



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Seattle, WA	<b>Accident Number:</b>	SEA02LA049
<b>Date &amp; Time:</b>	03/02/2002, 0620 PST	<b>Registration:</b>	N589UA
<b>Aircraft:</b>	Boeing 757-200	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	90 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

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## Analysis

After completing deicing procedures on a company Boeing 757-200, the driver of the deicing truck maneuvered his truck in a manner that caused the deicing basket boom to impact the trailing edge of the aircraft's left aileron. The boom penetrated the aileron to a depth of almost two feet and damaged its spar. The investigation revealed that while backing out from his position behind the aircraft's left wing, the driver had inadvertently turned his steering wheel in a direction that caused the boom, which is mounted on the back end of the truck, to converge on the trailing edge of the aileron.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the deicing truck driver to insure that the deicing basket boom remained clear of the aircraft structure as he backed away from the position he had been in while performing deicing procedures.

## Findings

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Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: STANDING - ENGINE(S) OPERATING

### Findings

1. (C) CLEARANCE - NOT MAINTAINED - DRIVER OF VEHICLE

## Factual Information

On March 2, 2002, approximately 0620 Pacific standard time, a United Airlines Boeing 757-200, N589UA, was impacted by the boom of a deicing truck while it was standing in position on the ramp with the engines running. The airline transport pilot, his first officer, the four flight attendants, and the 83 passengers were not injured, but the aircraft sustained substantial damage. The 14 CFR Part 121 scheduled domestic passenger flight, which was preparing to depart for O'Hare International Airport, Chicago, Illinois, was being operated in visual meteorological conditions. The crew had filed an IFR flight plan. There was no emergency evacuation.

According to United Airlines, the aircraft had been pushed back about 20 feet from the gate in order to remove heavy frost prior to taxi for departure. The deicing truck, which was being manned by a driver and a boom operator, had just completed deicing procedures when the accident occurred. Reportedly, the driver of the deicing truck, which had been parked just aft of the left wing and nose-in perpendicular to the fuselage, inadvertently turned his steering wheel in the wrong direction as he attempted to back away from the aircraft. In so doing, he allowed the deicing boom, which is mounted on the back end of the truck, to impact the trailing edge of the left aileron. The boom penetrated the aileron's structure to a depth of almost two feet, and damaging its spar. The boom operator, who was in the basket at the time of the impact was not injured. The deicing truck was not damaged.

According to United Airlines Flight Safety, the area was well lighted, there were no ramp space constraints, and there was no apparent distractions or rushing.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Engineer	<b>Age:</b>	47, 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--w/ waivers/lim.	<b>Last Medical Exam:</b>	10/30/2001
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	10/31/2001
<b>Flight Time:</b>	14600 hours (Total, all aircraft), 1800 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Boeing	Registration:	N589UA
Model/Series:	757-200	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	28707
Landing Gear Type:	Retractable - Tricycle	Seats:	191
Date/Type of Last Inspection:	09/11/2001, Continuous Airworthiness	Certified Max Gross Wt.:	240000 lbs
Time Since Last Inspection:	1668 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	17618 Hours	Engine Manufacturer:	Rolls-Royce
ELT:	Not installed	Engine Model/Series:	RB-211-535C
Registered Owner:	United Airlines	Rated Power:	37400 lbs
Operator:	United Airlines	Air Carrier Operating Certificate:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	UALA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dawn
Observation Facility, Elevation:	KSEA, 429 ft msl	Observation Time:	0556 PST
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:	Few / 20000 ft agl	Temperature/Dew Point:	-1° C / -1° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	5 knots, 130°	Visibility (RVR):	
Altimeter Setting:	30.5 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Seattle, WA (SEA)	Type of Flight Plan Filed:	IFR
Destination:	Chigago, IL (ORD)	Type of Clearance:	None
Departure Time:	PST	Type of Airspace:	Class D

## Airport Information

Airport:	Seattle/Tacoma Int. (KSEA)	Runway Surface Type:	
Airport Elevation:	429 ft	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	7 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	83 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	90 None	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Orrin K Anderson	<b>Adopted Date:</b>	06/03/2002
<b>Additional Participating Persons:</b>	Earl Koenig; Seattle FSDO		
<b>Publish Date:</b>			
<b>Investigation Docket:</b>	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.ntsbt.gov/pubdms/">http://dms.ntsbt.gov/pubdms/</a> .		

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