



# Aviation Investigation Final Report

<b>Location:</b>	TULSA, Oklahoma	<b>Accident Number:</b>	FTW99LA203
<b>Date &amp; Time:</b>	July 23, 1999, 16:00 Local	<b>Registration:</b>	N6712W
<b>Aircraft:</b>	Beech C23	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

During final landing approach the airplane touched down hard resulting in substantial damage. The pilot was demonstrating a power off landing. During the landing flare, he noticed that his 'aiming point' was 'moving in the wrong direction.' He 'immediately tried to add power and as [he] was doing this [he] arrived at the ground - 3 pointed the aircraft, which resulted in damage.' The pilot stated that the runway had 'a large drop from about 50 percent of the length to the north.' He further stated that he thought 'the gradual loss of headwind when [he] descended below the crest of the runway, and the resultant loss of translational lift, allowed an increase in descent rate that went undetected until the flare.'

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain the proper descent rate, which resulted in a hard landing.

## Findings

Occurrence #1: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

1. (C) PROPER DESCENT RATE - NOT MAINTAINED - PILOT IN COMMAND

## Factual Information

On July 23, 1999, at 1600 central daylight time, a Beech C23 airplane, N6712W, was substantially damaged during a hard landing at the Tulsa International Airport, Tulsa, Oklahoma. The airline transport rated pilot and his pilot-rated passenger were not injured. The airplane was registered to Tulsair Beechcraft Inc. of Tulsa and operated by the pilot. No flight plan was filed and visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 91 personal cross-country flight, which originated from Wichita, Kansas, approximately 1500.

According to the pilot, he was demonstrating a "power off landing when out of normal approach position." On final approach to runway 18R, "all appeared normal." The "airspeed was 60 kts," and the rate of descent was "approximately 500 feet/min." During the landing flare, the pilot noticed that his "aiming point" was "moving in the wrong direction." He "immediately tried to add power and as [he] was doing this [he] arrived at the ground - 3 pointed the aircraft, which resulted in damage."

The pilot stated that runway 18R "has a large drop from about 50 percent of the length to the north." He further stated that he thought "the gradual loss of headwind when [he] descended below the crest of the runway, and the resultant loss of translational lift, allowed an increase in descent rate that went undetected until the flare."

An FAA inspector examined the airplane and reported that the right main and nose landing gear assemblies were separated, the firewall was buckled, and the left wing's forward spar was damaged.

## Pilot Information

<b>Certificate:</b>	Airline transport; Flight instructor	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	May 18, 1999
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	13400 hours (Total, all aircraft), 8 hours (Total, this make and model), 11600 hours (Pilot In Command, all aircraft), 195 hours (Last 90 days, all aircraft), 73 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Beech	<b>Registration:</b>	N6712W
<b>Model/Series:</b>	C23 C23	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	M-2251
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	September 30, 1998 Annual	<b>Certified Max Gross Wt.:</b>	2450 lbs
<b>Time Since Last Inspection:</b>	47 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2401 Hrs	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-360-A4R
<b>Registered Owner:</b>	TULSAIR BEECHCRAFT INC.	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	DAVID L. WILLIAMS	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	35°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WICHITA (BEC )	Type of Flight Plan Filed:	None
Destination:	(TUL )	Type of Clearance:	VFR
Departure Time:	15:00 Local	Type of Airspace:	Class C

## Airport Information

Airport:	TULSA INTERNATIONAL TUL	Runway Surface Type:	Asphalt
Airport Elevation:	677 ft msl	Runway Surface Condition:	Dry
Runway Used:	18R	IFR Approach:	None
Runway Length/Width:	6101 ft / 150 ft	VFR Approach/Landing:	Full stop

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

## Administrative Information

**Investigator In Charge (IIC):** Snyder, Georgia

**Additional Participating Persons:** CARY E WILCOX; OKLAHOMA CITY , OK

**Original Publish Date:** June 22, 2000

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=46929>

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](#).