



Aviation Investigation Final Report

Location:	TRYON, Nebraska	Accident Number:	CHI99LA057
Date & Time:	December 31, 1998, 10:50 Local	Registration:	N333WS
Aircraft:	Mooney M20E	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While in cruise flight the engine began to lose power. The pilot elected to conduct a forced landing on a roadway due to rough and hilly terrain. The landing was successful; however, during the rollout the right wing impacted a sign, and rotated into a ditch. Subsequent to the accident an examination of the airplane engine revealed #3 cylinder was loose and six cylinder base studs were fractured. The engine had accumulated a total time of 1,100 hours time in service and 31 hours since the last inspection.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: other maintenance personnel's not correcting a loose cylinder assembly. Factors were loose engine cylinder assembly, fractured cylinder mounting hardware, the roadway, and road sign.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: CRUISE

Findings

1. (F) ENGINE ASSEMBLY,CYLINDER - LOOSE
2. (C) MAINTENANCE,ANNUAL INSPECTION - NOT CORRECTED - OTHER MAINTENANCE PERSONNEL
3. (F) ENGINE INSTALLATION,MOUNTING BOLT - FRACTURED

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

Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: LANDING - ROLL

Findings

4. (F) TERRAIN CONDITION - ROADWAY/HIGHWAY
5. (F) OBJECT - SIGN

Factual Information

On December 31, 1998, at 1050 central standard time, a Mooney M20E, N333WS, operated by a private pilot, sustained substantial damage during a forced landing following a loss of engine power. The airplane landed on a roadway 35 miles northwest of North Platte, Nebraska, near Tryon, Nebraska. The pilot told authorities that he noted a rise in the exhaust gas temperature just prior to the loss of engine power. The pilot reported no injuries. The personal 14 CFR Part 91 flight was operating in visual meteorological conditions. No flight plan was on file. The flight departed North Platte, Nebraska, with an intended destination of Rapid City, South Dakota, at 1035.

The pilot said that after initiating a forced landing he elected to land on a roadway due to rough and hilly terrain. He said that the landing was successful; however, during rollout the right wing contacted a sign, and the airplane rotated into a ditch.

An examination of the airplane after the accident revealed that the #3 cylinder was loose from the crankcase and that six studs were broken. The intake pipe for the same cylinder was found broken. The most recent inspection of the airplane and engine occurred on September 25, 1998. The engine had accumulated 31 hours since the inspection and the total time in service of 1,100 hours.

Pilot Information

Certificate:	Private	Age:	54, Male
Airplane Rating(s):	Single-engine land	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--w/ waivers/lim	Last FAA Medical Exam:	December 14, 1998
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	1435 hours (Total, all aircraft), 1020 hours (Total, this make and model), 1387 hours (Pilot In Command, all aircraft), 26 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N333WS
Model/Series:	M20E M20E	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	323
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	September 25, 1998 Annual	Certified Max Gross Wt.:	2575 lbs
Time Since Last Inspection:	31 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4632 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-360-A1A
Registered Owner:	ROGER D. SMITH	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:	LBF ,2778 ft msl	Distance from Accident Site:	35 Nautical Miles
Observation Time:	10:56 Local	Direction from Accident Site:	150°
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Broken / 8000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	NORTH PLATTE , NE (LBF)	Type of Flight Plan Filed:	None
Destination:	RAPID CITY , SD (RAP)	Type of Clearance:	None
Departure Time:	10:35 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
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:	41.550254,-100.940246(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Stephen
Additional Participating Persons:	JOSEPH HOLLIER; LINCOLN , NE
Original Publish Date:	February 16, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=45572

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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](#).