



Aviation Investigation Final Report

Location:	ST MARY'S, West Virginia	Accident Number:	NYC92LA151
Date & Time:	August 9, 1992, 12:35 Local	Registration:	N4531W
Aircraft:	ROCKWELL 112-TC	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE PILOT SAID, 'WHILE CRUSING AT 9500 FEET...THERE WAS A 'BOOM'...I REALIZED...THE ENGINE JUST BLEW...' DURING THE FORCED LANDING, THE AIRPLANE STRUCK A HOUSE. EXAMINATION OF THE MAINTENANCE RECORDS REVEALED THAT THERE HAD BEEN TWO PROPELLER STRIKES WITH THIS AIRPLANE. AN EXAMINATION OF THE ENGINE REVEALED NO MALFUNCTION OR DEFECT WHICH WOULD HAVE CONTRIBUTED TO THE FAILURE. THE PROPELLER BLADE HUB ASSEMBLY WAS EXAMINED BY THE NTSB METALLURGIST. IN HIS REPORT HE STATED: 'THE HUB FAILED AS A RESULT OF FATIGUE CRACKING....THE ORIGIN OF THE FATIGUE WAS NOT LOCATED ON A PART OF THE HUB THAT WAS RECOVERED. DAMAGE TO THE PRELOAD PLATE SHELF...INDICATED THAT THE HUB HAD PREVIOUSLY EXPERIENCED A BLADE STRIKE....THE GROUND STRIKE COULD HAVE HAD AN AFFECT ON THE FAILURE OF THE HUB, BUT WITHOUT THE ORIGIN AREA FOR EXAMINATION OTHER...CAUSES...CANNOT BE RULED OUT.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FATIGUE CRACKING FRACTURE OF THE PROPELLER HUB, RESULTING IN A FORCED LANDING, AND COLLISION WITH A HOUSE.

Findings

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

Findings

1. PROPELLER SYSTEM/ACCESSORIES, BLADE - PREVIOUS DAMAGE
2. (C) PROPELLER SYSTEM/ACCESSORIES, HUB - FATIGUE
3. (C) PROPELLER SYSTEM/ACCESSORIES, HUB - FRACTURED

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: LANDING

Findings

4. (F) OBJECT - RESIDENCE

Factual Information

Pilot Information

Certificate:	Private	Age:	47, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	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:	April 18, 1991
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	1266 hours (Total, all aircraft), 277 hours (Total, this make and model), 1133 hours (Pilot In Command, all aircraft), 35 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROCKWELL	Registration:	N4531W
Model/Series:	112-TC 112-TC	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	13040
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 1, 1992 Annual	Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:	38 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1388 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	TO-360-C1A6D
Registered Owner:	SHERMAN D. TAFFEL	Rated Power:	210 Horsepower
Operator:	SHERMAN D. TAFFEL	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:	Scattered / 4500 ft AGL	Visibility	75 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	27°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LOUISVILLE , KY (LOU)	Type of Flight Plan Filed:	None
Destination:	CLARKSVILLE , MD (M24)	Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	39.40047,-81.189117(est)

Administrative Information

Investigator In Charge (IIC):	Leonard, Charles
Additional Participating Persons:	JAMES H POOL; CHARLESTON , WV ROBERT STOLL; HARRISBURG , PA
Original Publish Date:	September 14, 1993
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=37198

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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](#).