



Aviation Investigation Final Report

Location:	Truth or Consequences, New Mexico	Accident Number:	CEN15FA325
Date & Time:	July 24, 2015, 01:22 Local	Registration:	N32401
Aircraft:	Piper PA-28-151	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The fixed-base operator spoke to the student pilot about 1600 the day before the accident, left the airfield about 1700, and returned the following morning at 0700. When he arrived at the airport, he noticed that the accident airplane was gone. The airplane wreckage with the noninstrument-rated student pilot and passenger on board was found several days later in very sparsely populated area with large, unlit areas; a watch found at the accident site was stopped at 0122, which is likely when the accident occurred. The initial impact point was consistent with the airplane impacting terrain in a near-vertical attitude while the pilot was likely either maneuvering toward or attempting to approach the airport. A postaccident examination of the airplane did not reveal any preimpact anomalies.

Meteorological and astrological conditions on the night of the accident included a clear sky with no moon illumination, which would have required the pilot to use celestial and cultural lights and the airfield's pilot-controlled lighting for orientation. However, it could not be determined if the pilot activated the runway lighting. The student did not have any endorsements for solo night flights, and his night flight experience could not be determined. The pilot's improper decision to conduct a flight in challenging dark night conditions likely led to his subsequent loss of airplane control and collision with terrain.

Although toxicological testing detected ethanol in the pilot's specimens, it was determined that the ethanol likely resulted from sources other than ingestion.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The student pilot's improper decision to conduct a flight in dark night conditions without a solo

night flight endorsement and his subsequent loss of airplane control.

Findings

Personnel issues	Decision making/judgment - Student/instructed pilot
Personnel issues	Aircraft control - Pilot
Aircraft	(general) - Not attained/maintained
Environmental issues	Dark - Effect on operation
Personnel issues	Qualification/certification - Pilot
Personnel issues	Recent instruct/training recvd - Pilot

Factual Information

History of Flight

Approach	Loss of control in flight (Defining event)
----------	--

On July 24, 2015, at 0122 mountain daylight time, a Piper PA-28-151 airplane, N32401, impacted terrain near Truth or Consequences, New Mexico. The student pilot and passenger were both fatally injured. The airplane was substantially damaged. 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. Visual meteorological conditions prevailed for the flight which operated without a flight plan. The flight originated from the Truth or Consequences Municipal Airport (TCS), Truth or Consequences, New Mexico, at an undetermined time.

The fixed base operator manager spoke with the accident pilot on the afternoon of July 23 and he observed the pilot drive away from the airport about 1600. Around 1700, the manager left the airfield and returned the following morning at 0700. When he arrived at the airport, he noticed that the accident airplane was gone. On July 29, the airplane's wreckage was spotted by a New Mexico Department of Game and Fish observation airplane. The wreckage was located about one mile northwest of the approach end of runway 13 at TCS.

Pilot Information

Certificate:	Student	Age:	46, 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 2 Without waivers/limitations	Last FAA Medical Exam:	July 19, 2012
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	65 hours (Total, all aircraft)		

The pilot, age 46, held a combined student pilot certificate and second class pilot's certificate issued on July 9, 2012, with the following limitation: the medical certificate expired for all classes on July 31, 2014. The pilot had previously been issued combined student pilot and airman medical certificates in 1991, 1993, 1997, 2001, and 2004. His 2012 medical certificate had three instructor endorsements for solo flight privileges, the most recent of which was dated May 4, 2014.

The pilot's log book was found in the wreckage. The last entry in the pilot's log book was dated April 16, 2014, however no flight time was entered for that flight. As of that date, the pilot had documented 65.1 hours total time. The last recorded instructional flight was a 2 hour flight on March 9, 2014. In addition,

there were no endorsements for solo night flights. The amount of night flying performed by the pilot is not known and his experience in that area could not be determined. In addition, as a student pilot, he was not authorized to perform a flight with passengers.

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N32401
Model/Series:	PA-28-151	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-7515147
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2326 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	O-320-E3D
Registered Owner:		Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

The airplane was a low-wing, single engine, four seat, Piper PA-28-151, serial number 28-7515147, and was manufactured in 1974. It was powered by a Lycoming O-320-E3D engine, serial number L-44691-27-A, which drove a metal fixed-pitch, two-bladed Sensenich propeller.

According to FAA records the pilot purchased the airplane in March 2012.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	KTCS, 4858 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	01:53 Local	Direction from Accident Site:	122°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 18 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	25°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Truth or Consequences, NM (TCS)	Type of Flight Plan Filed:	None
Destination:	Truth or Consequences, NM (TCS)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

At 1353, an automated weather reporting facility located at TCS reported a wind from 310° at 11 knots gusting to 18 knots, visibility 10 miles, a clear sky, temperature 77°F, dew point 54° F, and a barometric pressure of 30.12 inches of mercury.

The moon rose at 1307 on July 23 and set at 0039 on July 24. At the time of the accident, the moon disc illumination would not have been present and only celestial and cultural lighting would be available for navigation.

Airport Information

Airport:	TRUTH OR CONSEQUENCES MUNI TCS	Runway Surface Type:	Asphalt
Airport Elevation:	4861 ft msl	Runway Surface Condition:	Dry
Runway Used:	13	IFR Approach:	None
Runway Length/Width:	7202 ft / 75 ft	VFR Approach/Landing:	Unknown

The Truth or Consequences Municipal Airport was located about 6 miles north of the city of Truth or Consequences in a sparsely inhabited area. It has four runways: runway 13/31 which is a 7,202 ft long by 75 ft wide asphalt runway. Runway 11/29 is a 6,981 ft long by 190 ft wide gravel runway. Runway 1/19 is a 3,302 ft long by 130 ft wide gravel runway which contains "large rocks." Runway 15/33 is a 3,001 ft long by 140 ft wide gravel runway which has "scattered brush." Runway 7/25 is a 2,933 ft long by 130 ft wide gravel runway with brush on the runway and "scattered rough areas." Weather reports can be obtained by the collocated Automated Surface Observing System. The airport is non-towered and pilots use a common traffic advisory frequency, which also allows a pilot to activate medium intensity runway lighting on runway 13/31. It is unknown if the pilot activated the pilot controlled lighting.

The airport manager reported a previous incidence where the pilot reported not being able to turn on the pilot controlled lighting. That pilot told the airport manager that he proceeded towards the airport by referencing a light at a nearby waste yard and the airport's rotating beacon until he could find the runway. The airport manager tested the lighting on the field and reported no anomalies. That pilot reportedly had discovered that the installed airplane radio was not functional. The pilot then had purchased a hand-held aviation radio. No further incidents were reported to the airport manager. Testing of the airport lighting on July 30 found no anomalies.

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:	33.250556,-107.293609

The wreckage was located in flat desert terrain with sparse vegetation. The initial impact point consisted of a crater with a diameter of about 3 ft with two faint outlines in the nearby soil consistent with the leading edge of the wings. The airplane's nose gear was broken from the nose gear strut and was imbedded in the soil on the outside of the crater. Impact signatures were consistent with a vertical impact along a 070° magnetic heading. Three feet northeast of the impact crate was the propeller which had impact separated from the engine's propeller flange. The airplane's wreckage came to rest about 70 feet northeast of the initial impact site aligned with a general heading of 105°. It consisted of the engine, fuselage, both wings, and empennage. The engine was folded beneath the fuselage with the cockpit area resting on top. The empennage was folded towards the cabin just forward of the vertical fin. The leading edges of both wings displayed rearward accordion-style crushing. Flight control continuity was established from the ailerons, rudder, and elevator surfaces to a distorted area just beneath the cabin floor. Flap position appeared to be in the retracted (zero flap) position. The ignition switch was found in the both position. The left main fuel gauge read 10 gallons. The tachometer read about 2,800 RPM. The Hobbs meter read 5,666.4 hours. The airplane's 121.5 MHz emergency locator transmitter (ELT) remained secured in its housing and was found in an activated condition. It was attached to the airplane's antenna, but no ELT beacon was received by the airplane that spotted the wreckage or at the airport's radio frequency. The wire connecting the ELT to the antenna did not appear to be kinked and the location of the wire's break could not be found. Both forward occupants' restraints were latched. A 24-hour analog watch belonging to one of the occupants was found stopped at 0122 hours.

The engine was removed from the airplane and examined. The top spark plugs were removed and displayed normal wear signatures. Engine continuity and thumb compression was confirmed to all cylinders. Both magnetos were impact damaged and could not be tested. The propeller blades displayed signatures of polishing, chordwise, and diagonal scratches. One blade had S-bending along its entire span. The other blade was missing several inches of the blade tip and was curled about ¼ span from the tip. No anomalies were detected with the airframe and engine which would have preclude normal operation.

Medical and Pathological Information

An autopsy was conducted on the pilot by the State of New Mexico, Office of the Medical Investigator. The cause of death was from multiple injuries and the manner of death was ruled an accident.

The FAA's Civil Aerospace Medical Institute, Oklahoma City, Oklahoma, performed toxicological tests on specimens that were collected during the autopsy. The specimens were marked as putrefied. The tests were negative for tested drugs and was positive for the following substances:

5 (mg/dL, mg/hg) Acetone detected in Brain
3 (mg/dL, mg/hg) Acetone detected in Muscle
145 (mg/dL, mg/hg) Ethanol detected in Muscle
54 (mg/dL, mg/hg) Ethanol detected in Brain
N-Propanol detected in Muscle

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Ken Hand; FAA; Albuquerque, NM
Original Publish Date:	February 29, 2016
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=91659

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).