



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Seymore, Tennessee	Accident Number:	ERA23LA271
Date & Time:	June 18, 2023, 08:00 Local	Registration:	N12395
Aircraft:	Cessna 172	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	3 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor stated that he was teaching the student pilot a soft-field takeoff technique on a 2,300-ft-long turf runway, with a passenger in the back seat. The flight instructor further stated that student pilot lifted off the airplane at 52 knots, but it settled back to the runway as the wind shifted from a headwind to a tailwind. The airplane then traveled about 100 ft beyond the departure end of the runway and struck bushes, coming to rest upright. The flight instructor added that there were no preimpact mechanical malfunctions with the airplane. Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to the left wing and fuselage. The inspector noted that the flaps were in the fully retracted position and asked the flight instructor why he did not perform the accident takeoff with 10° flap extension, per the owner's manual. The flight instructor replied that was always how he performed soft-field takeoffs. The recorded wind speed about the time of the accident was 3 knots.

Probable Cause and Findings

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

The flight instructor's failure to properly configure the wing flaps for a soft-field takeoff on a short runway, which resulted in a runway overrun and collision with trees.

Findings

Personnel issues	Incorrect action selection - Instructor/check pilot
Aircraft	Trailing edge flaps - Incorrect use/operation

Factual Information

History of Flight

Takeoff	Collision during takeoff/land (Defining event)
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Flight instructor Information

Certificate:	Airline transport; Commercial; Flight engineer; Flight instructor; Military	Age:	74,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	December 1, 2022
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 20, 2023
Flight Time:	30000 hours (Total, all aircraft), 15000 hours (Total, this make and model), 20000 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	Female
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	52 hours (Total, all aircraft), 48 hours (Total, this make and model), 8 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N12395
Model/Series:	172 M	Aircraft Category:	Airplane
Year of Manufacture:	1973	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	17261968
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	2300 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed	Engine Model/Series:	O-320
Registered Owner:	On file	Rated Power:	150 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	TYS,970 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	07:53 Local	Direction from Accident Site:	272°
Lowest Cloud Condition:		Visibility	8 miles
Lowest Ceiling:	Broken / 25000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	18°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Seymore, TN	Type of Flight Plan Filed:	None
Destination:	Seymore, TN	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Seymour Air Park TN20	Runway Surface Type:	Grass/turf
Airport Elevation:	1000 ft msl	Runway Surface Condition:	Dry
Runway Used:	25	IFR Approach:	None
Runway Length/Width:	2300 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	3 Minor	Latitude, Longitude:	35.812279,-83.774642(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Steven Sinclair ; FAA/FSDO; Nashville, TN
Original Publish Date:	September 8, 2023
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=192401

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).