National Transportation Safety Board
Office of Aviation Safety
Washington, DC 20594

WPR21FA273

ON SITE EXAMINATION

July 16, 2021

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A. ACCIDENT

Location: Angwin, California
Date: July 16, 2021
Time: 0840 Pacific daylight time

Airplane: Beech V35, N112TW

B. ON SITE EXAMINATION

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Party Coordinator	Jennifer Barclay Textron Aviation Wichita, Kansas

C. SUMMARY

On July 16, 2021, at 0840 Pacific daylight time, a Beechcraft V35B, N112TW, was destroyed when it was involved in an accident near Angwin, California. The two pilots and one passenger were fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal cross-country flight.

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site

The accident site was in the Napa valley on a hillside in a vineyard. The general area had rolling hills and trees and was located about .5 miles south of the Angwin Airport-Parrett Field (2O3), Angwin, California.

The departure end of the runway to the first identified point of impact (FIPC) was on a heading of 140° The airplane crossed over one vineyard and crested two hills before it struck a 50 ft tree (FIPC). The FIPC was about 3,500 ft from the departure end of runway 16; when standing at the airport, the accident site was not visible, and when standing at the accident site the airport was not visible.

At the FIPC, a portion of the left aileron was embedded up in the tree. The airplane turned toward the left, impacted grapevines, where the left tip tank

separated and was about 150 ft west of the main wreckage. The airplane traveled a short distance where it came to rest up right and most of the airplane was thermally destroyed in the post-crash fire. The airplane came to rest on magnetic heading of 260° about 500 ft from the FIPC.

Airport

Investigators walked the runway looking for evidence of a propeller blade strike. The airport indicated that there had been a few propeller strikes on the runway, so a determination as to whether the accident airplane could not be conclusively made. It was noted by airport operations that the approach end of runway 16 has a dip in the runway near the approach end. The runway dimensions are 3,127 ft by 50 ft.

2.0 **Airframe Examination**

The airplane was mostly consumed in the post-crash fire, and most of the flight controls were exposed. The airplane was equipped with a throw-over style yoke. The instrument panel was destroyed by the post-crash fire Flight control continuity was established from the tail section to the cockpit. Aileron cable continuity was established from the right wing bellcrank to the wing root. The right flap actuator measured at 1.7° which equated to 0°. The elevator was measure at 0.8° which equated to 10° tab down. The left aileron cables were not observed.

The nose and left main landing gear separated from the airplane and were separate from the main wreckage. The right main landing gear remained with the wreckage and was extended. A photograph from the airport showed the landing gear extended. The emergency locator transmitter was installed but was thermally destroyed.

The fuel selector was removed from the wreckage and air was blown through each port. It was determined that the fuel selector was positioned to the right fuel tank. The fuel finger screen was removed and was free of debris.

3.0 Engine Examination

Engine Make: Teledyne Continental Motors
Engine: Model: IO-520-88(10)
Engine Serial Number: 285736-R
RPM 2,700 rpm

Airplane logbooks were not available for review, according to the engine data plate the engine was stamped as a factory rebuild.

The engine separated from airframe and came to rest in its relative normal position and was thermally damaged. Prior to rotation of the engine, the vacuum pump¸ fuel pump, rocker box covers, and top spark plugs were removed.

The engine was manually rotated via the propeller from the crankshaft; valve train continuity, rotation of the accessory gears, and thumb compression was obtained in all cylinders. Fuel manifold was disassembled and was free of debris. The fuel control inlet screen exhibited fire debris but was undamaged.

The magnetos were TCM aircraft products, Atlanta, GA, factory rebuilt magnetos. Right magneto tag: first 2 numbers were indiscernible XXRN-1225 B199309 FR X0-349350-S, 653290R. The left magneto tag: S6RN-1225 B179316FR 10-349350-4 653291R. The magnetos remained secure at their respective mounting pads on the engine. The magnetos were removed, and the ignition leads were cut. A drive tool was utilized to rotate the magnetos and spark was observed at all the ignition leads.

The fuel flow divider was disassembled and was free of debris.

The top spark plugs were removed. All the electrodes exhibited a worn-out condition according to the Aviation check-a-plug chart AV27. Nos 1, 3, 5 were intact. No 1 had fire damage at the electrode. The Nos 2, 4, 6 spark plugs were in various stages of damage.

4.0 Propeller Examination

The propeller system was a 3-bladed Hartzell propeller, serial number EE2657A-3. The propeller blades remained attached to the hub and spinner, but the blades moved freely at the hub. All three tips exhibited nicks and gouge marks, with one blade exhibiting bending at the root and gouges along the length of the leading edge and a small portion of the tip was missing. Also present was chord wise scratching. The other two blades exhibited S-bending and chordwise scratching on the face of the blade.

Submitted by:

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