



National Transportation Safety Board Aviation Accident Final Report

Location:	Madison, WI	Accident Number:	CEN09LA093
Date & Time:	12/03/2008, 1315 CST	Registration:	N782NC
Aircraft:	MCDONNELL DOUGLAS DC-9-50	Aircraft Damage:	Substantial
Defining Event:	Ground handling event	Injuries:	57 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

The airplane landed on a snow covered runway and was unable to maneuver while taxiing. The pilot requested that a tug be dispatched to tow the airplane to the gate. After the tug was connected, the airplane and tug slid on the snow and the tug jackknifed and impacted the left side of the airplane causing substantial damage. The tug was subsequently re-connected and the airplane was towed to the gate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The collision between the tug and the airplane during towing as a result of sliding on the snow covered runway.

Findings

Aircraft	Towing - Not specified (Cause)
Environmental issues	Snow/slush/ice covered surface - Effect on operation (Cause)

Factual Information

On December 3, 2008, about 1315 central standard time, a McDonnell Douglas DC-9-50, N782NC, operated as Northwest Airlines (NWA) Flight 1742, and piloted by an airline transport pilot, sustained substantial damage when it was struck by a tug. The aircraft had just landed on runway 36 at the Dane County Regional Airport-Truax Field (MSN), Madison, Wisconsin, and the flight crew requested a tug to tow the airplane to the gate due to taxiway conditions. The Title 14 Code of Federal Regulations Part 121 flight was operated in instrument meteorological conditions and was on an instrument flight rules (IFR) flight plan. No injuries were reported. The flight originated from the Detroit Metropolitan Wayne County Airport (DTW), Detroit, Michigan, at 1117. MSN was the intended destination.

According to a report filed by the operator, the airplane landed on runway 36 at MSN about 1236. The pilot was directed by air traffic control (ATC), to exit the runway at taxiway A1. The aircraft slowed to a safe taxi speed and attempted to exit at the taxiway, but missed the taxiway and stopped about 6 feet onto the runway overrun area. The pilot contacted ATC, and requested permission to execute a 180-degree turn on the overrun. During the turn, the airplane began sliding on the snow and the flight crew stopped the airplane about 90-degrees into the turn. The airplane was facing west and was still on the paved overrun area at this time. At this point, the pilot contacted ATC and requested a tug to pull the airplane to the gate.

A NWA tug was dispatched and an airport snow removal truck spread sand on the area between the nose of the airplane and its left wing. After the tug was attached to the airplane and had started to move, the airplane/tug jackknifed and slid on the snow covered runway. The tug impacted the left side of the airplane's fuselage causing a puncture to the skin and damage to internal structural members. The tug was subsequently re-connected and the airplane was towed to the gate where the passengers de-planed normally.

History of Flight

Taxi-from runway	Ground handling event (Defining event)
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Pilot Information

Certificate:	Airline Transport; Commercial	Age:	51, 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):		Toxicology Performed:	No
Medical Certification:	Class 1 With Waivers/Limitations	Last Medical Exam:	06/04/2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	11/25/2008
Flight Time:	12871 hours (Total, all aircraft), 3656 hours (Total, this make and model), 3656 hours (Pilot In Command, all aircraft), 128 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Commercial	Age:	50, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Without Waivers/Limitations	Last Medical Exam:	01/15/2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	10/04/2008
Flight Time:	4731 hours (Total, all aircraft), 4731 hours (Total, this make and model), 79 hours (Last 90 days, all aircraft), 37 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	MCDONNELL DOUGLAS	Registration:	N782NC
Model/Series:	DC-9-50	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	48107
Landing Gear Type:	Retractable - Tricycle	Seats:	132
Date/Type of Last Inspection:	10/28/2008, Continuous Airworthiness	Certified Max Gross Wt.:	99000 lbs
Time Since Last Inspection:		Engines:	2 Turbo Fan
Airframe Total Time:	66740 Hours	Engine Manufacturer:	Pratt & Whitney
ELT:	Not installed	Engine Model/Series:	JT8D-17
Registered Owner:	NORTHWEST AIRLINES INC	Rated Power:	16000 lbs
Operator:	NORTHWEST AIRLINES INC	Air Carrier Operating Certificate:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	NWAA

Meteorological Information and Flight Plan

Observation Facility, Elevation:	MSN, 887 ft msl	Observation Time:	1153 CST
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Instrument Conditions
Lowest Cloud Condition:	Unknown	Temperature/Dew Point:	-2° C / -3° C
Lowest Ceiling:	Indefinite (V V) / 700 ft agl	Visibility	1 Miles
Wind Speed/Gusts, Direction:	13 knots/ 18 knots, 320°	Visibility (RVR):	
Altimeter Setting:	29.84 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	Light - Snow; Mist		
Departure Point:	Detroit, MI (DTW)	Type of Flight Plan Filed:	IFR
Destination:	Madison, WI (MSN)	Type of Clearance:	IFR
Departure Time:	1117 CST	Type of Airspace:	

Airport Information

Airport:	Dane County Regional Airport (MSN)	Runway Surface Type:	Concrete
Airport Elevation:	887 ft	Runway Surface Condition:	Snow; Wet
Runway Used:	36	IFR Approach:	ILS
Runway Length/Width:	9006 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	5 None	Aircraft Damage:	Substantial
Passenger Injuries:	52 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	57 None		

Administrative Information

Investigator In Charge (IIC):	John M Brannen	Adopted Date:	09/30/2009
Additional Participating Persons:	Vance Harris; FAA-MSP-CMO; Minneapolis, MN		
Publish Date:	09/30/2009		
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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