



Aviation Investigation Final Report

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| Location: | Vero Beach, Florida | Accident Number: | ERA23LA211 |
| Date & Time: | April 8, 2023, 11:00 Local | Registration: | N600LD |
| Aircraft: | AEROPILOT S R O LEGEND 600 | Aircraft Damage: | Substantial |
| Defining Event: | Abnormal runway contact | Injuries: | 1 Minor |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

The student pilot departed from the turf runway at his home airport, which he described as “extremely rough,” for a solo flight in the airport traffic pattern. The pilot stated that the first 300 feet of the runway past the displaced threshold was “a very soft area” and a cone had been placed there, so he landed the airplane about 700 feet from the displaced threshold. The airplane bounced back into the air to a height of about 7 to 8 feet and the pilot added power and increased back pressure on the control wheel to hold the nose wheel off the runway. The airplane then touched down again on the main landing gear and the nose wheel again touched down on the runway. The nose wheel then contacted 3 to 5 “bumps” before settling into the turf, the lower portion of the nose landing gear separated, and the airplane nosed over, coming to rest inverted. The student pilot received minor injuries and the airplane’s fuselage and empennage were substantially damaged.

The pilot reported that there were no preaccident mechanical malfunctions or failures of the airplane that would have precluded normal operation. Review of the student pilot’s logbook revealed that his presolo aeronautical knowledge endorsement indicated that he was aware of the flight characteristics and operational limitations of the airplane, as well as the airspace rules and procedures for the airport, which he had flown the airplane in and out of and landed at on at least 18 separate occasions. He therefore should also have been aware of the runway conditions. Given this information, it is likely that the student pilot’s landing technique was not appropriate for the condition of the turf runway, and that the techniques he used to recover from the bounced landing resulted in subsequent nose landing gear collapse and noseover.

Probable Cause and Findings

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

The pilot's improper recovery from a bounced landing, which resulted in a nose landing gear collapse and subsequent noseover. Contributing was the rough condition of the runway, as described by the pilot, and his decision to operate from it.

Findings

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| Aircraft | Landing flare - Not attained/maintained |
| Personnel issues | Aircraft control - Student/instructed pilot |
| Personnel issues | Decision making/judgment - Pilot |
| Environmental issues | Soft surface - Decision related to condition |

Factual Information

History of Flight

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| Landing | Abnormal runway contact (Defining event) |
| Landing | Attempted remediation/recovery |
| Landing-landing roll | Landing gear collapse |
| Landing-landing roll | Nose over/nose down |

Student pilot Information

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| Certificate: | Student | Age: | 43, Male |
| Airplane Rating(s): | None | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | 4-point |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 3 Without waivers/limitations | Last FAA Medical Exam: | April 1, 2023 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | 81 hours (Total, all aircraft), 69 hours (Total, this make and model), 4 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|-------------------------------|---------------------------------------|-----------------|
| Aircraft Make: | AEROPILOT S R O | Registration: | N600LD |
| Model/Series: | LEGEND 600 | Aircraft Category: | Airplane |
| Year of Manufacture: | 2016 | Amateur Built: | |
| Airworthiness Certificate: | Special light-sport (Special) | Serial Number: | 1531 |
| Landing Gear Type: | Tricycle | Seats: | 2 |
| Date/Type of Last Inspection: | February 1, 2023 Annual | Certified Max Gross Wt.: | 1320 lbs |
| Time Since Last Inspection: | 23 Hrs | Engines: | 1 Reciprocating |
| Airframe Total Time: | 721 Hrs at time of accident | Engine Manufacturer: | Rotax |
| ELT: | Installed, not activated | Engine Model/Series: | 912 ULS |
| Registered Owner: | On file | Rated Power: | 100 Horsepower |
| Operator: | On file | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Day |
| Observation Facility, Elevation: | KVRB, 19 ft msl | Distance from Accident Site: | 6 Nautical Miles |
| Observation Time: | 14:53 Local | Direction from Accident Site: | 77° |
| Lowest Cloud Condition: | | Visibility | 10 miles |
| Lowest Ceiling: | Broken / 11000 ft AGL | Visibility (RVR): | |
| Wind Speed/Gusts: | 12 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 120° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.04 inches Hg | Temperature/Dew Point: | 28°C / 20°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Vero Beach, FL (X52) | Type of Flight Plan Filed: | None |
| Destination: | Vero Beach, FL (X52) | Type of Clearance: | None |
| Departure Time: | 11:00 Local | Type of Airspace: | Class G |

Airport Information

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|-----------------------------|--------------------------|----------------------------------|-----------------|
| Airport: | NEW HIBISCUS AIRPARK X52 | Runway Surface Type: | Grass/turf |
| Airport Elevation: | 25 ft msl | Runway Surface Condition: | Vegetation |
| Runway Used: | 18 | IFR Approach: | None |
| Runway Length/Width: | 3120 ft / 150 ft | VFR Approach/Landing: | Traffic pattern |

Wreckage and Impact Information

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|----------------------------|---------|-----------------------------|---------------------------|
| Crew Injuries: | 1 Minor | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | | Aircraft Explosion: | None |
| Total Injuries: | 1 Minor | Latitude, Longitude: | 27.632255,-80.527554(est) |

Administrative Information

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| Investigator In Charge (IIC): | Gunther, Todd |
| Additional Participating Persons: | Daxton Barkely; FAA/FSDO; Orlando, FL |
| Original Publish Date: | November 16, 2023 |
| 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=107163 |

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](#).