Aviation Investigation Final Report

Location:	Marksville, Louisiana	**Accident Number:**	CEN20LA265
Date & Time:	July 1, 2020, 19:15 Local	**Registration:**	N5082N
Aircraft:	Titan TITAN TORNADO	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The student pilot departed for a local, personal flight with one passenger onboard. The student reported that the engine stopped producing power and that he tried to restart it without success. The student had no further recollection of events. A witness reported hearing the airplane having engine “trouble” and subsequently seeing it impact a cornfield, resulting in substantial damage to the fuselage and both wings.

Postaccident examination of the airplane revealed no evidence of any preaccident mechanical malfunctions or failures that would have precluded normal operation. The propeller could be rotated by hand, and the engine was not was not mechanically bound. The fuel tank was empty and 1/4 cup of fuel was drained from the sump drain valve. No fuel was found in the fuel bowl. Given the evidence, it is likely the engine experienced a total loss of power due to fuel exhaustion. It is likely that the student failed to verify sufficient fuel was onboard for the flight.

The oil dipstick was dry, and only five drops of oil were drained from the bottom drain valve. However, the airplane had been in a steep, nose-down attitude for 2 weeks, which could have resulted in oil going into a sump or hidden cavity.

Probable Cause and Findings

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

The student pilot’s failure to ensure sufficient fuel onboard, which resulted in a total loss of engine power due to fuel exhaustion, which resulted in impact with terrain.

Findings

Aircraft	Fuel - Fluid level
Personnel issues	Fuel planning - Pilot
Personnel issues	Qualification/certification - Pilot

Factual Information

History of Flight

Maneuvering	Fuel exhaustion (Defining event)
Emergency descent	Off-field or emergency landing
Landing	Collision during takeoff/land

On July 1, 2020, about 1915 central daylight time, a Titan Tornado airplane, N5082N, was substantially damaged when it was involved in an accident near Marksville, Louisiana. The student pilot and the passenger sustained serious injuries. The airplane was being operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

According to the Federal Aviation Administration (FAA), the airplane departed from a private airstrip near LeCompte, Louisiana, for a local flight with one passenger onboard. The student reported that the engine stopped producing power and that he tried to restart it unsuccessfully. The student had no further recollection of events. A witness reported hearing the airplane having engine "trouble" before it impacted a cornfield. The airplane sustained substantial damage to the fuselage and both wings.

During initial examination of the wreckage, the propeller could be rotated by hand, and the engine was not mechanically bound. The fuel tank was empty and 1/4 cup of liquid consistent with 100 low lead aviation gasoline was drained from the sump drain valve. The fuel was clear and bright. During subsequent examination, the inline fuel filter was found wet, but no fuel was found. When air was blown into the fuel filter in the direction of flow, only mist came out. No fuel was found in the fuel filter bowl, but white residue was found in it. The bottom orifice of the filter bowl, which feeds the brass pick-up tube, was 50% blocked. No anomalies were noted with the carburetor float assembly, and it operated normally. All the carburetor's mechanical linkages were operational. The carburetor air intake filter was clean and free of dirt and debris.

An engine representative reported that the pick-up tube picks up fuel downstream of the "butterfly" for startup and serves no purpose during normal operation. He reported that the pick-up tube appeared to be corroded due to water contamination and that the white and black discoloration in the float bowl was consistent with water being in the bowl. The brass pickup tube was also corroded.

The engine oil system was also examined. The oil dipstick was dry, and only five drops of oil were drained from the bottom drain valve. The FAA inspector who examined the airplane noted that it had been in a steep nose-down attitude for 2 weeks, and the oil could have gone into a sump or hidden cavity. Per the engine representative, the engine has no oil check valve. If the engine is on its side or nose down, it will vent oil from the fill tube.

Pilot Information

Certificate:	Student	**Age:**	27,Male
Airplane Rating(s):	None	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated)		

Aircraft and Owner/Operator Information

Aircraft Make:	Titan	**Registration:**	N5082N
Model/Series:	TITAN TORNADO	**Aircraft Category:**	Airplane
Year of Manufacture:	2006	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	S05J22SOHK0498
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	December 19, 2019 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:	257 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	at time of accident	**Engine Manufacturer:**	Jabiru
ELT:		**Engine Model/Series:**	2200
Registered Owner:	On file	**Rated Power:**	85
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KESF,118 ft msl	**Distance from Accident Site:**	18 Nautical Miles
Observation Time:	18:53 Local	**Direction from Accident Site:**	348°
Lowest Cloud Condition:	Clear	**Visibility**	8 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.88 inches Hg	**Temperature/Dew Point:**	33°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LECOMPTE, LA	**Type of Flight Plan Filed:**	None
Destination:	LECOMPTE, LA	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	31.1,-92.224441(est)

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	William B Hardy; Federal Aviation Administration; Baton Rouge, LA
Original Publish Date:	May 5, 2021
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=101543