



# Aviation Investigation Final Report

<b>Location:</b>	Cut Bank, Montana	<b>Accident Number:</b>	DCA18CA255
<b>Date &amp; Time:</b>	June 16, 2018, 22:00 Local	<b>Registration:</b>	N637CZ
<b>Aircraft:</b>	Embraer ERJ175	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>	Turbulence encounter	<b>Injuries:</b>	1 Serious, 72 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Analysis

On June 16, 2018, about 2200 MDT, Compass Airlines flight 5774, N637CZ, Embraer 175, encountered turbulence while in cruise flight at flight level 300 while enroute to Calgary International Airport (CYYZ), Calgary, Alberta, Canada. Of the 73 passengers and crew onboard, one flight attendant was seriously injured. The flight was operating under 14 Code of Federal Regulations Part 121 as a regularly scheduled passenger flight from Salt Lake City International Airport (KSLC), Salt Lake City, Utah to CYYZ.

According to the flight crew, air traffic control (ATC) relayed pilot reports of a "smooth ride with light chop" for their route of flight. The airplane was in visual meteorological conditions and the seatbelt sign was illuminated. At the time of the turbulence encounter the aft flight attendant was finishing up beverage service and was thrown against the bulkhead and jumpseat. The flight attendant was unable to complete her duties due to the injury and two passengers assisted the flight attendant until landing. Upon arrival at the gate in CYYZ, the flight attendant was transported to the hospital where she was diagnosed with a broken vertebra.

## Probable Cause and Findings

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

## Findings

<b>Environmental issues</b>	Terrain induced turbulence - Effect on personnel
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## Factual Information

### History of Flight

Enroute-cruise	Turbulence encounter (Defining event)
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### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	26
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	October 17, 2017
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	February 23, 2018
<b>Flight Time:</b>	(Estimated) 3999 hours (Total, all aircraft), 2074 hours (Total, this make and model), 1917 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

### Co-pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	46
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With waivers/limitations	<b>Last FAA Medical Exam:</b>	February 16, 2018
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	June 29, 2018
<b>Flight Time:</b>	(Estimated) 2841 hours (Total, all aircraft), 1207 hours (Total, this make and model), 1561 hours (Pilot In Command, all aircraft), 156 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Cabin crew Information

<b>Certificate:</b>		<b>Age:</b>	
<b>Airplane Rating(s):</b>		<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>		<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>		<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>		<b>Last FAA Medical Exam:</b>	
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Cabin crew Information

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

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Embraer	<b>Registration:</b>	N637CZ
<b>Model/Series:</b>	ERJ175 200	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	2008	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	17000256
<b>Landing Gear Type:</b>	Retractable -	<b>Seats:</b>	76
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	89853 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo fan
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	General Electric
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	CF34-8E5
<b>Registered Owner:</b>		<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>	Delta Connection	<b>Operator Designator Code:</b>	C77A

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	Condition of Light:	Night
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:	Unknown / Terrain-Induced
Wind Direction:		Turbulence Severity Forecast/Actual:	Unknown / Moderate
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	Salt Lake City, UT (KSLC)	Type of Flight Plan Filed:	IFR
Destination:	Calgary (CYYC)	Type of Clearance:	IFR
Departure Time:	20:24 Local	Type of Airspace:	Class A

## Wreckage and Impact Information

Crew Injuries:	1 Serious, 3 None	Aircraft Damage:	None
Passenger Injuries:	69 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 72 None	Latitude, Longitude:	48.71389,-112.538887(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:	<a href="https://data.nts.gov/Docket?ProjectID=97980">https://data.nts.gov/Docket?ProjectID=97980</a>

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](#).