



National Transportation Safety Board Aviation Accident Preliminary Report

Location:	Guthrie Center, IA	Accident Number:	WPR19FA022
Date & Time:	11/09/2018, 1715 CST	Registration:	N91770
Aircraft:	Piper PA28	Injuries:	4 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

On November 9, 2018, about 1715 central standard time, a Piper PA28-236, N91770, collided with terrain about 2 miles south of Guthrie County Regional Airport (GCT), Guthrie Center, Iowa. The private pilot, student pilot, and two passengers sustained fatal injuries, and the airplane was destroyed. The airplane was registered to C&D Farms II LLC., and operated by the pilots under the provisions of Title 14 *Code of Federal Regulations* (CFR) Part 91 as a personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed. The cross-country flight departed Le Mars Municipal Airport (LRJ), Le Mars, Iowa, at 1618 with a planned destination of Osceola Municipal Airport (I75), Osceola, Iowa.

The purpose of the flight was for the private pilot to fly the other 3 persons to Osceola for a hunting trip. The private pilot then planned to fly the airplane back to LRJ on his own that night.

The student pilot co-owned the airplane with another person (not the accident pilot) and had purchased it in July 2018. According to the other co-owner, the airplane had accumulated about 150 hours of total flight time during the period between purchase and the accident, and the student pilot had flown the airplane solo on multiple occasions. The private pilot's flight logbook indicated he had also accumulated about 8.3 hours flight time in the airplane during that period.

According to preliminary data provided by the Federal Aviation Administration (FAA), an air traffic controller at the Des Moines International Airport (DSM) departure radar position observed a radar target squawking on the 7700 emergency transponder beacon code, about 40 miles west of DSM. Controllers were then able to establish contact with the pilot of an airplane using a call sign of "Dakota 770" on the GCT common traffic advisory frequency. That pilot reported that he was a student, and that he was diverting to Perry Municipal Airport (PRO) because the pilot who was flying the airplane was having a "heart attack." No other communication from that airplane was received directly by the DSM controllers. However, the pilots of two aircraft that had just departed DSM advised the controllers that they were able to communicate with the pilot, who reported that he was now going to attempt a landing at GCT.

By 1730, about 30 minutes after the communications with the DSM controllers, the airplane had not landed at either GCT or PRO, and an Alert Notice (ALNOT) was issued.

The wreckage was located the following morning in an area composed of rolling hills and pastures, at an elevation of 1,200 ft, 6 miles southwest GCT. The main wreckage, which included the cabin, both wings and the empennage, had come to rest facing uphill on a heading of about 270° magnetic. The first identified point of impact was located about 25 ft southeast of the main wreckage, and was composed of three 18-inch-long by 8-inch-wide divots, the relative positions of which matched the main landing and nose gear. The nose gear-scissor leg was found impaled in the soil just beyond the center divot, and a few feet further the soil had cratered leaving a 15-inch-deep by 4-ft-wide hole. Two matching linear impact marks, the total length of which corresponded to the airplane's wingspan, emanated from either side of the crater. Red navigation lens fragments were present at the tip of the northwest mark, and a complete green navigation lens was located just beyond the tip of the southeast mark. Soft dirt, along with shards of composite material, sections of seat rails, the battery, and propeller covered the area between the main cabin and initial impact point.

The fuselage sustained crush damage from the nose aft to the leading edge of the vertical stabilizer. The cabin flight controls, instrument panel, and avionics were heavily fragmented and compressed. The firewall had folded underneath the instrument panel, which was obscuring the engine. The right side of the cabin walls, along with the cabin roof, had peeled back, exposing the aft seats and baggage area.

The airplane was equipped with a portable Garmin Aera 660 GPS receiver. Preliminary review of flight track data recorded by the unit indicated that after departing I75, the airplane followed an almost direct southeast track for about 40 minutes at an altitude of about 4,000 ft msl, before reaching the Guthrie Center area. At 1701, the airplane made a 90° left turn towards the general direction of GCT, followed by an anti-clockwise 3-mile-wide orbit around the GCT runway at an altitude of about 3,500 ft msl (1,300 ft agl). The airplane then proceeded to fly southwest towards the town of Guthrie Center, and after passing east of the town, it initiated a descending right turn, reaching an altitude of 1,513 ft (400 ft agl), about 2 miles to the south. It then proceeded to fly north and make a clockwise orbit around the town climbing, descending, and then climbing again until it reached 2,800 ft at 1713. The airplane then turned to a southwest track, and descended to the last recorded location. That location was at an altitude of 2,560 ft, about 2 1/2 miles northeast of the accident site.

Examination of the wreckage at the accident site revealed a 2-inch-long crack in the engines aft exhaust muffler. The inner surface of the muffler heat shroud was coated in sooty tan and grey colored deposits. Similar deposits were also present on the inner surface of the cabin heat hose that ducted air from the shroud to the cabin heat distributor box assembly.

Toxicology testing performed by the Iowa State Medical Examiner's office revealed elevated levels of carbon monoxide in the blood of all occupants.

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N91770
Model/Series:	PA28 236	Aircraft Category:	Airplane
Amateur Built:	No		
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	KADU, 1287 ft msl	Observation Time:	2315 UTC
Distance from Accident Site:	18 Nautical Miles	Temperature/Dew Point:	-7° C / -12° C
Lowest Cloud Condition:		Wind Speed/Gusts, Direction:	9 knots / 18 knots, 310°
Lowest Ceiling:	Broken / 4400 ft agl	Visibility:	10 Miles
Altimeter Setting:	30.41 inches Hg	Type of Flight Plan Filed:	None
Departure Point:	Le Mars, IA (LRJ)	Destination:	Osceola, IA (I75)

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal	Latitude, Longitude:	41.620278, -94.521944

Administrative Information

Investigator In Charge (IIC):	Elliott Simpson
Additional Participating Persons:	James Konig; Federal Aviation Administration FSDO; Des Moines, IA Kathryn Whitaker; Piper Aircraft Company; Phoenix, AZ Mike Childers; Lycoming Engines; Williamsport, PA
Note:	The NTSB traveled to the scene of this accident.