



National Transportation Safety Board Aviation Accident Data Summary

Location:	VERNAL, UT	Accident Number:	DEN88LA046
Date & Time:	01/02/1988, 1530 MST	Registration:	N400AH
Aircraft:	HILLER UH-12E	Injuries:	3 None
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

THE COMMERCIAL PLT AND TWO PASSENGERS WERE SURVEYING A ROAD ROUTE IN MOUNTAINOUS TERRAIN. AT CRUISE, THE PILOT NOTICED A DROP IN MANIFOLD PRESSURE, FOLLOWED BY A LOSS OF OIL PRESSURE. THE PLT REPORTED THAT THE ENGINE QUIT. AN AUTOROTATION TO A SNOW COVERED ROAD RESULTED IN A HARD LANDING. THE MAIN ROTOR BLADES SEVERED THE TAIL BOOM AND THE LANDING SKIDS COLLAPSED. A POST ACCIDENT ENGINE TEAR DOWN REVEALED EVIDENCE CONSISTENT WITH CONNECTING ROD FAILURE. THE NUMBER FIVE ROD BEARING HAD DISINTEGRATED AND THE ROD END CAP HAD BROKEN IN SERVICE. THE DAMAGED ROD END CAP AND CONNECTING ROD WERE EXAMINED FOR FAILURE MODE DETERMINATION. THE METALLURGIST'S FACTUAL REPORT STATES THAT THE ROD SHOWS FRACTURE DETAILS CHARACTERISTICS OF HIGH CYCLE FATIGUE.

Probable Cause

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

Findings

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

Findings

1. (C) ENGINE ASSEMBLY,CONNECTING ROD - FATIGUE
2. (C) MAINTENANCE,REBUILD/REMANUFACTURE - POOR - OTHER MAINTENANCE PERSONNEL
3. (C) ENGINE ASSEMBLY,CONNECTING ROD BOLT - STRIPPED THREAD
4. (C) ENGINE ASSEMBLY,CONNECTING ROD CAP - FAILURE,TOTAL

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

Findings

5. AUTOROTATION - INITIATED

Occurrence #3: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

- 6. (C) ALTITUDE - MISJUDGED - PILOT IN COMMAND
- 7. (C) FLARE - IMPROPER - PILOT IN COMMAND
- 8. MISC ROTORCRAFT, TAIL BOOM - SHEARED

Pilot Information

Certificate:	Commercial	Age:	35
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	5450 hours (Total, all aircraft), 5100 hours (Total, this make and model), 5100 hours (Pilot In Command, all aircraft), 30 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	Registration:	N400AH
Model/Series:	UH-12E UH-12E	Engines:	1 Reciprocating
Operator:	BEN J. RICHARDS	Engine Manufacturer:	LYCOMING
Operating Certificate(s) Held:	On-demand Air Taxi (135)	Engine Model/Series:	TIVO-540-A2A
Flight Conducted Under:	Part 91: General Aviation - Business		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	RKS, 0 ft msl	Weather Information Source:	Pilot
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	Calm / , 230°
Temperature:	-15° C	Visibility	50 Miles
Precipitation and Obscuration:			
Departure Point:	VERNAL, UT (VEL)	Destination:	

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC): ROBERT B COLLINS Adopted Date: 03/30/1989

Investigation Docket: NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.