Aviation Investigation Final Report

Location:	BRIDGEPORT, Connecticut	**Accident Number:**	NYC98FA095
Date & Time:	April 19, 1998, 22:23 Local	**Registration:**	N40HL
Aircraft:	Mooney M20J	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed Florida and made a fuel stop in Virginia. Later during a night precision instrument approach under instrument meteorological conditions (IMC) to Farmingdale, New York, the airplane struck trees. The pilot executed a missed approach that did not comply with published procedures, and was then offered several alternate airports, some under visual meteorological conditions. The pilot chose a divert airport which was IMC, and for which he did not have the precision approach charts. The approach information was provided by air traffic control. During the approach, the pilot was advised by the tower controller that his landing lights could be seen over the approach end of the runway as the airplane was 'going back into the clouds.' The airplane was next observed well left of the runway. The pilot was asked his altitude and he responded '300 feet.' The tower controller gave the pilot a vector and told him to contact approach control, and the airplane disappeared into the clouds again. The airplane then exited the base of the clouds in a right descending turn and struck the ground. Weather conditions immediately before and after the accident at Bridgeport were reported in part as 400 foot overcast, rain and visibility of 2 to 3 miles. Radar data revealed erratic altitudes on the glideslope and during vectors. The accident airport did not have an approach lighting system to the precision approach runway. In January 1995, the Safety Board issued a recommendation to install an approach lighting system to that runway 'as soon as possible.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain control of the airplane during night instrument meteorological conditions. Contributing factors were dark night conditions, low ceilings, rain, and his decision to divert to an airport under instrument meteorological conditions when visual meteorological conditions existed at other airports.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MISSED APPROACH (IFR)

Findings
1. (F) LIGHT CONDITION - DARK NIGHT
2. (F) WEATHER CONDITION - LOW CEILING
3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
4. (F) WEATHER CONDITION - RAIN
5. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
6. APPROACH AIDS - NOT AVAILABLE ON SELECTED RUNWAY

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

HISTORY OF FLIGHT

On April 19, 1998, at 2223 Eastern Daylight Time, a Mooney M20J, N40HL, was destroyed when it struck the ground during an instrument approach to the Igor I. Sikorsky Memorial Airport (BDR), Bridgeport, Connecticut. The instrument rated private pilot was fatally injured. Instrument meteorological conditions prevailed at the time of the accident. An instrument flight rules flight plan had been filed for a flight between Newport News/Williamsburg International Airport (PFH), Virginia, and Republic Airport (FRG), Farmingdale, New York. The personal flight was conducted under 14 CFR Part 91.

According to the pilot's wife, he flew the accident airplane to Boca Raton Airport (BCT), Boca Raton, Florida about 10 days earlier for a vacation. She joined him in Florida, but flew commercially because of the length of the trip. The night before the accident, the pilot went to bed about 2200, and had no trouble sleeping. The following morning, he got up about 0800. His wife went to the airport to fly home commercially, but he did not accompany her. The pilot told her that he was going to have lunch, take a shower, and then depart for home. She stated that he did not have any meetings or work scheduled for the next day.

According to a police report, the pilot left a phone message at his home on the day of the accident, between 1900-1915, in which he stated that he had left Florida at 1500, and landed in Virginia to refuel and eat. He also reported "that the weather was bad and there were high winds." In the voice transcript from the Newport News/Williamsburg Control Tower, the pilot was cleared for takeoff at 2016.

According to New York Approach Control voice tapes, the pilot acknowledged the prevailing weather information en route to Republic Airport, and was vectored to the final approach course for the ILS RWY 14 approach. The winds were reported from 110 degrees at 12 to 16 knots on the ground, but the pilot reported "winds are real strong" in flight. The pilot was cleared for the approach, and at 2151:36, he stated to the controller that he was on the localizer. Shortly thereafter, the controller terminated radar service, and told the pilot to contact the tower. At 2151:59, the approach controller commented to the Republic Tower controller on a phone line: "You guys aren't reflecting it, but everyone else has strong gusts."

At 2152:09, the pilot contacted Republic Tower, and at 2156:04, reported the outer marker inbound. He was cleared to land, and asked that the tower turn up the intensity of the runway lights. The tower controller responded: "Lights are up full." At 2158:34, the pilot reported a missed approach. The tower controller then directed the pilot to "fly runway heading, maintain two thousand," and the pilot did not respond.

A corporate radar facility recorded radar data which included the airplane's flight path. A video tape of the data revealed that the airplane's last confirmed altitude on the approach was 600 feet, approximately 2 1/2 miles from the airport. A computer-generated track placed the airplane at 100 feet, 1 7/8 miles from the airport, after which, radar contact was lost. The airplane reappeared on radar at 300 feet, 1 1/2 miles north of the airport.

The Republic Tower controller reported to the approach controller that the airplane was executing a missed approach, and was assigned to fly runway heading (140 degrees magnetic) with a climb to 2,000 feet. When the approach controller reestablished radar contact with the airplane, he said it was "actually northbound". The tower controller asked the pilot what his altitude was, and he responded: "Altitude is 500, and I'm descending." The approach controller then stated to the tower controller, "I'm getting a low altitude alert. He's north of the field, 3 miles, indicates 600 feet, tell him to climb." The tower controller told the pilot to "...climb now, sir, maintain two thousand feet, any heading," and the pilot responded: "Zero hotel lima, roger." Afterwards, the approach controller stated: "He's lost...send him over to me now if he's comfortable to make the frequency change...."

The approach controller and the pilot then reviewed the weather for several airports. These included: Islip/Long Island MacArthur Airport (ISP), which had winds from 120 degrees at 12 knots, visibility of 1 mile, and a ceiling 300 feet; Bridgeport Airport, which was reporting a visibility of 3 miles with light rain, and a ceiling of 400 feet overcast; The Francis S. Gabreski Airport (FOK), Westhampton Beach, New York, which was reporting a visibility of 1/2 mile with light drizzle and fog, and a ceiling of 400 feet overcast; Hartford-Brainard Airport (HFD), Hartford, Connecticut, which was reporting a visibility of 10 miles, and a ceiling of 1,800 feet overcast; Bradley International Airport (BDL), Windsor Locks, Connecticut, which was reporting a visibility of 9 miles with light rain, and a ceiling of 2,800 feet overcast; and Danbury Municipal Airport (DXR), Danbury, Connecticut, which was reporting a visibility of 3 miles, and a ceiling of 1,000 feet overcast.

The pilot decided to "try the ILS six" to Islip. Shortly thereafter, he was advised that the visibility at Islip "just went down to a half mile," and the pilot responded: "Forget it. Let's go to Bridgeport."

The approach controller asked if the pilot was "in distress or anything." He responded: "Flying at present altitude...however...I think my plane might have touched something on the way in. I'm not sure."

When asked about control problems, the pilot stated: "No control problems. However, I'm looking out at my leading edge and it appears that there might be something that it hit. I'm not sure. The stall warning horn is on and the plane isn't handling as it should. But then again, the weather conditions aren't the best either."

The controller twice asked the pilot how much fuel was onboard, and received a reply of 1 1/2 hours both times. The controller coordinated the handoff of the airplane to another approach

sector. During this coordination, it was noted that Bridgeport Tower was not open, but that the tower controller would remain there to assist. Additionally, the releasing controller had declared N40HL to be "an emergency."

Another airplane was also being vectored for the ILS RWY 6 approach at Bridgeport. When that pilot was asked, he responded that he was not encountering any icing.

The pilot stated to the controller that he did not have approach plates for the ILS RWY 6 approach. Amidst other calls, the approach controller gave the pilot the approach information, including the frequency, the fact that it would give him DME as well, the localizer course, distance to and the name of the final approach fix, crossing altitude of the final approach fix, the decision height, the weather minimums, and the length of the runway.

The pilot was instructed by the controller to cross the final approach fix at 1,800 feet. At 2214:02, the pilot was given a heading of 040 degrees to intercept the localizer, and advised that the "heading inbound on the localizer is zero six zero." The pilot acknowledged: "Zero four zero."

When the pilot asked how far out he was, the controller responded at 2215:43, that he was 4 miles from the final approach fix, and that he was about to join the localizer. The controller again warned of the right crosswind, told the pilot to maintain 1,800 feet until established on the localizer, and cleared him for the ILS RWY 6 approach. At 2215:59, the pilot responded: "Zero six zero on the heading for the, uh, localizer."

At 2216:03, the controller gave the pilot information about the runway, and at 2217:13, the controller told the pilot he was about 1 1/2 miles from the final approach fix and, "in the event of missed approach, you climb to one thousand, eight hundred, basically straight out on the Bridgeport zero five four radial." The pilot's response was unintelligible.

At 2217:29, the controller stated that radar service was terminated, "Contact Bridgeport, uh, Tower one two zero point niner for advisories. The tower is closed; he's there for advisories." The pilot responded with "two zero niner."

At 2219:44, another pilot transmitted to the accident pilot: "approach says you're four miles out, and you're low, beneath the glideslope." The pilot's response was again unintelligible. At 2220:49, the tower controller relayed from approach control "...TRACON advises you're three miles out." At 2222:02, the pilot asked "How far out am I, tower?" After relaying the request to approach control, the tower controller responded "one mile" at 2222:14.

The Bridgeport Tower controller advised the pilot that the runway lights were on "full blast." At 2222:49, the tower controller stated: "TRACON advises you that you're over the approach end. I have your lights there as you're going back into the clouds." The pilot's response was unintelligible. At 2223:12, the tower controller stated: "I have you in sight, but you're way off center, sir. What's your altitude?" The pilot responded: "three hundred feet". At 2223:20, the

tower controller directed the pilot: "Fly a heading of zero six zero. Contact New York TRACON again at one two six point niner five." At 2223:29 there was an unintelligible response. At 2223:30, the tower controller broadcast: "He just hit the deck. He crashed."

During the approach, and according to the corporate radar tapes, approximate airplane altitudes and distances from the center of Bridgeport Airport were: 1,400 feet at 5 miles, 600 feet at 4 miles, 600 feet at 3 miles, 1,100 feet at 2 miles, and 500 feet at 1 mile.

In a written statement, the Bridgeport Tower controller stated that when approach control reported the airplane over the threshold of Runway 6, he observed the airplane's landing lights come out of, then go back into the clouds. The next time he saw the airplane, it was breaking out of the clouds well left of the runway, "over the airport". After the pilot stated he was at 300 feet, "he disappeared back into the overcast." After giving the pilot the 060 vector, the controller "observed N40HL exiting the base of the clouds in a right descending turn" and then "observed him continue his right turn flying straight into the ground."

PERSONNEL INFORMATION

Neither the pilot's logbook nor the aircraft logbook were recovered. At the time of the pilot's last medical examination, in April 1997, he reported 1,324 hours of flight experience.

The pilot's wife stated that her husband had flown "a lot" in the past year, perhaps once every 10 days to 2 weeks. She also stated that he had flown under instrument flight rules a lot, under instrument meteorological conditions, and that they were normally short flights. She said she believed he also practiced instrument flight, and that he preferred flying at night. When asked if he had any concerns about flying, the pilot's wife stated "None. Nothing else bothered him...."

The pilot attended initial flight training for the Mooney at Flight Safety in May 1994. Simulator training consisted of three sessions, with one including an ILS approach and a missed approach.

AIRCRAFT INFORMATION

According to an invoice, the airplane received an annual inspection on December 12, 1997, and at that time had a total time of 684.4 hours. In another invoice, dated January 27, 1998, the airplane had a total of 704.5 hours. Previously, annual inspections were performed January 1995, at 316.0 hours; December 1995, at 480.9 hours; and December 1996, at 684.4 hours.

WRECKAGE AND IMPACT INFORMATION

The wreckage was located in a grassy part of the airport parking lot, approximately 1,100 feet left of Runway 6 centerline, and 860 feet beyond the runway threshold. There were no skid or slide marks on the ground. There was a straight-line, in-ground indentation, paralleling the

leading edges and immediately in front of each wing, matching the wing length. Both wings exhibited compression along the leading edge. There was an 18 inch deep hole in the ground immediately in front of the engine. The propeller was bent back, with chordwise scoring marks found on both blades. Fuel was found in the left tank. The right fuel tank was ruptured, and the airplane had been foamed by firefighters. The fuel selector was in the "right tank" position. Control continuity could not be established due to impact damage.

The propeller was rotated by hand. Engine valve train continuity and cylinder compression were confirmed, and the spark plugs were light tan and gray in color, with electrodes intact. The magnetos suffered impact damage and could not be rotated. The engine-driven fuel pump and ignition harness were destroyed. The engine-driven vacuum pump drive coupling was rotated, and the standby electric vacuum pump produced suction when supplied with electrical power. The landing gear were partially extended, with a tree branch jammed in the left main landing gear.

METEOROLOGICAL INFORMATION

According to Automated Surface Observation System (ASOS) facility at Bridgeport, the weather at 2154 included winds from 110 degrees magnetic at 13 knots, visibility 3 statute miles with light rain and mist, an overcast cloud layer at 400 feet above ground level, temperature 8 degrees Celsius, dewpoint 8 degrees Celsius, and an altimeter setting of 29.87. At 2254, the ASOS recorded winds from 100 degrees magnetic at 15 knots, visibility 2 statute miles with heavy rain and mist, an overcast layer at 400 feet above ground level, temperature 8 degrees Celsius, dewpoint 8 degrees Celsius, and an altimeter setting of 29.81.

According to Farmingdale Tower surface observations, for the first approach, at 2204, winds were from 110 degrees magnetic at 14 knots, visibility 5/8 of a mile with mist, an overcast layer at 200 feet above ground level, temperature 9 degrees Celsius, dewpoint 8 degrees Celsius, and an altimeter setting of 29.84.

AIRPORT INFORMATION

The Bridgeport Airport did not have an approach lighting system to Runway 6, nor did it have a radar repeater in the tower.

On January 5, 1995, the Safety Board issued Recommendation # A-94-212, which stated "Within 90 days, and in coordination with the City of Bridgeport and the Town of Stratford, implement a plan to resolve environmental considerations, and proceed with the installation of an approach lighting system to Runway 6 as soon as possible."

The ILS RWY 6 approach was flight checked by the Federal Aviation Administration (FAA) on April 20, 1998, and its "operation found satisfactory."

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on April 20, 1998, by Dr. Malka B. Shah, of the State of Connecticut, Office of the Chief Medical Examiner, Farmington, Connecticut.

Toxicological testing was performed on the pilot by the FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma. Tests for carbon monoxide and cyanide were not performed due to the lack of suitable specimens. No ethanol or drugs were detected in the urine.

ADDITIONAL INFORMATION

The wreckage was released on April 21, 1998 to a representative of James J. McDevitt and Sons, Inc. of Greenland, New Hampshire.

Pilot Information

Certificate:	Private	**Age:**	42,Male
Airplane Rating(s):	Single-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:**	Yes
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	April 11, 1997
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	1412 hours (Total, all aircraft), 440 hours (Total, this make and model), 20 hours (Last 90 days, all aircraft), 14 hours (Last 30 days, all aircraft), 12 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N40HL
Model/Series:	M20J M20J	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-3318
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	December 18, 1997 Annual	**Certified Max Gross Wt.:**	2740 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-360
Registered Owner:	ADAM AIRCRAFT SALES, INC.	**Rated Power:**	200 Horsepower
Operator:	CHARLES T GUNZBURG	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Night/dark
Observation Facility, Elevation:	BDR ,26 ft msl	**Distance from Accident Site:**	
Observation Time:	22:54 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Unknown	**Visibility**	2 miles
Lowest Ceiling:	Overcast / 400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	15 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	9°C / 9°C
Precipitation and Obscuration:	Heavy - None - Rain		
Departure Point:	NEWPORT NEWS , VA (PHF)	**Type of Flight Plan Filed:**	IFR
Destination:	FARMINGDALE , NY (FRG)	**Type of Clearance:**	IFR
Departure Time:	20:16 Local	**Type of Airspace:**	Class C

Airport Information

Airport:	IGOR I. SIKORSKY MEMORIAL BDR	**Runway Surface Type:**	Asphalt
Airport Elevation:	10 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	6	**IFR Approach:**	ILS
Runway Length/Width:	4677 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Cox, Paul
Additional Participating Persons:	MAX SCHMITTER; WINDSOR LOCKS , CT GERALD JAMES; WILLIAMSPORT , PA
Original Publish Date:	June 21, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=39468