



Aviation Investigation Final Report

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|--------------------------------|---|-------------------------|-------------|
| Location: | Smyrna, Tennessee | Accident Number: | ERA24LA106 |
| Date & Time: | February 5, 2024, 23:28 UTC | Registration: | N2150G |
| Aircraft: | Cessna 172 | Aircraft Damage: | Substantial |
| Defining Event: | Birdstrike | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Instructional | | |

Analysis

The flight instructor reported that during the initial climb, he observed a bird dive down from above the airplane. The bird impacted the top portion of the windshield, resulting in substantial damage to the windshield. After the impact, the pilots checked themselves for injuries and for any control issues with the airplane. Both pilots were uninjured, and the airplane operated normally. The flight instructor landed the airplane without further incident.

Probable Cause and Findings

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

An in-flight collision with a bird during initial climb.

Findings

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| Environmental issues | Animal(s)/bird(s) - Ability to respond/compensate |
| Environmental issues | Animal(s)/bird(s) - Effect on equipment |

Factual Information

History of Flight

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|---------------|-----------------------------|
| Initial climb | Birdstrike (Defining event) |
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Pilot Information

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|---------------------------|---|-----------------------------------|--------------------|
| Certificate: | Commercial | Age: | 39,Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Right |
| Other Aircraft Rating(s): | None | Restraint Used: | Unknown |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 1 With waivers/limitations | Last FAA Medical Exam: | September 26, 2023 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | November 30, 2023 |
| Flight Time: | 262 hours (Total, all aircraft), 256 hours (Total, this make and model), 202 hours (Pilot In Command, all aircraft), 23 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft) | | |

Flight instructor Information

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|---------------------------|--|-----------------------------------|------------------|
| Certificate: | Commercial; Flight instructor | Age: | 29,Female |
| Airplane Rating(s): | Single-engine land; Multi-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Unknown |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | Airplane multi-engine; Airplane single-engine; Instrument airplane | Toxicology Performed: | |
| Medical Certification: | Class 1 With waivers/limitations | Last FAA Medical Exam: | January 19, 2023 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | January 8, 2024 |
| Flight Time: | 1226 hours (Total, all aircraft), 1060 hours (Total, this make and model), 1140 hours (Pilot In Command, all aircraft), 156 hours (Last 90 days, all aircraft), 52 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|---------------------------------|---------------------------------------|--------------------|
| Aircraft Make: | Cessna | Registration: | N2150G |
| Model/Series: | 172 S | Aircraft Category: | Airplane |
| Year of Manufacture: | 2003 | Amateur Built: | |
| Airworthiness Certificate: | Normal; Utility | Serial Number: | 172S9516 |
| Landing Gear Type: | Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | January 8, 2024 100 hour | Certified Max Gross Wt.: | 2550 lbs |
| Time Since Last Inspection: | 50 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 12352.8 Hrs at time of accident | Engine Manufacturer: | Lycoming |
| ELT: | Installed, not activated | Engine Model/Series: | IO-360-L2A |
| Registered Owner: | MSB AVIATION LLC | Rated Power: | 180 Horsepower |
| Operator: | MSB AVIATION LLC | Operating Certificate(s) Held: | Pilot school (141) |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|-------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | MQY, 543 ft msl | Distance from Accident Site: | 25 Nautical Miles |
| Observation Time: | 17:56 Local | Direction from Accident Site: | 271° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 9 knots / | Turbulence Type Forecast/Actual: | None / None |
| Wind Direction: | 350° | Turbulence Severity Forecast/Actual: | N/A / N/A |
| Altimeter Setting: | 29.94 inches Hg | Temperature/Dew Point: | 12°C / 0°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Lebanon, TN (M56) | Type of Flight Plan Filed: | None |
| Destination: | Smyrna, TN (MQY) | Type of Clearance: | None |
| Departure Time: | 16:00 Local | Type of Airspace: | Class E |

Airport Information

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|-----------------------------|------------|----------------------------------|---------|
| Airport: | SMYRNA MQY | Runway Surface Type: | |
| Airport Elevation: | 543 ft msl | Runway Surface Condition: | Unknown |
| Runway Used: | | IFR Approach: | None |
| Runway Length/Width: | | VFR Approach/Landing: | None |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 36.008167,-86.518186(est) |

Administrative Information

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| Investigator In Charge (IIC): | Gibson, Kurt |
| Additional Participating Persons: | Joseph Patterson; FAA/FSDO; Nashville, TN |
| Original Publish Date: | April 12, 2024 |
| Last Revision Date: | |
| Investigation Class: | Class 4 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=193751 |

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](#).