



Aviation Investigation Final Report

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| Location: | Kailua-Kona, Hawaii | Accident Number: | ANC22LA046 |
| Date & Time: | June 21, 2022, 08:30 Local | Registration: | N4888W |
| Aircraft: | ROCKWELL INTERNATIONAL 114 | Aircraft Damage: | Substantial |
| Defining Event: | Landing gear collapse | Injuries: | 1 None |
| Flight Conducted Under: | Part 91: General aviation - Personal | | |

Analysis

The pilot reported that he was practicing pattern work and landings. After completing one landing, he back taxied, departed and entered the traffic pattern. While in the traffic pattern he lowered the landing gear; however, it did not extend properly. Multiple attempts to recycle the landing gear and manually extend the gear using the emergency extension procedure were not successful. He elected to return to a tower-controlled airport. The tower controller subsequently confirmed that the landing gear was only extended on the right side. The pilot executed an emergency landing which resulted in substantial damage to the left wing.

Postaccident examination of the airplane revealed that the emergency gear extension handle was in the up and stowed position, and the emergency gear extension system worked as designed. The landing gear hydraulic power supply contained a reversible electric-motor driven hydraulic pump that was found inoperable. The electric motor was disassembled, and the brushes were found to be worn beyond limits. In addition, hydraulic fluid and dust were present on the permanent magnets, stator, and windings.

Probable Cause and Findings

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

The failure of the hydraulic power supply's electric motor due to wear, which resulted in the left main landing gear and nose gear not fully extending and locking into place during landing. Contributing to the accident was the pilot's failure to adequately execute the emergency gear extension procedure.

Findings

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| Aircraft | Gear extension and retract sys - Fatigue/wear/corrosion |
| Personnel issues | Forgotten action/omission - Pilot |

Factual Information

History of Flight

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| Landing-landing roll | Landing gear collapse (Defining event) |
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Pilot Information

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| Certificate: | Private | Age: | 67 |
| Airplane Rating(s): | Single-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Unknown |
| Instrument Rating(s): | Airplane | Second Pilot Present: | |
| Instructor Rating(s): | None | Toxicology Performed: | |
| Medical Certification: | Class 3 With waivers/limitations | Last FAA Medical Exam: | September 22, 2021 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | November 2, 2021 |
| Flight Time: | 2200 hours (Total, all aircraft), 78 hours (Total, this make and model), 2200 hours (Pilot In Command, all aircraft), 47 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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| Aircraft Make: | ROCKWELL INTERNATIONAL | Registration: | N4888W |
| Model/Series: | 114 | Aircraft Category: | Airplane |
| Year of Manufacture: | 1977 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | 14218 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | March 5, 2021 100 hour | Certified Max Gross Wt.: | 3140 lbs |
| Time Since Last Inspection: | | Engines: | 1 Reciprocating |
| Airframe Total Time: | 4586.4 Hrs as of last inspection | Engine Manufacturer: | Lycoming |
| ELT: | | Engine Model/Series: | IO-540 |
| Registered Owner: | ELLIS JEFFREY MARK | Rated Power: | 260 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: | PHKO,37 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 08:53 Local | Direction from Accident Site: | 295° |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 7 knots / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 230° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.03 inches Hg | Temperature/Dew Point: | 27°C / 20°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | Waimea, HI | Type of Flight Plan Filed: | None |
| Destination: | Kailua-Kona, HI | Type of Clearance: | None |
| Departure Time: | | Type of Airspace: | Class D |

Airport Information

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| Airport: | ELLISON ONIZUKA KONA INTL AT KEAHOLE KOA | Runway Surface Type: | |
| Airport Elevation: | 47 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | | IFR Approach: | None |
| Runway Length/Width: | | VFR Approach/Landing: | Full stop |

Wreckage and Impact Information

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| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | None |
| Ground Injuries: | | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 19.735699,-156.0427 |

Administrative Information

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| Investigator In Charge (IIC): | Banning, David |
| Additional Participating Persons: | W. Shawn Tu; Federal Aviation Administration ; Honolulu, HI |
| Original Publish Date: | December 2, 2022 |
| Last Revision Date: | |
| Investigation Class: | Class 4 |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=105320 |

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](#).