



# Aviation Investigation Factual Report

<b>Location:</b>	Hebron, Kentucky	<b>Incident Number:</b>	MIA01IA051
<b>Date &amp; Time:</b>	December 26, 2000, 17:29 Local	<b>Registration:</b>	N729CA
<b>Aircraft:</b>	Canadair CL-600-2B19	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>		<b>Injuries:</b>	53 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Factual Information

On December 26, 2000, about 1729 eastern standard time, a Bombardier CL-600-2B19, N729CA, registered to First Union National Bank, operated by Comair, Inc., as flight 5751, experienced cracking of the captain's windshield while climbing to cruise after takeoff from the Cincinnati/Northern Kentucky International Airport, Hebron, Kentucky. Visual meteorological conditions prevailed at the time and an instrument flight rules (IFR) flight plan was filed for the 14 CFR Part 121, scheduled, domestic, passenger flight. The airplane was not damaged and there were no injuries to the airline transport-rated captain, commercial-rated first officer, flight attendant, or 50 passengers. The flight originated at 1719.

According to the airline safety manager, while climbing through 20,000 feet in visual meteorological conditions, the captain's windshield "shattered." The captain did not declare an emergency; the flight returned to the departure airport and landed uneventfully.

The damaged windshield (PPG part number NP 139321-5, S/N 99018H7134) was removed from the airplane and initial examination revealed that the center ply was failed. The window was further examined in the presence of representatives of the NTSB, FAA, Bombardier, and PPG, at one PPG's facilities.

A report of the damaged windshield prepared by PPG indicates, "The fracture originated 0.20 inch from the bottom edge and 3.8 inches from the center of the forward corner. The origin of the fracture was a peel chip that developed on the outboard surface in the bottom forward corner area. The initiation point of the peel chip damage was located 0.115 inch from the inner edge of the Teflon tape and 0.325 inch from the glass edge." The report also indicates that examination of the peel chip using a microscope, "...did not reveal any surface damage at the peel chip initiation point, nor was there any indication of manufacturing defects." No discrepancies were noted with the anti-ice heating system and sensing elements. Optical distortion check of the damaged window was performed which revealed, "There was no slope-line distortion apparent in the critical vision area. However, facilities were not available to perform a quantitative distortion evaluation." Residual visibility examination could not be performed due to the absence of a standard and prescribed method of evaluation (a copy of the report is an attachment to this report).

Manufacturing of windshield S/N 99018H7134 was completed on January 18, 1999; the window was installed in the incident airplane by Comair maintenance personnel on March 27, 1999, to replace the previous window which "shattered while sitting at gate power off." The incident window had accumulated a reported 4,422.8 hours and 4,526 cycles at the time of failure.

The airplane minus the retained captain's windshield was released to Michael L. Mizell,

compliance analyst for Comair, on January 17, 2001. The retained windshield was authorized by Michael L. Mizell, compliance analyst for Comair, to be disposed of (a copy of his letter authorizing such is an attachment to this report).

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial	<b>Age:</b>	58, Male
<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>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	November 13, 2000
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	15734 hours (Total, all aircraft)		

### Co-pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	33, Male
<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>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	April 11, 2000
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1500 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Canadair	<b>Registration:</b>	N729CA
<b>Model/Series:</b>	CL-600-2B19	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	7265
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	50
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo fan
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	GE
<b>ELT:</b>		<b>Engine Model/Series:</b>	CF-34
<b>Registered Owner:</b>	First Union National Bank	<b>Rated Power:</b>	
<b>Operator:</b>	COMAIR INC	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>	Delta Connection	<b>Operator Designator Code:</b>	COMA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Not reported
<b>Observation Facility, Elevation:</b>	KCVG, 897 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	16:51 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>		<b>Visibility</b>	2.5 miles
<b>Lowest Ceiling:</b>	Overcast / 2000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/ None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.42 inches Hg	<b>Temperature/Dew Point:</b>	-6°C / -11°C
<b>Precipitation and Obscuration:</b>	Light - None - Snow		
<b>Departure Point:</b>	Hebron, KY (KCVG)	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Greer, SC (KGSP)	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	17:19 Local	<b>Type of Airspace:</b>	Class A

## Wreckage and Impact Information

<b>Crew Injuries:</b>	3 None	<b>Aircraft Damage:</b>	None
<b>Passenger Injuries:</b>	50 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	53 None	<b>Latitude, Longitude:</b>	39.080154,-84.699905(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Monville, Timothy
<b>Additional Participating Persons:</b>	Eric West; FAA; AAI-100; Washington, DC Raymond L Mang; PPG Industries, Inc.; Huntsville, AL Tony Lively; Bombardier Aerospace; Montreal Michael Mizell; Comair; Cincinnati, OH Alan Dean; ALPA; Cincinnati, OH
<b>Report Date:</b>	April 10, 2002
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this incident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=50855">https://data.nts.gov/Docket?ProjectID=50855</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).