



# Aviation Investigation Final Report

<b>Location:</b>	ATLANTA, Georgia	<b>Incident Number:</b>	ATL97IA042
<b>Date &amp; Time:</b>	February 13, 1997, 12:17 Local	<b>Registration:</b>	N416DA
<b>Aircraft:</b>	Boeing 727-232	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>		<b>Injuries:</b>	92 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Analysis

After normal pushback and taxi to the runway, the airplane began a takeoff. During the takeoff roll, the aft cargo door light illuminated on the second officer's panel. The takeoff was continued. After climbing about 900 feet, there was a 'pop' and pressurization was lost. The pilot returned to the departure airport. Subsequent examination revealed that the door latch should have functioned properly, and the cargo light should have been illuminated, if the door was not closed. None of the ground crew remembered latching the cargo door.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: failure of ground service personnel to properly close the aft cargo door before the airplane departed.

### Findings

Occurrence #1: MISCELLANEOUS/OTHER

Phase of Operation: TAKEOFF

#### Findings

1. (C) DOOR,CARGO/BAGGAGE - NOT SECURED
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - GROUND PERSONNEL

## Factual Information

On February 13, 1997, about 1217 eastern standard time, the aft cargo door of a Boeing 727-232, N416DA, opened during takeoff from The William B. Hartsfield-Atlanta International Airport, Atlanta, Georgia. The airplane, Flight 1180, was operated by Delta Air Lines as a scheduled, domestic, passenger flight under the provisions of Title 14 CFR Part 121, and instrument flight rules. Instrument meteorological conditions prevailed. An instrument flight plan was activated. There were no injuries to the airplane's occupants, and the airplane had minor damage. The flight, which was originating at the time of the incident, was destined for Charleston, South Carolina.

The captain of Flight 1180 stated that the pushback and taxi were "normal with all lights extinguished." He noted, "during takeoff roll, the aft cargo light on the second officer's panel illuminated, cabin pressurization was normal." When the airplane reached approximately 900 feet, there was a "pop", and the airplane lost pressurization. A passenger noticed the cargo door had opened and brought it to the attention of a flight attendant. According to the pilot, the #3 engine then experienced difficulties. There was a "decrease in EPR, N1, and N2 and the engine failed." The airplane returned to Atlanta for an uneventful landing.

According to Delta's Operating Manual for the Boeing 727, the cargo light is on the Second Officer's panel and checklist. During the Captain's pre-flight checklist, he inquires as to whether the Second Officer completed his checklist. The Captain and First Officer do not visually check the Second Officer's panel for illuminated lights.

According to Delta's records, the Second Officer had 1216 hours of total flight time in the 727, and 179 hours in the last 90 days. The Second Officer was originally hired in October 1991, furloughed in October 1993, and recalled in June 1996. He had 372 hours in the 727 since he was recalled.

It was later noted that one bag fell out of the baggage hold onto the runway. Subsequent examination of the airplane did not reveal any structural damage to the airframe. The same cargo door was removed for minor repairs, and was re-installed on the airplane. The latching mechanism was examined and was found capable of smooth operation. There was no damage to the door's locking hooks. An electrical continuity check of the door warning circuitry was positive, and the bulb in the cockpit warning light would illuminate. According to Delta, all of the ground personnel interviewed stated they did not lock the cargo door. They were unable to determine who last operated the cargo door.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	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--no waivers/lim.	<b>Last FAA Medical Exam:</b>	February 10, 1997
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	13750 hours (Total, all aircraft), 4640 hours (Total, this make and model), 238 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Boeing	<b>Registration:</b>	N416DA
<b>Model/Series:</b>	727-232 727-232	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	21258
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	152
<b>Date/Type of Last Inspection:</b>	February 8, 1997 Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	184200 lbs
<b>Time Since Last Inspection:</b>	32 Hrs	<b>Engines:</b>	3 Turbo fan
<b>Airframe Total Time:</b>	21128 Hrs	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	JT8D-15A
<b>Registered Owner:</b>	DELTA AIR LINES	<b>Rated Power:</b>	15500 Lbs thrust
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	DALA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Instrument (IMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	ATL ,1026 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	12:15 Local	<b>Direction from Accident Site:</b>	90°
<b>Lowest Cloud Condition:</b>	Unknown	<b>Visibility</b>	2.5 miles
<b>Lowest Ceiling:</b>	Broken / 900 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	15 knots / 19 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	70°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	(ATL )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	CHARLESTON , SC (CHS )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	12:10 Local	<b>Type of Airspace:</b>	Class B

## Airport Information

<b>Airport:</b>	HARTSFIELD INTERNATIONAL ATL	<b>Runway Surface Type:</b>	Concrete
<b>Airport Elevation:</b>	1026 ft msl	<b>Runway Surface Condition:</b>	Wet
<b>Runway Used:</b>	9L	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	11889 ft / 150 ft	<b>VFR Approach/Landing:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	6 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	86 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	92 None	<b>Latitude, Longitude:</b>	

## Administrative Information

**Investigator In Charge (IIC):** Hicks, Preston

**Additional Participating Persons:** CHARLEY SPILLNER;  
REGAN H CAMPBELL;

**Original Publish Date:** October 31, 1997

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=3788>

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