

**Beechcraft**

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1972	Make: Cessna	Model: 172L
	Serial number: 17260276		Registration: N4376Q
Location: Silt, CO		Date: 01-31-21	Time: 1420 MST
Aircraft Owner		Aircraft Operator	
[REDACTED] Silt, CO 8165		[REDACTED] Rifle, CO 81650	
Report Information			
Chief Air Safety Investigator: Andrew L. Hall		Report #: ASI-21-AL-T	Report date: 05-07-21

Airframe

Impact Sequence and Airframe Structure

The wreckage was observed laid out on the floor of the recovery facility. The right wing and the cabin overhead were one section and the left wing was separate. Neither the wing nor top of the fuselage exhibited any indications of contacting wires. One of the communication antennas on the roof of the fuselage was recovered and no wire impact marks were observed on it. The firewall was observed separated from the forward fuselage. Both forward doorposts were observed separated from the fuselage. Both landing gear remained attached to the fuselage and the left was observed with impact damage from contact with wood. Wire impact was observed approximately 2 feet down from the top of the vertical stabilizer and separated both the top of the vertical and the top of the rudder. The wire impact also separated the lower half of the vertical stabilizer and rudder from the fuselage. According to recovery personnel the top of the vertical stabilizer and rudder were recovered near the power wires. The fuselage was observed during the review in five sections. The aft fuselage section including the horizontal stabilizer and elevators and had been cut for recovery approximately 3' forward of the stabilizer leading edge. The next section extended from the recovery cut to the aft cabin baggage compartment, impact separated. Then the aft cabin floorboard to the forward doorpost, and then a section from the doorpost to the firewall. There were no wire impact signatures on the propeller or the nose landing gear.

Airframe Systems

Flight Control System Information		
Control lock: Undetermined		
Flight Control Cable Continuity		
Ailerons: Established	Elevators: Established	Rudder: Established
Aileron tab: Not applicable	Elevator tab: Established	Rudder tab: Not applicable
Flap and Trim Positions		
Flap indicator: Unknown	Flap handle: Centered	Flap actuator: Up
Elevator trim:	Indicator: Unknown due to damage	Actuator: 1.5"
Rudder trim:	Indicator: Not applicable	Actuator: N/A

Remarks:

The ailerons and flaps were observed attached to the wings. The elevator forward bellcrank push rod, which attaches the control column to the cable bellcrank, was observed separated with impact damage. All primary flight control cables were attached to their input devices and to the control surfaces, and all flight control cables were observed with tension overload type separations. All wing and horizontal stabilizer flight control surfaces were observed attached in their respective locations. The flaps were observed in the up position. The right elevator torque tube rivets were observed sheared. Both control yokes were observed separated from the aileron/elevator input mechanism. The rudder control bellcrank at the base of the rudder was observed separated from the rudder. The bottom half of the vertical stabilizer and rudder were observed separated from the aft fuselage. The bottom half of the rudder was observed separated from the vertical stabilizer. The top two feet, approximately, of the vertical stabilizer and rudder were observed separated from both the vertical stabilizer and main rudder. The rudder balance weight was observed separated from the top of the rudder.



Airframe Fuel System Condition, Controls, and Read Outs		
Fuel strainer screen: Clean	Fuel strainer bowl: Light corrosion	
Main fuel tank gauge:	Left: Off scale low	Right: Off scale high
Fuel selector handle: Both	Fuel selector valve: See below	

Remarks:

No fuel was observed in the fuel system. The fuel selector valve was observed separated and loose in the wreckage. The control block on top of the valve was not observed and the shaft was observed broken. The valve was not in a detent position and there was damage to the forward ball detent position. When air was passed thru the engine port on the valve it was observed coming from the right tank position only. Both fuel caps were observed to be the vented type, and both were observed installed in their respective filler necks. Both left and right fuel tanks were observed with damage consistent with some fuel being present in the tank (hydraulic deformation, bulging of the fuel tank).

Landing Gear System Condition and Controls			
Gear position:	Nose: Fixed	Left: Fixed	Right: Fixed
Environmental System Controls and Read Outs			
Cabin heater: Cold	Cabin vent: Open	Defrost: Cold	
Air conditioner: N/A	Oxygen system: Not applicable	Oxygen quantity: Not applicable	
Icing System Information and Switches			
Certified into known icing? No	De-icing boots installed? No		
Pitot heat: Undetermined	Stall heat: Not applicable		
Anti-ice:	Surface: Not applicable	Propeller: Not applicable	Windshield: Not applicable
ELT Information			
Installed? Yes	Manufacturer: Narco	Model: ELT 10	Type: Undt
Serial number: 11867	Battery due date: Sept 22	Armed: Yes	Activated: Undetermined

Remarks:

According to recovery personal the ELT switch was in the "ON" position when they arrived at the site and they switched it to the "OFF" position.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	2nd seat stop
1	Yes	3-Point	Yes	Open with harness attached	Cessna	Yes
2	Yes	3-Point	Yes	Cut	Cessna	No
3	Yes	2-Point	Yes	Unlatched	Cessna	Not applicable
4	No	2-Point	No	Unlatched	Cessna	Not applicable

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	Partially	Yes	Partially	Partially
2	Forward facing	Partially	Yes	Partially	Partially
3	Forward facing	Partially	Yes	Partially	Not applicable
4	Forward facing	Partially	Yes	Partially	Not applicable

Remarks:

The front two seats were observed separated from the seat tracks

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: Undetermined			
Suction gage: Unk		Magnetic compass: Undt		Clock: 2:10			
	Left side				Left side		
Airspeed:	Unknown			Turn coordinator (airplane):	Damaged		
Attitude (pitch):	Damaged			Turn coordinator (ball):	Free to move		
Attitude (roll):	Damaged			Heading indicator:	345		
Altimeter:	6,900			Heading "bug":	N/A		
Altimeter setting:	30.42			Vertical speed indicator:	Unknown		
Communication and Navigation Radios							
Radio	Control	Active frequency	Stand-by frequency	Radio	Control	Active frequency	Stand-by frequency
Com 1:	Damaged			Com 2:	Unknown		
Nav 1:	Damaged			Nav 2:	Unkknown		
Obs 1:	045			Obs 2:	Unknown		
Transponder:	Mode: Unknown		Active code: Unknown		Stand-by code: Unknown		
Electrical Switch Positions							
Master battery: On		Master alternator: On		Avionics 1: Undetermined			
Lighting Switch Positions							
Navigation: See below		Rotating Beacon: See below		Landing: See below			
Taxi: See below		Strobe: See below		Instrument: See below			
Ignition Switch Position							
Key: See below							

Remarks:

The radios were observed with impact damage and no readings were obtained. The key switch was observed separated from the instrument panel and switch position could not be determined. The switch panel was observed with impact damage and all switches were observed in a loose condition.

Powerplant Description

Engine Instruments					
Hour meter:	0035.9	Tach RPM:	300	Tach hours:	9400.9
Manifold press:	N/A	Oil press:	0	Oil temp:	Off scale low
EGT:	Off scale low	CHT:	Unk	Fuel press:	N/A
Fuel flow:	N/A	Ammeter:	0	Voltmeter:	Unk
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	In	Damaged	Cowl flaps:	N/A	N/A
Mixture:	Out	Damaged	Carburetor heat:	Cold	Damaged
Propeller:	N/A	N/A	Primer:	Unlocked and out	
Engine Condition					
Engine attached to airframe:	No	Propeller attached to engine:	Yes		
Engine compression:	See below	Valve train continuity:	See below		
Vacuum pump drive shaft:	Intact				
Engine Fuel System Condition					
Fuel pump drive shaft:	Not applicable	Carburetor inlet screen:	Undetermined		
Magneto Condition					
Left magneto attached:	See below	Right magneto attached:	See below		
Left magneto spark:	See below	Right magneto spark:	See below		
Spark Plug Condition (per Champion Check-A-Plug Card)					
	1	2	3	4	
Top	Worn	Worn	Worn	Worn	
Bottom	Not examined	Not examined	Not examined	Not examined	

Remarks:

The engine oil sump was observed separated from the bottom of the engine. The accessory section of the engine was observed with impact damage and was separated from the engine. Both magnetos were separated from the accessory section of the engine. The camshaft gear was rotated by hand and valve train continuity was established. The right magneto was observed with minor impact damage, when it was rotated it produced spark on all leads. The left magneto was not observed in the wreckage.

Propeller

The propeller spinner was observed displaced aft into the propeller and did not exhibit significant signs of rotation. One propeller blade was observed with the paint polished off the camber face and exhibited signs of "S" bending. The other blade was observed bent towards the flat face approximately 18" outboard from the center of the hub at an approximately 70° angle and the paint had been polished from the camber face of the blade. Neither of the propeller blades leading edges exhibited signs of damage.

Research & Testing

None

