Aviation Investigation Final Report

Location:	DANBURY, Connecticut	**Accident Number:**	NYC01LA052
Date & Time:	December 5, 2000, 11:38 Local	**Registration:**	N4101H
Aircraft:	Mooney M20J	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor, 2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane sat on the ramp for about 2 1/2 weeks with the fuel tanks half filled. Outside air temperature had dipped to 18 degrees Fahrenheit the previous night, and was still below freezing about 3 hours before the accident. Temperature at the time of the accident was 43 degrees Fahrenheit. The pilot did not check the fuel for water prior to the accident flight. After a normal start, run-up, and takeoff, the engine failed at 400 to 500 feet in the air, and the pilot made a forced landing. Evidence of water was subsequently found in a container that held fuel removed from the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Water/ice in the fuel system and the pilot's inadequate preflight inspection.

Findings

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

Findings
1. (C) FLUID,FUEL - CONTAMINATION,WATER
2. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

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

Factual Information

On December 5, 2000, at 1138 eastern standard time, a Mooney M20J, N4101H, was substantially damaged during a forced landing, shortly after takeoff from Danbury Municipal Airport (DXR), Danbury, Connecticut. The certificated airline transport pilot received minor injuries, while the two passengers were uninjured. Visual meteorological conditions prevailed at the time of the accident. A visual flight rules flight plan was filed for the flight, between Danbury and Michael J. Smith Field (MRH), Beaufort, North Carolina. The personal flight was conducted under 14 CFR Part 91.

The pilot reported that on the day of the accident, 10 gallons of fuel were added to the airplane. The pilot conducted a preflight inspection, started the engine, and allowed it to warm up before taxiing the airplane to runway 26. The pilot then conducted an engine run-up at 1,900 rpm, including cycling the propeller three times and a magneto check. After a brief delay due to arriving traffic, the pilot made a normal takeoff. About 400 to 500 feet in the air, the engine began to run roughly. Approximately 30 seconds later, the engine quit, and the pilot turned the airplane about 30 degrees to the left and performed the forced landing.

According to a Federal Aviation Administration (FAA) inspector, during the forced landing, the airplane stuck a soccer field goalpost, rotated about 100 degrees to the right, and struck small trees and bramble bushes before coming to a stop about 40 feet from the goalpost.

During the on-scene examination, the inspector found fuel in both tanks, and the fuel selector was in the "right tank" position. The fuel in the right fuel tank was blue and "clear of contaminants." The fuel in the left tank and gascolater was not checked due to the position of the wreckage. The electric fuel pump, which had no visible damage, was inoperative. Fuel cap seal integrity was confirmed.

After the wreckage was moved to the airport, fuel was drained from the gascolater and from the fuel line to the flow divider, and "was clear of contaminants." Fuel drained from the electric fuel pump was "a little milky."

The pilot reported to the inspector that the airplane had sat on the ramp for about 2 1/2 weeks with the fuel tanks half filled, and that he did not check the fuel for water prior to the accident flight.

A mechanic who recovered the airplane informed the inspector that he and another employee pumped all of the fuel out of the airplane into clean 5-gallon plastic containers prior to the airplane's removal. The fuel was later moved to a clean and dry 40-gallon plastic trash container, normally used to store fuel when maintenance was being performed on other aircraft.

The 40-gallon container was subsequently stored outside the hangar in sub-freezing weather with the lid secured by a bungee chord. One morning, when the mechanic came to work, he found that the plastic container had been blown over. In the bottom of the container, he found about 2 quarts of water in the form of ice.

According to weather observations at Danbury, the outside air temperature had dipped to about 18 degrees Fahrenheit during the night before the accident. The temperature had remained below freezing until approximately 3 hours prior to the accident. The temperature at the time of the accident was about 43 degrees Fahrenheit.

The electric fuel pump was subsequently forwarded to the manufacturer for testing under FAA supervision. The manufacturer determined that the pump had failed due to motor bearing failure, resulting from lubricant wash-out.

A representative from Mooney Aircraft Company stated that the failure of the boost pump would not have resulted in the engine failure.

Pilot Information

Certificate:	Airline transport	**Age:**	66,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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	February 8, 2000
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	28308 hours (Total, all aircraft), 960 hours (Total, this make and model), 21000 hours (Pilot In Command, all aircraft), 43 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N4101H
Model/Series:	M20J M20J	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-0616
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 1, 2000 Annual	**Certified Max Gross Wt.:**	2740 lbs
Time Since Last Inspection:	89 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3200 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-360
Registered Owner:	JOSEPH E HAINES	**Rated Power:**	180 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:	DXR ,458 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:53 Local	**Direction from Accident Site:**	80°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Broken / 9000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	43°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(DXR)	**Type of Flight Plan Filed:**	None
Destination:	BEAUFORT , NC (MRH)	**Type of Clearance:**	VFR
Departure Time:	11:37 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	DANBURY MUNICIPAL DXR	**Runway Surface Type:**	Asphalt
Airport Elevation:	458 ft msl	**Runway Surface Condition:**	
Runway Used:	26	**IFR Approach:**	None
Runway Length/Width:	4422 ft / 150 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 2 None	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Cox, Paul
Additional Participating Persons:	STEVE RACICOT; WINDSOR LOCKS , CT
Original Publish Date:	November 6, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=51306