



National Transportation Safety Board Aviation Accident Final Report

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

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

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

Certificate:	Airline Transport; Flight Engineer	Age:	47, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/30/2001
Occupational Pilot:		Last Flight Review or Equivalent:	10/31/2001
Flight Time:	14600 hours (Total, all aircraft), 1800 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	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 at time of accident	Engine Manufacturer:	Rolls-Royce
ELT:	Not installed	Engine Model/Series:	RB-211-535C
Registered Owner:	United Airlines	Rated Power:	37400 lbs
Operator:	United Airlines	Operating Certificate(s) Held:	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	Distance from Accident Site:	
Observation Time:	0556 PST	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 20000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.5 inches Hg	Temperature/Dew Point:	-1°C / -1°C
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

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

Administrative Information

Investigator In Charge (IIC):	Orrin K Anderson	Report Date:	06/03/2002
Additional Participating Persons:	Earl Koenig; Seattle FSDO		
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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](#).