



National Transportation Safety Board Aviation Accident Factual Report

Location:	TREMONTON, UT	Accident Number:	FTW98FA086
Date & Time:	01/03/1998, 1913 MST	Registration:	N23371
Aircraft:	Piper PA-38-112	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal

Flight Conducted Under: Part 91: General Aviation - Instructional

HISTORY OF FLIGHT

On January 3, 1998, at 1913 mountain standard time, a Piper PA-38-112, N23371, operated by U.S. Aviation, Ogden, Utah, was destroyed when it impacted terrain while maneuvering around weather 8.6 miles north of Tremonton, Utah. The private certificated pilot, the sole occupant aboard, was fatally injured. Instrument meteorological conditions were reported in the area. The pilot filed a VFR flight plan for the training flight conducted under Title 14 CFR Part 91.

The following is based on the aircraft accident report submitted by U.S. Aviation, interviews conducted with company officials, and a written statement submitted by the pilot's flight instructor. The purpose of the flight was to fulfill part of the commercial pilot experience requirements for solo cross-country flight [14 CFR 61.129(a)(4)(i)]. A week before the accident, the pilot, a Japanese citizen, went to his instructor's apartment and together they planned the flight to Caldwell, Idaho, via Malad City, Idaho.

The pilot, Otake Katsuyoshi, arrived at the Ogden Municipal Airport (OGD) approximately 0830 on the morning of the accident. He telephoned his instructor, Lorenzo Bottegoni, and told him he was at the airport and ready to make the flight, but had failed to reserve an airplane. Mr. Bottegoni suggested that he check with the dispatcher to see if there had been any cancellations. Mr. Bottegoni then asked Mr. Katsuyoshi if he had checked the weather. He replied he would do so and call him back. Shortly thereafter, Mr. Bottegoni received a telephone call from U.S. Aviation's dispatcher, advising that a message had appeared on the computer, stating that Mr. Katsuyoshi had not been released for solo flight. Mr. Bottegoni told her that Mr. Katsuyoshi was already a private pilot. Mr. Bottegoni said that Mr. Katsuyoshi never called him back, and he assumed that he did not make the flight.

Shortly after 0900, the dispatcher advised Mr. Katsuyoshi that there had been a cancellation and N23371 was available. Mr. Katsuyoshi computed the weight and balance, filled out a company flight plan, and submitted these documents to the dispatcher. A dispatch release was issued at 1057. Witnesses said they saw Mr. Katsuyoshi sitting in the cockpit sometime between 1000 and 1100. According to the Cedar City, Utah, Flight Service Station (FSS), a

person who identified himself as the pilot of N23371 telephoned that facility at 1108 and requested a weather briefing to Caldwell via Boise, Idaho. He was furnished a full briefing and was advised that VFR flight was not recommended.

The airplane took off at 1202. The pilot contacted the Cedar City FSS at 1211 and requested that his VFR flight plan be activated. The pilot's flight planning documents submitted to U.S. Aviation's dispatcher showed the estimated time en route to Caldwell to be 3 hours. Approximately 1500, N23371 was vectored through Boise airspace and landed at Caldwell shortly thereafter.

U.S. Aviation officials said Mr. Katsuyoshi telephoned the dispatcher and told her there was no one at the airport and he was having difficulty purchasing fuel. He told her there was a self-service fuel pump that accepted credit cards only, but that he did not have a credit card. Shortly thereafter, he telephoned the dispatcher again and said he was able to purchase fuel using someone else's credit card, and that he reimbursed that person with cash. He also requested a time extension until 2000 for returning the airplane.

According to the Boise FSS, a person who identified himself as the pilot of N23371, telephoned at 1549 and obtained a full weather briefing. He was advised VFR flight was not recommended. Reportedly, he was also told to expect intermittent rain between 7,000 and 14,000 feet. The pilot then filed a VFR flight plan, to wit: direct Malad City, direct Ogden; true airspeed 100 knots; altitude 8,500 feet; estimated time en route, 3 hours; fuel on board, 5 hours.

FAA documents indicate N23371 departed Caldwell approximately 1635. The pilot contacted Boise approach control at 1645 and was identified on radar at 1652. Reportedly, he advised he was en route to the Malad City VORTAC at 8,500 feet. The pilot was issued a transponder code of 0342, and given VFR flight following services until the airplane was 5 miles southeast of Boise Airport. The controller advised the pilot there was a "language problem" and he was having problems receiving aircraft transmissions. The controller said the pilot sounded familiar "with the instrumentation in the aircraft." Radar services were terminated at 1707 when the airplane was 30 miles southeast of Burley, Idaho, at 7,800 feet. The pilot then contacted Boise FSS at 1719 and activated his VFR flight plan. The filed route of flight was from Caldwell direct to Malad City, Idaho, thence direct to Ogden, Utah. U.S. Aviation officials, however, said his alternate plan was to fly Interstate Highway (I-84) to I-15, then direct to Ogden.

When the airplane failed to arrive at Ogden, Cedar City FSS issued an INREQ (Information Request) at 2035, followed by an ALNOT (alert notice) at 2135. A search was conducted for three days. The wreckage of N23371 was located by a Utah Highway Patrol helicopter at 1030 on January 6, 1998, in Toponce Canyon, east of Howell Divide, near Tremonton, Utah. The accident had occurred during the hours of darkness at a GPS (Global Positioning System) location of 41 degrees, 48.60 minutes north latitude, and 112 degrees, 16.70 minutes west longitude, and at an elevation of approximately 5,300 feet.

CREW INFORMATION

Otake Katsuyoshi, age 25, was born on December 8, 1972. He held Private Pilot Certificate No. 621822978, dated March 9, 1997, with an airplane single engine land rating. Although he had logged almost 60 hours of instrument time, he was not instrument rated. U.S. Aviation officials said they felt the pilot needed to improve his English language skills before they would recommend him taking the instrument rating practical flight test. He also held a Second Class Airman Medical Certificate, dated August 14, 1996, with no restrictions or limitations.

According to a logbook made available by U.S. Aviation, the first entry was dated September 18, 1996. He had carried forward a total of 123.1 hours of flight time. The logbook containing this flight time was never located. The last entry in the logbook was dated December 20, 1997. As of that date (and including the 5.9 hours recorded on the airplane's Hobbs meter on the day of the accident), the pilot had recorded the following flight times:

Total time	313.8	Airplane Single Engine Land	
313.8 Pilot in Command	137.7	Solo	
50.4 Instruction Received	211.6	Cross-Country	
78.6 Night	13.7	Simulated	
Instruments	57.1	Actual Instruments	2.2 Day
Landings	691	Night Landings	
26 Instrument Approaches	57	Total time, PA-38-112	
291.7			

AIRCRAFT INFORMATION

N23371 (s/n 38-81A0090), a Piper PA-38-112, was issued a standard class, normal category airworthiness certificate on June 8, 1981. It was equipped with a Lycoming O-235-L2C engine (s/n L-15567-15) and a Sensenich 72CK-0-56 propeller (s/n K-733).

Examination of the aircraft maintenance records disclosed the last airframe annual and engine 100-hour inspections were performed on December 10, 1997, at a tachometer time of 3,591.3. The emergency locator transmitter (ELT), transponder, pitot-static system, and altimeter were functionally checked on April 15, 1997. The ELT battery expiration date was December 31, 1998.

METEOROLOGICAL INFORMATION

Shortly after N23371 departed Caldwell, Idaho, at 1635, the following weather observations were recorded at Caldwell (EUL) and Boise (BOI):

EUL (1656): WIND 140 DEGREES AT 8 KNOTS; VISIBILITY 10 SM; SKY CLEAR; TEMPERATURE 7 DEGREES C. (45 DEGREES F.); DEW POINT 1 DEGREE C. (34 DEGREES F.); ALTIMETER 29.63 INCHES OF MERCURY.

BOI (1650): WIND 110 DEGREES AT 8 KNOTS; VISIBILITY 10 SM; SKY CLEAR; TEMPERATURE 8 DEGREES C. (46 DEGREES F.); DEW POINT -1 DEGREE C. (30 DEGREES F.); ALTIMETER 29.63 INCHES OF MERCURY.

The following weather observations were recorded at Ogden (OGD) before and after the time of the accident:

OGD (1900): WIND 110 DEGREES AT 8 KNOTS; VISIBILITY 20 SM; CEILING 9,000 FEET OVERCAST; TEMPERATURE 3 DEGREES C. (37 DEGREES F.); DEW POINT -1 DEGREE C. (30 DEGREES F.); ALTIMETER 29.76 INCHES OF MERCURY.

OGD (1950): WIND 150 DEGREES AT 6 KNOTS; VISIBILITY 20 SM; FEW CLOUDS AT 9,000 FEET; TEMPERATURE 2 DEGREES C. (36 DEGREES F.); DEW POINT 0 DEGREES C. (30 DEGREES F.); ALTIMETER 29.75 INCHES OF MERCURY. REMARKS: LAST OBSERVATION OF THE DAY.

The National Weather Service's Radar Summary Charts, issued at 1835 and 1935, depicted a localized area of precipitation near Tremonton. Additionally, the Radar ViewPoint computer program, used to find the wreckage, also depicted a "primary weather cell" at the accident site.

At the time of the accident, a truck driver reported seeing strobe lights and a flashing beacon as he went across the Howell Divide. He said there were snow showers in the area. Also, a Utah Highway Patrol aircraft mechanic who was parking his car at the Tremonton Airport, located about 8 miles from the accident site, reported a low ceiling, less than 3 miles visibility, and light freezing rain.

WRECKAGE AND IMPACT INFORMATION

The on-scene examination commenced and terminated on January 7, 1998. After retrieval, the wreckage was examined again on February 18, 1998, at the facilities of Spanish Fork Flying Service.

The airplane collided with terrain at the bottom of Toponce Canyon, approximately 5,300 feet msl, in a near vertical attitude. The ravine was aligned on a magnetic heading of 062-242 degrees. The airplane was aligned on a magnetic heading of 170 degrees. Inclinator measurements from the impact point to the mountain tops north and south were 48 degrees and 47 degrees, respectively. The summits were approximately 6,000 to 6,500 feet msl.

Other than the impact crater, no other ground scars were noted. The aft fuselage, including vertical and horizontal stabilizers, was bent forward and over in a "scorpion" fashion. The vertical stabilizer was aligned with the airplane centerline. Both wings were crushed aft along the entire span. Wing skin was peeled aft on both wings, exposing the internal ribs. Both wings were partially separated at their roots. Both fuel tanks were compromised. All airplane components were accounted for. Flight control continuity was established from the flight

controls to the cabin. Both ailerons and the left flap were partially attached to the wings; the right flap was attached to the wing. The flap torque tube was in the zero degree position. The throttle and mixture controls were full forward. The primer was in and locked. The Hobbs meter read 3637.6 hours. According to the U.S. Aviation dispatch form, the Hobbs meter read 3631.7 hours when it was released to the pilot.

Later disassembly of the artificial horizon disclosed rotational scoring on gyro rotor and inside casing. The vacuum pump was destroyed but the intact nylon drive coupler remained attached to the drive gear. Salvage personnel misplaced the propeller and it was never examined. The propeller mounting flange was bent aft in two places, 180 degrees opposite of each other. Only two mounting bolts remained attached, and both were bent outward. The bolt holes were slightly elongated.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy (#R199800026) was conducted by Dr. Todd C. Grey of the Utah State Medical Examiner's Office. Toxicological tests were performed by both the Utah Medical Examiner's Office and FAA's Civil Aeromedical Institute in Oklahoma City, Oklahoma. According to the former report, there was no evidence of ethanol or basic, neutral, or acidic drugs in spleen specimens. According to the latter report, 167.000 and 105.000 (mg/dL, mg/hg) ethanol were detected in muscle and kidney specimens, respectively; 12.000, 64.000, and 12.000 (mg/dL, mg/hg) isobutanol, acetaldehyde, and N-propanol, respectively, were detected in kidney specimens.

NTSB's Research and Engineering's staff physician reviewed both toxicological reports and the autopsy report. He noted that Utah's toxicology report was based on spleen tissue, and was performed as soon as the remains were recovered. CAMI's report, however, was based on kidney and muscle tissue that were not received until ten days after the remains were recovered. Volatiles detected were most likely the result of putrefaction.

TESTS AND RESEARCH

The Civil Air Patrol retrieved radar data from the Salt Lake City Air Route Traffic Control Center (ARTCC). Using the Radar ViewPoint computer program, a VFR target (transponder code 1200) was detected following U.S. Highway 84 in a southeasterly direction. The target turned more easterly at the Howell Divide, and made a right climbing turn as it approached a primary weather cell. The last recorded radar contact with the target was at 0213:17Z (1913:17 mst) when it was at an encoded altitude of 8,200 feet msl. The coordinates were 41 degrees, 48.00 minutes, 36 seconds north latitude, 112 degrees, 16 minutes, 47 seconds west longitude. The wreckage of N23371 was located at 41 degrees, 48.60 minutes north latitude, and 112 degrees, 16.70 minutes west longitude, about 0.1 miles from the last radar contact.

Examination of the last three minutes of flight disclosed variations in altitude, airspeed, and vertical speed: 7,200 to 8,300 feet, 44 and 180 knots, and -600 and +1,200 feet per minute, respectively.

ADDITIONAL INFORMATION

In addition to the Federal Aviation Administration, parties to the investigation included The New Piper Aircraft Corporation, Textron Lycoming Engines, and U.S. Aviation.

The wreckage was released to the operator on February 18, 1998.

Pilot Information

Certificate:	Private	Age:	25, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	08/11/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	314 hours (Total, all aircraft), 169 hours (Total, this make and model), 144 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N23371
Model/Series:	PA-38-112 PA-38-112	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	38-81A0090
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	12/10/1997, 100 Hour	Certified Max Gross Wt.:	1670 lbs
Time Since Last Inspection:	39 Hours	Engines:	1 Reciprocating
Airframe Total Time:	3653 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-235-L2C
Registered Owner:	THOMAS & DOREAS STEVENS	Rated Power:	112 hp
Operator:	U.S. AVIATION	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	UHFS

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	OGD, 4470 ft msl	Distance from Accident Site:	51 Nautical Miles
Observation Time:	1900 MST	Direction from Accident Site:	145°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	20 Miles
Lowest Ceiling:	Overcast / 9000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	3°C / -1°C
Precipitation and Obscuration:			
Departure Point:	CALDWELL, ID (EUL)	Type of Flight Plan Filed:	VFR
Destination:	OGDEN, UT (OGD)	Type of Clearance:	None
Departure Time:	1635 MST	Type of Airspace:	Class G

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	ARNOLD W SCOTT
Additional Participating Persons:	THOMAS L KUHLMAN; SALT LAKE CITY, UT PASCAL R BARTON; SALT LAKE CITY, UT STANLEY A RITTER; SALT LAKE CITY, UT
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .