



# Aviation Investigation Final Report

<b>Location:</b>	GALLUP, New Mexico	<b>Accident Number:</b>	FTW94LA089
<b>Date &amp; Time:</b>	February 24, 1994, 09:42 Local	<b>Registration:</b>	N201SX
<b>Aircraft:</b>	MOONEY M20J	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

AT 8,500 FEET MSL THE PILOT EXPERIENCED A LOSS OF ENGINE POWER DUE TO THE FAILURE OF THE EXHAUST VALVE FOR THE NUMBER THREE CYLINDER. THE PILOT ATTEMPTED A FORCED LANDING TO A SNOW COVERED OPEN FIELD. DURING THE LANDING ROLL, THE RIGHT MAIN LANDING GEAR COLLAPSED AFTER IMPACTING A TREE STUMP.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE LOSS OF ENGINE POWER DUE TO THE FAILURE OF THE NUMBER 3 EXHAUST VALVE. A FACTOR WAS THE LACK OF SUITABLE TERRAIN AVAILABLE TO EXECUTE THE FORCED LANDING.

## Findings

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

Findings  
1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE, TOTAL  
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Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT - EMERGENCY  
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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

Findings

2. TERRAIN CONDITION - SNOW COVERED
3. TERRAIN CONDITION - HIDDEN OBSTRUCTION(S)
4. (F) TERRAIN CONDITION - NONE SUITABLE

## Factual Information

On February 24, 1994 at 0942 mountain standard time, a Mooney M20J, N201SX, was substantially damaged during a forced landing near Gallup, New Mexico. The private pilot was not injured. Visual meteorological conditions prevailed for the personal flight.

The pilot stated in the enclosed pilot/operator report that while in cruise flight at 8,500 feet MSL, he heard a "pop-like" sound coming from the engine, immediately followed by a severe engine vibration. The pilot added that the engine lost power and he proceeded to shut down the engine.

A forced landing to a snow covered open field was performed. The pilot elected to land with the landing gear extended. During the landing roll the right main landing gear collapsed after it collided with tree stump.

Post accident examination of the engine revealed that the exhaust valve for the number 3 cylinder failed, resulting in the total loss of engine power.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	42, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	December 8, 1992
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	783 hours (Total, all aircraft), 112 hours (Total, this make and model), 715 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	MOONEY	<b>Registration:</b>	N201SX
<b>Model/Series:</b>	M20J M20J	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	24-0308
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	April 5, 1993 Annual	<b>Certified Max Gross Wt.:</b>	2740 lbs
<b>Time Since Last Inspection:</b>	131 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1619 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-360-AIB6D
<b>Registered Owner:</b>	SMITH, GERALD A.	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	GUP ,7000 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	09:58 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	60 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	-7°C / -11°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:30 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	35.380935,-108.799423(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gamble, William
<b>Additional Participating Persons:</b>	ANDY L MOORE; ALBUQUERQUE , NM
<b>Original Publish Date:</b>	February 14, 1995
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=19005">https://data.nts.gov/Docket?ProjectID=19005</a>

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