



Aviation Investigation Final Report

Location:	Dulles, Virginia	Accident Number:	DCA17CA071
Date & Time:	February 13, 2017, 11:15 Local	Registration:	N838CA
Aircraft:	BOMBARDIER INC DHC 8 311	Aircraft Damage:	None
Defining Event:	Turbulence encounter	Injuries:	1 Serious, 52 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

On February 13, 2017, at 1115 eastern standard time, a Bombardier DHC-8, operated by Commutair as a scheduled flight from Fayetteville, North Carolina, to Washington Dulles International Airport (IAD), encountered turbulence resulting in a serious injury to the flight attendant. The airplane was not damaged and there were no other injuries.

According to the operator, the flight was in smooth conditions during the cruise portion and initial descent. The Captain stated that as he finished the before-landing checklist at 4,000 feet, approximately 50 miles south of IAD, the flight encountered a "pocket" of moderate turbulence resulting in a descent rate of about 600 feet per minute and an altitude loss of about 400 feet. The Captain called to the cabin to check on the passengers and the flight attendant reported she injured her leg and could not walk.

The flight attendant reported that she was in the final stages of preparing the cabin for landing when the turbulence occurred. Passengers assisted her until landing and paramedics met the aircraft at the gate. The flight attendant was diagnosed with a broken ankle.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: an inadvertent encounter with clear air turbulence.

Findings

Environmental issues

Clear air 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:	35
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1	Last FAA Medical Exam:	December 15, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 25, 2016
Flight Time:	3094 hours (Total, all aircraft), 1414 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Airline transport	Age:	25
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):		Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	August 1, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 14, 2016
Flight Time:	1407 hours (Total, all aircraft), 405 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	BOMBARDIER INC	Registration:	N838CA
Model/Series:	DHC 8 311 NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1998	Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	527
Landing Gear Type:	Retractable -	Seats:	55
Date/Type of Last Inspection:	January 30, 2017	Certified Max Gross Wt.:	42000 lbs
Time Since Last Inspection:		Engines:	1 Turbo prop
Airframe Total Time:	35111.18 Hrs at time of accident	Engine Manufacturer:	P&W CANADA
ELT:	C126 installed, not activated	Engine Model/Series:	PW123
Registered Owner:		Rated Power:	
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	JJBA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Few / 6500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ Clear air
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	12°C / 5°C
Precipitation and Obscuration:			
Departure Point:	Fayetteville, NC (KFAY)	Type of Flight Plan Filed:	IFR
Destination:	Dulles, VA (KIAD)	Type of Clearance:	IFR
Departure Time:	09:50 Local	Type of Airspace:	Class E

Airport Information

Airport:	Washington Dulles International KIAD	Runway Surface Type:	
Airport Elevation:	200 ft msl	Runway Surface Condition:	Unknown
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious, 2 None	Aircraft Damage:	None
Passenger Injuries:	50 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 52 None	Latitude, Longitude:	38.953056,-77.45639(est)

Administrative Information

Investigator In Charge (IIC):	English, William
Additional Participating Persons:	
Original Publish Date:	March 9, 2018
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=94745

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](#).