Aviation Investigation Preliminary Report

Location:	Geneva, OH	**Accident Number:**	ERA24FA310
Date & Time:	July 21, 2024, 17:54 Local	**Registration:**	N751TX
Aircraft:	WILLIAMS JOHN TITAN T-51 MUSTANG	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

On July 21, 2024, about 1754 eastern daylight time, an experimental, amateur-built Titan T-51 Mustang, N751TX, was substantially damaged when it was involved in an accident near the Germack Airport (7D9), Geneva, Ohio. The commercial pilot was fatally injured. The airplane was operated by the pilot as a personal flight conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91.

According to a private pilot who witnessed the accident flight, he planned to complete a demonstration flight with the accident pilot. Prior to the flight, the accident pilot had performed maintenance on the airplane, to include work on the pitot static system and a fuel filter replacement. The private pilot reported that the accident pilot had completed a few run-ups, and ground taxi runs, which appeared normal. Following the run-ups, the pilot checked the oil and noticed it was low, and subsequently added oil.

The accident pilot then departed for a brief flight to ensure everything was functional with the airplane. The private pilot observed the accident pilot perform several maneuvers over the airport, to include aileron rolls and a few “laps” above the airport. He estimated the maneuvers were completed well above the field elevation, at least 3,000 ft mean sea level or higher.

The private pilot then observed the airplane descend to approach runway 1 to conduct a lower pass. He observed the airplane fly over the majority of runway 1, then engine power increased, and the airplane pitched up into a pull up maneuver, starting the climb near where he was standing next to the runway. When the airplane pitched up, he heard the engine go to a “super high RPM” and then the “entire prop hub shatters.” He observed several parts and pieces explode from the nose section of the airplane, and the engine noise subsequently went silent.

The private pilot observed the airplane turn left and complete a 180° turn and descend toward a road that was about a ¼ mile west of the runway, eventually turning out of his view while

flying southbound. It was his observation that the pilot was navigating toward the road to the west of the airport to complete an emergency landing.

According to a witness who was driving his vehicle northbound on the road about ¼ mile west of the airport, he heard the sound of an airplane engine that seemed to be “over spooling.” As he continued his northbound drive, and observed the accident airplane approaching the road directly toward him flying southbound. The driver pulled off the road to the west, and about the same time, he observed the airplane maneuver slightly to the east. Shortly thereafter, he observed the airplane’s left wing “clip” an elevated tree branch that was near the road. Subsequently, the airplane rolled over, and impacted terrain inverted. The witness observed that the airplane’s right landing gear was down, the left landing gear appeared to be in transit and coming down, and airplane’s wings were wobbling up and down.

The private pilot located at the airport recorded a video of the pilot’s runway fly over. The video recorded the airplane approaching runway 1 a few hundred feet above ground level. The engine sound increased during the pull up, the airplane then entered a shallow left bank, and an explosion is seen and heard originating from the forward engine cowling area. Figure 1 shows the video frame by frame during the parts separation and the red circles outline the four propellers separated from the propeller hub.

Figure 1: Frame by frame view of the parts separation (the red circles outline the four propellers).

The main wreckage came to rest inverted in a wooded area about 30 ft east of a county road. The initial impact point coincided with elevated tree branches about 250 ft north of the main wreckage. All major portions of the airframe were located in the debris path. There was no evidence of fire. Three propeller blades were located a few hundred feet north of runway 1, and one blade fell onto runway 1. Fragments of engine cowling were located on and north of runway 1.

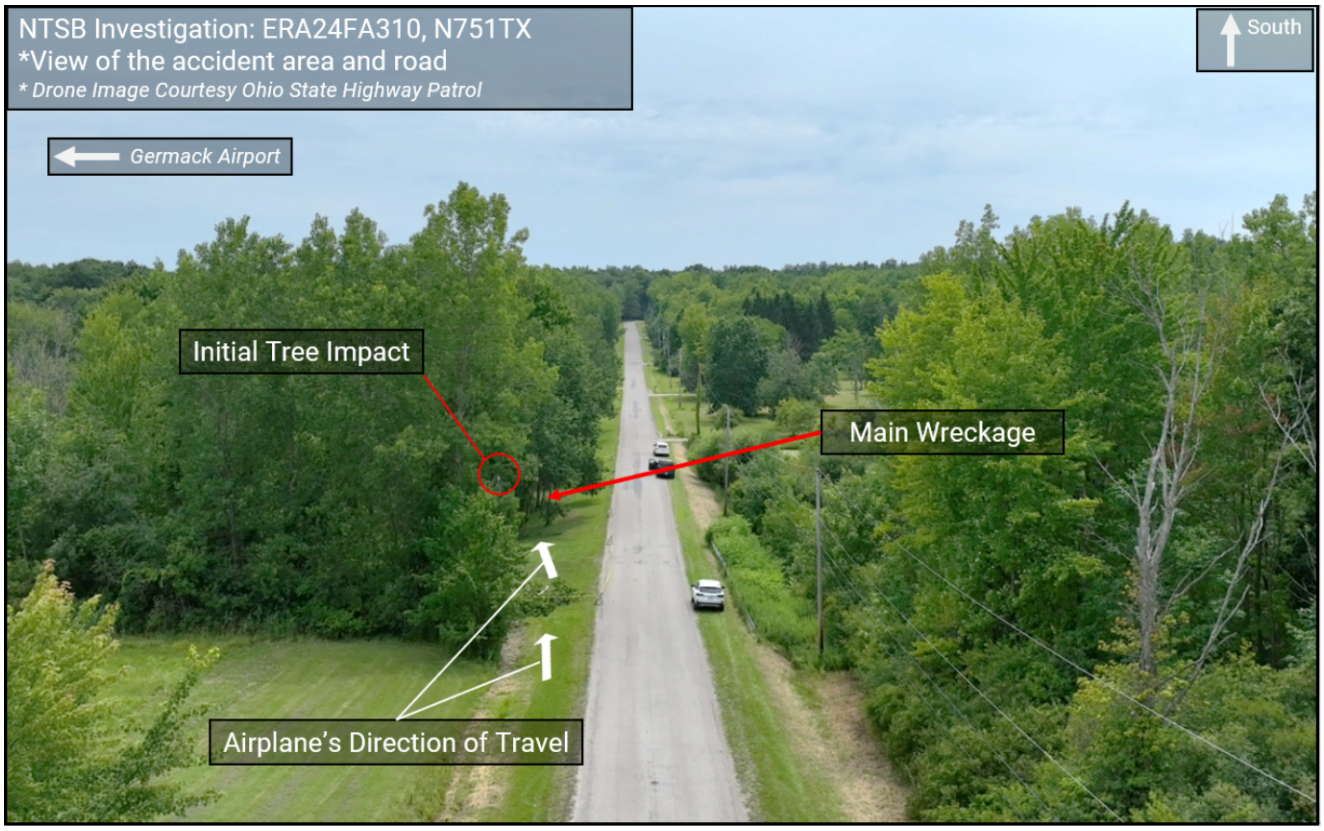

Figure 2: View of the accident site area and initial tree impact as viewed looking toward the South, which was the reported direction of the airplane's glide path.

Flight control continuity was confirmed for all control surfaces. The right landing gear was found extended and locked and the left landing gear was found partially extended. Evidence of oil spray and an oil coating was observed on the belly of the fuselage, left wing, oil cooler area, tailwheel assembly, and elevator.

The landing gear handle was down. The throttle lever was found pulled mostly aft towards idle. The propeller control was found full forward. A Dynon Avionics EFIS-D10A was recovered mostly undamaged.

The airplane was equipped with an experimental General Motors Corvette LS3, V8, 300-hp engine and a Titan Aircraft Autoflight 1.9 gearbox. The engine demonstrated internal continuity from its forward section to the aft section when the gearbox attachment area was rotated by hand. The gearbox had separated from the engine and was located about 10 ft forward of the main wreckage. Its drive gears rotated normally. The propeller hub remained attached to the gearbox and it had fractured.

The engine was equipped with a 4-blade composite propeller, manufactured by Whirl Wind Standard. All four propeller blades remained mostly intact. They displayed varying degrees of gouging and impact related tears and cuts. Two propeller blades separated at the propeller

hub and retained no portion of propeller hub structure. The two other propeller blades retained fragments of propeller hub structure at their respective bases.

According to Federal Aviation Administration (FAA) airman records, the pilot held a commercial pilot certificate with ratings for airplane single-engine land and sea. He also held a flight instructor certificate and a repairman experimental aircraft builder for the accident airplane. He was issued a 2nd class medical certificate on October 26, 2023. He reported 12,500 flight hours at the time of this medical examination, and 100 hours logged within the last six months of the examination.

The airplane was retained for further examination.

Aircraft and Owner/Operator Information

Aircraft Make:	WILLIAMS JOHN	**Registration:**	N751TX
Model/Series:	TITAN T-51 MUSTANG NO SERIES	**Aircraft Category:**	Airplane
Amateur Built:			
Operator:	On file	**Operating Certificate(s) Held:**	None
Operator Designator Code:			

Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	**Condition of Light:**	Day
Observation Facility, Elevation:	HZY,913 ft msl	**Observation Time:**	17:53 Local
Distance from Accident Site:	9 Nautical Miles	**Temperature/Dew Point:**	26°C /17°C
Lowest Cloud Condition:	Clear	**Wind Speed/Gusts, Direction:**	4 knots / None, 340°
Lowest Ceiling:	None	**Visibility:**	10 miles
Altimeter Setting:	30.08 inches Hg	**Type of Flight Plan Filed:**	NONE
Departure Point:	Geneva, OH (7DN)	**Destination:**	Geneva, OH (7DN)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	41.779134,-80.906911

Administrative Information

Investigator In Charge (IIC):	Gibson, Kurt
Additional Participating Persons:	Donald E. Reid; FAA/ FSDO; Cleveland, OH Les Dowd; Hartzell Propeller ; Piqua, OH
Investigation Class:	Class 3
Note:	