



# Aviation Investigation Final Report

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<b>Location:</b>	Red Oak, Iowa	<b>Accident Number:</b>	DCA23LA067
<b>Date &amp; Time:</b>	November 19, 2022, 20:51 Local	<b>Registration:</b>	N330NW
<b>Aircraft:</b>	Airbus A320	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Birdstrike	<b>Injuries:</b>	153 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

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## Analysis

Delta Air Lines flight 2295 struck several birds while descending through 13,000 feet on approach to Eppley Airfield (OMA), Omaha, Nebraska. The bird strike occurred about 34 miles southeast of the airport, near Red Oak, Iowa, at an airspeed of 290 knots. The crew continued the approach and made a normal landing. Weather at the time of the event was night visual conditions.

Birds struck the airplane and punctured the fuselage skin in two locations on the left side; one above the cockpit windows and another near the pitot tube (see figure 1). Another bird punctured the skin on the right side of the fuselage below the cockpit window. Damage was evident to the stringers and frames at each location, and the size of the punctures in total exceeded the size of the outflow valve. The damage adversely affected the structural strength and pressurization performance and required a major repair.



**Figure 1.** Photo of two of the bird strikes on the left side of the airplane, indicated by blue circles. (Source: Delta Air Lines)

The flight crew described the noise as the strike occurred as being like an “explosion.” The cabin depressurized, and the cockpit door blew open. The captain reported that the wind noise was “extreme” which made communication difficult. Soon after the strike the airplane descended through 10,000 ft and the cabin altitude matched the airplane altitude at about 9,500 ft. The crew declared an emergency, continued the approach to OMA, and landed uneventfully.

The species of birds was identified as either Snow Goose or Ross’s Goose (DNA testing could not discriminate between the two) by the Smithsonian Institution Feather Identification Laboratory. According to the FAA, there were no pilot reports of bird activity in the area near the time of the accident.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

Multiple bird strikes during descent.

### Findings

<b>Environmental issues</b>	Animal(s)/bird(s) - Effect on equipment
<b>Environmental issues</b>	Animal(s)/bird(s) - Availability of related info
<b>Environmental issues</b>	Animal(s)/bird(s) - Ability to respond/compensate

## Factual Information

### History of Flight

Enroute-descent	Birdstrike (Defining event)
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### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Unknown	<b>Last FAA Medical Exam:</b>	August 11, 2022
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	April 10, 2022
<b>Flight Time:</b>	16335 hours (Total, all aircraft), 1779 hours (Total, this make and model), 172 hours (Last 90 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

### Co-pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	37, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Unknown
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Unknown	<b>Last FAA Medical Exam:</b>	March 29, 2022
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	May 2, 2022
<b>Flight Time:</b>	660 hours (Total, all aircraft), 316 hours (Total, this make and model), 163 hours (Last 90 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Airbus	<b>Registration:</b>	N330NW
<b>Model/Series:</b>	A320 211	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1992	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	307
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	166
<b>Date/Type of Last Inspection:</b>	November 17, 2022 Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	172000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo fan
<b>Airframe Total Time:</b>	84273 Hrs as of last inspection	<b>Engine Manufacturer:</b>	CFM INTL.
<b>ELT:</b>	C126 installed, not activated	<b>Engine Model/Series:</b>	CFM56 SERIES
<b>Registered Owner:</b>	DELTA AIR LINES INC	<b>Rated Power:</b>	0 Lbs thrust
<b>Operator:</b>	DELTA AIR LINES INC	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Night
<b>Observation Facility, Elevation:</b>	KOMA,982 ft msl	<b>Distance from Accident Site:</b>	34 Nautical Miles
<b>Observation Time:</b>	20:52 Local	<b>Direction from Accident Site:</b>	312°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	3 knots /	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	170°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.37 inches Hg	<b>Temperature/Dew Point:</b>	-7°C / -13°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Atlanta, GA (ATL)	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Omaha, NE (OMA)	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	00:58 UTC	<b>Type of Airspace:</b>	Class E

## Wreckage and Impact Information

<b>Crew Injuries:</b>	6 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	147 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	153 None	<b>Latitude, Longitude:</b>	40.927677,-95.336266(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Brazy, Douglass
<b>Additional Participating Persons:</b>	Edwin Miller; FAA/AVP100; Washington, DC
<b>Original Publish Date:</b>	October 16, 2023
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=106329">https://data.ntsb.gov/Docket?ProjectID=106329</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).