



Aviation Investigation Final Report

Location:	GARRISON, North Dakota	Accident Number:	CHI90DTG02
Date & Time:	August 4, 1990, 09:45 Local	Registration:	N133HA
Aircraft:	HILLER UH-12-E	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

DURING THE TAKEOFF TRANSITION TO FORWARD FLIGHT THE HELICOPTER PILOT FELT THE LEFT ANTITORQUE PEDAL GO TO THE FLOOR, AND THE HELICOPTER BEGAN TO ROTATE UNCONTROLLED. THE PILOT MANEUVERED THE HELICOPTER TO A CLEAR AREA AND ATTEMPTED TO LAND. UNCONTROLLED CONTACT WAS MADE WITH THE TERRAIN. THE INVESTIGATION REVEALED THAT THE LEFT TAIL ROTOR CONTROL CABLE HAD FAILED DUE TO OVERLOAD IN AN AREA WHICH HAD BEEN SUBJECT TO MECHANICAL ABRASION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF THE HELICOPTER TAIL ROTOR CONTROL CABLE. A FACTOR RELATED TO THE ACCIDENT WAS THE CHAFING OF THE TAIL ROTOR CONTROL CABLE.

Findings

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

Findings

1. (C) ROTORCRAFT FLIGHT CONTROL, TAIL ROTOR CABLE - FAILURE, TOTAL
2. (C) DIRECTIONAL CONTROL - NOT POSSIBLE - PILOT IN COMMAND
3. (F) ROTORCRAFT FLIGHT CONTROL, TAIL ROTOR CABLE - CHAFED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	29, 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 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	May 30, 1990
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5000 hours (Total, all aircraft), 700 hours (Total, this make and model), 4700 hours (Pilot In Command, all aircraft), 355 hours (Last 90 days, all aircraft), 177 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	Registration:	N133HA
Model/Series:	UH-12-E UH-12-E	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	3033
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	May 18, 1990 Annual	Certified Max Gross Wt.:	3100 lbs
Time Since Last Inspection:	258 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1328 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	VO-540-C2A
Registered Owner:	SHAWN B MORTEN	Rated Power:	305 Horsepower
Operator:	MORTEN, SHAWN B.	Operating Certificate(s) Held:	
Operator Does Business As:	N/A	Operator Designator Code:	LPGG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	BIS ,1715 ft msl	Distance from Accident Site:	40 Nautical Miles
Observation Time:	15:47 Local	Direction from Accident Site:	180°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	24°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	09:45 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Dirt
Airport Elevation:	0 ft msl	Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	47.649581,-101.42015(est)

Administrative Information

Investigator In Charge (IIC): Edwards, Weston

Additional Participating Persons:

Original Publish Date: December 14, 1992

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=14508>

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.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).