Aviation Investigation Final Report

Location:	IRVING, New York	**Accident Number:**	IAD99LA035
Date & Time:	March 22, 1999, 15:30 Local	**Registration:**	N5878Q
Aircraft:	Mooney M20C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed on a VFR flight with IMC and icing conditions forecast and reported along his route of flight. The pilot filed an IFR flight plan en route and entered IMC conditions. Shortly thereafter, the pilot experienced a loss of engine power that could not be corrected by application of carburetor heat. The pilot reported a loss of cabin heat at the onset of the emergency. Cabin heat was drawn from the same source as carburetor heat, upstream of the carburetor. An AIRMET for icing issued prior to departure called for: Light to occasional moderate rime icing in-clouds below 8,000 feet. Conditions continuing beyond 1600 through 2200. A National Weather Service Area Forecast issued for the route of flight was for overcast ceilings at 2,000 to 3,000 feet with tops to 12,000 feet, occasional light snow showers. Weather reported 10 miles southeast of the accident site, was: few clouds at 200 feet with a broken ceiling of 700 feet and an overcast ceiling at 1,100 feet. Visibility was 1/4 mile in light snow and freezing fog. The winds were from 250 degrees at 23 knots gusting to 31 knots. The airplane was not equipped with de-icing or anti-icing equipment.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: was the pilot's intentional flight into known icing conditions.

Findings

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

Findings
1. (C) WEATHER CONDITION - ICING CONDITIONS
2. (C) FLIGHT INTO KNOWN ADVERSE WEATHER - INTENTIONAL - PILOT IN COMMAND

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

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
3. OBJECT - RESIDENCE

Factual Information

On March 22, 1999, at 1530 eastern standard time, a Mooney M20C, N5878Q, was substantially damaged during a forced landing after a loss of engine power in cruise flight near Irving, New York. The certificated private pilot received minor injuries. Instrument meteorological conditions prevailed for the personal flight that originated at Caldwell, New Jersey, at 1238, with an intended destination of Port Huron, Michigan (PHN). An instrument flight rules flight plan was filed for the flight conducted under 14 CFR Part 91.

In a telephone interview, the pilot stated he contacted the Millville Flight Service Station (FSS) for weather information on four occasions prior to departure. He said he contacted the Millville FSS twice the evening before, and twice the morning of departure. The pilot said he performed a thorough pre-flight inspection of the airplane. He said he visually confirmed that the fuel tanks were full and that fuel drained from the sumps was absent of contamination.

The pilot stated he departed CDW with the intention of flying to PHN under visual flight rules (VFR). He said the weather deteriorated during the flight and he filed an IFR flight plan while en route.

The pilot said he was in cruise flight at 12,000 feet when he entered the clouds. He said there was precipitation in the clouds in the form of snow. The pilot said he experienced a rough running engine, which he felt was due to carburetor ice. He said he applied carburetor heat and "...the engine started running rough, smoothed out, and then started running rough again." The pilot said he checked the carburetor heat, adjusted the mixture, turned the fuel pump on, but continued to lose engine RPM.

In a written statement, the pilot reported the outside air temperature was 2 degrees Fahrenheit when the airplane entered the clouds. He said, "Engine rpm continued to drop, as well as the heated air coming through the heat duct on the pilot's side."

The pilot requested and received clearance to descend to lower altitudes in search of warmer air. He said he could not maintain altitude and continued to descend. The pilot said he broke out of the clouds approximately 1,400 feet, and during the subsequent forced landing, struck trees and came to rest nose down in a garage.

In a telephone interview, a Federal Aviation Administration (FAA) Airworthiness Inspector said there was a strong odor of fuel at the scene. A preliminary examination of the airplane revealed no pre-impact anomalies. An examination of the carburetor and the carburetor airbox revealed the venturi was intact and the butterfly valves that control carburetor heat were operational. There was no evidence of ice or moisture in the carburetor throat.

Examination of the ducting from the muff surrounding the exhaust manifold revealed that cabin heat was drawn from the same source as carburetor heat, upstream of the carburetor.

An AIRMET for icing issued at 0945 and valid until 1600 on March 22, 1999, called for: Light to occasional moderate rime icing in-clouds below 8,000 feet. Conditions continuing beyond 1600 through 2200.

A National Weather Service Area Forecast issued at 1345 on March 22, 1999 for Lake Ontario and western New York called for: overcast at 2,000 to 3,000 feet with tops to 12,000 feet, occasional light snow showers. Winds from the west gusting 25 to 30 knots.

At 1453, the weather reported at Dunkirk, New York (DKK), 10 miles southeast of the accident site, was: few clouds at 200 feet with a broken ceiling of 700 feet and an overcast ceiling at 1,100 feet. Visibility was 1/4 mile in light snow and freezing fog. The winds were from 250 degrees at 23 knots gusting to 31 knots.

The FAA prepared a summary of the pre-flight weather briefings received by the pilot prior to the flight. On the day of the flight:

"0831- The pilot of N5878Q called the Millville AFSS by telephone and obtained a standard preflight weather briefing for a flight form Caldwell, NJ, over Buffalo, NY, and Port Huron, MI, to Traverse City, MI, departing around noon.

"0908- The pilot of N5878Q called the Millville AFSS by telephone and obtained an abbreviated preflight weather briefing for a flight form Caldwell, NJ, over Toledo, OH, and then to Traverse City, MI, departing in a couple of hours.

"1044- The pilot of N5878Q called the Millville AFSS by telephone and obtained an abbreviated weather briefing for tops and PIREPS from Caldwell, NJ, to Traverse City, MI.

"1304- The pilot of N5878Q called the Millville AFSS by telephone and requested the current weather at Caldwell, NJ"

The airplane was not equipped with de-icing or anti-icing equipment.

The pilot reported that, other than the loss of engine power, there were no mechanical deficiencies with the airplane.

The airplane was recovered from the garage on March 24, 1999, under the supervision of the FAA Airworthiness Inspector. The landing gear was lowered and the airplane was placed upright on its landing gear. The Inspector started and ran the engine on the airframe utilizing the airplane's own fuel system.

An FAA Operations Inspector stated that an examination of the pilot's logbook revealed a total

flight experience of 1,484 hours, 680 hours of which were in the Mooney. The pilot recorded 158 hours of instrument flight experience, 43 hours of which were in actual instrument meteorological conditions.

Pilot Information

Certificate:	Private	**Age:**	57,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 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	October 21, 1997
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1496 hours (Total, all aircraft), 692 hours (Total, this make and model), 1470 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N5878Q
Model/Series:	M20C M20C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3147
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	October 12, 1998 Annual	**Certified Max Gross Wt.:**	2575 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3046 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360-AID
Registered Owner:	JOHN S. ALGUIRE	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:	JS ALGUIRE CONSULT FORREST SVC	**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DKK ,693 ft msl	**Distance from Accident Site:**	10 Nautical Miles
Observation Time:	14:53 Local	**Direction from Accident Site:**	255°
Lowest Cloud Condition:	Scattered / 200 ft AGL	**Visibility**	0.25 miles
Lowest Ceiling:	Broken / 700 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	23 knots / 31 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	250°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	-1°C / -1°C
Precipitation and Obscuration:	N/A - None - Snow		
Departure Point:	CALDWELL , NJ (CDW)	**Type of Flight Plan Filed:**	VFR/IFR
Destination:	PORT HURON , MI (PHN)	**Type of Clearance:**	IFR
Departure Time:	12:38 Local	**Type of Airspace:**	Class E

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	42.559837,-79.039314(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	JOHN LICINI; ROCHESTER , NY
Original Publish Date:	May 17, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45966