



Aviation Investigation Final Report

Location:	Charlotte, North Carolina	Accident Number:	DCA19CA102
Date & Time:	March 10, 2019, 09:45 Local	Registration:	N530EA (A1); N569NN (A2)
Aircraft:	Bombardier CL 600 2C10 (A1); Bombardier CL600 2D24 (A2)	Aircraft Damage:	Substantial (A1); Substantial (A2)
Defining Event:	Ground collision	Injuries:	1 Minor, 60 None (A1); 70 None (A2)
Flight Conducted Under:	Part 121: Air carrier - Scheduled (A1); Part 121: Air carrier - Scheduled (A2)		

Analysis

On March 10, 2019, at 0944 eastern daylight time, PSA Airlines flight 5366, a Bombardier CRJ-900, N569NN, collided with PSA Airlines flight 5141, a Bombardier CRJ-700, N530EA while pushing back from gate E31 at the Charlotte Douglas International Airport (KCLT), Charlotte, North Carolina. There were no injuries the passengers and crew onboard either airplane, and both airplanes received substantial damage. Both airplanes were regularly scheduled passenger flights operating under 14 Code of Federal Regulations Part 121.

The CRJ-700 had pushed back from gate E14B and was waiting for taxi by spot 29W. The CRJ-900 requested push back from gate E31, and the north ramp controller initially instructed them to “10 and hold.” The push back was approved about 2 minutes later and the flight crew coordinated with ground crew. After pushing back about 30 feet, the tail of the CRJ-900 impacted the tail of the CRJ-700. After feeling the impact, the CRJ-900 crew aborted their engine start procedure and set the parking brake, while the CRJ-700 crew started their auxiliary power unit and shut down both engines after receiving damage reports from ATC and neighboring airplanes. An emergency evacuation was not performed on either aircraft. Post-accident examination revealed substantially damaged to the horizontal and vertical stabilizers and left elevator of the CRJ-900, and the horizontal stabilizer and left elevator of the CRJ-700.

Probable Cause and Findings

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

failure of the ground crew to maintain visual separation and avoid the holding aircraft.

Findings

Personnel issues (A1)	Forgotten action/omission - Ground crew
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Factual Information

History of Flight

Pushback/tow-engine oper (A1)	Ground collision (Defining event)
Standing-engine(s) operating (A2)	Ground collision

Pilot Information (A1)

Certificate:	Airline transport	Age:	53, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	October 6, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 4, 2018
Flight Time:	9028 hours (Total, all aircraft), 5745 hours (Total, this make and model), 5183 hours (Pilot In Command, all aircraft), 198 hours (Last 90 days, all aircraft), 69 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Co-pilot Information (A1)

Certificate:	Airline transport; Commercial	Age:	35, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	May 1, 2018
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 27, 2018
Flight Time:	1992 hours (Total, all aircraft), 277 hours (Total, this make and model), 416 hours (Pilot In Command, all aircraft), 147 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Pilot Information (A2)

Certificate:	Airline transport; Commercial	Age:	31,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	January 3, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 25, 2018
Flight Time:	3235 hours (Total, all aircraft), 1960 hours (Total, this make and model), 2576 hours (Pilot In Command, all aircraft), 166 hours (Last 90 days, all aircraft), 63 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Co-pilot Information (A2)

Certificate:	Airline transport; Commercial	Age:	50,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	January 15, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 27, 2018
Flight Time:	1674 hours (Total, all aircraft), 414 hours (Total, this make and model), 741 hours (Pilot In Command, all aircraft), 112 hours (Last 90 days, all aircraft), 42 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	Bombardier	Registration:	N530EA
Model/Series:	CL 600 2C10 700	Aircraft Category:	Airplane
Year of Manufacture:	2010	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	10308
Landing Gear Type:	Tricycle	Seats:	69
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	75250 lbs
Time Since Last Inspection:		Engines:	Turbo fan
Airframe Total Time:		Engine Manufacturer:	General Electric
ELT:		Engine Model/Series:	CF34-8C5B1
Registered Owner:		Rated Power:	14500 Lbs thrust
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	VNAA

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	Bombardier	Registration:	N569NN
Model/Series:	CL600 2D24 900	Aircraft Category:	Airplane
Year of Manufacture:	2015	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	15356
Landing Gear Type:	Retractable - Tricycle	Seats:	80
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	85000 lbs
Time Since Last Inspection:	9966 Hrs	Engines:	2 Turbo fan
Airframe Total Time:	at time of accident	Engine Manufacturer:	General Electric
ELT:	C126 installed, not activated	Engine Model/Series:	CF34-8C5B1
Registered Owner:		Rated Power:	14500 Lbs thrust
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	VNAA

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	0.75 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	8°C / 7°C
Precipitation and Obscuration:			
Departure Point:	White Plains, NY (HPN) (A1); Savannah, GA (SAV) (A2)	Type of Flight Plan Filed:	IFR (A1); IFR (A2)
Destination:	Charlotte, NC (CLT) (A1); Charlotte, NC (CLT) (A2)	Type of Clearance:	IFR (A1); IFR (A2)
Departure Time:		Type of Airspace:	Class B (A1); Class B (A2)

Airport Information

Airport:	Charlotte/Douglas Intl CLT	Runway Surface Type:	
Airport Elevation:	747 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information (A1)

Crew Injuries:	1 Minor, 3 None	Aircraft Damage:	Substantial
Passenger Injuries:	57 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Minor, 60 None	Latitude, Longitude:	35.224723,-80.938613

Wreckage and Impact Information (A2)

Crew Injuries:	5 None	Aircraft Damage:	Substantial
Passenger Injuries:	65 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	70 None	Latitude, Longitude:	35.224723,-80.938613

Administrative Information

Investigator In Charge (IIC):	Bower, Daniel		
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=99084		

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](#).