Aviation Investigation Final Report

Location:	St. Simons Island, Georgia	**Accident Number:**	ERA19FA179
Date & Time:	May 25, 2019, 09:23 Local	**Registration:**	N6123T
Aircraft:	Cessna TR182	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The cross-country flight proceeded uneventfully in good weather conditions until the airplane was about 5 miles from the destination airport. The airplane had descended gradually from an en route altitude of 4,000 to 1,700 ft mean sea level (msl) over a period of about 4 minutes. However, between 1,700 ft and the second-to-last radar target at 1,300 ft msl, and between that radar target and the final target at 900 ft msl, the airplane descended 400 ft in about 4 seconds between the targets. The airplane subsequently impacted terrain in a wooded area. The tree scars and the lack of a debris path at the accident site were consistent with a near-vertical descent. Examination of the wreckage revealed no preimpact mechanical malfunctions that would have precluded normal operation.

The 80-year-old pilot had high blood pressure and high cholesterol, which would not be considered impairing. Some plaques were found on the pilot's thoracic aorta during his autopsy, but, due to the pilot's extensive injuries, his heart was not available for examination to determine if he had any coronary artery disease. Thus, the investigation of this accident could not determine if the pilot's medical conditions contributed to the accident. Ethanol was detected in the pilot's muscle tissue. Given the lack of ethanol in the pilot's lung tissue and the presence of n-propanol in his muscle tissue, it is likely that some or all of the identified ethanol was from sources other than ingestion. Thus, the identified ethanol did not contribute to this accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's loss of airplane control during approach for undetermined reasons.

Findings

Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Approach	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On May 25, 2019, about 0923 eastern daylight time, a Cessna TR182, N6123T, was destroyed when it impacted terrain during a visual approach to McKinnon–St. Simons Island Airport (SSI), St. Simons Island, Georgia. The commercial pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations Part* 91 personal flight. Visual meteorological conditions prevailed at the time of the accident, and an instrument flight rules flight plan was filed for the cross-country flight, which originated from Savannah/Hilton Head International Airport (SAV), Savannah, Georgia, about 0859.

According to information from the Federal Aviation Administration (FAA), at 0919, the flight was cleared for the visual approach to runway 22 at SSI, and the pilot was instructed to switch the radio frequency to the SSI common traffic advisory frequency, which the pilot acknowledged. Review of recordings of the common traffic advisory frequency at SSI revealed that the pilot reported the airplane was 9 miles north of, and on a straight-in approach to, runway 22. No further communication from the pilot was received, and radar contact with the airplane was lost at 0923, when the airplane was about 5 miles northeast of SSI at an altitude of 900 ft mean sea level (msl). (That altitude is usually where radar coverage is lost in that area.)

Further review of the radar data revealed that the airplane made a gradual descent from an en route altitude of 4,000 to 1,700 ft msl. The final two radar targets, at 1,300 and 900 ft msl, each indicated that the airplane descended 400 ft in about 4 seconds (between 1,700 and 1,300 ft msl and between 1,300 and 900 ft msl). A witness subsequently observed a fire in a wooded area of a sparsely populated section of a residential development and notified law enforcement, who found the airplane wreckage about 5 miles north of SSI, near the last radar target.

Pilot Information

Certificate:	Commercial	**Age:**	80,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	**Toxicology Performed:**	Yes
Medical Certification:	BasicMed With waivers/limitations	**Last FAA Medical Exam:**	February 27, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	4671 hours (Total, all aircraft), 378 hours (Total, this make and model), 30 hours (Last 90 days, all aircraft)		

The pilot, age 80, held a commercial pilot certificate with ratings for airplane single-engine land, airplane multiengine land, and instrument airplane. He also held a flight instructor certificate with ratings for airplane single-engine land and instrument airplane. His most recent FAA second-class medical certificate, which was expired at the time of the accident, was issued on March 1, 2017, with the limitation that he have glasses available for near vision and use hearing amplification. At that time, the pilot reported a total flight experience of 4,600 hours. The pilot had a BasicMed dated February 27, 2018.

The pilot's logbook was not recovered. Review of an insurance application, dated October 24, 2016, revealed that the pilot reported a total flight experience of 4,671 hours, of which 378 hours were in the accident airplane make and model and 30 hours were flown during the previous 90 days.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N6123T
Model/Series:	TR182 No Series	**Aircraft Category:**	Airplane
Year of Manufacture:	1982	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	R18201910
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	January 17, 2019 Annual	**Certified Max Gross Wt.:**	3100 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	5363.2 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-540
Registered Owner:	On file	**Rated Power:**	235 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The four-seat, high-wing, retractable tricycle landing gear airplane was manufactured in 1982. It was powered by a Lycoming O-540, 235-horsepower engine equipped with a three-blade, constant-speed Hartzell propeller. A turbocharger was subsequently installed via a supplemental type certificate.

Review of maintenance records revealed that the airplane's most recent annual inspection was completed on January 17, 2019. At that time, the airframe had accumulated a total of 5,363.2 hours, and the engine had accumulated 79.9 hours since major overhaul.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SSI,18 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	08:53 Local	**Direction from Accident Site:**	220°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.14 inches Hg	**Temperature/Dew Point:**	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Savannah, GA (SAV)	**Type of Flight Plan Filed:**	IFR
Destination:	St. Simons Isla, GA (SSI)	**Type of Clearance:**	IFR
Departure Time:	08:59 Local	**Type of Airspace:**	

The recorded weather at SSI at 0853 was wind from 260° at 10 knots, visibility 10 miles, clear sky, temperature 27°C, dew point 17°C, and altimeter 30.15 inches of mercury.

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:**	31.2325,-81.354721

The airplane came to rest nose down in a crater that was about 3 ft deep, and the airplane was oriented along a magnetic heading of 210°. Most of the airplane was consumed by postcrash fire. Two tree strikes were observed immediately above the wreckage. No debris path was observed.

The engine and forward fuselage remained in the crater. The landing gear was partially extended;, but the preimpact position of the landing gear could not be confirmed. The left wing was folded inverted near the crater. The left flap remained attached and was partially melted. The left aileron had partially separated and melted. The right wing sustained more fire and impact damage than the left wing. The right flap separated and sustained impact and thermal damage. The right aileron separated and sustained impact and thermal damage. Measurement of the flap actuator corresponded to a flaps retracted position. The left elevator separated, and the right elevator melted near the elevator trim jackscrew. Measurement

of the jackscrew corresponded to a 20° tab up (nose-down) elevator trim position, but the actuator had separated from the airframe, and the elevator trim cable exhibited a broom straw separation. The rudder separated and was fragmented. Flight control continuity was confirmed from the elevator and rudder bellcranks to the cabin area. Continuity was confirmed from the left aileron to the left wing root, and control cables from the right wing were identified but had been partially consumed by fire.

The engine was recovered from the crater and separated from the airframe for examination. The propeller had separated from the engine and was also recovered from the crater. One propeller blade exhibited s-bending and leading-edge gouges, another propeller blade exhibited tip curling and bending, and the remaining propeller blade sustained a tip separation. The valve covers and top spark plugs were removed from the engine; the spark plug electrodes were intact and gray in color. The rear engine accessories were also removed. The single-drive dual magneto sustained impact damage and could not be tested. The engine-driven fuel pump and propeller governor also sustained impact damage and could not be tested. The fuel strainer screen was recovered, and no debris in the screen was observed. The carburetor sustained impact damage; its float was removed, which revealed that it had also sustained impact damage. The front section of the engine had sustained impact damage, and the crankshaft could not be manually rotated via an accessory gear drive; borescope examination of all six cylinders did not reveal any preimpact mechanical malfunctions.

Medical and Pathological Information

The Division of Forensic Sciences, Georgia Bureau of Investigation, Savannah, Georgia, performed an autopsy on the pilot. His cause of death was multiple blunt force trauma. The autopsy examination was limited by the pilot's extensive injuries, and the brain and heart were not available for examination. Atherosclerotic plaques were noted in the thoracic aorta.

Toxicology testing performed at FAA Forensic Sciences Laboratory identified ethanol and n-propanol in the pilot's muscle tissue; no ethanol was detected in the pilot's lung tissue. Diltiazem was detected in the pilot's lung and muscle tissues. Ethanol is a social drug commonly consumed by drinking beer, wine, or liquor. It acts as a central nervous system depressant and impairs judgment, psychomotor functioning, and vigilance. After absorption, ethanol quickly and uniformly distributes throughout the body's tissues and fluids. Ethanol can also be produced postmortem. Diltiazem is a nonsedating high blood pressure medication.

According to the FAA medical case review, on his application for BasicMed, the pilot listed the following medications: diltiazem, losartan, and furosemide, which are high blood pressure medications; rosuvastatin, a cholesterol-reducing medication; vitamin B9-folic acid; and aspirin.. At his most recent medical certificate examination (March 1, 2017), the pilot reported the same medications as those listed on his BasicMed application.

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Juli O'Gorman; FAA/FSDO; Atlanta, GA Jennifer Barclay; Textron Aviation; Wichita, KS James Childers; Lycoming Engines; Williamsport, PA
Original Publish Date:	April 20, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99478