

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24FA054

WRECKAGE AND IMPACT SUMMARY

December 13, 2023

A. ACCIDENT

Location: Topock, AZ
Date: December 10, 2023
Time: 1555MST
2255GMT
Airplane: 1975 Beechcraft A36

B. WRECKAGE AND IMPACT SUMMARY

Party Member	Ernest Hall Textron Aviation Wichita, Kansas
Party Member	Carey Atnip Federal Aviation Administration Las Vegas, Nevada

C. SUMMARY

Examination of the aircraft wreckage revealed that upon impact, the landing gear were retracted, flaps were retracted, and the fuel selector was in the Off position. The airplane descended into rocky desert terrain on a southwestern heading and the airplane's right wing collided with boulders that outlined Polaris Rd. Subsequently, the airplane's nose rotated to the north and came to rest on heading of 333° magnetic. The engine remained attached to the airframe by mere avionics and engine control cables. A hole in the upper left side crankcase above the No. 4 cylinder was observed. The cabin and right wing sustained thermal damage, and the left wing sustained impact damage. The empennage sustained minor damage and flight control continuity was confirmed from the cabin to each of the flight control surfaces. The airplane was recovered to a secure facility, and the engine was shipped to the manufacturer for further examination into the No. 4 piston connecting rod origin of failure.



Figure 1: North to south view of high-tension powerline wires, and a forward-to-aft view of the airplane with thermal and impact damage sustained

D. DETAILS OF THE INVESTIGATION

1.0 Aircraft Information

Year: 1975

Make/Model: Beechcraft A36

Engine: Continental IO-520-BA (10)

Serial No.: 814446-R

T.C.: E5CE

Airframe Total Time: 7,807.5 hours per last airframe logbook entry.

2.0 Accident Site

The airplane impacted rocky desert terrain while oriented on a southwesterly heading. The airplane descended underneath the high-tension powerline wires that ran generally north and south. The first identifiable point of contact was a boulder with bluish-gray paint transfer markings found underneath the powerline wires, on

the east side of the unimproved road (Figure 2). Fragments of the airplane's right wing and step contacted boulders identified by blue, white, and gray paint transfer marks. The right wing's blue/green position light lens fragments were found in the debris path underneath the powerline wires. Additional debris within the path between the initial point of impact and the main wreckage consisted of right wing skin, a right wing rib, fuel vent line, and a section of a propeller blade. The direction of travel from the initial point of impact to the main wreckage was about 212° magnetic. The distance between the initial point of contact to the main wreckage was about 132 ft.

Figure 2: First identifiable point of contact and wreckage path

The main wreckage came to rest with the nose of the airplane oriented on a heading of 333°. The engine had partially separated from the airplane and came to rest inverted. The cockpit to engine control cables for the propeller, throttle, and mixture sustained thermal damage. The propeller spinner sustained minor impact damage, while all three of the wood propeller blades separated between 9 inches to 12 inches from the hub. The instrument panel and cabin sustained impact and thermal damage.



Figure 3: Wreckage and debris path diagram

3.0 Airframe Examination

3.1 Fuselage

Sustained thermal and impact damage.

3.2 Empennage

Remained intact and unremarkable.

3.3 Wings

The right wing sustained impact and thermal damage, with the landing gear retracted within the wheel well. The left wing sustained impact damage but was largely intact, with the landing gear retracted within the wheel well. The left wing fuel cell was intact and was not breached. The right wing fuel cell was consumed by fire. Control continuity of the left and right wing aileron and flap were confirmed. The

empennage was not damaged and unremarkable. Control continuity from the cockpit to the rudder, elevator, and both trim surfaces, were confirmed.



Figure 4: View of the impact and thermal damage sustained to the right side of the N4171S



Figure 5: View of high-tension powerline wires, along with the thermal and impact damage sustained to the left side of N4171S

3.4 Landing Gear

The main landing gear remained retracted in their respective wheel wells. The left wing sustained impact damage, but the landing gear remained intact. The right main landing gear sustained thermal damage. The nose landing gear sustained impact damage and separated from the airframe.

3.5 Cockpit and Fuel System

The cockpit sustained thermal damage; however, the fuel selector was found in the Off position. The ignition switch sustained thermal damage. The boost pump sustained thermal damage, yet the fuel line elbow fitting sustained impact damage that allowed fuel from the left wing to seep into the cabin.

Fuel system continuity was observed from the left wing tank to the fuel selector, where upon movement, fuel was observed seeping from the left wing fuel cell. The right wing was thermally damaged, as were the fuel lines to the fuel selector. The fuel lines from the fuel selector to the fuel strainer were impact and thermally damaged. The mechanical flap control push/pull tube knuckles were found with the knuckles crossed position indicating a flaps Up position.



Figure 6: Fuel selector in the Off position

3.6 Survivability

The seats and belts sustained thermal damage.

3.7 Other Systems

The STC autopilot, Garmin navigation and communication avionics sustained thermal damage.

4.0 Engine Compartment

The engine compartment upper cowl was separated from the airframe and came to rest about 3 ft from the engine. The left and right, forward areas of the cowl, revealed puncture signatures emanating from the inside of the cowl, with the skin curling about the exterior of the cowl. The left side cowl sustained multiple protrusions, while the right side cowl sustained a single protrusion. The engine mounts sustained impact damage and were separated from the airframe.

5.0 Propeller Examination

See Engine Examination Summary July 31, 2024.

Submitted by:

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