



Beechcraft

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1972	Make: Cessna	Model: 150L
	Serial number: 15073600		Registration: N17043
Location: Houston, TX		Date: 07-22-23	Time: 2225 CDT
Aircraft Owner		Aircraft Operator	
Coleman		Same as Owner	
Report Information			
Air Safety Investigator: Casey J. Love		Report #: ASI-23-BT-T	Report date: 01-04-24

Airframe

Impact Sequence and Airframe Structure

The aircraft impacted power wires with the right main landing gear and the lower fuselage skin forward of the right landing gear. The aircraft then impacted the ground, left wing low-inverted, and came to rest inverted below the wire strike locations. There were also wire striations on the left- and right-wing leading edges. The right-wing leading-edge striation was oriented vertically about 10 feet from the wing root. The left wing leading edge wire striation was oriented horizontally about 3 feet from the wing root. Evidence of electrical arcing was observed on the left-wing strut leading edge. The outboard three feet of the left-wing leading edge sustained impact crushing damage upon impact with the ground, partly separating the wing from the cabin structure. The remainder of the leading edge also sustained impact crushing damage to a lesser extent.

The engine was displaced upward but remained partly attached to the mount and by cables and wires.

The empennage remained attached. The horizontal stabilizer was unremarkable. The vertical stabilizer and rudder sustained downward crushing damage to the upper portion.



NTSB Photograph DSCN8953 (Wreckage Overview)

Airframe Systems

Flight Control System Information		
Control lock: Not installed		
Flight Control Cable Continuity		
Ailerons: Established	Elevators: See below	Rudder: Established
Aileron tab: Not applicable	Elevator tab: Established	Rudder tab: Not applicable
Flap and Trim Positions		
Flap indicator: Damage	Flap handle: Neutral	Flap actuator: Fully Retracted
Elevator trim: Indicator: Unknown due to damage	Actuator: Zero Degrees = Neutral	
Rudder trim: Indicator: Not applicable	Actuator: NA	

Remarks:

Flight control cable continuity was established for the rudder and ailerons by tracing the cables from the cockpit controls to the respective control surface. The rudder control cables were continuous from the pedals to the rudder torque tube control horns. The aileron cockpit control chains remained around the sprockets. The aileron control cable remained attached to the cockpit bellcrank and the bellcrank in each wing. The right aileron direct control cable was cut by first responders. The aileron balance control cable remained intact. The left aileron control cable remained intact. The elevator control cable was intact from the cockpit elevator bellcrank to the elevator bellcrank. The control link from the control column to the forward elevator bellcrank was fracture separated near the midpoint due to impact

damage. The forward and aft attach point of the control link was connected to the control column and bellcrank. The pilot's control wheel tube was fracture separated near the instrument panel.

Surface corrosion was observed on all flight control hardware and clevis ends.

During the examination an aluminum flashlight was found between the pilot's left rudder pedal and the brake cylinder with the bulb end pointed upward. The light did not illuminate when the on/off button was pressed. It did not obstruct movement of the pedals during the examination. The flashlight did not have signatures that indicated it had been damaged by pedal movement.



TAI Examination ASI-23-BT-030 (flashlight in rudder pedal)

Airframe Fuel System Condition, Controls, and Read Outs		
Fuel strainer screen: Debris observed	Fuel strainer bowl: Light corrosion	
Main fuel tank gauge:	Left: 1/4	Right: 1/2
Fuel selector handle: Both	Fuel selector valve: Both	

Remarks:

The fuel system was examined by disconnecting the fuel fittings at the fuel selector valve, the wing tank outlet fitting, and the fuel strainer. Air was passed through each line, by mouth, via a hose connection. No obstructions were noted. Fuel lines were reconnected to the fuel selector valve and air was passed through each port of the valve. No obstructions were observed. Each wing fuel tank finger screen was removed and examined; no obstructions were noted. Air was passed through the fuel vent plumbing with no obstructions noted. The fuel system remained intact except for a vent line in the upper right-wing root at the rubber hose connection.

Before setting the wings upright, the wing tank outlets were plugged to retain fuel for measurement. Approximately 0.6 gallons of blue fuel was drained from the right wing, the left-wing tank was empty. Both wing fuel caps were observed in place. The cap seals were pliable and soft. The cap sealing surface on the upper portion of the wing tank opening exhibited rust and corrosion. Evidence of grass blighting was observed in the vicinity of the wreckage final resting position.

The fuel strainer contained debris that was sandy or rusty in appearance similar to the residue left behind when automotive gasoline evaporates. According to preliminary airport records the aircraft was last fueled in June and had been flown periodically since. During the examination the fuel selector was removed and found to be free from obstructions.



ASI-23-BT-115 (fuel strainer screen) (powder that lined fuel system)

Landing Gear System Condition and Controls			
Gear position:	Nose: Fixed	Left: Fixed	Right: Fixed
Actuator position:	Nose: Not applicable	Left: Not applicable	Right: Not applicable
Landing gear selector: Not applicable			
Environmental System Controls and Read Outs			
Cabin heater: Undt	Cabin vent: Undt	Defrost: Undt	
Air conditioner: NA	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: Pointer	Model: 3000	Type: AF AP
Serial number: 336730	Battery due date: 11-24	Armed: Yes	Activated: Undetermined

Remarks:

The landing gear remained attached. The right main gear exhibited wire strike striations. The nose gear scissor link was fractured.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	2nd seat stop
1	Yes	2-Point	No	Intact	Non-OEM	Undetermined
2	No	2-Point	N/A	Intact	Non-OEM	Undetermined

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

Remarks:

None.

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: None			
Suction gage: NA			Magnetic compass: Undt			Clock: Undt	
	Left side				Left side		
Airspeed:	0			Turn coordinator (airplane):	Damaged		
Attitude (pitch):	Damaged			Turn coordinator (ball):	Damaged		
Attitude (roll):	Damaged			Heading indicator:	Damaged		
Altimeter:	6,200			Heading "bug":	Damaged		
Altimeter setting:	29.75			Vertical speed indicator:	-1700		
Communication and Navigation Radios							
Radio	Control	Active frequency	Stand-by frequency	Radio	Control	Active frequency	Stand-by frequency
Com 1:	Undt	Undt	Undt	Com 2:	Undt	Undt	Undt
Nav 1:	Undt	Undt	Undt	Nav 2:	Undt	Undt	Undt
Obs 1:	Undt			Obs 2:	Undt		
Transponder:	Mode: Undt		Active code: Undt		Stand-by code: Undt		
Electrical Switch Positions							
Master battery: On			Master alternator: On			Avionics 1: Not applicable	
Stand-by battery: Not applicable			Alternator 2: Not applicable			Avionics 2: Not applicable	
Lighting Switch Positions							
Navigation: On			Rotating Beacon: Undetermined			Landing: On	
Taxi: Undetermined			Strobe: Undetermined			Instrument: Undetermined	
Ignition Switch Position							
Key: See below							

Remarks:

The key was observed outside the ignition switch. The switch panel sustained impact damage. The position of lighting switches was not reliable.

Powerplant Description

Engine Instruments					
Hour meter:	698.8	Tach RPM:	0	Tach hours:	3,736.9
Oil press:	0	Oil temp:	0	EGT:	Undt
Fuel press:	NA	Fuel flow:	NA	Ammeter:	0
				Manifold press:	NA
				CHT:	NA
				Voltmeter:	NA
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	Full Forward	Undt	Cowl flaps:	NA	NA
Mixture:	Full Forward	Undt	Carburetor heat:	Closed	Undt
Propeller:	NA	NA	Primer:	Closed and Locked	
Engine Condition					
Engine attached to airframe:			Partially		
Propeller attached to engine:			Yes		
Engine compression:			Yes		
Valve train continuity:			Yes		
Vacuum pump drive shaft:			Intact		
Engine Fuel System Condition					
Fuel pump drive shaft:			Not applicable		
Carburetor inlet screen:			Clean		
Magnetos Condition					
Left magneto attached:			Yes		
Right magneto attached:			Yes		
Left magneto spark:			Undetermined		
Right magneto spark:			Some 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 engine remained attached to the mounts and displaced upward. The engine mounts were fractured in multiple locations. All engine control cables remained attached and were pulled to the forward positions in the cockpit. The oil sump sustained compression damage upon impact. The carburetor remained intact and attached. The carburetor mount on the induction system was cracked upon impact. The engine exhibited corrosion in multiple locations. The exterior of the accessory housing exhibited extensive corrosion and flaking. The carburetor, both ignition harnesses, and spark plugs appeared to be new. The #3 and #4 cylinders appeared newer than the others.

Compression and suction were verified for each cylinder by blocking the spark plug hole with a thumb and rotating the propeller. The #1 upper spark plug lead for the right magneto was impact fractured approximately .5" from the magneto harness cap. The #4 upper spark plug was impact separated from the cylinder head and the lead was severed near the plug connection. The right magneto produced spark at the #3 spark plug when the propeller was rotated. The impulse coupling could be heard activating as the propeller was rotated.

The oil screen was examined and found to have approximately 1 oz. of sludge and carbon fragments surrounding the screen. According to airworthiness records, an STC approved TAF-L spin-on oil filter adapter was installed in 1993. Per the instructions, the oil screen is to be removed from the oil system as part of the adapter installation. The spin on oil filter was cut open and examined. No visible contaminants were observed. The oil that drained from the engine, and in the filter appeared clean like oil that had been recently replaced.

The carburetor was removed and disassembled for examination and found to be clean inside. No abnormalities were observed. The fuel inlet fitting was fracture separated from the carburetor. No fuel was present inside the carburetor bowl. Inside the fuel tanks, lines, fuel strainer, and fuel selector valve were all lined with a thin layer of brown powdery substance of unknown material.

During the engine examination the #4 cylinder and magnetos were removed. Inside the accessory was corroded. The #3 & #4 intake lifter exhibited some galling. The #4 piston exhibited some light scoring. The crankshaft assembly and valve train were intact and rotated freely. There were no obvious signs of internal damage or preimpact anomalies. The exhaust muffler flame cones were fractured inside the left and right mufflers. The fracture areas were thin and rusty. The exhaust ports and tailpipe were not obstructed by the fractured flame cones.



NTSB provided photo



NTSB provided photo

Propeller

The propeller remained attached to the crankshaft. Blade A was bent aft approximately 90° just outboard of midspan. The blade exhibited polishing and leading edge scoring outboard of the bend. Blade B exhibited polishing and leading-edge scoring and was bent aft approximately 10° about 1/3rd span.



NTSB photograph of propeller



NTSB photograph of propeller

Research & Testing

During the on-scene examination a headlamp was found under the cabin portion of the wreckage. It was located near the pilots glasses and baseball cap. The headband for the lamp was also found in the same vicinity. When the lamp was initially spotted the light was on/illuminated. The NTSB-IIC placed new AAA batteries in the lamp, without changing the switch position, and the lamp was found to have been on the brightest setting. The lamp did not have a red lens or setting to prevent flash blindness.



NTSB provided photo