

Aviation Investigation Preliminary Report

Location:	Franklin, TN	Accident Number:	ERA24FA217
Date & Time:	May 15, 2024, 12:02 Local	Registration:	N47WT
Aircraft:	Beech V35	Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

On May 15, 2024, at 1202 central daylight time, a Beech V35-TC, N47WT, was substantially damaged when it was involved in an accident near Franklin, Tennessee. The private pilot and the two passengers were fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

The pilot departed from Louisiana Regional Airport (REG), Gonzales, Louisiana on an instrument flight rules (IFR) flight plan about 0850 and was enroute to Bowman Field Airport (LOU), Louisville, Kentucky to pick up an additional passenger before returning to REG. The planned flight was about 550 nautical miles.

Preliminary Automatic Dependent Surveillance-Broadcast (ADS-B) data provided by the Federal Aviation Administration (FAA) showed that about 15 minutes into the flight the pilot climbed the airplane to 9,000 ft mean sea level (msl) and leveled off. The airplane was on a track of about 027° at 9,000 ft msl, and in the vicinity of the Mississippi border, the pilot descended to 7,000 ft msl where he remained until approaching the Nashville International Airport (BNA), Nashville, Tennessee airspace. The pilot was in communication with the Memphis Air Route Traffic Control Center (ARTCC) prior to entering the BNA approach controller's airspace.

Preliminary audio communications information provided by the FAA revealed that the pilot requested a deviation from the ARTCC controller, which was passed along to the BNA approach controller prior to the communications transfer from ARTCC to BNA approach. The deviation was approved but the reason for the deviation was not mentioned by the pilot nor was an inquiry made by the controller. In addition, the pilot requested a higher altitude which was coordinated with the ARTCC controller and approved.

During the climb to 9,000 ft msl, the pilot was instructed to fly a heading of 360° and to expect "On course in about fifteen miles." The pilot was subsequently cleared direct to the EWO (New Hope, Kentucky) VORTAC, and the pilot acknowledged clearance. The airplane climbed to

9,500 ft msl, before the pilot was instructed to maintain 9,000 ft msl. The controller again asked the pilot to descend to 9,000 ft msl and provided the current altimeter setting; this was acknowledged by the pilot and was the last transmission received from the flight.

Preliminary weather data showed that while established on the 360° track, the airplane entered an area with depicted moderate to heavy precipitation (figure 1). The airplane momentarily descended to 8,900 feet, and then made a right turn to the northeast for several miles before initiating a right descending turn to a track of 213°. The groundspeed increased from 180 kts to 214 kts and the vertical speed decreased to a 4,000 fpm descent. The controller made several attempts to contact the pilot, which went unanswered and radar contact was lost shortly thereafter. ADS-B data for the final moments of the flight showed that as the airplane entered a 5,000 fpm rate of descent, the groundspeed rapidly decreased to 43 kts and the vertical speed then reached a descent rate of more than 15,000 fpm.

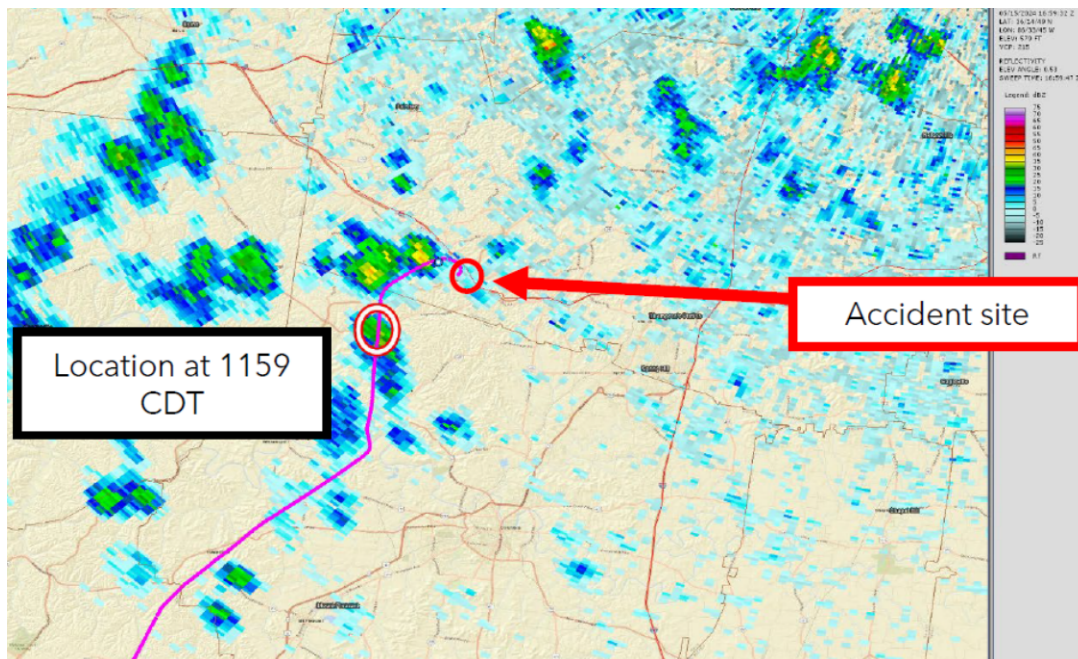


Figure 1 - Preliminary WSR-88D weather radar scan for 1159, with the airplane's flight track overlaid (magenta), along with annotations of the airplane's position at 1159 and the approximate location of the accident site.

Several witnesses described that they heard the airplane as it descended and that they heard a loud "pop." One witness recorded a video that depicted pieces of the airplane descending through the overcast layer of clouds above.

The wreckage was scattered along a fan like pattern that was oriented on a 262° magnetic heading and spread over a radius of more than ½-mile. The first pieces of wreckage recovered at the beginning of the path consisted of the separated elevator-rudders (ruddervators) that were found at an elevation of 909 ft. Both wings separated from the fuselage and were found about 2,000 ft further west, followed by the main fuselage fragments, seats, and instrument panel. The engine and propeller assembly were the final pieces discovered at the end of the

wreckage path where it impacted a lake and was submerged in 8 ft of water. About 90% of the airplane was recovered.

The left wing separated from the fuselage at the root and was largely intact. Fuel with the blue color and smell of aviation gasoline spilled out from the main fuel tank at the wing root. The left wingtip fuel tank was intact and contained no fuel. The top, forward wing mounting bolt fractured and pulled through the wing spar attach fitting. The aft two mounting bolts pulled through both wing spar attach fittings. The left wing main spar displayed signatures consistent with bending overload separation in the downward (negative) direction.

The right wing was also from the fuselage. The right wingtip fuel tank separated from the wing and was split open. The wing forward spar attach point was intact and remained connected to the center section that was separated from the fuselage. The right wing rear spar was separated at the attach point. The rear center section was separated from the fuselage. The right rear upper attach bolt was intact and retained in the intact center section bathtub fitting. The right rear upper wing fitting was fractured and pulled from the wing structure. The rear lower attach bolt was intact and retained in the rear lower wing fitting. The right wing contained a weather radar pod and hardware that was separated during the impact. The radar's cockpit display was not installed and the system's the circuit breakers were in a tripped/deactivated position.

The stabilator spars exhibited symmetrical deformation where the spars were bent aft and twisted leading edge down. The fracture surfaces had slant angles. The right stabilizer was separated and had more than half of the right ruddervator attached. The ruddervator trailing edge was separated and the skins were splayed open. Only a portion of the left inboard ruddervator was recovered. The deformation of the stabilizer spars on both sides exhibited features consistent with downward failure.

All three propeller blades remained attached to the hub and engine at the propeller flange. Two of the blades exhibited chordwise scraping and gouges on the upper camber of the blades and were missing 3 inches of their tips. The additional blade was bent forward mid span about 50°.

The top and left side of the engine was severely impact damaged with all of the cylinders exhibiting fin damage, and there was a 12-inch by 3-inch impact hole in the crown of the engine case. The alternator, starter and both magnetos were separated by impact and were not recovered. The rocker covers for cylinder nos. 2, 4, 5, and 6 were missing due to impact damage. Cylinder nos. 1, 3, 5, had impact damage to their sparkplugs, making them unable to be removed. Cylinder nos. 2, 4, 6, were successfully examined with a borescope and exhibited normal wear and operational signatures. The interiors of cylinder nos. 1, 3, 5, were unable to be examined due to mud/silt from immersion.

The pilot had purchased the airplane in December 2023. A review of his pilot log revealed that he had accumulated 366 total hours of flight experience and had accumulated 14 hours in the accident airplane make model.

According to the Beechcraft V35TC Bonanza Pilot's Operating Manual, Section V, Limitations, the never exceed (Vne) speed was 225 mph/195 kts and the maximum design maneuvering speed was 152 mph/132 kts.

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N47WT
Model/Series:	V35 TC	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:	BNA,587 ft msl	Observation Time:	11:53 Local
Distance from Accident Site:	25 Nautical Miles	Temperature/Dew Point:	23°C /16°C
Lowest Cloud Condition:	Few / 2300 ft AGL	Wind Speed/Gusts, Direction:	9 knots / None, 300°
Lowest Ceiling:	Broken / 3600 ft AGL	Visibility:	10 miles
Altimeter Setting:	29.77 inches Hg	Type of Flight Plan Filed:	IFR
Departure Point:	Gonzales, LA (REG)	Destination:	Louisville, KY (LOU)

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	2 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	35.839129,-87.072875

Administrative Information

Investigator In Charge (IIC):	Mccarter, Lawrence
Additional Participating Persons:	Angie Kachinski; FAA/FSDO; Nashville, TN J Ferrell; Continental ; Mobile, AL Ryan Roth; Textron; Wichita, KS
Investigation Class:	Class 3
Note:	