
Separation of APU door, Boeing 767-332ER, April 5, 2002

Micro-summary: This Boeing 767-332ER experienced a separation of the APU door and substantial damage while climbing.


Event Date: 2002-04-05 at 1715 EST

Investigative Body: National Transportation Safety Board (NTSB), USA

Investigative Body's Web Site: <http://www.nts.gov/>

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		NTSB ID: ATL02LA075		Aircraft Registration Number: N1608	
		Occurrence Date: 04/05/2002		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Atlanta		State GA	Zip Code 30303	Local Time 1715	Time Zone EST
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility: 17		Direction From Airport: 90	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 767-332ER		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On April 5, 2002, at 1715 eastern standard time, a Boeing 767-332ER, N1608, registered to Delta Airlines Inc, operating as flight DAL74, experienced an in-flight separation of the auxiliary power unit door while climbing to cruise altitude near Atlanta, Georgia. The international passenger flight operated under the provisions of Title 14 CFR Part 121 with an instrument flight plan filed. Visual weather conditions prevailed at the time of the separation. The airplane sustained substantial damage. The air transport pilot (Captain), the flight crew, and 187 passengers were not injured. The passenger flight departed Atlanta, Georgia, enroute to Milan, Italy, at 1700.</p> <p>According to the Captain, as the airplane climbed through 15,000 feet, and accelerated through 320 knots, he heard a loud bang. Shortly after that the pilot felt a severe vibration that shook the entire airplane. The pilot took immediate action and leveled off, he then called for an altitude hold and a reduction in airspeed to 270 knots. There were no warnings, cautions or other abnormal indications in the cockpit. The hydraulic pressure was normal and engine indications were steady with no fluctuations. The Captain directed the First Officer to tell air traffic controller that they had a problem and needed to return to the airport. The flight was issued an instrument clearance to Atlanta. The flight landed in Atlanta without further incident.</p> <p>A review of maintenance records showed that the auxiliary power unit (APU) had been serviced by ground maintenance personnel about one hour before the airplane departed. The examination of the airframe revealed that both APU doors were missing from their normally installed positions. Examination also discovered a 19 inches wide by 26 inches long hole in the left inboard elevator. On the right inboard elevator there was also a hole that measured 14 inches wide by 29 inches long. Damage was also noted on the fuselage structure that enclosed the APU. Prior to the flight the ground personnel had conducted a pre-departure check that included the servicing of the APU. This check was performed one hour before the flight. No other mechanical malfunctions were reported prior to the flight.</p> <p>According to the operators engineering division, there were two possible reasons for the loss of the APU doors: (1). The lack of latch engagement, (2). The failure of the receiving pins. The right door was recovered in three pieces. Only one hinge was recovered for the left door. The forward three latch hooks were intact. The latch for the aft position was fractured. The left door in which the receiving pins were attached was not recovered. Failure examination of the right door structure indicated that a load was applied to the forward lower corner of the door and it failed in a tearing motion. The APU door aft latch hook had been severed. The fracture surface of the aft latch hook indicated a ductile tension failure. The other portions of the recovered door shoe rivet failures and structural failures also suggestive of an overload condition. The other three remaining latches appeared to be functional and were not damaged.</p>					
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National Transportation Safety Board

**FACTUAL REPORT
AVIATION**





NTSB ID: ATL02LA075

Occurrence Date: 04/05/2002

Occurrence Type: Accident

Narrative (Continued)

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: ATL02LA075			
		Occurrence Date: 04/05/2002			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
THE WILLIAM B HARTSFIELD ATLAN	ATL	1026 Ft. MSL	27R	11889	150
Runway Surface Type: Asphalt					
Runway Surface Condition: Dry					
Type Instrument Approach: ILS-complete					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		767-332ER		30573	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 208	Certified Max Gross Wt.	407000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	General Electric	706106	60800 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	03/2002	263 Hours	9219 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
DELTA AIR LINES INC		HARTSFIELD INTERNATIONAL AIRPORT			
		City	State	Zip Code	
		Atlanta	GA	30320	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code: DALA		
- Type of U.S. Certificate(s) Held:					
Air Carrier Operating Certificate(s): Flag Carrier/Domestic					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 121: Air Carrier					
Type of Flight Operation Conducted: Scheduled; International; Passenger Only					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: ATL02LA075
	Occurrence Date: 04/05/2002
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 54
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport

Airplane Rating(s): Multi-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review? 04/2001
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Medical Cert.: Class 1	Medical Cert. Status: None	Date of Last Medical Exam: 11/2001
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	6984	3300								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	179	179								
Last 30 Days										
Last 24 Hours	1	1								

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point Atlanta	State GA	Airport Identifier ATL	Departure Time 1742	Time Zone EST
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Destination Milan	State	Airport Identifier MXP	
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Type of Clearance: IFR

Type of Airspace: Class B

Weather Information

Source of Briefing: Company

Method of Briefing: Teletype

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
ATL	1553	EST	1026 Ft. MSL	17 NM	90 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		Ft. AGL	Visibility: 10	SM	Altimeter: 30.15 "Hg
Temperature: 17 °C	Dew Point: -6 °C	Wind Direction: 340		Density Altitude: 1258 Ft.	
Wind Speed: 13	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): Ft.	Visibility (RVV)	SM	Intensity of Precipitation:		
Restrictions to Visibility: None					
Type of Precipitation: None					

Accident Information

Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None
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Classification: U.S. Registered/U.S. Soil

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants				9	9
Other Crew				1	1
Passengers				187	187
- TOTAL ABOARD -				199	199
Other Ground					
- GRAND TOTAL -				199	199

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: ATL02LA075

Occurrence Date: 04/05/2002

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

Phillip POWELL

Additional Persons Participating in This Accident/Incident Investigation:

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