



# **Aviation Investigation Final Report**

Location: SEDONA, Arizona Accident Number: LAX99LA018

Date & Time: October 27, 1998, 13:28 Local Registration: N37PT

Aircraft: Beech C90 Aircraft Damage: Substantial

**Defining Event:** 2 None

Flight Conducted Under: Part 91: General aviation - Instructional

#### **Analysis**

The certificated flight instructor (CFI) and student pilot departed on a local training flight. During the takeoff roll, the airplane began drifting to the right. The CFI applied full left rudder and left aileron but was unable to stop the drift. After the CFI rotated, he heard the gear warning horn. After becoming airborne, he was advised by another airplane that his right gear was not visible. He was also advised by an FBO operator that his right gear was missing. Concerned that he might also have a fuel leak, the CFI declared an emergency and landed. An inspection of the runway revealed a tire track which left the right side of the runway 1,050 feet from the approach end and continued into the grass to an electrical service box on the right side of the runway. Cracks and gouges were found on the cement electrical service box and the right main gear assembly was found on the ground beyond it. The fractured portion of the upper torque link revealed characteristics consistent with an overstress separation. The CFI and ground witnesses said weather was not a factor.

#### **Probable Cause and Findings**

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The instructor's failure to maintain runway alignment during the takeoff roll.

#### **Findings**

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: TAKEOFF - ROLL/RUN

- Findings
  1. OBJECT AIRPORT FACILITY
  2. (C) PROPER ALIGNMENT NOT MAINTAINED PILOT IN COMMAND(CFI)

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#### **Factual Information**

On October 27, 1998, at 1328 hours mountain standard time, a Beech C90, N37PT, veered off the runway and collided with an electrical utility box during takeoff at the Sedona, Arizona, airport. The aircraft sustained substantial damage; however, neither the flight instructor nor his student was injured. The aircraft was being operated by Hayden Leasing LC under 14 CFR Part 91 of Federal Aviation Regulations as an instructional flight when the accident occurred. The flight was originating from the Sedona airport as a cross-country flight to Scottsdale, Arizona. Visual meteorological conditions prevailed at the time and no flight plan was filed.

The instructor reported that he was taking off on runway 21 at Sedona when the aircraft began drifting to the right as he accelerated through 80 knots. He checked the power and found it stabilized at 1,230 pounds of torque. He applied full left rudder and 3/4 left aileron to counteract the turn but was unable to stop the drift. He rotated at 90 knots and immediately heard the sound of the gear warning horn. After becoming airborne, he was advised by another aircraft that his right gear was not visible. Instead of retracting the gear, he made a low pass over the field for further visual confirmation. He was advised by an FBO operator on the field that his right gear assembly was missing.

The pilot informed the FBO operator that he was going to continue to Scottsdale, but a few minutes later decided that it was possible that the loss of the gear assembly might have also initiated a fuel leak. At this point, he declared an emergency with Albuquerque center and made and emergency landing at Ernest A. Love Field, Prescott, Arizona.

During the landing roll the pilot shutdown the right engine and feathered the propeller. At 55 knots he gradually lowered the right wing toward the runway. As the wing contacted the runway, the aircraft began a right arc off the runway, coming to rest between the runway and taxiway.

An inspection of the runway at the Sedona airport revealed tire tracks diverging from the right side of the runway at 1,050 feet from the approach end. The track continued until it terminated at a cement electrical service box 322 feet from the point where the tracks left the runway. Impact marks were found on the cement box and the right main gear assembly was found on the ground about 152 feet beyond the box.

The fractured portion of the upper torque link was submitted to the Safety Board's Materials Lab for examination. The examination revealed the fracture surface exhibited characteristics consistent with an overstress separation.

The instructor and the ground witnesses said weather was not a factor in this accident.

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# **Pilot Information**

Certificate:	Airline transport; Commercial	Age:	54,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medicalno waivers/lim.	Last FAA Medical Exam:	August 26, 1998
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	15000 hours (Total, all aircraft), 2000 hours (Total, this make and model), 7500 hours (Pilot In Command, all aircraft)		

# **Aircraft and Owner/Operator Information**

Aircraft Make:	Beech	Registration:	N37PT
Model/Series:	C90 C90	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	LJ-731
Landing Gear Type:	Retractable - Tricycle	Seats:	9
Date/Type of Last Inspection:	August 25, 1998 Continuous airworthiness	Certified Max Gross Wt.:	10500 lbs
Time Since Last Inspection:	82 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	11103 Hrs	Engine Manufacturer:	P&W
ELT:	Installed, not activated	Engine Model/Series:	PT6A-21
Registered Owner:	HAYDEN LEASING, LC	Rated Power:	550 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:	HAYDEN LEASING, LC	Operator Designator Code:	

# Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PRC ,5045 ft msl	Distance from Accident Site:	33 Nautical Miles
Observation Time:	12:50 Local	Direction from Accident Site:	236°
<b>Lowest Cloud Condition:</b>	Unknown	Visibility	10 miles
Lowest Ceiling:	Broken / 6500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	14°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipita	ition	
Departure Point:	, AZ (SEZ )	Type of Flight Plan Filed:	None
Destination:	SCOTTSDALE , AZ (SDL)	Type of Clearance:	None
Departure Time:	13:28 Local	Type of Airspace:	Class E

# **Airport Information**

Airport:	SEDONA SEZ	Runway Surface Type:	Asphalt
Airport Elevation:	4827 ft msl	<b>Runway Surface Condition:</b>	Dry
Runway Used:	21	IFR Approach:	None
Runway Length/Width:	5132 ft / 75 ft	VFR Approach/Landing:	None

# Wreckage and Impact Information

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:	34.939472,-111.939865(est)

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#### **Administrative Information**

Investigator In Charge (IIC): Crispin, Robert

Additional Participating Persons:

Original Publish Date: June 21, 2000

Last Revision Date:

Investigation Class: Class

Note:

Investigation Docket: https://data.ntsb.gov/Docket?ProjectID=45323

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.

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