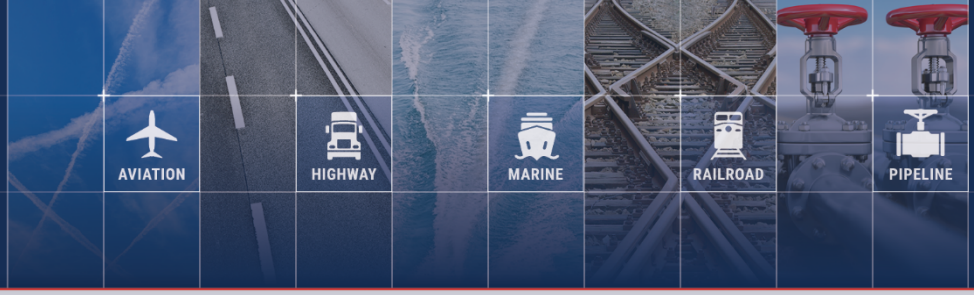

Aviation Investigation Final Report

Location:	JOHN DAY, Oregon	**Accident Number:**	SEA94LA179
Date & Time:	July 19, 1994, 13:00 Local	**Registration:**	N324WN
Aircraft:	KAMAN HH43F	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 133: Rotorcraft ext. load		

Analysis

THE PILOT STATED THAT THE ENGINE DISINTEGRATED IN FLIGHT. HE ATTEMPTED AN AUTOROTATION INTO TREES, DUE TO THE LACK OF SUITABLE FORCED LANDING SITES. INSPECTION OF THE ENGINE REVEALED THAT A TURBINE COMPRESSOR WHEEL HAD FAILED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF A TURBINE COMPRESSOR WHEEL. THE LACK OF SUITABLE TERRAIN FOR AN AUTOROTATION/FORCED LANDING WAS A FACTOR.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: MANEUVERING

Findings
1. (C) TURBINE ASSEMBLY,TURBINE WHEEL - FAILURE,TOTAL

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: APPROACH

Findings
2. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On July 19, 1994, approximately 1300 Pacific daylight time, a Kaman HH43F, N324WN, sustained substantial damage when it collided with terrain during a forced landing after a loss of power while engaged in helicopter logging operations near John Day, Oregon. The commercial pilot, who was the sole occupant of the aircraft, was seriously injured. There was no flight plan filed for the flight, which was conducted in visual meteorological conditions.

The pilot stated that the engine "grenaded" in flight. He attempted an autorotation into trees, as he was over a select cut with no unobstructed place to land. He said that he flew around several larger trees in an attempt to keep the rotor blades intact as long as possible. At about 40 feet elevation, with no alternatives he pulled pitch to check his descent rate, settling into the trees. Inspection by FAA inspectors noted that the number two compressor wheel failed, and the entire wheel came out of the aircraft.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	39,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	July 12, 1993
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	7500 hours (Total, all aircraft), 150 hours (Total, this make and model), 7000 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	KAMAN	**Registration:**	N324WN
Model/Series:	HH43F HH43F	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Restricted (Special)	**Serial Number:**	62-4562
Landing Gear Type:	Tricycle	**Seats:**	
Date/Type of Last Inspection:	June 30, 1994 100 hour	**Certified Max Gross Wt.:**	7725 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo shaft
Airframe Total Time:	4552 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Not installed	**Engine Model/Series:**	T-53-L11D
Registered Owner:	HISER AVIATION, INC	**Rated Power:**	
Operator:	HISER AVIATION, INC	**Operating Certificate(s) Held:**	
Operator Does Business As:		**Operator Designator Code:**	IQHL

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**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots / 7 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	270°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	27°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	
Departure Time:	00:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:	5000 ft msl	**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	44.419448,-118.940505(est)

Administrative Information

Investigator In Charge (IIC):	Stockhill, Michael
Additional Participating Persons:	DALE MORRIS; HILLSBORO , OR
Original Publish Date:	December 7, 1994
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=41975