
Bird ingestion and dual engine failure, Boeing 757, February 22, 1999

Micro-summary: This Boeing 757 ingested a flock of Starlings into both engines during rotation.


Event Date: 1999-02-22 at 1455 EST

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

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

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		NTSB ID: NYC99LA064		Aircraft Registration Number: N682DA	
		Occurrence Date: 02/22/1999		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place COVINGTON		State KY	Zip Code 45275	Local Time 1455	Time Zone EST
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 757		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
<p>On February 22, 1999, about 1455 eastern standard time, a Boeing 757, N682DA, operated by Delta Air Lines as flight 338, penetrated a flock of birds during takeoff from Cincinnati/Northern Kentucky International Airport, Covington, Kentucky. The airplane was substantially damaged. The 2 flight crewmembers, 5 flight attendants, and 125 passengers were not injured. Visual meteorological conditions prevailed, and an instrument flight rules flight plan had been filed for the scheduled passenger flight destined for Washington, District of Columbia. The flight was conducted under 14 CFR Part 121.</p> <p>According to the captain, they pushed back from the gate, and taxied to runway 18L. While taxiing, he heard no mention of a bird hazard by another aircraft or ATC. After reaching the runway, the captain initiated the takeoff with the first officer at the controls. The takeoff roll was normal until passing approximately 150 knots; at that point, a flock of birds traveling from left to right passed in front of the airplane. The captain advised the first officer of the hazard and asked him to attempt to climb over the flock. The first officer increased pitch angle, but the airplane still penetrated the flock. At the time of penetration, the nose wheel was in the air and the main landing gear was just becoming airborne. The captain advised ATC of the event, and was cleared to land.</p> <p>After advising ATC, the flight crew performed left traffic for runway 18L, landed, and taxied to the gate without further incident. The captain observed no change in engine performance or flight characteristics during or after the event. He added that the birds were small and brown, with white spots.</p> <p>A review of the flight data record revealed that approximately 1 second after the airplane's main landing gear transitioned from ground to flight, the N1 on the left engine dropped from 81.88 percent to 56.00 percent, and the right engine dropped from 81.25 to 71.63 percent. In both cases, throttle positions remained constant. In addition, pitch was 19.16 degrees nose up, and airspeed was 152.5 knots at the time of the event.</p> <p>Examination of both engines by the operator, revealed damage to the first stage of the compressor sections on the number 1, and number 2 engines. The section were changed, and the aircraft was returned to service.</p> <p>On February 23 and 24, 1999, a Federal Aviation Administration Wildlife Biologist examined the airport operations area (AOA). In his report, he wrote, "The starlings [<i>Sturnus vulgaris</i>] involved in the strike appear to have been a random foraging flock. Careful inspection of the area where the starlings were just prior to the strike did not reveal any anomalies or anything remarkably different from virtually every other grassed area within the AOA."</p> <p>He continued, "It is difficult to say with any degree of certainty whether or not the</p>					
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National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: NYC99LA064

Occurrence Date: 02/22/1999


Occurrence Type: Accident


Narrative (Continued)

starlings involved in the strike had been roosting in the terminal area trees. In that part of the country, starlings will form large winter roost wherever they can find suitable habitat conditions.

Some winter roost can contain several million birds. Winter roosting starlings will fly up to 50 miles (one-way) daily to feed. The starlings involved in the strike could have come from the terminal roost area or they could have come from a roost many miles from the airport."

The FAA publication titled Hazardous Wildlife Attractants On Or Near Airports, states that "All species of wildlife can pose a threat to aircraft safety." In addition, it stated that starlings comprised 5 percent of all damaging animal strikes to U.S. aircraft from 1993 to 1995.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC99LA064			
		Occurrence Date: 02/22/1999			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
CINCINNATI INTERNATIONAL	CVG	897 Ft. MSL	18L	10000	150
Runway Surface Type: Asphalt					
Runway Surface Condition: Dry					
Type Instrument Approach:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		757		26958	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 191	Certified Max Gross Wt.	232000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	P&W	PW2037	37000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness		Hours	Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
DELTA AIR LINES		1020 DELTA BLVD			
		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: DELTA AIR LINES			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; Domestic; Passenger/Cargo					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: NYC99LA064
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	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 55
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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?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 09/1998
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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	18000	2771								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	156	156								
Last 30 Days										
Last 24 Hours										

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 Same as Accident/Incident Location	State	Airport Identifier CVG	Departure Time 1455	Time Zone EST
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Destination WASHINGTON	State DC	Airport Identifier DCA	
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Type of Clearance: IFR

Type of Airspace: Class C

Weather Information

Source of Briefing:

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
CVG	1954	EST	900 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			25000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		0 Ft. AGL		Visibility: 10 SM	Altimeter: 30.00 "Hg
Temperature: -1 °C	Dew Point: -14 °C	Wind Direction: Variable		Density Altitude: Ft.	
Wind Speed: 4	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility: None					
Type of Precipitation: None					

Accident Information		
Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None

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				5	5
Other Crew					
Passengers				125	125
- TOTAL ABOARD -				132	132
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	132	132

National Transportation Safety Board

FACTUAL REPORT

AVIATION



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Occurrence Date: 02/22/1999

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

DAVID S. MUZIO

Additional Persons Participating in This Accident/Incident Investigation:

GERALD MILBURN
FAA FSDO
LOUISVILLE, KY

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WASHINGTON, DC