



Aviation Investigation Final Report

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|--------------------------------|---|-------------------------|-------------|
| Location: | Columbia, California | Accident Number: | WPR14LA102 |
| Date & Time: | January 27, 2014, 05:30 Local | Registration: | N350WA |
| Aircraft: | Beech C90 | Aircraft Damage: | Substantial |
| Defining Event: | Hard landing | Injuries: | 2 None |
| Flight Conducted Under: | Part 91: General aviation - Positioning | | |

Analysis

The commercial pilot, who was the pilot flying (PF), and the airplane transport pilot, who was the pilot not flying (PNF), were conducting an aeromedical positioning flight. The pilots reported that, during a night approach, they visually identified the airport, activated the runway lighting system, and then canceled the instrument flight plan for a visual approach. The PNF reported that, after turning onto the final approach, the flaps were fully lowered and that the airplane was in a "wings level, stabilized approach." The PF reported that he was initially using the vertical approach slope indicator (VASI) for guidance but that the airplane drifted below the glidepath during the approach, and he did not correct back to the glidepath. On short final, the pilots verified that the landing gear were in the down-and-locked position by noting the illumination of the three green landing gear indicator lights, and the airspeed indicator indicated 110 knots. Both pilots reported that the landing was "firm" and that it was followed by a loud bang and the subsequent failure of all three landing gear. The airplane slid on its belly for about 825 ft down the runway before coming to rest. Both pilots evacuated the airplane, which was subsequently consumed by a postaccident fire. Both pilots reported that the airplane was operating normally with no discrepancies noted.

Postaccident examination of the wreckage at the accident site revealed that the airplane impacted the runway about 100 ft short of its displaced threshold. Broken components of the landing gear were located along the debris field, which extended about 565 ft beyond the initial impact point. It is likely that the PF's failure to correct and maintain the VASI glidepath after allowing the airplane to descend below the glidepath and the touchdown at a high descent rate resulted in a hard landing and the subsequent failure of all three landing gear.

Probable Cause and Findings

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

The pilot's unstabilized night visual approach, which resulted in a hard landing and the collapse of all three landing gear.

Findings

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| Aircraft | Descent/approach/glide path - Not attained/maintained |
| Personnel issues | Decision making/judgment - Pilot |
| Personnel issues | Aircraft control - Pilot |
| Environmental issues | Dark - Effect on personnel |

Factual Information

History of Flight

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|--------------------------------|-------------------------------|
| Landing-flare/touchdown | Hard landing (Defining event) |
| Landing-flare/touchdown | Landing gear collapse |

On January 27, 2014, about 0530 Pacific standard time (PST), a Beech C90 King Air, N350WA, experienced a hard landing at Columbia Airport (O22), Columbia, California. Axis Jet was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The commercial pilot and the airline transport pilot were not injured; the airplane sustained substantial damage by impact forces and the post-crash fire. The cross-country aero-medical positioning flight departed Sacramento, California, about 0500. Visual night meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan had been filed.

The crew reported that the purpose of the flight was to pick up an aero-medical harvest team coordinator at O22 and fly them to San Luis Obispo, California. The crew reported no anomalies with the flight, airplane, or the approach to land at O22. The flying pilot (FP) was seated in the left seat and the non-flying co-pilot (NFP) was assisting the FP by performing the checklists and reporting speeds and other cockpit information to the FP. The NFP reported that after a turn to final approach full flaps were lowered, and that the airplane was in a "wings level, stabilized approach." The NFP also reported that on short final the gear was confirmed down for the 3rd time, and that the airspeed indicator indicated 110 knots. The pilots both described the landing as firm, and that as soon as the airplane contacted the runway they heard a loud bang followed by the airplane's belly scraping the runway. The airplane slid down the runway about 825 feet coming to rest on the left side of the runway. Both pilots observed fire on the left side of the airplane near the engine nacelle and evacuated the airplane. The airplane was subsequently consumed by the postaccident fire.

According to the Federal Aviation Administration (FAA) the crew reported after they identified the airport, activated the airport lighting system, and then canceled their instrument flight plan for a visual approach. The automated weather observation system (AWOS), reported more than 10 miles visibility, clear skies, and no wind. The temperature at the time was approximately 4 degrees Celsius with a dew point of -4 Celsius. The NFP reported that at approximately 5 miles to the airport the FP called for the 1st notch of flaps and then requested gear down on the final approach segment of the traffic pattern. Both pilots agree the landing gear was extended, and three green lights were illuminated indicating the gear was in fact down and locked. The NFP indicated that his eyes were in the cockpit calling out airspeeds, checking that the aircraft was in landing configuration, and watching the GPS unit for terrain warnings. The FP indicated that he was using the vertical approach slope indicator (VASI) initially for guidance but drifted below the glide path and did not correct back up to the glide path.

FAA investigators examined the wreckage at the accident scene. The first identified points of contact (FIPC) were three ground scars consistent with the geometry of the main landing gear and the nose wheel. The FIPC was located on the runway about 100 feet short of the displaced threshold. Broken

components of the airplane landing gear were located in a debris field 175 feet to 565 feet beyond the FIPC. According to the FAA the gear was in the down and locked position at the time of the accident. Due to the postaccident fire examination of the airplane could not be performed.

Pilot Information

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| Certificate: | Commercial | Age: | 56, Male |
| Airplane Rating(s): | Single-engine land; Single-engine sea; Multi-engine land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | 4-point |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 2 With waivers/limitations | Last FAA Medical Exam: | August 1, 2013 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | August 26, 2013 |
| Flight Time: | 2939 hours (Total, all aircraft), 1784 hours (Total, this make and model), 2580 hours (Pilot In Command, all aircraft), 77 hours (Last 90 days, all aircraft), 28 hours (Last 30 days, all aircraft) | | |

Co-pilot Information

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|----------------------------------|--|--|-----------------|
| Certificate: | Airline transport; Flight instructor | Age: | 44, Male |
| Airplane Rating(s): | Single-engine land; Single-engine sea; Multi-engine land | Seat Occupied: | Right |
| Other Aircraft Rating(s): | None | Restraint Used: | 3-point |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | Airplane multi-engine; Airplane single-engine; Instrument airplane | Toxicology Performed: | No |
| Medical Certification: | Class 1 Without waivers/limitations | Last FAA Medical Exam: | August 22, 2013 |
| Occupational Pilot: | Yes | Last Flight Review or Equivalent: | August 19, 2013 |
| Flight Time: | 6658 hours (Total, all aircraft), 2237 hours (Total, this make and model), 5950 hours (Pilot In Command, all aircraft), 77.3 hours (Last 90 days, all aircraft), 28.2 hours (Last 30 days, all aircraft) | | |

Aircraft and Owner/Operator Information

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| Aircraft Make: | Beech | Registration: | N350WA |
| Model/Series: | C90 UNDESIGNAT | Aircraft Category: | Airplane |
| Year of Manufacture: | 1978 | Amateur Built: | |
| Airworthiness Certificate: | Normal | Serial Number: | LJ-762 |
| Landing Gear Type: | Retractable - Tricycle | Seats: | |
| Date/Type of Last Inspection: | December 12, 2013 Continuous airworthiness | Certified Max Gross Wt.: | 9989 lbs |
| Time Since Last Inspection: | 46 Hrs | Engines: | 2 Turbo prop |
| Airframe Total Time: | 9501.6 Hrs at time of accident | Engine Manufacturer: | Pratt & Whitney |
| ELT: | Installed | Engine Model/Series: | PT6A-21 |
| Registered Owner: | COASTAL AVIATION LLC | Rated Power: | 550 Horsepower |
| Operator: | ELDORADO AIR LLC | Operating Certificate(s) Held: | On-demand air taxi (135) |
| Operator Does Business As: | Axis Jet | Operator Designator Code: | QZJA |

Meteorological Information and Flight Plan

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|---|----------------------------------|---|------------|
| Conditions at Accident Site: | Visual (VMC) | Condition of Light: | Night |
| Observation Facility, Elevation: | 022,2120 ft msl | Distance from Accident Site: | |
| Observation Time: | 13:35 Local | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | / | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.09 inches Hg | Temperature/Dew Point: | 1°C / -5°C |
| Precipitation and Obscuration: | No Obscuration; No Precipitation | | |
| Departure Point: | SACRAMENTO, CA (SAC) | Type of Flight Plan Filed: | IFR |
| Destination: | Columbia, CA (O22) | Type of Clearance: | IFR |
| Departure Time: | 05:00 Local | Type of Airspace: | Class G |

Airport Information

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|-----------------------------|-----------------|----------------------------------|-----------------|
| Airport: | COLUMBIA 022 | Runway Surface Type: | Asphalt |
| Airport Elevation: | 2120 ft msl | Runway Surface Condition: | Dry |
| Runway Used: | 35 | IFR Approach: | None |
| Runway Length/Width: | 4673 ft / 75 ft | VFR Approach/Landing: | Traffic pattern |

Wreckage and Impact Information

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|----------------------------|--------|-----------------------------|----------------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | | Aircraft Fire: | On-ground |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 2 None | Latitude, Longitude: | 38.029445,-120.41333 |

Administrative Information

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| Investigator In Charge (IIC): | Jones, Patrick |
| Additional Participating Persons: | Nick Cabiness; Federal Aviation Administration; Fresno, CA Josh Brown; Federal Aviation Administration; Fresno, CA |
| Original Publish Date: | September 14, 2016 |
| Last Revision Date: | |
| Investigation Class: | Class |
| Note: | The NTSB did not travel to the scene of this accident. |
| Investigation Docket: | https://data.ntsb.gov/Docket?ProjectID=88718 |

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](#).