

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 2008	Make: Cessna	Model: LC41-550FG
	Serial number: 411030		Registration: N78JE
Location: Apopka, FL		Date: 12-30-18	Time: 2025 EST
Aircraft Owner		Aircraft Operator	
Hardwood Transport LLC [REDACTED] Caledonia, NY 14423-1006		James D. Sickles [REDACTED] Caledonia, NY 14423	
Report Information			
Air Safety Investigator: Andrew L. Hall		Report #: ASI-19-AA-T	Report date: 11-08-19

Airframe

Impact Sequence and Airframe Structure

The aircraft impacted in a wooded area the right outboard wing separated from the near Wing Station (W.S.) 145.0. The left wing was observed in multiple sections. The outboard section was from the tip to W.S. 145.0 and the next heavily fragmented section was from W.S. 145.0 to W.S. 95.0. The remainder of both wings remained attached to the fuselage. The empennage was observed separated at Fuselage Station (F.S.) 216.0. The fuselage area between F.S. 192.0 and F.S. 216.0 was observed fragmented. The engine was observed separated from the firewall at the examination.

Airframe Systems

Flight Control System Information		
Control lock: Undetermined		
Flight Control Cable Continuity		
Ailerons: Established	Elevators: Established	Rudder: Established
Aileron tab: Established	Elevator tab: Established	Rudder tab: Not applicable
Flap and Trim Positions		
Flap indicator: Digital	Flap handle: Up	Flap actuator: 9.25" or Up
Elevator trim:	Indicator: Undetermined	Actuator: 3.35"
Rudder trim:	Indicator: Undetermined	Actuator: N/A
Aileron trim:	Indicator: Undetermined	Actuator: 0.6"

Remarks:

The wing aileron push pull tubes were observed separated in the wing. The fuselage aileron controls were observed operational. The cockpit elevator controls were functional. The aft fuselage interconnect was observed separated. The aft push pull tube was observed separated in two locations, both from impact related damage. The rudder cables were observed separated in a tension overload type separation. The rudder was observed separated from the vertical stabilizer. The elevator torque tube was observed separated from both elevators and was separated from the elevator push pull tube.

The elevator trim tab was observed in a near neutral position. The right horizontal stabilizer and elevator remained attached to the empennage. The left horizontal stabilizer was observed separated starting at the leading edge at Stabilizer Station (S.S.) 41 and continuing inboard and aft to S.S. 20.0. The elevator remained attached to the outboard section of the horizontal stabilizer.

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: Left	Fuel selector valve: Left	Fuel boost pump:

Remarks:

Both the left and right wing integral fuel tanks were compromised during the impact. The wire bundle connecting the boost pump was observed separated. When reconnected, the wire bundle was tight. Blue, contaminant free fuel, was observed in the fuel strainer bowl. The fuel caps were observed installed in the filler neck.

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: Undt	
Air conditioner: Undt	Oxygen system: Undetermined	Oxygen quantity: Undt	
Icing System Information and Switches			
Certified into known icing? No		De-icing boots installed? No	
Pitot heat: Undetermined		Stall heat: Undetermined	
De-ice:	Surface: Undetermined	Propeller: Undetermined	Windshield: Undetermined
Anti-ice:	Surface: Not applicable	Propeller: Undetermined	Windshield: Not applicable
ELT Information			
Installed? Yes	Manufacturer: Artex	Model: ME406	Type: AF
Serial number: 09687	Battery due date: 03-2020	Armed: Undetermined	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	Good	Cessna	Not applicable
2	No	3-Point	No	Good	Cessna	Not applicable
3	No	3-Point	No	Good	Cessna	Not applicable
4	No	3-Point	No	Good	Cessna	Not applicable

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
3	Forward facing	Yes	Yes	Yes	Yes
4	Forward facing	Yes	Yes	Yes	Yes

Remarks:

None

Instrument Panel

Navigation Instruments							
Digital primary instruments				Autopilot type: Garmin			
Suction gage: N/A			Magnetic compass: Undt			Clock: Undt	
	PFD 1	PFD 2		PFD 1	PFD 2		
Airspeed:	Digital	Digital	Turn coordinator (airplane):	Digital	Digital		
Attitude (pitch):	Digital	Digital	Turn coordinator (ball):	Digital	Digital		
Attitude (roll):	Digital	Digital	Heading indicator:	Digital	Digital		
Altimeter:	Digital	Digital	Heading "bug":	Digital	Digital		
Altimeter setting:	Digital	Digital	Vertical speed indicator:	Digital	Digital		
Stand-by:	Airspeed: 0		Attitude (pitch): 15° Down		Attitude (roll): 10° Left		
	Altimeter: -100		Altimeter Setting: 30.05				
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:	Digital	Digital	Digital
Nav 1:	Digital	Digital	Digital	Nav 2:	Digital	Digital	Digital
Obs 1:	Digital			Obs 2:	Digital		
Transponder:	Mode: Digital		Active code: Digital		Stand-by code: Digital		
Electrical Switch Positions							
Master battery: Off			Master alternator: Off			Avionics 1: Off	
			Alternator 2: Off				
Lighting Switch Positions							
Navigation: Undetermined			Rotating Beacon: Undetermined			Landing: On	
Taxi: On			Strobe: On			Instrument: On	
Wing Ice:							
Ignition Switch Position							
Key: Undetermined							

Remarks:

The aircraft was equipped with a Garmin G-1000 and had a data card installed. The data was recorded and downloaded.

Powerplant Description

Engine Instruments							
Hour meter:	1304.3	Tach RPM:	Digital	Tach hours:	Digital	Manifold press:	Digital
Oil press:	Digital	Oil temp:	Digital	EGT:	Digital	CHT:	Digital
Fuel press:	Digital	Fuel flow:	Digital	Ammeter:	Digital	Voltmeter:	Digital
Engine Control Positions							
	Cockpit	Engine		Cockpit	Engine		
Throttle:	In	Undt	Cowl flaps:	N/A	N/A		
Mixture:	Undt	Undt	Alternate air:	Cold	Undt		
Propeller:	In	Undt	Primer:	N/A			
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:	Intact	Fuel control inlet screen:	Clean				
Fuel distribution valve screen:	Clean	Fuel injectors:	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	5	6	
Top	Not examined	Not examined	Not examined	Not examined	Normal	Not examined	
Bottom	Normal	Normal	Normal	Normal	Not examined	Normal	

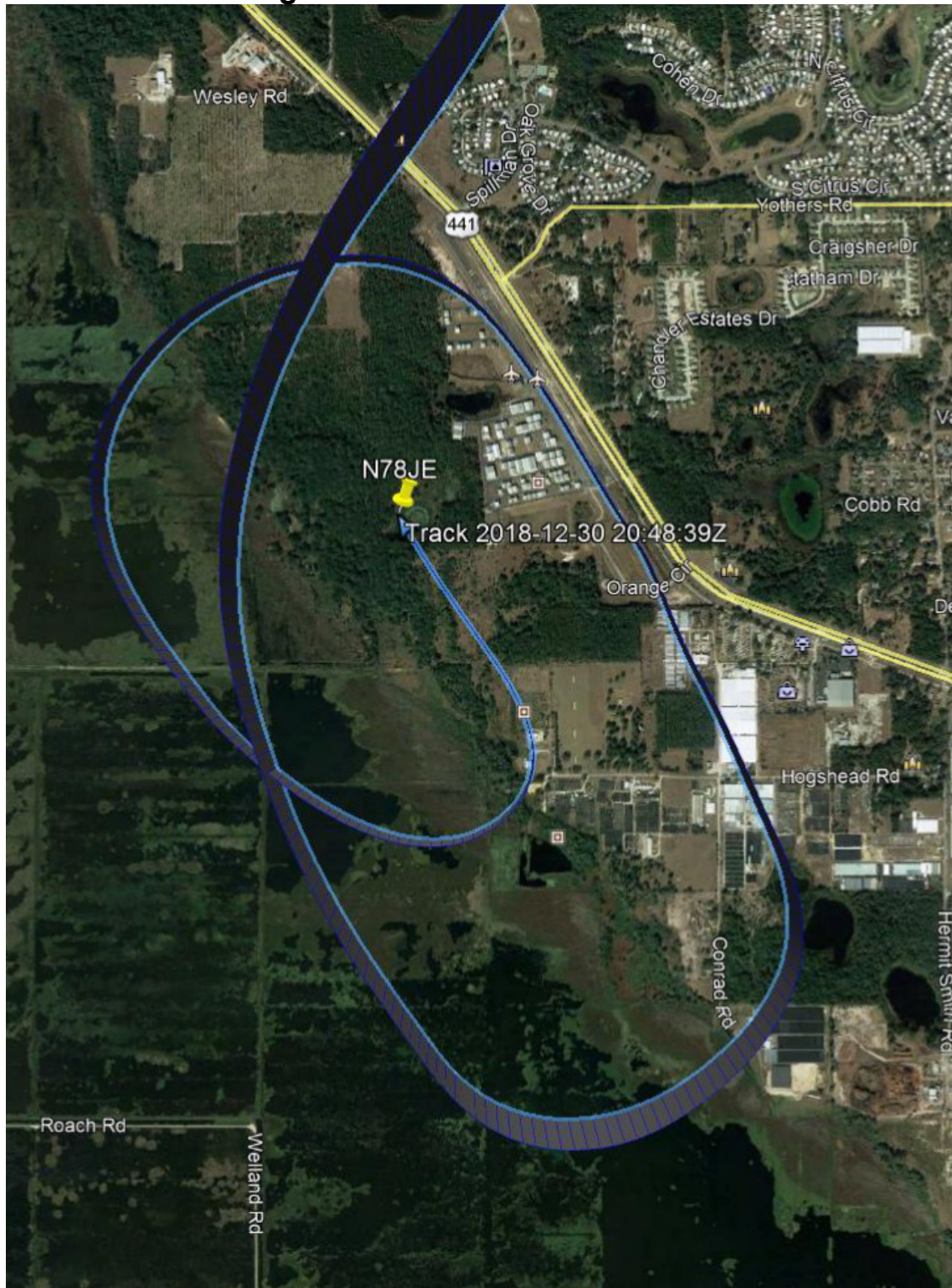
Remarks:

The engine was shipped to CAT for testing. The engine was prepared for the test run. The engine was placed in the test cell and started. After it was warmed up, the power lever was advanced to full power. No abnormalities were noted during the engine run.

Propeller

The propeller remained attached to the engine. The only visible damage was to the spinner, which was pushed in in one location and exhibited no signs of rotation.

Research & Testing



End of flight track derived from the G1000 data on the log card.