



Aviation Investigation Final Report

Location:	THORNTON, Pennsylvania	Accident Number:	NYC90LA090
Date & Time:	April 22, 1990, 11:30 Local	Registration:	N493H
Aircraft:	ENSTROM 280	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

THE HELICOPTER WAS TAKING OFF FROM A CONFINED AREA WITH ONE PASSENGER ONBOARD. THE PILOT REPORTED A POWER LOSS AT 40 FEET AGL AND MADE A 180 DEGREE TURN TO A DOWNWIND LANDING. THE FAA REPORTED THE HELICOPTER HIT A TREE AND LANDED HARD WITH DAMAGE TO TAIL ROTOR, TAIL BOOM AND MAIN ROTOR DRIVE SHAFT. THEY ALSO REPORTED THEY RAN THE ENGINE AFTER THE ACCIDENT WITH NO LOAD ON IT AND SAID IT OPERATED NORMALLY. THEY REPORTED THE WINDS WERE VARIABLE AND THERE WERE GUSTS AT THE TIME OF TAKEOFF.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE TO ATTAIN A PROPER CLIMB RATE AFTER TAKEOFF FROM A CONFINED AREA. FACTORS INCLUDE GUSTY WINDS AND HIGH OBSTRUCTIONS.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - GUSTS
2. (C) PROPER CLIMB RATE - NOT ATTAINED
3. (F) TERRAIN CONDITION - HIGH OBSTRUCTION(S)

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

Factual Information

Pilot Information

Certificate:	Private	Age:	56, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
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--w/ waivers/lim	Last FAA Medical Exam:	March 29, 1990
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	8500 hours (Total, all aircraft), 5400 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	ENSTROM	Registration:	N493H
Model/Series:	280 280	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1014
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	April 6, 1990 Annual	Certified Max Gross Wt.:	2150 lbs
Time Since Last Inspection:	9 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2161 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	HIO-360-C1A
Registered Owner:	AMI, INC	Rated Power:	205 Horsepower
Operator:	H. PPHILLIPS DAVIES	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	20 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:	20°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:	00:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	THORNBURG NONE	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
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:	39.8903,-75.52922(est)

Administrative Information

Investigator In Charge (IIC):	Hancock, Robert
Additional Participating Persons:	JOSEPH R MORETTO; PHILADELPHIA , PA
Original Publish Date:	December 14, 1992
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=36630

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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](#).