Aviation Investigation Final Report

Location:	Lexington, North Carolina	**Accident Number:**	ERA18TA179
Date & Time:	June 25, 2018, 11:45 Local	**Registration:**	N52584
Aircraft:	Stearman B75	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control on ground	**Injuries:**	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the second wheel landing of the flight and shortly after the tailwheel touched down on the runway, the airplane drifted right. The commercial pilot attempted to stop the drift by applying the wheel brakes. Subsequently, the airplane nosed over. The right wing, rudder, and vertical stabilizer sustained substantial damage. During a postaccident interview, the pilot stated that he "got on [the] brakes a little harder than I should have."

Examination of the landing gear assembly and rudder control linkages did not reveal any evidence of preimpact mechanical malfunctions or failures that would have precluded normal operation. Therefore, it is likely the pilot's overapplication of the brakes resulted in the nose-over.

Probable Cause and Findings

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

The pilot's overapplication of the wheel brakes during landing, which resulted in a nose-over.

Findings

Personnel issues	Aircraft control - Pilot
Personnel issues	Use of equip/system - Pilot
Aircraft	Brake - Incorrect use/operation
Aircraft	Surface speed/braking - Incorrect use/operation

Factual Information

History of Flight

Landing-landing roll	Loss of control on ground (Defining event)
Landing-landing roll	Attempted remediation/recovery
Landing-landing roll	Nose over/nose down

On June 25, 2018, about 1145 eastern daylight time, a Stearman B75N1, N52584, was substantially damaged when it nosed over during landing at Davidson County Airport (EXX), Lexington, North Carolina. The airline transport pilot sustained minor injuries and the passenger was not injured. The airplane was operated by the pilot as a personal flight conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight.

According to the pilot, during the second wheel landing of the flight, shortly after the tailwheel touched down on runway 24, the airplane drifted to the right. He attempted to stop the drift, and as the airplane approached the right edge of the runway, he applied the wheel brakes. Subsequently, the airplane nosed over on the runway. The right wing, rudder, and vertical stabilizer sustained substantial damage. During a postaccident interview, the pilot stated he "got on [the] brakes a little harder than I should have" as the airplane drifted toward the grass.

According to a witness who was at the airport in the ramp area, he heard "a faint sound of screeching tires." As he looked up, he observed the airplane "pitch nose forward" and nose over on the runway.

During postaccident examinations by a Federal Aviation Administration (FAA) inspector, while the airplane was at the accident site inverted, the main landing gear wheels and tailwheels rotated freely when moved by hand. The tailwheel was found locked, which was consistent with its control lever in the cockpit. The tailwheel locking mechanism functioned normally when the lever was moved to the unlock and lock positions. The push-pull control linkages were examined from the rudder pedals to the tailwheel and rudder surface, and no anomalies were noted.

According to FAA airman records, the pilot held an airline transport pilot certificate with a rating for airplane multi-engine land. He also held a commercial pilot certificate with ratings for airplane single-engine land, helicopter, and instrument helicopter. His most recent first-class medical certificate was issued in March 2018. He reported that he had accumulated 30,000 total flight hours, and 350 total flight hours in the accident make and model airplane.

According to FAA airworthiness records, the two-seat, single-engine, bi-wing, tailwheel airplane was manufactured in 1941. It was equipped with a Lycoming R-680-13 engine. The most recent annual inspection was completed in October 2017.

The weather conditions reported at 1155 at EXX, included calm wind, visibility 10 statute miles, clear skies, temperature 29°C, and dew point 21°C.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	69,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	March 8, 2018
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	August 1, 2017
Flight Time:	(Estimated) 30000 hours (Total, all aircraft), 350 hours (Total, this make and model), 25000 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stearman	**Registration:**	N52584
Model/Series:	B75 N1	**Aircraft Category:**	Airplane
Year of Manufacture:	1941	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	75-6955
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	October 27, 2017 Annual	**Certified Max Gross Wt.:**	3200 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3282 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	C91A installed, activated, did not aid in locating accident	**Engine Model/Series:**	R-680-13
Registered Owner:		**Rated Power:**	300 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:	EXX,732 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	11:55 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.11 inches Hg	**Temperature/Dew Point:**	29°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lexington, NC (EXX)	**Type of Flight Plan Filed:**	None
Destination:	Lexington, NC (EXX)	**Type of Clearance:**	None
Departure Time:	11:10 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	DAVIDSON COUNTY EXX	**Runway Surface Type:**	Asphalt
Airport Elevation:	732 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	5004 ft / 100 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 1 None	**Latitude, Longitude:**	35.784442,-80.298889(est)

Administrative Information

Investigator In Charge (IIC):	Gerhardt, Adam
Additional Participating Persons:	Corey Paczkowski; FAA/FSDO; Greensboro, NC
Original Publish Date:	February 5, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=97571