

## Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 2004	Make: Cessna	Model: 560
	Serial number: 560-0654		Registration: N654CE
Location: Benbrook, TX		Date: 02-12-20	Time: 1527 CST
Aircraft Owner		Aircraft Operator	
SC Cole Aviation LLC [REDACTED] Midland, TX 79710-0076		Same as Aircraft Owner	
Report Information			
Chief Air Safety Investigator: Andrew L. Hall		Report #: ASI-20-AT-T	Report date: 08-03-20

### Airframe

#### Impact Sequence and Airframe Structure

The lower right cowling and most of the upper right cowling were missing. There was a small section of the upper right cowling which remained attached and a small section of the lower cowling was recovered from the vertical stabilizer. Inspection of the cowling fasteners revealed that all but one of the forward fasteners were present in the engine inlet portion of the nacelle, some of which had small pieces of cowling skin still attached. The one fastener which was missing was the 4<sup>th</sup> fastener down from the top on the forward inboard edge of the lower cowling.



Other damage noted to the aircraft was the base of the vertical stabilizer at the dorsal fin saddle. Oil canning of the skin was noted on the left side of the vertical stabilizer. The top of the left horizontal stabilizer and elevator were observed with some damage. All three axis controls were free to operate with no abnormal resistance.

**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: Established
Flap and Trim Positions		
Flap indicator: Up	Flap handle: Up	Flap actuator: Up
Elevator trim:	Indicator: Takeoff range	Actuator: Undetermined
Rudder trim:	Indicator: Neutral	Actuator: Undetermined
Aileron trim:	Indicator: Neutral	Actuator: Undetermined

**Remarks:**

None

Airframe Fuel System Condition, Controls, and Read Outs				
Fuel filter screen:	Left: Undetermined		Right: Undetermined	
Main fuel tank gauge:	Left: Undetermined		Right: Undetermined	
Crossfeed: Off	Fuel boost pump:		Left: Off	Right: Off

**Remarks:**

None

Landing Gear System Condition and Controls				
Gear position:	Nose: Extended	Left: Extended	Right: Extended	
Actuator position:	Nose: Extended	Left: Extended	Right: Extended	
Landing gear selector: Extended		Anti-skid: On		
Aux gear control: Stowed		Blow-down bottle quantity: N/A		
Environmental System Controls and Read Outs				
Cabin heater: N/A	Cabin vent: N/A		Defrost: N/A	
Air conditioner: N/A	Oxygen system: Undetermined		Oxygen quantity: N/A	
Pressurization System Controls and Read Outs				
Cabin VSI: N/A		Cabin altitude: N/A		
Differential pressure: N/A		Source selector knob: Normal		
Icing System Information and Switches				
Certified into known icing? Yes		De-icing boots installed? See below		
Pitot heat: Off		Stall heat: Off		
De-ice:	Surface: Off		Windshield: Off	
Anti-ice:	Surface: Off		Windshield: Off	
ELT Information				
Installed? Yes	Manufacturer: Artex		Model: C406-2	Type: N/A
Serial number: 170-13934		Battery due date: 06-30-21	Armed: Yes	Activated: No

**Remarks:**

Wings and engine are anti-iced, and the horizontal stabilizer has de-ice boots installed.



**Cabin and Equipment/Furnishings**

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	
1	Yes	5-Point	Yes	Good	Cessna	
2	No	5-Point	No	Good	Cessna	
3	No	3-Point	No	Good	Cessna	
4	No	3-Point	No	Good	Cessna	
5	No	3-Point	No	Good	Cessna	
6	Yes	3-Point	Yes	Good	Cessna	
7	No	3-Point	No	Good	Cessna	
8	No	3-Point	No	Good	Cessna	

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	Rear facing	Yes	Yes	Yes	Yes
4	Rear facing	Yes	Yes	Yes	Yes
5	Forward facing	Yes	Yes	Yes	Yes
6	Forward facing	Yes	Yes	Yes	Yes
7	Forward facing	Yes	Yes	Yes	Yes
8	Forward facing	Yes	Yes	Yes	Yes

**Remarks:**

None

## Instrument Panel

Navigation Instruments							
Digital primary instruments				AOA indicator: Undetermined			
Suction gage: Undetermined		Magnetic compass: Undetermined			Clock: Undetermined		
	Left side	Right side		Left side	Right side		
Airspeed:	Undt	Undt	Turn coordinator (airplane):	Undt	Undt		
Attitude (pitch):	Undt	Undt	Turn coordinator (ball):	Undt	Undt		
Attitude (roll):	Undt	Undt	Heading indicator:	Undt	Undt		
Altimeter:	Undt	Undt	Heading "bug":	Undt	Undt		
Altimeter setting:	Undt	Undt	Vertical speed indicator:	Undt	Undt		
Stand-by:	Airspeed: Undt		Attitude (pitch): Undt		Attitude (roll): Undt		
	Altimeter: Undt		Altimeter setting: 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: Off				Stand-by battery: Off			
Left generator: Off				Right generator: Off			
Avionics 1: Off				Avionics 2: Undetermined			
Inverter: Off							
Lighting Switch Positions							
Navigation: Off		Rotating beacon: Off			Landing: Off		
Taxi: Off		Strobe: Off			Instrument: Undetermined		
Wing ice: Off							
Ignition Switch Positions							
Left engine: Undetermined				Right engine: Undetermined			

### Remarks:

None

## Powerplant Description

Engine Instruments					
Hour meter: Undetermined					
	Left Engine	Right Engine		Left Engine	Right Engine
N1 RPM:	Undt	Undt	Oil temp:	Undt	Undt
N2 RPM:	Undt	Undt	Oil press:	Undt	Undt
ITT:	Undt	Undt	Ammeter:	Undt	Undt
Fuel flow:	Undt	Undt	Voltmeter:	Undt	Undt
Engine Control Positions					
Left engine:	Cockpit	Engine	Right engine:	Cockpit	Engine
Power lever:	Cutoff	Undetermined	Power lever:	Cutoff	Undetermined
Thrust reverser:	Stowed	Undetermined	Thrust reverser:	Stowed	Undetermined
Ground idle: Undetermined			Engine sync: Undetermined		
Fire Protection and Thrust Reverser Switch Positions					
	Left engine		Right engine		
Emergency stow:	Norm		Norm		
Covered fire switch:	Undetermined		Undetermined		
Engine Condition					
	Left engine		Right engine		
Engine attached to airframe:	Yes		Yes		

### Remarks:

No inspection of the engine controls was accomplished during the on-site evaluation.

## Research & Testing

The following items were removed and retained by the NTSB for analysis at the NTSB laboratory: All of the forward fasteners were removed from their receptacles and placed in individual marked bags. The inboard upper six receptacles were removed and placed in individual marked bags. Also, both sections of the recovered cowling. The inspection of the component part sent to the NTSB lab has not been completed as of the time of this writing.