



National Transportation Safety Board Aviation Accident Data Summary

Location:	Atlanta, GA	Accident Number:	ATL02FA113
Date & Time:	06/02/2002, 2200 EDT	Registration:	N849AS
Aircraft:	Bombardier CL600-2B19	Injuries:	53 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

A Bombardier CL600-2B-19, N849AS, operated by Atlantic Southeast Airlines, Inc., as flight 4509, experienced a left main landing gear failure during landing on runway 26R, at the Atlanta Hartsfield International Airport, in Atlanta, Georgia. According to the flight crew, and confirmed by the FDR, the approach to landing was uneventful. Upon landing the pilot deployed the thrust reversers and the left main landing gear collapsed. Fracture of the main fitting for the left main landing gear was caused by a fatigue crack that emanated from multiple origins at the external surface of the wall at the shock strut radius run out area. No evidence of material anomalies, such as corrosion or gouge damage, was found at the fatigue origin area. Because the stresses leading to the fatigue crack of the main fitting have not clearly been identified, the root cause of the fatigue cracking has not been determined. During the investigation, Atlantic Southeast Airlines did a Fleet Wide inspection of all their Bombardier Inc., Model CL600-2B19 aircraft landing gear assemblies, which included visual and eddy current inspections. Their inspections found no additional cracked landing gear. Additionally, Transport Canada issued a revised AD, which eliminated the escalation of the eddy current inspection intervals as allowed in their previous AD. Also, the FAA issued an NPRM in response to Transport Canada AD, which requires repetitive detailed visual and eddy current inspection of the main landing gear main fitting. The NPRM if adopted would produce another AD that is applicable to certain Bombardier Model CL600-2B19 (Regional Jet Series 100 & 440) airplanes. The proposal would require repetitive detailed and eddy current inspections on the main fittings of the main landing gears (MLG) to detect discrepancies, and related investigative/corrective actions if necessary. The proposal also requires servicing of the shock strut of the MLGs; inspection the shock strut of the MLGs for nitrogen pressure, visible chrome dimension, and oil leakage; and servicing any discrepant strut. Transport Canada has also accepted Messier-Dowty's redesign of the main fitting, on condition that the testing of the new design would be completed successfully. The testing is scheduled to commence in July 2004. Once the testing is completed Transport Canada will mandate the installation of the new design of the main fitting as the terminating action for the AD's.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the left main landing gear fitting due to a fatigue crack that emanated from multiple origins at the external surface of the wall at the shock strut radius run out area for undetermined reasons.

Findings

Occurrence #1: GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings

1. (C) LANDING GEAR,MAIN GEAR - FATIGUE

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	44
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):		Instructor Rating(s):	None
Flight Time:	15577 hours (Total, all aircraft), 665 hours (Total, this make and model)		

Co-Pilot Information

Certificate:	Airline Transport; Commercial	Age:	39
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):		Instructor Rating(s):	
Flight Time:	15 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bombardier	Registration:	N849AS
Model/Series:	CL600-2B19	Engines:	2 Turbo Fan
Operator:	Atlantic Southeast Airlines, Inc.	Engine Manufacturer:	General Electric
Operating Certificate(s) Held:	Flag carrier (121)	Engine Model/Series:	CF 34 3B1
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	ATL, 1012 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	7 knots / , 340°
Temperature:	25° C	Visibility	8 Miles
Precipitation and Obscuration:			
Departure Point:	Baltimore, MD (BWI)	Destination:	Atlanta, GA (ATL)

Airport Information

Airport:	Atlanta Hartsfield (ATL)	Runway Surface Type:	Asphalt
Runway Used:	26R	Runway Surface Condition:	Dry
Runway Length/Width:	9000 ft / 150 ft		

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:	50 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	33.645278, -84.433056		

Administrative Information

Investigator In Charge (IIC):	Butch Wilson	Adopted Date:	10/27/2005
Investigation Docket:	NTSB accident and incident docket 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 , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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