



Aviation Investigation Final Report

| | | | |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Muncie, Indiana | Accident Number: | CEN23LA429 |
| Date & Time: | July 14, 2023, 19:30 Local | Registration: | N653GS |
| Aircraft: | CIRRUS DESIGN CORP SR20 | Aircraft Damage: | Substantial |
| Defining Event: | Loss of control on ground | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

The pilot reported that during the landing roll the left wheel locked up, the nosewheel shimmed, and the airplane pulled to the left. The pilot tried to correct with right rudder; however, the airplane veered off the runway, rolled down a small hill, and came to rest in a drainage ditch. Substantial damage was not found until February 15, 2024, when the airplane underwent an annual inspection. During the annual inspection, a crack was found in the lower fuselage that ran up the aft spar to the back passenger seat.

A postaccident examination of the left wheel revealed that the left wheel bearing lacked sufficient grease, which resulted in the left wheel seizure.

Probable Cause and Findings

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

A loss of directional control during the landing roll due to the left wheel seizing from insufficient grease in the left wheel bearing.

Findings

Aircraft

Grease - Fluid level

Factual Information

History of Flight

| | |
|-------------------------|--|
| Landing-flare/touchdown | Loss of control on ground (Defining event) |
| Landing-landing roll | Attempted remediation/recovery |
| Landing-flare/touchdown | Runway excursion |

On July 14, 2023, at 1930 central daylight time, a Cirrus SR20, N653GS, was substantially damaged when it was involved in an accident at the Delaware County Regional Airport (MIE) in Muncie, Indiana. The pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that upon touchdown, the airplane veered left, and the nosewheel began to shimmy. The pilot applied full right rudder to keep the airplane on the runway but the airplane exited the left side of the runway, rolled down a small hill, and came to rest in a drainage ditch. The pilot stated that he believed the left main landing gear tire seized due to a mechanical malfunction, which caused the airplane to veer to the left.

Substantial damage was not found until February 15, 2024, when the airplane underwent an annual inspection. During the annual inspection, a crack was found in the lower fuselage behind the pilot seat that ran up the aft spar to the back passenger seat.

A postaccident examination revealed that the left wheel bearing lacked sufficient grease, which resulted in the left wheel seizure. The airplane had an annual inspection in Fort Wayne, Indiana, in September 2022. According to the Cirrus SR20 Airplane Maintenance Manual section 05-20, part of the annual inspection includes repacking the wheel bearings with grease. The mechanic who signed off on the annual inspection stated that greasing the wheel bearings would have been part of the annual inspection checklist, but he could not recall whether the wheel bearings had been greased. The airframe annual inspection logbook entry indicated that the inspection was completed in accordance with Title 14 *Code of Federal Regulations* Part 43, with the manufacturer maintenance manual as a guide.

Pilot Information

| | | | |
|----------------------------------|--|--|-----------------|
| Certificate: | Private | Age: | 71,Male |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | 3-point |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 3 With waivers/limitations | Last FAA Medical Exam: | August 10, 2022 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | June 7, 2023 |
| Flight Time: | 796 hours (Total, all aircraft), 87 hours (Total, this make and model), 708 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

| | | | |
|--------------------------------------|-------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | CIRRUS DESIGN CORP | Registration: | N653GS |
| Model/Series: | SR20 NO SERIES | Aircraft Category: | Airplane |
| Year of Manufacture: | 2006 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 1698 |
| Landing Gear Type: | Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | September 12, 2022 Annual | Certified Max Gross Wt.: | 3000 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | 660 Hrs at time of accident | Engine Manufacturer: | Continental |
| ELT: | C126 installed, not activated | Engine Model/Series: | unknown |
| Registered Owner: | VISION AVIATION LLC | Rated Power: | 200 |
| Operator: | On file | Operating Certificate(s) Held: | None |
| Operator Does Business As: | None | Operator Designator Code: | None |

Meteorological Information and Flight Plan

| | | | |
|---|----------------------------------|---|------------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | KMIE, 937 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 18:53 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 5 knots / | Turbulence Type Forecast/Actual: | None / None |
| Wind Direction: | 190° | Turbulence Severity Forecast/Actual: | N/A / N/A |
| Altimeter Setting: | 29.88 inches Hg | Temperature/Dew Point: | 29°C / 19°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Ft Wayne, IN (FWA) | Type of Flight Plan Filed: | None |
| Destination: | Muncie, IN | Type of Clearance: | None |
| Departure Time: | 19:00 Local | Type of Airspace: | Class D |

Airport Information

| | | | |
|-----------------------------|--------------------------|----------------------------------|--------------|
| Airport: | DELAWARE COUNTY RGNL MIE | Runway Surface Type: | Asphalt |
| Airport Elevation: | 937 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 32 | IFR Approach: | None |
| Runway Length/Width: | 6500 ft / 150 ft | VFR Approach/Landing: | Touch and go |

Wreckage and Impact Information

| | | | |
|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 40.236372,-85.390391(est) |

Administrative Information

| | |
|--|---|
| Investigator In Charge (IIC): | Abraham, Laura |
| Additional Participating Persons: | Paula Behrend; FAA Indianaopolis FSDO; Indianapolis, IN |
| Original Publish Date: | May 14, 2024 |
| Last Revision Date: | |
| Investigation Class: | Class 3 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=193794 |

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](#).