



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Greenwood, SC	<b>Accident Number:</b>	ERA13LA061
<b>Date &amp; Time:</b>	11/17/2012, 1145 EST	<b>Registration:</b>	N6763L
<b>Aircraft:</b>	CESSNA 550	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Fire/smoke (post-impact)	<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Flight Test		

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## Analysis

About 5 seconds after the airplane touched down, a deer ran out of the nearby woods into the path of the airplane. The deer struck the airplane at the leading edge of the left wing above the left main landing gear and ruptured an adjacent fuel cell. The pilot was able to maintain directional control and stopped the airplane on the runway; however, the airplane was spilling fuel and on fire. The pilots performed an emergency shutdown of the airplane and egressed without injury. The airplane was subsequently consumed by the postcrash fire.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Collision with a deer during the landing roll, which resulted in a compromised fuel tank and a postimpact fire.

## Findings

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<b>Aircraft</b>	Flight surfaces (wing) - Damaged/degraded
<b>Environmental issues</b>	Animal(s)/bird(s) - Effect on equipment (Cause)

## Factual Information

### HISTORY OF FLIGHT

On November 17, 2012, about 1145 eastern standard time, a Cessna 550, N6763L, registered to the United States Customs Service, and operated by Stevens Aviation, Inc., was substantially damaged during collision with a deer after landing on Runway 9 at Greenwood County Airport (GRD), Greenwood, South Carolina. The airplane was subsequently consumed by postcrash fire. The two certificated airline transport pilots were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the maintenance test flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the pilot, the purpose of the flight was to conduct a test of the autopilot and flight director systems on board the airplane, following a "cockpit modernization" their company had performed. The airplane completed the NDB/GPS RWY 27 instrument approach procedure and then circled to land on Runway 9. About 5 seconds into the landing rollout, a deer appeared from the wood line and ran into the path of the airplane. The deer struck the airplane at the leading edge of the left wing above the left main landing gear, and ruptured an adjacent fuel cell.

The pilot was able to maintain directional control, and the airplane was stopped on the runway, spilling fuel and on fire. The crew performed an emergency shutdown of the airplane and egressed without injury. Greenwood County Airport did not have a fire station co-located on the airport facility. The fixed base operator called 911 at the time of the accident, and the fire trucks arrived approximately 10 minutes after notification.

### PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with ratings for airplane single-engine land, multiengine land, and instrument airplane. His most recent Federal Aviation Administration (FAA) first-class medical certificate was issued on March 12, 2012. The pilot reported 11,592 total hours of flight experience, of which 903 hours were in the accident airplane make and model.

The copilot held an airline transport pilot certificate with ratings for airplane single-engine land, multiengine land, and instrument airplane. His most recent FAA second-class medical certificate was issued on June 11, 2012. The pilot reported 4,501 total hours of flight experience, of which 13 hours were in the accident airplane make and model.

### AIRCRAFT INFORMATION

The airplane was manufactured in 1991, and its most recent Approved Aircraft Inspection Program (AAIP) inspection was completed November 16, 2012, at 8,611 total aircraft hours.

### METEOROLOGICAL INFORMATION

At 1156, the weather reported at GRD included clear skies, 10 miles of visibility, and winds from 030 degrees at 10 knots. The temperature was 13 degrees C and the dew point was -3 degrees C.

### WRECKAGE INFORMATION

Following the accident, the crew provided photographs of the intact airplane spilling fuel and on fire, the fire-consumed airplane wreckage after the fire was extinguished, and the remains

of the deer.

#### ADDITIONAL INFORMATION

In a telephone interview, the manager of the Greenwood County Airport explained that Greenwood was not an FAR Part 139 Airport, and while there was no published Wildlife Management Program for the airport, she had been very proactive about eradicating wildlife that could pose a hazard to safety on the airport property, primarily deer and wild turkey. She contacted the United States Department of Agriculture (USDA) for guidance and advice and she attended a wildlife management course. Among the suggestions offered by the USDA, was to remove the deer habitat. The manager proposed adding the area between the runway and taxiway to an approach clearing project in order to reduce the habitat. The manager worked with a local charity and local hunters with depredation permits to take deer on the airport property, and their efforts averaged 50 deer a year. The hunts were conducted in stands away from runways and on property not aviation related. The nearest deer stand was 1 mile from the runway, and the hunters fired only shotguns. The hunts were conducted between the hours of 0700 and 1000. On the morning of the accident, the last shot was fired at 0930. When asked why the hunters were still on the property at the time of the accident, the manager said they had stayed to eat lunch, and repeated that the hunt was long over and that the last shot was fired hours before the accident. She offered that the deer struck by the airplane was probably flushed from the woods by another deer or a coyote, whose population has also grown in recent years. After the accident, the Federal Aviation Administration contacted the state and had the Greenwood County Airport added to a list of airports where funding for improvements had been allotted. A second 10-foot perimeter fence was added around the existing 6-foot fence, and since its construction only 4 deer have been taken inside the perimeter, and no wild turkeys have been sighted.

#### History of Flight

Landing-landing roll	Collision with terr/obj (non-CFIT)
Post-impact	Fire/smoke (post-impact) (Defining event)

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial; Military	<b>Age:</b>	49
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane; Instrument Helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without Waivers/Limitations	<b>Last Medical Exam:</b>	03/12/2012
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	03/21/2012
<b>Flight Time:</b>	(Estimated) 11592 hours (Total, all aircraft), 903 hours (Total, this make and model), 8655 hours (Pilot In Command, all aircraft), 158 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial; Military	<b>Age:</b>	48
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With Waivers/Limitations	<b>Last Medical Exam:</b>	06/11/2012
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	03/26/2012
<b>Flight Time:</b>	4501 hours (Total, all aircraft), 13 hours (Total, this make and model), 2910 hours (Pilot In Command, all aircraft), 13 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N6763L
Model/Series:	550	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Restricted; Transport	Serial Number:	550-0673
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	11/16/2012, AAIP	Certified Max Gross Wt.:	14100 lbs
Time Since Last Inspection:	10 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	8611 Hours	Engine Manufacturer:	P&W CANADA
ELT:	C91A installed, not activated	Engine Model/Series:	JT15D-4
Registered Owner:	UNITED STATES CUSTOMS SERVICE	Rated Power:	2500 lbs
Operator:	Stevens Aviation, Inc.	Air Carrier Operating Certificate:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	GRD, 631 ft msl	Observation Time:	1156 EST
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	13° C / -3° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	10 knots, 30°	Visibility (RVR):	
Altimeter Setting:	30.43 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	Light - Rain; No Obscuration		
Departure Point:	Greenville, SC (GYH)	Type of Flight Plan Filed:	VFR
Destination:	Greenville, SC (GYH)	Type of Clearance:	Traffic Advisory; VFR; VFR Flight Following
Departure Time:	1130 EST	Type of Airspace:	

## Airport Information

Airport:	Greenwood County (GRD)	Runway Surface Type:	Asphalt
Airport Elevation:	631 ft	Runway Surface Condition:	Dry
Runway Used:	09	IFR Approach:	Circling; Global Positioning System; Visual
Runway Length/Width:	5003 ft / 100 ft	VFR Approach/Landing:	Traffic Pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	On-Ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	34.248611, -82.159167 (est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Brian C Rayner	<b>Adopted Date:</b>	01/13/2014
<b>Additional Participating Persons:</b>	Robert Switter; FAA/FSDO; Columbia, SC		
<b>Publish Date:</b>	01/13/2014		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=85614">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=85614</a>		

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