



National Transportation Safety Board Aviation Accident Final Report

Location:	Gatlinburg, TN	Accident Number:	ERA17FA073
Date & Time:	12/26/2016, 1602 EST	Registration:	N1839X
Aircraft:	CESSNA 182	Aircraft Damage:	Destroyed
Defining Event:	Controlled flight into terr/obj (CFIT)	Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The non-instrument-rated private pilot elected to conduct the cross-country flight over mountainous terrain without obtaining a weather briefing or filing a flight plan. As he approached his destination, the pilot requested a descent from his cruising altitude of 9,500 ft mean sea level (msl), which was approved by air traffic control. The controller instructed the pilot to maintain visual flight rules flight throughout his descent. Instead, the pilot descended the airplane into a cloud layer between 7,000 ft msl to 5,000 ft msl despite his instructions from air traffic control. Radar data and satellite weather imagery depicted the airplane in a steady-state descent inside a solid cloud layer which tracked north, directly toward the destination airport. The radar track ended at 5,400 ft. msl abeam a mountain peak at 6,500 feet elevation. The accident site was located at 5,400 ft in steep, mountainous terrain about 15 miles south of the destination airport at the same position as the last radar target.

Examination of the wreckage revealed no pre-impact mechanical anomalies and signatures consistent with controlled flight into terrain.

The pilot had a history of disregard for established rules and regulations. The pilot's medical certificate was expired, and his airplane was about 2 months overdue for an annual inspection. He was counseled numerous times by an experienced flight instructor about his unsafe practice of operating the airplane in instrument meteorological conditions without an instrument rating, but he continued to do so over a period of 2 years and again on the accident flight. His contempt for rules and regulations was consistent with an anti-authority attitude, which is hazardous to safe operation of aircraft.

The pilot had used the potentially-impairing stimulant phentermine at some time before the flight, but the samples available for testing were inadequate to quantify impairment. Therefore, it could not be determined if the pilot's use of phentermine contributed to this accident.

Probable Cause and Findings

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

The non-instrument-rated pilot's intentional visual flight rules flight into instrument meteorological conditions, which resulted in controlled flight into terrain. Contributing to the accident was the pilot's established anti-authority attitude.

Findings

Aircraft	Altitude - Not attained/maintained (Cause)
Personnel issues	Decision making/judgment - Pilot (Cause)
	Qualification/certification - Pilot (Cause)
	Total instrument experience - Pilot (Cause)
	Personality - Pilot (Factor)
	Self confidence - Pilot (Factor)
	Use of medication/drugs - Pilot
Environmental issues	Low visibility - Effect on operation (Cause)
	Low visibility - Decision related to condition (Cause)

Factual Information

History of Flight

Enroute-descent	Controlled flight into terr/obj (CFIT) (Defining event)
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On December 26, 2016, about 1602 eastern standard time, a Cessna 182H, N1839X, collided with mountainous terrain during descent for landing to Gatlinburg Pigeon Forge Airport (GKT), Sevierville, Tennessee. The private pilot and two passengers were fatally injured; the airplane was destroyed. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91. Instrument meteorological conditions prevailed, and no flight plan was filed for the personal cross-country flight. The airplane departed Keystone Airpark (42J), Keystone Heights, Florida, about 1300.

Information from the Federal Aviation Administration (FAA) revealed that the airplane was receiving visual flight rules (VFR) flight-following services and was at 9,500 ft mean sea level (msl) when the pilot requested a descent into GKT. At 1554, the controller approved the descent, issued an altimeter setting, and directed the pilot to "maintain VFR." Radar data depicted a descent on a ground track of about 340° directly toward GKT at a groundspeed between 130 and 150 knots.

At 1558, about 20 miles from GKT, the airplane descended below the minimum vectoring altitude of 8,000 ft msl. The airplane continued its descent on the same ground track and about the same speed. At 1602, the radar target was at 5,400 ft msl abeam the peak of Mt. LeConte, elevation 6,500 ft, when the radar track ended.

At that time, the controller issued the airplane a radio frequency change to the GKT frequency and terminated radar services. No reply was received from the airplane, and no further attempts to contact the airplane were made.

Local law enforcement was notified of the overdue airplane by concerned family members. A search was initiated, and the wreckage was located later that evening by helicopter at 5,400 ft in steep, mountainous terrain at the same position as the last radar target.

Pilot Information

Certificate:	Private	Age:	41, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Without Waivers/Limitations	Last FAA Medical Exam:	12/03/2013
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	272 hours (Total, all aircraft), 219 hours (Total, this make and model)		

The pilot held a private pilot certificate with a rating for airplane single-engine land. He was issued a third-class medical certificate on December 3, 2013, and he reported 12 total hours of flight experience on that date. That certificate expired on the pilot's 40th birthday in September 2015. A search of FAA records revealed that the pilot had not applied for a medical certificate in any class after December 3, 2013.

The pilot was issued his private pilot certificate on April 1, 2014 at 45.3 total hours of flight experience. His pilot logbook was not recovered. On April 27, 2016, the pilot reported to his insurance carrier that he had accrued 272 total hours of flight experience, 219 hours of which were in the accident airplane.

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N1839X
Model/Series:	182 H	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	18255939
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	10/03/2015, Annual	Certified Max Gross Wt.:	2348 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2595 Hours as of last inspection	Engine Manufacturer:	CONT MOTOR
ELT:		Engine Model/Series:	O-470 SERIES
Registered Owner:	On file	Rated Power:	230 hp
Operator:	On file	Operating Certificate(s) Held:	None

The four-seat, single-engine, high-wing, fixed-gear airplane was manufactured in 1965 and equipped with a Continental O-470-R-series, 230-horsepower, reciprocating engine. According to the airplane's maintenance records, the most recent annual inspection was completed on October 3, 2015, at 2,595 total aircraft hours.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	GKT, 1013 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	1615 EST	Direction from Accident Site:	344°
Lowest Cloud Condition:	Few / 4600 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	30.3 inches Hg	Temperature/Dew Point:	18° C / 13° C
Precipitation and Obscuration:	No Precipitation		
Departure Point:	KEYSTONE HEIGHTS, FL (42J)	Type of Flight Plan Filed:	None
Destination:	Gatlinburg, TN (GKT)	Type of Clearance:	VFR Flight Following
Departure Time:	1300 EST	Type of Airspace:	Class E

At 1615, the weather reported at GKT, located 15 miles north of the accident site, included few clouds at 4,600 ft and calm wind. The temperature was 18°C; the dew point was 13°C; and the altimeter setting was 30.30 inches of mercury.

Airmen's Meteorological Information (AIRMET) Sierra for mountain obscuration was in effect along the airplane's flight route. Satellite imagery showed instrument flight rules (IFR) conditions with cloud tops between 6,000 and 7,000 ft msl in the area surrounding the accident site. Conditions north of the ridgeline that the airplane struck and at the destination airport were VFR.

At 1545, about the time the airplane passed overhead, the weather reported at Macon County Airport (2,034 feet elevation), Franklin, North Carolina, about 25 miles south of the accident site included scattered clouds at 700 ft, a broken ceiling at 1,200 ft, and an overcast cloud layer at 2,400 ft. The visibility was 4 statute miles in fog.

A pilot who transitioned through the area of the accident site around the time of the accident captured images and weather information near the site. He said that during the climb, his airplane entered a flat, stratus cloud layer at 5,000 ft and that the cloud tops were at 7,000 ft msl. According to this pilot, the cloud layer remained consistent throughout the en route and descent portions of his flight.

A search of official weather briefing sources, such as Lockheed Martin Flight Service and the Direct User Access Terminal Service, revealed that no official weather briefing was received by the pilot from those sources. A search of ForeFlight weather information revealed that the pilot did not request a weather briefing, nor did he file a flight plan using ForeFlight mobile. However, at 1449, the pilot did enter route information from 42J to GKT in ForeFlight, but he

did not view any weather imagery. It could not be determined if the pilot viewed weather observations or terminal area forecast information en route as Foreflight did not archive that information.

Airport Information

Airport:	GATLINBURG-PIGEON FORGE (GKT)	Runway Surface Type:	N/A
Airport Elevation:	1013 ft	Runway Surface Condition:	Dry
Runway Used:	N/A	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	35.651944, -83.458333 (est)

The wreckage was examined at the accident site by an FAA inspector. There was an odor of fuel, and all major components were accounted for at the scene. Because of the hazardous conditions at the site, a brief photo-documentation of the wreckage was performed before it was recovered by helicopter for further examination. During the subsequent examination, it was determined that two landing gear and a propeller blade were not recovered from the accident site.

The airframe was segmented by both impact and cutting performed by the aircraft recovery technicians. Control continuity was established from the cockpit area, through several breaks and cuts, to the flight control surfaces. All breaks were consistent with overload failure or mechanical cutting during recovery.

The leading edges of both wings were uniformly crushed. Examination of the instrument panel revealed that the instruments were destroyed by impact, and no useful data was recovered. The mixture, throttle, and propeller controls were all found in the full-forward positions. The fuel selector valve was in the "Right" tank position.

The propeller, propeller governor, engine case, No. 6 cylinder, and the crankshaft forward of the No. 4 main bearing were separated by impact forces. The engine could not be rotated by hand due to impact damage. The oil sump was also separated, which allowed for visual

inspection of the power section. Visual inspection and borescope examination revealed normal wear and lubrication signatures. The engine accessories were also separated from the engine due to impact. The magnetos could not be tested due to impact damage. Disassembly revealed normal wear and no pre-impact mechanical anomalies.

Aids To Navigation

GKT was depicted on the Atlanta VFR Sectional Chart at 1,014 ft msl. The Maximum Elevation Figure (MEF) for the quadrant that contained both GKT and Mt. LeConte was 7,000 ft msl. Instrument approach procedure charts for GKT depicted the minimum sector altitude as 7,900 ft msl, which provided a minimum clearance of 1,000 ft above all obstacles within a 25nm radius of GKT.

These charts were available to ForeFlight subscribers.

Medical And Pathological Information

The Regional Forensic Center, Knox County, Tennessee, performed the autopsy on the pilot. The cause of death was listed as multiple blunt force injuries.

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing for the pilot. Phentermine was detected in the liver at 0.167 ug/ml, in the spleen at 0.125 ug/ml, and in the kidney at 0.116 ug/ml.

Phentermine is a prescription stimulant/appetite suppressant medication marked under various names including Adipex. It is a central nervous system stimulant, and side effects include overstimulation, restlessness, and dizziness. It carries the warning, "phentermine may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly." The pilot had not disclosed use of this medication to the FAA. There is no known relationship between tissue levels and impairment for this drug.

Additional Information

The owner/operator of the flight school at 42J where the pilot received his primary flight instruction was interviewed. According to the flight school owner, who was a flight instructor, the pilot "pushed his training as hard as he could and cut corners wherever he could." According to school records, the pilot scored a 73 on his FAA private pilot written exam. The pilot purchased the airplane as soon as he passed his practical exam.

The pilot later built a hangar on his property and kept the airplane there, but he continued to fly in and out of 42J. The flight school owner said that he watched the pilot depart 42J with his family on multiple occasions in weather that was "below VFR minimums." He said that he counseled the pilot numerous times about operating the airplane VFR in instrument conditions. Most recently, he counseled the pilot 2 weeks before the accident.

The flight school owner stated, "I've been flying for more than 40 years, and I tried to explain to him the history of pilots with an anti-authority attitude. It's an attitude that catches up with you. He was a low-time, flat-land pilot with no mountain experience. There was an AIRMET for mountain obscuration that day... there was plenty of information out there."

When asked why he thought the pilot departed on the accident flight with those conditions along his route of flight, the instructor said, "I counseled him numerous times about taking instrument training and getting an instrument rating. Lots of us around here did. He couldn't be bothered. He would just draw... [the flight route] on his iPad and go."

Administrative Information

Investigator In Charge (IIC):	Brian C Rayner	Report Date:	04/17/2018
Additional Participating Persons:	Aaron deVogel; FAA/FSDO; Nashville, TN Chris Lang; CMI; Mobile, AL Andrew Hall; Textron; Wichita, KS		
Publish Date:	11/30/2018		
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=94531		

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](#).