



Aviation Investigation Final Report

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|--------------------------------|-------------------------------------------|-------------------------|-------------|
| Location: | FORT LAUDERDALE, Florida | Accident Number: | ATL98LA022 |
| Date & Time: | November 23, 1997, 17:30 Local | Registration: | N317JK |
| Aircraft: | Christen Industries S-2B | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Instructional | | |

Analysis

The pilot reported that the airplane had rolled about 500 feet after touching down on runway 08. When he applied brake pressure to the right wheel, there was no response. The airplane veered off the left side of the runway and the right main landing gear collapsed. Postaccident examination of the airplane disclosed that the right main landing gear assembly sustained major structural damage. The right main landing gear brake assembly was also damaged, and a functional check of the brake assembly was not possible. The left brake assembly was not damaged and functioned normally. There was a quartering tailwind at the approximate time of the landing. Runway 8 is 6001 feet long and 100 feet wide.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The undetermined malfunction of the right brake and the pilot's failure to maintain directional control during the landing rollout. A factor was the quartering tailwind.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: LANDING

Findings

1. (C) LANDING GEAR,NORMAL BRAKE SYSTEM - UNDETERMINED

Occurrence #2: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Findings

- 2. (F) WEATHER CONDITION - TAILWIND
 - 3. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND
 - 4. GROUND LOOP/SWERVE - INADVERTENT - PILOT IN COMMAND
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Occurrence #3: GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings

- 5. LANDING GEAR,MAIN GEAR - OVERLOAD

Factual Information

On November 23, 1997, at 1730 eastern standard time, a Christen Industries Pitts-S-2B, N317JK, right main landing gear collapsed, according to the pilot, during a landing roll out on runway 8 at the Fort Lauderdale Executive Airport, in Fort Lauderdale, Florida. The instructional flight operated under the provisions of Title 14 CFR Part 91 with no flight plan filed. According recorded weather data, visual weather conditions prevailed at the time of the accident. The airplane sustained substantial damage. The certified flight instructor and the private pilot were not injured. The flight's exact departure time from Fort Lauderdale, Florida, was not determined.

According to the pilot, they had completed a period of aerobatic training and had returned to the airport for a full stop landing. The pilot reported that the airplane had rolled about 500 feet after touching down on the runway 8. At this point he initiated normal braking to stop the airplane. The pilot stated that, when he applied brake pressure to the right wheel, there was no response. The airplane veered to the left. As the airplane veered off the left side of the runway, the right main landing gear collapsed.

The post- accident examination of the airplane disclosed that there was structural damage to the fuselage above the main landing gear attach fittings. The tail wheel and tail post at the aft portion of the fuselage were torn from the airframe. The right main landing gear assembly sustained major structural damage. The right main landing gear brake assembly was also damaged, and a functional check of the brake assembly was not possible. The left brake assembly was not damaged and functioned normally (see attached FAA Inspector's Statement).

During a telephone conversation with the aircraft operator, the operator reported that the airplane veered off the runway approximately 2,200 feet from the threshold of runway 8. The operator stated that the airplane rested on a magnetic heading approximately 270 degrees left of the landing runway heading. According to the operator, there was a quartering tailwind at the approximate time of the attempted landing. The operator also reported that, since this airplane has very sensitive landing characteristics, longer steering springs had been installed on the tail wheel steering assembly (see attached Record of Telephone Conversation).

Runway 8 is 6001 feet long and 100 feet wide.

Pilot Information

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|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------|
| Certificate: | Commercial; Flight instructor | Age: | 43,Male |
| Airplane Rating(s): | Single-engine land; Multi-engine land | Seat Occupied: | Front |
| Other Aircraft Rating(s): | None | Restraint Used: | |
| Instrument Rating(s): | Airplane | Second Pilot Present: | No |
| Instructor Rating(s): | Airplane single-engine | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | March 18, 1997 |
| Occupational Pilot: | UNK | Last Flight Review or Equivalent: | |
| Flight Time: | 1195 hours (Total, all aircraft), 54 hours (Total, this make and model), 1023 hours (Pilot In Command, all aircraft), 82 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|------------------------|---------------------------------------|-----------------|
| Aircraft Make: | Christen Industries | Registration: | N317JK |
| Model/Series: | S-2B S-2B | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | |
| Airworthiness Certificate: | | Serial Number: | 5203 |
| Landing Gear Type: | Tailwheel | Seats: | 2 |
| Date/Type of Last Inspection: | October 3, 1997 Annual | Certified Max Gross Wt.: | 2400 lbs |
| Time Since Last Inspection: | 52 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 2135 Hrs | Engine Manufacturer: | Lycoming |
| ELT: | Not installed | Engine Model/Series: | AEIO-540-04A5 |
| Registered Owner: | FLUGVERGNUEGEN INC. | Rated Power: | 260 Horsepower |
| Operator: | STEVEN F. SCHULTZ | Operating Certificate(s) Held: | None |
| Operator Does Business As: | | Operator Designator Code: | |

Meteorological Information and Flight Plan

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|-----------------------------------------|----------------------------------|---------------------------------------------|---------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | FXE ,14 ft msl | Distance from Accident Site: | |
| Observation Time: | 17:30 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Scattered / 1000 ft AGL | Visibility | 8 miles |
| Lowest Ceiling: | Overcast / 15000 ft AGL | Visibility (RVR): | |
| Wind Speed/Gusts: | 6 knots / None | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 330° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 29 inches Hg | Temperature/Dew Point: | |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | (FXE) | Type of Flight Plan Filed: | None |
| Destination: | | Type of Clearance: | None |
| Departure Time: | 00:00 Local | Type of Airspace: | Class C |

Airport Information

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|-----------------------------|----------------------------------|----------------------------------|-----------|
| Airport: | FORT LAUDERDALE EXECUTIVE FXE | Runway Surface Type: | Asphalt |
| Airport Elevation: | 14 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 8 | IFR Approach: | None |
| Runway Length/Width: | 6001 ft / 100 ft | VFR Approach/Landing: | Full stop |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|---------------------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 26.189746,-80.100791(est) |

Administrative Information

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|-----------------------------------|-----------------------------------------------------------------------------------------------------|
| Investigator In Charge (IIC): | Powell, Phillip |
| Additional Participating Persons: | TERRY HURST; FORT LAUDERDALE, FL |
| Original Publish Date: | May 4, 1998 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | |
| Investigation Docket: | https://data.nts.gov/Docket?ProjectID=3954 |

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](#).