National Transportation Safety Board
Aviation Accident Final Report

Location:	Columbia, CA	**Accident Number:**	WPR14LA102
Date & Time:	01/27/2014, 0530 PST	**Registration:**	N350WA
Aircraft:	BEECH C90	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General Aviation - Positioning - Air Medical (Organ Transport)		

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

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

Factual Information

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.

History of Flight

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

Pilot Information

Certificate:	Commercial	**Age:**	56, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
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:**	08/01/2013
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	08/26/2013
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

Certificate:	Airline Transport; Flight Instructor	**Age:**	44, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
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:**	08/22/2013
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	08/19/2013
Flight Time:	6658 hours (Total, all aircraft), 2237 hours (Total, this make and model), 5950 hours (Pilot In Command, all aircraft), 77.39 hours (Last 90 days, all aircraft), 28.2 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BEECH	**Registration:**	N350WA
Model/Series:	C90 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	LJ-762
Landing Gear Type:	Retractable - Tricycle	**Seats:**	
Date/Type of Last Inspection:	12/12/2013, Continuous Airworthiness	**Certified Max Gross Wt.:**	9989 lbs
Time Since Last Inspection:	46 Hours	**Engines:**	2 Turbo Prop
Airframe Total Time:	9501.6 Hours at time of accident	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Installed	**Engine Model/Series:**	PT6A-21
Registered Owner:	COASTAL AVIATION LLC	**Rated Power:**	550 hp
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

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Night
Observation Facility, Elevation:	O22, 2120 ft msl	**Distance from Accident Site:**	
Observation Time:	1335 UTC	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**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:	0500 PST	**Type of Airspace:**	Class G

Airport Information

Airport:	COLUMBIA (O22)	**Runway Surface Type:**	Asphalt
Airport Elevation:	2120 ft	**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

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	38.029444, -120.413333

Administrative Information

Investigator In Charge (IIC):	Patrick H Jones	**Report Date:**	09/14/2016
Additional Participating Persons:	Nick Cabiness; Federal Aviation Administration; Fresno, CA Josh Brown; Federal Aviation Administration; Fresno, CA		
Publish Date:	09/14/2016		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=88718		