



Aviation Investigation Preliminary Report

Location:	Pulaski, TN	Accident Number:	ERA24FA058
Date & Time:	December 7, 2023, 11:03 Local	Registration:	N5891J
Aircraft:	Beech 35-C33	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

On December 7, 2023, at 1103 central standard time (CST), a Beech 35-C33, N5891J, was destroyed when it was involved in an accident near Pulaski, Tennessee. The private pilot and passenger sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The flight originated from Knoxville Downtown Island Airport (DKX), Knoxville, Tennessee, about 0948 CST and was enroute to Saline County Regional Airport (SUZ), Benton, Arkansas. Preliminary Automatic Dependent Surveillance-Broadcast (ADS-B) data revealed that after takeoff from DKX, the airplane climbed and turned to a ground track of 255°, then leveled off for about 12 minutes at 2,500 ft mean sea level (msl), before climbing to 6,400 ft msl.

The pilot was in contact with air traffic control and had requested flight following services. As the flight was about 140 nautical miles into the trip, the controller advised the pilot that she was left of course. The pilot acknowledged and responded that she was correcting.

About 1019, the airplane entered the first of a series of climbs and descents with corresponding fluctuations in its observed groundspeed. During these oscillations, which varied in magnitude, the airplane's altitude varied between about 6,400 ft and about 5,300 ft. About 1057, the airplane entered a descent that arrested about 4,300 ft at a groundspeed of 143 kts, after which it climbed to 6,050 ft and slowed to 85 kts. The airplane then began to descend rapidly before ADS-B contact was lost in the vicinity of the accident site. During the last several seconds of the flight, the airplane was on a ground track of 262° descending at a groundspeed that reached a maximum of 228 kts, and the estimated maximum descent rate was about 11,900 ft per minute.

During these altitude fluctuations, the controller twice provided instructions to the pilot to contact the Memphis Air Route Traffic Control Center; however, neither of the instructions were acknowledged by the pilot. During the final moments of the flight, a faint communication

from the pilot stating the airplane's registration and "Debonaire" followed by an emergency declaration and an unintelligible word. About 60 seconds later, a faint and largely unintelligible transmission from the passenger was transmitted. The controller's subsequent attempts to contact the pilot were unanswered, and there were no further communications from either the pilot or passenger.

The airplane impacted hilly, wooded terrain at an elevation of 971 ft, with the wreckage path oriented on a heading of about 268° magnetic. The wreckage was highly fragmented, and the debris field extended in a fan-like pattern about 300 ft long. The tops of several trees leading to the main wreckage were cut off at progressively lower heights leading up to the main impact with the ground. During the accident sequence, the fuel tanks were breached, and a post-impact fire spread in the vicinity of the wreckage to the surrounding trees and undergrowth.

A witness in the vicinity of the accident site stated that the airplane flew overhead at a high rate of speed and described that the engine was running when it impacted the ground.

All major components of the airplane were located at the accident site. The engine was partially buried in a crater that was 5 ft deep by 8 ft wide. The engine was severely damaged by impact forces, and crankshaft continuity and cylinder compression could not be confirmed due to internal impact damage.

The magneto key was broken off in the switch and set on "Both." Both magnetos separated from the engine during the accident sequence, were damaged by impact forces, and could not be functionally tested. The spark plugs were impact damaged but showed minimal wear when compared to the Champion Check-A-Plug chart and did not display any evidence of carbon or lead fouling.

The propeller blades separated from the hub during the impact sequence. One blade was buried in the impact crater, while the opposing blade was found 30 feet west of the main wreckage. The buried blade exhibited a significant bend with chordwise scraping and leading-edge gouges. The opposing blade had a slight bend, and also exhibited chordwise scraping. The propeller hub showed rotational crushing damage. There was no evidence of an inflight fire.

The flight control system components from the cockpit to all control surfaces were significantly damaged or destroyed by impact forces and the post-impact fire. Flight control continuity could not be established; however, all observed breaks of the flight control cables displayed fracture features that were indicative of tensile overload (having "broomstraw" appearances consistent with impact-related separation). The elevator trim was measured and correlated to about 5° of trim tab deflection in the nose down direction. The rudder, left horizontal stabilizer, and elevator remained attached to the empennage, and were free to move when manually manipulated.

The cockpit was destroyed by impact forces and fire, and no flight instrumentation or gauges could be identified or recovered. The airplane was equipped with a Century 2000 autopilot, and while the instrument panel faceplate was identified, no settings of the autopilot could be determined. The autopilot servos were damaged by impact and fire.

The wreckage, including two intact digital video recording devices, were retained for further examination.

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N5891J
Model/Series:	35-C33	Aircraft Category:	Airplane
Amateur Built:			
Operator:	PLANTATION RECLAIMED INC	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:	LUG,717 ft msl	Observation Time:	11:15 Local
Distance from Accident Site:	16 Nautical Miles	Temperature/Dew Point:	12°C /0°C
Lowest Cloud Condition:	Clear	Wind Speed/Gusts, Direction:	9 knots / , 190°
Lowest Ceiling:	None	Visibility:	10 miles
Altimeter Setting:	30.19 inches Hg	Type of Flight Plan Filed:	None
Departure Point:	Knoxville, TN (DKX)	Destination:	Benton, AR (SUZ)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	35.250013,-86.848071

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Jennifer Baraclay; Textron; Wichita, KS David Lewis; FAA/FSDO; Nashville, TN

Investigation Class:	Class 3
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