



# Aviation Investigation Final Report

<b>Location:</b>	CLEARWATER, Oregon	<b>Accident Number:</b>	SEA94LA047
<b>Date &amp; Time:</b>	January 6, 1994, 14:45 Local	<b>Registration:</b>	N204PC
<b>Aircraft:</b>	MBB BO-105S	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	3 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Aerial observation		

## Analysis

THE PILOT WAS FLYING THE HELICOPTER IN A SOUTHWESTERLY DIRECTION AT 50 FEET AGL WHILE FOLLOWING A CANAL ON AN AERIAL SURVEY OF WILDLIFE. AS HE ADJUSTED HIS FLIGHTPATH TO A WESTERLY HEADING HIS VISIBILITY WAS RESTRICTED BY THE AFTERNOON SUN. THE PILOT OBSERVED POWER LINES IN HIS FLIGHT PATH AND ATTEMPTED TO TURN AND DECELERATE TO AVOID CONTACT. THE MANEUVER WAS UNSUCCESSFUL AND THE HELICOPTER'S MAIN ROTOR BLADE(S) CONTACTED THE WIRES. THE HELICOPTER THEN DESCENDED OUT OF CONTROL INTO A FOREBAY (SMALL POND). THE SUN'S POSITION AT THE TIME OF THE ACCIDENT WAS APPROXIMATELY +16 DEGREES ABOVE THE HORIZON AND 216 DEGREES TRUE AZIMUTH.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT IN COMMAND'S FAILURE TO MAINTAIN CLEARANCE WITH THE TRANSMISSION WIRES. FACTORS CONTRIBUTING TO THE ACCIDENT WERE THE WIRES AND SUNGLARE.

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: MANEUVERING

### Findings

1. (F) OBJECT - WIRE, TRANSMISSION

- 2. (F) LIGHT CONDITION - SUNGLARE
- 3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

- 4. TERRAIN CONDITION - WATER

## Factual Information

On January 6, 1994, approximately 1445 hours Pacific standard time (PST), a Messerschmitt-Boelkow-Blohm BO-105S, N204PC, registered to and operated by Pacificorp Trans, Inc., and being flown by Lawrence E. Cranford, an airline transport rated helicopter pilot, was destroyed during a collision with wires and subsequent ground impact approximately 5 miles east of Clearwater, Oregon. The pilot and two passengers sustained minor injuries. Visual meteorological conditions prevailed and a company VFR flight plan was in effect. The flight, which was being conducted for the purposes of aerial observation of wildlife, was to have been operated in accordance with the requirements set forth in 14CFR91.

The pilot reported that he was flying in a southwesterly direction while following a manmade canal at about 50 feet above ground. The canal emptied into an east/west oriented forebay (small pond) and as the helicopter continued following the forebay its flight path was adjusted to a westerly heading. The pilot reported that "as we turned to a westerly heading over the forebay, my forward visibility was restricted by the afternoon sun" and "at the last minute myself (sic) and the front seat passenger saw power lines across the forebay." The pilot reported that he attempted to turn and decelerate to avoid the wires but was unsuccessful. The main rotor blades contacted at least two of the three power lines and the helicopter then descended out of control, impacting near the shoreline of the lake in a near inverted attitude.

The elevation and azimuth of the sun at the time of the accident was approximately +16 degrees above the horizon and 216 degrees (true) respectively.

### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; 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; Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	November 15, 1993
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	10001 hours (Total, all aircraft), 146 hours (Total, this make and model), 7223 hours (Pilot In Command, all aircraft), 192 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MBB	<b>Registration:</b>	N204PC
<b>Model/Series:</b>	BO-105S BO-105S	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	S783
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	5
<b>Date/Type of Last Inspection:</b>	December 7, 1993 100 hour	<b>Certified Max Gross Wt.:</b>	5512 lbs
<b>Time Since Last Inspection:</b>	5 Hrs	<b>Engines:</b>	2 Turbo shaft
<b>Airframe Total Time:</b>	3035 Hrs	<b>Engine Manufacturer:</b>	ALLISON
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	250-C20B
<b>Registered Owner:</b>	PACIFICORP TRANS, INC.	<b>Rated Power:</b>	420 Horsepower
<b>Operator:</b>	PACIFICORP TRANS, INC.	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	JSNL

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	RBG ,525 ft msl	<b>Distance from Accident Site:</b>	45 Nautical Miles
<b>Observation Time:</b>	14:51 Local	<b>Direction from Accident Site:</b>	250°
<b>Lowest Cloud Condition:</b>	Unknown	<b>Visibility</b>	20 miles
<b>Lowest Ceiling:</b>	Broken / 4000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	200°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	11°C / 5°C
<b>Precipitation and Obscuration:</b>	N/A - None - Haze		
<b>Departure Point:</b>	ROSEBURG (RBG )	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	12:50 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Minor	Latitude, Longitude:	43.160728,-122.210136(est)

## Administrative Information

**Investigator In Charge (IIC):** McCreary, Steven

**Additional Participating Persons:** RON JOHNSON; HILLSBORO , OR

**Original Publish Date:** December 2, 1994

**Last Revision Date:**

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

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=41866>

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