



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	WASHINGTON, DC	<b>Accident Number:</b>	NYC94LA144
<b>Date &amp; Time:</b>	08/01/1994, 1745 EDT	<b>Registration:</b>	N433AW
<b>Aircraft:</b>	de Havilland DHC-8-311	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor, 53 None

**Flight Conducted Under:** Part 121: Air Carrier - Scheduled

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## Analysis

THE COMMUTER AIRPLANE WAS PARKED AT THE GATE WITH 50 SEATED PASSENGERS, AND A CREW OF THREE. THE ENGINES WERE STOPPED, THE CHOCKS WERE IN PLACE, THE PILOTS WERE SEATED IN THE COCKPIT COMPLETING PAPER WORK, AND THE AIRSTAIR DOOR WAS OPEN. A BAGGAGE TRACTOR (DH4) HAD BROKEN DOWN, AND THE OPERATOR ASKED ANOTHER BAGGAGE TRACTOR OPERATOR (DH65), TO PUSH HIM TO THE END OF THE RAMP TO AWAIT SERVICE. DH65 BEGAN PUSHING DH4, WHICH STEERED TO PASS 15 TO 20 FEET TO THE LEFT OF THE AIRPLANE. AS DH4 ENTERED THE SERVICE ROAD, IT BEGAN TO TURN RIGHT TO HEAD WEST. AT THIS POINT, DH65 HAD NOT YET ENTERED THE SERVICE ROAD AND CONTINUED SOUTHWESTERLY FOR AN ADDITIONAL FEW FEET. AT THIS TIME, THE LEFT SIDE OF DH65'S FRONT HITCH, CONTACTED THE RIGHT SIDE OF DH4'S REAR HITCH. THE HITCH CONTACT JERKED THE FRONT OF DH65 TO THE RIGHT WHICH CAUSED THE DRIVER TO BE PITCHED HALFWAY OFF THE LEFT SIDE OF DH65. AS THE DRIVER FELL, HIS HAND PULLED DOWN ON THE STEERING WHEEL AND HIS FOOT PRESSED DOWN ON THE ACCELERATOR PEDAL. DH65 THEN VEERED INTO THE NOSE OF THE AIRPLANE.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE VEHICLE OPERATOR'S IMPROPER HANDLING OF THE BAGGAGE TRACTOR RESULTING IN LOSS OF CONTROL OF A SECOND BAGGAGE TRACTOR BEING PUSHED AND ITS SUBSEQUENT COLLISION WITH THE AIRPLANE.

## Findings

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Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: STANDING

### Findings

1. OBJECT - VEHICLE
2. (C) EQUIPMENT, OTHER - IMPROPER USE OF - DRIVER OF VEHICLE

## Factual Information

On August 1, 1994, at 1745 eastern daylight time, a DeHavilland DHC-8-311, N433AW, operated by Atlantic Coast Airlines and doing business as United Express Flight 6578, was substantially damaged while parked at a gate and struck by a ground support vehicle, at Dulles International Airport, Washington, D.C. The three crewmembers and 50 passengers were not injured. Visual meteorological conditions prevailed and an instrument flight rules flight plan had been filed for the flight operating under 14 CFR 121.

In the NTSB Form 6120.1/2, the Regional Flight Manager stated that the airplane was parked at the passenger gate and was being prepared for departure. The engines were stopped, the chocks were in place, the pilots were seated in the cockpit completing weight and balance paperwork, and the airstair door was open.

He further stated:

"...Baggage tractor DH4 had broken down. The operator asked the operator of baggage tractor DH65 to push disabled DH4 to the west end of the ramp where it could await servicing. DH65 began pushing DH4...DH4 steered so as to pass 15 to 20 feet to the left of [N433AW's] nose when approaching the service road. As DH4 entered the service road it began to turn right to head west. At this point DH65 had not yet entered the service road and for the next few feet continued in a somewhat southwesterly direction. The left side of the hitch on the front of DH65 apparently contacted the right side of the hitch on the rear of DH4. Since [they]...were actually heading in different directions (DH4 west and DH65 southwest), the effect of the hitch interaction was to jerk the front of DH65 sharply to the right causing the driver to lose his seat and be pitched halfway off the left side of DH65... the driver's right hand pulled the steering wheel down to the right, and his right foot pressed on the accelerator pedal...DH65 smashed into the left side of the nose of 433 doing extensive damage..."

## Pilot Information

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	29, 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>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	04/22/1994
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	6200 hours (Total, all aircraft), 3000 hours (Total, this make and model), 150 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	Registration:	N433AW
Model/Series:	DHC-8-311 DHC-8-311	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	305
Landing Gear Type:	Retractable - Tricycle	Seats:	53
Date/Type of Last Inspection:	07/18/1994, Continuous Airworthiness	Certified Max Gross Wt.:	41000 lbs
Time Since Last Inspection:	122 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	6283 Hours	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	PW-123
Registered Owner:	AIR WISCONSIN INC.	Rated Power:	2000 hp
Operator:	ATLANTIC COAST AIRLINES	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:	UNITED EXPRESS	Operator Designator Code:	VTZA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	IAD, 313 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1652 EDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 2700 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	29° C / 23° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	IFR
Destination:		Type of Clearance:	None
Departure Time:	0000	Type of Airspace:	

## Airport Information

Airport:	WASHINGTON-DULLES (IAD)	Runway Surface Type:	
Airport Elevation:	313 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Substantial
Passenger Injuries:	50 None	Aircraft Fire:	None
Ground Injuries:	1 Minor	Aircraft Explosion:	None
Total Injuries:	1 Minor, 53 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	ROBERT L PEARCE,	Report Date:	12/07/1994
Additional Participating Persons:			
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> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).