



Beechcraft

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1979	Make: Cessna	Model: 152
	Serial number: 15283001		Registration: N934JH
Location: Menton, UT		Date: 06-24-22	Time: 0803 PDT
Aircraft Owner		Aircraft Operator	
Utah State University [REDACTED] Logan, UT 84321-1709 country (if not USA)		Same as Owner	
Report Information			
Air Safety Investigator: Casey J. Love		Report #: ASI-22-BK-T	Report date: 12-14-22

Airframe

Impact Sequence and Airframe Structure

The aircraft impacted terrain with the wings level and nose in a near 45 degree down attitude. The cockpit was compressed upward and aft, decreasing cockpit volume. The wings remained connected to the wing attach fittings. Both lift struts remained attached to the fuselage and the wings. Both wing root skins exhibited compression damage. Neither wing leading edge exhibited signs of impact compression damage. The aluminum fuel tanks remained intact. The right wing was bent upward approximately 10 degrees outboard of the lift strut. The upper wing skins exhibited wrinkles consistent with compression. The lower wing skins in the same area exhibited wrinkles consistent with tension. The empennage remained intact. The left horizontal stabilizer was bent downward approximately 10 degrees about midspan.



ASI-22-BK-006 (Wreckage Overview)

Airframe Systems

Flight Control System Information		
Control lock: Not installed		
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: Unreliable	Flap handle: Unreliable	Flap actuator: Fully retracted
Elevator trim:	Indicator: Unknown due to damage	Actuator: 1.3" ~2° tab down
Rudder trim:	Indicator: Not applicable	Actuator: NA

Remarks:

Flight control cable continuity was established by tracing the control cables from the cockpit controls to the flight control surfaces. The rudder control cables were complete from the cockpit rudder pedals to the rudder control horn and remained connected via attachment hardware. The elevator push/pull rod remained connected to the cockpit elevator control yoke below the cockpit pedestal. The elevator push/pull rod from the control yoke to the elevator bellcrank below the cabin floorboards was connected via attachment hardware. The aileron direct control cables were cut by first responders in the aft door posts but remained attached to the aileron bellcranks in the wings. The cable chains were intact and

remained wrapped around the aileron control sprockets. The cut sections of cable were observed at the accident site. The aileron interconnect cable remained intact and attached to the aileron bellcranks in the wings.

During the examination, no indications of flight control cable or control obstructions were observed that would have prevented or restricted the normal operation of the controls.

An area of chaffing approximately 4" in length between the right elevator and the right horizontal stabilizer lower skin existed in the area of the elevator trim actuator support structure. During examination there was light contact between the stabilizer skin and the elevator skin. The contact did not impede elevator movement during examination. The elevator was pushed downward, by hand, toward the stabilizer skin which only slightly increased contact and still did not impede movement. No other preimpact contact between the empennage control surfaces was noted.

The left horizontal stabilizer was bent downward approximately 10 degrees midspan causing contact between the lower stabilizer skin and the leading edge of the lower elevator skin which impeded elevator movement. The elevator could still be moved forceable by hand to the stop position. The skin contact was alleviated during the examination with the use of tools to facilitate examination. No other contact signatures were observed.

The aft stabilizer bulkhead and lower portion of the rudder were impact damaged. The bulkhead was compressed upward and the lower plastic cover was fracture separated from the rudder.

The flap control cables remained attached to the flap bellcranks. The flap drive mechanism was observed in the fully flaps retracted position.



Wreckage Exam ASI-22-BK-029 (chaffing area of right horizontal stabilizer and elevator)

Airframe Fuel System Condition, Controls, and Read Outs		
Fuel strainer screen: Clean	Fuel strainer bowl: Clean	
Main fuel tank gauge:	Left: Empty	Right: Empty
Fuel selector handle: Undetermined	Fuel selector valve: Undetermined	

Remarks:

Fuel was observed in each tank through the filler opening. The single vented fuel caps were both in place. The gaskets were in good condition. The fuel supply lines routed through the aft door post were cut by first responders. The fuel supply lines routed through the forward door posts were cut during examination to facilitate removal of the wings and upper cabin skin. All fuel supply finger screens were observed clean. The fuel selector was not examined due to the extent of airframe compression.

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: OFF	Cabin vent: OFF	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: ACK	Model: E-04-ELT	Type: NA
Serial number: 00085	Battery due date: 11-24-25	Armed: No	Activated: Undetermined

Remarks:

The nose gear was bent aft and compressed into the belly of the fuselage. The nose gear fork was fracture separated near the gear strut. The main gear remained intact.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	2nd seat stop
1	Yes	3-Point	Yes	Cut by first responders	Cessna	Not applicable
2	Yes	3-Point	Yes	Cut by first responders	Cessna	Not applicable

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	Partially	See below	Yes	Partially
2	Forward facing	Partially	See below	Yes	Partially

Remarks:

The seat backs were cut by first responders.

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: None			
Suction gage: 4		Magnetic compass: Undt		Clock: Undt			
	Left side				Left side		
Airspeed:	0			Turn coordinator (airplane):	Inverted		
Attitude (pitch):	Damaged			Turn coordinator (ball):	Undetermined		
Attitude (roll):	Damaged			Heading indicator:	110		
Altimeter:	Damaged			Heading "bug":	Undetermined		
Altimeter setting:	30.00			Vertical speed indicator:	-1,500		
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: Not applicable		Rotating Beacon: On		Landing: Off			
Taxi: Not applicable		Strobe: Not applicable		Instrument: Undetermined			
Ignition Switch Position							
Key: Both							

Remarks:

None.

Powerplant Description

Engine Instruments					
Hour meter:	198.9	Tach RPM:	0	Tach hours:	Undt
Oil press:	0	Oil temp:	0	EGT:	Undt
Fuel press:	NA	Fuel flow:	NA	Ammeter:	Undt
				Manifold press:	NA
				CHT:	Undt
				Voltmeter:	Undt
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	1.75" of shaft	Undt	Cowl flaps:	NA	NA
Mixture:	See below	Undt	Carburetor heat:	OFF	Undt
Propeller:	NA	NA	Primer:	Locked	
Engine Condition					
Engine attached to airframe:			Yes	Propeller attached to engine:	
Engine compression:			Yes	Valve train continuity:	
Vacuum pump drive shaft:			Intact		
Engine Fuel System Condition					
Fuel pump drive shaft:			Not applicable	Carburetor inlet screen:	
Fuel distribution valve screen:			Not applicable	Fuel injectors:	
Magnetos Condition					
Left magneto attached:			Yes	Right magneto attached:	
Left magneto spark:			All leads	Right magneto spark:	
Spark Plug Condition (per Champion Check-A-Plug Card)					
	1	2	3	4	
Top	Normal	Normal	Normal	Normal	
Bottom	Undetermined	Undetermined	Undetermined	Undetermined	

Remarks:

The cockpit mixture control was bent 75 degrees to the left and the knob was partially separated. Mixture position was unreliable.

The propeller was observed in a vertical position with one blade underneath the cowling and the other upward. The 3 propeller attach bolts on the upper portion of the crankshaft flange were pulled from the crankshaft flange upon impact. The 3 lower bolts remained in place but were bent.

Propeller

Blade A was unremarkable. Blade B was observed bent beneath the cowling on scene. The back of the blade exhibited polishing from near the root to the tip, toward the leading edge. Neither blade exhibited scoring or leading-edge gouging.



Wreckage Exam ASI-22-BK-016 (propeller)

Research & Testing

None.