 Local	Registration:	N7816B
Aircraft:	Boeing 737	Aircraft Damage:	None
Defining Event:	Turbulence encounter	Injuries:	1 Serious, 142 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

On October 15, 2018, about 1310 eastern daylight time, Southwest Airlines flight 2437, a Boeing 737-7L9, N7816B, encountered turbulence while descending through about FL280. As a result of the turbulence, one flight attendant received serious injuries. The remaining passengers and crew were not injured, and the airplane was not damaged. The regularly scheduled passenger flight was operating under the provisions of Title 14 *Code of Federal Regulations* Part 121 from Chicago Midway International Airport (KMDW), Chicago, Illinois, to Manchester-Boston Regional Airport (KMHT), Manchester, New Hampshire.

The flight crew stated that prior to encountering turbulence the seat belt sign had been illuminated, and the flight attendants had been asked to be seated since turbulence was anticipated. The flight crew stated that upon entering a “benign-looking” cloud formation the airplane encountered continuous moderate to heavy turbulence for about 20 to 30 seconds. The flight attendants (FA) stated that soon after receiving the call to be seated, the flight encountered turbulence and the FA in the aft galley was thrown against the door and cabinets, and then onto the floor, injuring her right foot. After landing the FA was transported to a local hospital and diagnosed with a broken right foot.

Probable Cause and Findings

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

an encounter with convective turbulence that resulted in a serious injury to a flight attendant.

Findings

Environmental issues

Convective turbulence - Effect on personnel

Factual Information

History of Flight

Enroute-descent	Turbulence encounter (Defining event)
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Pilot Information

Certificate:	Airline transport	Age:	57,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	5-point
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	September 13, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	13000 hours (Total, all aircraft), 8000 hours (Total, this make and model), 8000 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 35 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Co-pilot Information

Certificate:	Airline transport; Flight instructor	Age:	38,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	November 2, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	December 7, 2017
Flight Time:	6270 hours (Total, all aircraft), 1865 hours (Total, this make and model), 2360 hours (Pilot In Command, all aircraft), 167 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N7816B
Model/Series:	737 7L9	Aircraft Category:	Airplane
Year of Manufacture:	1999	Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	28009
Landing Gear Type:	Retractable - Tricycle	Seats:	151
Date/Type of Last Inspection:	September 5, 2018 Continuous airworthiness	Certified Max Gross Wt.:	154500 lbs
Time Since Last Inspection:		Engines:	2 Turbo fan
Airframe Total Time:	58134 Hrs	Engine Manufacturer:	Cfm Intl
ELT:	C126 installed, not activated	Engine Model/Series:	CFM56-7B24
Registered Owner:		Rated Power:	10142 Horsepower
Operator:		Operating Certificate(s) Held:	Flag carrier (121)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:		Visibility	
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	Chicago, IL (MDW)	Type of Flight Plan Filed:	IFR
Destination:	Manchester, NH (MHT)	Type of Clearance:	IFR
Departure Time:	11:00 Local	Type of Airspace:	Class A

Wreckage and Impact Information

Crew Injuries:	1 Serious, 4 None	Aircraft Damage:	None
Passenger Injuries:	138 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 142 None	Latitude, Longitude:	40.709934,-73.95063(est)

Administrative Information

Investigator In Charge (IIC):	Lovell, John		
Additional Participating Persons:			
Original Publish Date:	February 24, 2022	Investigation Class:	4
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98494		

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](#).