



Aviation Investigation Final Report

Location:	WILLCOX, Arizona	Accident Number:	FTW94LA181
Date & Time:	May 25, 1994, 18:00 Local	Registration:	N50105
Aircraft:	MOONEY M20J	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

THE PROPELLER RPM SURGED AND AS THE PILOT ATTEMPTED TO REDUCE POWER, THE ENGINE VIBRATED VIOLENTLY AND STOPPED WHEN THE THROTTLE WAS CLOSED. A FORCED LANDING WAS MADE TO A MESQUITE AND SAGE BRUSH COVERED DESERT. DURING ROLLOUT THE AIRCRAFT IMPACTED SEVERAL LARGE CLUSTERS OF MESQUITE AND A FENCE RESULTING IN SUBSTANTIAL DAMAGE TO BOTH WINGS AND HORIZONTAL STABILIZERS. EXAMINATION OF THE 580 HOUR ENGINE REVEALED THAT TWO CONNECTING RODS HAD FAILED DUE TO LACK OF LUBRICATION. A BEARING WAS FOUND TO HAVE SPUN, BLOCKING THE ENGINE OIL FLOW. THE AIRPLANE HAD BEEN INVOLVED IN AN INCIDENT 108 HOURS PRIOR TO THE ACCIDENT IN WHICH THE ENGINE WAS OPERATED WITH LOW OIL QUANTITY AND LOW OIL PRESSURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF THE CONNECTING ROD DUE TO LACK OF LUBRICATION. FACTORS WERE THE PREVIOUS DAMAGE TO THE ENGINE, AND THE UNSUITABLE TERRAIN AT THE PILOT'S DISPOSAL FOR THE FORCED LANDING.

Findings

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

Findings

1. (F) POWERPLANT - PREVIOUS DAMAGE
2. (C) LUBRICATING SYSTEM,OIL PORT/PASSAGE,INTERNAL - BLOCKED(TOTAL)
3. (C) ENGINE ASSEMBLY,CONNECTING ROD - FAILURE,TOTAL

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: LANDING - ROLL

Findings

4. OBJECT - TREE(S)
5. TERRAIN CONDITION - ROUGH/UNEVEN
6. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On May 25, 1994, at 1800 Pacific daylight time, a Mooney M20J, N50105, was substantially damaged during a forced landing near Willcox, Arizona. The instrument rated private pilot was not injured. Visual meteorological conditions prevailed for the business flight.

An IFR flight plan was filed for a flight from Fort Stockton, Texas, to Scottsdale, Arizona. The pilot reported that he was in cruise flight at an assigned altitude of 10,000 feet, when "he noticed a change in engine and propeller sound, accompanied by the propeller RPM increasing beyond the red line." Propeller control could not be regained by moving the propeller control lever, and "when the power was reduced, the engine began to shake violently." When the pilot closed the throttle, the engine stopped.

After declaring an emergency, and establishing a glide to the Cochise County Airport, near Willcox, Arizona, the pilot attempted to restart the engine with the starter without success.

The pilot further stated that the airport was beyond the gliding distance of the airplane, and a forced landing was attempted on the rough and uneven desert, "pretty well covered by mesquite and brush." The right main landing gear was torn from the wing during the landing roll. Both wings and horizontal stabilizers sustained substantial damage due to a collision with mesquite trees and a fence.

A detailed examination of the 580 hour engine revealed that the 3 and 4 connecting rods had failed due to lack of lubrication. A bearing was found to have spun, blocking the oil flow.

According to the aircraft and engine records, an incident involving the operation of the engine with low oil occurred approximately 108 hours prior to the accident. The details of the incident are enclosed in the pilot/operator report.

Pilot Information

Certificate:	Private	Age:	67, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	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:	December 21, 1992
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1568 hours (Total, all aircraft), 1100 hours (Total, this make and model), 1336 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MOONEY	Registration:	N50105
Model/Series:	M20J M20J	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-3059
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 11, 1994 Annual	Certified Max Gross Wt.:	2740 lbs
Time Since Last Inspection:	13 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	572 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-360
Registered Owner:	LUCHT, ORREN J	Rated Power:	200 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:	TUS ,2389 ft msl	Distance from Accident Site:	60 Nautical Miles
Observation Time:	16:50 Local	Direction from Accident Site:	265°
Lowest Cloud Condition:	Unknown	Visibility	40 miles
Lowest Ceiling:	Broken / 6500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	23°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FORT STOCKTON , TX (FST)	Type of Flight Plan Filed:	IFR
Destination:	SCOTTSDALE , AZ (SDL)	Type of Clearance:	IFR
Departure Time:	16:00 Local	Type of Airspace:	Class E

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		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:	32.430141,-109.880523(est)

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	RICH ROWLAND; SCOTTSDALE , AZ
Original Publish Date:	December 7, 1994
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=19073

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](#).