



Aviation Investigation Final Report

Location:	NEWNAN, Georgia	Accident Number:	ATL88LA030
Date & Time:	November 7, 1987, 13:30 Local	Registration:	N922TE
Aircraft:	HILLER UH-12B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE TAIL ROTOR 90 DEGREE GEARBOX MOUNTING FLANGE FRACTURED DURING APCH TO LAND, WHILE THE HELICOPTER WAS AT ABOUT 75 FT AGL. THE GEARBOX SUBSEQUENTLY SEPARATED FROM THE HELICOPTER. THE PLT INITIATED AN AUTOROTATION. THE HELICOPTER ROLLED OVER ON LDG. METALLURGICAL ANALYSIS INDICATED THAT THE FLANGE FAILED AS A RESULT OF EXTENSIVE PREEXISTENT FATIGUE CRACKING, AND THAT THE CRACKING WAS THE RESULT OF EXCESSIVE VIBRATION.

Probable Cause and Findings

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

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (C) ROTOR DRIVE SYSTEM, TAIL ROTOR GEARBOX(90 DEG) - VIBRATION
 2. (C) ROTOR DRIVE SYSTEM, TAIL ROTOR GEARBOX(90 DEG) - FATIGUE
 3. (C) ROTOR DRIVE SYSTEM, TAIL ROTOR GEARBOX(90 DEG) - SEPARATION
 4. AUTOROTATION - PERFORMED - PILOT IN COMMAND
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Occurrence #2: ROLL OVER
Phase of Operation: LANDING

Findings
5. DIRECTIONAL CONTROL - REDUCED

Factual Information

Pilot Information

Certificate:	Commercial	Age:	39, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	July 16, 1986
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3141 hours (Total, all aircraft), 28 hours (Total, this make and model), 43 hours (Last 90 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	HILLER	Registration:	N922TE
Model/Series:	UH-12B UH-12B	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	714
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	FRANKLIN
ELT:	Not installed	Engine Model/Series:	6V-335-B
Registered Owner:	UNLIMITED DIRECTIONS, INC	Rated Power:	210 Horsepower
Operator:	UNLIMITED DIRECTIONS, INC.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

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	
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	CARROLLTON , GA	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Grass/turf
Airport Elevation:	0 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:	0 ft / 0 ft	VFR Approach/Landing:	Straight-in

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):	Strickland, Scott
Additional Participating Persons:	JOHN WALKER; ATLANTA , GA
Original Publish Date:	February 14, 1989
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=7671

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](#).