



Aviation Investigation Final Report

Location:	Landmark, Idaho	Accident Number:	WPR14FA283
Date & Time:	July 7, 2014, 07:34 Local	Registration:	N162CG
Aircraft:	AMERICAN CHAMPION AIRCRAFT 7GCBC	Aircraft Damage:	Substantial
Defining Event:	Midair collision	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The American Champion pilot and the Cessna pilot had prearranged to fly into the destination airport and meet the morning of the accident. After takeoff, the American Champion pilot obtained visual contact with the Cessna as it departed a nearby private airstrip. The Cessna was below and behind the American Champion at its 5-o'clock position. Both pilots were in radio communications with each other, and the Cessna pilot stated that he had the American Champion in sight. The Cessna pilot stated that his groundspeed was 129 knots, and the American Champion pilot stated that hers was 101 knots. Over the radio, the Cessna pilot stated that he had passed the American Champion. The American Champion pilot was 11 miles northwest of the destination airport and had lost visual contact with the Cessna. About that time, the American Champion pilot saw the Cessna appear under her airplane's left wing, overtake her airplane from behind and below, and subsequently collide with the propeller; the Cessna then disappeared downward. The American Champion pilot performed a dead stick landing into an open meadow. The Cessna descended to the ground and was destroyed by a postcrash fire. Radar replay video showed the two airplanes traveling in the same general direction, with the trailing airplane (the Cessna) converging on the lead airplane (the American Champion). Radar contact between both airplanes was lost before the actual collision.

Probable Cause and Findings

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

The failure of the overtaking airplane's pilot to maintain visual contact and separation from the airplane being overtaken.

Findings

Personnel issues

Monitoring other aircraft - Pilot of other aircraft

Factual Information

History of Flight

Enroute-cruise

Midair collision (Defining event)

On July 7, 2014, at 0734 mountain daylight time, an American Champion 7CGBC, N162CG, and a Cessna R172K, N7390K, collided over Landmark US Forest Service (USFS) airstrip, Landmark, Idaho. The American Champion, registered to the pilot, made a dead stick approach along the edge of an open meadow and struck a tree during the landing, which resulted in substantial damage to the airplane. The Cessna, registered to High Plane Flyers, Inc., impacted terrain and was consumed by a postcrash fire. The commercial pilot operating the American Champion received minor injuries, and the private pilot operating the Cessna received fatal injuries. Both airplanes were operating under 14 Code of Federal Regulations, Part 91. Visual meteorological conditions prevailed, and no flight plans had been filed. The American Champion departed McCall Municipal Airport McCall, Idaho, at 0715, and the Cessna departed Flying A ranch about 0715. The destination for both airplanes was Sulfur Creek Ranch Airport, Idaho.

The pilot of the American Champion stated that she and the Cessna pilot were going to meet at Sulfur Creek Ranch Airport the morning of the accident. After departing McCall, she stated that she had visual contact on the Cessna as it departed the Flying A Ranch private airfield. It was below her at the 5 o'clock position, and they both were in radio communications with each other. The Cessna pilot stated that his ground speed was 129 knots, while the Champion pilot replied that her airspeed was 101 knots. The Champion pilot reported that she was 10 miles west of Sulfur Creek at 7,800 feet, and the Cessna pilot reported that he was 5 miles west of Sulfur Creek, at 6,800 feet. By this time the Champion pilot had lost visual contact with the Cessna, and over the radio the Cessna pilot stated that he had passed her. About 10 miles west of Sulfur Creek the Champion pilot said that she saw the Cessna appear under her left wing, overtaking her from behind and below, and appeared to be climbing. The Champion pilot stated that she had no time to react before the Cessna struck her propeller, and then disappeared downward. After her engine stopped, the Champion pilot stated that she tested the flight controls, made a MAYDAY radio transmission, then executed a forced landing to an open area.

The wreckage of the Cessna was located about 1 mile south of where the American Champion had made its forced landing. The Cessna had been subjected to a post-accident fire, and a small debris field consisting of camping equipment, personal bags, right wing lift strut, and right horizontal stabilizer was distributed to the northwest, extending out approximately 500 feet from the main wreckage.

Exelis OpsVue, a commercial product that provides replays of the Federal Aviation Administration (FAA) radar data and ADS-B (Automatic Dependent Surveillance-Broadcast) reports, was used to create visual replay of the combined data. Exelis uses a national atmospheric pressure model to correct for local atmospheric pressure in order to present mean sea level (msl) altitudes in the target data. Neither airplane was receiving radar services. The replay starts at 07:25 mountain daylight time, and depicts two targets. The lead target is shown at 8,200 feet msl and a ground speed of 103 knots heading in a southeastern direction. The trailing target is shown at 8,775 feet msl and 115 knots groundspeed also

heading in a southeastern direction. At 07:31, the trailing target is at 8,600 feet msl, 119 knots ground speed, and has closed to about 1 mile from the lead target, which was still at 8,200 feet msl and 103 knots. Both targets had just passed the north edge of Warm Lake. At 07:32:24, about 11 miles northwest of the Sulfur Creek Ranch Airport, the lead target, still at 8,200 feet msl, vanished from the replay; presumed data loss due to mountainous terrain. The trailing target is about 13 miles northwest of the Sulfur Creek Ranch Airport, at 8,600 feet msl, 111 knots, and in a descent. At 07:33:25, the trailing target's position was about 11 miles northwest of the Sulfur Creek Ranch Airport, at 8,350 feet msl, when it vanished from the replay; presumed data loss due to mountainous terrain. The wreckage of the Cessna was located about 2.5 miles southeast of the final radar recorded position, and the American Champion landed about 2 miles east of the same point. Radar/ADS-B data was not regained for either the Cessna or the American Champion airplanes.

GPS data captured from a portable Garmin GPSMAP496 unit that was onboard the American Champion was tabulated and plotted by specialists at the NTSB Vehicle Recorders Laboratory. The data showed that at 07:32:33, approximately the time radar contact was lost, the Champion was at 8,278 feet msl, heading 121 degrees, and a ground of 109 knots. At 07:34:28, the Champion was at 7,664 feet msl and heading 127 degrees when it suddenly experienced a change of ground speed from 111 knots to 98 knots and entered a descending left turn.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	52, Female
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	5-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	August 27, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 26, 2013
Flight Time:	5056 hours (Total, all aircraft), 587 hours (Total, this make and model), 4981 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

The pilot, age 52, held a commercial pilot certificate with ratings for single-engine airplane land and multiengine airplane land, and airplane instrument issued on January 11, 2010. She also held a flight instructor certificate with airplane single-engine land and instrument airplane ratings issued on October 23, 2013. She held a third-class medical certificate issued on August 27, 2013, with no limitations. The pilot reported on the National Transportation Safety Board Pilot/Operator Aircraft Accident/Incident Report, Form 6120.1, that she had 5,056 hours of total flight time, 587 hours in the accident airplane make and model, and 17 hours of flight time within the previous 30 days.

Aircraft and Owner/Operator Information

Aircraft Make:	AMERICAN CHAMPION AIRCRAFT	Registration:	N162CG
Model/Series:	7GCBC	Aircraft Category:	Airplane
Year of Manufacture:	2008	Amateur Built:	
Airworthiness Certificate:	Aerobatic; Normal	Serial Number:	1453-2009
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	April 3, 2014 Annual	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:		Engines:	Reciprocating
Airframe Total Time:	395 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	C126 installed, not activated	Engine Model/Series:	O-320
Registered Owner:	HOOVER AMY LYNN	Rated Power:	160
Operator:	HOOVER AMY LYNN	Operating Certificate(s) Held:	None

The American Champion was a two-seat, high wing, fixed-gear airplane, serial number 1453-2009, which was manufactured in 2009. It was powered by a Lycoming O-320-B2B, 160-hp engine, and equipped with a Sensenich model 74DM6S8-1-56 fixed pitch propeller. The most recent annual inspection was completed on April 3, 2014, at a total airframe time of 395 hours. Total airframe time at the time of the accident was 412 hours.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KMYL, 5024 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	07:51 Local	Direction from Accident Site:	300°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	19°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	McCall, ID (KMYL)	Type of Flight Plan Filed:	Company VFR
Destination:	Cascade, ID (ID74)	Type of Clearance:	None
Departure Time:	07:15 Local	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	44.600833,-115.522499

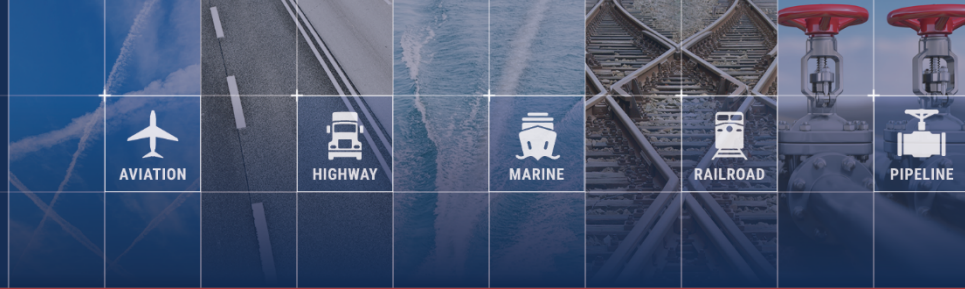
The airplane was located on the edge of a swampy meadow and was resting on its landing gear. The left wing had a semicircular impact mid-wing on the leading edge. There was a recently downed deadfall tree next to where the airplane was positioned. The tail wheel and aft fuselage section had been deformed. The belly of the airplane was covered in aluminum panels painted yellow, and exhibited deformation. There were two black transfer marks on the belly near the tail, and 2 orange paint transfer marks. The propeller exhibited chordwise scratches, and one blade was deformed forward.

Administrative Information

Investigator In Charge (IIC):	McKenny, Van
Additional Participating Persons:	Craig Karel; Federal Aviation Administration; Boise, ID Yoos Paul; Textron; Wichita, KS Hall Andrew; Textron; Wichita, KS Cliff Smart; FAA; Boise, ID
Original Publish Date:	May 23, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=89618

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).



Aviation Investigation Final Report

Location:	Landmark, Idaho	Accident Number:	WPR14FA283
Date & Time:	July 7, 2014, 07:34 Local	Registration:	N7390K
Aircraft:	Cessna R172K	Aircraft Damage:	Destroyed
Defining Event:	Midair collision	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The American Champion pilot and the Cessna pilot had prearranged to fly into the destination airport and meet the morning of the accident. After takeoff, the American Champion pilot obtained visual contact with the Cessna as it departed a nearby private airstrip. The Cessna was below and behind the American Champion at its 5-o'clock position. Both pilots were in radio communications with each other, and the Cessna pilot stated that he had the American Champion in sight. The Cessna pilot stated that his groundspeed was 129 knots, and the American Champion pilot stated that hers was 101 knots. Over the radio, the Cessna pilot stated that he had passed the American Champion. The American Champion pilot was 11 miles northwest of the destination airport and had lost visual contact with the Cessna. About that time, the American Champion pilot saw the Cessna appear under her airplane's left wing, overtake her airplane from behind and below, and subsequently collide with the propeller; the Cessna then disappeared downward. The American Champion pilot performed a dead stick landing into an open meadow. The Cessna descended to the ground and was destroyed by a postcrash fire. Radar replay video showed the two airplanes traveling in the same general direction, with the trailing airplane (the Cessna) converging on the lead airplane (the American Champion). Radar contact between both airplanes was lost before the actual collision.

Probable Cause and Findings

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

The failure of the overtaking airplane's pilot to maintain visual contact and separation from the airplane being overtaken.

Findings

Personnel issues	Monitoring other aircraft - Pilot
Personnel issues	Situational awareness - Pilot

Factual Information

History of Flight

Enroute-cruise

Midair collision

On July 7, 2014, at 0734 mountain daylight time, an American Champion 7CGBC, N162CG, and a Cessna R172K, N7390K, collided over Landmark US Forest Service (USFS) airstrip, Landmark, Idaho. The American Champion, registered to the pilot, made a dead stick approach along the edge of an open meadow and struck a tree during the landing, which resulted in substantial damage to the airplane. The Cessna, registered to High Plane Flyers, Inc., impacted terrain and was consumed by a postcrash fire. The commercial pilot operating the American Champion received minor injuries, and the private pilot operating the Cessna received fatal injuries. Both airplanes were operating under 14 Code of Federal Regulations, Part 91. Visual meteorological conditions prevailed, and no flight plans had been filed. The American Champion departed McCall Municipal Airport McCall, Idaho, at 0715, and the Cessna departed Flying A ranch about 0715. The destination for both airplanes was Sulfur Creek Ranch Airport, Idaho.

The pilot of the American Champion stated that she and the Cessna pilot were going to meet at Sulfur Creek Ranch Airport the morning of the accident. After departing McCall, she stated that she had visual contact on the Cessna as it departed the Flying A Ranch private airfield. It was below her at the 5 o'clock position, and they both were in radio communications with each other. The Cessna pilot stated that his ground speed was 129 knots, while the Champion pilot replied that her airspeed was 101 knots. The Champion pilot reported that she was 10 miles west of Sulfur Creek at 7,800 feet, and the Cessna pilot reported that he was 5 miles west of Sulfur Creek, at 6,800 feet. By this time the Champion pilot had lost visual contact with the Cessna, and over the radio the Cessna pilot stated that he had passed her. About 10 miles west of Sulfur Creek the Champion pilot said that she saw the Cessna appear under her left wing, overtaking her from behind and below, and appeared to be climbing. The Champion pilot stated that she had no time to react before the Cessna struck her propeller, and then disappeared downward. After her engine stopped, the Champion pilot stated that she tested the flight controls, made a MAYDAY radio transmission, then executed a forced landing to an open area.

The wreckage of the Cessna was located about 1 mile south of where the American Champion had made its forced landing. The Cessna had been subjected to a post-accident fire, and a small debris field consisting of camping equipment, personal bags, right wing lift strut, and right horizontal stabilizer was distributed to the northwest, extending out approximately 500 feet from the main wreckage.

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Pilot Information

Certificate:	Private	Age:	45, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	July 25, 2013
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 990 hours (Total, all aircraft)		

The pilot, age 45, held a private pilot certificate for single-engine land, and an instrument airplane rating issued on July 31, 2007. He held a third-class airman medical certificate issued July 20, 2013, with no limitations. The pilot's logbook was not recovered for examination. On the pilot's July 20, 2013, application for his third-class medical, he reported 990 total flight hours, and 20 hours within the preceding six months.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N7390K
Model/Series:	R172K	Aircraft Category:	Airplane
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	R1722070
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	July 20, 2013 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	7306.3 Hrs as of last inspection	Engine Manufacturer:	CONT MOTOR
ELT:	Installed, not activated	Engine Model/Series:	IO-360-KB6B
Registered Owner:	On file	Rated Power:	210 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The Cessna was a four-seat, high-wing, fixed-gear airplane, serial number R1722070, which was manufactured in 1976. It was powered by a Continental Motors IO-360-KB6B, 210-hp engine, and equipped with a McCauley constant speed propeller. A board member of the flying club that owned and operated the airplane reported that the most recent annual inspection was completed on July 20, 2013, with a total of 7,306.3 hours on the airframe. The engine had 130 hours time since major overhaul.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KMYL,5024 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	07:51 Local	Direction from Accident Site:	300°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	19°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lake Fork, ID, ID (ID59)	Type of Flight Plan Filed:	None
Destination:	Cascade, ID (ID74)	Type of Clearance:	None
Departure Time:	07:15 Local	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	44.600833,-115.522499

The Cessna R172K impacted terrain inverted, oriented on the 310-degree bearing measured from tail to nose. The entire airplane, minus the right horizontal stabilizer and elevator, was located at the accident site. The separated right horizontal stabilizer with attached elevator and trim tab was located about 100 feet to the west of the accident site. Baggage compartment contents were scattered over an area northwest of the main wreckage between 290 feet to 500 feet, with the heaviest items (duffle bag and flight bag) located 325 feet from the accident site.

The airplane's engine compartment, cockpit, right wing, and inboard half of the left wing were consumed by a postimpact fire. The baggage compartment area, rear fuselage, and empennage structures received substantial ground impact damage. The flaps and ailerons remained attached to the wing.

Examination of aft fuselage area revealed a cut mark in the rear fuselage aluminum skin just aft of the baggage compartment door. The baggage compartment is located behind the 3rd and 4th bench seat, and the access door is mounted on the left side of the baggage compartment. The cut mark was consistent with a propeller blade slice. On the bottom of the rear fuselage and right side of the fuselage, aligned with the cut mark, the aluminum fuselage skin was torn apart, and the paint along the tear was saw-

toothed in appearance. The last eighteen inches of the rear fuselage was buckled downward about 45 degrees.

Examination of the dorsal fin revealed multiple yellow paint transfer marks, and the dorsal fin structure was dented and creased. The rear end of the dorsal fin was attached to the leading edge base of the vertical stabilizer. The area of the vertical stabilizer that was covered by the dorsal fin was not painted. Yellow paint transfer marks were found on the non-painted vertical stabilizer structure. The vertical stabilizer with attached rudder was separated from the rear fuselage. The rudder bell crank remained attached to the base of the rudder.

The left horizontal stabilizer with attached elevator was separated from the rear fuselage. The left and right elevator torque tubes were separated from the elevator bell crank. The elevator flight control cables remained intact and attached to the control column and to the elevator bell crank. The pitch trim cables remained attached to the trim actuator. The cockpit trim wheel was not located, but the trim cable was continuous to the cockpit. The right elevator trim tab actuator was extended 1.437 inches, which corresponds to about 6 to 7 degrees tab trailing edge up.

The rudder flight control cables remained attached to their respective rudder pedals. One rudder cable remained intact and attached to the rudder bell crank. The other rudder cable remained intact up to the attaching hardware at the rudder bell crank; the attaching turnbuckle was separated and bent in the threaded area of the turnbuckle. One part of the turnbuckle remained attached to the rudder cable and the other part of the turnbuckle remained attached to the rudder bell crank.

The aileron flight control cables in the cockpit area were no longer connected to the control column, but the two flight control cables remained interconnected. The aileron swedge ball was no longer associated with the pulley. The sprocket chains were intact. The flight control cables remained intact and connected to their respective aileron bell cranks. The aileron balance cable remained intact and connected to each aileron bell crank. The flap extend /retract actuator was not commanding a flap extension; i.e., the flaps were retracted.

The engine control knobs were pushed IN. The engine remained partially attached to its engine mounts. The engine mounts were buckled and two mounts were separated from the firewall. The engine control cables remained attached to the mixture control lever, the throttle body, and the propeller governor. The engine accessory drive case and attached accessories were partially consumed by the post impact fire.

The propeller remained attached to the engine propeller mounting flange. The two propeller blades remained attached to the propeller hub and could not be rotated in their hub mount. One blade was bent forward toward the cambered side and the last 8 inches were bent rearward and the last 4 inches of the blade tip was separated. The other blade was curled rearward toward the non-cambered side at the mid-span position.

Medical and Pathological Information

An autopsy was performed on the pilot on July 8, 2014, by the Valley County Coroner, McCall, Idaho.

The cause of death was listed as blunt force trauma.

The FAA's Civil Aerospace Medical Institute (CAMI), Forensic Toxicology Research Team performed forensic toxicology on the specimens from the pilot with negative results for drugs and alcohol. Tests for carbon monoxide and cyanide were not performed.

Administrative Information

Investigator In Charge (IIC):	McKenny, Van
Additional Participating Persons:	Craig Karel; Federal Aviation Administration; Boise, ID Yoos Paul; Textron; Wichita, KS Hall Andrew; Textron; Wichita, KS Cliff Smart; FAA; Boise, ID
Original Publish Date:	May 23, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=89618

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