



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	VERNAL, UT	<b>Accident Number:</b>	DEN86LA016
<b>Date &amp; Time:</b>	11/01/1985, 1630 MST	<b>Registration:</b>	N400AH
<b>Aircraft:</b>	HILLER UH-12E	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None

**Flight Conducted Under:** Part 135: Air Taxi & Commuter - Non-scheduled

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## Analysis

THE PLT STATED HE HAD JUST DEPARTED A SITE LOCATED ON TOP OF A MOUNTAIN, WHICH IS APPROXIMATELY 12,200 FT MSL. THE PILOT SAID 30 SECONDS LATER, THE HELICOPTER LOST PARTIAL POWER. REQUIRING HIM TO MAKE A FORCE LANDING. THE INSPECTION OF THE TURBOCHARGER REVEALED THE COMPRESSOR IMPELLER RETAINING NUT HAD BACKED OFF, ALLOWING THE COMPRESSOR IMPELLER TO CONTACT THE COMPRESSOR SHROUD AND LEADING TO THE SEIZURE OF THE IMPELLER. THIS RESULTED IN THE FAILURE OF THE TURBOCHARGER.

## Probable Cause and Findings

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

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: CRUISE

### Findings

1. (C) EXHAUST SYSTEM,TURBOCHARGER - FAILURE,TOTAL  
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Occurrence #2: FORCED LANDING  
Phase of Operation: CRUISE

### Findings

2. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY  
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Occurrence #3: HARD LANDING  
Phase of Operation: LANDING

### Findings

3. LANDING GEAR,SKID ASSEMBLY - BUCKLED  
4. ROTOR SYSTEM,MAIN ROTOR BLADE - BENT  
5. ROTOR SYSTEM,TAIL ROTOR BLADE - BENT  
6. ROTOR DRIVE SYSTEM,TAIL ROTOR DRIVE SHAFT - SEPARATION

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial; Private	<b>Age:</b>	32, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	04/08/1985
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	4641 hours (Total, all aircraft), 4260 hours (Total, this make and model), 4200 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	HILLER	<b>Registration:</b>	N400AH
<b>Model/Series:</b>	UH-12E UH-12E	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	1177
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	3
<b>Date/Type of Last Inspection:</b>	10/06/1985, Annual	<b>Certified Max Gross Wt.:</b>	1845 lbs
<b>Time Since Last Inspection:</b>	14 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	6334 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	TIVO-540-A2A
<b>Registered Owner:</b>	CALVIN D. HUNT	<b>Rated Power:</b>	315 hp
<b>Operator:</b>	CALVIN D. HUNT	<b>Operating Certificate(s) Held:</b>	On-demand Air Taxi (135)
<b>Operator Does Business As:</b>	SKYBIRD SERVICES	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	VEL, 5274 ft msl	Distance from Accident Site:	39 Nautical Miles
Observation Time:	1545 MST	Direction from Accident Site:	150°
Lowest Cloud Condition:	Scattered / 20000 ft agl	Visibility	46 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	10° C / -6° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1600 MST	Type of Airspace:	Class G

## Airport Information

Airport:	VERNAL (VEL)	Runway Surface Type:	Dirt
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

## 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):	RONALD E MICKLE	Report Date:	
Additional Participating Persons:	THOVULLE SMITH; SLAT LAKE CITY, UT DOMINIC CHEMELLO; SALT LAKE CITY, UT DAVID J KEEGAN		
Publish Date:			
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 <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).