



Aviation Investigation Final Report

Location:	Franklin, North Carolina	Accident Number:	ERA21LA152
Date & Time:	March 11, 2021, 19:53 Local	Registration:	N80056
Aircraft:	Cessna 421	Aircraft Damage:	Substantial
Defining Event:	Runway excursion	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the pilot, during the takeoff roll from the 5,000-ft-long runway, after reaching an airspeed of 90 knots, the airplane’s acceleration slowed. The airplane reached a maximum airspeed of about 92 knots, which was below the planned rotation speed of 100 knots. The pilot elected to abort the takeoff with about 1,500 ft of remaining runway. He reduced the power to idle and initiated maximum braking. The pilot stated that he did not sense the airplane slowing down but observed tire marks on the runway postaccident that were consistent with braking. The airplane continued off the end of the runway and collided with a fence before coming to a stop. All of the occupants exited the airplane safely, and a post-crash fire ensued.

Examination of the runway revealed tire skid marks that began 1,200 ft from the runway end and continued into the grass leading to the airplane. An examination of the airplane revealed that the entire cockpit and cabin areas were destroyed by fire. The engines did not display evidence of a catastrophic failure but were otherwise unable to be examined in more detail due to the degree of fire damage. The parking brake control was found in the off position. All hydraulic brake lines were destroyed by fire, and the main landing gear sustained fire and impact damage. Although the tire marks on the runway indicated that some braking action took place, the extensive fire damage precluded a detailed examination of the braking system, and there was insufficient evidence to determine the reason for the runway excursion.

Probable Cause and Findings

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

The reason for this accident could not be determined based on the available information.

Findings

Not determined

(general) - Unknown/Not determined

Factual Information

History of Flight

Takeoff-rejected takeoff	Runway excursion (Defining event)
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On March 11, 2021, about 1512 eastern daylight time, a Cessna 421B, N80056, was substantially damaged when it was involved in an accident at Macon County Airport (1A5), Franklin, North Carolina. The pilot and two passengers were not injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

According to the pilot, after a normal start, taxi, and run-up, he initiated the takeoff roll from the 5,000-ft-long, asphalt runway. He called out airspeeds in 10-knot increments toward a planned rotation airspeed of 100 knots; however, at 90 knots, the airplane's acceleration "lagged," and the airplane reached a maximum airspeed of 92 knots. He noticed that the runway length was decreasing and elected to abort the takeoff with about 1,500 ft of remaining runway. He pulled both throttles to idle and applied maximum braking. The pilot stated that he did not sense the airplane slowing down but observed tire marks on the runway postaccident that were consistent with braking. The airplane departed the end of the runway, continued down a slope, and through a fence before coming to rest. A postcrash fire ensued. All the occupants exited the airplane safely.

Examination of the runway by a Federal Aviation Administrator inspector revealed tire skid marks that began 1,200 ft from the runway end and continued into the grass leading to the airplane.

An examination of the airplane by an NTSB investigator revealed the entire cockpit and cabin areas were destroyed by fire. All flight instrument readings and control positions were unreliable due to fire damage. The parking brake control was found in the off position. All hydraulic brake lines were destroyed by fire, and the main landing gear sustained fire and impact damage. Examination of the left and right engines revealed that both were heavily fire damaged but that the engine cases remained intact and were not breached. Power and valvetrain continuity could not be established due to impact and fire damage. The accessories on both engines were also fire damaged. Both propeller assemblies remained attached to the propeller hubs on both engines but exhibited fire and impact-related damage.

Pilot Information

Certificate:	Commercial	Age:	58, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	January 21, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	February 24, 2021
Flight Time:	(Estimated) 3000 hours (Total, all aircraft), 7 hours (Total, this make and model), 3000 hours (Pilot In Command, all aircraft), 7 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N80056
Model/Series:	421 B	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	421B-0654
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	January 4, 2001 100 hour	Certified Max Gross Wt.:	7450 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	3406 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	C91A installed, activated, did not aid in locating accident	Engine Model/Series:	GTSSIO520H
Registered Owner:		Rated Power:	375 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	K1A5,2020 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	19:55 Local	Direction from Accident Site:	50°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.38 inches Hg	Temperature/Dew Point:	14°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Franklin, NC	Type of Flight Plan Filed:	None
Destination:	Franklin, NC	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	MACON COUNTY 1A5	Runway Surface Type:	Asphalt
Airport Elevation:	2034 ft msl	Runway Surface Condition:	Dry
Runway Used:	07/25	IFR Approach:	None
Runway Length/Width:	5000 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	35.222312,-83.419997(est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric		
Additional Participating Persons:	Lorri Orłowski; FAA Greensboro FSDO; Greensboro, NC		
Original Publish Date:	March 1, 2023	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=102748		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).