



Aviation Investigation Final Report

Location:	Nashville, Tennessee	Accident Number:	ERA11LA345
Date & Time:	June 15, 2011, 17:25 Local	Registration:	N129SG
Aircraft:	Cessna 525A	Aircraft Damage:	Substantial
Defining Event:	Landing area overshoot	Injuries:	5 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The pilot-in-command (PIC) was in the left cockpit seat, and a passenger, who possessed a student pilot certificate, was in the right cockpit seat. The PIC was not a certificated flight instructor; however, the student pilot was at the controls for a majority of the flight. During the descent and initial approach, the student pilot allowed the airplane to become high and fast, and the PIC subsequently took over the controls and continued the approach. During the final approach, the ground proximity warning system announced "sink rate" eight times. After touchdown, the antiskid system activated; however, there was insufficient runway remaining on which to stop the airplane. The PIC reported that he neglected to consider the wet runway condition. The airplane overran the runway and struck the instrument landing system antennas before coming to a stop. The PIC reported that there were no mechanical malfunctions or failures during the flight. As a result of the accident, the operator modified its operational procedures to restrict unqualified personnel from the cockpit during flight and initiated a formal risk assessment program.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to execute a go-around when the airplane was high and fast on the final approach.

Findings

Personnel issues

Lack of action - Pilot

Aircraft

Descent/approach/glide path - Incorrect use/operation

Factual Information

History of Flight

Landing	Landing area overshoot (Defining event)
Landing-landing roll	Runway excursion
Landing-landing roll	Collision during takeoff/land

On June 15, 2011, about 1725 central daylight time, a Cessna 525A, N129SG, was substantially damaged following a runway overrun at John C. Tune Airport (JWN), Nashville, Tennessee. The certificated airline transport pilot and four passengers were not injured. The airplane was registered to and operated by Deer Horn Aviation LTD under the provisions of 14 Code of Federal Regulations Part 91, as a business flight. Visual meteorological conditions prevailed and an instrument flight rules (IFR) flight plan was filed. The flight originated from Artesia Municipal Airport (ATS), Artesia, New Mexico, about 1406 mountain daylight time.

The pilot-in-command (PIC) reported the following. As the airplane was approaching JWN, one of the owners of the airplane, who held a student pilot certificate, was in the right seat and at the controls. Air traffic control vectored the airplane to the final approach course, and the PIC acquired the airport and cancelled the IFR clearance. He informed the student pilot that the airplane was "high and hot" and he needed to "get down and slow down." The student pilot told the PIC that this "landing is yours" and the PIC assumed the controls. He configured the airplane for landing and "started a steep approach." He considered a go-around, but elected to continue the approach. Approaching the runway, the "sink rate" and "pull up" aural warnings activated on the ground proximity warning system (GPWS). He continued with the approach and the airplane touched down about 1,500 feet down the 5,500 foot long runway. The PIC applied the brakes fully, but the airplane continued down the runway. The PIC reported that he could feel the antiskid braking system working, but he neglected to consider the runway condition, which was wet. The airplane overran the runway and struck the instrument landing system antennas. The PIC applied full left rudder to avoid going down an embankment. The airplane came to rest after turning about 180 degrees.

An inspector with the Federal Aviation Administration responded to the accident site and examined the airplane. The left main landing gear was collapsed, and structural damage to the wings was evident. The cockpit voice recorder (CVR) was sent to the NTSB Vehicle Recorders Laboratory for further examination.

A review of the CVR recording revealed the following. The recording began at 1521 as the airplane was in cruise climb to flight level 390. The student pilot was at the controls, receiving guidance and instruction from the PIC. During cruise, the pilots discussed various non-pertinent topics, interspersed with operational instruction related to convective activity along the route, avionics, aircraft operating techniques, and the use of weather radar. During the

descent into JWN, the student pilot noted how fun it was to deviate around thunderstorms while the PIC explained that the nearby storms were of significant intensity. About 1717, air traffic control assigned an altitude of 3,000 feet and the PIC directed the student pilot to start a descent. The PIC advised the student that the winds may be gusty and that he had the student's "back." About 1721, after ATC assigned a 170 degree heading and cleared the aircraft for the instrument landing system (ILS) runway 20 approach, the PIC noted that the localizer was not being received. He then realized that he had entered the incorrect frequency into the radio. The airplane subsequently flew through the localizer course, and ATC issued a vector to re-intercept the course. At 1722, the PIC noted that the airplane was on course, reported that the runway was in sight, and cancelled the IFR flight plan with ATC. At 1723, the PIC noted that the aircraft was "real high," and the student pilot should get the plane down. The student pilot acknowledged, and then asked the PIC if he wanted to take the landing. The PIC responded that he would take the controls. The PIC then advised on the common traffic advisory frequency that the airplane was on a straight-in approach to runway 20 at JWN. At 1724, the GPWS announced "sink rate sink rate," followed by a radio altimeter annunciation of "five hundred." From this point until touchdown, the GPWS repeated "pull up" eight times, as the PIC stated, "Don't worry about it." During the landing roll, the student pilot and the PIC began making animated expressions of concern, commencing at 1724:56 and continuing until the end of the recording.

The PIC reported that he was not a certified flight instructor. He also reported that there were no mechanical malfunctions or failures with the airplane during the accident flight.

JWN was equipped with an Automated Weather Observing System (AWOS); however, at the time of the accident, wind, temperature, and dew point information were not available. The 1711 weather at Nashville International Airport (BNA) located 9 miles east of JWN, included the following: winds from 180 degrees at 6 knots, 6 miles visibility, light rain and thunderstorms, scattered clouds at 4,500 feet, scattered cumulonimbus clouds at 6,000 feet, broken clouds at 11,000 feet, overcast clouds at 25,000 feet, temperature 19 degrees Celsius, dew point 18 degrees Celsius, and altimeter 29.78 inches of mercury. Thunderstorms began at 1701 and rain began at 1701. There was occasional lightning in the area.

As a result of the accident, the operator modified its operational procedures to restrict unqualified personnel from the cockpit during flight. Also, a formal risk assessment program was initiated.

Pilot Information

Certificate:	Airline transport	Age:	63, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	January 20, 2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 31, 2011
Flight Time:	13488 hours (Total, all aircraft), 670 hours (Total, this make and model), 11099 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 28 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N129SG
Model/Series:	525A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	525A0129
Landing Gear Type:	Retractable - Tricycle	Seats:	9
Date/Type of Last Inspection:	December 7, 2010 Continuous airworthiness	Certified Max Gross Wt.:	12375 lbs
Time Since Last Inspection:	116 Hrs	Engines:	2 Turbo fan
Airframe Total Time:	3224 Hrs at time of accident	Engine Manufacturer:	WILLIAMS
ELT:	Installed, not activated	Engine Model/Series:	FJ 44 SERIES
Registered Owner:	DEER HORN AVIATION LTD CO	Rated Power:	2400 Lbs thrust
Operator:	DEER HORN AVIATION LTD CO	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	BNA,599 ft msl	Distance from Accident Site:	11 Nautical Miles
Observation Time:	17:11 Local	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 4500 ft AGL	Visibility	6 miles
Lowest Ceiling:	Broken / 11000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.78 inches Hg	Temperature/Dew Point:	19°C / 18°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Artesia, NM (ATS)	Type of Flight Plan Filed:	IFR
Destination:	Nashville, TN (JWN)	Type of Clearance:	IFR
Departure Time:	14:06 Local	Type of Airspace:	

Airport Information

Airport:	John C. Tune JWN	Runway Surface Type:	Asphalt
Airport Elevation:	495 ft msl	Runway Surface Condition:	Wet
Runway Used:	20	IFR Approach:	Visual
Runway Length/Width:	5500 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	4 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	5 None	Latitude, Longitude:	36.17361,-86.889167(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Ralph
Additional Participating Persons:	David Alderman; FAA/FSDO; Nashville, TN
Original Publish Date:	January 17, 2012
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=80792

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