



Aviation Investigation Final Report

Location:	WATERFORD, Wisconsin	Accident Number:	CHI89DEP04
Date & Time:	May 22, 1989, 09:00 Local	Registration:	N3829
Aircraft:	HILLER UH-12E	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

WHILE IN NORMAL CRUISE FLIGHT THE HELICOPTER EXPERIENCED A VIBRATION. THE PILOT ELECTED TO MAKE A PRECAUTIONARY LANDING AND DURING ATTEMPTED AUTOROTATION CONTROL WAS LOST. THE INVESTIGATION REVEALED THE MAIN ROTOR DRIVE TRAIN TORSIONAL COUPLING HAD FAILED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S INABILITY TO MAINTAIN CONTROL DURING AN AUTOROTATIONAL LANDING ATTEMPT FOLLOWING THE FAILURE OF THE MAIN ROTOR DRIVE TRAIN TORSIONAL COUPLING.

Findings

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

Findings
1. (C) ROTOR DRIVE SYSTEM - FAILURE, TOTAL

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

Occurrence #3: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - EMERGENCY

Findings

2. (C) AUTOROTATION - NOT POSSIBLE

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

Pilot Information

Certificate:	Commercial	Age:	58, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	May 16, 1989
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	4200 hours (Total, all aircraft), 800 hours (Total, this make and model), 4200 hours (Pilot In Command, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	Registration:	N3829
Model/Series:	UH-12E UH-12E	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	1425
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	May 1, 1988 Annual	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:	64 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5851 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	VO-540-C2A
Registered Owner:	JON MAR LEASING CORP.	Rated Power:	305 Horsepower
Operator:	A.I.R. HELICOPTER SERVICE, INC	Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	PEQA

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	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	21°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WATERFORD , WI	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:	0 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
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:	42.759864,-88.209365(est)

Administrative Information

Investigator In Charge (IIC):	Anderson, Jeffrey
Additional Participating Persons:	CHARLES EBERT; MILWAUKEE , WI
Original Publish Date:	August 2, 1990
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=14206

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](#).