National Transportation Safety Board
Washington, DC 20594

Brief of Incident

Adopted 04/30/2008

NYC07IA063

File No. 23430 | 02/10/2007 | New York, NY | Aircraft Reg No. N648JB | Time (Local): 12:45 EST

Make/Model:	Airbus / A-320-232
Engine Make/Model:	
Aircraft Damage:	None
Number of Engines:	2
Operating Certificate(s):	Flag Carrier/Domestic
Name of Carrier:	Jet Blue Airways
Type of Flight Operation:	Scheduled; International; Passenger Only
Reg. Flight Conducted Under:	Part 121: Air Carrier

	Fatal	Serious	Minor/None
Crew	0	0	6
Pass	0	0	130

Last Depart. Point:	Same as Accident/Incident Location
Destination:	Nassau
Airport Proximity:	
Airport Name:	JOHN F KENNEDY INTL
Runway Identification:	NA
Runway Length/Width (Ft):	Unk/Nr
Runway Surface:	
Runway Surface Condition:	

Condition of Light:	Day
Weather Info Src:	Weather Observation Facility
Basic Weather:	Visual Conditions
Lowest Ceiling:	None
Visibility:	10.00 SM
Wind Dir/Speed:	260 / 012 Kts
Temperature (°C):	1
Precip/Obscuration:	No Obscuration; No Precipitation

Pilot-in-Command Age:

Certificate(s)/Rating(s)
Airline Transport; Commercial; Multi-engine Land; Single-engine Land

Instrument Ratings
Airplane

Flight Time (Hours)

Total All Aircraft:	Unk/Nr
Last 90 Days:	Unk/Nr
Total Make/Model:	Unk/Nr
Total Instrument Time:	UnK/Nr

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HISTORY OF FLIGHT

On February 2, 2007, at 1245 eastern standard time, an Airbus A-320-232, N648JB, operated by JetBlue Airways as flight 721, experienced an in-flight fire after takeoff from John F. Kennedy International Airport (JFK), New York, New York. The airplane returned to JFK, and landed without incident at approximately 1300. There were no injuries to the 2 certificated airline transport pilots, 4 flight attendants, and 130 passengers. Visual meteorological conditions prevailed for the flight that was destined for Nassau International Airport (NAS), Nassau, Bahamas. An instrument flight rules flight plan was filed for the scheduled air carrier flight conducted under 14 Code of Federal Regulations Part 121.

According to the captain, the flight departed uneventfully and the first officer (FO) was the pilot flying. As the airplane climbed through approximately 6,000 feet, the flight attendant called the cockpit and reported there was smoke coming from one of the overhead luggage bins. The captain asked the flight attendant

to provide additional information as soon as she could and instructed the FO to level the airplane. The captain then monitored the Cabin Surveillance System (CSS), and observed passengers and crewmembers attempting to contain the source of the smoke in the overhead bin, near row 19 aircraft left. The captain declared an emergency and requested an immediate return to JFK due to smoke in the aircraft cabin. The FO initiated a left descending turn toward JFK, and the captain continued to communicate with the cabin crew. Shortly after, the captain resumed control of the airplane and performed an uneventful landing on runway 31L. After the airplane was stopped on the runway, the captain confirmed with the cabin crew that the fire was contained and proceeded to the gate. The passengers deplaned normally through the jet way.

The number 2 flight attendant reported that she responded to a call button at row 19, during which passengers notified her of smoke coming from the overhead bin. She immediately requested halon from another flight attendant and deployed the halon into the overhead bin above row 19 left. After the smoke seemed to subside, the flight attendant noticed burning embers of cloth, which seemed unresponsive to the halon. She doused the embers with water, and eventually removed a bag containing camera equipment from the overhead bin, and stored it in the aft lavoratory. The flight attendants continued to communicate with the cockpit crew as they prepared the cabin for an emergency landing.

According to the passenger who brought the camera equipment onboard, he placed the camera equipment in an overhead bin on the left side of the airplane, and then sat in his aisle seat approximately two rows behind the equipment, on the right side of the airplane (he was seated diagonally from the overhead bin). The passenger reported that his first indication of the event was that he smelled a "nail polish odor." He stated that it was about 20 minutes later that he began to smell smoke, similar to "burning rubber."

The passenger stated the smoke in the overhead began as a "thin" amount, and gradually got "thicker." The flight attendant then rushed forward with a fire extinguisher and sprayed the camera equipment while it was still in the overhead bin. She then removed the equipment, placed it on the floor, in the aisle, and continued to spray it with the extinguisher.

The passenger noted that he did not observe any flames during the event, and did not hear any noises prior to, or during the event.

FLIGHT RECORDERS

According to a simulation created from crew statements and flight data recorder (FDR) data, the flight attendant initially reported smoke to the captain while the airplane was climbing through 7,000 feet, approximately 4 minutes after departure. The captain immediately commanded an early level off at an altitude of 7,600 feet, and then requested an immediate return to JFK. A left, descending turn was initiated, and the captain disengaged the autopilot and took over the flight controls. The airplane landed approximately 6 minutes later on runway 31L.

AIRCRAFT INFORMATION

Examination of the airplane after the incident revealed fire/heat damage was limited to the overhead bin in the area of the camera equipment. The airplane structure did not sustain any heat or fire damage.

TESTS AND RESEARCH

The camera equipment was sent to the National Transportation Safety Board's Research and Engineering Laboratory, Washington, DC, for further examination. The retained equipment consisted of a nylon camera bag, with a video camera contained in the large section of the bag. A large pocket was noted on the front of the bag, which contained a 9-volt lithium battery in its original packaging, seven AA batteries, a hand-held microphone, a set of headphones, an audio mixer,

three wireless transmitters, four wireless receivers, a walkie-talkie, two 14-volt rechargeable lithium ion battery packs and several pieces of debris.

The examination revealed that the fire damage was concentrated in the front pocket of the nylon bag. Both 14-volt rechargeable lithium ion battery packs displayed fire damage. Pack "1" had a small burn hole on the back of the exterior case. Pack "2" exhibited more severe thermal damage, and a large hole was observed burned through the front of the case. The bottom of the case was also melted near the battery contacts. No evidence of damage to the interior cells and circuitry was observed on either battery pack. Both packs were also examined by X-ray to determine if damage had occurred within the cells of the battery pack. The X-ray was negative for interior damage or anomalies.

According to the battery manufacturer, a typical fully charged battery pack should have a measured voltage (V) of approximately 14.4 volts. Examination of Pack "1" measured 14.8 V and Pack "2" measured 15.8 V. The contacts on the bottom of the packs were found uncovered by the operator after the accident, and no contact covers were observed in the bag.

Several pieces of debris were collected and examined, from the front pocket of the bag. Examination of the debris revealed a label from a 9-volt battery. The label displayed severe thermal damage. The remaining debris was from the inside of a battery.

The composition of the electrolyte solvents used in the 9-volt lithium battery, and the boiling and flash points of the individual components, were provided by the manufacturer. The flash points of the components ranged from 21 degrees Fahrenheit to 306 degrees Fahrenheit.

PROBABLE CAUSE(S)

The National Transportation Safety Board determines the probable cause(s) of this incident as follows.
The in-flight fire which was caused by the catastrophic failure of a 9-volt battery from an unknown cause.