



Aviation Investigation Final Report

Location:	SANTA ANA, California	Accident Number:	LAX90LA066
Date & Time:	January 6, 1990, 17:02 Local	Registration:	N74520
Aircraft:	MOONEY M20B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE ENGINE ON A MOONEY M20B FAILED WHILE ON SHORT FINAL APPROACH. EXAMINATION REVEALED THAT THE BOLTS RETAINING THE IDLER SHAFT HAD SHEARED ALLOWING A CHANGE IN THE INTERNAL TIMING AND FAILURE TO DRIVE THE LEFT MAGNETO. BOTH BOLT HEADS, THE LOCKPLATE, AND THE COTTER KEYS WERE FOUND IN THE OIL SUMP. THE IGNITION SPRINGS ON THE ELECTRICAL HARNESS HAD EVIDENCE OF ARCING.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF BOLTS RETAINING THE IDLER SHAFT ALLOWING THE CAM SHIFT TIMING TO CHANGE AND BY ITS FAILURE TO DRIVE THE LEFT MAGNETO.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - MECH FAILURE/MALF
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (C) ENGINE ASSEMBLY, TIMING GEAR - DISENGAGED
2. (C) IGNITION SYSTEM, MAGNETO - DISCONNECTED
3. (C) MAINTENANCE - INADEQUATE - OTHER MAINTENANCE PERSONNEL

Factual Information

Pilot Information

Certificate:	Private	Age:	40, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	September 15, 1988
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	557 hours (Total, all aircraft), 86 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	MOONEY	Registration:	N74520
Model/Series:	M20B M20B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	1907
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:	0 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-360-A1D
Registered Owner:		Rated Power:	180 Horsepower
Operator:	ROBLEY D. MC CANTS	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	5 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	-18°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(SNA)	Type of Flight Plan Filed:	None
Destination:	(SNA)	Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class D

Airport Information

Airport:	JOHN WAYNE SNA	Runway Surface Type:	Macadam
Airport Elevation:	50 ft msl	Runway Surface Condition:	Dry
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	5700 ft / 150 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): Mucho, R. gary

Additional Participating Persons:

Original Publish Date: October 2, 1992

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=26717>

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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](#).