



National Transportation Safety Board Aviation Accident Final Report

Location:	Batesville, AR	Accident Number:	CEN15FA189
Date & Time:	04/02/2015, 0600 CDT	Registration:	N65463
Aircraft:	CESSNA 152	Aircraft Damage:	Destroyed
Defining Event:	VFR encounter with IMC	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The student pilot was conducting a nighttime cross-country flight in dark night visual meteorological conditions. He flew to another airport and dropped a passenger off; during the return to his destination, the airplane impacted terrain. The debris field at the accident site suggests that the pilot may have been attempting to divert to a local airport rather than continue to his planned destination. However, it could not be determined why the pilot was diverting.

A postaccident examination of the airframe and engine did not detect any anomalies that would have precluded normal operation. Local law enforcement personnel reported low, patchy fog near the accident site when they first began searching for the airplane. Further, given the elevation of the area of impact (1,025 ft) and of the nearest weather reporting station (463 ft), a meteorological study of the accident area found that clouds were likely present at 500 ft above ground level (agl) with a broken layer at 1,400 ft agl and an overcast layer at 2,700 ft agl. The moon was below the horizon at the time of the accident. There is no evidence that the pilot obtained a weather briefing before taking off. The pilot's logbook did not contain any recent log book entries, recent flight instruction, or nighttime flight. Although the pilot was able to successfully navigate to his initial destination, the circumstances of the accident are consistent with the noninstrument-rated pilot's controlled flight into terrain due to an inadvertent encounter with clouds while flying under visual flight rules.

The pilot's toxicology was positive for numerous substances, some of which were potentially impairing. It could not be determined the effect that The combination of psychiatric condition(s) indicated by the use of two antidepressants, chronic, high dose opioid use (hydrocodone), sedating antidepressant use (trazodone), and potentially ethanol use may have affected the pilot's performance. However, the extent that the effects contributed on the pilot's decision to conduct the flight on a dark night with the potential for marginal visual meteorological conditions without evidence of flight instruction or instrument rating and without obtaining a weather briefing could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The noninstrument-rated pilot's controlled flight into terrain due to an inadvertent encounter with clouds in dark night conditions. Contributing to the accident was the pilot's decision to fly at night in marginal visual meteorological conditions without the proper training and without obtaining a weather briefing.

Findings

Personnel issues

- Lack of action - Student pilot (Cause)
- Decision making/judgment - Student pilot (Factor)
- Recent instruct/training recvd - Student pilot (Factor)
- Knowledge of meteorologic cond - Student pilot (Factor)
- Impairment/incapacitation - Student pilot

Environmental issues

- Below VFR minima - Ability to respond/compensate (Cause)
- Dark - Effect on personnel (Cause)
- Clouds - Awareness of condition (Factor)
- Clouds - Effect on operation
- Dark - Effect on operation

Factual Information

History of Flight

Enroute	VFR encounter with IMC (Defining event) Controlled flight into terr/obj (CFIT)
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On April 2, 2015, about 0600 central daylight time, a Cessna 152, N65463, collided with terrain near Batesville, Arkansas. The student rated pilot, the sole occupant, was fatally injured and the airplane was destroyed. The airplane was registered to and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Dark night, visual meteorological conditions prevailed in the vicinity of the accident site. The flight operated without a flight plan and departed the Salem Airport (7M9), Salem, Arkansas, at an undetermined time and was en route to an Carlisle Municipal Airport (4M3), Carlisle, Arkansas.

Local law enforcement reported that the pilot and a passenger departed Carlisle Municipal Airport (4M3), Carlisle, Arkansas, about 0200. The pilot intended to fly to 7M9 and then return solo to 4M3. The accident occurred during his return flight.

About 0600, a resident called the Independence County Sheriff to report a possible airplane crash. The resident heard an airplane's engine rev up and then heard what she thought was a crash. When the deputies arrived to her resident and began investigating the area, they reported heavy, patchy fog. The airplane's wreckage was located on April 3, 2015, in a wooded area of Brock Mountain, Arkansas.

Pilot Information

Certificate:	Student	Age:	52, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap Only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	03/28/2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	365.8 hours (Total, all aircraft), 73.8 hours (Total, this make and model)		

The pilot, age 52, held a combined student pilot certificate-third class medical issued on March 5, 2014. On the application for the medical certificate the pilot did not fill out his total pilot time to date or his time for the past 6 months. The pilot had been previously issued combined student pilot-medical certificates in 1990 and 1984. On June 21, 1990, application, he also left his pilot time blank, but on July 16, 1984, application, he reported his total time as 200 hours with 100 in the preceding six months.

Pilot log books were made available to the local Federal Aviation Administration (FAA) Flight Standards District Office in Little Rock, Arkansas, by a family member and a summary was provided to the NTSB investigator-in-charge. The FAA inspectors documented that the pilot logged flight time in January 1984 which ended with a total time of 302 hours. A new pilot log book was started on March 26, 2014. The pilot logged four flights of dual instruction for a total of 5.5 hours with the last dual flight logged on May 19, 2014. From May 19, 2014, to July 22, 2014, the pilot logged 14 flights for a total of 25 hours of solo/pilot-in-commander. July 22, 2014 was the last log book entries. As of that date he accrued approximately 332.5 hours of total time. No other entries were found. However, using maintenance log book entries and the tachometer reading at the accident site, the pilot likely accumulated an additional 43.3 hours for a total of 365.8 hours.

There was no evidence of recent flight instruction or flight instructor endorsements. There was also no night time logged. The pilot's night flying experience could not be determined.

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N65463
Model/Series:	152	Aircraft Category:	Airplane
Year of Manufacture:	1978	Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	15281566
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	03/26/2014, Annual	Certified Max Gross Wt.:	1676 lbs
Time Since Last Inspection:	71 Hours	Engines:	1 Reciprocating
Airframe Total Time:	14845 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	O-235-L2C
Registered Owner:	On file	Rated Power:	110 hp
Operator:	On file	Air Carrier Operating Certificate:	None

The single engine, high wing, fixed tricycle landing gear, two seat airplane was manufactured in 1978. It was powered by a normally aspirated, four cylinder, 118-horsepower Lycoming O-235-L2C engine driving a metal, two blade, fixed pitch, Sensenich S72CK-O-54 propeller. The propeller was installed under Supplemental Type Certificate SA1219EA on October 1, 2008. The airplane's most recent inspection was an annual type completed on March 26, 2014, at a total airframe time of 14,774 hours, tachometer time of 4,774.0 hours, and 1,129 hours since the engine's last major overhaul. The airplane was equipped for and was authorized to be operated at night.

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KBVX, 463 ft msl	Observation Time:	1055 UTC
Distance from Accident Site:	6 Nautical Miles	Condition of Light:	Night/Dark
Direction from Accident Site:	68°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Few / 1000 ft agl	Temperature/Dew Point:	18° C / 16° C
Lowest Ceiling:	Broken / 1900 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	6 knots, 190°	Visibility (RVR):	
Altimeter Setting:	29.87 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	SALEM, AR (7M9)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:		Type of Airspace:	

At 0555, an automated weather reporting facility located at the Batesville Regional Airport (BVX), Batesville, Arkansas, about 6.5 nautical miles northeast of the accident site, reported wind from 190° at 6 knots, visibility 10 miles, few clouds at 1,000 feet, a broken layer at 1,900 feet, and an overcast layer at 3,200 feet, temperature 18° Celsius (C), dew point 16° C, and a barometric pressure of 29.87 inches of mercury. Of note, this reporting facility did not have a precipitation discriminator and could not report any weather phenomena. The reporting facility's elevation is 463 and the accident site was located on a bluff of higher terrain approximately 1,025 mean sea level.

A weather study of the accident area was conducted by an National Transportation Safety Board (NTSB) Senior Meteorologist. A review of National Weather Service data found no significant radar echoes in the vicinity of the accident. The Low-Level Significant Weather Prognostic Chart valid showed that there was the potential for marginal visual flight rules ceiling and visibilities for the accident area. Infrared satellite imagery recorded cloud tops near 7,000 feet msl at the time of the accident. Astronomical conditions recorded by the U.S. Naval Observatory showed that both the sun and the moon were below the horizon at the time of the accident.

At 0535, an automated weather reporting facility located at the Clinton Municipal Airport (CCA), Clinton, Arkansas, located 34 nautical miles west of the accident site, reported a calm wind, visibility 5 miles, mist, an overcast ceiling at 700 feet, temperature 16°C, dew point 16° C, and a barometric pressure of 29.88 inches of mercury.

There is no evidence that the pilot received a weather briefing.

Airport Information

Airport:	BATESVILLE RGNL (BVX)	Runway Surface Type:	Asphalt
Airport Elevation:	465 ft	Runway Surface Condition:	Unknown
Runway Used:	08	IFR Approach:	Unknown
Runway Length/Width:	6002 ft / 150 ft	VFR Approach/Landing:	Unknown

Batesville Regional Airport (KBVX) is located near Batesville, Arkansas, at an elevation of 465 feet mean sea level (msl). It is serviced by two runways aligned 08/26 and 18/36. Runway 8 is a 6,002 foot by 150 foot asphalt runway in good condition. It is lit by medium intensity runway lights and runway end identifier lights which is pilot controlled on the airport's common traffic advisory frequency. In addition, it has a 2-light precision approach path indicator (PAPI) system on the left side of the runway configured for a 3.0° glide path.

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		

The accident site was located in a heavily wooded area of Brock Mountain, about 7 nautical west of the Batesville Regional Airport. The initial impact point consisted of downed tree tops on 45-foot tall trees. Elevation at the accident site ranged between 1,025 and 1,035 feet mean sea level. The debris field was aligned along a 255° heading, but the initial damage to the trees followed a 038° heading. Portions of both wings are found in the debris field along with downed trees. Elevator and rudder pieces were scattered leading to the airplane's empennage. The empennage separated just aft of the aft bulkhead. The seats and floorboards were fractured and broken. The engine and cockpit instrument panel was found at the end of the debris field. The total debris field was approximately 115 yards long and 25 yards wide. Multiple areas of the wreckage contained semi-circular impacts with imbedded tree matter consistent with tree strikes.

The control cables to all surfaces were broken in multiple locations. When laid out, all breaks displayed broomstrawing on the cable ends consistent with overload. All control cables appeared to be continuous prior to the accident. The propeller separated from the engine at the propeller hub. The leading edge of both blades contained nicks and gouges. The outboard 1/3 of one of the blades fractured from the blade and was located near the beginning of tree strikes. The cockpit instruments and gauges were largely impact destroyed. The magneto switch was positioned to both. The throttle was full forward and the mixture was near the full forward position. No anomalies were detected with the airframe and engine that would have precluded normal operation.

In addition, an open and empty bottle of hydrocodone/acetaminophen prescribed to the pilot

was found in a compartment in the cockpit. No pills were found at the accident site.

Medical And Pathological Information

An autopsy was conducted on the pilot by The Arkansas State Crime Laboratory, Little Rock, Arkansas. The autopsy noted the cause of death as a result of multiple blunt force injuries and the manner of death was an accident.

The FAA Civil Aerospace Medical Institute performed forensic toxicology on specimens from the pilot. The specimens were putrefied. Testing was positive for the following:

82 (mg/dL, mg/hg) Ethanol detected in Liver
66 (mg/dL, mg/hg) Ethanol detected in Muscle
Desmethylsertraline detected in Liver
Desmethylsertraline detected in Muscle
0.22 (ug/mL, ug/g) Dihydrocodeine detected in Liver
0.027 (ug/mL, ug/g) Dihydrocodeine detected in Muscle
2.08 (ug/ml, ug/g) Hydrocodone detected in Liver
0.473 (ug/ml, ug/g) Hydrocodone detected in Muscle
Phentermine detected in Liver
Sertraline detected in Liver
Sertraline detected in Muscle
1.196 (ug/mL, ug/g) Trazodone detected in Liver
0.155 (ug/mL, ug/g) Trazodone detected in Muscle

Sertraline is a prescription antidepressant used for a variety of conditions to include depression, obsessive-compulsive disorder, panic attacks, posttraumatic stress disorder and social anxiety disorder. The FAA reports that a Special Issuance Medical Certificate would be necessary for its use by airmen on this medication.

Hydrocodone, and its metabolite dihydrocodeine, were found. Hydrocodone is a prescription semisynthetic narcotic prepared from codeine. It is widely prescribed as an antitussive in cough syrups and is also used to relieve severe pain. This medication has the potential to impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery). The FAA reports that this medication is disqualifying for FAA aeromedical certification.

Phentermine is a Schedule IV, short-term use, prescription appetite suppressant used together with diet and exercise to treat obesity. The FAA reports that this medication is not acceptable for use while performing airman duties.

Trazodone is a prescription medication used to treat depression. Trazodone is in a class of medications called serotonin modulators. This medication has the potential to impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery). The FAA reports that use of this medication is disqualifying for aeromedical certification.

The levels of ethanol found could be from decomposition, however ingestion could not be fully ruled out.

On his most recent application for medical certificate, the pilot only reported the use of Lisinopril to treat high blood pressure.

Tests And Research

Garmin AERA 560 GPS

A Garmin AERA 560 was found at the accident site and sent to the NTSB laboratory in Washington D.C. for data download. The device powered on, but no recorded data was found.

Administrative Information

Investigator In Charge (IIC):	Jason T Aguilera	Adopted Date:	10/04/2016
Additional Participating Persons:	Bill Kelly; FAA FSDO; Little Rock, AR Paul Yoos; Textron Aviation; Wichita, KS		
Publish Date:	10/04/2016		
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90978		

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