



Aviation Investigation Preliminary Report

Location:	Patterson, LA	Accident Number:	CEN24FA010
Date & Time:	October 12, 2023, 15:21 Local	Registration:	N880A
Aircraft:	Cessna 414	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Unknown		

On October 12, 2023, about 1521 central daylight time, a Cessna 414 airplane, N880A, was destroyed when it was involved in an accident near Patterson, Louisiana. The commercial pilot and the pilot-rated passenger sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 cross-country flight.

According to the passenger's family, the purpose of the flight was for the passenger to travel to Houston, Texas, for a medical appointment. The pilot, who was also the airplane owner, was a flight instructor for both single and multi-engine airplanes. The passenger held a private pilot certificate, for single engine airplanes.

A review of Automatic Dependent Surveillance–Broadcast (ADS-B) data showed that the airplane departed from the Gonzales Regional Airport (REG), Gonzales, Louisiana, at 1456. Prior to the departure at REG, that pilot added 64.57 gallons of fuel to the airplane. The airplane landed at 1511, at the Harry P. Williams Memorial Airport (PTN), Patterson, Louisiana. According to the PTN airport manager, the airplane taxied over to the fixed-base operator, the airplane remained at idle, and the passenger boarded the airplane. The passenger pulled a rolling suitcase out to the airplane. Once the passenger boarded, the pilot then got out of the airplane and walked over to the left side of the airplane where he appeared to look at the something on the airplane. The pilot then boarded then airplane and taxied to runway 24 for departure. The pilot announced on the airport common traffic advisory frequency that the airplane was departing runway 24, and no further radio transmissions were heard from the airplane. The ADS-B data did not capture the airplane taking off.

A witness, who was driving in her vehicle near an intersection just to the west of PTN, observed the airplane shortly after it departed from runway 24. She observed the airplane was "tilted to the left," it turned on its side, and then entered a nosedive. She observed the airplane impact a sugarcane field, where upon impact, an explosion occurred, and the wreckage and surrounding

area was on fire. She could not tell if the airplane's engines were emitting any abnormal noises prior to impact as she was driving at the time, nor did she observe any smoke or flames emit from the airplane prior to impacting the sugarcane field. She additionally reported, that from her position, it did not appear that the airplane was trying to turn around back to the airport.

The airplane came to rest about 0.32 miles southwest from the departure end of runway 24. The accident site was located on private property, that consisted of sugarcane, about 12 ft tall. The wreckage was destroyed from the postimpact fire. All major structural components of the airplane were located at the accident site. The wreckage was recovered from the accident site, and it was transported to a secure location for further examination.

Examination of the airframe revealed flight control continuity. The elevator trim tab appeared to be in a significant airplane nose up position. While most of the airframe fuel system was destroyed, both fuel tank selectors were found in the main fuel tank positions. The flaps and the main landing gear were found in the retracted position.

The airplane was equipped with two Continental Motors TSIO-520-NCNB reciprocating engines. Examination of the right engine revealed five fractured valve springs:

1. The #1 cylinder intake (inner spring).
2. The #1 cylinder exhaust (outer spring).
3. The #2 cylinder intake (outer spring).
4. The #4 cylinder intake (outer spring).
5. The #4 cylinder intake (inner spring).

The five fractured valve springs were shipped to the NTSB Materials Laboratory for further examination. Examination of the left engine revealed no preimpact mechanical malfunctions or failures.

The airplane was equipped with two Hartzell Propeller PHC-C3YF-2UF/F7693DFB aluminum controllable pitch propellers (known as the Scimitar Plus model). Both propellers were found separated from the engines and were buried in the mud. Both propellers exhibited signatures consistent with rotation at the time of impact, although neither propeller appeared to be feathered.

During a review of the maintenance records, a customer invoice dated July 20, 2023, was identified, and was noted to include multiple maintenance discrepancies with the airplane that were not resolved within that work order. One of the unresolved discrepancies included, "the right-hand tachometer is not indicating." The maintenance records indicated that the airframe, the engines, and the propellers had an annual inspection performed on April 1, 2023.

According to Federal Aviation Administration (FAA) records, the pilot purchased the airplane in May 2018, and it was based in southern Louisiana. According to FAA Advisory Circular 43-4B Corrosion Control for Aircraft, southern Louisiana is classified as a severe corrosion zone.

The Cessna Model 414 Owner's Manual discusses an engine failure during takeoff and states:

The most critical time for an engine failure in a multi-engine aircraft is during a two or three second period late in the takeoff run while the aircraft is accelerating to a safe engine failure speed.

The Cessna Pilot Safety and Warning Supplements discusses single engine flight information (for multi-engine airplanes) and states in part:

Each time a pilot considers a takeoff in a twin-engine airplane, knowledge is required of the Minimum Control Speed (V_{MC}) for that particular airplane. Knowledge of this speed, is essential to ensure safe operation of the airplane in the event an engine power loss occurs during the most critical phases of flight, the takeoff and initial climb.

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N880A
Model/Series:	414 Undesignated Series	Aircraft Category:	Airplane
Amateur Built:			
Operator:	On file	Operating Certificate(s) Held:	None
Operator Designator Code:	None		

Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	Condition of Light:	Day
Observation Facility, Elevation:	KPTN,9 ft msl	Observation Time:	15:11 Local
Distance from Accident Site:	1 Nautical Miles	Temperature/Dew Point:	23°C /17°C
Lowest Cloud Condition:	Scattered / 2200 ft AGL	Wind Speed/Gusts, Direction:	5 knots / , 80°
Lowest Ceiling:		Visibility:	10 miles
Altimeter Setting:	29.74 inches Hg	Type of Flight Plan Filed:	None
Departure Point:	Gonzales, LA (REG)	Destination:	Houston, TX

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	2 Fatal	Latitude, Longitude:	29.702526,-91.347746 (est)

Administrative Information

Investigator In Charge (IIC):	Hodges, Michael
Additional Participating Persons:	Michael Barrow; FAA Baton Rouge FSDO; Baton Rouge, LA Kurt Gibson; Textron Aviation; Wichita, KS Les Doud; Hartzell Propeller; Piqua, OH
Investigation Class:	Class 3
Note:	