



# Aviation Investigation Final Report

<b>Location:</b>	Sandersville, Georgia	<b>Accident Number:</b>	ERA18LA154
<b>Date &amp; Time:</b>	May 21, 2018, 13:10 Local	<b>Registration:</b>	N427JM
<b>Aircraft:</b>	Cessna 421	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing gear collapse	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot reported that the flight was uneventful and during the approach for landing, he placed the landing gear handle in the down position and observed three green landing gear lights, indicating that the gear was down and locked. Shortly after touchdown, the nose landing gear collapsed into the retracted position. The airplane's nose impacted the runway and the airplane skidded to a stop, resulting in substantial damage to the airframe. After the airplane stopped, the landing gear position lights indicated that all of the landing gear were extended and locked into position. A mechanic who saw the landing and assisted in removing the airplane from the runway after the accident reported that, during the attempt to move the airplane, they lifted the nose off the ground and tried unsuccessfully to move the nose landing gear into the down and locked position.

Postaccident testing of the nose landing gear actuator revealed no discrepancies. Although the green safe switch remained illuminated during the entire testing cycle, indicating a defective switch, this did not directly contribute to the collapse of the nose landing gear. Review of maintenance records showed no nose gear discrepancies over the previous 18 months. The reason for the nose landing gear collapse could not be determined based on the available information.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A nose landing gear collapse for reasons that could not be determined based on the available information.

## Findings

Aircraft	Nose/tail landing gear - Malfunction
Aircraft	Gear position and warning - Malfunction

# Factual Information

## History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
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On May 21, 2018, about 1310 eastern daylight time, a Cessna 421-C, N427JM, was substantially damaged when it was involved in an accident near Sandersville, Georgia. The commercial pilot was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that the flight was uneventful; during the landing approach, he placed the landing gear handle in the down position and received three green landing gear lights, indicating that the gear was down and locked. He stated that, after the main landing gear touched down, “he didn’t feel any resistance from the nose nosewheel” when it settled onto the runway. The airplane continued to settle, and the nose impacted the runway. The pilot maintained directional control and attempted to maneuver the airplane off the runway onto a taxiway with differential braking as it skidded to a stop. After the airplane stopped, the landing gear position lights indicated that all gear were down and locked.

A mechanic saw the landing and reported that the airplane looked “normal” on final approach. He heard the main landing gear touch down, followed by “something dragging.” After the airplane came to rest, he checked on the condition of the pilot, then attempted to remove the airplane from the runway. During the attempt to move the airplane from the runway, they lifted the nose off the ground, tried unsuccessfully to get the nose landing gear into the down and locked position, and ultimately strapped the landing gear in place to move the airplane.

Examination of the airplane by a Federal Aviation Administration maintenance inspector revealed substantial damage, including buckling of the airframe on both sides of the nose landing gear well, and abrasion through to the airframe on the bottom of the nose and fuselage. The nose landing gear actuator was removed for detailed examination. The actuator was tested in the locked and unlocked position at the correct pressures with no leaks or discrepancies noted.; however, the green safe switch remained illuminated during the entire test, indicating a defective switch. The switch was brittle and appeared “very old.”

A review of the airframe maintenance logbook revealed that, during the most recent annual inspection on July 10, 2017, a landing gear retraction test was conducted per the manufacturer’s service manual with no defects noted. On April 27, 2018, a logbook entry showed a main landing gear irregularity that was corrected. The landing gear was cycled 10 times with no defects noted with the nose landing gear.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	64,Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Lap only
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 None	<b>Last FAA Medical Exam:</b>	April 18, 2018
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	January 15, 2018
<b>Flight Time:</b>	22697 hours (Total, all aircraft), 948 hours (Total, this make and model), 22690 hours (Pilot In Command, all aircraft), 141 hours (Last 90 days, all aircraft), 44 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N427JM
<b>Model/Series:</b>	421 C	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1976	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	421C0103
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	July 11, 2017 Annual	<b>Certified Max Gross Wt.:</b>	7500 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	4437.2 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	GTISO520L4B
<b>Registered Owner:</b>		<b>Rated Power:</b>	375 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	OKZ,384 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	13:30 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear / 3700 ft AGL	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	Broken / 3700 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.7 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 21°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Carrollton, GA (CTJ )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Sandersville, GA (OKZ )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	12:20 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Kaolin Field OKZ	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	438 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	13	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5016 ft / 75 ft	<b>VFR Approach/Landing:</b>	Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	32.966667,-82.838058(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Mccarter, Lawrence		
<b>Additional Participating Persons:</b>	Michael Pupek; FAA FSDO; Atlanta, GA		
<b>Original Publish Date:</b>	February 9, 2022	<b>Investigation Class:</b>	3
<b>Note:</b>	The NTSB did not travel to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=97353">https://data.nts.gov/Docket?ProjectID=97353</a>		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).