



# National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	TAMARAC, FL	<b>Accident Number:</b>	MIA00FA019
<b>Date &amp; Time:</b>	11/02/1999, 1137 EST	<b>Registration:</b>	N924JH
<b>Aircraft:</b>	Cessna 152	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## HISTORY OF FLIGHT

On November 2, 1999, about 1137 eastern standard time, a Cessna 152, N924JH, registered to a private owner, and operated by Ramz Enterprises, as a Title 14 CFR Part 91 personal flight, crashed in the Everglades while maneuvering in the vicinity of Tamarac, Florida. Visual meteorological conditions prevailed in the area at the time, and no flight plan was filed. The airplane was destroyed, and the private-rated pilot sustained fatal injuries. The flight originated from Fort Lauderdale Executive Airport (FXE), Florida, about 24 minutes before the accident.

A witness stated he was flying southbound en route to FXE at about 1,000 feet. He observed the accident airplane about 200 to 300 feet below the 2,000-foot ceiling, in an extreme nose-high attitude. The witness further stated that he observed the airplane roll to the left, pitch nose down and descend in a tight spin to the left, colliding with the Everglades.

## PERSONNEL INFORMATION

Information on file at the Federal Aviation Administration Airman Certification Branch, Oklahoma City, Oklahoma revealed that the pilot-in-command was issued a private pilot certificate with a rating, airplane single-engine land on April 10, 1999. The pilot's logbook indicated he had total flight time of about 124 flight hours, with about 78 flight hours in the same make and model as the accident airplane, and the remaining flight hours in helicopters. His logbook, and the flight school training records from the school where he learned to fly airplanes, and from whom he also rented the accident airplane, showed that he received training in stall and spin awareness and recovery. There is no record of the pilot having performed spins or spin recoveries in an airplane. The majority of his flying after receiving his private pilot's license, was receiving dual flight instruction in helicopters at another flight school. Since receiving his certificate, he flew airplanes once in April, three times in May, and one time in October 1999, with the October flight being a checkout flight required by the flight school. The checkout flight was the airplane flight which preceded the accident flight.

## AIRCRAFT INFORMATION

Maintenance records revealed that N924JH, a Cessna 152, serial number 15284781, had accumulated 3,963 hours at the time of the accident. The last inspection, the annual, was conducted on October 18, 1999. The airplane was at that time modified in accordance with Supplemental Type Certificate (STC) SE792NW, increasing the engine horsepower from 115 to 125, and the rpm from 2,750 to 2,800, and a Sensenich propeller was installed. The airplane had incurred 39 hours since the annual inspection.

## METEOROLOGICAL INFORMATION

The accident occurred in daylight visual meteorological conditions. Fort Lauderdale Executive Airport weather, reported at 1153 and valid at the time of the accident, showed that the wind 270 degrees at 10 knots; visibility 10 statute miles; scattered cumulous clouds at 1,400 feet; temperature 81 degrees Fahrenheit; dew point 73 degrees; altimeter 29.85.

## WRECKAGE AND IMPACT INFORMATION

The aircraft crashed in the Everglades, in conservation area 2A, west of the Sawgrass Expressway in about 5 feet of water. The crash site coordinates were latitude 26 degrees, 14.2 minutes north, and longitude 080 degrees 19.2 minutes west. All components of the aircraft which were necessary to sustain flight were located in the immediate vicinity of the main wreckage of the aircraft.

Examination of the crash site showed that the accident airplane came to rest on a heading of about 240 degrees, and the airplane collided with the water in a nose-down left banked attitude. The left wing was broken downward, outward of the strut and the left fuel tank was ruptured. The inboard section of the left wing was partially separated at the fuselage and bent rearward. Both wings sustained compression damage extending from the wing root outboard to the wing tip. The right wing was compressed along the leading edge at about a 50 degree angle downward. The empennage separated from the rest of the fuselage, immediately forward of the leading edge of the horizontal stabilizer, and lay behind the rest of the fuselage. The engine was attached to the main fuselage, submerged in the silt below, in about 5 feet of water, and the cabin interior had compressed to the seats.

The flight control system revealed no evidence of preimpact failure or malfunction, and there were no separation points within the cables prior to cutting cables during recovery of the wreckage. Continuity of the flight control system was established for roll, pitch and yaw, and was confirmed by tracing the cables to the flight control surfaces. The flap actuator was found in the full flap retracted position. The rudder was in the full left position, beyond the limit, restrained by the vertical stabilizer rear spar trailing edge and the rudder horn was wedged against the rudder stop. The seat rails and seats were in tact, and the pilot's seat belt attachment mechanism was unfastened during removal of the pilot.

Examination of the propeller after recovery from the accident site, showed damage consistent with engine rotation at the time of impact. "S" type bending was evident on one blade, and the other blade was bent backwards. The propeller hub had partially separated from the crankshaft flange, and five of the six bolt bushings had pulled through.

The engine assembly and accessories were examined after recovery from the accident site. The engine rotated by hand, and continuity of the crankshaft, camshaft, valve train and accessory drives were established. Each cylinder produced compression when the engine was rotated by hand. The front and bottom section of the engine sustained heavy impact damage in the accident, and the sump was broken with only residual oil remaining. The engine oil suction screen and the oil filter were examined, and were not contaminated.

All engine and airframe fuel lines were unobstructed. There were no obstructions in the engine induction system, but the induction air box had incurred damage and had separated from the engine. The carburetor was broken at the mounting flange. The cockpit carburetor heat control was extended about 1/2 inch, but the air induction box was in the hot position, and the cable had pulled out from the control arm. The carburetor float and needle valve operated normally and all passages within the carburetor were clean and unobstructed. A mixture of fuel and water was found in the carburetor bowl. The muffler was not attached to the engine and it has not been recovered.

Both magnetos were immersed in water for several hours and did not pass the field test. The magnetos were removed, retained, and bench tested. They readily fired on all points.

Each spark plug exhibited a color consistent with normal engine operation, with normal gap settings and moderate wear.

#### MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examination of the pilot was conducted by Dr. Lisa Flannigan, a Forensic Pathologist with the Broward County Medical Examiner's Office, on November 3, 1999. The cause of death was multiple blunt force trauma.

Forensic toxicology was also performed by the FAA Toxicology Laboratory, Oklahoma City, Oklahoma, on the pilot. The tests were negative for ethanol, carbon monoxide, cyanide and neutral drugs.

#### TEST AND RESEARCH

The Information Manual for the Cessna 152, Section 4, Normal Procedures, states that spin entries should be accomplished at a high enough altitude so that recoveries are completed 4,000 or more above ground level. The manual further states that at least 1,000 feet of altitude loss should be allowed for a one-turn spin and recovery, and that in any case, entries should be planned so that recoveries are completed at least 1,500 feet above the ground.

## ADDITIONAL INFORMATION

The airplane wreckage was released to Mr. Steve Smalley of Air and Sea Recovery Inc., on November 11, 1999.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	39, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	03/01/1999
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	124 hours (Total, all aircraft), 78 hours (Total, this make and model), 23 hours (Pilot In Command, all aircraft), 8 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N924JH
<b>Model/Series:</b>	152 152	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	15284781
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	10/18/1999, Annual	<b>Certified Max Gross Wt.:</b>	1675 lbs
<b>Time Since Last Inspection:</b>	39 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3963 Hours	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	152
<b>Registered Owner:</b>	MICHAEL R. MARSHALL	<b>Rated Power:</b>	125 hp
<b>Operator:</b>	RAMZ ENTERPRISES	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	AIRBORNE SYSTEMS INC.	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	FXE, 14 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	1153 EST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 1400 ft agl	Visibility	10 Miles
Lowest Ceiling:	Overcast / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	27° C / 23° C
Precipitation and Obscuration:			
Departure Point:	FT. LAUDERDALE, FL (FXE)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1113 EST	Type of Airspace:	Class E

## 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):	JOHN W LOVELL
Additional Participating Persons:	RAUL DIAZ; FT. LAUDERDALE, FL ROBERT A WHITE; WICHITA, KS EDWARD ROGALSKI; BELLVIEW, FL
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .