



Aviation Investigation Final Report

Location:	SAN MANUEL, Arizona	Accident Number:	LAX86LA076
Date & Time:	December 27, 1985, 17:53 Local	Registration:	N234GA
Aircraft:	MOONEY M20F	Aircraft Damage:	Substantial
Defining Event:		Injuries:	4 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

DURING CRUISE AT 10,500 FT MSL ON A NIGHT X-COUNTRY FLT, THE PLT SAID THE ENG RAN ROUGH WITH MODERATE VIBRATION LEVELS. PLT DECLARED AN EMERGENCY WITH ABQ ARTCC, WHO VECTORED THE ACFT TO AN UNLIGHTED AIRSTRIP. THE PLT SAID HE HAD DIFFICULTY IN SEEING THE RWY IN THE DARKNESS. THE ACFT LANDED LONG, BLEW A TIRE, VEERED OFF THE RT SIDE OF THE RWY & STRUCK A TREE. EXAMINATION OF THE ENG REVEALED THAT THE #3 CYLINDER WAS AJAR FROM THE CASE, WITH ALL THE TOP HOLD DOWN STUDS & NUTS IN PLACE BUT BENT UPWARD. THE NUTS WERE MISSING FROM THE LOWER FORE & AFT LARGE HOLD DOWN STUDS, & THE REMAINING CENTER STUDS HAD ALL FRACTURED AT THE CYLINDER FLANGE LEVEL. THE ENG WAS OVERHAULED 6 MONTHS AND 21 HRS PRIOR TO THE ACCIDENT. THE FAA AIRWORTHINESS INSPECTOR WHO EXAMINED THE ENG STATED HIS OPINION THAT THE NUTS ON THE LOWER LARGE STUDS WERE UNDERTORQUED AT INSTALLATION.

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,CYLINDER - LOOSE
2. (C) MAINTENANCE,MAJOR REPAIR - IMPROPER - OTHER MAINTENANCE PERSONNEL

Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

Findings

3. (F) LIGHT CONDITION - DARK NIGHT
4. (C) AIRPORT FACILITIES,RUNWAY EDGE LIGHTS - UNAVAILABLE
5. (F) PROPER TOUCHDOWN POINT - NOT IDENTIFIED - PILOT IN COMMAND
6. (F) GO-AROUND - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: LANDING - ROLL

Findings

7. (F) OBJECT - TREE(S)
8. (C) GROUND LOOP/SWERVE - INADVERTENT - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Airline transport	Age:	45, Male
Airplane Rating(s):	Single-engine land; Multi-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 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	October 5, 1985
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	7600 hours (Total, all aircraft), 700 hours (Total, this make and model), 7300 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MOONEY	Registration:	N234GA
Model/Series:	M20F M20F	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	680036
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 3, 1985 Annual	Certified Max Gross Wt.:	2600 lbs
Time Since Last Inspection:	21 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1510 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-360-A1A
Registered Owner:	EUGENE L. HAGGERTY	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:	Dusk
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	20 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	0°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	EL PASO , TX (ELP)	Type of Flight Plan Filed:	VFR
Destination:	PHOENIX , AZ (PHX)	Type of Clearance:	None
Departure Time:	16:45 Local	Type of Airspace:	Class G

Airport Information

Airport:	SAN MANUEL E77	Runway Surface Type:	Asphalt
Airport Elevation:	3275 ft msl	Runway Surface Condition:	Dry
Runway Used:	29	IFR Approach:	None
Runway Length/Width:	4200 ft / 50 ft	VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	3 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	33.76091,-112.610298(est)

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	DEAN HENNIES; SCOTTSDALE , AZ
Original Publish Date:	
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=25045

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