Aviation Investigation Final Report

Location:	Wheaton Springs, California	**Accident Number:**	LAX01FA023
Date & Time:	October 23, 2000, 14:40 Local	**Registration:**	N40VF
Aircraft:	Mooney M-20J	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane impacted mountainous terrain after the instrument rated commercial pilot reported that he was in the clouds and was picking up ice during a visual flight rules (VFR) cross-country flight. The pilot obtained an updated weather briefing at the departure airport, which advised him that VFR flight along his planned route was not recommended. A review of weather data indicated that the freezing level was at 9,536 feet msl and the bases of clouds ranged anywhere from 400 feet to 3,000 feet agl. The cloud tops in the area of the accident site were 22,000 feet. The accident site was at the 4,650-foot level of the mountain. No anomalies with the engine or airplane were noted that would have prevented their normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate weather evaluation and attempted VFR flight into IMC, which resulted in the in-flight collision with mountainous terrain.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings
1. WEATHER CONDITION - ICING CONDITIONS

2. WEATHER CONDITION - LOW CEILING
3. WEATHER CONDITION - OBSCURATION
4. (C) WEATHER EVALUATION - INADEQUATE - PILOT IN COMMAND
5. (C) VFR FLIGHT INTO IMC - ATTEMPTED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING - TURN TO REVERSE DIRECTION

Findings
6. TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

HISTORY OF FLIGHT

On October 23, 2000, approximately 1440 Pacific daylight time, a Mooney M-20J single engine airplane, N40VF, collided with mountainous terrain while maneuvering in the area of Wheaton Springs, California. The airplane was destroyed and the certificated commercial pilot and his passenger received fatal injuries. The airplane was operated as a personal flight by the pilot/owner under 14 CFR Part 91 when the accident occurred. The flight originated from the Mesquite Airport, Mesquite, Nevada, earlier that afternoon, and was destined for Fallbrook, California. Instrument meteorological conditions prevailed in the area of the accident and a visual flight rules (VFR) flight plan was filed.

The pilot had departed from Mesquite after making a fuel stop and updating his weather briefing with Reno flight service station (FSS). At the time of the weather update he was advised that VFR flight along his planned route was not recommended. The pilot's son told local enforcement personnel that the pilot and his passenger departed Sun Valley, Idaho, earlier that day with a filed flight plan and a scheduled fuel stop in Mesquite. He added that after refueling, his father would most likely fly closely to I-15 and toward their home in Fallbrook.

The flight was approximately 35 miles southwest of Las Vegas when the pilot advised Las Vegas departure control that he was in the clouds and was picking up ice. In his last radio transmission, the pilot stated that he was turning around en route to Jean, Nevada. Radar contact was lost at 1438.

When the aircraft did not arrive at Jean, or his final destination in Fallbrook, a search commenced. On October 24, 2000, at 1615, the aircraft was found on 70-degree rising terrain at the 4,650-foot level, near the intersection of Interstate 15 and Nipton road. The location was measured as 35 degrees 26.606 minutes north latitude and 115 degrees 27.798 minutes west longitude.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for single engine land and instrument airplanes. The pilot's flight logbooks were not located during the course of the investigation, and his detailed flight time experience was not established. According to the pilot's last medical certificate application, he accumulated a total of 2,450 flight hours. It is unknown whether he was current in instrument meteorological flight conditions or if he had successfully completed an instrument competency check.

The pilot was issued a third-class medical certificate on July 15, 1999, with a limitation to wear corrective lenses for near and distant vision. The medical certificate was "not valid for any class after May 31, 2001." According to the last medical certificate application, the pilot reported having accumulated a total of 2,450 flight hours.

AIRCRAFT INFORMATION

The aircraft's maintenance records were not located during the course of the investigation. It is not known whether the airplane was equipped and approved for instrument flight. The aircraft was equipped with a 200 horsepower Lycoming IO-360-A3B6D engine and a two-bladed controllable pitch propeller.

METEOROLOGICAL INFORMATION

The NTSB conducted a meteorology study and the following information was extracted from the report:

The closest weather reporting facility was located at the Las Vegas McCarran International Airport (LAS), which was 40 miles north-northeast of the accident site. The LAS airport elevation is listed as 2,181 feet msl. At 1422, the weather reporting facility issued a special weather observation, which reported the wind from 340 degrees at 6 knots; visibility 10 statute miles; a few clouds at 400 feet agl; ceiling broken at 3,300 feet agl; overcast clouds at 5,000 feet agl; temperature 13 degrees Celsius; dew point 11 degrees Celsius; and an altimeter setting of 30.03 inches of mercury. The remarks section of that special observation reported, "cumulus fractus clouds southeast over mountains and brakes in overcast east."

Weather radar data displayed a band of radar echoes running north to south in the immediate vicinity of the accident site. The radar intensity levels ranged between light and moderate precipitation intensities.

The closest upper air sounding was located 75 miles northwest of the accident site. The sounding indicated that the atmosphere was moist with a mean surface to 18,000 feet relative humidity of 87.24 percent, and a lifted condensation level (LCL), or base layer of the clouds was observed at 6,272 feet msl (approximately 3,000 feet agl). The air was saturated between the LCL and 23,000 feet. The freezing level was reported as 9,536 feet msl.

The Geostationary Operational Environmental Satellite number (GOES-10) data was examined between 1400 and 1500. The data displayed a band of cyclonically curved clouds over the southwestern United States. The infrared image depicted an area of nimbostratus to stratocumulus clouds blanketing the accident site. The radiative temperatures located over the accident site corresponded to a cloud top height of 22,000 feet.

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was located on the west side of a mountain that sloped up to its ridge at an approximate 45-50 degree angle. The mountain rose up from a valley located to the west of the accident site. The wreckage debris distribution was along a 093-degree magnetic track. The initial ground scar contained a section of the left wing tip and the left navigation light. The remaining left wing was located 25 feet from the initial impact point. The main wreckage, consisting of the fuselage, empennage, right wing and engine, came to rest approximately 50 feet beyond the left wing (or 75 feet from the initial impact point). The propeller blades and left wing flap were located along the debris path. The cockpit/cabin area was consumed by fire damage. The empennage remained attached to the cabin via resolidified molten metal. Flight control continuity could not be established due to the extent of the fire and impact damage. The right wing's landing gear and flap appeared to be in the retracted position.

The emergency locator transmitter was found in the wreckage. A faint signal was audible over the radio receiver in the San Bernardino County Sheriff's emergency response helicopter only when it was directly over the accident site.

The engine remained attached to the engine mount, and the mount remained partially attached to the fuselage. The propeller hub was shattered and the propeller blades were detached from the propeller at their hubs. Both blades displayed heavy leading edge gouging, chordwise scrapes and "S" bending. One of the propeller blade tips (approximately 3 inches) was torn from the blade.

The engine's number 2 cylinder sustained impact damage to the rocker box, rockers, and valves. The induction and exhaust pipes were displaced aft. The accessories mounted at the rear of the engine sustained thermal damage. The dual magneto was melted and destroyed. The vacuum pump remained attached to the engine and its drive shaft was found intact; however, disassembly revealed that the rotor and vanes were shattered.

The bottom spark plugs were removed and displayed normal wear and coloration when compared to the Champion Spark Plug Check-a-Plug chart. The cylinders were examined via the use of a lighted bore scope. There was no evidence of foreign object damage or internal malfunction. Impact damage prevented the full rotation of the crankshaft; however, accessory gear movement was observed during the limited crankshaft rotation. The oil suction screen was removed and found free of visible contaminates.

The fuel injection servo was separated from its engine mount and the throttle valve was found in the 3/4-open position. The fuel servo control arms remained attached to their respective controls. The fuel injection servo and induction system were examined and found to be free of obstructions. The fuel flow divider remained secure to its mounting bracket. The fuel lines remained secure at each flow divider fitting and fuel injector at each cylinder. Fuel was found in the flow divider once it was disassembled. No evidence of internal mechanical malfunction or obstruction to fuel flow was noted. The fuel pump was separated from its mounting pad and its disassembly did not reveal any evidence of internal malfunction or obstruction.

The cockpit throttle control was found pulled aft approximately 1.5 inches from its full forward stop and the mixture control and propeller control were found full forward. The engine tachometer was found with its indicating needle trapped at the 1,500-rpm mark. The altimeter was found indicating 4,300 feet with an altimeter setting of 30.02 set in the Kollsman window. No anomalies were noted that would have prevented the aircraft or engine's operation.

PATHOLOGICAL INFORMATION

Toxicology tests were conducted on the pilot for ethanol and drugs, with negative results. An autopsy on the pilot was conducted by the San Bernardino County Coroner's Office, and revealed that he died as a result of "multiple blunt force injuries."

Pilot Information

Certificate:	Commercial	**Age:**	82,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--w/ waivers/lim	**Last FAA Medical Exam:**	July 15, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	2450 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N40VF
Model/Series:	M-20J M-20J	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	24-3315
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	2740 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, aided in locating accident	**Engine Model/Series:**	IO-360-A3B6D
Registered Owner:	William Howard Beamer	**Rated Power:**	200 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:		**Condition of Light:**	Day
Observation Facility, Elevation:	LAS,2181 ft msl	**Distance from Accident Site:**	40 Nautical Miles
Observation Time:	14:22 Local	**Direction from Accident Site:**	15°
Lowest Cloud Condition:	Few / 400 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 3300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	340°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	13°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mesquite, NV (67L)	**Type of Flight Plan Filed:**	VFR
Destination:	Fallbrook, CA (L18)	**Type of Clearance:**	VFR
Departure Time:	14:00 Local	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	38.959716,-119.900489(est)

Administrative Information

Investigator In Charge (IIC):	Crispin, Robert
Additional Participating Persons:	Thomas L McWhirter; Federal Aviation Administration; Las Vegas, NV Mark Platt; Textron Lycoming; Van Nuys, CA
Original Publish Date:	April 17, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=50533