



# Aviation Investigation Final Report

<b>Location:</b>	OZONA, Texas	<b>Accident Number:</b>	FTW98LA042
<b>Date &amp; Time:</b>	November 3, 1997, 13:35 Local	<b>Registration:</b>	N1360W
<b>Aircraft:</b>	Mooney M20C	<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

During a return flight from McKinney to Ozona, TX, the aircraft's engine lost power due to fuel exhaustion. The pilot had flown the aircraft for 2.4 hours on the flight from Ozona to McKinney on the day before the accident. On the day of the accident, the pilot found that there was no fuel available at the departure airport, therefore he had planned a fuel stop at Abilene, TX. During cruise flight and 'after not encountering anticipated quartering head winds,' the pilot calculated that the time of flight direct to Ozona would be 2.5 hours. He then made the decision to 'continue direct to Ozona.' Approximately 20 miles northeast of Ozona, the engine lost power. The pilot initiated a forced landing to a pasture, and during the landing roll, the wings impacted some 'scrubby' trees. The pilot reported to an FAA inspector that he had 'run out of fuel.' The pilot also reported that he had flown the same route of flight before without refueling; however, the airplane's engine had been changed, and he had not anticipated the higher fuel burn rate.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper planning/decision, which led to fuel exhaustion, loss of engine power, and a forced landing. A related factor was the lack of suitable terrain for the forced landing.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: CRUISE

Findings

1. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. REFUELING - NOT PERFORMED - PILOT IN COMMAND
3. (C) FLUID,FUEL - EXHAUSTION

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Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

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Occurrence #3: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

Findings

4. (F) TERRAIN CONDITION - NONE SUITABLE
5. (F) OBJECT - TREE(S)

## Factual Information

On November 3, 1997, at 1335 central standard time, a Mooney M20C airplane, N1360W, owned and operated by a private owner as a Title 14 CFR Part 91 personal flight, was substantially damaged during a forced landing following a loss of engine power near Ozona, Texas. Visual meteorological conditions prevailed, and a flight plan was not filed. The private pilot, sole occupant of the airplane, was not injured. The flight had originated from McKinney, Texas, about 1115, on a flight to Ozona, with an intended fuel stop at Abilene, Texas.

On the enclosed NTSB Pilot/Operator Aircraft Accident Report the pilot reported that the day before the accident he had flown the aircraft for 2.4 hours on a flight from Ozona to the Aero Country Airport at McKinney, Texas. On the day of the accident he found that there was no fuel available at the Aero Country Airport, therefore he had planned a fuel stop at Abilene, Texas, for his return flight to Ozona. During cruise flight, and "after not encountering anticipated quartering head winds," he calculated, using his Global Positioning System (GPS), that the time of flight direct to Ozona would be 2.5 hours. He then made the decision to "continue direct to Ozona."

The pilot further reported that approximately 20 miles northeast of Ozona the "engine started running rough and died, left tank gauge [left fuel tank was selected] indicated most fuel but pilot [he] switched on electric fuel pump, changed tanks and restarted engine." After terminating flight following with Houston Center and contacting "Ozona unicom for field and runway conditions and fuel situation, engine again started running rough and quit." He initiated a forced landing to a pasture, and during the landing roll, the wings impacted some "scrubby" trees.

The pilot also reported that the "past history of this engine, plane and pilot as PIC has been to burn 8 GPH low to 9.2 GPH high with multiple T/O [takeoff] and Ldgs [landings]." However, the NTSB Pilot/Operator Aircraft Accident Report shows that the airplane's engine had been overhauled 21.6 hours prior to the accident.

The pilot reported to the FAA inspector that he had "run out of fuel." The pilot further reported that he had flown the same route of flight before without refueling; however, the airplane's engine had been changed and he had not anticipated the higher fuel burn rate.

Examination of the airplane by the FAA inspector revealed structural damage to the right wing spar, and the fuselage was buckled. Examination of the airplane's fuel tanks revealed no usable fuel. The FAA inspector did not observe any evidence of a fuel spill.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	54, 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--no waivers/lim.	<b>Last FAA Medical Exam:</b>	January 22, 1996
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	581 hours (Total, all aircraft), 170 hours (Total, this make and model), 8 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Mooney	<b>Registration:</b>	N1360W
<b>Model/Series:</b>	M20C M20C	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	2641
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	July 10, 1997 Annual	<b>Certified Max Gross Wt.:</b>	2575 lbs
<b>Time Since Last Inspection:</b>	22 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3253 Hrs	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	O-360-A1D
<b>Registered Owner:</b>	GLEN PRUET ENTERPRISES, INC.	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>	GLEN PRUET	<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>	SJT ,1916 ft msl	<b>Distance from Accident Site:</b>	47 Nautical Miles
<b>Observation Time:</b>	12:56 Local	<b>Direction from Accident Site:</b>	215°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	230°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	19°C / -7°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	MCKINNEY , TX (TX05)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	(OZA )	<b>Type of Clearance:</b>	VFR on top
<b>Departure Time:</b>	11:15 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>	
<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>	30.699649,-101.200126(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Wigington, Douglas
<b>Additional Participating Persons:</b>	BILLY R RICHEY; SAN ANTONIO , TX
<b>Original Publish Date:</b>	October 30, 1998
<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=20479">https://data.nts.gov/Docket?ProjectID=20479</a>

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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](#).