



Aviation Investigation Final Report

Location:	ROCK HILL, South Carolina	Accident Number:	ATL85LA110
Date & Time:	March 6, 1985, 18:30 Local	Registration:	N6399Q
Aircraft:	MOONEY M20F	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

DURING A VFR FLT, THE PLT REPORTED A SEVERE VIBRATION IN THE AIRFRAME. PWR WAS REDUCED IN AN ATTEMPT TO LESSEN THE VIBRATION AND SHORTLY THEREAFTER, A TOTAL LOSS OF PWR WAS EXPERIENCED AND THE PLT ESTABLISHED A GLIDE TO THE NEAREST LANDING AREA. DURING THE APCH, THE PLT STATED, THE AIRSPEED WAS EXCESSIVE AND HE OVERSHOT THE INTENDED LANDING AREA RESULTING IN A COLLISION WITH TREES. EXAMINATION OF THE ENG DISCLOSED THE CRANKSHAFT HAD FAILED. LAB ANALYSIS OF THE SHAFT INDICATED THE FRACTURE WAS A FATIGUE FAILURE.

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,CRANKSHAFT - FAILURE,TOTAL
2. (C) ENGINE ASSEMBLY,CRANKSHAFT - FATIGUE

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (F) OBJECT - TREE(S)
4. (F) AIRSPEED - EXCESSIVE - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Private	Age:	32, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	September 12, 1984
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	595 hours (Total, all aircraft), 394 hours (Total, this make and model), 470 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MOONEY	Registration:	N6399Q
Model/Series:	M20F M20F	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	670482
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	January 5, 1985 Annual	Certified Max Gross Wt.:	2740 lbs
Time Since Last Inspection:	10 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-360-A1A
Registered Owner:	MICHAEL DENYER	Rated Power:	280 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:	CLT ,748 ft msl	Distance from Accident Site:	25 Nautical Miles
Observation Time:	19:00 Local	Direction from Accident Site:	20°
Lowest Cloud Condition:	Clear	Visibility	30 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	10°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	GASTONIA , NC	Type of Flight Plan Filed:	None
Destination:	ROCK HILL , SC	Type of Clearance:	None
Departure Time:	18:00 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 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): Powell, Phillip

Additional Participating Persons: LOUIS BLACKWELL; COLUMBIA, SC

Original Publish Date:

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=6755>

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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](#).