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## Birdstrike on approach, Boeing 727-233, November 20, 2001

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**Micro-summary:** This Boeing 727-233 collided with a flock of birds on approach, causing substantial damage.

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**Event Date:** 2001-11-20 at 0027 CST


**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!***
  3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.
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|   |  |                                 |                                  |                                      |                  |
|---|--|---------------------------------|----------------------------------|--------------------------------------|------------------|
|   |  | NTSB ID: MIA02LA023             |                                  | Aircraft Registration Number: N277FE |                  |
|   |  | Occurrence Date: 11/20/2001     |                                  | Most Critical Injury: None           |                  |
|   |  | Occurrence Type: Accident       |                                  | Investigated By: NTSB                |                  |
| Location/Time   |  |                                 |                                  |                                      |                  |
| Nearest City/Place<br>Memphis   |  | State<br>TN                     | Zip Code<br>38116                | Local Time<br>0027                   | Time Zone<br>CST |
| Airport Proximity: Off Airport/Airstrip   |  | Distance From Landing Facility: |                                  | Direction From Airport:              |                  |
| Aircraft Information Summary  |  |                                 |                                  |                                      |                  |
| Aircraft Manufacturer<br>Boeing   |  | Model/Series<br>727-233         |                                  | Type of Aircraft<br>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 November 20, 2001, about 0027 central standard time, a Boeing 727-233, N277FE, registered to and operated by Federal Express Corporation, as flight 2287, a 14 CFR Part 121 domestic cargo flight from Colorado Springs, Colorado, to Memphis, Tennessee, collided with a flock of birds while on approach to land at Memphis International Airport. Visual meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The airplane received substantial damage, and the airline transport-rated captain, first officer, flight engineer, and two passengers were not injured. The flight originated from Colorado Springs, on November 19, 2001, at 2247.</p> <p>The flightcrew reported that while on final approach for runway 9 at Memphis, at between 1,700 and 2,000 feet agl., at 250 knots, they encountered a flock of large birds. A bird penetrated the airplane under the captains windshield and bird remains entered the cockpit. They continued to Memphis and landed without further incident.</p> <p>Inspection of the airplane by an FAA inspector after landing showed damage to the area below the captain's windshield and two areas of damage on the right inboard wing area, due to bird strikes.</p> <p>Radar data from the FAA, Memphis Air Route Traffic Control Center, showed the flight was at about position 35 degrees, 3 minutes, 34 seconds North latitude, and 90 degrees, 4 minutes, 59 seconds West longitude, or about 6 nautical miles west of Memphis International Airport, at the time of the encounter. The FAA, Memphis Approach Control, personnel stated that the Automatic Terminal Information Service, information Romeo was in effect at the time of the accident which contained the 2353 surface weather observation, and that there was no bird activity reported in this information. (See attached Radar Data and Record of Telephone Conversation.)</p> <p>Examination of feathers recovered from the cockpit and wing area of the aircraft was performed by Carla Dove, Smithsonian Institute, Washington, D.C. The feathers were identified as coming from Snow Goose (<i>Chen caerulescens</i>), with an average weight for this species of 2,450 grams. (See attached email from Carla Dove.)</p> |  |                                 |                                  |                                      |                  |
| FACTUAL REPORT - AVIATION   |  |                                 |                                  |                                      |                  |
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|--|--|--|---|---|------------------------------------|--------------|
| <br><b>National Transportation Safety Board</b><br><b>FACTUAL REPORT</b><br><b>AVIATION</b> |  | NTSB ID: MIA02LA023                            |   |   |                                    |              |
|  |  | Occurrence Date: 11/20/2001                    |   |   |                                    |              |
|  |  | Occurrence Type: Accident                      |   |   |                                    |              |
| <b>Landing Facility/Approach Information</b>   |  |  |   |   |                                    |              |
| Airport Name<br>Memphis International  |  | Airport ID:<br>MEM                             | Airport Elevation<br>Ft. MSL            | Runway Used                             | Runway Length                      | Runway Width |
| Runway Surface Type: Unknown   |  |  |   |   |                                    |              |
| Runway Surface Condition: Unknown  |  |  |   |   |                                    |              |
| Type Instrument Approach: ILS-complete   |  |  |   |   |                                    |              |
| VFR Approach/Landing:  |  |  |   |   |                                    |              |
| <b>Aircraft Information</b>  |  |  |   |   |                                    |              |
| Aircraft Manufacturer<br>Boeing  |  | Model/Series<br>727-233                        |   | Serial Number<br>22042                  |                                    |              |
| Airworthiness Certificate(s): Transport  |  |  |   |   |                                    |              |
| Landing Gear Type: Retractable - Tricycle  |  |  |   |   |                                    |              |
| Homebuilt Aircraft? No   |  | Number of Seats: 5                             | Certified Max Gross Wt. 197000 LBS      |   | Number of Engines: 3               |              |
| Engine Type:<br>Turbo Fan  |  | Engine Manufacturer:<br>P&W                    |   | Model/Series:<br>JT8-17Q                | Rated Power:<br>16000 LBS          |              |
| - Aircraft Inspection Information  |  |  |   |   |                                    |              |
| Type of Last Inspection<br>AAIP  |  | Date of Last Inspection<br>08/2001             | Time Since Last Inspection<br>188 Hours |   | Airframe Total Time<br>36168 Hours |              |
| - Emergency Locator Transmitter (ELT) Information  |  |  |   |   |                                    |              |
| ELT Installed? No  |  | ELT Operated? No                               |   | ELT Aided in Locating Accident Site? No |                                    |              |
| <b>Owner/Operator Information</b>  |  |  |   |   |                                    |              |
| Registered Aircraft Owner<br>Federal Express Corporation   |  | Street Address<br>3610 Hacks Cross Road        |   |   |                                    |              |
|  |  | City<br>Memphis                                |   | State<br>TN                             | Zip Code<br>38125                  |              |
| Operator of Aircraft<br>Same as Reg'd Aircraft Owner   |  | Street Address<br>Same as Reg'd Aircraft Owner |   |   |                                    |              |
|  |  | City   |   | State                                   | Zip Code                           |              |
| 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: Non-scheduled; Domestic; Cargo   |  |  |   |   |                                    |              |
| FACTUAL REPORT - AVIATION  |  |  |   |   |                                    |              |

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|  <p><b>National Transportation Safety Board</b><br/><b>FACTUAL REPORT</b><br/><b>AVIATION</b></p> | NTSB ID: MIA02LA023         |
|  | Occurrence Date: 11/20/2001 |
|  | Occurrence Type: Accident   |

**First Pilot Information**

|                 |                 |                  |                          |           |
|-----------------|-----------------|------------------|--------------------------|-----------|
| Name<br>On File | City<br>On File | State<br>On File | Date of Birth<br>On File | Age<br>41 |
|-----------------|-----------------|------------------|--------------------------|-----------|

|        |                     |                                      |                             |
|--------|---------------------|--------------------------------------|-----------------------------|
| Sex: M | Seat Occupied: Left | Principal Profession: Civilian Pilot | Certificate Number: On File |
|--------|---------------------|--------------------------------------|-----------------------------|

Certificate(s): Airline Transport; 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? 01/2001 |
|---|---|

|                        |  |                                    |
|------------------------|--|------------------------------------|
| Medical Cert.: Class 1 | Medical Cert. Status: Valid Medical--no waivers/lim. | Date of Last Medical Exam: 11/2001 |
|------------------------|--|------------------------------------|

| - 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            | 2280    | 2280                |                        |                       |       |            |           |            |        |                  |
| Pilot In Command(PIC) | 490     | 490                 |                        |                       |       |            |           |            |        |                  |
| Instructor            |         |                     |                        |                       |       |            |           |            |        |                  |
| Last 90 Days          | 72      | 72                  |                        |                       |       |            |           |            |        |                  |
| Last 30 Days          | 34      | 34                  |                        |                       |       |            |           |            |        |                  |
| Last 24 Hours         | 2       | 2                   |                        |                       |       |            |           |            |        |                  |

|                    |                            |                          |                   |
|--------------------|----------------------------|--------------------------|-------------------|
| Seatbelt Used? Yes | Shoulder Harness Used? Yes | Toxicology Performed? No | Second Pilot? Yes |
|--------------------|----------------------------|--------------------------|-------------------|

**Flight Plan/Itinerary**

Type of Flight Plan Filed: IFR

|                                    |             |                           |                        |                  |
|------------------------------------|-------------|---------------------------|------------------------|------------------|
| Departure Point<br>Colorado Spring | State<br>CO | Airport Identifier<br>COS | Departure Time<br>2247 | Time Zone<br>CST |
|------------------------------------|-------------|---------------------------|------------------------|------------------|

|   |       |                           |  |
|---|-------|---------------------------|--|
| Destination<br>Same as Accident/Incident Location | State | Airport Identifier<br>MEM |  |
|---|-------|---------------------------|--|


Type of Clearance: IFR

Type of Airspace: Class D

**Weather Information**

Source of Briefing: Company

Method of Briefing: Telephone

|  |                             |
|--|-----------------------------|
|  <p><b>National Transportation Safety Board</b><br/><b>FACTUAL REPORT</b><br/><b>AVIATION</b></p> | NTSB ID: MIA02LA023         |
|  | Occurrence Date: 11/20/2001 |
|  | Occurrence Type: Accident   |

|                                   |                  |  |                             |                                 |                              |
|-----------------------------------|------------------|--|-----------------------------|---------------------------------|------------------------------|
| <b>Weather Information</b>        |                  |  |                             |                                 |                              |
| WOF ID                            | Observation Time | Time Zone  | WOF Elevation               | WOF Distance From Accident Site | Direction From Accident Site |
| MEM                               | 0053             | CST  | 332 Ft. MSL                 | 6 NM                            | 90 Deg. Mag.                 |
| Sky/Lowest Cloud Condition: Clear |                  |  | Ft. AGL                     | Condition of Light: Night/Dark  |                              |
| Lowest Ceiling: None              |                  | Ft. AGL  | Visibility: 10              | SM                              | Altimeter: 30.27 "Hg         |
| Temperature: 8 °C                 | Dew Point: -1 °C | Wind Direction: 10                                     |                             | Density Altitude: 0 Ft.         |                              |
| Wind Speed: 10                    | Gusts: 16        | Weather Conditions at Accident Site: Visual Conditions |                             |                                 |                              |
| Visibility (RVR): Ft.             | Visibility (RVV) | SM   | Intensity of Precipitation: |                                 |                              |
| Restrictions to Visibility: None  |                  |  |                             |                                 |                              |
| Type of Precipitation: None       |                  |  |                             |                                 |                              |

|                              |                     |                          |
|------------------------------|---------------------|--------------------------|
| <b>Accident Information</b>  |                     |                          |
| 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                           |       |         |       | 1    | 1     |
| Cabin Attendants                          |       |         |       |      |       |
| Other Crew                                |       |         |       |      |       |
| Passengers                                |       |         |       | 2    | 2     |
| - TOTAL ABOARD -                          |       |         |       | 5    | 5     |
| Other Ground                              |       |         |       |      |       |
| - GRAND TOTAL -                           |       |         |       | 5    | 5     |

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: MIA02LA023

Occurrence Date: 11/20/2001

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

Jeffrey L. Kennedy

Additional Persons Participating in This Accident/Incident Investigation:

Steven Brown  
Aviation Safety Inspector  
FAA FSDO  
Memphis, TN 38118