
Birdstrike, Boeing 727-25C, May 7, 1998

Micro-summary: This Boeing 727-25C collided with a flock of birds, causing an uncontained engine failure and loss of essential power.

Event Date: 1998-05-07 at 2130 MDT


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


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


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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).
 2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***
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		NTSB ID: FTW98IA208		Aircraft Registration Number: N116FE	
		Occurrence Date: 05/07/1998		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place COLORADO SPRNGS		State CO	Zip Code 80831	Local Time 2130	Time Zone MDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 727-25C		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 May 7, 1998, approximately 2130 mountain daylight time, a Boeing 727-25C, N116FE, operated by Federal Express Corporation of Memphis, Tennessee, sustained minor damage when it struck a flock of birds during climbout from Colorado Springs, Colorado. There were no injuries to the airline transport rated captain, first officer, and second officer. Visual meteorological conditions prevailed, and an IFR flight plan was filed for the scheduled domestic cargo flight being operated under Title 14 CFR Part 121. The flight originated approximately 2120.</p> <p>According to the incident report submitted by Federal Express, flight 1287 took off from Colorado Springs, and was en route to Memphis, Tennessee. When the airplane was north of the airport and passing 8,500 feet msl, it struck "a flock of large white birds." The crew felt "moderate to severe vibrations due to the ingestion of one or more birds into the no. 3 engine." This caused an uncontained engine failure. There was also a loss of essential electrical power. After restoring electrical power using the no. 1 generator, the captain declared an emergency, returned to the Colorado Springs Airport, and made an uneventful landing.</p> <p>The right hand side of the airplane sustained all the damage. The radome was damaged, and there was a tear in the skin behind the radome. A doubler at F.S. 196 was damaged, and there were multiple skin dents below the pitot-static tube.</p> <p>Visual inspection of the engine disclosed bird remains in and around the no. 3 engine. The outboard 4 inches of the first stage compressor blade separated, damaging the first and second stage compressor blades, stator blades, and inlet guide vanes. Shrapnel was ejected through the engine case at the 12 o'clock position, severing the no. 3 electrical bus wire bundle and puncturing the engine inlet anti-ice bleed air duct. The nose and upper engine cowlings and thrust reverser were also damaged. The constant speed drive oil cooler was partially separated due to engine vibrations.</p> <p>According to a report submitted by Lufthansa Airmotive Ireland, the facility that disassembled and inspected the no. 3 engine, there was "severe front and rear compressor damage." One of the C1 blades fractured and penetrated the front fan case at the 12 o'clock position. There was also "heavy metal splatter" on all stages of the turbine discs and nozzle guide vanes.</p> <p>Ingested bird remains were submitted to the Smithsonian Institute and were identified as coming from a Canadian goose. The report stated that the average weight of a Canadian goose is 8 pounds.</p>					
FACTUAL REPORT - AVIATION					

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: FTW98IA208			
		Occurrence Date: 05/07/1998			
		Occurrence Type: Incident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used 0	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Type Instrument Approach:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer Boeing		Model/Series 727-25C		Serial Number 19298	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 5	Certified Max Gross Wt.	169500 LBS	Number of Engines: 3	
Engine Type: Turbo Jet	Engine Manufacturer: P&W	Model/Series: JT8D-7BQN	Rated Power: 14000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection Continuous Airworthiness	Date of Last Inspection 03/1998	Time Since Last Inspection Hours	Airframe Total Time 63119 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner FEDERAL EXPRESS CORPORATION		Street Address 2005 CORPORATE AVE.			
		City MEMPHIS	State TN	Zip Code 38132	
Operator of Aircraft Same as Reg'd Aircraft Owner		Street Address PO BOX 727			
		City MEMPHIS	State TN	Zip Code 38194	
Operator Does Business As:			Operator Designator Code: FDEA		
- Type of U.S. Certificate(s) Held:					
Air Carrier Operating Certificate(s): Cargo; Supplemental					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 121: Air Carrier					
Type of Flight Operation Conducted: Scheduled; Domestic; Cargo					
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First Pilot Information																																																																																		
Name		City		State	Date of Birth	Age																																																																												
On File		On File		On File	On File	38																																																																												
Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot			Certificate Number: On File																																																																													
Certificate(s): Airline Transport; Commercial; Flight Engineer																																																																																		
Airplane Rating(s): Multi-engine Land; Single-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?																																																																														
Medical Cert.: Class 1		Medical Cert. Status: Valid Medical--no waivers/lim.			Date of Last Medical Exam: 01/1998																																																																													
<table border="1"> <tr> <th>- Flight Time Matrix</th> <th>All A/C</th> <th>This Make and Model</th> <th>Airplane Single Engine</th> <th>Airplane Multi-Engine</th> <th>Night</th> <th colspan="2">Instrument Actual Simulated</th> <th>Rotorcraft</th> <th>Glider</th> <th>Lighter Than Air</th> </tr> <tr> <td>Total Time</td> <td>3051</td> <td>2386</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot In Command(PIC)</td> <td>638</td> <td>638</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td>34</td> <td>34</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td>9</td> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual Simulated		Rotorcraft	Glider	Lighter Than Air	Total Time	3051	2386									Pilot In Command(PIC)	638	638									Instructor											Last 90 Days	34	34									Last 30 Days	9	9									Last 24 Hours										
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Seatbelt Used? Yes		Shoulder Harness Used? Yes		Toxicology Performed? No		Second Pilot? Yes																																																																												
Flight Plan/Itinerary																																																																																		
Type of Flight Plan Filed: IFR																																																																																		
Departure Point		State	Airport Identifier	Departure Time	Time Zone																																																																													
Same as Accident/Incident Location			COS	2120	MDT																																																																													
Destination		State	Airport Identifier																																																																															
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Type of Clearance: IFR																																																																																		
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Weather Information																																																																																		
Source of Briefing: Company																																																																																		
Method of Briefing:																																																																																		

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			Occurrence Date: 05/07/1998		
			Occurrence Type: Incident		


Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
COS	2158	MDT	6184 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Unknown				0 Ft. AGL	Condition of Light: Night/Dark
Lowest Ceiling: Broken			10000 Ft. AGL	Visibility: 10 SM	Altimeter: 30.00 "Hg
Temperature: 7 °C		Dew Point: 4 °C		Wind Direction: 360	Density Altitude: 6560 Ft.
Wind Speed: 9		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: Minor			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				1	1	
Cabin Attendants						
Other Crew						
Passengers						
- TOTAL ABOARD -				3	3	
Other Ground	0	0	0		0	
- GRAND TOTAL -	0	0	0	3	3	

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	Occurrence Date: 05/07/1998	
	Occurrence Type: Incident	
Administrative Information		
Investigator-In-Charge (IIC) ARNOLD W. SCOTT		
Additional Persons Participating in This Accident/Incident Investigation: JOSEPH J JORDON FAA FSDO DENVER, CO 80249		
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