

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 1972	Make: Cessna	Model: 182P
	Serial number: 18261251		Registration: N20844
Location: Gilbert, AZ		Date: 09-17-16	Time: 1918 MST
Aircraft Owner		Aircraft Operator	
P & T Aerial Services, LLC. [REDACTED] Chandler, AZ 85286-6703		Same as Aircraft Owner	
Report Information			
Senior Air Safety Investigator: Henry J. Soderlund		Report #: ASI-16-DG-T	Report date: 02-24-17

Airframe

Impact Sequence and Airframe Structure

After the pilot exited the aircraft it descended nose down into a house. The nose of the aircraft impacted at the aft wall of the home (denoted by red arrow). A majority of the wings were found immediately outside of the house, in the backyard (denoted by green line).



House exam ASI-16-DG-004.jpg

Airframe Systems

Flight Control System Information		
Control lock: Undetermined		
Flight Control Cable Continuity		
Ailerons: Not established	Elevators: Not established	Rudder: Not established
Aileron tab: Not applicable	Elevator tab: Not established	Rudder tab: Not applicable
Flap and Trim Positions		
Flap indicator: Undetermined	Flap handle: Undetermined	Flap actuator: Undetermined
Elevator trim:	Indicator: Unknown due to damage	Actuator: Undetermined

Remarks:

The post-impact fire and damage preclude a confirmation of control continuity.

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

Remarks:

A majority of the fuel system was consumed by the post-impact fire. The remainder was not examined.

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: Undetermined		Cabin vent: Undetermined		Defrost: Undetermined
Air conditioner: Undetermined		Oxygen system: Undetermined		Oxygen quantity: Undetermined
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? Undt	Manufacturer: Undetermined		Model: Undetermined	
			Type: Undetermined	
Serial number: Undt		Battery due date: Undetermined		Armed: Undetermined
			Activated: Undetermined	

Remarks:

The aircraft owner had bolted a home-made pyrotechnic box to the left door step. Two firework tubes were reportedly installed in the box.

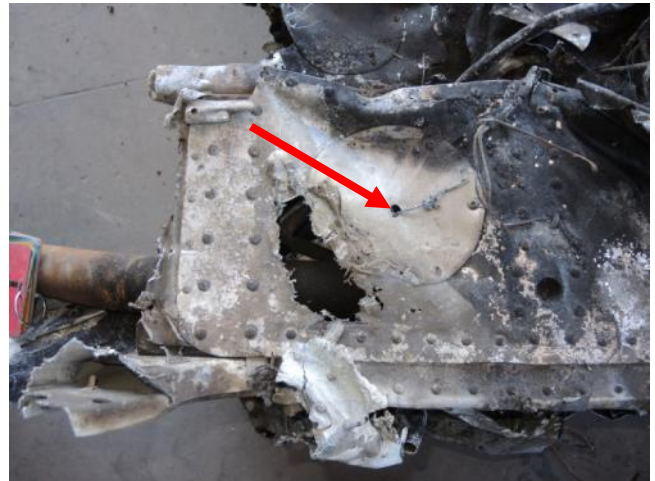


Aircraft owner supplied photograph of fireworks box installation

Wires (noted with red arrows in photographs below) ran from the pyrotechnic box along the gear leg, under the gear leg fairing, through a hole in the landing gear bulkhead, and then through a hole drilled in a cabin floor inspection plate into the cabin.



Wreckage review ASI-16-DG-001.jpg



Wreckage review ASI-16-DG-006.jpg

Pieces of the pyrotechnic box and door step were found near the drop zone.



Wreckage exam ASI-16-DG-041.jpg
Pyrotechnic box attached to door step



Wreckage exam ASI-16-DG-041.jpg
Pieces found near drop zone.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	
1	Yes	2-Point	Yes	Consumed by fire	Undetermined	

Seat Condition Information					
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact
1	Forward facing	No	No	No	No

Remarks:

Seats 2 through 4 had been removed from the aircraft according to maintenance records. The seat 1 and seat 2 lap belts remained installed. Three lap belts were mounted to the floor in place of seats 3 and 4.

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: Undetermined			
Suction gage: Undetermined		Magnetic compass: Undetermined			Clock: Undetermined		
	Left side				Left side		
Airspeed:	Undt			Turn coordinator (airplane):	Undt		
Attitude (pitch):	Undt			Turn coordinator (ball):	Undt		
Attitude (roll):	Undt			Heading indicator:	Undt		
Altimeter:	Undt			Heading "bug":	Undt		
Altimeter setting:	Undt			Vertical speed indicator:	Undt		
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: Undetermined		
Lighting Switch Positions							
Navigation: Undetermined		Rotating Beacon: Undetermined			Landing: Undetermined		
Taxi: Undetermined		Strobe: Undetermined			Instrument: Undetermined		
Ignition Switch Position							
Key: Undetermined							

Remarks:

The instruments were consumed by fire.

Powerplant Description

Engine Instruments							
Hour meter:	Undt	Tach RPM:	Undt	Tach hours:	Undt	Manifold press:	Undt
Oil press:	Undt	Oil temp:	Undt	EGT:	Undt	CHT:	Undt
Fuel press:	Undt	Fuel flow:	Undt	Ammeter:	Undt	Voltmeter:	Undt
Engine Control Positions							
	Cockpit	Engine		Cockpit	Engine		
Throttle:	Undetermined	Undetermined	Cowl flaps:	Undetermined	Undetermined		
Mixture:	Undetermined	Undetermined	Carburetor heat:	Undetermined	Undetermined		
Propeller:	Undetermined	Undetermined	Primer:	Undetermined			
Engine Condition							
Engine attached to airframe:	Undetermined	Propeller attached to engine:	No				
Engine compression:	Undetermined	Valve train continuity:	Undetermined				
Vacuum pump drive shaft:	Undetermined						
Engine Fuel System Condition							
Fuel pump drive shaft:	Undetermined	Carburetor inlet screen:	Undetermined				
Magnetos Condition							
Left magneto attached:	No	Right magneto attached:	No				
Left magneto spark:	Undetermined	Right magneto spark:	Undetermined				
Spark Plug Condition (per Champion Check-A-Plug Card)							
	1	2	3	4	5	6	
Top	Not examined	Not examined	Not examined	Not examined	Not examined	Not examined	
Bottom	Not examined	Not examined	Not examined	Not examined	Not examined	Not examined	

Remarks:

The engine was not examined. Parts of the propeller dome and engine crankcase were located in the impact crater at the accident site.

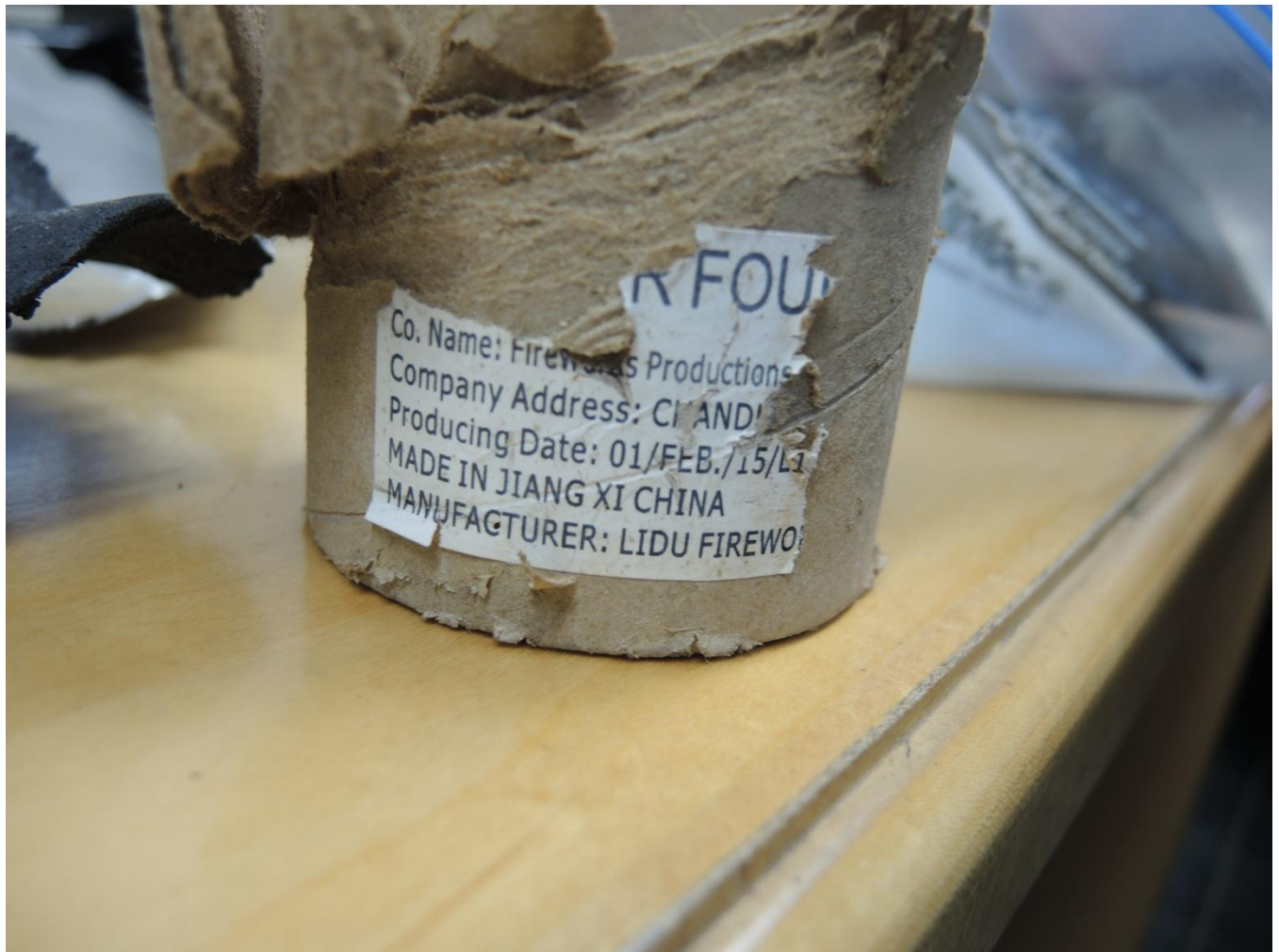
Propeller

Both propeller blades were detached from the propeller hub. Both blades exhibited twisting.

Research & Testing

No records for the bolting of the pyrotechnic container to the aircraft's left door step or installation of the control wiring were found in the provided maintenance records.

At the time this report was completed the NTSB lab had not completed the report on the pyrotechnic box.



Wreckage exam ASI-16-DG-040.jpg – Fireworks tube found near drop zone.