



Beechcraft

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1977	Make: Beechcraft	Model: C23
	Serial number: M-1998		Registration: N18994
Location: Gonzales, TX		Date: 09-23-23	Time: 1914 CST
Aircraft Owner		Aircraft Operator	
[REDACTED]		Same as Aircraft Owner	
Report Information			
Senior Air Safety Investigator: Casey J. Love		Report #: ASI-23-CU-T	Report date: 04-01-24

Airframe

Impact Sequence and Airframe Structure

During the impact sequence the right wing was fracture separated at the wing root approximately two feet outboard of the wing attach fittings. The wing remained near the tree impact. The flap remained with the main wreckage. The right side of the cockpit and cowling sustained impact damage separating the upper cabin skin and deforming the cabin door and door post. The left wing was cut near the root by the recovery crew to facilitate transportation. The horizontal stabilator was removed for transportation.

South West Elevation

☉ 46°NE (T) ● 29°31'31"N, 97°27'28"W ±13ft ▲ 364ft



Texas Department of Emergency Management Photograph (Wreckage Overview)

Airframe Systems

Flight Control System Information		
Control lock: Not installed		
Flight Control Cable Continuity		
Ailerons: See below	Elevators: See below	Rudder: See below
Aileron tab: Not applicable	Elevator tab: See below	Rudder tab: Not applicable
Flap and Trim Positions		
Flap indicator: See Below	Flap handle: Neutral	Flap actuator: Undetermined
Elevator trim: Indicator: Takeoff range	Actuator: Undt	
Rudder trim: Indicator: Not applicable	Actuator: Udnt	

Remarks:

The pilot did not report flight control abnormalities during the forced landing; therefore, the NTSB-IIC elected to not examine the flight control system.

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

Remarks:

In the accident video provided by the pilot, the fuel quantity system read 40 gallons at the time of the accident. The right-wing fuel tank was breached during the accident sequence when the wing was impact separated. The left tank was breached along the leading edge a few inches inboard of the fuel cap location. In photographs taken by first responders, fuel can be seen in the left-wing tank. During the examination, the fuel strainer bowl was removed and found to contain slight debris and was reassembled for testing. The wing tank finger screens were free from obstructions. The fuel vent lines were examined by passing air and/or a flexible plastic cable through the lines. The right-wing fuel vent plumbing was fracture separated near the outboard rib. The vent system was determined to be free of obstructions. A fuel container with a hose attached was plumbed into each wing fuel outlet fitting at the wing root, one at a time. Fuel was then passed from each wing fitting through the fuel selector and fuel plumbing to the engine driven fuel pump and to the carburetor. The aircraft battery was connected to the airframe terminals and power was supplied to the main bus. The boost pump was satisfactorily tested for operation. There were no restrictions to fuel flow or leaks. The carburetor screen, the fuel strainer screen, and boost pump screen were all free of obstruction or contamination. The pilot reported turning the selector to OFF before exiting the aircraft. The fuel selector was removed and disassembled for examination and found to be in normal operating condition. The fuel lines from the fuel selector to the fuel strainer were all removed to inspect for obstructions. Slight debris was found in the left fuel line at the selector connection but did not obstruct flow during testing.



TAI Examination ASI-23-CU-050 (Left Fuel Line Debris)

Landing Gear System Condition and Controls			
Gear position:	Nose: Fixed	Left: Fixed	Right: Fixed
Environmental System Controls and Read Outs			
Cabin heater: Off	Cabin vent: ON	Defrost: Off	
Air conditioner: NA	Oxygen system: Not applicable	Oxygen quantity: NA	
Icing System Information and Switches			
Certified into known icing? No	De-icing boots installed? No		
Pitot heat: Off	Stall heat: Off		
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? S/B	Manufacturer: See Below	Model: Undt	Type: Undt
Serial number: Undt	Battery due date: Undt	Armed: Undetermined	Activated: Undetermined

Remarks:

The ELT was not examined. The right main gear remained attached to the fracture separated right wing. The nose and left main remained attached.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	2nd seat stop
1	Yes	3-Point	Yes	Intact	Beechcraft	Not applicable
2	No	3-Point	N/A	Intact	Beechcraft	Not applicable
3	No	2-Point	N/A	Intact	Beechcraft	Not applicable
4	No	2-Point	N/A	Intact	Beechcraft	Not applicable

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	Yes	Yes	Yes	Yes
2	Forward facing	Yes	Yes	Yes	Yes
3	Forward facing	Yes	Yes	Yes	Yes
4	Forward facing	Yes	Yes	Yes	Yes

Remarks:

None.

Instrument Panel

Navigation Instruments							
Digital primary instruments				Autopilot type: Undetermined			
Suction gage: Undetermined		Magnetic compass: Undetermined			Clock: Undetermined		
	PFD 1	PFD 2		PFD 1	PFD 2		
Airspeed:	Undt	Undt	Turn coordinator (airplane):	Undt	Undt		
Attitude (pitch):	Undt	Undt	Turn coordinator (ball):	Undt	Undt		
Attitude (roll):	Undt	Undt	Heading indicator:	Undt	Undt		
Altimeter:	Undt	Undt	Heading "bug":	Undt	Undt		
Altimeter setting:	Undt	Undt	Vertical speed indicator:	Undt	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: Off		Master alternator: Off			Avionics 1: Off		
Lighting Switch Positions							
Navigation: On		Rotating Beacon: On			Landing: On		
Taxi: On		Strobe: On			Instrument: Not applicable		
Wing Ice: Not applicable							
Ignition Switch Position							
Key: Off							

Remarks:

The original instruments had been replaced with Dynon digital displays and stand-by instruments which appeared to function normally in the accident video.

Powerplant Description

Engine Instruments					
Hour meter:	Undt	Tach RPM:	Undt	Tach hours:	Undt
Oil press:	Undt	Oil temp:	Undt	EGT:	Undt
Fuel press:	Undt	Fuel flow:	Undt	Ammeter:	Undt
Manifold press: Undt					
CHT: Undt					
Voltmeter: Undt					
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	Idle	Idle	Cowl flaps:	NA	NA
Mixture:	Rich	Rich	Carburetor heat:	On	On
Propeller:	NA	NA	Primer:	In and locked.	
Engine Condition					
Engine attached to airframe: Yes			Propeller attached to engine: Yes		
Engine compression: Yes			Valve train continuity: Yes		
Vacuum pump drive shaft: Undetermined					
Engine Fuel System Condition					
Fuel pump drive shaft: Intact			Carburetor inlet screen: Clean		
Magneto Condition					
Left magneto attached: Yes			Right magneto attached: Yes		
Left magneto spark: All leads			Right magneto spark: All leads		
Spark Plug Condition (per Champion Check-A-Plug Card)					
	1	2	3	4	
Top	Normal	Normal	Normal	Normal	
Bottom	Not examined	Not examined	Not examined	Not examined	

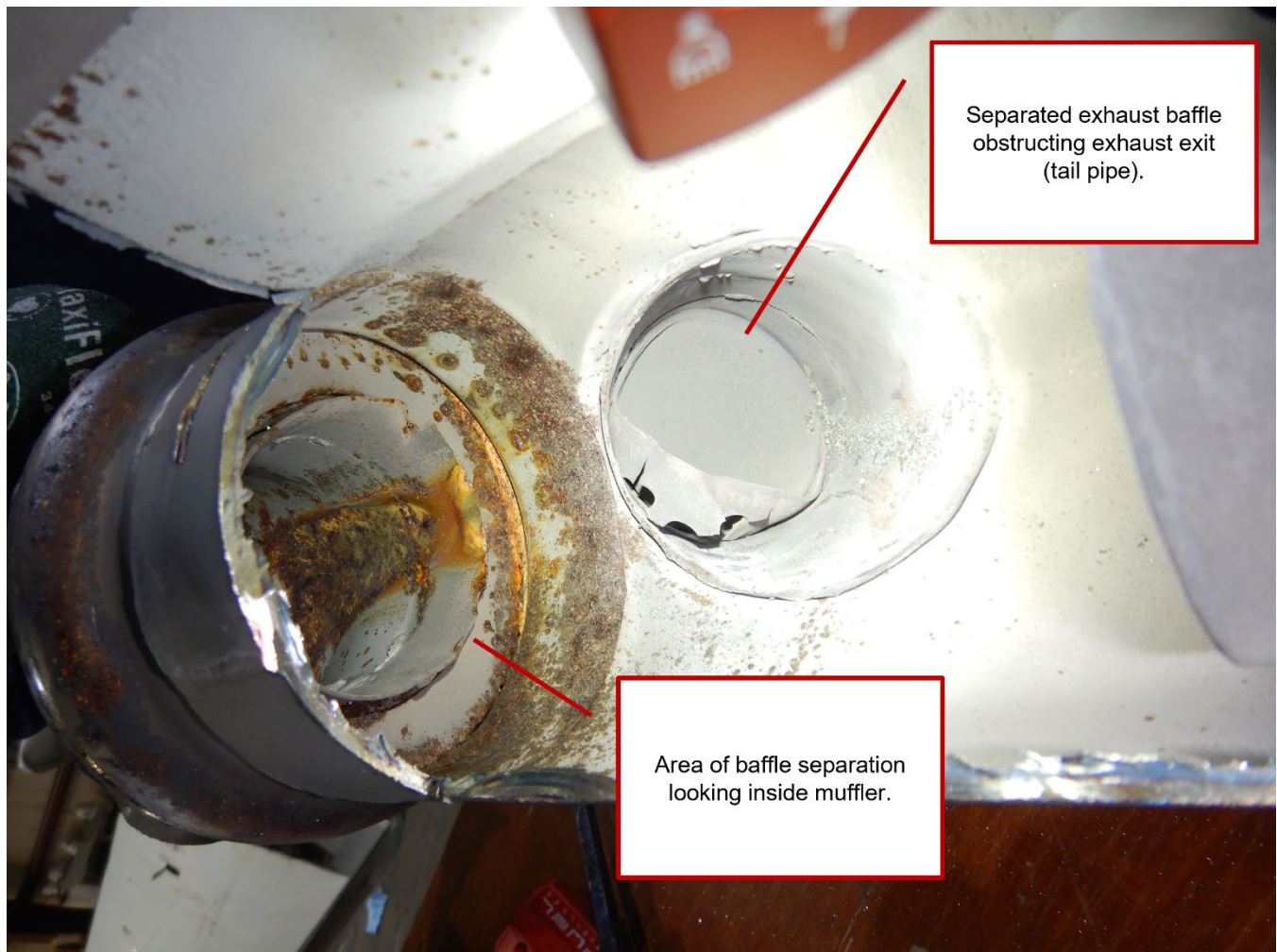
Remarks:

The left magneto had been replaced with a SureFly electronic magneto. Engine control continuity was established for throttle, mixture, and carburetor heat. The flame cone inside the muffler, adjacent to the left exhaust stack, was found lodged inside the tailpipe with the solid end portion of the cone facing upward, mostly obstructing the muffler tailpipe. The muffler was cut open for examination. The fracture surfaces of the cone were thin and rusted. The engine was examined by a Lycoming Engines investigator. He did not report any pre impact abnormalities other than the muffler that would prevent normal operation of the engine.

According to the NTSB, the muffler had been installed on the airplane for 504.84 hours. On March 21, 2000, the airplane's muffler was repaired and inspected by an exhaust system repair station. The work order for this muffler repair revealed that the muffler was to be inspected and repaired. The items replaced included: 3 tabs, the outer shell, 2 caps, 2 flame tubes, 2 elbows, 2 beaded ends, 2 end plates, and the tailpipe.



TAI Examination ASI-23-CU-059 (Exhaust Baffle Obstructing Exhaust Exit)



TAI Examination ASI-23-CU-057 (Rotated and Cropped) (Muffler Cut Open for Examination)

Propeller

The propeller remained attached to the engine. Blade A was bent aft midspan approximately 15 degrees. Red paint transfer was evident on the camber side. Blade B was unremarkable. Neither blade exhibited rotational scoring or leading-edge damage. The spinner exhibited a semi-circular impact on the blade A side.

Research & Testing

The exhaust muffler was retained by the NTSB for further examination. At the time this report was completed, further examination of the muffler was not completed.