

**Beechcraft**

BY TEXTRON AVIATION

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1980	Make: Cessna	Model: 172N
	Serial number: 17273469		Registration: N4922G
Location: San Rafael, CA		Date: 07-08-23	Time: 2203 PDT
Aircraft Owner		Aircraft Operator	
Bishop Air LLC [REDACTED] Elk Grove, CA 95757-5512		Same as Aircraft Registered Owner	
Report Information			
Senior Air Safety Investigator: Ricardo J. Asensio		Report #: ASI-23-BP-T	Report date: 02-13-24

Airframe

Impact Sequence and Airframe Structure

The accident aircraft collided with high tension wires at ~30' AGL while approaching Runway 22 at San Rafael Airport (CA35), San Rafael, CA. All four corners of the aircraft were observed. The aircraft came to rest inverted ~161' from the initial impact on a slight down sloping wet embankment adjacent to a water way on a 58° MH and 952' from the approach end of Runway 22. The top of the fuselage was pushed aft separating both forward door posts. Both wings remained partially attached to the fuselage by cables. Arcing signatures were observed on the right-wing tip, one of the propeller blades and both wing struts. Powerline cable striation signatures were observed on both wing struts and on both sides of the empennage. An ~1" diameter cable was wrapped around the rudder and both horizontal stabilizers and elevators. The right-wing strut was severed by the powerline cable ~16" from the fuselage attachment. The left-wing strut was severed by the powerline cable ~39" from the fuselage attachment.

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: 20°	Flap handle: 20°	Flap actuator: full up
Elevator trim:	Indicator: Between neutral and full nose down	Actuator: 1.37" = 5° tap up
Rudder trim:	Indicator: Not applicable	Actuator: N/A

Remarks:

Flight control cable continuity was established from all surfaces to the cockpit controls. The flaps were observed in the up position. Flight control cables were cut for recovery.

Airframe Fuel System Condition, Controls, and Read Outs			
Fuel strainer screen: Clean		Fuel strainer bowl: Clean	
Main fuel tank gauge:	Left: Undt		Right: Undt
Fuel selector handle: Both	Fuel selector valve: Both		Fuel boost pump: Not applicable
Firewall fuel shutoff: Not applicable			

Remarks:

The fuel selector valve was in the "Both" position. All fuel selector valve positions were tested with compressed air and the valve operated as designed, no fuel was present in the lines. A small amount of blue in color fuel was found in the strainer bowl. A large amount of water was also present in the strainer bowl due to the aircraft having been submerged in water. A fuel smell was noticed when the right tank fuel cap was open.

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: Undt	
Air conditioner: N/A	Oxygen system: Not applicable	Oxygen quantity: N/A	
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 Technologies	Model: E-04 ELT	Type: AF
Serial number: 032927	Battery due date: 09-01-25	Armed: Yes	Activated: Undetermined

Remarks:

None

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 rescue personnel	Cessna	No
2	Yes	3-Point	Yes	Cut by rescue personnel	Cessna	No
3	No	2-Point	N/A	Intact	Cessna	Not applicable
4	No	2-Point	N/A	Intact	Cessna	Not applicable

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	Yes	No	Yes	Yes
2	Forward facing	Yes	Partially	Yes	Yes
3	Forward facing	Yes	Yes	Yes	Not applicable
4	Forward facing	Yes	Yes	Yes	Not applicable

Remarks:**Left Seat (Pilot):**

The left seat back was cut by rescue personnel. The seat base remained in position with all the feet in the rails. Both adjustment pins were engaged in position hole #5 from the front. No secondary stop was observed. The inboard rail was replaced with a McFarlane seat rail. The seat was marked as the copilot seat.

Right Seat (Co-Pilot):

The right seat was complete. The inboard front foot was noticed out of the rail. The inboard pin was not engaged. The outboard pin was engaged in the #3 position hole from the front. Damage to the inboard rail was noticed. No secondary stop was observed. The outboard rail was replaced with a McFarlane seat rail.

All seats' feet were examined using a McFarlane go-no-go gage with satisfactory results.

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: None			
Suction gage: 0		Magnetic compass: Undt			Clock: Undt		
	Left side				Left side		
Airspeed:	0		Turn coordinator (airplane):	Level			
Attitude (pitch):	Undt		Turn coordinator (ball):	center			
Attitude (roll):	Undt		Heading indicator:	Undt			
Altimeter:	2,850'		Heading "bug":	Undt			
Altimeter setting:	29.76 inHG		Vertical speed indicator:	+1500			
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: On	
Lighting Switch Positions							
Navigation: Undetermined			Rotating Beacon: Undetermined			Landing: Off	
Taxi: On			Strobe: Off			Instrument: Undetermined	
Ignition Switch Position							
Key: Both							

Remarks:

None

Powerplant Description

Engine Instruments					
Hour meter:	7428.1	Tach RPM:	0	Tach hours:	3337.0
Manifold press:	N/A	Oil press:	0	Oil temp:	0
EGT:	0	CHT:	0	Fuel press:	N/A
Fuel flow:	N/A	Ammeter:	0	Voltmeter:	0
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	3/4 full	Undetermined	Cowl flaps:	N/A	Undetermined
Mixture:	full	Undetermined	Carburetor heat:	Hot	Hot
Propeller:	N/A	Undetermined	Primer:	In & locked	
Engine Condition					
Engine attached to airframe:	Yes	Propeller attached to engine:	Yes		
Engine compression:	Yes	Valve train continuity:	Yes		
Vacuum pump drive shaft:	Not applicable				
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:

According to the Lycoming investigator, the engine examination did not reveal any pre-impact anomalies.

Propeller

Both propeller blades were unremarkable. No powerline cable marks were noticed. Some arcing was noticed in one of the blades.

Research & Testing

No pre-impact abnormalities on the airframe were noted during the examination. No further research or tests are scheduled.