



NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety

Wreckage Examination Report

January 24, 2023

A. ACCIDENT WPR23LA022

Location: Nogales, New Mexico
Date: October 20, 2022
Time: 1258 MST
Operator: Private
Aircraft: Beech V35B
Registration: N50JM

B. PARTICIPANTS

I concur that the contents within the following “Field Notes”, accurately reflects the information gathered during the examination.

NAME	SIGNATURE	DATE
Scott Johnson National Transportation Safety Board Federal Way, Washington		
Andrew Hall Textron Aviation Wichita, Kansas		
Stephen Stein National Transportation Safety Board Federal Way, Washington		

Use the listing of participants or group members below for factual reports that will go into docket.
No signatures required.

IIC or GC: Scott Johnson
 National Transportation Safety Board
 Federal Way, Washington

C. SUMMARY

On October 20, 2022, about 1258 mountain standard time, a Beechcraft V35B airplane, N50JM was substantially damaged when it was involved in an accident near Nogales, Arizona. The pilot was not injured; however, the passenger was hospitalized with serious injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported he was returning from Tarkio, Missouri (K57) on an IFR flight plan. Their last fuel stop was in Santa Teresa, New Mexico (KDNA), with a destination of Nogales, Arizona (KOLS). At 1252 Mountain standard time the pilot canceled IFR, announced his intentions on local traffic frequency and entered left downwind for runway 21 at KOLS. He turned left base, lowered the landing gear, and confirmed 3 green landing gear lights with his passenger. The aural landing gear warning system confirmed the landing gear was down.

The pilot reported that upon touchdown, it felt like they “fell to the left.” He corrected towards the runway centerline with right rudder and brake, however, was unable to correct and elected to go-around. He applied full power and raised the landing gear. The pilot reported they were unable to gain airspeed and he decided to land off airport. The airplane touched down in an open field and came to rest on its belly. The pilot reported that the airplane subsequently caught fire and that he and airport personnel assisted the injured passenger from the airplane. Soon after they exited the airplane, the onboard oxygen bottle exploded, and the airplane was destroyed.

The pilot later reported that the propeller struck the runway surface during the go-around.



Photograph 1: Accident airplane prior to examination

D. DETAILS OF THE INVESTIGATION

The airplane was recovered to Air Transport in, Phoenix, Arizona where an examination was completed on January 24, 2023.

D.1 Airframe Examination

The cockpit, fuselage, and inboard section of the right and left wings were completely consumed by postcrash fire.

The inboard left wing had separated from fuselage at the wing attach fittings and the outboard portion of the wing was separated by recovery personnel about midspan. The right wing remained attached to the fuselage. Both ailerons and flaps remained attached to the trailing edges of their respective wings. The right wing flap and aileron were damaged by postcrash fire. The left outboard underside of the left wing and wing cap exhibited scratching from ground contact.

The elevator/rudder control surfaces remained attached to the empennage, which had separated from the airplane. Both trim tabs remained attached at the trailing edges of the elevator/rudder control surfaces.



Photograph 2: Aircraft layout for exam



Photograph 3: Underside of left-wing tip that scraped asphalt

D.1.1 Flight Controls

The left and right aileron flight controls were continuous from the control surfaces through the wing roots to the cockpit pulleys. The left flap actuator extension measured 1.7 inches, consistent with a flaps retracted position.

The elevator control cables were continuous from the cockpit pulleys to a separation at the empennage that was made by recovery personnel. Elevator/rudder control was continuous from the separation to the elevator/rudder through the vertically mounted elevator bellcrank.

The rudder control cables were continuous from the rudder pedals to the empennage, where they had been cut by recovery personnel. Continuity was confirmed from the separation at the empennage to the elevator/rudder through the bellcrank.

The elevator trim tab measured 1.8 inches, consistent with a 10° tab down position.

D.1.2 Landing Gear

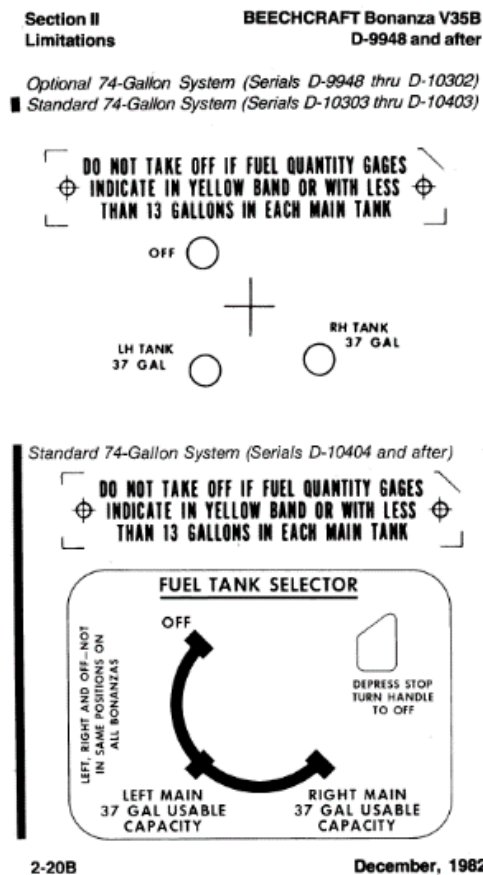
The landing gear are operated through adjustable linkage connected to an actuator assembly beneath the front seats and is driven by an electric motor. The gear are electrically retracted and extended, and in an emergency may be extended manually. The right main landing gear linkages were continuous from the landing gear actuator to the landing gear and the left main landing gear linkages were continuous from the actuator to the left main landing gear through an overload separation at the drive tube near the left wing root.

D.1.3 Brakes

Most of the brake system was consumed by post impact fire, which precluded an examination of this system.

D.1.4 Fuel System

The fuel system hoses were destroyed by postcrash fire. The fuel selector valve and handle were in the right tank position. The gascolator screen was free of debris. Both fuel caps were observed in good working condition.



Photograph 4: Optional Fuel Tank Selector POH



Photograph 5: Fire damaged fuel selector

D.2 Engine

The engine was a Continental Motors IO-520-B-RA, s/n 299377R, an air-cooled, 300 hp reciprocating engine with RAM STC SE10746SC-D installed 11-09-16. The engine was damaged by post impact fire and could not be rotated. The accessory case was intact and the accessories were all mounted to their respective pads with secured fittings. Both magnetos were attached at their respective mounting pads and were thermally damaged. All six of the top spark plugs were secured at their respective plug ports. The fuel pump accessory drive was intact and the fuel pump was rotated using a hand tool with some resistance. Each intake and exhaust tube was securely connected to its respective cylinder. Fuel manifold was securely attached at the top of the engine case with each fuel line attached. The flame tubes on the exhaust mufflers were intact. The throttle and mixture control linkages were cut by recovery personnel near the accessory case and both control arms exhibited full travel from stop to stop when actuated by hand using the linkages. The propeller governor remained attached to the engine case and the governor linkage exhibited full travel when the linkage was actuated by hand. No evidence of catastrophic engine failure was observed.

All three propeller blades remained attached to the main rotor hub, which was attached to the crankshaft through the propeller flange. The propeller spinner was undamaged. Blade A exhibited “S” bending and curling and chordwise scratches from midspan to the blade tip with heavy scratching on the camber side of the blade near the blade tip. Blade B was curled and exhibited nicks and gouges along the trailing edge of the blade, leading edge gouges near the blade tip and chordwise scratches on the cambered side of the blade and. Blade C displayed “S” bending and the blade tip was separated.



Photograph 6: Engine prior to examination