

**Beechcraft**

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1964	Make: Beechcraft	Model: S35
	Serial number: D-7516		Registration: N354M
Location: Billings, MT		Date: 09-26-21	Time: 1922 MDT
Aircraft Owner		Aircraft Operator	
Mission Aviation LLC [REDACTED]		Riley Hayes Stephens [REDACTED]	
Report Information			
Air Safety Investigator Jennifer D. Barclay		Report #: ASI-21-CR-T	Report date: 02-16-22

Airframe

Impact Sequence and Airframe Structure

Following an attempted landing, the aircraft departed the runway to the left approximately 1,078' from the approach end of Runway 08 and briefly became airborne before contacting terrain with the left wing while crossing an open field. Ground scars indicated all three landing gear then contacted terrain before the aircraft became airborne again. Then a tail strike was visible before the aircraft impacted trees in a wings-level, nose-high flight attitude. The left wing separated at the aileron-flap junction. The aircraft came to rest upright on a heading of 108°. A post-impact fire consumed the inboard left wing between the forward and aft spar, a portion of the inboard right wing from the landing gear wheel well to the root, and most of the fuselage.

Both wings sustained tree impact damage to the leading edges. The left horizontal stabilizer exhibited tree impact damage to the outboard leading edge.



Site overview, ASI-21-CR-004

Airframe Systems

Flight Control System Information		
Control lock: Undetermined		
Flight Control Cable Continuity		
Ailerons: Established	Elevators: See below	Rudder: See below
Aileron tab: Not applicable	Elevator tab: See below	Rudder tab: Not applicable
Flap and Trim Positions		
Flaps:	Indicator: Undt	Handle: Undt
	Left actuator: 6.4" = ~30°	Right actuator: 5.9" = ~30°
Elevator trim:	Indicator: Unknown due to damage	
	Actuator: 0.7" ~ 10° tab Down	

Remarks:

Aileron control cable continuity was established from the left fractured bellcrank and right control surface to the cockpit. Tail control cable continuity was established from the control surface to the forward spar.

Both flaps remained attached to the wings. The left aileron was attached to the separated outboard left wing. The right aileron was impact separated from the outboard hinge but remained attached to the inboard hinge and push-pull tube. The tail surfaces remained intact.

The position of the throwover yoke could not be determined due to thermal damage.

Airframe Fuel System Condition, Controls, and Read Outs		
Fuel strainer screen: See below	Fuel strainer bowl: See below	
Main fuel tank gauge:	Left: Undt	Right: Undt
Fuel selector handle: Right	Fuel selector valve: Right	Fuel boost pump: Undetermined

Remarks:

The fuel strainer screen and bowl contained light soot deposits.



Fuel strainer screen, ASI-21-CR-065

Landing Gear System Condition and Controls			
Gear position:	Nose: Extended	Left: See below	Right: Extended
Actuator position:	Nose: See below	Left: See below	Right: See below
Landing gear selector: Undetermined		Emer gear handle: Undt	
Environmental System Controls and Read Outs			
Cabin heater: Undt	Cabin vent: Undt	Defrost Undt	
Air conditioner: N/A	Oxygen system: Undetermined	Oxygen quantity: Undt	
Icing System Information and Switches			
Certified into known icing? No		De-icing boots installed? No	
Pitot heat: Undetermined		Stall heat: Undetermined	
De-ice:	Surface: Not applicable	Propeller: Not applicable	Windshield: Not applicable
Anti-ice:	Surface: Not applicable	Propeller: Not applicable	Windshield: Not applicable
ELT Information			
Installed? Yes	Manufacturer: Narco	Model: ELT-10	Type: P/AP/AF
Serial number: 55207	Battery due date: 06-23	Armed: Yes	Activated: Undetermined

Remarks:

The left main landing gear truss was separated from the forward spar. The oleo strut assembly was fractured at the upper barrel portion. The landing gear gearbox was damaged in the post-impact fire. The aircraft was not equipped with the optional dual brake system.



Left main landing gear, ASI-21-CR-027



Landing gear gearbox, ASI-21-CR-054

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	
1	Yes	Undetermined	Undt	Burned	Undetermined	
2	Yes	Undetermined	Undt	Burned	Undetermined	
3	S/B	Undetermined	See below	Burned	Undetermined	
4	S/B	Undetermined	See below	Burned	Undetermined	

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	No	No	No	No
2	Forward facing	No	No	No	No
3	Forward facing	Undetermined	Yes	Yes	Undetermined
4	Forward facing	No	No	No	No

Remarks:

Based on the condition of seat 3, it appears the rear seat passenger was in seat 4. A dog was located in the area of seat 3.



Seat 3, ASI-21-CR-057

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: S-Tec			
Suction gage: Undetermined		Magnetic compass: Undetermined		Clock: Undetermined			
	Left side				Left side		
Airspeed:	Undt			Turn coordinator (airplane):	Undt		
Attitude (pitch):	Undt			Turn coordinator (ball):	Undt		
Attitude (roll):	Undt			Heading indicator:	Undt		
Altimeter:	Undt			Heading "bug":	Undt		
Altimeter setting:	Undt			Vertical speed indicator:	Undt		
Communication and Navigation Radios							
Radio	Control	Active frequency	Stand-by frequency	Radio	Control	Active frequency	Stand-by frequency
Com 1:	Undt	Undetermined	Undetermined	Com 2:	Undt	Undetermined	Undetermined
Nav 1:	Undt	Undetermined	Undetermined	Nav 2:	Undt	Undetermined	Undetermined
Obs 1:	Undetermined			Obs 2:	Undetermined		
Transponder:	Mode: Undetermined		Active code: Undetermined		Stand-by code: Undetermined		
Electrical Switch Positions							
Master battery: Undetermined		Master alternator: Undetermined		Avionics 1: Undetermined			
Lighting Switch Positions							
Navigation: Undetermined		Rotating Beacon: Undetermined		Landing: Undetermined			
Taxi: Undetermined		Strobe: Undetermined		Instrument: Undetermined			
Wing Ice: Undetermined							
Ignition Switch Position							
Key: Undetermined							

Remarks:

The instrument panel was destroyed by the post-impact fire.

Powerplant Description

Engine Instruments						
Hour meter: Undt		Tach RPM: Undt		Tach hours: Undt		
Manifold press: Undt		Oil press: Undt		Oil temp: Undt		
EGT: Undt		CHT: Undt		Fuel press: Undt		
Fuel flow: Undt		Ammeter: Undt		Voltmeter: Undt		
Engine Control Positions						
	Cockpit	Engine		Cockpit	Engine	
Throttle:	Undetermined	Undetermined	Cowl flaps:	Undetermined	Undetermined	
Mixture:	Undetermined	Undetermined	Carburetor heat:	Undetermined	Undetermined	
Propeller:	Undetermined	Undetermined	Primer:	Undetermined		
Engine Condition						
Engine attached to airframe: Undetermined			Propeller attached to engine: Undetermined			
Engine compression: Undetermined			Valve train continuity: Undetermined			
Vacuum pump drive shaft: Undetermined						
Engine Fuel System Condition						
Fuel pump drive shaft: Undetermined			Carburetor inlet screen: Undetermined			
Fuel distribution/valve screen: Undetermined			Fuel injectors: Undetermined			
Magnetos Condition						
Leftmagneto attached: Undetermined			Right magneto attached Undetermined			
Leftmagneto spark: Undetermined			Right magneto spark: Undetermined			
Spark Plug Condition (per Champion Check-A-Plug Card)						
	1	2	3	4	5	6
Top	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined
Bottom	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined	Undetermined

Remarks:

The engine was not examined on-site and a review had not been scheduled at the time this report was written.

Propeller

The propeller remained attached to the engine. Two blades exhibited light leading edge polishing; the other blade was bent aft at midspan beneath the wreckage.

Research & Testing

None.