



Aviation Investigation Final Report

Location:	MCGRATH, Minnesota	Accident Number:	CHI88DER01
Date & Time:	November 13, 1987, 10:10 Local	Registration:	N77PL
Aircraft:	PIPER PA-22	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

DURING A SOLO CROSS-COUNTRY FLIGHT, THE AIRCRAFT SUSTAINED A POWER LOSS DUE TO FAILURE OF THE #3 CONNECTING ROD. SUBSEQUENTLY, THE STUDENT PILOT MADE AN EMERGENCY LANDING IN A SWAMP AND THE AIRCRAFT WAS DAMAGED.

Probable Cause and Findings

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

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: CRUISE - NORMAL

Findings

1. (C) ENGINE ASSEMBLY,CONNECTING ROD - FAILURE,TOTAL

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

2. (F) TERRAIN CONDITION - NONE SUITABLE
3. (F) TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

Pilot Information

Certificate:	Student	Age:	42, Male
Airplane Rating(s):	None	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 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	February 25, 1987
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	100 hours (Total, all aircraft), 70 hours (Total, this make and model), 70 hours (Pilot In Command, all aircraft), 26 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N77PL
Model/Series:	PA-22 PA-22	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-5793
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	March 25, 1987 Annual	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:	73 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-320-B2A
Registered Owner:	KEN M. PRACHAR	Rated Power:	150 Horsepower
Operator:		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:	BRD ,1226 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	10:00 Local	Direction from Accident Site:	280°
Lowest Cloud Condition:	Thin Overcast	Visibility	15 miles
Lowest Ceiling:	Broken	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	6°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	MOOSE LAKE , MN (218)	Type of Flight Plan Filed:	VFR
Destination:	BATTLE LAKE , MN (7Y5)	Type of Clearance:	VFR
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:	Forced landing

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:	46.240695,-93.270706(est)

Administrative Information

Investigator In Charge (IIC): Willman, D

Additional Participating Persons:

Original Publish Date: April 24, 1989

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=13886>

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](#).