



# Aviation Investigation Final Report

<b>Location:</b>	CANON CITY, Colorado	<b>Accident Number:</b>	DEN87LA204
<b>Date &amp; Time:</b>	July 30, 1987, 12:45 Local	<b>Registration:</b>	N73265
<b>Aircraft:</b>	BELL 47J-2	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	5 None
<b>Flight Conducted Under:</b>	Part 91: General aviation		

## Analysis

THE ATP PLT WAS FLYING SIGHTSEEING RIDES. THERE WERE TWO ADULTS AND TWO CHILDREN IN THE FOUR PASSENGER HELICOPTER. DENSITY ALTITUDE WAS 10000 FEET. THE ACFT LOST PWR AND THE PLT ABORTED TAKEOFF AND LANDED. AFTER AN ENG RUNUP THE PLT TOOK OFF AGAIN AND THE HELICOPTER WAS BROUGHT TO A HOVER TO RETURN TO THE LOADING AREA. WHILE TURNING, THE TAIL ROTOR STRUCK A FENCE AND WAS SEVERED. THE HELICOPTER MADE AN UNCOMMANDED RIGHT TURN AND THE PLT EXECUTED A HOVERING AUTOROTATION. A POST ACCIDENT INSPECTION REVEALED EVIDENCE THAT A PLUG WAS MISSING FROM THE INTAKE MANIFOLD.

## Probable Cause and Findings

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

### Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: TAXI - AERIAL

#### Findings

1. (F) OBJECT - FENCE
2. (C) CLIMB - INADEQUATE - PILOT IN COMMAND
3. WEATHER CONDITION - HIGH DENSITY ALTITUDE
4. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

5. (F) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND  
6. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

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Occurrence #2: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

7. AUTOROTATION - PERFORMED - PILOT IN COMMAND

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline transport; Commercial; Flight instructor	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	October 1, 1986
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	10149 hours (Total, all aircraft), 28 hours (Total, this make and model), 9941 hours (Pilot In Command, all aircraft), 50 hours (Last 90 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BELL	<b>Registration:</b>	N73265
<b>Model/Series:</b>	47J-2 47J-2	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1869
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	December 11, 1986 Annual	<b>Certified Max Gross Wt.:</b>	2950 lbs
<b>Time Since Last Inspection:</b>	25 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4321 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	VO-540
<b>Registered Owner:</b>	BUD MICHAELSON	<b>Rated Power:</b>	260 Horsepower
<b>Operator:</b>	OZARK MOUNTAIN HELICOPTERS	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Scattered / 3000 ft AGL	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	36°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	12:45 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing;Full stop;Straight-in

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	4 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	5 None	<b>Latitude, Longitude:</b>	38.440166,-105.230033(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Collins, Robert
<b>Additional Participating Persons:</b>	GEORGE PECHAR; AURORA , CO
<b>Original Publish Date:</b>	October 7, 1988
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=17288">https://data.ntsb.gov/Docket?ProjectID=17288</a>

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.

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