



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Clarence Center, NY	<b>Accident Number:</b>	DCA09MA027
<b>Date &amp; Time:</b>	02/12/2009, 2017 EST	<b>Registration:</b>	N200WQ
<b>Aircraft:</b>	BOMBARDIER INC DHC-8-402	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	50 Fatal
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

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## Analysis

The Safety Board's full report is available at [http://www.nts.gov/publictn/A\\_Acc1.htm](http://www.nts.gov/publictn/A_Acc1.htm). The Aircraft Accident Report number is NTSB/AAR-10/01.

On February 12, 2009, about 2217 eastern standard time, a Colgan Air, Inc., Bombardier DHC-8-400, N200WQ, operating as Continental Connection flight 3407, was on an instrument approach to Buffalo-Niagara International Airport, Buffalo, New York, when it crashed into a residence in Clarence Center, New York, about 5 nautical miles northeast of the airport. The 2 pilots, 2 flight attendants, and 45 passengers aboard the airplane were killed, one person on the ground was killed, and the airplane was destroyed by impact forces and a postcrash fire. The flight was operating under the provisions of 14 Code of Federal Regulations Part 121. Night visual meteorological conditions prevailed at the time of the accident.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The captain's inappropriate response to the activation of the stick shaker, which led to an aerodynamic stall from which the airplane did not recover. Contributing to the accident were (1) the flight crew's failure to monitor airspeed in relation to the rising position of the low-speed cue, (2) the flight crew failure to adhere to sterile cockpit procedures, (3) the captain's failure to effectively manage the flight, and (4) Colgan Air's inadequate procedures for airspeed selection and management during approaches in icing conditions.

## Findings

<b>Aircraft</b>	Stall warning system - Incorrect use/operation (Cause)
<b>Personnel issues</b>	Incorrect action selection - Pilot (Cause) Monitoring equip/instruments - Flight crew (Factor) CRM/MRM techniques - Flight crew (Factor) Workload management - Pilot (Factor)
<b>Environmental issues</b>	Conducive to structural icing - Not specified
<b>Organizational issues</b>	Adequacy of policy/proc - Operator (Factor)

## Factual Information

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### History of Flight

Approach-IFR initial approach	Stall warn/stick-shaker/pusher Aerodynamic stall/spin Attempted remediation/recovery Loss of control in flight (Defining event)
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### Pilot Information

Certificate:	Airline Transport	Age:	47, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 With Waivers/Limitations	Last FAA Medical Exam:	08/22/2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	12/03/2008
Flight Time:	3263 hours (Total, all aircraft), 110 hours (Total, this make and model), 1205 hours (Pilot In Command, all aircraft), 110 hours (Last 90 days, all aircraft), 51 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	24, Female
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Single-engine	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	01/22/2009
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	03/16/2008
<b>Flight Time:</b>	2238 hours (Total, all aircraft), 768 hours (Total, this make and model), 1350 hours (Pilot In Command, all aircraft), 174 hours (Last 90 days, all aircraft), 51 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BOMBARDIER INC	<b>Registration:</b>	N200WQ
<b>Model/Series:</b>	DHC-8-402	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	4200
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	74
<b>Date/Type of Last Inspection:</b>	02/12/2010, Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>	1819 Hours as of last inspection	<b>Engine Manufacturer:</b>	P&W CANADA
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	PW150A
<b>Registered Owner:</b>	COLGAN AIR INC	<b>Rated Power:</b>	5071 hp
<b>Operator:</b>	COLGAN AIR INC	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>	Continental Connection	<b>Operator Designator Code:</b>	NSVA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	BUF	Distance from Accident Site:	5 Nautical Miles
Observation Time:	2210 EST	Direction from Accident Site:	65°
Lowest Cloud Condition:	/ 1100 ft agl	Visibility	3 Miles
Lowest Ceiling:	Broken / 2100 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	Newark, NJ (EWR)	Type of Flight Plan Filed:	IFR
Destination:	Buffalo, NY (BUF)	Type of Clearance:	IFR
Departure Time:	2119 EST	Type of Airspace:	Air Traffic Control

## Airport Information

Airport:	Buffalo-Niagara International (BUF)	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:		IFR Approach:	ILS
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	4 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	45 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	1 Fatal	Aircraft Explosion:	On-Ground
Total Injuries:	50 Fatal	Latitude, Longitude:	43.011111, -78.634722 (est)

## Administrative Information

**Investigator In Charge (IIC):** Effie Lorenda Ward **Adopted Date:** 03/28/2010

**Additional Participating Persons:** chris Soucy; FAA; Washington, DC  
pete frey; ALPA  
Mike Crook; Colgan  
Jim Davis; NATCA  
Deb Tortora; Steelworkers Union - flight attendants union  
Don Enns; TSB - Canada  
Julian Firth; AAIB  
Alan Thorne; AAIB

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**Investigation Docket:** NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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