

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1949	Make: Cessna	Model: 140A
	Serial number: 15295		Registration: N9474A
Location: Columbia, CA		Date: 02-05-20	Time: 1807 PST
Aircraft Owner		Aircraft Operator	
Robert A Clough [REDACTED] Sonora, CA 95370-2551		Same as Aircraft Owner	
Report Information			
Air Safety Investigator: Jennifer D. Barclay		Report #: ASI-20-AH-T	Report date: 08-07-20

Airframe

Impact Sequence and Airframe Structure

The left wing of the aircraft impacted a 50' pine tree approximately 0.4 NM from the approach end of Runway 35 at Columbia Airport (O22), Columbia, CA. The aircraft came to rest inverted approximately 300' from the initial impact point on a magnetic heading of 337°. The wreckage impacted between two trees causing both wings to separate at the flap-aileron intersection. The outboard section of the right wing remained suspended in a tree.



Wreckage overview, ASI-20-AH-013



Pieces of pine tree located under flight path, ASI-20-AH-078

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: Not applicable	Flap handle: 20°	Flap actuator: N/A
Elevator trim:	Indicator: Undetermined	Actuator: Undetermined

Remarks:

Control cable continuity was established from the cockpit to all flight control surfaces through sections of overload separations.

Airframe Fuel System Condition, Controls, and Read Outs			
Fuel strainer screen: Clean		Fuel strainer bowl: See below	
Main fuel tank gauge:	Left: 1/2	Right: Full	
Fuel selector handle: Both	Fuel selector valve: Undetermined		

Remarks:

The glass fuel strainer bowl shattered during the impact sequence. Both fuel tanks were breached; the caps were closed and secured. Approximately one gallon of blue aviation fuel was drained from the LEFT tank. The contents tested negative for water contamination using Sar-gel.

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: Undt	Defrost: N/A	
Air conditioner: Not applicable	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: Not applicable		Stall heat: Not applicable	
Anti-ice:	Surface: Not applicable	Propeller: Not applicable	Windshield: Not applicable
ELT Information			
Installed? Yes	Manufacturer: Pointer	Model: 3000	Type: AP/AF
Serial number: 301191	Battery due date: 10-17	Armed: No	Activated: Undetermined

Remarks:

None.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	
1	Yes	2-Point	Yes	Cut by first responders	Non-OEM	
2	Yes	2-Point	Yes	Cut by first responders	Non-OEM	

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

Remarks:

None.



Restraints, ASI-20-AH-031

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: None			
Suction gage: Undt		Magnetic compass: Loose		Clock: 10:30			
	Left side			Left side			
Airspeed:	0		Turn coordinator (airplane):	Right			
Attitude (pitch):	See below		Turn coordinator (ball):	Left			
Attitude (roll):	See below		Heading indicator:	Undt			
Altimeter:	5,660'		Heading "bug":	Undt			
Altimeter setting:	30.23		Vertical speed indicator:	800' Up			
Communication and Navigation Radios							
Radio	Control	Active frequency	Stand-by frequency	Radio	Control	Active frequency	Stand-by frequency
Com 1:	Digital	Digital	Digital	Com 2:			
Nav 1:	Digital	Digital	Digital	Nav 2:			
Obs 1:	N/A			Obs 2:	N/A		
Transponder:	Mode: Undt		Active code: Undt		Stand-by code: N/A		
Electrical Switch Positions							
Master battery: Undetermined		Generator: Undetermined		Avionics 1: Undetermined			
Lighting Switch Positions							
Navigation: Undetermined		Rotating Beacon: Undetermined		Landing: Undetermined			
Taxi: Undetermined		Strobe: Not applicable		Instrument: Undetermined			
Ignition Switch Position							
Key: Left							

Remarks:

The face of the attitude indicator was detached from the instrument during the impact sequence, it was not observed in the recovered wreckage.

Powerplant Description

Engine Instruments					
Hour meter:	Undt	Tach RPM:	0	Tach hours:	795.0
Oil press:	0	Oil temp:	100	EGT:	N/A
Fuel press:	N/A	Fuel flow:	N/A	Ammeter:	0
				Voltmeter:	
Engine Control Positions					
	Cockpit	Engine		Cockpit	Engine
Throttle:	Idle	See below	Cowl flaps:	N/A	N/A
Mixture:	Rich	Rich	Carburetor heat:	Off	Undt
Propeller:	N/A	N/A	Primer:	Closed & locked	
Engine Condition					
Engine attached to airframe:			Partially		
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:			Not applicable		
Carburetor inlet screen:			Debris observed		
Magnetos 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	Damaged	Damaged	

Remarks:

The throttle control cable to the carburetor fractured at the base of the rod end. The control at the carburetor rotated freely and its position could not be determined. The oil screen contained a small amount of metal shavings and some organic debris. A small piece of organic debris was observed in the carburetor inlet screen. The carburetor was disassembled, and no other anomalies were noted.

The engine came to rest inverted. When the top spark plugs were removed, the spark plugs from cylinders 1, 2 & 3 were oil fouled.

The induction tube at cylinder 3 was fractured during the impact sequence.



Oil screen, ASI-20-AH-143



Oil screen, ASI-20-AH-144

Propeller

The propeller separated from the engine and came to rest underneath the main wreckage. Blade A was straight and unremarkable. Blade B had chordwise and spanwise scratches and a leading edge gouge at the tip.



Propeller blade A, ASI-20-AH-099



Propeller blade B, ASI-20-AH-100

Research & Testing

None.