Aviation Investigation Final Report

Location:	Boulder, Utah	**Accident Number:**	WPR13FA095
Date & Time:	January 19, 2013, 15:01 Local	**Registration:**	N2341N
Aircraft:	Cessna 140	**Aircraft Damage:**	Substantial
Defining Event:	Controlled flight into terr/obj (CFIT)	**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A witness stated that he observed the airplane fly over his position near a state highway at an altitude he considered "low" and that the airplane's engine sounded "loud." Shortly after, he observed the airplane impact power lines that local power company personnel estimated to be about 100 feet above ground level. All major structural components of the airplane were located within close proximity to the collision location. A postaccident examination of the airframe and engine revealed no evidence of mechanical malfunctions or failures that would have precluded normal operation. Witness marks located on the right wing were consistent with damage from impact with the power lines. Local residents reported having witnessed the pilot flying at low altitudes on previous flights. Based on these reports, as well as the accident witness report, it is likely that the pilot was flying at a low altitude during the accident flight and failed to maintain clearance from the power lines.

Probable Cause and Findings

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

The pilot's improper decision to maneuver at a low altitude and failure to adequately monitor the environment to maintain clearance from power lines.

Findings

Personnel issues	Decision making/judgment - Pilot
Personnel issues	Monitoring environment - Pilot
Aircraft	Altitude - Not attained/maintained
Environmental issues	Wire - Contributed to outcome

Factual Information

History of Flight

Maneuvering-low-alt flying	Low altitude operation/event
Maneuvering	Controlled flight into terr/obj (CFIT) (Defining event)

On January 19, 2013, about 1501 mountain standard time, a Cessna 140, N2341N, sustained substantial damage when it struck power lines while maneuvering near Boulder, Utah. The airplane was registered and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The commercial pilot and passenger were fatally injured. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight. The local flight departed from Escalante Municipal Airport (1L7) Escalante, Utah at an undetermined time.

According to a local power company official, the power line service between Boulder and Escalante were interrupted at 1501 when an automatic breaker tripped. He immediately responded to the power outage and noticed the power lines near mile marker 78 on Utah State Route (SR) 12 were tangled. He stated that a portion of the airplane's wing was lying on the highway and was necessary to move it off the road. He further stated that two power line poles were damaged and the attached power lines were lying near the ground. Power company personnel were able to estimate the height of the power lines at the approximate point of impact to be about 100 feet.

A witness located on the west side of Utah SR 12 near the accident site reported that he observed the airplane fly over his position on an easterly heading. He stated that the engine sounded loud and startled him. He estimated the airplane to be about 200 to 300 feet above ground level (agl) and shortly afterwards; he observed the airplane strike the power lines. He further stated that the airplane's engine sounded loud until it struck the power lines. Another witness, observed the airplane's engine stop and sparks coming from the power lines, after impact.

Several local residents of Escalante witnessed the pilot flying at low altitude on previous flights.

Pilot Information

Certificate:	Commercial	**Age:**	56
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Lap only
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	Glider	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	January 1, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 2500 hours (Total, all aircraft)		

Passenger Information

Certificate:		**Age:**	53
Airplane Rating(s):		**Seat Occupied:**	Right
Other Aircraft Rating(s):		**Restraint Used:**	Lap only
Instrument Rating(s):		**Second Pilot Present:**	No
Instructor Rating(s):		**Toxicology Performed:**	No
Medical Certification:		**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:			

The pilot, age 56, held a commercial pilot certificate. He had a commercial and instructor rating for gliders, and private privileges for airplane single-engine land. A third-class airman medical certificate was issued on January 17, 2011, with a limitation stated "must wear corrective lenses." The pilot reported on his most recent medical certificate application; that he had accumulated 2,500 total flight hours. No pilot or airplane logbooks could be located.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2341N
Model/Series:	140	**Aircraft Category:**	Airplane
Year of Manufacture:	1947	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	12587
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	Unknown	**Certified Max Gross Wt.:**	1450 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	C91 installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-290D2
Registered Owner:	On file	**Rated Power:**	135 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The two-seat, high-wing, fixed gear airplane, serial number (S/N) 12587, was manufactured in 1947. It was powered by a Lycoming O-290D2 engine, serial number 6108-21, rated at 135 horse power. The airplane was also equipped with a McCauley fixed pitch propeller, model M74DM, serial number 30761.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KBCE,7590 ft msl	**Distance from Accident Site:**	40 Nautical Miles
Observation Time:	15:35 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.37 inches Hg	**Temperature/Dew Point:**	2°C / -11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Escalante, UT (1L7)	**Type of Flight Plan Filed:**	None
Destination:	Escalante, UT (1L7)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

A review of recorded data from the Bryce Canyon airport (weather reporting facility that is about 40 miles west of the accident site) revealed that the weather conditions at 1553 mountain standard time, were: winds calm, clear, visibility 10 statute miles, temperature 1 degree Celsius, dew point -7 degrees Celsius, and a barometric setting of 30.47 inches of mercury.

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	37.828334,-111.411109(est)

Examination of the accident site revealed broken power poles and tangled high power lines about 30 feet east of Utah highway SR-12. The power lines were about 100 feet in height. The first identified point of contact (FIPC) was one of the top power wires, of a group of 5 power lines. Two grounding wires smaller in diameter were on top and three wires carrying about 69,000 volts were about 8 feet lower. There was a small discoloration on the top (west side) wire.

The main wreckage was located about 200 feet down a slope off the east side of the highway. The right wing was detached and located on the highway near the FIPC. The wreckage debris path originated near the area of the wire strike and extended to where the main wreckage was located. The wreckage debris was located within 300 feet from the point of impact. The fuselage, left wing and engine were located down the hill. The wreckage came to rest inverted on a heading of about 310 degrees magnetic. The measured elevation for the accident site was about 6,217 feet, mean sea level.

The right wing was separated from the fuselage at the wing root area. The wing exhibited a large impact compression in the middle portion of the leading edge of the wing, which crushed most of the wing. Rub marks nearly perpendicular to the wing and arcing were observed. Two arcing holes, with black color around them, were observed on the wing skin bottom.

The fuselage came to rest inverted and the left wing remained attached. The left wing exhibited leading edge and wing tip damage.

The left and right stabilizers, rudder, and vertical stabilizer were separated from the fuselage but still attached by their respective flight control cables. The elevator trim tab cable was severed.

Flight control continuity with the attached control cables was established to the cockpit controls.

The engine remained partially attached to the fuselage and several mounts were found fractured. All engine accessories remained attached to the engine via their respective mounts with the exception of the carburetor, which was separated.

A postaccident examination of the airframe and engine revealed no evidence of mechanical anomaly or failures that would have precluded normal operation.

Medical and Pathological Information

The Utah county coroner conducted an autopsy on the pilot on January 20, 2013. The medical examiner determined that the cause of death was blunt force injuries.

The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on the pilot. According to CAMI's report, carbon monoxide, cyanide, volatiles, and drugs were tested, and had negative results.

Tests and Research

A Lowrance Airmap 1000, portable navigation device, was located at the accident site and sent to the National Transportation Safety Board Vehicle Recorder Laboratory for examination. No data relating to the accident flight was found on this device.

Additional Information

An examination of the recovered airframe and engine was conducted on February 6, 2013, at the facilities of Air Transport in Phoenix, Arizona. No evidence of preimpact mechanical malfunction was noted during the examination of the recovered airframe and engine. Reference the examination report filed in the public docket, for additional details.

Administrative Information

Investigator In Charge (IIC):	Nixon, Albert
Additional Participating Persons:	Kent Gibbons; FAA ; Salt Lake City, UT Richardo Arsensio; Cessna; Wichita, KS
Original Publish Date:	March 24, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=86051