



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	CHARLESTON, WV	<b>Accident Number:</b>	NYC01LA054
<b>Date &amp; Time:</b>	12/06/2000, 2038 EST	<b>Registration:</b>	N504AS
<b>Aircraft:</b>	Embraer 120RT	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 18 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

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## Analysis

An Embraer 120RT struck two deer on the runway during a night landing at a tower-operated, rural, mountaintop airport. At the time, skies were overcast, and light snow was falling. The tip of a propeller blade from the number 2 engine separated, and punctured the airplane's fuselage. A runway inspection had commenced shortly before the accident, but the inspection vehicle had not yet reached the area where the accident occurred. There were two breaches in the perimeter fence. Perimeter fence maintenance inspections had been conducted monthly, but were later scheduled to be increased during fall and winter seasons due to higher volumes of deer and greater deer activity. A program to clear the fence line of all brush and weeds, and remove all trees and brush inside the fence, was scheduled to begin during the spring of 2002. Deer elimination procedures within the fence perimeter were in effect; however, as a result of the accident, they were expanded to include deer near the fence. At the time of the accident, a yearlong wildlife management study was scheduled to commence in August 2001.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Deer on the runway. Factors included reduced visibility due to nighttime lighting and light snow conditions, breaches in the perimeter fence, increased seasonal deer activity, and the rural location of the airport.

## Findings

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Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

### Findings

1. (C) OBJECT - ANIMAL(S)
2. (F) LIGHT CONDITION - NIGHT
3. (F) AIRPORT FACILITIES, PERIMETER FENCE - NOT MAINTAINED
4. (F) AIRPORT/FACILITIES - OTHER
5. (F) OBJECT - ANIMAL(S)
6. (F) WEATHER CONDITION - SNOW

## Factual Information

On December 6, 2000, at 2038 eastern standard time, an Embraer 120RT, N504AS, operating as Atlantic Southeast Airways flight 71, was substantially damaged when it collided with deer during landing roll-out at Yeager Airport (CRW), Charleston, West Virginia. The 3-person crew and 15 passengers were uninjured, and 1 passenger received serious injuries. The accident occurred at night, during visual meteorological conditions. An instrument flight rules flight plan was filed for the flight, between The William B. Hartsfield Atlanta International Airport (ATL), Atlanta, Georgia, and Yeager Airport. The scheduled passenger flight was conducted under 14 CFR Part 121.

According to the captain, within seconds of landing on runway 23, the airplane struck two deer. The flight attendant then contacted the cockpit crew, and informed them that there was an injured passenger. After parking at the gate, a walk-around inspection revealed that the tip of a propeller blade from the number 2 engine had separated, and punctured the airplane's fuselage.

Weather at the time of the accident included overcast skies and light snow.

According to a Federal Aviation Administration (FAA) inspector, one of the deer was hit by the nose landing gear and the other was hit by the right engine propeller. The separated blade tip was about 4 inches long and 3 inches wide. It entered the cabin just aft of frame 21, between stringers 14R and 15R. The passenger was sitting in seat 3C.

A review of the tower audio recording revealed that an airport runway inspection had commenced shortly before the accident, but that the inspection vehicle had not yet reached the area where the accident occurred.

An airport inspection following the accident revealed breaches in the perimeter fence, in gully areas near the approach end of runway 15, and abeam runway 23, about 1,300 feet from the runway threshold.

According to the airport authority's assistant director, a wildlife inspection program was in effect at the time of the accident. Inspections of airport surfaces, including the one noted in the audio recordings, were conducted twice daily.

Higher deer activity was typically observed between October and January due to the mating season. Perimeter fence maintenance inspections, which were conducted monthly, were scheduled to be increased during upcoming fall and winter seasons, due in part, to the higher volume of deer at that time. A program to clear the fence line of all brush and weeds, and remove all trees and brush inside the fence, was scheduled to commence in the spring of 2002.

The Airport Authority was also authorized to eliminate deer as needed. While the program had been conducted within the perimeter fence for over 2 years, as a result of the accident, it was expanded to include deer near the perimeter fence as well.

At the time of the accident, a wildlife management study had been approved by the FAA. The yearlong study, to include management procedures, was scheduled to begin in August 2001.

## Pilot Information

<b>Certificate:</b>	Airline Transport	<b>Age:</b>	28, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<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 Single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last Medical Exam:</b>	06/30/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	4510 hours (Total, all aircraft), 2817 hours (Total, this make and model), 1890 hours (Pilot In Command, all aircraft), 235 hours (Last 90 days, all aircraft), 76 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Embraer	<b>Registration:</b>	N504AS
<b>Model/Series:</b>	120RT 120RT	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	120278
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	33
<b>Date/Type of Last Inspection:</b>	Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	25353 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo Prop
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	PW-118
<b>Registered Owner:</b>	ATLANTIC SOUTHEAST AIRWAYS	<b>Rated Power:</b>	1800 hp
<b>Operator:</b>	ATLANTIC SOUTHEAST AIRWAYS	<b>Air Carrier Operating Certificate:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	ASOA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	CRW, 1023 ft msl	Observation Time:	2029 EST
Distance from Accident Site:	0 Nautical Miles	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Temperature/Dew Point:	28° C / 20° C
Lowest Ceiling:	Overcast / 2900 ft agl	Visibility	7 Miles
Wind Speed/Gusts, Direction:	4 knots, Variable	Visibility (RVR):	0 ft
Altimeter Setting:	30 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	ATLANTA, GA (ATL)	Type of Flight Plan Filed:	IFR
Destination:	(CRW)	Type of Clearance:	IFR
Departure Time:	1900 EST	Type of Airspace:	Class D

## Airport Information

Airport:	YEAGER AIRPORT (CRW)	Runway Surface Type:	Asphalt
Airport Elevation:	982 ft	Runway Surface Condition:	Dry
Runway Used:	23	IFR Approach:	Visual
Runway Length/Width:	6302 ft / 150 ft	VFR Approach/Landing:	Full Stop; Straight-in

## Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 15 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 18 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	PAUL R COX	Adopted Date:	09/27/2001
Additional Participating Persons:	KEN LEIGHTON; CHARLESTON, WV		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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